



# Environment, Science and Risk Communication Working Group

Abstracts of papers accepted for presentation at the annual conference of the  
**International Association for Media and Communication Research<sup>1</sup>**

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<sup>1</sup>These are the abstracts of the papers accepted by the IAMCR section or working group named above for presentation at the 2019 annual conference. This publication will be updated prior to the conference to include the papers that are actually included in the final programme. To be included in the programme, authors must confirm their participation to the heads of the section or working group by 11 April 2019 and register for the conference. Your place at the conference is not guaranteed until you have registered and paid the registration fee.

**Id:** 19502

**Title:** Rise of the "Anthropocene": Assessing the Conceptual Contours of an Emergent Climate News Frame

**Session Type:** Individual submission

**Authors:**

Name: Hanna Morris

Email: hanna.morris@asc.upenn.edu

Country: US (United States)

Affiliation: University of Pennsylvania

**Abstract:** The enormity of climate change poses significant challenges for journalists because its complexities extend far beyond the confines of a photograph or single news narrative. Barbie Zelizer (2004) describes how journalists covering complex crises seek—and eventually establish—a shared, professional consensus of acceptable frames and images that are relied upon for reporting complicated phenomenon. These images and frames manage conceptualizations and visualizations of multifaceted crises that, in fact, require more complex engagements. Stemming from a critique of this journalistic practice of framing, many studies of climate journalism find issue with the establishment of the emaciated polar bear and melting glaciers of the Arctic as predominant images steering coverage. By restricting climate change to the “empty” North with zero relevance to people or everyday life, these scholars lament the lack of a “human” dimension in reporting. “Humanity,” according to these critiques, is largely erased from the journalistic coverage of climate change.

Candis Callison (2014), however, cautions such critiques by pointing out that the Arctic is not empty and is, in fact, home to an array of Indigenous publics. “Humanity” is not erased through the Arctic frame but rather, Indigenous publics and colonial histories of extractivist capitalism are. Rob Nixon (2011) discusses how both climate journalism and scholarly critiques continue to disregard Indigenous people from the climate crisis. The failure to both journalistically represent and conceptually link climate change with the violence of neo-imperial, extractivist capitalism is extremely consequential because it prohibits a fundamental resolution of the crisis. Despite Callison (2014) and Nixon's (2011) crucial interventions, one emergent and very vocal response to the limitations of climate journalism has been a call to replace the Arctic (a setting imagined as absent of “humanity”) with the “Anthropocene” (a “new epoch” imagined as dominated by “humanity” and a generalized “we”). But, indeed, this proposed adjustment of frame will stunt—as opposed to extend—coverage of the climate crisis by obscuring difference and silencing indigenous perspectives.

If climate journalism is to expand in both scope and rigor, reporters must specifically name and reveal the sources/perpetrators of climate change, identify the most severely impacted communities, and feature radical oppositional responses. But the emergence of the Anthropocene frame precludes this possibility by ignoring Indigenous knowledges and shunning radical opposition. In this study, I seek to determine the conceptual contours of the emergent Anthropocene frame in United States climate change reporting. I approach this inquiry through a combined visual and qualitative content analysis of all articles and associated images which contain the term “Anthropocene” in The New York Times, Washington Post, and USA Today. This study is crucial for assessing the composition of an emergent yet understudied climate news frame.

## References

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Nixon, R. (2011). *Slow Violence and The Environmentalism of The Poor*. Cambridge, MA: Harvard University Press.

Zelizer, B. (2004). When War is Reduced to a Photograph. In S. Allan & B. Zelizer (eds.), *Reporting War: Journalism and Wartime*. London: Routledge, 115-35.

**Id:** 19516

**Title:** LOUD: Merging the Arts, Music, and Political Economy in a Media Outreach Campaign about Noise Pollution

**Session Type:** Video Submission

**Authors:**

Name: Mark Pedelty

Email: pedelty@umn.edu

Country: US (United States)

Affiliation: University of Minnesota

**Abstract:** This presentation is about LOUD (2018), a community-based music video project about noise pollution in the Salish Sea region of Washington State and British Columbia. As part of an outreach campaign, LOUD uses music and moving images to argue for stricter noise policies and regulations. LOUD is also part of a academic collaboration funded by Mellon's "Music in a Changing Climate" initiative in which ethnomusicologists, composers, and environmental communication scholars are conducting "field to media" experiments in Haiti, Bangladesh, China, Tanzania, and in this case, North America.

As the producer, director, and composer of LOUD, my goal was to actualize the decentering ethic Nuria Almiron develops in her article "Beyond Anthropocentrism" (2016). Speaking in reference to the Political Economy of Communication (PEC) approach, Almiron argues that "Decentering humanity to embrace a truly egalitarian view is the next natural step in a field driven by moral values and concerns about the inequality triggered by power relations" (57). As Paolo Friere argued, it is necessary to "codify" aspirational values so that they can be mobilized to create institutional change (2000, 114-121). That is the goal of LOUD, to aesthetically codify the decentering ethic for sake of achieving an environmental aim. In the video we feature human and more-than-human voices and images in an effort to communicate a basic message: excessive anthropogenic noise is disruptive to living creatures that rely on sound and thus reduces biodiversity.

While it might be unusual to use a political economic approach (Almiron 2016) as the theoretical framework for explaining the aesthetics and ethics of a music video, it is useful in this case. LOUD intervenes in a debate around sound that has primarily taken place in via scientific and technical policy discourses, taking the anthropocentric form that Almiron critiques in her enlightening essay. Using LOUD as a form of illustration, I will argue that aesthetics, economy, policy and institutions are integrally connected and that therefore the arts need to be part of our applied interventions as environmental communication scholars.

Music is essential to that effort. Mark Mattern successfully made that case in *Acting in Concert* (1998), demonstrating through case studies how small groups use music to come together to form communities, communicate shared values, and mobilize.

Because of the centrality of aesthetics to human action and institutions, to focus on science and policy alone so is to replicate rather than challenge the technocratic discourses we seek to critique as environmental communication scholars. Taking up Almiron's call, the LOUD project is an experimental effort to productively decenter the human for sake of fostering biodiversity,

sustainability, and environmental equity. While the results are limited and inevitably flawed, as an experimental arts intervention LOUD was also a revelatory experiment. In this presentation I will discuss the ways in which producing and distributing LOUD provided insights into the political economy of environmental communication at the local level.

0-2:00           introduce the LOUD project

2:00-4:00           introduce the argument for combining aesthetic and political  
economic approaches

4:00-9:00       Screen LOUD

9:00-12:00     Complete the argument

**Id:** 19564

**Title:** Scientists' Presumed Influence of Fake Science News and their Support for Interventions to Curb It

**Session Type:** Individual submission

**Authors:**

Name: Shirley Ho

Email: tsyho@ntu.edu.sg

Country: SG (Singapore)

Affiliation: Nanyang Technological University Nanyang Technological University

Name: Yanwah Leung

Email: ywleung@ntu.edu.sg

Country: SG (Singapore)

Affiliation: Nanyang Technological University

Name: Tongjee Goh

Email: TONGJEE001@e.ntu.edu.sg

Country: SG (Singapore)

Affiliation: Nanyang Technological University

**Abstract:** Fake news has been slingshot to the forefront of the research agenda. The potency of fake news makes it an important topic of research. With its roots in the political arena, little research have focused on fake news in the context of science. Individuals use science information to make health and daily decisions, and false information could result in dire consequences. For instance, false information on vaccinations have repelled parents from providing their children with the necessary vaccinations. Moreover, scientists are also victims of fake science news. False reports could jeopardize their credibility and reputation. With severe consequences at stake, we believe it is timely to expand the application of fake news to examine it in the context of science.

Applying the influence of presumed media influence (IPMI), this study seeks to examine how scientists' attention to fake science news would shape their support for education initiatives and legislations to tackle fake science news. We further introduced personal norm as a mediator between presumed harm on others and support for interventions to tackle fake science news.

To collect data from a representative sample of scientists in Singapore, we curated an exhaustive list of scientists in all 19 public research institutions and six public universities in Singapore. We sent out invitations to Singapore-based scientists to participate in the survey using random sampling. A total of 706 scientists completed the questionnaire, attaining a response rate of 40.9% (based on AAPOR formula 3). The final sample reflected opinions of scientists from different science disciplines and at different stages of their career.

We conducted structural equation modelling to test the extended IPMI model. The model achieved good statistical fit, and the data supported all the relationships proposed by the model. Overall, the model predicted 24.4% of support for education initiatives and 16.0% of support for legislation to

tackle fake science news. Further, the relationship between presumed harm of fake science news on other scientists was more strongly associated with personal norm ( $\beta = .27, p < .001$ ) than it was to attitude toward tackling fake science news ( $\beta = .09, p < .05$ ). On the other hand, the relationship between presumed harm of fake science news on the general public was more strongly associated with attitude toward tackling fake science news ( $\beta = .22, p < .001$ ) than it was to personal norm ( $\beta = .10, p < .01$ ).

Theoretically, this study provided support to integrating personal norm into the IPMI model. The study also validated the application of the IPMI in the context of fake science news. Future studies can test the extended IPMI model in other contexts and examine how other stakeholders perceive fake science news. Practically, the findings inform institutions on key communication messages they can design to boost scientists' support for interventions to tackle fake science news.

**Id:** 19565

**Title:** A Comparison of Media Perceptions among Researchers: Science versus Arts, Humanities, and Social Science (AHSS) Researchers in Singapore

**Session Type:** Individual submission

**Authors:**

Name: Shirley Ho

Email: tsyho@ntu.edu.sg

Country: SG (Singapore)

Affiliation: Nanyang Technological University Nanyang Technological University

Name: Jiemin Looi

Email: JIEMIN001@e.ntu.edu.sg

Country: SG (Singapore)

Affiliation: Nanyang Technological University

Name: Tongjee Goh

Email: TONGJEE001@e.ntu.edu.sg

Country: SG (Singapore)

Affiliation: Nanyang Technological University

Name: Yanwah Leung

Email: ywleung@ntu.edu.sg

Country: SG (Singapore)

Affiliation: Nanyang Technological University

**Abstract:** Public engagement is essential in improving laypeople's daily decision-making processes. To that end, researchers can collaborate with journalists to inform laypeople about the innovations and developments in various research domains. Despite the positive implications of public engagement, literature have revealed a multitude of impediments toward researchers' public engagement. Considering the media's critical role in ensuring the success of public engagement, it is imperative to understand researchers' media perceptions and assuage any media-related concerns that may dissuade them from public engagement.

Majority of extant literature are premised in western contexts, yet the research communication landscape in Asia remains underexplored. Asian countries such as Singapore possess stark differences in their culture and media system as compared to countries in North America and Europe. Moreover, Singapore has invested substantially in different research domains and contributed significantly to the academic community. These factors potentially shapes researchers' public engagement behaviors, making Singapore a worthwhile study context.

This study seeks to compare media perceptions between science researchers and arts, humanities, and social sciences (AHSS) researchers in Singapore. Moreover, this study compares the types of media training that Singapore researchers wish to attend.

We conducted five focus groups (N = 38) with science researchers from different scientific disciplines and three focus groups (N = 25) with researchers from various AHSS fields. Participants were recruited from public universities and public research institutions in Singapore. Junior and senior researchers were recruited to capture the opinions of researchers from varying levels of seniority.

There were stark differences in media perceptions between researchers from science and AHSS disciplines. First, although most participants displayed negative attitudes toward media coverage of research, differences emerged among science and AHSS researchers in terms of their perceptions toward journalists. Science researchers were more antagonistic toward journalists, while the AHSS researchers were aware of the journalists' constraints and barriers. As a result, AHSS researchers expressed more favorable attitudes toward journalists than science researchers did. Second, researchers perceived unequal representation of disciplines. Science researchers perceived AHSS issues to receive more media coverage, while AHSS researchers perceived science issues to receive more media attention. Third, researchers had different concerns regarding the backlash from public engagement. Science researchers feared backlash from publicizing methods of findings that may be ethically controversial (e.g., animal testing, unnatural scientific developments), while AHSS researchers were concerned that their research would evoke societal upheaval (e.g., discrimination, threat to social security).

Researchers from different disciplines requested for different kinds of media training. Science researchers requested for training about the basics of public engagement. However, AHSS researchers were more adept at public engagement and sought personalized feedback about their performance.

The findings can inform research institutions in helping science researchers understand media routines, and organizing targeted training programs based on the researcher's discipline. Future research may consider conducting a content analysis of news articles and media interviews to identify any differences regarding media coverage of science and AHSS research.

**Id:** 19656

**Title:** La cobertura mediática de la temática ambiental: ¿qué importancia otorga la prensa española al cambio climático'

**Session Type:** Individual submission

**Authors:**

Name: Sonia Parratt

Email: [sfparratt@ccinf.ucm.es](mailto:sfparratt@ccinf.ucm.es)

Country: ES (Spain)

Affiliation: Complutense University of Madrid

Name: Paloma Abejón

Email: [pabejonm@ccinf.ucm.es](mailto:pabejonm@ccinf.ucm.es)

Country: ES (Spain)

Affiliation: Complutense University of Madrid

Name: Montse Mera

Email: [mmera@ucm.es](mailto:mmera@ucm.es)

Country: ES (Spain)

Affiliation: Complutense University of Madrid

Name: Rafael Carrasco

Email: [rafael.carrasco@ccinf.ucm.es](mailto:rafael.carrasco@ccinf.ucm.es)

Country: ES (Spain)

Affiliation: Complutense University of Madrid

Name: Javier Cabedo

Email: [fcabedo@ucm.es](mailto:fcabedo@ucm.es)

Country: ES (Spain)

Affiliation: Complutense University of Madrid

Name: Javier Mayoral

Email: [fj.mayoral@ccinf.ucm.es](mailto:fj.mayoral@ccinf.ucm.es)

Country: ES (Spain)

Affiliation: Complutense University of Madrid

**Abstract:** El cambio climático es uno de los males de mayor envergadura a los que se tendrá que enfrentar la población mundial en las próximas décadas, según la comunidad científica internacional. Además, la preocupación por este problema ha aumentado tras la decisión de Trump en 2017 de abandonar el Acuerdo de París y la reciente advertencia del IPCC del riesgo de incumplir el objetivo de no superar en 1,5 grados el aumento de las temperaturas del planeta en 2100.

A la hora de observar cómo se difunden mediáticamente los mensajes sobre un problema, en este caso el cambio climático, debe tenerse en cuenta que los medios de comunicación no otorgan a todos los temas que incluyen en sus agendas la misma relevancia. La relevancia (salience) es el

grado en que un asunto de la agenda mediática es percibido como importante (Dearing y Rogers, 1996). La investigación en base a esta teoría, que constituye la base de nuestro trabajo, se preguntaría cómo de importante es el cambio climático para un determinado medio analizando tres aspectos de su cobertura: el volumen (la cantidad y extensión de las noticias); la frecuencia (la asiduidad con que se publican y su posible relación con determinados hechos); y la ubicación (en qué medios se publican y en qué lugar dentro de cada medio).

Partiendo de la idea de que la relevancia que otorgan los medios a un problema viene determinada por factores como los tres mencionados, nuestra investigación tiene como objetivo principal describir y analizar la importancia que da la prensa española al cambio climático.

Para llevar a cabo el estudio, se hizo una selección muestral de las ediciones digitales de El País, El Mundo y ABC, que son los diarios generalistas de ámbito nacional de mayor difusión en España. Se analizaron las páginas de información y de opinión, así como los suplementos especiales, desde el 1 de enero al 31 de diciembre de 2017. Se hizo una búsqueda de los términos “cambio climático”, “efecto invernadero” y “calentamiento”, que si bien no tienen el mismo significado, sí son los más extendidos para referirse al cambio climático. La técnica utilizada para la búsqueda fue el análisis de contenido, que se llevó a cabo con el programa SPSS para el tratamiento estadístico.

Los resultados del estudio constatan que la prensa española otorga una importancia relativa al cambio climático; la presencia de este como tema noticioso es significativa, pero viene determinada en gran medida por hechos de relevancia internacional; los medios más progresistas dan una mayor cobertura a este problema; y este no solo tiene cabida en secciones dedicadas a la temática ambiental, sino que tiene una cierta presencia transversal en los diarios.

**Id:** 19721

**Title:** News Representations of Climate Change in a time of Digital Transformation: A case study from Aotearoa ' New Zealand

**Session Type:** Individual submission

**Authors:**

Name: Saing Te

Email: saing.te@aut.ac.nz

Country: NZ (New Zealand)

Affiliation: Auckland University of Technology

**Abstract:** In a time of media mergers and acquisitions, the culling of media personnel has created a precarious outlook for journalism. Today, remaining journalists operate within an atmosphere of professional uncertainty, heightened political and public scrutiny, and a more interactive communication environment (Kovach & Rosenstiel, 2014; Shoemaker & Reese, 2013). Alongside the changes to journalism, news consumption behaviours have shifted. For researchers, the move towards social media and digital news has foregrounded the nuances of online journalism. As such, my content analysis focuses on how Aotearoa – New Zealand’s digital news outlets depicted anthropogenic climate change in sampled stories during 2017 (Boykoff, 2007; Entman, 2007; Nisbet, 2010). In examining how the six leading online news sites, Stuff, NZ Herald, TVNZ, Newshub, The Spinoff, and Newsroom have constructed and positioned climate change and its associated issues over a one year period, this paper shows that the relevant news content overlooks the capitalist underpinnings of the ecological crisis and lacks social participation (Brevini & Murdock, 2017; Hackett, Forde, Gunster, & Foxwell-Norton, 2017; Malm & Hornborg, 2014; Moore, 2017). The content analysis reveals that news institutions still struggle to grapple with the enormity and complexity of global warming. My main empirical focus here is the selection of stories, news media frames, and the use of sources. Primarily, news reportage was comprised of technical reports, new scientific research, or assessments of current and future outcomes. News reportage also followed standardised patterns of news gathering, with a preponderance of authoritative figures and organisations used as primary sources (Hall, Critcher, Jefferson, Clarke, & Roberts, 2013; Tuchman, 1978). Of concern here also is the growing journalistic dependency on corporate and institutional sponsorship and the use of preassembled information like press releases, institutional websites, and blogs. These patterns of news construction suggest that the debate over climate change is top-down and this has political, economic, social, and ethical implications. Consequently, one must also ask whether economic and institutional pressures constrain journalists’ ability to provide a critical and contextual account of unfolding climate change events. Overall, the findings suggest that in Aotearoa – New Zealand the digital media’s coverage of climate change-related issues comports with traditional conventions of news construction and as such, reduces the communicative space for critical discussion and reflection on climate change and its connected issues. The failure of the news media to address the underlying relationships between global warming and capitalism, and the paucity of coverage containing stories, solutions, and ideas for reconstructing a more ecologically just society, serves to disconnect the public from engaging with climate change.

**Id:** 19759

**Title:** Examining Personal and Media Factors Associated with Attitude Towards Genetically Modified Foods in China

**Session Type:** Individual submission

**Authors:**

Name: Li Li

Email: lili0026@e.ntu.edu.sg

Country: CN (China)

Affiliation: Yunnan University

Name: John Robert Bautista

Email: john0028@e.ntu.edu.sg

Country: SG (Singapore)

Affiliation: Nanyang Technological University

**Abstract:** Genetically modified foods (GMF) are foods derived from organisms (i.e., plants or animals) whose genetic material has been modified in a way that does not occur naturally. Although GMF is a viable solution to meet the required food supply for a continuously growing global population, it is not without issues considering that it is a perceived threat to biodiversity, environment, and human health (Gurău & Ranchhod, 2016). Due to its controversial nature, it is a source of public debates over the media, and this can influence consumers' attitude towards GMF. The central purpose of this study is to examine how personal and media factors associated with consumers' attitude towards GMF in China. Guided by the Theory of Reasoned Action (Fishbein & Ajzen, 1975), this study incorporates personal factors, such as food neophobia, knowledge, perceived familiarity, and perceived benefit to predict attitude towards GMF. More importantly, this study accounts for the role of media in GMF attitude formation by incorporating media factors based on Media System Dependency Theory (Ball-Rokeach & DeFleur, 1976), such as media attention and media dependency. Several hypotheses were developed and tested using online survey data from 467 university students in Kunming, China. Most of the respondents were female (61%) and their average age is 20.76 years old (SD = 4.02). Items in the questionnaire were adapted from past studies and were translated from English to Mandarin. Data were analyzed using Pearson correlation and hierarchical regression analysis in IBM SPSS Statistics 21. Results suggest that attitude towards GMF is slightly more positive than negative as compared with similar studies in China. Regression results show that food neophobia ( $\beta = -.09$ ,  $p < .05$ ) and media attention ( $\beta = -.09$ ,  $p < .05$ ) were negatively associated with attitude towards GMF. In contrast, perceived benefit ( $\beta = .54$ ,  $p < .001$ ) was positively associated with attitude towards GMF. Although media dependency was not associated with attitude towards GMF, its interaction with media attention resulted to a significant association ( $\beta = -.09$ ,  $p < .05$ ). Specifically, in the low media dependency group, those with high media attention had a less positive attitude towards GMF than those with low media attention, whereas, in the high media dependency group, the attitudinal difference between those with high and low media attention was negligible. Overall, the independent variables were able to explain 33.2% of the variance for attitude towards GMF. In general, our findings show that there are specific personal and media factors that affect attitude towards genetically modified foods in China. Theoretical, practical, and policy implications will be discussed.

**Id:** 19901

**Title:** Freedom of expression and public expertise challenged: scientists' views on hidden forms of censorship

**Session Type:** Individual submission

**Authors:**

Name: Esa Väliverronen

Email: esa.valiverronen@helsinki.fi

Country: FI (Finland)

Affiliation: University of Helsinki Dept. of Social Research

**Abstract:** The media have become an important arena where struggles over the symbolic legitimacy of expert authority take place and where scientific experts increasingly have to compete for public recognition of their expertise, authority and credibility. Recently the cultural authority of science and science-based expertise has been challenged to the extent that the present time has been termed the post-truth and post-factual era. Paradigmatic examples of this era and “a loud vote against expertise” are the Brexit-vote in the UK and the 2016 presidential elections in the US.

For some time, scientific expertise has been more prevalent and indispensable than ever before but at the same time constantly embattled. New disruptions within academia and new alliances between researchers and those challenging established academic institutions and scientific knowledge are being formed.

This new political climate, the rise of authoritarian and populist leaders in many countries and the growing importance of social media have fueled criticism against established scientific institutions and individual researchers. Public disparagement of expertise and aggressive feedback has left researchers and academics insecure: some feel that it is better to shut up.

The paper discusses the new hidden forms of censorship and self-censorship regarding scientists' roles as public experts. It is based on two web surveys conducted among Finnish researchers in 2015 and 2017. Since the surveys are not representative we will focus on the open-ended questions in these queries, making over 50 pages of scientists' reflection on freedom of expression and the role of expertise in society. Further, we have complemented this data with interviews among 'visible' scientists.

Based on previous research on academic freedom, freedom of expression, 'research silencing' and 'chilling effect' we argue that freedom of expression and academic freedom are closely connected. Scientists are concerned with increasing political and economic control, organizational control, and control from below, e.g. inappropriate feedback from ordinary citizens. This may contribute to self-censorship.

**Id:** 19909

**Title:** Ireland's Citizen's Assembly, Deliberative Democracy and Environmental Literacy

**Session Type:** Individual submission

**Authors:**

Name: Pat Brereton

Email: pat.brereton@dcu.ie

Country: IE (Ireland)

Affiliation: Dublin City University

**Abstract:** The Citizens' Assembly was an experimental form of governance, comprising ninety-nine citizens drawn from all walks of life, which afforded them the time, space, and structure to consider complex and important questions of Irish public policy in a comprehensive and deliberative way. Carrying out a content analysis of the complete online results of their activities over two weekends devoted to Climate Change, affords a useful corpus of deliberation using this form of public engagement. The paper will tease out the weaknesses and benefits of deliberative democracy in addressing Climate Change (e.g., Stevenson & Dryzek 2014).

Media and environmental literacy has become one of the key qualifications for active citizenship. Media literacy has been effectively defined as the ability "to access, analyse, evaluate and communicate messages in a variety of forms" (Aufderheide 1993: 6). Today communication scholars stress that both the media's offerings, coupled with social interactions, play a crucial role in understanding (digital) media literacy (Livingstone 2016). Following theoretical considerations around developing robust models of democracy, media literacy has a primary emphasis placed on "knowledge" (Potter & McDougall 2017), "information" (Buckingham, 2007), and "analytical competencies" (Koltay 2011: 217), while great emphasis is generally placed on the development of critical thinking around the complex nature of environmental issues. As acknowledged in the report by the Irish Citizens' Assembly, the development of a deeper form of environmental media thinking is essential towards creating active citizenship and helping to promote a comprehensive strategy for producing a sustainable environmental future.

Drawing on various forms of community engagement, this paper focuses on the production of a toolkit which will include models and strategies for developing "best practice" communication and deliberative democracy protocols and will draw upon studies from various disciplines including Planning, Political Science, Communication and Environmental Sciences. The toolkit will include the following themes (i) how to uncover the climate change concerns of the community or region and designate priority areas; (ii) criteria for identifying appropriate messengers and champions for different segments of society; (iii) how to establish an authoritative and legitimate local contact group or an actor forum for communities under examination; (iv) the importance of conducting open public deliberations on project alternatives and community benefits prior to the submission of a detailed plan; (v) how to develop a community engagement plan; and (vi) how to handle complexity and uncertainty in deliberative democratic settings. A draft of the final toolkit will be presented and elaborated as part of a wider context of political and environmental communications and a desire for citizen engagement in the climate policy space.

**Id:** 20022

**Title:** Participatory Environmental Communication: A framework for modern-day storytelling

**Session Type:** Individual submission

**Authors:**

Name: Usha Harris

Email: usha.harris@mq.edu.au

Country: AU (Australia)

Affiliation: Macquarie University

**Abstract:** As interrelated human actions converge to produce devastating results on both the human and natural environment, new frameworks are needed to enable a diversity of voices in bottom-up environmental communication. This presentation will integrate place-based stories of people facing existential threat from the many impacts of climate change in the Pacific. It was collected during the presenter's journey and conversations with diverse individuals in Kiribati, Fiji and Vanuatu. The stories illustrate why a holistic approach that places human dignity at the centre of environmental communication is needed more than ever before.

With a need to find new ways of thinking about and practising environmental communication, the presenter will share a conceptual framework for Participatory Environmental Communication (PEC) which opens up shared spaces for dialogue and collaboration (see Harris, U. 2019, *Participatory Media in Environmental Communication*, Oxford: Routledge). The framework for PEC has three key attributes - Diversity, Network and Agency – or the DNA essential in building resilient communities. These three elements are interconnected and integral to participatory environmental communication processes that create the condition for greater sustainability.

Diversity enables innovative and transformative thinking. The term here means both difference and inclusion of a broad range of factors – different knowledge systems, socio-cultural values and beliefs, abilities, talents, demographic variables (age, gender, class, ethnicity) and the non-human world (ecosystems, technologies, texts).

Networks are a complex system of relationships connecting both human and non-human worlds. They include human networks and non-human networks. The understanding that humans are but one part of this intricate web of creation, and not separate from it, is essential in the action-reflection-action cycle of the PEC process.

Agency is an action or a doing of human and more-than-human entities, which leads to an effect or outcome. Agency in the natural world contributes to the efficient working of an ecosystem. Human agency results from a realisation of our own potential through dialogic encounters that act as the catalyst for change.

Using the three components identified above, I offer the following definition: The DNA framework advances collaboration and dialogue in society about environmental matters through diverse ways of knowing and being, using integrated networks to catalyse the agency of ordinary people towards collective action (Harris, 2019:35).

The framework invites cross fertilisation of ideas, engages diverse groups and entities in the process of identifying the problems and collectively finding solutions to improve the situation. As such it enables a shift from binary frameworks towards a more holistic and networked communication model. By taking over the reins of message production, people are able to gain control of their own storytelling and by implication their own lives.

**Id:** 20029

**Title:** Imagining Nuclear Power for National Development: The Historical Analysis of Media Imaginaries of Nuclear Power in South Korea

**Session Type:** Individual submission

**Authors:**

Name: Jaewon Joo

Email: jwjoo@handong.edu

Country: KR (Korea, Republic Of)

Affiliation: Handong Global University

Name: Changwook Kim

Email: ricky147@gmail.com

Country: KR (Korea, Republic Of)

Affiliation: Handong Global University

**Abstract:** This research explores how media imaginaries on the subject of nuclear energy have been historically constructed in South Korea. Because nuclear energy has been complexly interwoven with the political, economic, social and cultural fabric of Korean society, this study considers nuclear energy as historically and socially constructed assemblages of discourse, knowledge and practice rather than as politically neutral and value-free science and technology. In conversation with STS research's framework of "sociotechnical imaginaries" as well as media studies and environmental communication research's concept of "discursive frames," this work draws from the concept of "media imaginaries" to examine 1) how nuclear power has been imagined collectively by shared understandings of forms of social life and social order that are reflected in the mass media, popular culture and visual materials, and 2) what are the crucial roles which they play in the articulation of more broad sociotechnical imaginaries of nuclear power in Korean society.

Based on this theoretical framework, this research examines how media imaginaries about nuclear energy have been created under certain historical and social contexts by analyzing media reports. More specifically, this study looks at the news coverage of five major Korean newspapers from 1945 to 1993 that have contributed to shaping the current imaginaries of nuclear energy in Korean society. Then it investigates how specific media imaginaries related to nuclear power have been generated in and interacted with certain socio-political contexts and how each specific imaginary has been saliently and repeatedly produced over the different time periods.

As a result of the analysis, this study found that the initial imaginaries about nuclear energy created from 1945 to 1961 were represented mainly by the images of "mighty-power energy," "a gift of freedom and peace for the nation," "futuristic power" and "boundless peaceful energy source" for national development in line with the viewpoint of the Korean developmental state. Next from 1962 to 1979, media imaginaries about nuclear power tended to be mystified and packaged into four different but interrelated imaginaries, such as "nuclear power as a national power," "nuclear power as an economic energy," "nuclear power as a barometer of technological and economic advancement" and "nuclear power as a safe and clean energy." Finally, from 1977 to 1993, media

imaginaries on nuclear energy divided into two binary oppositional images of 'pro-nuclear vs. anti-nuclear,' and these dichotomous imaginaries were directly transferred to the actual organizational confrontation of a "state-centered pro-nuclear coalition" vs. "anti-nuclear environmental groups," a process which eventually ignited the existing ideological confliction of "conservative vs. progressive" in Korean society.

Based on this historical analysis, these results clearly show that the sociotechnical imaginaries of nuclear energy within Korean society always have been contested in the field of media and popular culture rather than simply having remained in a neutral and value-free field of science or technology. This research thus ultimately provides strong evidence that non-scientific actors and institutions—such as media and popular culture—play noteworthy roles in the promotion and reception of science and technology.

**Id:** 20075

**Title:** Communicating Climate Change in the Post Truth/Post COP24 Era: New directions for media reception and public engagement studies

**Session Type:** Individual submission

**Authors:**

Name: Brenda McNally

Email: [brenda.mcnally5@mail.dcu.ie](mailto:brenda.mcnally5@mail.dcu.ie)

Country: IE (Ireland)

Affiliation: Trinity College Dublin

**Abstract:** ‘Losing the public’ on climate change and/or lack of sufficient concern about climate actions are longstanding challenges for climate change communications. Science and environmental communication researchers have responded by investigating ways of engaging citizens with climate change and have contributed a large literature on two-way communications drawing on dialogic or deliberative processes. These studies increasingly focus on ways of socialising climate change and developing initiatives to bring citizens into the conversation, to make climate change an everyday issue or, given the centrality of (news) media in public debate, by examining the social-shaping influence of media representations. However, the contemporary moment presents novel challenges for research in terms of i) moving public debate towards specific climate action plans and ii) the social impacts of the new media landscape.

Post COP24, international and national policy focus on climate mitigation actions indicates a need to extend communications research and practice to include citizen engagement with climate and energy transition. In other words, research needs to shift from socialising the debate about causes and/or impacts of climate change to engaging citizens with debate and decision-making about the multifaceted processes for reducing carbon emissions. Thus, understanding how citizens perceive and evaluate different levels of climate mitigation action is now urgent. Furthermore, whereas climate engagement studies promote engagement as ‘meaningful communication’ (Corner and Clarke 2017) aimed at overcoming barriers to expert knowledge, transitions and sustainability researchers prioritise ‘meaningful social change’ (Stirling 2014). They argue research needs to move beyond elite concerns with technological, market driven agendas for engagement. In particular, energy researchers, noting the absence of political analyses of transition processes draw attention to issues of justice, inequality and forms of exclusion that accompany societal decarbonisation (Barry et al. 2015, Stirling 2014).

Furthermore, as (news) media are one of the main platforms for public debate about climate policy, citizens’ engagement with mitigation policy takes place in the context of increasing public concern about the credibility of information sources and widespread lack of trust in media organisations (Reuters Digital News 2017). In other words, assumptions of media influence on public opinion or understanding need empirical support in the Post Truth era and new starting points for media studies of climate change. Researchers must now consider the implications of #fakenews and the rise of affective communication associated with social media platforms on public engagement. These conditions indicate that citizens information needs, their media consumption choices and

trusted sources are critical issues for understanding possibilities for public engagement with a just transition.

To address these issues, this presentation discusses key findings from a critical review of literature on media reception and citizen views on energy and climate action (2010 – 2018). The focus is on understanding how the diversity of inter-disciplinary frameworks for analysing citizen's views can advance evaluation and implementation of public engagement with climate action. In doing so, it contributes to conference interest in (in)equality and human dignity in communications, by reflecting on communications related rights with climate mitigation policy and advancing new directions for research to engage citizens with a just transition.

**Id:** 20079

**Title:** La vacunación como controversia sociocientífica: expertos, profanos, estrategias

**Session Type:** Individual submission

**Authors:**

Name: Claudio Broitman

Email: claudio.broitman@usach.cl

Country: CL (Chile)

Affiliation: Universidad de Santiago

Name: Verónica Rocamora

Email: veronica.rocamora@gmail.com

Country: CL (Chile)

Affiliation: Universidad de Santiago

**Abstract:** Los ciudadanos critican, resisten o buscan activamente nuevas formas de participación o generación de conocimientos ante los desarrollos científicos y tecnológicos que los afectan, generando una tensión con otros actores relevantes como los expertos. Si bien las perspectivas alfabetizadoras del modelo del déficit (Alcíbar, 2015), basadas en una comunicación lineal de la ciencia, han sido proclamadas como superadas desde diversos ámbitos, nuestro trabajo de campo confirma que es posible rastrear su vigencia y su convivencia con otras formas de entender la comunicación científica (Cortassa, 2010; Trench, 2008).

Basados en las últimas controversias sociocientíficas en torno a las vacunas en Chile (gripe H1N1, timerosal y vacuna VPH), estudiamos a los expertos como sujetos de estudio. Desde un enfoque cualitativo y a partir de entrevistas a distintos expertos del ámbito de la salud, se analizaron los discursos, estrategias y prácticas comunicacionales de los expertos para posicionar sus puntos de vista en las controversias sobre vacunas. De esta forma, la investigación muestra que si bien existe unanimidad respecto a la relevancia de las vacunas como medida preventiva, también da cuenta de la diversidad dentro del grupo experto a la hora de enfrentar a quienes tienen perspectivas críticas con la vacunación.

**Id:** 20146

**Title:** The Effects of Ad Mediums on Sustainable, Water-Conservation Product Advertisements

**Session Type:** Individual submission

**Authors:**

Name: Patrick Jamar

Email: pjamar@utexas.edu

Country: US (United States)

Affiliation: The University of Texas at Austin

**Abstract:** Interest in green marketing has been steadily increasing in today's marketplace (Bailey, Mishra, & Tiamiyu, 2018), because as the awareness for environmental issues heightens, so does consumers' positive attitudes towards sustainable, conservation behaviors, like saving water and recycling (Royne, Levy, & Martinez, 2011). When adopting certain behaviors (like recycling and conserving water) in an ad message, consumers sometimes look at the ad medium (a type of communication used to convey an ad's message) itself to help interpret the message in the ad (Dahlén, 2005).

Entities like responsibility invoke more sustainable behaviors (i.e. views towards anti-materialism), and these behaviors are shaped by rewards and punishments (Minton et al., 2012). Altering these rewards can change motivational outcomes, and in addition to enhancing views towards anti-materialism, consumers with involvement-oriented motivations are more likely to recycle when compared to other consumers. Additionally, sustainable advertisements should allow the consumer to feel that he or she is playing a part in helping to sustain the environment (i.e. use a message that shows how the consumer is improving his or her lifestyle to sustain the earth, for example, by mentioning a statement like "uses 50% less water"). This can help to explain the motives for sustainable behaviors which can help explain why some consumers purchase sustainable products (and why they may purchase products like water-conserving shower nozzles).

Consumers could potentially view different ad mediums with sustainable ads at different levels of congruity (highly congruent, moderately congruent, or highly incongruent) when looking at different ad mediums (like magazine versus internet ads). Furthermore, the Limited Capacity Model is used to interpret these differentiating levels of congruence by looking at the potentially differing levels of cognitive encoding allocations.

Additionally, sustainable, water-conservation products are purchased by a particular target market of consumers who may have differentiating opinions (in regards to how digital ads are paperless and typical magazine ads are not), compared to everyday, main-stream consumers, on ad mediums based on their environmental, preservation-based mind-sets. Therefore, to help understand this phenomena, an experiment was conducted using a 2 (sustainable, water-conserving shower nozzle ads versus non-sustainable / regular shower nozzle ads) x 3 (internet ads versus magazine ads versus recycled magazine ads), between-subjects, factorial design via an online experiment. Data were collected (N=270) through the use of a Research Participant Pool that was located in a large Southwestern university.

Research that analyzes water-conserving products is lacking, and, furthermore, by paying attention to water use efficiency as well as water-conserving product performance, product components, source water, energy use, plumbing, and sewer infrastructure, practitioners will be able to create a more comprehensive domain for water conservation (Williams et al., 2013). This study also fosters a usage of both theories together to support an area of research (sustainable advertising) that is new and under researched. Lastly, the advertising industry will be able to use the findings from this research to better target sustainable products within the correct ad mediums to better reach relevant consumers.

**Id:** 20227

**Title:** Forceful languages and their effects on persuasiveness: Using psychological reactance theory to examine the issue of microplastic contamination

**Session Type:** Individual submission

**Authors:**

Name: Huai-Kuan Zeng

Email: miazeng.aa07g@nctu.edu.tw

Country: TW (Taiwan)

Affiliation: Doctoral Student of the program on Communication & Technology National Chiao Tung University, Taiwan

Name: Shu-Chu Sarrina Li

Email: shuchu@mail.nctu.edu.tw

Country: TW (Taiwan)

Affiliation: Professor of Institute of Communication Studies National Chiao Tung University, Taiwan

**Abstract:** Microplastic contamination has become a serious threat to the environment in Taiwan, which is caused by the use of plastics in our everyday life. Microplastics come from various sources, one of which is from plastic debris that will be gradually decomposed into tiny pieces. These tiny pieces are able to pass through water filtration systems, which in turn exist in the ocean, lakes, and rivers, and have a serious negative effect on human health. Therefore, it is important for the public to understand the urgency of this issue and to take collective actions for reducing the use of plastic-related materials in everyday life.

Using psychological reactance theory as the theoretical framework, this study aims to examine the relationships among forceful languages, psychological reactance, and a message's persuasiveness in the issue of microplastic contamination.

Psychological reactance theory (PRT) was developed by Brehm in 1966 with the purpose to understand the factors that result in the failure of persuasiveness of a message. According to Brehm (1981), when individuals perceive that their freedom is threatened, their psychological reactance that is characterized by anger and counter-arguments will occur. When individuals' psychological reactance is evoked, they will try to refute the viewpoints of the message and be less persuaded by the message. Studies on PRT have shown that persuasive messages containing the languages to threaten one's freedoms result in psychological reactance, which subsequently reduces the effectiveness of persuasive messages.

This study adopts an experimental design with two types of messages to understand the relationships among forceful languages, perceived freedom limited, psychological reactance (anger and counter-arguments), and messages' persuasiveness. The two types of messages differ in terms of the degree of perceived threat; one message uses highly threatening languages and the other adopts non-threatening languages. This study uses the following procedure to select the two types of messages: (1) this study content analyzed 128 news articles on the issue of microplastic

contamination that were reported by the two largest newspapers in Taiwan. Four news articles rated as high in perceived threat and the other four articles rated as low in perceived threat were selected as stimulus messages; (2) this study conducted a focus group with five communication graduate students as members. These students were asked to discuss the reasons why a given article was perceived to be high or low in perceived threat, and this study used the results from the focus group to select the high (HH) and low (LL) threatening messages; and (3) a pilot study was conducted to ensure the differences between the high and low threatening messages. The t-tests show that the high-threatening message differed significantly from the low-threatening message regarding their perceived severity ( $t = 4.28, p < .000$ ) and perceived susceptibility ( $t = 2.43, p = .021$ ). The experiment is conducted through an online survey with the HH and LL messages randomly distributed to the subjects. This study expects to receive more than 400 valid questionnaires with 200 for the HH message and the remaining 200 for the LL message.

**Id:** 20257

**Title:** Emotions in the media coverage on honey bee colony losses

**Session Type:** Individual submission

**Authors:**

Name: Brigitte Huber

Email: brigitte.huber@univie.ac.at

Country: AT (Austria)

Affiliation: University of Vienna

Name: Ingrid Aichberger

Email: ingrid.aichberger@sbg.ac.at

Country: AT (Austria)

Affiliation: University of Salzburg

**Abstract:** Journalism has the potential to contribute to environmental protection by reporting on environmental issues. Accordingly, communication scholars are interested to investigate which kind of media coverage is best suited to foster engagement. For instance, research suggests that emotions in the media coverage on climate change can influence the willingness to sacrifice for climate change (Bilandzic, Kalch, & Soentgen, 2017). Hence, it is relevant to know how emotionalized media coverage on environmental issues actually is. However, surprisingly little is known so far in this regard. This is where our study comes in. We analyze emotionalization in the media coverage on environmental issues by using the case of the colony collapse disorder (CCD). CCD describes the syndrome of “large-scale, unexplained losses of managed honey bee (*Apis mellifera* L.) colonies” (vanEngelsdorp et al., 2009, p. 1). The case of the colony collapse disorder is especially interesting as it is less researched than other environmental topics that call for action such as climate change (Cho, 2010; Smith & Saunders, 2016; Suryanarayanan & Kleinman, 2012). Recent research shows an increasing emotionalization in the daily news (Donsbach & Büttner, 2005; Magin, 2017). Accordingly, this study aims to investigate whether this is also true for the media coverage on CCD. In literature, three forms of emotionalization can be distinguished (Leidenberger, 2015): visual, textual, and emotionalization transmitted through music. In our study, we focus on textual emotionalization. Following this framework, we pose the following research questions: RQ1: To what extent is textual emotionalization used in the media coverage on CCD? RQ2: Do the analyzed newspapers differ in terms of textual emotionalization? RQ3: Has the use of textual emotionalization increased over time? To answer these questions, we conducted a quantitative content analysis of news stories in Austrian daily newspapers. We selected the two leading newspaper in the quality segment and the two largest tabloids in terms of reach. The investigation period ranges from 09/2010 to 09/2018. The starting point was chosen because in that month the EU announced to increase the budget for financial support for beekeeping (European Commission, 2010). By using a keyword search in a digital newspaper archive database, we identified 599 relevant news stories. Emotionalization is assessed in two ways: (1) explicit incorporation of positive or negative emotions in the news story (e.g., anger, fear, hope, joy, etc., see Gerhards et al., 2011) and (2) based on rhetorical categories developed by Wittwen (1995). Results show that the media coverage on CCD is highly emotionalized right from the beginning. Interestingly, emotionalization occurs far more often by using rhetorical devices rather than by explicitly

mentioning positive or negative emotions. We identified a broad range of different metaphors (e.g., honey described as “sweet gold”) and neologisms (e.g., “bee killer”). As expected, tabloid papers use superlatives, exclamation marks, and “breathless” syntax to evoke emotions more often than quality papers do. The results are discussed in light of the often-assumed “duality” of factuality and emotions in news reporting.

**Id:** 20265

**Title:** Communicating Sustainable Finance: Engaging the Public with Strategic Communication

**Session Type:** Individual submission

**Authors:**

Name: Nadine Strauß

Email: nadine.strauss@univie.ac.at

Country: AT (Austria)

Affiliation: University of Vienna

**Abstract:** Ever since the Global Financial Crisis 2007-2009 (GFC) and its aftermaths, various political, economic and public voices have been raised that have demanded a more sustainable economic system. Though up to now, recent developments and initiatives (e.g., UN Sustainable Development Goals) have only had a limited impact on the broad implementation of a financial system that is footed on sustainable investment criteria.

One of the reasons why sustainable finance has not reached widespread recognition and support among policy makers, financial experts and business people so far is the fact that the broader public remains fairly uninformed and disinterested about it, thus failing to put public pressure on key actors. To counteract this, one of the main recommendations by the High-Level Expert Group on Sustainable Finance by the European Commission was to “consider ways to empower citizens to engage with sustainable finance” (2018, p. 5). Yet, no large-scale institutional actions have been taken so far to put this endeavor in practice – probably because there is no clear communication and public engagement strategy available.

Although research in various disciplines has identified a range of communication strategies on how to effectively raise awareness for environmental topics (e.g., climate change) among the public (Leiserowitz, 2006; Maibach, 2018; Marx et al., 2007), these findings cannot easily be transferred to the communication of sustainable finance. First of all, sustainable finance is broadly unknown and can be rather considered a niche-theme among the general public. Secondly, financial literacy is generally low among the public, and both academics and practitioners have publicly called for more financial education in schools and universities (Pollard, 2016). And thirdly, changing one’s financial behavior (e.g., switching a bank, reallocating money in sustainable investment vehicles) can be considered a cumbersome hurdle for everyday financial customers.

Hence, the aim of this manuscript is to offer an extensive theoretical discussion and a practical guideline on how to successfully communicate sustainable finance to the desired audiences. By borrowing from disciplines such as environmental communication, psychology, and marketing, various communication strategies will be elaborated that offer gateways for an effective communication strategy within the field of sustainable finance.

While the literature review is still in process, some preliminary insights have already emerged: For example, following Leiserowitz (2006), we know that factors such as personal experiences, affect, imagery, trust, social values and worldviews play a crucial role in influencing the risk perception of climate change. Similarly, it can be argued that the attitude toward sustainable finance might be

affected by personal experiences with financial topics, one's attitude toward the financial sector (e.g., whether having been affected by the GFC), the image and trust someone holds towards the banking/finance sector, but also the social values and world views (e.g., sustainability, environmental protection, altruism) that are important to citizens.

Summarizing, this manuscript provides practical implications for communication professionals, scholars and experts to set the stage for spurring more interest and engagement for sustainable finance among the broader public, eventually aimed at bringing about attitudinal and behavioral change (cf. Kallmuss & Agyeman, 2002).

**Id:** 20401

**Title:** Environmental Communication with Infographics in the 'Post-Truth' Era

**Session Type:** Individual submission

**Authors:**

Name: Lutz PESCHKE

Email: lutz.peschke@gmx.de

Country: TR (Turkey)

Affiliation: Department of Communication and Design, Bilkent University

**Abstract:** In the last decade, a new medial presentation form appeared beside text and image. In spite of all analogous precursors it became an autonomous and journalistic category of the digital epoch: the infographic. There are nearly no scientific news without statistical output. These find their way to the world in form of infographics. Infographics get increasing importance because of data flood and information overloads, supported and exponentiated by social and mobile online media. This holds true for the recipients as well: The request of the keyword “infographics” to search engines multiplied twenty times between 2010 and 2012.

Infographics are discontinuous form of expressions which contain text, image and diagrammatic components. They were subjects of manifold social researches. The author (2019) recently analysed how knowledge is received from infographics by recipients in their leisure time. For his research, he developed a media reception model which considers the voluntarily motivated relevance of recipients. But how effective are infographics with art and design elements for knowledge transfer in the post-truth era? According to Oxford Dictionary, in the post-truth era, borders blur between truth and lies and “objective facts are less influential in shaping public opinion than appeals to emotion and personal belief” (Oxford Dictionary 2016). Accordingly, it should be expected that art and design elements with their emotionalising potential are more influential in shaping public opinion than the objective facts of the diagram.

A recently started reception study analysed the transforming power of a poster exhibition with infographics about renewable energy with different kind of embedded artistic elements and objects. Considering Stengers’ approach of the ecology of practices (2005), the objects of the exhibition can be understood as tool for thinking. Stengers determines thinking as a practice which generates a relation of belonging and becoming. While belonging leads to history of conventions, becoming is the transforming power in respect of the future. She derives the request to resist conventional thinking and calls it, thinking in minor keys, escaping from major keys. This paper will present the contribution of artistic elements to the development of the transforming power. It will be shown that art disbalances the interaction with (digital) data via self-imposed rules and leads to the result, that own thinking habits are put to the test and certain situations in and outside media are rethought.

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**Id:** 20454

**Title:** [Panel] Climate change denial and interest groups in Europe: Political Economy and Ideological denial [Presentation] Panel description

**Session Type:** Panel Submission

**Authors:**

Name: Nuria Almiron

Email: nuria.almiron@upf.edu

Country: ES (Spain)

Affiliation: Senior Lecturer at Department of Communication

**Abstract:** Climate change denial is usually defined as the discourse that questions any of the basic premises of scientific consensus and as mainly a US countermovement promoted by US conservative interest groups. However, climate change denial does exist in Europe and it implies mostly politics, not science. Climate change denial is therefore mostly about ideas and involves a type of implicatory denial which can be labeled as ideological.

This panel presents findings related to the THINKClima research project, focused on studying interest groups in Europe related to climate change denial and particularly to communication strategies and ideological denial. By ideological denial this panel refers to the rejection of an urgent need to address and reconsider the ideas driving both human-induced global warming and the solutions implemented to fight it. In this respect, ideological denial prevents us from addressing the unethical mindset that produces greenhouse emissions and failed solutions –as for instance human diet, human overpopulation or the myths of permanent economic growth and technology as a solution.

The panel includes to this end two papers providing findings on the political economy of climate change denial lobbies and think tanks in Europe, as top communication actors; and two papers on the strategic communication of advocacy interest groups and how they tackle ideological denial regarding climate change.

Moderator: Núria Almiron, Universitat Pompeu Fabra nuria.almiron@upf.edu

**Id:** 20455

**Title:** [Panel] Climate change denial and interest groups in Europe: Political Economy and Ideological denial [Presentation] Climate change contrarian European think tanks: An analysis of links

**Session Type:** Panel Submission

**Authors:**

Name: Justin Farrell  
Email: justin.farrell@yale.edu  
Country: US (United States)  
Affiliation: Yale University

Name: Nuria Almiron  
Email: nuria.almiron@upf.edu  
Country: ES (Spain)  
Affiliation: Senior Lecturer at Department of Communication

Name: Maxwell Boykoff  
Email: boykoff@colorado.edu  
Country: US (United States)  
Affiliation: University of Colorado Boulder

Name: Jose Antonio Moreno-Cabezudo  
Email: joseantonio.moreno04@estudiant.upf.edu  
Country: ES (Spain)  
Affiliation: Universitat Pompeu Fabra

Name: Katie McConnell  
Email: kathryn.mcconnell@yale.edu  
Country: US (United States)  
Affiliation: Yale University

**Abstract:** In today's society think tanks (TT) are relevant and influential communication actors trying to shape public policies, the public opinion and the media. Perspectives on TT utility range from pluralist approaches considering the proliferation of TTs as a sign of progress in a democracy to elitist approaches deeming those organizations tools of the capitalist ruling class. Amongst them, critical political economy approaches to think tanks—that is, focusing on power relations—are rare but already include field theory or discourse coalition theories, which display TTs within a network of powerful links and dependencies and help adopting a sociological view to understand the spread of some discourses like economic neoliberal hegemony or climate change denial.

Also, particularly for climate change policies and public opinion, TT output, influence and political economy have been increasingly researched in the United States (US) to unveil the primary role those organisations have played in the promotion of climate change contrarianism and the creation of a right-wing countermovement opposing fighting against anthropogenic global warming. In part

since explicit climate change contrarianism appears to be much more tempered in the EU, TT have not garnered a similar degree of academic interest in Europe.

This paper tries to fill both gaps, the need for more political economy approaches in research and the need of more focus in Europe. Particularly, it will present findings from a network analysis of the links of leading European think tanks (ETT) generating knowledge for climate policy decision-making that can be labelled as contrarian. To this end, we have (1) gathered a sample of the most influential multidisciplinary and environment-focused think tanks in Europe using English as the main language and including denial/contrarian/skeptical discourses in their websites; (2) collected all the individual actors linked to them (board members, trustee members and collaborators); and (3) applied a network analysis following the methodology applied in earlier work in the US by Farrell (2016), assessing the overall structure of this network, the links between all individual actors, and examining factors that predict why some actors are more influential than others.

As mentioned above, the analysis of think tanks networks is of great importance to understand the dynamics of discourse creation. However, these dynamics have proven to be very difficult to quantify and illustrate. Through this research we expect to identify relevant links amongst the most influential contrarian think tanks in Europe with all relevant actors linked to them, yielding new information about the structure and function of climate change contrarianism in Europe.

Reference: Farrell, J. (2016). Network structure and influence of climate change countermovement. *Nature Climate Change*, 6(4): 370–374.

**Id:** 20456

**Title:** [Panel] Climate change denial and interest groups in Europe: Political Economy and Ideological denial [Presentation] Climate policy and Strategic Communication: The Dairy Lobby in Europe

**Session Type:** Panel Submission

**Authors:**

Name: María Ruíz-Carreras

Email: maria.ruiz04@estudiant.upf.edu

Country: ES (Spain)

Affiliation: Universitat Pompeu Fabra

**Abstract:** The climate change impact of the raising of animals for human consumption has been already highlighted by a number of experts and nongovernmental and governmental organizations (e.g. Steinfeld et al, 2006; UNEP, 2010; UNEP, 2012; Gerber et al, 2013). The role of the dairy industry is particularly important in terms of greenhouse emissions. According to Gerber et al (2010) it contributes to 4.0 percent of total anthropogenic emissions. Methane is by far the largest contributor to total GHG emissions from the dairy sector –accounting for over half of total emissions, while nitrous oxide contributes to between 30 and 40 percent of total emissions. Of all food industries contributing to global warming, the dairy industry is amongst the top ones.

At the same time, the European dairy industry is amongst the five most important industries of the food and beverage sector in the EU. Dairy production represents approximately 15% of the value of common agricultural production and is the first product industry in the EU (European Commission, 2016).

It therefore comes as no surprise that the European dairy industry is a sector with enormous political and economic influence. For this same reason, any climate change policy that may alter or just seen as a threat to the dairy business is highly contested by the dairy interest groups. We do actually know that the dairy industry (alongside the whole food industry) is having a huge impact on the climate change policies, mostly on the controversial and ethically problematic measures that are chosen as a way to reduce emissions (Sherma, 2016). However, who the dairy lobby is and how it uses strategic communication, is under researched.

This paper presents findings of an ongoing doctoral dissertation on the dairy lobby in Europe that attempts to assess its influence in the region. To this end, the political economy of the European dairy lobby is scrutinized in order to unveil the main stakeholders involved (lobbies and think tanks), their lobbying key data and main figures as interest groups lobbying environmental policies.

To collect data, a data mining procedure has been conducted on the Transparency Register database (the register of interest groups maintained by the European Union) with the aim of tracking patterns, classify and clustering data, made associations and identify the main lobbying efforts (targets and activities). This register has been criticized as being unreliable because it is not compulsory, and data is not checked by the European Commission. However, it remains as the main source for lobbying data and activities at the EU level. Overall, results measure the lobbying muscle of one of

the industries more influential on policy makers, public opinion and the media through its use of strategic communication.

**Id:** 20457

**Title:** [Panel] Climate change denial and interest groups in Europe: Political Economy and Ideological denial [Presentation] Strategic visual communication and climate change. Confronting the agribusiness denial discourse by animal and climate advocacy

**Session Type:** Panel Submission

**Authors:**

Name: Laura Fernández

Email: laura.fernandez@upf.edu

Country: ES (Spain)

Affiliation: Universitat Pompeu Fabra

**Abstract:** It has been widely argued that the food system in general and the animal agriculture and aquaculture industries in particular play a decisive role in anthropogenic global warming (Goodland & Anhang, 2009; Leip et al., 2010, Scarborough et al, 2014, Steinfeld, 2006). Some of the main problems these industries contribute to include: water pollution and waste, soil degradation and deforestation, energy waste, bio-contamination and diseases, species extinction or greenhouse gas emissions and air pollution. The estimated contribution of the agribusiness to global greenhouse gas emissions goes from 14.5% (FAO, 2014) to 51% (Goodland and Anhang, 2009). Due to this, an increasing number of interest groups point at dietary choices as a crucial variable in climate change mitigation strategies. Amongst the most important interest groups promoting changes in food choices to reduce carbon emissions are climate and animal advocacy groups. These interest groups typically use visual communication as an essential tool to create awareness and attitude change on problems such as climate change and animal suffering, and to counteract representations that deny climate change or distort the realities of nonhuman animals' suffering. In this context, what are the most effective visuals in strategic communication is a common controversy and dilemma. This paper tries to contribute to this discussion in order to help improving climate and animal advocacy confronting climate denialism by the agribusiness.

To this end, the results of a literature review on research focused on audiovisual communication of climate and animal advocacy groups will be presented. The aim of this original review is to gather the main empirical data available to date on the strategic visual communication by animal and climate advocacy –particularly visuals used or identified as potentially useful to raise awareness on climate change and animal exploitation and promote climate change mitigation policies, especially dietary changes. To this regard, the paper will discuss whether visuals used by advocacy groups are able to disestablish the agribusiness discourse promoted by economic interests. Of particular interest is research on two main parameters used by communication scholars, salience and efficacy (e.g. O'Neill, 2013), to measure the effectiveness of visuals in both climate and animal advocacy. Different strategies researched by scholars, focusing especially in those of animal suffering visuals of free-living and farmed animals directly and indirectly affected by agribusiness and climate change, will also be considered (e.g. Swim & Bloodhart, 2015; O'Neill et al, 2013; Scudder & Mills, 2009).

Findings suggests that appealing to emotions and its connections with attitude change (especially regarding dietary choices) is strategic in the promotion of climate change mitigation and the

abolition of nonhuman animal exploitation. The use of explicit violent images and moral shock techniques in relation to nonhuman animal exploitation (Jasper & Poulsen, 1995) seems to be especially remarkable in counterbalancing the hegemonic discourses by creating a sense of outrage “which in turn leads individuals to react in response to it” (Jasper & Poulsen, 1995). The empirical research to date shows that effectivity is strongly related to challenging the agribusiness narrative.

**Id:** 20458

**Title:** [Panel] Climate change denial and interest groups in Europe: Political Economy and Ideological denial [Presentation] The role of environmental NGOs in Spain in the fight against climate change: discourse and ideology.

**Session Type:** Panel Submission

**Authors:**

Name: Xuksa Kramcsak

Email: xuksa.kramcsak@upf.edu

Country: ES (Spain)

Affiliation: Universitat Pompeu Fabra

**Abstract:** Climate change denial can be defined as the stance grounded on discourses that question the scientific evidence about climate change existence and its anthropogenic causes. This view also denies the need of rethinking the capitalistic economic production model, and, therefore, the global challenge and the moral responsibility linked to it. Previous research has shown that climate change denial, at least in the US, is promoted by economic interests and values aimed at perpetuating privileges and power through interest groups, mostly think tanks.

More recently, the concept of ideological denial has been suggested to point out at the refusal to rethink the ideas underlying the causes and proposed solutions to mitigate global warming, which are conditioned by anthropocentric beliefs and which are reported by the Intergovernmental Panel on Climate Change (IPCC). It is necessary to understand that although mitigation plans and strategies have been increasingly promoted by all the IPCC reports, there has not been a significant reduction of global warming emissions in the last decades.

This paper will present the preliminary results of an on-going doctoral research aimed at unveiling whether green non-governmental organizations (NGO) in Spain, identified as interest groups that fight against climate change denial, fall into ideological denial. In particular, the paper will introduce results of a frame analysis regarding the three themes identified in ideological denial by the project THINKClima (2018) following IPCC reports: the denial of animal-based diet and human overpopulation as problems and the trust in technology as a major solution. To this end, a frame analysis following Entman's methodology has been conducted on the four main green NGOS in Spain according to visibility, prestige and importance in relation to their activity and membership. These are: Greenpeace, World Wildlife Fund (WWF), Friends of the Earth and Ecologistas en Acción.

The main goal of the frame analysis was to examine whether the sampled green NGOs contribute with their discourse to disseminate the solutions aligned with the problems detected by the IPCC or, on the contrary, they neglect them. Thus, the three themes (the problems of animal-based diet and human overpopulation and the faith in technology) have been coded to see whether they have been taken into consideration and how in a sample of 1,209 documents.

The hypothesis of the research is that the main green NGOs operating in Spain are impregnated of ideological denialism and thus neglecting to disseminate the information that can objectively be

more effective in the fight against climate change. Since these organizations are interest groups who can be considered disseminators of knowledge regarding climate change, they are thus relevant communication actors which can have an impact on policies, media and the public opinion.

**Id:** 20567

**Title:** Is There a Medialized Science in China? Findings from Media Coverage on Smog Crisis, Climate Change and GMO Issues

**Session Type:** Individual submission

**Authors:**

Name: Lin Shi

Email: lin.shi@outlook.com

Country: CN (China)

Affiliation: Beijing Normal University

**Abstract:** With respect to the relationship between science and society, the most intuitive and direct observation is the increasingly close connection between science and society. On the one hand, science is gradually penetrating into other social fields, providing scientific analysis and scientific judgments for various decision-making; on the other hand, science itself is “more tightly coupled” (Weingart, 2002) with other social systems in terms of connection and interaction. Thereinto, the influence of political, economic and media systems on science is particularly prominent.

Based on this, this study focuses on the coupling relationship between science and media, using “medialization of science” proposed by Peter Weingart (1998, 2001) as a theoretical framework, to investigate how the media (especially the mass media) presents scientific issues and how science news is medialized through this process in the context of China. Three issues, smog crisis, climate change and GMO, from two scientific fields, climate science and biotechnology, are chosen. Combined content analysis and textual analysis on four well-known newspaper, results show that there does exist a medialized science in Chinese media while the degree of medialization varies among different issues. The smog crisis is a case of significant medialization, and the GMO presents a partial medialization case, while the climate change is less medialized. In addition, this study finds that media coverage on science follows an issue-attention cycle and forms a medialization cycle; competition for multiple discursive spaces exists across different media.

This study contributes to the field of science communication in two ways. First, it’s the first attempt to examine the medialization of science framework in the context of China, where scientific literacy and science communication has obtained intensive attention from the academia. Second, it’s helpful to better understand the interaction between science and media, and promote science-related policy-making in a long run.

**Id:** 20621

**Title:** Datacentres and the press: How the digital sublime obscures critical media reporting on data infrastructure

**Session Type:** Individual submission

**Authors:**

Name: Mikkel Eskjær

Email: Eskjaer@hum.aau.dk

Country: DK (Denmark)

Affiliation: Aalborg University, Copenhagen

**Abstract:** Digital communication relies on energy heavy infrastructures which usually have remained discursively invisible. ICT has been enveloped in the myth that it can change “the world without changing the Earth” (Maxwell & Miller, 2012, p. 9). Consequently, the material basis for ICT has, until recently, rarely been a topic in the public sphere. Even media studies have largely ignored this aspect of its own domain (Brevini & Murdock, 2017, p. 11).

The development towards cloud computing, internet-enabled devices, and video streaming has resulted in an explosive growth of data consumption. Datacentres have become the “factories of the digital economy” (Cook, 2017, p. 17). They are estimated to consume 3% of global electricity and accounting for 2% of global greenhouse gas emission resulting in a carbon footprint equivalent to the airline industry (Bawden, 2016). Datacentres have become the symbol of a “black box society” where corporate and public actors collect and store enormous amounts of data about citizens, “while we know little to nothing about how they use this knowledge” (Pasquale, 2015, p. 9).

This study looks at media coverage of datacentres. Since 2015 tech giants like Google, Apple, and Facebook have announced plans to construct six hyperscale datacentres in Denmark. So far, Apple is constructing two datacentres; Facebook is building one with another on the drawing board, and Google has purchased two plots for future datacentres.

Danish news coverage has been mostly celebratory and technical illustrating the lure and fascination with the technological and digital sublime (Mosco, 2004). In addition, new stories frequently report that Big Tech is drawn to Denmark by technical and socioeconomic factors. This includes a high reliability of electric supply, connection to transatlantic communication cables, and access to green energy, allowing Big Tech to run datacentres on renewable energy. Nevertheless, the combined demand for electricity by these datacentres is estimated to require a 10-20% increase in national electricity consumption and 8-10% in CO2 emission. Few news stories have critically investigated the overall sustainability of attracting international datacentres.

Two research questions guide the study:

RQ1: What are the dominating frames (e.g. technology, economy, environment) in media coverage of datacentres in Denmark?

RQ2: How does traditional media (the press) and digital media (blogs, tweets, etc.) differ in reporting datacentres?

Based on a probability sample (from 2015 - 2018), and combining content analysis and digital methods (Rogers, 2013), the study investigates the distribution of thematic frames and generic frames across Danish press and online reporting.

As Denmark is set to become a hub for international datacentres, the study explores to what extent the traditional and digital public sphere manage to cover underlying implications of this development. This includes questions of tax breaks for tech giants, and environmental issues of how (and to whom) renewable energy is distributed. But it also implies questions of privacy and surveillance (Hogan, 2015), and the environmental consequences of digital lifestyles based on endless data consumption.

**Id:** 20655

**Title:** DISCOUNTING INDIGENOUS KNOWLEDGE SYSTEMS: FOOD SECURITY AND CULTURAL SURVIVAL IN THE ANTHROPOCENE

**Session Type:** Individual submission

**Authors:**

Name: Tyrone Hall

Email: TYRONE.HALL876@GMAIL.COM

Country: CA (Canada)

Affiliation: York UNiversity

**Abstract:** The intensification of unprecedented anthropogenic climate change lays bare the existential implications of discounting the value of indigenous knowledge. As indigenous scholars such as Agrawal (1996) observes, focussing on indigenous knowledge shifts from the West's enlightenment-infused preoccupation with centralized, technically oriented solutions, which continues to fail to improve the prospects of the world's poor and near poor. Likewise, Brokensha (1980), notes that ignoring people's knowledge is akin to ensuring failure in macro-societal planning and development. My paper draws upon fieldwork from seven rustic hamlets from across Andhra Pradesh, South India to highlight how indigenous knowledge gains vitality from being deeply implicated in people's lives, which has enabled these societies to cope with waves of geologic change over centuries. It then highlights how a lack of regard for the holistic knowledge systems in traditional and indigenous contexts results in the current wave of climatic change confounding well honed and adaptable knowledge systems. My paper explores key cultural and existential implications of the destabilization of the integrity and utility of indigenous knowledge systems in the seven resource dependent contexts. The paper also illustrates how the homogeneity induced by the Green Revolution and the limitations of ex situ conservation as a means of preservation foments and exacerbates fissures in the traditional social order, which further undermines adaptive capacity amidst climate change. The primary conclusion is that a deeper socio-cultural purview is needed. Thus, the paper highlights how religion, the traditional order, as well as, the collective risk perception and motive might be leveraged to enable agency to sufficiently tackle the existential implications of crop failure and broader livelihoods implications of climate change.

**Id:** 20709

**Title:** Exploring the antecedents and behavioral outcomes of scientific consensus on climate change: An extension of the Gateway Belief Model

**Session Type:** Individual submission

**Authors:**

Name: Tsung-Jen Shih

Email: tjshih@gmail.com

Country: TW (Taiwan)

Affiliation: National Chengchi University

**Abstract:** Uncertainty is an important characteristic of the post-truths era, where a reality may be contested or perceived differently by groups with distinct purposes. Understanding how the general public makes sense of uncertainty and how uncertainty should be communicated, therefore, is vital. In the case of climate change, the uncertainty surrounding its evidence and the perception of consensus among scientists may affect how people perceive the issue. The Gateway Belief Model (GBM), which posits that people's scientific beliefs are heavily influenced by their perception of whether scientists agree with each other, provides a pertinent framework for the examination of the impact of uncertainty.

Research supportive of the model has been found in issues such as climate change (Ding, Maibach, Zhao, Roser-Renouf, & Leiserowitz, 2011), genetically modified food (Dixon, 2016), and the association between autism and vaccine (van der Linden, Clarke, & Maibach, 2015). For example, Ding et al. (2011) found that people who perceived higher disagreement among scientists were more uncertain about climate change and were less supportive of climate policy. However, although the GBM stipulates the impact of perceived scientific consensus, it does not attend to the predictors of such consensus. In addition, this line of research primarily focuses on the attitudinal consequence of scientific consensus, such as attitudes toward climate change or policy support. This study, therefore, extends the GBM by investigating the antecedents and behavioral consequence (i.e., civic actions related to climate change) of perceived consensus.

This study employs a nationally representative survey of Taiwanese adults. Conducted between June 29 and July 5, 2018, the survey interviewed a total of 1,111 respondents, including 907 from landlines and 204 from cell phones. The margin of error was  $\pm 3.32\%$ , based on the 95% confidence interval. The final sample size was 1,046 after removing respondents who have not heard about climate change.

The results showed that the perception of science as a debate between alternative positions (i.e., higher scientific uncertainty) was negatively associated with perceived consensus, whereas knowledge was positively related to it. In line with the GBM, the scientific consensus negatively predicted belief uncertainty about climate change. In terms of civic actions, which is the potential behavioral outcome examined by this study, the results fail to confirm its relationship with perceived consensus. On the other hand, the more uncertain people were about science in general, and about evidence in relation to climate change specifically, the less likely they were going to take civic actions. Further analysis indicated that the effect of perceived consensus on civic actions was mediated by uncertainty about climate change.

In conclusion, this study corroborates the GBM by linking perceived consensus directly to belief uncertainty, and indirectly to civic actions. This conforms to previous research which suggests that

people's action may be delayed because of the uncertainty inherent in science or among scientists. Moreover, this study suggests that, by increasing people's level of knowledge and by avoiding presenting science as only temporarily tenable, people's perception of scientific evidence may be closer to that of the scientific community.

**Id:** 20721

**Title:** THE PRESIDENCY OF THE PORTUGUESE REPUBLIC AND THE FIRE OF OCTOBER: ANALYSIS OF CRISIS COMMUNICATION ACCORDING TO SCCT

**Session Type:** Individual submission

**Authors:**

Name: BIANCA TONIOLO

Email: bianca.toniolo@ubi.pt

Country: PT (Portugal)

Affiliation: UNIVERSITY OF BEIRA INTERIOR

Name: GISELA GONÇALVES

Email: gisela.goncalves@labcom.ubi.pt

Country: PT (Portugal)

Affiliation: UNIVERSITY OF BEIRA INTERIOR

**Abstract:** The object of this study was the communication produced by the Press Office of the Portuguese Presidency (PRP) for the October Fires. We investigated whether the adopted communication strategy produced the appropriate response to the type of crisis according to Coombs Situational Crisis Communication Theory (SCCT) (2007).

As theoretical framework, we studied the concept of public relations applied to crisis management. From there, we present a brief bibliographical review about the pure asymmetric model or public information model and about the press office as a tool of public relations. The data were analyzed according to Coombs' Situational Crisis Communication Theory (SCCT) (2007), which proposes a set of guidelines that facilitates the identification of the type of crisis, its respective dynamics and indicates the most appropriate crisis response strategy to protect the reputation of the organization involved. We used the content analysis as methodology for this study. The PRP communication during the October Fires was categorized according to Coombs SCCT (2007), delimited by the observation of press releases and press conferences made available by PRP's press office. The selection of content was done through the search tool available on the PRP website with the keyword "fires" covering the categories News, Interventions, Messages and President of the Republic. The review material covered all publications between 15 and 28 October 2017, which was two weeks after the outbreak of the crisis.

The October Fires crisis belongs to the Accidental category, since there was no intentionality on the part of the PRP. As a subcategory, the most appropriate framework was Challenge, with minimal liability impact and moderate reputation threat. By sharing responsibility for the crisis with the Government and other stakeholders, the potential impact on PRP's reputation has been moderate. In relation to the crisis response strategy, the PRP adopted the Meaning Management, an efficient strategy to minimize the effects of the crisis, as it acts on the stakeholders' perception. In addition to an Adjustment Information strategy, the PRP communication reflected efforts to manage the meanings of the crisis, reduce the ambiguity and the psychological effects caused. The positive PRP assessment of over 69% between May and November 2017 indicated a reputation for PRP's positive relationship with the Portuguese population.

The analysis of the crisis according to Coombs (2007), as well as the characteristics of the content of the PRP crisis communication for the October Fires, were sufficient to confirm the appropriation of the chosen response strategy. The messages issued by the President of the Republic, through his Press Office, have generated positive effects for the information of the portuguese population and for the preservation of the institutional reputation of the PRP. The hypothesis that only the publication of press releases and the holding of press conferences would not be sufficient to produce adequate responses and preserve the institutional reputation has been refuted. We concluded that press counseling was a sufficient public relations tool to positively communicate and influence public opinion due to its rhetorical perspective and character persuasive.

**Id:** 20726

**Title:** From 'Life Takes Energy' to 'Keep Canada Working': The Evolvement of Canadian Petro-Rhetoric

**Session Type:** Individual submission

**Authors:**

Name: Siboc Chen

Email: siboc@sfu.ca

Country: CA (Canada)

Affiliation: School of Communication, Simon Fraser University

**Abstract:** As Barney (2017) argues, “infrastructures that enable the extraction, storage, and transportation of resource commodities [...] have been idealized not only as instrumental to the Canadian economy but, moreover, as materializing the Canadian nation” (p. 79). Indeed, Canadian politics since the beginning of the 21st Century have been characterized by continuous public controversies over fossil fuel infrastructures, such as the Northern Gateway Pipeline, the Energy East Pipeline, the LNG Canada Project, and the Trans Mountain Pipeline Expansion.

In response, there has been a growing body of critical communication scholarship addressing the communication aspect of Canadian extractivism. Drawing upon the theoretical insights offered by this research stream, this study examines the evolvement of Canadian petro-rhetoric as exemplified by two high-profile public campaigns: “Life Takes Energy” and “Keep Canada Working”. Launched back in 2014, “Life takes Energy” was arguably the most prominent public campaign focusing on legitimizing the Northern Gateway Pipeline among the Canadian public, especially those living in British Columbia. Meanwhile, “Keep Canada Working” was funded by the Alberta government in 2018 with a focus on recruiting national support for the Trans Mountain Pipeline Expansion.

By attending to the semiotic constructions of ordinary Canadians’ relationship with fossil fuels from the two campaigns, this study seeks to contribute to the ongoing scholarly discussion on Canada’s petro-nationalism. Specifically, the discursive tactics found in “Life takes Energy” suggested the omnipresence of petro-modernity, with the traditional “job versus environment” rhetoric being replaced by narratives that emphasize the centrality of fossil fuel to everyday life and downplay the urgency of radical post-carbon transition (Szeman, 2013). By contrast, “Keep Canada Working” sought to mobilize Canada’s petro-block by framing environmental disputes as a conflict between “foreign-funded radicals” and “ordinary working Canadians”. What makes this trend worrisome is its adoption of right-wing populism. Although such shift can be considered as the oil and gas sector’s defensive mechanism under mounting public pressure on sustainable development, it nonetheless creates an extremely powerful wave of attacks on anyone who oppose Canadian extractivism. As such, I argue that discourses found in “Keep Canada Working” fundamentally weaken the deliberative aspect of a valid legitimation process and should raise concern among critical communication scholars.

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**Id:** 20762

**Title:** Media, the game changer in communicating scientific health risks

**Session Type:** Individual submission

**Authors:**

Name: Prasana Fernandez  
Email: rosalinef24@yahoo.com  
Country: MY (Malaysia)  
Affiliation: Taylor's University

Name: Surinderpal Kaur  
Email: surinder@um.edu.my  
Country: MY (Malaysia)  
Affiliation: University of Malaya

Name: Kwan Hoong Ng  
Email: ngkh@ummc.edu.my  
Country: MY (Malaysia)  
Affiliation: University of Malaya

**Abstract:** Media studies on scientific risk communication tend to assume that the media are particularly prone to sensationalise the most negative aspects of technological hazards. Conversely, the media is also described as playing a significant role in correcting the misperception of scientific risk as the media and the press is the primary source of science information that shapes the public's perception of risks. Many scientists too misunderstand the role of the media in communicating scientific risks and expect journalists to play a kind of educational or health promotion role which is quite alien to the media's independence. Journalists, in general, are not knowledgeable about complex scientific topics because they lack expert knowledge. As such, this study looks at the role the media plays in reporting scientific health risks and the challenges they face. The qualitative data comes from thirty-one semi-structured interviews with representatives from the media and the various stakeholders involved in health risk communication. Thematic analysis is used to analyse the data. The analysis from a media-user perspective shows two different discourses: empowerment and power due to different cultural perspectives. The media is also becoming more sophisticated about risk communication concerning science and as such the health scientific fraternity can work with the media in communicating health risks effectively. Risk communicators and scientific experts too moving away from a culture of complaint about the media towards a more sophisticated understanding of how to influence risk stories and to use the opportunities provided by media attention to get their messages across.

**Keywords:** media, scientific health risks, health communication, risk communication

**Id:** 20811

**Title:** Media Coverage on Climate Change in Indonesia

**Session Type:** Individual submission

**Authors:**

Name: Mira Roehyady-Reetz

Email: mira.roehyady-reetz@tu-ilmenau.de

Country: DE (Germany)

Affiliation: Technische Universität Ilmenau

**Abstract:** As one of the biggest global problems, the issue of climate change has been dominating media and communication research in the field of environmental communication (Comfort and Park 2018). However, the research is almost exclusively focusing countries from the global north (Schäfer and Schlichting 2014). This paper aims on reducing this imbalance by providing findings from recent research on climate communication from Indonesia. As the biggest archipelago in the world, Indonesia is facing increasing threat from climate change, because the rising sea level is affecting millions of lives in the country. At the same time, Indonesia is the world's fifth largest emitter of greenhouse gases due to rapid deforestation and conversion of peatlands.

Most of all existing studies analyzing the media coverage on climate change in Indonesia are parts of bigger comparative research projects and therefore unable to identify country-specific problems and discussions (Eide 2012; Eide and Kunelius 2010; Hahn et al. 2012; Kunelius and Eide 2016; Kunelius and Yagodin 2016; Nassanga et al. 2016; Nossek and Kunelius 2012; Painter 2016; Sarwono et al. 2012; Ytterstad and Russell 2012). Exceptions are studies from Sarwono (2010) and Wiratmojo and Samosir (2012) which analyzed the media coverage on climate change during the COPs in Bali and Copenhagen. As country with the biggest Muslim inhabitant worldwide, conservative Islamic groups and political actors significantly influence national discourse in the country. However, up to date, there is no empirical research on how environmental issues such as climate change are presented in mass media based on the Islamic worldview in Indonesia. Therefore, this research analyzes articles published by two high quality newspapers: Kompas and Republika. Kompas is the most popular high quality newspaper in Indonesia, which is recognized for its liberal worldview. Meanwhile the Republika is a well known newspaper with Islamic worldview. Articles from both newspapers from a complete year during and between COP 23 and COP 24, identified by the keywords "perubahan iklim" (climate change) and "pemanasan global" (global warming) are analyzed for this study. Based on this data we will be able to answer the following research questions:

(RQ1) How is climate change framed and develop in Indonesia in this time span?

(RQ2) Is there any frame differences on climate change in Kompas and Republika

(RQ3) Can the differences between the two newspapers be traced back to different worldviews and religious-political orientations of the newspapers?

Quantitative content analysis method is conducted to analyse the articles based on the framing approach from Entman (1993). The four frame elements from this approach are specified for dimensions such as economy, politics, ecology, social, religion and science. There are in total 461

articles about climate change published by Kompas and 146 articles published by Republika from 1st of November 2017 until 31st of December 2018. The articles are coded by two native Indonesian speakers and both intensively involved in the development of codebook. The coding process will be finished at the end of April, therefore no preliminary results can be presented at the moment.

**Id:** 20846

**Title:** Professional challenges and impediments to science journalism in Vietnam: some implications for the developing world

**Session Type:** Individual submission

**Authors:**

Name: Minh Tran

Email: mtran@bournemouth.ac.uk

Country: GB (United Kingdom)

Affiliation: Minh Tran, MA (Cardiff), is Lecturer of Journalism at Da Nang University - College of Education, Vietnam, and a PhD scholar at Bournemouth University, UK. Her main project examines news production and representation of global science controversies in the

Name: An Nguyen

Email: anguyen@bournemouth.ac.uk

Country: GB (United Kingdom)

Affiliation: An Nguyen is Associate Professor of Journalism in the Faculty of Media & Communication. He has published four books and about 40 papers/chapters and industry reports, in several areas: \* digital journalism, \* digital news consumption/citizenship,

**Abstract:** Based on in-depth interviews with twenty-one science reporters and four senior editors in Vietnam, this paper uses this country as a case study to illuminate the many professional issues and challenges that science journalism in the Global South faces. Like any developing country, Vietnam depends heavily on an informed adoption and proper local appropriation of science and technology from scientifically advanced countries to progress, grow and develop. The news media, as the major and most effective communication channel to inform and engage public and policymakers with new science developments, play an instrumental in such development. This is especially crucial in areas of contested science developments that carry crucial benefits but also pose huge risks for developing societies, such as GM technology, stem-cell research, nanotechnology or artificial intelligence. Yet, our initial findings show that, while Vietnamese journalists lack the essential professional knowledge and skills to deal with science events and issues, having reported science for some time, several still struggle to define what science journalism is or should be about. They generally disregard the local relevance and importance of controversial science developments, and when they pay attention, they rely heavily on foreign sources and are uncritically skewed toward benefits at the expense of proper reporting of risks, including risks that are highlighted in the country's development. Also, with less than enthusiastic support from science-unqualified editors and news executives, they tend to sensationalise science to attract the audience, with some disastrous consequences that we will examine through several case studies. Added to these are a number of challenges and obstacles from outside the newsroom, including insufficient and reluctant cooperation of local scientists, political control on science and policy reporting, and commercial influences. Discussing the implications of such problems in the general literature about science journalism in developing countries, we will discuss how the situations could be changed for the better and who should play the central roles in that process.

**Id:** 20862

**Title:** iScience. Transmedia for the communications of science in México

**Session Type:** Individual submission

**Authors:**

Name: Sergio Sánchez

Email: sergei.sanz@gmail.com

Country: MX (Mexico)

Affiliation: Universidad Nacional Autónoma de México

**Abstract:** The new environment of media convergence has allowed almost any user of Internet and virtual space to access and create their own blogs of scientific content. The new digital scenario of the content creator user thanks to web 2.0 tools (O'Reilly, 2005) and the potential for interaction and participation in digital environments fostered by media convergence and participatory culture (Jenkins, 2008).

The communications of science in media convergence (i-science) allows scientists and researchers to be connected in communication and interaction with their peers in real time, in addition to users interested in scientific issues can contribute to the construction of scientific knowledge.

The media technological convergence promotes the participation of users and consumers of media products, emerging digital technologies (Neuman, 1991, cited in Castells, 2009) rethink the relationship between the media industries and the public (or users) by allowing them to copy, save, share, transform, reformat those contents that are significant for consumers, assuming a much more active role (Gilder, 1992, Sella, 2002, cited in Jenkins 2006).

Users in the participatory culture have an interest in integrating into virtual communities (Rheingold, 2004), the digital technological advantages of web 2.0 (O'Reilly, 2005) are used by Internet users to search, select, share, communicate and transform the contents of their interest by providing a symbolic value, this is a crucial aspect in transmedia logic; understood as the flow and expansion of different fragments of stories by different media and platforms in their own language that invites the user to be part of that history, appropriate it (Orozco, 2007), transform it (Dena, 2009) and redistribute it (Scolari, 2009).

The tools and the digital media environment of web 2.0 allow a greater visibility, distribution, and circulation of scientific research, in addition, if open access is available, it allows other researchers to cite scientific productions and be communicated in a larger community of researchers, users of digital environments (Penkova, 2012).

The advantages of using web 2.0 in a collaborative work among peers and facilitate the creation of virtual communities where users assume roles with responsibilities in the production of information and the contents of the electronic portal. It is a new way of doing science, mediated by the digital technological advances of convergence and participatory culture (i-science); characterized by a more dynamic and real-time action of the process of building scientific knowledge, supported by

social networks, wikis, blogs, grid computings and cloud computing, among others resources geographically distributed and interconnected through the Internet (Said, 2012).

This research is part of my PhD thesis, and its contribution is a theoretical methodological instrument that measures the transmediality in the electronic websites dedicated to the communication of science from the categories of Production; Interfaces; Message construction and the Reception process.

The object of study is the electronic website of science communication of the National Autonomous University of Mexico, Ciencia UNAM: [www.ciencia.unam.mx](http://www.ciencia.unam.mx)

Keywords: Communication of science, digital environment, web 2.0, interaction, participation, collaborative work, digital technological convergence, transmedia, users.

**Id:** 20875

**Title:** Climate of the Anthropocene: A Historiographic Analysis of Anthropogenic Climate Change Discourse

**Session Type:** Individual submission

**Authors:**

Name: Ryan Wallace

Email: ryanwallace@utexas.edu

Country: US (United States)

Affiliation: University of Texas, Austin

**Abstract:** Climate science, politics, and even economics are widely present in contemporary discussions of human-caused climate change, but one component is often ignored—history. Borrowing from the traditions of environmental historians, this study seeks to blend communications methods of textual analyses with historiographic methods to investigate how anthropogenic climate change is discussed in modern literature. Comparing the works of historians with those of journalists and public intellectuals, this study gives a uniquely interdisciplinary view into how climate change is framed by diverse authors with different epistemological and methodological approaches. While the books analyzed in this corpus primarily deal with events of the past, they also have significant roles in guiding today’s media landscape on the topic, and informing policy-making of the future. Ranging from deep histories that have a global span, to brief histories with only one species at the center of the narrative, books written on the subject by environmental historians show a wide variety in topics with similar methodological approaches. They share archives, references, and most importantly a common vocabulary. Journalists and public-intellectuals, on the other hand, tackle similar historical narratives amongst themselves—particularly focusing on those since the period known as the “Great Acceleration”. Without strong scholarship or training in the methodological approaches of any one discipline, but a familiarity with many, these generalists adopt vocabulary and strategies from others, but lack the ability to critically examine their sources of information. Instead, they rely primarily on the words of experts in the field to develop their narratives. They bring with them their own stylistic traditions, their own bias for living sources of information rather than archives, and an ability to forecast into the future in a way that most historians would not do. Ultimately, although they may share similar timelines and at times similar methodologies, the climate change literature put forward by journalists is distinctly different from that of official historical texts. The value of these works is immense, and though journalistic works or those of public intellectuals may have larger public appeal, this study illustrates the strength of narratives that are constructed by environmental historians and historians of science. This is not to say that authors should leave history to the historians—but rather, that in the future it will be important that journalists and other academics work with historians to provide more comprehensive, critical, and cogent histories of humanity and its impacts on global climate change.

**Id:** 20978

**Title:** Media agenda and alarming level of air pollution in Kathmandu

**Session Type:** Individual submission

**Authors:**

Name: Chun Gurung

Email: chuntamu@gmail.com

Country: NP (Nepal)

Affiliation: Central Department of Journalism & Mass Communication, Tribhuvan University, Nepal

**Abstract:** Keywords: Air pollution, agenda setting, media, Kathmandu valley, public opinion

The air quality in Nepal is the worst in the world as Nepal ranks in the 176, according to the 2018 assessment report of the Global Environmental Performance (Yale University et al., 2018). Similarly, NAST (2018) reveals approximately 35,000 people die every year due to air pollution in the country. WHO-Nepal (2018) found that air pollution that causes non-communicable diseases (NCDs) and that the deaths attribute to the NCDs have risen from 51% in 2010 to 60% in 2014. Nepal's capital city, Kathmandu, is the worst hit, with air pollution among the capital cities in the world. More than 90 percent of the traffic police who regularly deploy on duty stated that breathing difficulty is a major symptom when they get respiratory problems, (Ambika et. al, 2015). The data depict that air pollution in the Kathmandu valley poses a big threat to the public health.

Media – a key catalyst can play a critical role in forming, and shaping public opinion and that create an environment combating air pollution. Salwen & Stacks (2009) highlights that media's priorities often become the priorities of the public and policy-makers. In reality, media filter and shape people's perception. In this paper, I argue that the news media of Nepal have not treated air pollution as the public agenda and they tend to treat well politics and corporate affairs as the public affairs.

It is significant, therefore to systematically look into the media contents, uncover the facts and understand air pollution in relation to media response. The research is framed with the agenda setting theory – the idea first began in 1922 with a book – Public Opinion by Walter Lippmann. Herman & Chomsky (1988) also predicts corporate-owned media consistently generate contents that serve the interest of the power, and money. According to them, media operate through five filters, (ownership, advertisement, flake, sourcing media news, and anticommunism as a control mechanism). The proposed study centers on this particular question: How do the leading media outlets have been prioritizing the issue of air pollution of the Kathmandu valley?

The research adopts the explanatory mixed method approach developed by Creswell (2013), and analyze news contents of the Kathmandu based five leading media outlets, including two online news portals with the highest number of visitors and three national newspapers. The content analysis covers January – December 2018 in terms of news coverage, editorial and Op-Eds on air pollution of the valley. After the content analysis, the key agenda and issues will be identified, and the editors of the same media will be interviewed with a set of guiding questions to assess agenda

priorities of the media. This will also assess the air pollution agenda in the gatekeeping process and uncover potential challenges in the promotion of the media awareness, and other consequences while handling air pollution coverage in their respective media. Hence, the research will reveal the realities that how the media are indifferent on such a serious public agenda.

**Id:** 20997

**Title:** Media use and public perceptions of artificial intelligence in China: Evidence from an online survey

**Session Type:** Individual submission

**Authors:**

Name: Di Cui

Email: cuidi2009@gmail.com

Country: CN (China)

Affiliation: Fudan University

Name: Fang Wu

Email: wufangwf@sjtu.edu.cn

Country: CN (China)

Affiliation: Shanghai JiaoTong University

**Abstract:** Artificial intelligence (A.I.) is a fast growing area of innovation that draws worldwide attention. Having benefited substantially from developing Internet-related technologies, the Chinese government makes new commitments to boost the A.I. industry. With enormous investment from government and business, China is already among the global leaders in the research and development of A.I.. Though A.I. has increased in applied relevance, it is still an ambiguous and perplexing phenomenon in the public eye. Most of the Chinese public feel optimistic about A.I. and its potential benefit to the society, but they also have concerns that A.I. might bring risks (CISTP, 2018).

In contemporary societies, media play a main part in interpreting scientific progress for the public. Use of scientific media shapes how the public think and perceive new technologies. This pilot study explores the way Chinese people's risk/benefit perceptions and policy support of A.I. are linked with communication factors (i.e., traditional media and new media), cognitive factors (personal relevance, perceived knowledge) and affective factors (negative emotions and deference to scientific authority), and demographics. Data were obtained from an online survey based on a national sampling pool, from which we randomly recruited participants in November 2017. A final sample consists of 738 valid respondents.

Results show that respondents' score of benefit perception is higher than risk perception. Policy support is also high among respondents. This indicates that the Chinese public perceive A.I. to be a technology with more benefits than risks and have supportive attitudes towards it. Demographic variables have little to zero influence on dependent variables. Regarding cognitive factors, personal relevance is a consistent predictor of risk perception, benefit perception, and policy support. Perceived knowledge is not associated with any dependent variables. Deference to scientific authority can positively predict benefit perception and policy support. Negative emotions towards A.I. seem to drive people to elaborate more on the technology and therefore increase both risk and benefit perceptions. Overall, emotional factors played a more important role than cognitive factors in shaping respondents' perceptions of A.I..

Results showed that no media sources are significantly correlated with respondents' risk perception. Both traditional and online media must report major issues in favor of the government policies. Since the Chinese government is supportive of A.I., the media agenda is likely to portray

the technology in positive lights. However, media channels vary in their effects on benefit perception and policy support. Specifically, use of television and WeChat for information about A.I. are positively associated with benefit perception and policy support, but the association between newspaper use and these two dependent variables are negative. Regarding the interaction effects, a tenable conclusion is that personal relevance moderates the effects of newspaper and television use on benefit perception and the effects of newspaper use on policy support. For those with higher personal relevance, they receive less influence from television and newspaper than respondents with lower personal relevance in attitude formation. Personal relevance as a cognition-related factor could mitigate the influence of television and newspaper use.

**Id:** 21029

**Title:** Emotional or rational? Exploring how negative emotion alters the impact of rational use of digital media on public benefit-risk evaluation of GM technology in China

**Session Type:** Individual submission

**Authors:**

Name: Qing Huang

Email: qing\_huang@zju.edu.cn

Country: CN (China)

Affiliation: College of Media and International Culture, Zhejiang University, China

**Abstract:** Digital media have become a major channel through which people acquire information to keep themselves informed of the latest technological progress. However, in post-truth societies where public perception is much easier to be swayed by appeals to emotions than by factual rebuttals (Suiter, 2016), public understanding of technology previously based on reasoning may be altered by people's emotional reaction toward the technology. Accordingly, this study aims to explicate how people's negative emotion fundamentally changes the impact of rational use of digital media, namely, exposure to verified information in digital media, on their benefit-risk evaluation of GM technology in China.

The use of GM technology has remained a highly controversial issue in China because of its benefits and potential harms. Therefore, public evaluation of GM technology is a mix of benefit and risk evaluation. Exposure to relevant information in digital media tends to influence people's judgment of technologies (e.g., Ho, Scheufele, & Corley, 2013), and public trust in scientists helps mitigate their perceived risk or strengthen perceived benefit of a technology (e.g., Siegrist, Cvetkovich, & Roth, 2000). Moreover, negative emotion has long been considered an indispensable factor to influence individuals' risk judgement of technologies (e.g., Sjöberg, 2000; Slovic & Peters, 2006; Hogarth, Portell, Cuxart, & Kolev, 2011). Drawing upon the social amplification of risk framework (Kasperson et al., 2003), this study integrates these factors to explicate the role of negative emotion in altering the impact of rational use of digital media on public benefit-risk evaluation of GM technology in China by positing the following hypotheses:

H1: Rational use of digital media will have a positive indirect effect on public benefit-risk evaluation through trust in scientists.

H2: Negative emotion will negatively moderate the impact of trust in scientists on public benefit-risk evaluation in the indirect effect, namely, the stronger the negative emotion, the weaker the positive indirect effect.

Respondents across China were randomly sampled from the sampling service of Sojump, a professional online survey company in China. A total of 414 valid online questionnaires were collected to test the hypotheses. Variables in the hypotheses were measured on a 5-point Likert scale, all with a Cronbach's  $\alpha$  value higher than .70. PROCESS (Model 14) was used to test the hypotheses.

Statistical results support both hypotheses, indicating that although exposure to verified information in digital media increases public trust in scientists and thus improves public benefit-risk evaluation of GM technology, such positive effect can easily be undermined or even offset by people's strong negative emotion. The current study is one among others that urge us to reconsider the role of emotion in altering the impact of rational use of digital media on public understanding of technology and science. More profoundly, it echoes the emotional turn in other fields that seems to challenge the long established rational paradigm, thereby reigniting the debate about how the interplay between emotion and reason could advance public understanding of science, technology, and various other things.

\*Note: Due to word limits, a detailed bibliography is not listed.

**Id:** 21089

**Title:** The visual imagery of climate change induced migration: NGOs representations of human mobility in the context of a changing climate.

**Session Type:** Individual submission

**Authors:**

Name: Maria Sakellari

Email: sakellari@gmail.com

Country: GB (United Kingdom)

Affiliation: School of Media, University of Brighton

**Abstract:** Migration is one of the most profound impacts of climate change on the human population, but there has been little action by international policy bodies and national governments to address the issue. In the absence of government action, non-governmental organizations (NGOs) can play important roles, both raising awareness of climate change induced migration and advocating for policy reforms on this issue. Visual narratives are particularly important as most people have never experienced physically human mobility in the context of a changing climate. In this regard, this study aims to delve deeper into the underexplored but critical role that NGOs visual representations play in constructing a public narrative of climate change induced migration. It seeks to fill a gap in current scholarship on the importance of NGOs visual imagery in climate mobility discourses. The first question asked concerns the meanings of the images themselves: What do images used on NGOs dedicated websites and online blog postings show? The second question asked concerns the interplay of words and images: What is these campaigns are trying to communicate? Are the dominant discourses of climate migration in NGOs online campaigns different from those communicated by the news media, policy, and other arenas? For this purpose, this study first explores the nature of the public discourses of climate change induced migration. Then, through critical discourse analysis and using the paradigmatic case of the United Kingdom, it explores NGOs online campaigns' imagery, and how it connects with accompanying texts to construct climate migration as a discursive object. Findings show how NGOs are framing the narrative about consequences rather than causation of climate change induced migration. This limits openness to multiple ways of thinking about human mobility in the context of climate change. It also puts in question the ability of NGOs climate advocacy campaigns to affect the root causes of social vulnerabilities to climate change.

**Id:** 21104

**Title:** Japanese View of Nature and Environmental Communication

**Session Type:** Individual submission

**Authors:**

Name: Miki Kawabata

Email: kawabata@mejiro.ac.jp

Country: JP (Japan)

Affiliation: Mejiro University

**Abstract:** The purpose of this research is 1) to identify Japanese view of nature with a survey data, and 2) to discuss the effective environmental communication, especially focusing on media frames about environmental issues for the sustainable future. According to the National Institute for Environmental Studies in Japan, the nation-wide opinion survey about environmental issues in 2016 showed that 39.6 percent of the respondents answered that journalists and pundits in mass media are the most trustworthy sources for environmental issues. Although mass media has been one of the main sources of the information about the environmental issues in our daily life, there is a debate if it serves as the effective environmental communicator for promoting audience's eco-friendly attitudes and behaviors. Neuman et al.(1992) found out that mass media and audience tend to employ different frames to describe and understand the same political issues in the society. If we apply this result to the environmental issues, there might be a discrepancy between the media frame and the audience frame about the issues. The attitude toward nature may affect the audience frames to understand the information about environmental problems in the media. Hayashi et al (1994) conducted a nationwide survey about Japanese view of nature in 1993 and found that those who had nature-oriented way of thinking tend to have the opinion that humans should not trim out or change the nature even for the maintenance. They argued there were more people who think nature should be untouched by humans and less people who think nature should be controlled by humans than 10 years before. When mass media brings up the issues about environmental exploitation or preservation, it covers the issues mostly without considering those audience's views and attitudes. In order to identify the attitude structure toward nature and environment in Japan after 25 years from Hayashi et al.(1994) 's study, an online survey was conducted to the sample of wide range of age groups in Japan in early 2019. The author analyzes the result and discusses the current Japanese view of nature and attitude toward environmental issues, and compares the result with Hayashi et al.(1994). Conclusively, the author discusses what kind of media frames should be used for better environmental communication in Japan.

**Id:** 21112

**Title:** New media, new practices' The potential to bridge gaps in public understanding of environmental issues through critical digital practices

**Session Type:** Individual submission

**Authors:**

Name: Trish Morgan

Email: trish.morgan@dcu.ie

Country: IE (Ireland)

Affiliation: Dublin City University

**Abstract:** This paper reports on findings from a project, funded by the Environmental Protection Agency of Ireland, that engages with alternative digital media perspectives on communicating environmental issues.

In terms of public understanding of environmental matters, this paper acknowledges that the media are key drivers. However, they have been revealed to be compromised in terms of commercial and content-related pressures (Morgan 2017; Hansen & Cox 2015; O'Neill 2013). Furthermore, the 'framing' of environmental stories in the media can be problematic, with issues of 'false balance' diluting the perception of the scientific consensus on climate change (Ashe 2013; Boykoff 2013; House of Commons Science and Technology Committee, 2014). However, perhaps the most significant recent and developing threat has been the rise of right-wing nationalism and populism, and its effects on communication of environmental issues (Carmichael and Brulle 2018).

Therefore, knowledge gaps in the public understanding of environmental matters are complex, with questions around the efficacy of traditional and digital mainstream media to bridge those gaps. As critical communication perspectives show, there exist significant and growing power relationships between the industrial and commercial producers of culture, and the audience. Critiques of such commercialisation are well-established, ranging from Adorno (1991/1936), in relation to so-called 'mass' media, to Fuchs (2012) and Shimpach (2005) who critique the enclosure of user data for the purposes of selling it for profit in digital contexts.

This paper contends that there exists an opportunity to bridge a knowledge gap in public understanding of environmental issues, by using digital cultural practices in ways that are engaging and informative. The project also argues that the threats posed by ecological crisis are vast enough to challenge ideas of the 'two cultures' (Snow 1956) of separate disciplines of the 'affective' humanities and the 'rational' sciences, and require problem-solving on both fronts. Therefore, there exist opportunities to increase public awareness of environmental issues by working with scientific or environmental data in non-commercial ways. Cohorts such as 'critical makers' engage with issues of enclosure, they champion free and open-source software and are concerned with collaborative practices and sharing (Morgan 2012; Parikka 2013; Dieter 2014; Wakkary et al 2015). They are a cohort of technically skilled practitioners who also have concerns with the social, economic, environmental and ethical dimensions to technology (O'Neill, forthcoming). Such practitioners are therefore in a unique position to investigate the role of urban data and sensing including 'smart' infrastructure, while also communicating environmental issues in alternative ways.

From the critical communications perspective therefore, the relationship between digital media and the environment is potentially positive, once we acknowledge certain digital practices as a cultural domain that can use technology as a tool, yet also be critical of it. Makers, hackers, and critical engineers can contribute to discourses of the role of technology (networked and physical) in societal contexts. Such practices can move beyond traditional discourses of the role of media in communicating environmental issues, and consider radical alternatives to digital communication of such urgent issues.

**Id:** 21202

**Title:** #mybloodywaste Environmental activism with tampons, pads and no blood and the potential of Ecoculture Jams in pedagogy and practice

**Session Type:** Individual submission

**Authors:**

Name: Franzisca Weder

Email: franzisca.weder@aau.at

Country: AT (Austria)

Affiliation: University of Klagenfurt, Dep. for Media and Communication Studies

**Abstract:** As media and communication scholars we're fascinated by frames, practices, and symbols used in public discourses. Culture jams are acts of creative resistance to hegemonic messages and dominant claims in the public sphere, are a form of activism that relocates existing connections of power, meaning and common ways knowledge is represented, perceived, and practiced (Lasn, 2000; Milstein & Pulos, 2015). With Milstein, we position ecoculture jams as specific forms of "envirosocial activism" to inform creative and playful activist tactics and engage students as well as teachers in change agent-focused learning. Thus, an ecoculture jam can be described as higher education assignment in environmental studies but as well in communication studies with a focus on environmental issues, sustainability and climate change or risk communication. Furthermore, this specific problem-based learning project collaboratively generates transformation in environmental communication (Woodside, 2001; Nome, 20012; Dery, 1999).

In 2018, after debating a variety of communication strategies to engage the public in raising awareness about environmental problems as well as solutions, mainly debating waste and problematizing plastic packaging, a group of students in my environmental communication class used an ecoculture jam as creative mean to "create cracks in underlying systems of power, and to promote unsettling moments of reflection and debate" (Milstein & Pulos, 2015, p. 397; de Certau, 1988). Over the two-semester course, the students became acquainted with the issue of female hygiene products, practices of wasting the (plastic) packaging, negative framing as well as stigmatization and taboos communicatively woven around this issue in the public. With the ecoculture jam entitled #mybloodywaste, the students got engaged to create an "unsettling moments of reflection and debate" and stimulate further communication.

With a funding from the University we bought 17.000 products, more precisely 311 boxes of tampons and pads (amount an average woman needs throughout her lifetime) and stapled it in the inner city of our town, together with an invitation to all people passing by to join in (direct communication) and stimulation of the discourse via social media and comments in newspapers (indirect communication). Afterwards, the products were donated to a social organization and the stimulated discourses were analyzed.

Overall, with the ecoculture jam, students were supported and motivated to take action, mobilize, and actively engage with their environment by creating moments of disequilibrium where change can happen, stimulating consciousness, reflexivity on contested truth and critical awareness of human rights (Darts & Tavin, 2010; Harold, 2007).

In our contribution and with the #mybloodywaste-example, we put ecoculture jams up for discussion as being particularly relevant for environmental communication scholars, pedagogues, and practitioners, feeling their “ethical duty” (Cox, 2009) in search for innovative teaching methods with a social and environmental impact.

**Id:** 21283

**Title:** La communication environnementale à l'épreuve de la dimension éthique. Un essai de reconstruction symbolique

**Session Type:** Individual submission

**Authors:**

Name: Oumar Kane

Email: kane.oumar@uqam.ca

Country: CA (Canada)

Affiliation: -- Département de communication sociale et publique Université du Québec à Montréal (UQÀM) Montréal, Québec, Canada

Name: Aimé-Jules Bizimana

Email: aime-jules.bizimana@uqo.ca

Country: CA (Canada)

Affiliation: Université du Québec en Outaouais

Name: Ahmed Al-Rawi

Email: aalrawi@sfu.ca

Country: CA (Canada)

Affiliation: Simon Fraser University

**Abstract:** L'importance de la communication portant sur les changements climatiques fait intervenir une multiplicité d'acteurs en compétition pour l'interprétation légitime des observations faites par la science du climat. Lorsqu'on analyse les discours sociaux sur cette problématique, l'impression première est que les contenus discursifs ordinaires sont beaucoup moins consensuels que les discours savants et institutionnels sur la question des changements climatiques. La manière dont ce fait a été analysé a été prioritairement de pointer un déficit de compréhension. Par conséquent, un travail d'information, d'éducation et de vulgarisation a été identifié comme la solution au problème que constitue le « manque d'informations » lié à la question climatique contemporaine (Wolf et Moser, 2001).

Cependant, d'autres chercheurs ont montré que la dimension cognitive ne saurait à elle seule rendre compte des attitudes puisque dans certains contextes, des individus éduqués et bien informés sur la question adoptent malgré tout un déni des changements climatiques. Dès lors, la corrélation entre information et attitude ne saurait être inférée de manière systématique. C'est pour remédier à ce problème que certains chercheurs ont critiqué la thèse du déficit de compréhension pour proposer à la place un modèle du cadrage socioculturel en vue de rendre compte de manière plus circonstanciée des différentes attitudes. Dans le cadre d'une étude menée par le Yale Program on Climate Change Communication sur plusieurs années, les chercheurs ont ainsi pu segmenter la population américaine en six profils spécifiques relativement à leurs croyances et attitudes face aux changements climatiques (Leiserowitz et al., 2009). L'intérêt de cette partition est de ne plus mettre uniquement l'accent sur l'accès à une information factuelle, mais également de tenir compte des croyances et des cadres interprétatifs des personnes.

Dans notre communication, nous partirons de l'important travail de Hulme (2014) pour analyser les différentes visées éthiques portant sur les changements climatiques. Ce chercheur soutient que le

changement climatique est plus un phénomène politique et culturel qu'environnemental et distingue quatre thèmes récurrents dans les discours portant sur le climat à l'heure actuelle : la perte (du passé), la peur (du futur), le désir (de maîtrise) et la justice (sa poursuite). Cette dimension symbolique servira de trame en vue de déterminer dans quelle mesure elle est susceptible de rendre compte des récits identifiés dans notre corpus. À travers ces tropes narratifs, il s'agirait ultimement de lire les discours analysés comme des instanciations éthiques d'un métarécit dans une conjoncture historique où les individus et les communautés effectuent une transition à la fois matérielle et symbolique en réponse à un contexte de crise majeure.

En recourant à une analyse de contenu thématique, nous analyserons ensuite cette typologie symbolique à la lueur des différentes éthiques de l'environnement identifiées que sont l'anthropocentrisme (centré sur les intérêts de l'être humain), le biocentrisme (centré sur la préservation de la vie) et l'écocentrisme (centré sur l'interdépendance des systèmes naturels et sociaux).

**Id:** 21325

**Title:** Transgenic Maize vs. Organic Farming: An Analysis of Greenpeace Mexico's Discourse on Food Security, Food Sovereignty and the Right to Food

**Session Type:** Individual submission

**Authors:**

Name: María Luisa Azpíroz

Email: mazpiroz@up.edu.mx

Country: MX (Mexico)

Affiliation: Universidad Panamericana

**Abstract:** At the World Food Summit convened by the Food and Agriculture Organization of the United Nations (FAO) in 1996, it was established that “food security exists when all people, at all times, have physical and economic access to sufficient, safe and nutritious food that meets their dietary needs and food preferences for an active and healthy life.” The concept of food sovereignty was developed as an alternative to the neoliberal model of development and industrial agriculture based on free trade, where some critics have placed the concept of food security. The initial definition of food sovereignty is attributed to the transnational organization Vía Campesina which, at the Alternative Forum to the 1996 World Food Summit, described it as “the right of peoples to healthy and culturally appropriate food produced through ecologically sound and sustainable methods, and their right to define their own food and agricultural systems”. Other critics have associated the concept of food sovereignty with a Marxist view of the political economy. For its part, the human right to adequate food is a legal concept that protects the rights of all human beings to feed themselves with dignity, either by producing their own food or by acquiring it. This right is included in the Declaration of Human Rights of 1948 and in the International Covenant on Economic, Social and Cultural Rights of 1966, and has been recognized in various national constitutions, including the Mexican Constitution since 2011.

Scholars have stated that Greenpeace often takes a double position in the face of confrontations between the supporters of liberal globalization and the alter-globalist militants. For example, it is present as a negotiator at WTO summits and economic forums such as Davos, but also as a participant in the corresponding counter-summits (Fréour, 2004). This research analyzes Greenpeace Mexico's discourse on the concepts of "food security", "food sovereignty" and "right to food", to determine their position at this regard. The methodology consists of a qualitative and quantitative analysis of Greenpeace Mexico's press releases and articles that include these concepts. First, the approach to framing of Benford & Snow (2000) is applied. These authors consider that the framing process addresses three functions: diagnostic framing (describing the current situation); prognostic framing (describing what should be done); motivational framing (clarifying why the suggested measures are necessary). The analysis also includes the allocation of responsibility (guilt and responsibility to act). In a second process, the terms that are most repeated in each framing function are identified. The analysis, which covers a period of ten years (2007-2017), reveals that in the case of Greenpeace Mexico, the three concepts are employed in parallel to argue about a very specific and still current topic: the threat that transgenics crops (especially transgenic maize) from big biotechnological companies represent for Mexico, and the solution that lies in ecological agriculture.

**Id:** 21413

**Title:** Narratives and story-telling to empower marginalized groups in environmental communication - a literature review

**Session Type:** Individual submission

**Authors:**

Name: Therese Asplund

Email: therese.asplund@liu.se

Country: SE (Sweden)

Affiliation: Linköping University, Sweden,

Name: Ann-Sofie Kall

Email: ann-sofi.kall@liu.se

Country: SE (Sweden)

Affiliation: Linköping University

**Abstract:** This paper presentation focus on the role of communication – and in particular narratives and story-telling – in promoting marginalized groups to voice, express and participate in sustainability discussions.

National Delegations for the Agenda 2030 argue that collective ownership, inclusive participation and dialogue with stakeholders is central to the work of promoting, facilitating and stimulating the implementation of the 2030 Agenda for Sustainable Development (SOU 2016:01). At the same time, many people struggle to make sense of current environmental and climatic changes, so an increasing number of researchers seek to find alternative ways in which complex, abstract and global issues can be communicated to make them more meaningful to the cultures and values of people's everyday lives (for examples see Doyle, 2012; Hulme, 2010). In relation to that string of literature, this presentation aims to explore how narratives and stories can serve as a way to produce and circulate knowledge, and to create engagement to issues relating to transformation to a sustainable society.

The presentation is part of the project ""The world needs a new narrative" - the role of narratives for preschool's implementation of sustainability transformations" (PL Therese Asplund, Linköping University) and provides, based on a Scopus database search, a systematic review of the literature on narratives and stories in climate change discourse. The presentation seeks to answer the following questions:

1. According to the literature, why are narratives relevant in relation to environmental issues?
2. How do the publications conceptualise narratives? That is – what different theoretical and analytical entry-points are used? What assumptions on knowledge underlie the different traditions and how is it reflected in the results?
3. What practices/empirical fields are studied in the literature on narratives and climate change?
4. What themes are discussed in the research literature on narratives in climate discourse ( e.g gender, intersectionality, generation perspectives)

5. With the growth of digital communication - what are the state of the art for digital narratives and digital storytelling?

The presentation will cover the review findings of above-listed research questions as well as paths forward for research on narratives, story-telling and environmental change. Particularly, the presentation addresses the following key themes for the Madrid sessions of the Working Group:

- the role of narratives for public understanding and engagement
- the intertwining of the local and the global in science and environmental communication

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**Id:** 21485

**Title:** Analyzing theme penetration from specialized to non-specialized discourses with NLP: the case of the IPCC Special Report Global Warming of 1.5 °C

**Session Type:** Individual submission

**Authors:**

Name: Andrea Catellani  
Email: andrea.catellani@uclouvain.be  
Country: BE (Belgium)  
Affiliation: Université catholique de Louvain

Name: Thomas François  
Email: thomas.francois@uclouvain.be  
Country: BE (Belgium)  
Affiliation: Université catholique de Louvain

Name: Patrick Watrin  
Email: patrick.watrin@uclouvain.be  
Country: BE (Belgium)  
Affiliation: Université catholique de Louvain

Name: Julie Matagne  
Email: julie.matagne@uclouvain.be  
Country: BE (Belgium)  
Affiliation: Université catholique de Louvain

Name: Pierre Fastrez  
Email: pierre.fastrez@uclouvain.be  
Country: BE (Belgium)  
Affiliation: Université catholique de Louvain

**Abstract:** Discourses as scientifically sharp and socially influential as the IPCC reports raise the question of their relationship with non-specialists discourses on climate change. IPCC reports are officially aimed at governments (IPCC, 2019), and their reception by the general public is certainly filtered by legacy media (O'Neill et al. 2015; Painter, 2014; Kunelius, 2017) and shaped through social media (Pearce et al., 2014; O'Neill et al., 2015). Social media discourses are known to be sometimes polarized and over-simplified, and one can expect such discourses to focus only on some of the IPCC reports topics.

In this research, we use natural language processing (NLP) techniques as well as a qualitative analysis to identify the main concepts and topics in the Special Report Global Warming of 1.5 °C by the IPCC (2018) and track their presence and recycling in a sample of the general public discourses on social media. Our aim is to understand how topics covered in the last published IPCC report are represented in social media discourses, as a step towards a deeper understanding of the appropriation of specialized discourses on climate change (like IPCC documents) by the general public.

The contribution of this communication is twofold. First, whereas other NLP-based investigation of climate discourse have mainly relied on Twitter data (O'Neill et al., 2015; Newman, 2017; Yagodin et al., 2018), our approach will make use of a different type of digital media data, namely Reddit. Reddit is a social platform where news and opinions are shared and debated. As such, it can be a valuable source of data on climate change discourses, and also provides new perspectives in relation to Twitter-based analyses. Second, previous studies have carried out rather limited topic analyses of Tweets, either manually classifying a small sample of Tweets into a few categories (Newman, 2017) or using the most frequent hashtags as topics (O'Neill et al., 2015). In this study, we have developed a system able to detect all concepts listed in the official glossary of the Special Report Global Warming of 1.5 °C (<https://www.ipcc.ch/sr15/chapter/glossary/>), which offer a much more representative outline of the topics occurring in IPCC reports than hashtags (which already reflects biases). The distribution of these concepts will first be compared across the whole IPCC 1.5 °C report, the 1.5 °C report's "Summary for Policymakers", and the subreddits threads related to climate issues. In a second step, we will automatically cluster these concepts into larger themes, based on the Doc2Vec similarity methods (Le et Mikolov, 2014) and compare their distribution on the three above corpora. Finally, a sample of threads will be manually analysed in order to shed light on the results obtained by the automatic approach.

**Id:** 21549

**Title:** News Construction of Community Resilience: Comparing National and Local Responses to Hurricane Florence.

**Session Type:** Individual submission

**Authors:**

Name: Lola Xie

Email: wox5026@psu.edu

Country: US (United States)

Affiliation: The Pennsylvania State University

Name: Juliet Pinto

Email: jzp726@psu.edu

Country: US (United States)

Affiliation: The Pennsylvania State University

Name: Heather Froehlich

Email: hgf5@psu.edu

Country: US (United States)

Affiliation: The Pennsylvania State University

**Abstract:** In an age of accelerating climate change, extreme weather events have caused tremendous economic, social and emotional losses and have also brought public attention to the need for increased community resilience in coastal areas (Lumbroso et al., 2017). More challenging tasks will be posed on coastal communities as the frequency and intensity of extreme events and their associated threats such as storm induced flooding may drastically change from historical levels (Spanger-Siegfried et al., 2014). Across the world, communities vulnerable to such events face challenges in terms of their abilities to withstand and recover from such events. The term “community resilience” has gained traction in recent years by risk management scholars and practitioners to mean the ability of a community to prepare for, respond to and recover from disruptions ( Lumbroso et al., 2017).

Yet whether news accounts discuss dimensions of resilience or bring attention to the agency of individuals in making their communities resilient in the face of a devastating storm is less understood. Not only do news media serve as sources of information for vulnerable populations, but also understanding how their socially constructed news content discusses resiliency can provide a lens into the portrayals of socio-ecological realities published to global publics during times of natural disasters (Dhakal, 2018; Gortner & Pennebaker, 2003).

The goal of this study is to understand how community resilience was constructed and framed by both national and local media outlets during the event of Hurricane Florence, which struck the U.S. East Coast in September 2018, leaving numerous communities devastated not only by the force of the storm, but the ensuing storm-related flooding. By analyzing language surrounding community resilience in news accounts from CNN, USA Today and the Wilmington Star News, we examine how different dimensions of resilience were constructed and discussed, including dissemination of

risk information, public perception of potential risks, community readiness and capacity, and the adaptation and learning process at different stages of the storm. Moreover, we are able to identify differences in narratives and perspectives taken by media outlets at different scales and for differing audiences.

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**Id:** 21551

**Title:** "Menyama Braya" on Digital Media: A Study of Disaster Communication in Bali, Indonesia

**Session Type:** Individual submission

**Authors:**

Name: Dian Tamitiadini

Email: [diantamitiadini@ub.ac.id](mailto:diantamitiadini@ub.ac.id)

Country: ID (Indonesia)

Affiliation: Universitas Brawijaya

Name: Pratama Yudha Pradheksa

Email: [pyudhap@vt.edu](mailto:pyudhap@vt.edu)

Country: ID (Indonesia)

Affiliation: Euthenics Research Association

**Abstract:** In disaster communication, local wisdom has an important role in emerging successful cultural mitigation. Menyama braya is a local value of Balinese traditional society that emphasizes living in harmony with social life and environment. This spirit is driven by Balinese's belief in dealing with disaster. Since the eruption of Mount Agung in November 2017, the Bali local government together with Indonesia disaster management agency promoted menyama braya as a disaster communication approach. Along with Information Communication Technology (ICT), menyama braya has been emerging to greater possibilities of integration of the different communication systems. This paper aims to discuss how menyama braya spirit encounters ICT. In addition to intensive interview with the Bali Regional Board of Disaster Management (BPBD), head of Klian Banjar, and the local society and the document analysis, the author conducted content analysis on the internet, related to the Mount Agung eruptions. The result of the research has demonstrated the shift of menyama braya as disaster communication. Before using ICT, indigenous communities adopted menyama braya as face to face communication as well as their main and genuine channel. Menyama braya was a direct communication practice in order to reduce potential risk through spiritual belief. However, rather than reducing risk, it placed the society at high risk situation which is closed to the eruption. Lately, the Bali local government initiates ICT as supporting channel. the Bali local government and indigenous communities adopt menyama braya spirit in a new ICT platform. With the development of computer mediated communication theory, I found a phenomenon in digital society that emphasizes "click and share" about the disaster information which is also well known as slacktivism in online media to show their empathy and solidarity. This research argues that communication technology can shift the public perspectives and participation on menyama braya. Lastly, this paper highlights public involvement on disaster communication through digital media has become a new presentation of menyama braya.

**Key words:** risk communication, communication technology, disaster communication

**Id:** 21589

**Title:** We are not white men: A visual discourse analysis of websites from companies with bad environmental reputation

**Session Type:** Individual submission

**Authors:**

Name: Priscila Medeiros

Email: prismuniz@gmail.com

Country: BR (Brazil)

Affiliation: Universidade Federal de Alagoas (UFAL)

Name: Isaltina Maria Gomes

Email: isaltina@gmail.com

Country: BR (Brazil)

Affiliation: Universidade Federal de Pernambuco (UFPE)

**Abstract:** In the present study we aimed to visually analyze the institutional websites of multinational companies with bad environmental reputation. Our main goal was to identify common strategies of image repair. Methodologically, we decided which enterprises would integrate the corpus first by choosing three lines of business that are commonly considered environmental harmful: biotechnology, petrol and mining. As a second step, we examined the Harris Polls reputation quotient from 2015 to 2018, listing the biotechnology/petrol/mining enterprises that, in any of the studied years, had less than 65.00 points, what is considered a low quotient (poor, very poor or critical). We reached a list of four multinationals: ExxonMobil, Halliburton, Monsanto and BP. The first common feature between the websites has to do with the fact that, because of the chosen lines of business, such websites are not focused on selling final product to the consumers, what explains why the images used in its communication are not similar to advertisement images (creation of dreams). Rather, such images have the aim of building an identity to the company, to humanize it and to represent it for the world. A first result was that all the companies tend to try to associate their images to an idea of diversity by choosing pictures that shows both men and women of different ethnicities as workers/consumers. They rarely show images of white men alone, what can indicate an attempt to escape from an image of elitism and privilege. Still, in the sections about leadership or management, almost all the pictures show white men. All the enterprises have sustainability sections or topics in their websites, and, in our research, we identified that most of the human images in such sections are from women. Such result shows that the studied enterprises tend to associate environmental issues to the female figure. Theoretically, we connected such tendency to a historically perceived division between male and female that associates the first to culture and the second to nature (Merchant, 1989). Also, popular culture and advertisement have created another dichotomy: men-violence versus women-fragility (Katz, 2003). Since such enterprises are often accused of violence against nature, the women images could soften such reputation. Our theoretical approach focuses on the fields of environmental communication, public relations and image repair and image studies.

**Id:** 21642

**Title:** Comparing nigerian and turkish media coverage of climate change

**Session Type:** Individual submission

**Authors:**

Name: Defne Gunay

Email: defne.gunay@yasar.edu.tr

Country: TR (Turkey)

Affiliation: Yasar University

Name: Emre İşeri

Email: emre.iseri@yasar.edu.tr

Country:

Affiliation:

Name: Metin Ersoy

Email: metin.ersoy@emu.edu.tr

Country:

Affiliation: Eastern Mediterranean University

Name: Elega Adeola

Email: elegaadeola@gmail.com

Country:

Affiliation: Eastern Mediterranean University

**Abstract:** Climate change mitigation using market solutions and technological solutions (such as carbon trade, financial credits) has been frequently covered in climate change debates particularly in intergovernmental organizations like UN, and the developed countries that have had mitigation obligations since the Kyoto Protocol. We are interested to analyze if this mitigation discourse is reproduced in the news media of the developing countries, which did not have mitigation obligations in Kyoto. It is expected to see mitigation covered extensively in developing countries media, as they had the obligation to mitigate. Hence, the literature on media coverage of climate change focussed extensively on developed country cases, leaving developing world understudied (Thaker et al., 2017, p. 2; Uzelgun & Castro, 2015, p. 734). But if Nigerian and Turkish newspapers also use mitigation frame more than adaptation and system transformation frames, it is an unexpected finding. Nigeria and Turkey are both emerging economies with high carbon emissions, both with similar climate change vulnerability rankings, both with similar freedom of the press scores. They are however different as Nigeria is a carbon exporter country while Turkey is a carbon importer. As carbon importing could lead a country to advocate adaptation and system transformation solutions, and carbon importing could lead a country to advocate mitigation measures we chose these two countries to be able to have two countries with a key difference while most other conditions are controlled. If they both cover mitigation more than the other solutions, and if they rely on foreign sources in their coverage it means they reproduce hegemonic discourses on climate change mitigation. We conduct content analysis of the adaptation, mitigation, transformation frames used in the online editions of Turkish and Nigerian newspapers. We choose

the newspapers according to their click rates. We also code news attribution to see if foreign or domestic sources are used in the climate change-related news that we analyze. Our initial findings indicate that both Turkish and Nigerian newspapers that we analyzed cover mitigation more than adaptation or system transformation. Therefore, we contribute developing country data to the literature on hegemonic discourses on climate change (Horta, Carvalho and Schmidt 2017).

**Id:** 21644

**Title:** Contesting Drought Risk Policies in Israeli Newspapers (2001-2010): Delegitimization of Farmers and Marginalization of Environmentalists

**Session Type:** Individual submission

**Authors:**

Name: Shai Kassirer

Email: S.Kassirer@brighton.ac.uk

Country: GB (United Kingdom)

Affiliation: University of Brighton

**Abstract:** This paper uses a risk conflict perspective (Maesele, 2015) to analyze contesting discourses over hydro-policies in Israeli newspapers during drought periods, to identify strategies of depoliticization and delegitimization of political actors and social groups participating in the policy debate.

The risk conflict perspective examines public debates over definitions of environmental risk and responses to uncertainty by social actors selectively using competing knowledge statements motivated by the convergence of scientific/economic rational claims, values and interests (Maesele, 2015). Coming from a politicized approach which understands risk conflicts as a form of political conflict, and its media representation as another arena of contestation, this paper is interested in revealing aspects of the coverage contributing to depoliticization of the debate. Depoliticization is the process of transforming an issue of ideological contestation into a matter of administration, when expert rationales (economic, scientific or legal) navigate decision making instead of political positions or values (Wilson & Swyngedouw, 2014). In recent years, emerging literature has started to identify and critique the depoliticized nature of environmental discourse, especially in the news (Hammond, 2018). The focus in this study upon Israel offers insights from an understudied area in both the field of environmental-risk communications and depoliticization.

This paper examines discursive practices of depoliticization through a case study of Israel's hydro-policies and their newspapers' representation. Since the turn of the century, the Eastern-Mediterranean has experienced three long droughts (1999-2002, 2004-2011 and 2014-2018), which increased existing national and regional tensions caused by already scarce water resources. Employing the risk conflict perspective, this paper asks which political actors, policies and ideologies enjoyed privileged positioning in the press and which voices were silenced? Moreover, it examines discursive elements in the coverage which contributed to delegitimization and depoliticization of the marginalized voices. This paper introduces selected findings from a longitudinal analysis of newspaper coverage of droughts in Israel during 1990-2017. The analysis was conducted by using critical discourse analysis and data included 850 of articles published in Yediot-Aharonot (a popular paper) and Haaretz (an elite broadsheet). This presentation will concentrate on findings from two pre-identified critical discourse periods (2001-2002 n=433; 2008-2010 n=417), during which two state commissions of inquiry operated to re-evaluated Israel's hydro-policies.

Four competing discourse-coalitions were identified in the press: Economic, Nationalistic-Agricultural, Environmental and Local-Social, each offering different paradigms for understanding the origins of the water crisis and possible solution for it. This paper will focus on findings of discursive elements in the newspaper coverage that contributed to delegitimization and marginalization of the Nationalistic-Agricultural and the Environmental discourse-coalitions. While members of these two coalitions have presented themselves as guardians of public-goods, they were represented by journalists and the contesting coalitions as protectors of illegitimate and irrational privileges and interests. This positioning was more focused on Israeli farmers and their representing bodies, and was discursively built on the privileged position in the press of economic rationales over other values.

**Id:** 21771

**Title:** Governance and Value Heterogeneity: The Relevance of the 'Bloomington School of Public Choice' for Environment Communication

**Session Type:** Individual submission

**Authors:**

Name: Patrick Murphy

Email: murphy.p@temple.edu

Country: US (United States)

Affiliation: Temple University

**Abstract:** This paper examines the scholarship of the Bloomington School of Public Choice and its relevance for the field of environmental communication. The work of the Bloomington School has been a central stream of theory and research in the field of public policy, situating the problem of “the commons” as a crucial point of debate and analysis. Of particular note has been the seminal scholarship of the Ostroms—Elinor Ostrom, the 2009 Nobel Prize winner for Economic Sciences, and Vincent Ostrom, the 2005 John Gaus Award for Scholarship in Public Administration — which has pushed scholars to rethink the dominant private-public conceptual frameworks for common-pool resource and collective action to consider instead more complex social arrangements involving decentralization. In their work, the stewardship of public resources is examined in relation to heterogeneity, institutional diversity, the articulation of value, and “local rules-in-use.” These points of consideration are theorized as overlapping or even counterposed, presenting a vision of the commons as a complex site through which disparate interests are constantly negotiated. For instance, how a resource (e.g., a forest, a fishery, or a body of water) is understood is rarely based on shared ideas across local, regional and global spheres, but rather on distinct assumptions, different values, and relationships with place and geography. The School’s polycentric focus pushes analysis of the problem of the commons beyond simple power-centered approaches (e.g., clashes between local practices and national or global policy) in that asks how biophysical characteristics may affect social-environmental interactions and collective decision-making. The paper outlines and elaborates these theoretical frameworks in an effort to demonstrate the value of the work of the Ostroms and others in the Bloomington School and how it could enrich the field of environmental communication.

**Id:** 21789

**Title:** From catastrophe to economic driver: The curve of coverage of the Brumadinho and Mariana disasters in Brazil

**Session Type:** Individual submission

**Authors:**

Name: Nivea Bona

Email: bonanivea@gmail.com

Country: US (United States)

Affiliation: Independent

Name: Juliet Pinto

Email: Jzp726@psu.edu

Country: US (United States)

Affiliation: Pennsylvania State University

Name: Paola Prado

Email: pprado@rwu.edu

Country: US (United States)

Affiliation: Roger Williams University

**Abstract:** On Jan. 25, 2019, the tailings dam #1 at Córrego do Feijão (Feijão Stream) that held waste from iron-ore mining activity collapsed near the town of Brumadinho, located in the Brazilian state of Minas Gerais. The collapse allowed a river of muddy toxic sludge to cascade down the hillside; the disaster left dozens dead and hundreds remain unaccounted. The contamination so far has polluted the Paraopeba river, destroyed uncounted animals and impacted urban, riverine, and indigenous communities who depend on the river and its waters. The dam collapse at Brumadinho happened just three years after a similar tailings dam collapse in the town of Mariana disaster that killed 19 people, left thousands without homes, and decimated the Doce River ecosystem; the ensuing contamination left thousands without drinking water or work centered around fishing industries, as it flowed miles down beyond the Atlantic Forest biome and into the Southern Atlantic Ocean's most pristine preserved area of biodiversity conservation (Fernandes et al., 2016).

In both instances, the collapsed tailings dams were operated by the Vale group, a private Brazilian conglomerate that operates in over 30 countries. One of the world's top producers of iron ore, pellets and nickel, Vale posted annual revenues of US\$34 billion in 2018 and, prior to this second disaster was valued at US\$82 billion. The two mining collapses in the span of three years garnered intense international news media attention: news accounts of the gruesome search and recovery efforts at Brumadinho reference the previous disaster at Mariana, even as others continue to discuss lingering legal and financial battles over the reparations, clean up and settlement for damages wrought in Mariana in 2015.

Whereas the preponderance in the use of official sources and episodic reporting in news accounts of environmental issues has been well established in the literature, (e.g. Anderson, 1991; Hansen, 2010), less is known of how news reporting patterns of disasters compare and contrast, use similar narrative arcs to depict suffering, invoke blame, or reposition industry claims and political fallout. We examine the patterns of source inclusion and framing practices for both disasters to provide a

model for news media narrative arcs that are presented to global publics as a means of building a framework for international disaster coverage.

We examine news stories about the tailings dam collapses at Mariana and Brumadinho published in the digital editions of major news dailies Estado de Minas and Folha de São Paulo in Brazil, and abroad in The Guardian (U.K.), The New York Times (U.S.A.), El País (Spain) during the first three months in the immediate aftermath of each mining collapse. We compare nuances across international coverage as a means to ascertaining commonalities in narrative arcs, with discussion of implications for public understanding and opinion.

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**Id:** 21911

**Title:** News framing, argument type and public engagement in rooftop solar energy: A population-based survey experiment in Taiwan

**Session Type:** Individual submission

**Authors:**

Name: Mei-Ling Hsu

Email: mlshiu@nccu.edu.tw

Country: TW (Taiwan)

Affiliation: National Chengchi University, Taiwan

**Abstract:** Renewable energy has been considered effective means to help reduce greenhouse gas (GHG) emissions around the world. In 2018, the Taiwanese government started a nationwide program to promote and subsidize residential rooftop solar installations. Despite strong support for renewables, most Taiwanese public was poorly informed about the issue. Local news analysis also reveals that stories on renewables were mostly framed as positive economic development. This study is thus interested in exploring whether news framing and argument type could affect public engagement of renewables differently. It also aims to investigate to what extent could crucial socio-demographic and -cultural factors influence public engagement of the issue.

A population-based survey experiment was conducted on 1,009 Taiwanese adults in October, 2018. A stratified random sampling was adopted to ensure the participant representativeness of the target population by gender, age and region. A 2 (GHG emission reduction vs. economic development frame) x 2 (one- vs. two-sided argument) x 2 (gender) factorial design was used, with openness to change and altruism as the covariate. Participants were first randomly assigned to 4 (2 frame x 2 argument type) conditions to read a story on building rooftop solar community. Manipulation check showed that the conditions significantly differed: Frame  $\chi^2(1, 948) = 31.43, p < .001$ ; argument type  $\chi^2(1, 948) = 51.98, p < .001$ . Two dependent variables were measured next, including willingness to learn more about solar energy and a two-item composite on willingness to install rooftop solar energy and to lease rooftop space to investors ( $r = .72, p < .001$ ). The covariate was measured by a three-item construct on willingness to help others, concern about environment, and valuing new ideas and creativity (Cronbach's  $\alpha = .61$ ). The above dependent variables and covariate were all measured on a 5-point scale from 1 = strongly disagree to 5 = strongly agree.

Two separate ANCOVAs were conducted to test public engagement in rooftop solar energy. Although framing and argument type did not reveal any main effects on both dependent variables, a significant interaction was found on participants' willingness to install and lease their rooftops to investors,  $F(1, 1009) = 5.46, p < .05$ . For participants assigned to the frame of GHG emission reduction, one-sided argument induced stronger willingness for actions than two-sided argument. The pattern was the opposite for the economic development frame. Arguments emphasizing both the benefits and weaknesses of solar energy triggered stronger willingness for actions than one-sided positive argument. Consistent with the findings on engagement in environment-friendly behaviors, women demonstrated stronger willingness to learn about solar energy than men did,  $F(1, 1009) = 4.45, p < .05$ . The covariate was positively correlated with both two dependent variables: Learning  $F(1, 1009) = 156.34, p < .001$ ; Action  $F(1, 1009) = 108.90, p < .001$ , echoing studies extending Schwartz' values theory in predicting environment-friendly behaviors by altruism and openness. This finding implies that depending on the argument type, both economy- and

environment-related news frames could encourage public engagement in solar energy, which may lead to more effective advocates for clean energy development.

**Id:** 21928

**Title:** No such thing as a dead reef: Communicating climate change through crisis

**Session Type:** Individual submission

**Authors:**

Name: Claire Konkes

Email: [claire.konkes@utas.edu.au](mailto:claire.konkes@utas.edu.au)

Country: AU (Australia)

Affiliation: University of Tasmania

Name: Kerrie Foxwell-Norton

Email: [k.foxwell@griffith.edu.au](mailto:k.foxwell@griffith.edu.au)

Country: AU (Australia)

Affiliation: Griffith University

**Abstract:** The image of Australia's Great Barrier Reef (the Reef) as a dead or dying reef has informed global understanding of the Reef since the earliest campaigns for its protection. For instance, in 1967, the first campaign for its protection challenged proposals to mine "dead" coral for agricultural fertiliser on the grounds that there was 'no such thing as a dead reef'. The campaign was notable for challenging orthodox scientific understandings of reef ecology which went informed the listing of the world's largest collection of coral reefs a single as a World Heritage property in 1981.

More recently, the spectre of a 'dead Reef' after coral bleaching in 2016 and 2017 was used by journalists, environmentalists and scientists as a harbinger of the ecological devastation wrought by climate change – the Reef even had its own obituary! But the Reef is not dead and the reports of its demise, and the resulting despair and plummeting tourism numbers, makes an interesting case study to examine the relationship between contemporary trends in the nexus of global digital media, environmental policy and ecological understanding. This paper discusses how the mediated idea of a dead Reef continues to inform our understanding of contemporary environmental issues, such as climate change.

**Id:** 22000

**Title:** Social Media, Parks and Protected Areas

**Session Type:** Individual submission

**Authors:**

Name: Alison Beale

Email: beale@sfu.ca

Country: CA (Canada)

Affiliation: Simon Fraser University

**Abstract:** News reports abound of the damage to national parks, protected areas and hiking trails caused by excessive and sometimes illegal visitation. The "culprits" are Instagram users and influencers who Geotag their selfies and other photos and incite great numbers of visitors to do the same. The managers of parks and other environmentally sensitive sites want increased but at the same time selective, managed tourism. Some parks managers have adopted an "if you can't beat them join them" approach in creating partnerships with volunteer social media "brand ambassadors" and with paid collaborators such as popular nature photographers, to control visitation and redirect tourists to less frequented locations.

This paper summarizes both the global scope of the problems social media are reported as posing to park administrators, and some of their efforts to turn social media into a tool for managed visitation. It acknowledges the usefulness of social media analytics in producing more accurate visitor and visitor-location data, and in remote monitoring of the condition of key environments. The paper then discusses the social media challenge and related responses to it in the context of key frameworks in the establishment, promotion and management of lands designated as parks, protected areas, etc. The frameworks to be addressed are:

- a) parks and protected areas as "spectacular", "beautiful" and "unique". Social media are not a phenomenon apart, but perpetuate an emphasis on the visual and visual technology that has been fundamental to the institutionalization of these places.
- b) social media as disrupting the legitimate management of parks, in which parks managers are the representatives of the public interest, and social media users and influencers are both consumers and commercial exploiters of a common resource. This framing overlooks the already porous boundaries (literal and figurative) between parks and commercial activity, and fails to examine exactly what "public" has been represented by parks authorities (and may be effectively challenged by social media).
- c) social media as encouraging human-centric, narcissistic behaviour that sacrifices environmental protection to technology and self-promotion. This framing calls up a particular Euro-centric view that separated humans from nature, and legitimated the eviction of (some) humans and their subsistence, and their technologies, from lands that became parks. This view is now explicitly discredited in many parks systems and is challenged in others. The framing also references the romantic (again, Euro-American) belief in the redemptive power of low-tech individualised immersion in nature, which fails to acknowledge the considerable economic and environmental cost of the technology (railway, road, air) and the reliance on institutions (park management, emergency services) and economic privilege that enables this transcendental experience.

Our nature-focussed institutions and the claimed "disruptive" capacity of social media deserve our attention together for the questions they raise about how we live with/in nature. We

need to overcome our blindspots about such fundamentals as the blurring of public and private interest in both parks and in social media, about the separation between humans and nature, and about the space between humans and our technologies.

**Id:** 22011

**Title:** Negotiating discursive spaces for food sustainability in the production of MasterChef Australia

**Session Type:** Individual submission

**Authors:**

Name: Luke van Ryn

Email: luke.vanryn@unimelb.edu.au

Country: AU (Australia)

Affiliation: The University of Melbourne, Parkville, Australia

**Abstract:** The environmental sustainability of food production, distribution and consumption is becoming increasingly pressing in everyday life (Goodman, Johnston and Cairns, 2017). Scholars such as Fischer, Haucke and Sundermann (2017), Holbert, Kwak & Shah (2003), Nulman and Özkula (2016), and Muñoz-Erickson & Cutts (2016) pose investigations into how practices of television production shape discourses of food sustainability such as ethical consumption, animal welfare, and food waste. This research presentation complements the field of inquiry into food media through the study of production techniques for MasterChef Australia, one of the most popular and long-running food television shows in Australia, with a substantial influence on purchasing habits domestically and internationally (Kirkwood, 2017).

Based on qualitative interviews with workers engaged in the production of MasterChef Australia, this paper specifically addresses the dimensions in which they negotiate issues of food politics in their daily work. This research combines actor-network theory (Latour, 2005) with pragmatic sociology of critique (Boltanski & Chiapello, 2005; Boltanski & Thévenot, 2006) to understand the food values of media professionals. A particular focus of the analysis was understanding the repertoire of justifications used by MasterChef Australia's production team, the team's responses to critique of the program's production practices, and their construction of normative discursive spaces.

Results reveal that the Coles supermarket chain was a crucial component of the production, determining many aspects of the program's environmental politics. The program may be reformed in the direction of sustainability, so long as this conforms with the needs of program sponsors. The inclusion and exclusion of particular ingredients, animal cruelty, and accessibility were key areas where informants were sensitive to food politics. The production's response to food politics is generally one of silently shifting suppliers: operating largely through market signals rather than explicitly criticizing other modes of production. MasterChef Australia's "aspirational" aesthetic provide a type of political anesthetic, numbing the production to a more explicit engagement with issues of food politics.

This paper analyses informants' justifications for the decisions they have made in specific stages of the production process of MasterChef Australia. The paper also studies where producers' values align with concerns of environmental sustainability. Informants were more engaged with artistic critiques (and questions of freedom and individuality) than social critiques (and questions of alienation and equality). This research is used to present a picture of the professional ethics at work in informants' self-presentation, and to explore the idea of "good television" that they share, as well

as what this idea omits, obstructs and precludes. Assembling a diagram of the normative frames deployed by informants is necessary to identify opportunities to align these with environmental sustainability. Overall, this paper shows how production staff on MasterChef Australia justify their approach to their work, explores vulnerabilities to critiques within the production, and illustrates opportunities for negotiating between the demands of media production and environmental sustainability.

**Id:** 22102

**Title:** Scientific and Technological Images in Popular Culture--An international Comparative Study of Scientific TV Drama

**Session Type:** Individual submission

**Authors:**

Name: Chun Ju Huang

Email: cjhuang@ccu.edu.tw

Country: TW (Taiwan)

Affiliation: National Chung Cheng University

Name: Miao Ju Jian

Email: mjjian@gmail.com

Country: TW (Taiwan)

Affiliation: National Chung Cheng University

**Abstract:** How science merged with life is an important indicator for promoting science communication and public science participation within various societies. A TV program is one of the cultural forms closest to the general public's life and is an important research topic. This article focuses on two research questions: First, to compare the science-related TV drama series in Taiwan, the US, the UK, Japan, and Korea, and then explore the extent to which scientific knowledge is integrated into popular culture. Secondly, to interview the practitioners of Taiwan's TV dramas to investigate the difficulties encountered in the popular culture industry for the integration of science into popular culture.

In terms of research methods, for the first question, the collection period was from January 2011, to December 2014, being a total of four years. A total of 105 science-related programs including seven in Taiwan, 45 in Japan, 21 in Korea, nine in the UK, and 23 in the US, were analyzed for the distribution of scientific knowledge and the image of scientists through the content analysis method. In addition, four representative medical dramas were selected, including House in the US, Medical Dragon in Japan, Emergency Men and Women in Korea, and Wake Up in Taiwan. Each of the first six episodes were analyzed, with a total of 982 scenes. For the second question, we interviewed 20 TV drama practitioners, including screenwriters, producers, directors, actors, and scientific consultants, to explore the considerations and problems of placing scientific knowledge into the programs.

The research results showed that the science-related TV drama series from different countries present different types of scientific knowledge preferences. For example, Taiwan's content subject matter is single, and all the dramas are related to medical issues. When compared to the UK and the US, there are many other different themes, such as basic science information science, natural disasters, and gene duplication. In the narrative style, there are different faces of science emphasis, for example, Taiwan and Korean highlights in scientific knowledge is relatively low, however, the US and Japan attach greater importance to the presentation and elaboration of scientific expertise in the medical scenes. In the part of drama production, the TV producers tend to think that the main essence of the drama is feelings and emotions, as science is only a possible marketing strategy, and the imagination of "science" is close to Instrumentalism. The problems of modern scientific content

are less touched on, such as the uncertainty of medical knowledge, professional barriers, and social influences, etc., which are far less included in the drama.

From the results of this study, we have grasped the basic picture of science in popular culture, and these images could make a huge impact on the public's participation in the technological society. In the next stage, we hope to further explore how the audience can perceive the scientific content presented in related programs.

**Id:** 22126

**Title:** Does storytelling help adolescents to engage in sustainable consumption'

**Session Type:** Video Submission

**Authors:**

Name: Anna Sundermann

Email: anna.sundermann@leuphana.de

Country: DE (Germany)

Affiliation: Leuphana University Lueneburg

Name: Daniel Fischer

Email: Daniel.Fischer.1@asu.edu

Country: US (United States)

Affiliation: Arizona State University

Name: Hanna Selm

Email: hanna.selm@leuphana.de

Country: DE (Germany)

Affiliation: Leuphana University Lueneburg

**Abstract:** Although it is contested how strongly knowledge influences behavior change (Kollmuss & Agyeman, 2002), there is broad agreement (as expressed e.g. in SDG 4.7) that basic knowledge about sustainability is a necessary condition for citizens to act in an informed way. Media coverage is a critical means to raise awareness about sustainability issues. However, patterns of media reception are in flux, especially among adolescents (Newmann et al., 2018). Studies show a lack of interest in and understanding of traditional media news depending on personal characteristics (Eastin et al., 2015). It is thus necessary to explore alternative formats to engage adolescents in sustainability challenges.

Storytelling has been shown to be a promising approach when it comes to engaging adolescents with general news (Machill, Köhler & Waldhauser, 2006). Unsurprisingly, interest in storytelling is growing in different fields of sustainability communication (e.g. journalism, corporate or science communication). However, there is a paucity of empirical research substantiating the effectiveness of storytelling in a sustainability context, in particular regarding audience characteristics (e.g. affinities, educational background).

The SusTelling project explores how effectively narrative-style vs. reporting-style communication engages adolescents (18-22 years), and whether and how personal characteristics are influential. Informed by research in environmental psychology, journalism studies and sustainability science, it explores three questions: First, can narrative journalistic texts on sustainable consumption increase consumption- and sustainability-related intentions among adolescents compared to reporting style journalistic texts? Second, do narrative journalistic texts have different impacts on adolescents with different sustainability affinity? Third, do narrative journalistic texts have different effects on adolescents in dual vocational training?

The study employed a self-reported paper-pencil survey for data collection. Data from N=500 university freshmen from one university and N=500 vocational training students from two schools (18-24 years) were gathered. Participants were randomly assigned one of two experimental

conditions (reporting-style vs. narrative) of the same local newspaper article dealing with engagement in a Zero Waste Initiative. The effects of the storytelling approach are examined in a between subjects design: 2 journalistic style types (reporting-style, narrative) x 2 sustainability affinity (high, low) x 2 education (university, vocational training). Multivariate variance analysis (MANOVA) assesses the influence of narrative vs. reporting-style communication on behavioral intentions (i.e. individual consumption, pro-environmental engagement) and communication factors (i.e. involvement).

At the time of submission, data analysis is still ongoing. At the conference, we will for the first time present preliminary findings from our SusTelling study.

Eastin, M. S., Cicchirillo, V., & Mabry, A. (2015). Extending the Digital Divide Conversation: Examining the Knowledge Gap Through Media Expectancies, *Journal of Broadcasting & Electronic Media*, 59:3, 416-437, DOI:10.1080/08838151.2015.1054994

Kollmuss, A., & Agyeman, J. (2002). Mind the Gap: why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8, 239–260.

Machill, M., Köhler, S. & Waldhauser, M. (2006). Narrative Fernsehnews. Ein Experiment zur Innovation journalistischer Darstellungsformen. *Publizistik*, 51 (4), 479–497.

Newman, N., Fletcher, R., Kalogeropoulos, A., Levy, D. A., & Nielsen, R. K. (2018). Reuters Institute digital news report 2018.

**Id:** 22129

**Title:** Understanding Corporate Environmental Communication in Greater China: A Comparative Study of Mainland China, Hong Kong and Taiwan

**Session Type:** Individual submission

**Authors:**

Name: Mengmeng Zhao

Email: sarahzhao@hsu.edu.hk

Country: HK (Hong Kong)

Affiliation: The Hang Seng University of Hong Kong

**Abstract:** In this increasingly competitive market and transparent information era, good corporate reputation has become one of the most important intangible assets for businesses. Being environmentally responsible is regarded as a strategic issue than merely an ethical consideration (Charter, 2017; Curkovic & Sroufe, 2016). Reporting pro-environmental endeavors to stakeholders has become an essential part in corporate communication (Arena, Bozzolan, & Michelon, 2015; Bhattacharyya, 2016; Chelli, Durocher, & Fortin, 2018) and one of the deciding factors of corporate environmental performance. However, as Chinese corporations play major role on the global stage, studies on environmental disclosure are still quite scarce in Chinese context.

This study examines how the leading companies in Greater China (i.e. Mainland China, Hong Kong and Taiwan) communicate their environmental values and practices on their corporate websites, which have become a primary source for companies to communicate their positions regarding environmental issues to stakeholders (Bortree, 2011; Capriotti & Moreno, 2007; Chaudhri & Wang, 2007). This research selects the three convergent-yet-divergent societies – Mainland China, Hong Kong and Taiwan – for investigation for several reasons: First, these three regions are highly interconnected for historical, cultural and economic reasons. Second, due to their particular eco-social systems, environmental responsibility could be perceived and practiced differently. Third, as Greater China has become increasingly important to global business, understanding its communication strategies will have significant implications on other countries' practices.

This study aims to compare and contrast the environmental policies and practices displayed on the websites of 338 leading companies in Mainland China (233), Hong Kong (58) and Taiwan (47), examining the commonalities and disparities of environmental values in these three regions. Data are collected from 2018 Forbes Global 2000 List (Forbes, 2018) to ensure the equivalency in company size and revenue. The focus tends to be on leading and large companies because they often wield more influence (Carroll, 2010). The eight analytical focuses are as follows:

- 1) Presence of information (Capriotti & Moreno, 2007);
- 2) Prominence of information: the position the companies display the information;
- 3) Extent of information: the number of the pages devoted to environmental disclosure (Chaudhri & Wang, 2007; Wanderley et al., 2008);
- 4) Top management support;
- 5) Elaboration on environmental values;
- 6) Environmental issues;

- 7) Institutionalization of environmental concerns (Alon et al., 2010; Chapple & Moon, 2005; Maignan & Ralston, 2002); and
- 8) External validations or certifications of environmental programs (Jose, 2007).

As the first comparative investigation of environmental communication in Greater China, this study fills the research gap in both corporate communication and corporate social responsibility fields in Chinese context. It also contributes to the growing discussion about environmental practices in emerging economies, and provides significant implications for environmental communicators.

**Id:** 22171

**Title:** Shopping online: digital platforms, networks and environmental impacts

**Session Type:** Individual submission

**Authors:**

Name: Aneta Podkalicka

Email: aneta.podkalicka@monash.edu

Country: AU (Australia)

Affiliation: Monash University

**Abstract:** Digital platforms for trading goods and services, such as popular eBay, Airbnb or Uber, have become a significant part of everyday life contexts, at the same time sparking growing public and academic debates about their real beneficiaries, business models and regulatory conditions needed to support ‘a fairer sharing economy’ (Graham and Anwar 2018). In terms of environmental impacts, they have been discussed, on the one hand, positively – through their potential to encourage re-circulation and re-use of goods and to curb material consumption by displacing ownership with access and sharing (Botsman and Rogers 2010). On their other hand, they have been critiqued for ‘corporate co-option’ of the discourse of sharing, commercialisation (Martin 2016: 157) and leading to over-consumption (Parguel, Lunardo and Benoit-Moreau 2017). More broadly, media scholars with interest in environmental studies have argued to consider media technologies as material objects – and to include media industries’ contribution to carbon emissions and waste in commentaries about the climate and environment (Maxwell and Miller 2012).

This presentation will focus on digital platforms for buying and selling physical goods and their environmental impacts. While there is much business and marketing literature available, cultural and media studies disciplines have paid less attention to online shopping and its networked infrastructure despite the practice’s ubiquity in everyday life, mediatisation and wide-ranging implications for consumption. Drawing on comparative case study research of digital retail platforms in Australia functioning at different scales and under different governance structures (e.g. Gumtree versus Facebook’s Marketplace), I will discuss their nature, organisation and practices, framing my empirical study within contemporary cultural and media studies debates on digital retail, datification (Turow, McGuigan and Maris 2015) and consumer-citizen dynamics in the contested sharing economies. The presentation will include (i) the analysis of data collected from the selected platforms alongside a review of annual reports and media commentary, and (ii) methodological reflection, to contribute to the emergent academic studies of digital retail and its environmental footprint.

**Id:** 22311

**Title:** Non-human voices and human communication: the raising ventriloquism effect.

**Session Type:** Individual submission

**Authors:**

Name: Céline Espuny

Email: celine.pascual@univ-amu.fr

Country: FR (France)

Affiliation: IRSIC - Aix Marseille University

Name: Andrea Catellani

Email: andrea.catellani@uclouvain.be

Country: BE (Belgium)

Affiliation: Université Catholique de Louvain la Neuve, LASCO

**Abstract:** At a conference in 2016, Peter Jackson, Sea Shepherd's president, said that we spend millions to go to Mars, but we're not able to understand non-human voices. Quite surprisingly, vegetal communication and plants as "communicators" represent today a raising theme in the media. From December 2017 to December 2018, we collected more than 15 best-selling books, documentaries, and special issues of popular scientific magazines. This opens a new field in environmental communication practice and research. In this paper, we focus on how non-human vegetal voices are given place and visibility in human communication, in connection with the questioning concerning the rights and place of non-human beings. The notion of "ventriloquism" (Cooren, 2007) can be useful in this case.

Environmental communication research has developed knowledge about the relation between non-human voices and human communication. On the one hand, there has been a slow but sure conversion of the vision of nature as "wild" and sublime into a vision in which nature is much more "entangled" with human culture (Williams, 1972). Haraway (1989) proposed a vision of nature close to an eco-centric animist vision. Cantrill and Oravec (1996) focused on the origin of the concept of the "environment", and Crone (1996), Abram (1997), Davis (1997), Sowards and Stibbe (2001) worked on the place of man in relation to nature. On the other hand, Cox (2007) and Milstein (2007, 2009) proposed a completely different analysis, which is still relevant today, pointing the importance of the reference to the "mega fauna" (emblematic mammals species) in the discourses on nature. They identified also biases, like the "Bambification phenomenon" (Milstein, 2007), which is an angelic conception of wild animals and the attribution of human characteristics to their behaviour. These various researches underline the entanglement and links between nature and culture from the point of view of communication. The works of Latour (2004, 2005) and Descola (2013) are other important contributions on this subjects from other disciplinary points of view, as is the philosophy of antispecism (Singer, 1975).

The conceptions of Nature are changing today. Berger (1980) had already pointed out to what extent the media representations of a "vibrant and lively" nature have transformed the animals into objects of observation and spectacle. Cheryl Lousley (2016) extends this comparison, using the term "charismatic life" to translate the evolution towards a permanent emphasis or even a "fetishization" of living beings: nature becomes a "collection of souvenirs" and biodiversity becomes a spectacle.

We propose in this paper to analyze in the first part the place of non-human voices communication in environmental communication research. The second part will discuss the basic findings of our content and semio-pragmatic analysis concerning the actual emergency of the theme of vegetal beings as communicating beings in media communication, using the scope of semio-pragmatics. Our semio-pragmatic analysis is applied to our corpus of more than 15 different media contents, including more than 1300 pages and 80 minutes of audiovisuals, including off and on-line media. Finally, the third part develops a discussion on a potential ventriloquist effect (Cooren, 2007).

**Id:** 22321

**Title:** Climate denial in the age of Trump: attacks on the press and the future of climate change

**Session Type:** Individual submission

**Authors:**

Name: Daniel Silva

Email: daniel.rs@hotmail.com.br

Country: BR (Brazil)

Affiliation: Universidade Federal de Santa Maria

Name: Márcio Henriques

Email: simeone@ufmg.br

Country: BR (Brazil)

Affiliation: Universidade Federal de Minas Gerais

**Abstract:** Despite the existence of an "industry of doubt" about climate change being a well-recognized point in the academic literature, research that seeks to understand the communicative dynamics that govern such efforts is still scarce (Henriques & Silva, 2017). As a consequence, knowledge about the communication strategies that aim to muddle the waters on the issue of climate change remains limited to two main points. First, to the general outlines of the disinformation campaign pointed out by authors like Gelbspan (2004), Hoggan (2009), and Oreskes and Conway (2010). Second, to the analogy with actions of the tobacco industry between the 1960s and 1990s (Michaels, 2008). As consequence, there is a problematic gap about the institutional elements that permeate the manufacturing of uncertainties, with few in-depth studies on the network organization adopted by these initiatives (Henriques & Silva, 2017; Silva, 2017), on their media relations strategy and on the digital logic of their communicative efforts in the contemporary world.

The present article intends to contribute with the closure of such gap, reflecting about how a central actor in the network of climate denial, the Heartland Institute, has appropriated the discourse of fake news after the United States presidential election in 2016, departing from its traditional media strategy. In theoretical terms, two pillars support the article. The first is the understanding of the manufacturing of uncertainties (Proctor, 2008; Michaels, 2008) and how ideological think tanks act as a central hub in the campaign to deny global warming (Silva, 2017). The second pillar refers to the traditional strategies of media relations adopted by these actors, based mainly on the attempt to gain visibility through the understanding of media logics and discourses about journalistic impartiality (Silva, 2017). From this scenario, we develop two methodological movements. The first one is a quantitative exploration of the use of the term 'fake news' on the Heartland Institute website, showing a rapid increase in adoption after 2016. The second movement is a qualitative content analysis (n=14) of articles on the Heartland website that have the tag 'fake news'. We reveal how those texts seek to undermine the credibility of the press when outlets publish scientific studies or opinions that point to the existence of climate change. Based on these findings, we discuss how the Heartland began to adopt, in an incisive way, discursive strategies focused on the attack upon the press, following President Trump steps. More than an isolated or novel tactic, we argue that such practices are an integral next step of a scenario promoted by the denial industry and characterized by the systematic struggle against institutions. In conclusion, we point that such

attacks against both science and the mainstream media establish new obstacles to the future of climate discussions. It is particularly problematic how they hinder the action of environmentalists and develop a scenario of generalized uncertainties that must be taken into consideration by contemporary discussions of the environmental communication field.

**Id:** 22370

**Title:** The role of Facebook's native videos on climate change communication

**Session Type:** Individual submission

**Authors:**

Name: Leonor Solís-Rojas

Email: lsolis.1@alumni.unav.es

Country: MX (Mexico)

Affiliation: Universidad Nacional Autónoma de México, Universidad de Navarra,

**Abstract:** Climate Change is a major issue for humanity, is a global problem that requires immediate response and large-scale public participation (Tandoc & Eng, 2017). The communication of climate change is an emerging area, which seeks to engage and mobilize society to action, due to the enormous challenge that it has meant responding to this complex and urgent problem for humanity. It is becoming increasingly difficult to involve and engage society on climate change, especially because it is a concept that still sounds abstract and remote. In the last decade, the research on visual communication and online communication had emerged and developed in climate change communication (O'Neill 2017, Wang 2017, Hansen, 2017; Moser, 2016; Anderson, 2017; Segerberg, 2017).

It has been recognized that visual messages and social media platforms represent an opportunity to inform, sensitize and engaged the public about climate change. In 2018, there were 4,200 million Internet users (World Stats 2018). It is estimated that 2,870 million smartphones will be used in the world by 2020, with an unprecedented implantation among young audiences (Miller, 2014; Statista, 2018). Globally, half of users use smartphones to consume information, hence the importance of analyzing the role played by the communication of climate change in the mobile ecosystem (Reuters, 2018). On the other hand, Facebook represents the platform with the largest number of users 2,270 million (Statista 2018), which also shows that the consumption of video on internet represents 70% of global traffic.

Existing research on social media usually focuses on plain text, such as messages that appear on Twitter. However, there is a lack of literature that addresses videos on the Facebook platform in particular. The aim of this study is to contribute to the knowledge of the role played by online videos on social media and the communication of climate change, focusing on Facebook as the main platform. Therefore, some questions key to the study arouse: What social agents are producing videos in this platform? Which videos are gaining more visibility in terms of visualizations and engaging audiences in terms of sharing and commenting?

This work analyzes through a content analysis a sample of videos from Facebook that appear on public pages. Then, the study evaluates both topics and different social agents that produce videos, such as legacy and new media, governmental, non-governmental institutions, academia, companies and others and its correlation with audience engagement. It has been argued that the internet and social networks promote that all social agents can communicate climate change on equal terms. However, it is important to assess whether social agents can achieve an audience engagement similar to that of traditional media and new media and discuss the role they play in communicating

climate change through online video. Finally, as videos in social media are likely to play a central role in years to come, findings are expected to facilitate further research on the role they play on climate change communication

**Id:** 22463

**Title:** Identifying and understanding attitudes towards Science of TV Professionals

**Session Type:** Individual submission

**Authors:**

Name: María T. Soto-Sanfiel

Email: maite.soto@gmail.com

Country: ES (Spain)

Affiliation: Departament de Comunicació Audiovisual i Publicitat. Universitat Autònoma de Barcelona

Name: Isabel Villegas-Simón

Email: isamarvillegas@gmail.com

Country: ES (Spain)

Affiliation: Departament de Comunicació Audiovisual i Publicitat. Universitat Autònoma de Barcelona.

**Abstract:** We present the results of a study funded by the Spanish Foundation for Science and Technology (FECYT/ FCT-15-9831), which aims to advance the identification and understanding of the attitudes of Spanish TV professionals with managerial responsibilities in creative, organizational and productive fields about programming and consumption of scientific content in television.

We carried out a study of mixed methods, which is presented in two subsequent and consecutive phases. The first was exploratory and qualitative (two discussion groups containing 5 participants each). It sought to know the perception of a sample of TV professionals about different aspects of science on television. This phase also allowed generating questions for the instrument applied during the second phase, quantitative and confirmatory. In turn, the aim of this phase was to magnify the perceptions obtained during the first for determining their degree of generality among members of the industry. The sample of the second phase was formed by 450 professionals (50.4% men) from 6 Spanish regions. Out of these professionals, 56.3% had university studies, 19.6% postgraduate studies, 14.5% only professional training, 5.6% a PhD and 4% secondary school training. Of these professionals, 85.5% worked in a TV channel, 7.1% in a TV production company and 7.4% in both. Finally, 72.3% declared having a productive/creative position and 24.8% a directive/ organizational position.

The main results of the study show that, generally speaking, the professionals of the sample manifest a neutral-positive attitude in most of the Likert scales used to measure their attitudes. However, the respondents show a favorable positive attitude to consider the presence of science in television to be important. They also have a positive attitude about the ideas that science in TV must offer a different vision of social problems, that it must improve the degree of literacy of society or that it must awaken scientific vocations. On the other hand, there are detected significant differences in the participants' attitudes about the role of television in scientific dissemination according to the type of audiovisual enterprise the professionals of the sample work for (production company or television channel) and the level of academic education they hold. Regarding the role

of new technologies, the professionals show a very positive attitude about the idea that science is interesting for all audiences and that the state of the science in a specific country reflects its technological development. Besides, the participants show a neutral attitude when considering that the best place for showing science content is Internet and that the proper audiovisual scientific content niche remains outside of mainstream TV. In addition, there are differences in the attitudes of the professionals according to their gender, the type of audiovisual industry they work for (production company or television channel), their level of education, the ownership of the company that employs them and its coverage/audience.

These and other results are discussed to the light of a complex theory formed by different approaches: cultivation theory, studies about the role of professionals in television, studies of attitudes as predictors of behaviors and the deficit model of scientific communication.

**Id:** 22593

**Title:** Social media communication, risk dialogue and risk governance: The consensus development between experts and laypeople in the food safety issue in Taiwan

**Session Type:** Individual submission

**Authors:**

Name: Yi-Chen Wu

Email: 032526@mail.fju.edu.tw

Country: TW (Taiwan)

Affiliation: Fu-Jen Catholic University

Name: Ming-Ying Lee

Email: miyilee@pu.edu.tw

Country: TW (Taiwan)

Affiliation: Providence University

Name: Chun-Fu Chen

Email: maco2057@mail.fju.edu.tw

Country: TW (Taiwan)

Affiliation: Fu-Jen Catholic University

**Abstract:** Risk governance is the structural response to risk, while risk communication is a crucial part of risk governance. However, there is always a discrepancy between experts and laypeople's perceptions of scientific risks. The mistrust of laypeople to scientists also increases the difficulties of risk governance and communication. Using the food safety issue as an example, this study explored the dialogue and consensus between experts and laypeople and examined the role of social media in connecting the two groups' perceptions.

Two focus group interviews were conducted in September 2016 in Taiwan to create an interactive setting for seeking dialogue and consensus among different stakeholders. The goal of focus group interviews was to develop strategies that embody civic participation in risk communication and provide important references to the government for future risk governance and communication. Each focus group consisted of the representatives of experts and laypeople, so as to stimulate more cross-group discussion and opinion sharing.

The focus group interviews yield several significant findings. Firstly, laypeople admitted the limitations of the scientific standards regarding food risks. However, they were able to actively looking for more information to eliminate the fear of uncertainty. Secondly, laypeople did not take the "absolutely safe" propaganda that the government or experts claimed with no doubt. On the contrary, clear and accessible messages can help laypeople to comprehend complicated scientific terminology. Thirdly, when experts claimed the existence of uncertainties in food safety, laypeople expressed no doubt to the experts' profession. What the laypeople care was sufficient information about the risk involved, from which they can make their own decisions in food consumption. Fourthly, civic participation was necessary for achieving consensus in risk communication. Social media were regarded as the effective platforms in building the bridge for message transmission, information exchange, rumor, and fake news clarification, food consumption guidance or food safety policymaking.

This study provided a profile of risk perceptions and a consensus between food safety experts and laypeople. Very few, if any, empirical studies have gathered the heterogeneous groups in the same setting for focus group discussion. In addition, this study should be one of the few studies that discovered the experts-laypeople consensus in the food safety issue. Future research should take a closer look at social media effectiveness in promoting experts-laypeople agreements towards scientific disputes.

**Id:** 22645

**Title:** [Panel] The Local and the Digital in Environmental Communication [Presentation] Panel description

**Session Type:** Panel Submission

**Authors:**

Name: Pieter Maesele

Email: pieter.maesele@uantwerpen.be

Country: BE (Belgium)

Affiliation: Dept. of Communication Studies, Faculty of Political and Social Sciences, University of Antwerp (Belgium)

Name: Joana Diaz-Pont

Email: Joana.Diaz@uab.cat

Country: ES (Spain)

Affiliation: Autonomous University of Barcelona

Name: Annika Egan Sjölander

Email: annika.egan.sjolander@umu.se

Country: SE (Sweden)

Affiliation: Umeå Universite

Name: Maitreyee Mishra

Email: maitreyee.mishra@manipal.edu

Country: IN (India)

Affiliation: Heidelberg University and Manipal Academy of Higher Education

Name: Kerrie Foxwell-Norton

Email: k.foxwell@griffith.edu.au

Country: AU (Australia)

Affiliation: Griffith University

**Abstract:** Recent changes in territorial and digital capabilities of communication pose new challenges for environmental communication, with particular impacts and consequences at the local level. On one hand, a redefinition of environmental problems is called for from the well-known maxim “think globally and act locally” to the new “think locally and act locally”. On the other, social media and the emergence of collaborative platforms having an impact on the local level are exposing multifaceted realities. In the intertwining of the local and the digital, new injustices arise but also new opportunities. Social media such as Facebook and Whatsapp trigger the emergence of social movements and local platforms to fight the effects of decisions sometimes taken at distant territorial levels and in digital spaces disconnected from the local. Apps and spatial media with georeference affect local decisions and social relations, and can provide an alternative scenario for activism, participation and risk communication. This panel explores the interplay of the local and the digital in environmental communication by addressing the following questions:

- How are digital media influencing environmental communication in the emergence of local environmental activism, networking, and political and social participation?
- What is the role of new media applications and social networking sites in navigating the local and the digital in environmental and risk communication?
- How are local environmental and social movements created or redefined in response to the new scenarios originating in digital spaces?

By presenting different answers to the above questions, the panel identifies relevant environmental communication challenges and opportunities for activism, risk and everyday practices at the local level. It examines the digital turn in environmental communication especially seen from a local perspective.

The rationale and participants of this panel are involved in a book volume with the same title that will be published in the IAMCR/Palgrave Global Transformations in Media and Communication Research series. This book volume is a joint collaboration between the Environment, Science and Risk Communication Working Group of IAMCR and the Science and Environment Communication Section of ECREA.

**Id:** 22658

**Title:** Local community development and public understanding of ecological conservation via science exhibitions: The case of Taiwan

**Session Type:** Individual submission

**Authors:**

Name: Ming-Ying Lee

Email: miyilee@pu.edu.tw

Country: TW (Taiwan)

Affiliation: Providence University

Name: Lihyun Lin

Email: lihyunlin@gmail.com

Country: TW (Taiwan)

Affiliation: National Taiwan University

**Abstract:** Various biological species live on the earth, which maintains the relationship of interconnectedness and interdependence. Many studies have paid attentions on the environmental issues such as global warming, climate change and so on. However, most of contemporary environmental discourses seem to be on the way toward ‘modernity of ecology’, indicating the sustainable development on the conditions of technologies and economy for human beings. Speak of which, live of humankind was ultimate and only thing. Such a perspective was restricted to benefits of human beings, while was less concerned with other species in ecosystem.

For a long time, the compromise between ecological conservation and community development was an endless dispute. The ecological conservation paradigm has changed from central management to local community participation, including the approaches of community based conservation and tourism. In particular, the latter integrated science activities and tourism was expected to promote local economy as well as ecological conservation.

The aim of this study is to discuss the relationship between biological species and human beings presented via science exhibition and further analyze its implications to science communication, drawing the case of 2018 World Flora Exposition from November 2018 to April 2019 held by Taichung City government in Taiwan. The central theme of the exposition was ‘Green, Nature and People’.

Research questions were asked: what content of biological species presented in the science exhibition? What was the relationship between biological species and human beings portrayed in the science exhibition? Research methods deployed include: ‘secondary analysis’ of publicity materials such as news coverage, pamphlets, advertisements and posters; ‘participating observation’ on available visual displays and technology-assisted communication devices in the scenes; and ‘in-depth interview’ with 2 officials who were in charge of the exposition and 20 visitors who have been there. Also, this study interviewed 4 local opinion leaders who lived in surrounding communities of the exposition.

This study found that the exposition intended to advocate the intimate relationship between humanity and nature. Conservation of wildlife, for example leopard cats, was particularly addressed. In Taiwan, leopard cats were critically endangered species which once appeared in planned areas of the exposition. The exposition then utilized leopard cats as a symbolic related to conservation and heavily applied to public consumption. A cheerful and harmony future was created in the scenes. However, the public only saw leopard cats as cute animals. They were not aware of risks and crisis of leopard cats. Therefore, this study argued that ecological conservation was transformed as commodification to benefit local community economy. Public imagination and cognition on ecological conservation of leopard cats was in need of re-construction.

**Id:** 22684

**Title:** Unlocking the power of digital storytelling for community resilience building in disaster risk communication: A case study from Australia

**Session Type:** Individual submission

**Authors:**

Name: Jenny Zhengye Hou

Email: jenny.hou@qut.edu.au

Country: AU (Australia)

Affiliation: Queensland University of Technology

**Abstract:** Multi-hazard disaster risk communication has for long been characterised by one-way information transmission from authorities and experts to public in general. While social media allow public participation in government-led disaster communication, the user-generated and shared information can be flawed in authenticity, accuracy, and lack unified coordination. In such situations, there has recently emerged a call for a ‘narrative turn’ (Kent, 2015) to disaster risk communication based on the benefits that storytelling offers. Compared to non-narratives (e.g., information summaries, reports, profiles) with explicit intentions to either persuade or inform, narratives (e.g., stories, anecdotes, testimonials) are more likely to draw audience interest, evoke emotional resonance and reduce counter-arguing. Narrative accounts of individual experience can also facilitate creating shared values within communities, and therefore enduringly change public attitudes and behaviours in disasters. Despite the usefulness of narratives, research into disaster risk communication has not yet fully explored storytelling as a particular genre to engage and empower the public and wider communities.

To remedy this deficiency, this study applies Australian ‘Resilient Queensland Stories’ as a case study to examine the use of digital storytelling for building community resilience in disaster preparedness, response and recovery. It draws on Coombs and Holladay’s (2018) Transmedia Storytelling Narrative Transportation (TNT) approach, which involves analysing how organisations (i.e., Australian Government) use multiple media to tell a series of stories around the central theme of ‘resilience’, as well as to prompt audience to contribute their own stories and co-create meanings of disaster events. Data were derived from narrative analysis of the Queensland Reconstruction Authority’s (a State government department) internal media (e.g., newsletters, publications distributed to employees) and social media (e.g., Facebook, LinkedIn, YouTube) featuring stories about ‘Resilient Queensland’ during 2017.

Based on the findings, this study argues that ongoing disasters and risks require a long-term, sustainable approach to storytelling to mobilise audience agency in building community resilience. For this purpose, government agencies and public organisations need to combine both planned (e.g., organisation-led meta-narratives) and emergent storytelling strategies (e.g., encouraging audience story contribution) to not only inform citizens of prescriptive response plans, but also educate them to be self-sufficient and resilient in disasters. To reduce compassion fatigue by telling ‘sad stories’ in disasters, it is advisable to tell full stories in ways that balance the need for facilitating audience realistic understanding of risks and also inspiring their positive attitude and behaviours.

This study contributes to enriching the existing scholarship of disaster risk communication through revealing the power of digital narratives and storytelling. It also provides practical implications to assist other nations' governments shifting from the conventional and didactic message dissemination, to strategic transmedia storytelling that engages and empowers communities in an authentic and memorable way. This submission fits well with the aim and scope of the Environment, Science and Risk Communication (ESR) Working Group.

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**Id:** 22711

**Title:** Communication and memory in water governance and climate change adaptation

**Session Type:** Individual submission

**Authors:**

Name: Danilo Rothberg

Email: danilo.rothberg@unesp.br

Country: BR (Brazil)

Affiliation: Unesp - Sao Paulo State University

Name: Joanne Garde-Hansen

Email: J.Garde-Hansen@warwick.ac.uk

Country: GB (United Kingdom)

Affiliation: University of Warwick

**Abstract:** Brazil has become a field of water governance experimentation where power-sharing designs are being fostered, making the inclusion of forms of representation of a number of civil society actors, who must have parity with state officials. This paper will present and interpret preliminary results of our research on how the High Tietê River Basin Committee, Sao Paulo, has been struggling to strengthen its roles in the context of climate change adaptation and declining democratic values. The core objective of our research is to understand the shareable experiences, methods and messages of participatory water governance for the benefit of communities at environmental risk with the aim to transform understanding of water through digital memory work. The main contribution will be given through the creation of actionable knowledge capable of assisting decision-making and environmental governance, developed based on organizational memories of water management and water activism stories and memories, and taking the form of contents in digital media on how personal and collective involvement with actions and policies aimed at mitigation and adaptation to climate change has been developing in the country in terms of hydro-citizenship. The Scientific and Technological Challenge is to gain access to stories, memories and narratives on two scales: the personal and the collective experiences of floods, droughts, water shortages and other potential climate change effects. This involves participatory processes involving government, regulators, stakeholders and communities in decision-making within the High Tietê River Basin Committee. Methods of research include content analysis of web based media platforms and interviews with a number of representatives of communities, businesses, water companies, municipal and state officials. Interviews use techniques borrowed from journalism, oral history and social memory. Interviewees are selected from three domains: current and former members of the river basin committee; individuals distinguished by their role in leadership of communities, businesses, water companies and public authorities; individuals directly affected by floods, droughts, water shortages and other potential climate change effects. Initial findings suggest that former and current committee members have an accurate perception of the challenges they are facing, but there is room to develop the democratic model of science communication within their management practices through advanced communication and memory work techniques.

**Id:** 22713

**Title:** Contesting truths in green criminology: Discursive deletion of responsibility from corporate crime vs opposition reading through social media.

**Session Type:** Individual submission

**Authors:**

Name: David Katiambo

Email: dkatiambo@gmail.com

Country: KE (Kenya)

Affiliation: Technical University of Kenya

**Abstract:** The news media attention to victims of corporate environmental crime vary, often, more attention is given to victims portrayed as 'ideal'. This is worsened by the fact that many destructive practices are legal and powerful offenders are able to mute the mainstream media and shape policy definitions to condone harmful practices. This means the news media is among forces that construct social and institutional responses to corporate environmental crime and victimhood. Despite the ability of social media to substitute some mainstream media truths, no in-depth study has been done about the struggle between mainstream media 'othering' of victims of corporate environmental crimes and oppositional reading of such othering through social media. This presentation analyses mainstream media representations of a corporate environmental crime that led to several deaths and how this representation was challenged by Facebook users. On 10th May 2018, an embankment dam in a rural village 250 kilometres west of Kenya's capital city, Nairobi, failed due to flood overtopping, releasing a deluge of 600 million cubic meters that killed 48, injured over 500 and caused massive destruction of property. Victims of such an environmental crime are not always recognized as victims of "crime" because their collective victimization challenges the traditional victimology approach. Although the burst dam was a non-criminal event, the incident was not an act of God as tort law can remedy to such crimes. Even with the influence of the news media over framing of white collar environmental crimes, discourses on effectiveness of tort law lack interdisciplinary approaches with efficiency of tort viewed from legal and economics perspectives, overlooking the communication fields. Using literature from green criminology, victimology and media studies, this presentation brings tort law into communication scholarship by describing how the mainstream news media attempted to delete tortfeasors liability and construct victims as underserving and how this process was contested by social media users through oppositional reading. Using burst dam case study, I describe how social media can contest mainstream media's representations of corporate crime victims. To achieve this purpose, I use Critical Discourse Analysis (CDA) to examine how headlines of news articles in three leading newspapers in Kenya discursively deleted, suppressed, substituted and abstracted responsibility for white collar environmental crimes through nominalisation: the use of noun phrases instead of verbs and the passive voice rather than active voice to conceal tortfeasors from criminality. Secondly, I use the same approach to describe how oppositional reading by Facebook users expose discursive deletion of responsibility. Hence while mainstream media deletes responsibility through nominalisation, Facebook users re-allocate responsibility by conveying information on culpability of powerful offenders. I discuss the meaning of these findings in relation the struggle between mainstream media's hegemonic discourses that disempower victims and the counter-hegemonic social media discourse on victimization.

**Id:** 22714

**Title:** Confidence in Science Literacy: An Experimental Analysis of Measurement

**Session Type:** Individual submission

**Authors:**

Name: Michael Cacciatore

Email: mcacciat@uga.edu

Country: US (United States)

Affiliation: University of Georgia

Name: Meaghan McKasy

Email: mckasym@gmail.com

Country: US (United States)

Affiliation: University of Utah

Name: Sara Yeo

Email: sara.yeo@utah.edu

Country: US (United States)

Affiliation: University of Utah

Name: Leona Yi-Fan Su

Email: lyfsu@illinois.edu

Country: US (United States)

Affiliation: University of Illinois Urbana-Champaign

Name: Zack Oldroyd

Email: zack.oldroyd@utah.edu

Country: US (United States)

Affiliation: University of Utah

Name: Liane O'Neill

Email: liane.oneill@utah.edu

Country: US (United States)

Affiliation: University of Utah

Name: Sijia Qian

Email: sijia.qian@utah.edu

Country: US (United States)

Affiliation: University of Utah

**Abstract:** Research suggests that media are the primary information source for knowledge on many scientific topics (Hofstetter, Schultze, & Mulvihill, 1992; Miller, Augenbraun, Schulhof, & Kimmel, 2006). Taddicken, Reif, and Hoppe (2018) identified that different operationalizations of factual science knowledge are used interchangeably in studies and that it was unknown if one measurement was more effective. Using recoded data from an online study, they analyzed three

response scales representing varying degrees of confidence and found that a 5-point scale yielded the best results. The authors acknowledge that recoding the variables after data collection limited their findings and called for future experimental research to test their findings.

Here, we respond to that call by presenting data from an experiment embedded in an online survey (N = 1,502). The between-subjects experimental design assigned respondents to one of two conditions. In both conditions, respondents answered seven general textbook scientific knowledge questions, sometimes referred to as the Oxford Scale (Allum, Sturgis, Tabourazi, & Brunton-Smith, 2008). However, in one condition, responses were recorded on a 3-point scale (True, False, Don't Know); in the other experimental condition, responses were recorded on a 5-point response scale (Definitely True, Likely True, Likely False, Definitely False, Don't Know). For comparison, we recoded the 5-point scale by combining the two true categories and the two false categories. We then tested the distribution of correct, incorrect, and "Don't Know" responses by assigned condition on both a combined knowledge index and the seven individual knowledge measures.

We found evidence that participants provided with the 5-point response scale were more likely to report incorrect responses, while those with the 3-point scale were more likely to offer "Don't Know" responses across several of the individual measures. This general pattern of results was present among knowledge items with differing levels of difficulty, indicating that the pattern is not necessarily tied to the complexity of the question. We also found variations when assessing differences across demographic indicators. For example, respondents who reported higher levels of religiosity typically performed better in their factual knowledge when they were offered the 5-point rather than 3-point response scale. In a similar pattern, those with fewer science courses in their educational background generally performed better with the 5-point response scale. These findings imply that measuring factual science knowledge is more complex than previous studies suggested. Furthermore, we argue that the goals of knowledge assessment must be considered when determining a knowledge measurement as different methods result in more or less guessing and reliance on the "Don't Know" response. The implications of the significant differences in knowledge measures and findings are discussed.

**Id:** 22814

**Title:** Competing Voices: A study of the mediated conversation about access to clean water in the US agricultural heartland

**Session Type:** Individual submission

**Authors:**

Name: Kajsa Dalrymple  
Email: kajsa-dalrymple@uiowa.edu  
Country: US (United States)  
Affiliation: University of Iowa

Name: Joanna Krajewski  
Email: JKrajewski@flagler.edu  
Country: US (United States)  
Affiliation: Flagler College

**Abstract:** The U.S. heartland has become increasingly scrutinized for the negative environmental impacts of industrialized agriculture; with a primary concern being excess pollution (mainly from fertilizers) running off fields into waterways. Locally, excess nutrients from fertilizers can make it difficult for water treatment facilities to provide communities safe water for consumption; globally, these excesses result in hypoxic conditions such as those devastating the Mississippi River's outlet to the Gulf of Mexico (U.S. Environmental Protection Agency [EPA], 2016; Schnoor, 2010). Compromised water quality is a chief concern in Iowa, the state with the largest percent of its land used for agriculture in the U.S., with over 50 percent of the state's water bodies classified as impaired in 2012 (Osterberg & Kline, 2014).

Iowa's impaired water has garnered much state media attention as policy makers, environmental groups, the agricultural industry, and academics are actively communicating about the problem, and deliberating about how best to resolve it. While this breadth of attention seems beneficial by increasing public awareness, various stakeholder entities are promoting the issue differently. Rather than increasing nutrient mitigation practices, this divergence in messaging may be increasing uncertainty—possibly leading to inaction among the agricultural community (Arbuckle, Morton, & Hobbs, 2013; McGuire, Morton, & Cast, 2013). However, little empirical research exists to document and analyze these potentially competing narratives. Therefore, this study investigates the differing portrayals of Iowa's water quality and nutrient problem in prominent mainstream and agricultural media sources through thematic textual analysis. The sample consisted of 305 online news and editorial articles published between March 2015 and September 2016. A combination of qualitative and quantitative data was collected documenting the key themes related to water quality and nutrients; as well as the organizations and key spokespeople cited as informational sources. Additionally, because mass media are a key source of risk information for the public (Ashe, 2013; McCallum, Hammond, & Covello, 1991) subthemes related to the way risks and uncertainty are conveyed were also documented.

Overall, Iowa's water and nutrient issues are reported on discordantly between the agricultural and mainstream media. The agricultural media describe the problem as natural, to be expected,

completely weather dependent, uncontrollable, and not anthropogenic. These messages are stated definitively and are often backed by scientists from the state's land grant university—many of whom have strong agribusiness ties. Virtually absent are messages related to the ecological or public health threats posed by nutrient excesses. These findings should serve to remind us that depending on the media source individuals choose to consume, their understanding of environmental degradation and belief in expert consensus will be vastly different. The results of this analysis have far-reaching implications for the study and practice of environmental, science, and risk communication; and are especially relevant given the new media landscape where factual reporting seems increasingly optional. For Iowa, these contradictory messages are likely to continue to result in harsh divisions between the urban “city slickers” and rural farmers, and will do little to improve the each group's access to clean and safe water.

**Id:** 22820

**Title:** Media and climate migration: Transnational and local reporting on vulnerable island communities

**Session Type:** Individual submission

**Authors:**

Name: Anna Roosvall

Email: anna.roosvall@ims.su.se

Country: SE (Sweden)

Affiliation: Stockholm University

Name: Matthew Tegelberg

Email: mtegel@yorku.ca

Country: CA (Canada)

Affiliation: York University, Toronto

**Abstract:** Climate change and migration are two core challenges of our times. Increasingly they merge and constitute climate-induced migration. While both climate change and migration are global challenges, they affect local communities unevenly. Thus climate-induced migration needs to be discussed as an issue of climate justice. Here, we integrate theories on climate justice with theories on communication and justice (Fraser, 2008; Roosvall & Tegelberg; 2018; Shue, 2014), and zoom-in on media coverage of (impending) climate migration. Media coverage of climate-induced migration is severely under-researched (although see Dreher & Voyer, 2015; plus, on communication but not on media coverage: Farbotko & Lazrus, 2012; Gemenne, 2011; Methmann & Rothe, 2014). We draw on three cases concerning US islands: Sarichef Island, Alaska, home to Iñupiaq indigenous people; Isle de Jean Charles, Louisiana, home to Biloxi-Chitimacha-Choctaw Native American people; and Puerto Rico. The cases have been chosen due to their similarities and differences. There are high degrees of poverty on all islands. The indigenous peoples enjoy (potentially) specific minority status but at the same time often lack proper political representation. Puerto Rico, in turn, is characterized by politically weak status and lack of proper political representation since it is not a US state while being controlled by the US Congress. These conditions correspond to Fraser's (2008) three dimensions of injustice in varying ways: maldistribution (of economic means), misrecognition (of identity/status), and misrepresentation (lack of political representation).

The aim is to explore how (imminent) climate migration from three US islands is understood in local and transnational media; how issues of justice inform reporting on places, peoples, and perceived problems. RQs: How are connections between climate change and migration understood in the coverage and what does it have to do with media geography (local/transnational news), political geography (status issues, representation issues) and natural geography (island vulnerability, islands as parts of a global problem, etc.)? How are people who (may) migrate covered concerning redistribution, recognition, and representation (political) in local vs. transnational journalism?

We apply multimodal critical discourse analysis (Machin & Mayr, 2015) on a small selection of long articles (5/case). Results show that the transnational journalism (The Guardian) tends to infuse

global perspectives, which are crucial for climate change. These are sometimes missing in local journalism. Local journalism includes however uniquely: local geographic specificity, infrastructure and political processes; connections between diverse aspects of justice for affected peoples; and scalar integration. The latter means that a focus on the needs of people in disaster-affected areas are not motivated by what the rest of the world can learn, but rather viewed as crucial factors in themselves. There are also differences between the Puerto Rico coverage and coverage of the indigenous peoples in Louisiana and Alaska. These indicate the need for further studies exploring why climate change is recognized as cause for migration in some areas but not others (Puerto Rico), as well as what this has to do with class variations among local inhabitants, and with distribution, recognition and political representation more broadly, in stories and in policies.

**Id:** 23172

**Title:** Framing 'Biofortification' to Combat Hidden Hunger in Jamaica

**Session Type:** Individual submission

**Authors:**

Name: Colleen Connolly-Ahern

Email: cuc15@psu.edu

Country: US (United States)

Affiliation: Penn State

Name: Lee Ahern

Email: laa182@psu.edu

Country: US (United States)

Affiliation: Penn State

**Abstract:** Hidden hunger, or a deficiency of critical nutrients in the diet, is a scourge in several Caribbean countries, including Jamaica. The major non-communicable diseases (NCDs) associated with hidden hunger seem like something from the past: scurvy, beriberi, rickets. Sadly, many countries are seeing a reemergence of similar symptoms due to consumption and overconsumption of processed and nutrient-poor foods, especially in the developing world. Since 2004, HarvestPlus has been developing and promoting more nutritious varieties of staple crops more vitamin A, iron and zinc (the micronutrients identified as most critical by the WHO).

HarvestPlus scientists develop more nutritious crop varieties using traditional breeding techniques (no GMOs), and provide leadership in promoting adoption of these new varieties in the countries where they are most needed. HarvestPlus calls this breeding process “biofortification.” In the Caribbean, HarvestPlus is working with CARICOM, which promotes cooperation among 20 member countries in the region. In Jamaica, the initiative is coordinated through the Inter-American Institute for Cooperation on Agriculture (IICA). However, little is known about how Jamaicans might react to “biofortified” staple crops. This is critically important because of food’s relationship to culture.

In order to assess potential communication challenges, the IICA invited us to conduct in-depth focus group interviews with 24 stakeholders from social sectors that will be critical in promoting adoption of any new staple food—government agencies, education, farming, food processing, food retail and the media.

Research has shown that acceptance of food innovation are hard to predict. Negative consumer responses to food innovations occur at the organizational level, in the form of boycotts and organized protests (including active media campaigns), and at the individual level, where consumers shift behavior patterns to avoid innovations (Cavusoglu et al., 2010; Blue, 2010). Past research has shown that message-framing factors will interact with existing worldviews on public acceptance of pro-science solutions (Ahern, Connolly-Ahern, & Hoewe, 2016). The need to better understand how different message strategies resonate with different audience segments, also referred to as message tailoring, was emphasized in a recent National Academy of Sciences report,

“Communicating Science Effectively: A Research Agenda” (National Academy of Sciences, Division of Behavioral and Social Sciences and Education, Committee on the Science of Science Communication, 2016): “Research on audience segmentation needs to be replicated and extended for researchers to understand how much of an effect science communication can have, for whom, and in what contexts” (p 3-5).

Results of the 24 focus group interviews were eye-opening. The term “biofortification” proved highly problematic—participants equated it with genetic modification. Beyond the conflation with GMOs, there was strong resistance to any changes seen as “putting something into” staple foods that is “not natural” or “unbalanced.” The data provide critical insights into more productive and promising approaches to promoting more nutritious staple crops in Jamaica, the Caribbean and the world.

**Id:** 23218

**Title:** RED CIUDADANA DE SENSORES: Juntos monitoreamos la calidad del aire en Bogotá ' Colombia

**Session Type:** Individual submission

**Authors:**

Name: Oscar Fonseca

Email: ofonseca@javeriana.edu.co

Country: CO (Colombia)

Affiliation: Teacher

**Abstract:** Palabras clave: Derechos ambientales, comunicación digital, ciudadanía, comunicación móvil, datos abiertos, desarrollo colaborativo de apps.

Esta investigación se centra en la comprensión de nuevas formas de incidencia ciudadana y defensa de derechos ambientales a partir de las posibilidades que ofrece la comunicación móvil, las redes sociales y el análisis de datos abiertos obtenidos de manera colaborativa.

En Bogotá la entidad encargada del monitoreo de la calidad del aire es la Secretaría Distrital de Ambiente, a través de la Red de Monitoreo de Calidad del Aire de Bogotá – RMCAB, recolecta información sobre la concentración de material particulado (PM10, PST, PM2.5), de gases contaminantes (SO<sub>2</sub>, NO<sub>2</sub>, CO, O<sub>3</sub>).

Todo ello lo realiza con una red 12 estaciones de medición fijas y una estación móvil, es decir 13 estaciones de monitoreo, que resultan insuficientes para una ciudad con un área total de 1.776 km<sup>2</sup> y un área urbana de 307 km<sup>2</sup> y con 7.150.000 habitantes. Adicionalmente las 13 estaciones en varias oportunidades están dañadas o la página que permite el monitoreo en tiempo real está fuera del servicio, como lo reportan varios medios de comunicación.

De otro lado se ha incrementado el índice de enfermedades respiratorias por la baja calidad del aire (1).

Desde 2017 un colectivo de ciudadanos preocupados por la baja calidad del aire en Bogotá, empezaron a contactarse a partir de redes sociales y construyeron un sensor de bajo costo que permite medir la concentración de material particulado (PM2.5) uno de los más nocivos para la salud humana. Adicionalmente el sensor se conecta a un teléfono móvil y a través de una aplicación, es posible compartir los datos obtenidos en tiempo real, de manera georreferenciada, permitiendo a los ciudadanos conocer las zonas más contaminadas de la ciudad en tiempo real y de manera mucho más detallada a como lo viene haciendo las entidades oficiales. Los datos obtenidos, son abiertos, se comparten de manera colaborativa permitiendo la información, divulgación, investigación, la exigencia de derechos ambientales.

Esta investigación se esfuerza en comprender estas formas emergentes de ejercicio de la ciudadanía y ciberactivismo ambiental, mediadas por tecnologías móviles que permiten obtener grandes cantidades de datos que confrontan los datos y comunicaciones de las entidades oficiales.

(1) Environmental and occupational health research and training needs in Colombia  
[http://www.scielo.org.co/scielo.php?script=sci\\_arttext&pid=S0120-41572015000500007](http://www.scielo.org.co/scielo.php?script=sci_arttext&pid=S0120-41572015000500007)

**Id:** 23351

**Title:** Plotting the Role of Citizen Journalism and Digital Media in Influencing Environmental Reporting in China

**Session Type:** Individual submission

**Authors:**

Name: Lin Song

Email: songlin825@hotmail.com

Country: GB (United Kingdom)

Affiliation: University of Lincoln, UK

**Abstract:** China's environment has experienced an unprecedented degradation in the past two decades, with significant long-term consequences for Asia and the rest of the world. There have been many arguments and disagreements between China and the West, especially with regard to China's commitments on improving its physical environment and cut emissions.

The evidence suggests that environmental issues have not only become the major concern general public, but also causing potential damage to the social stability that is the bedrock of the Chinese state.

The Western discourse on China's environmental crisis is dominated by the view that media in China operate within a strict censorship regime. Negative stories which criticize the state therefore do not normally make it into the Chinese media. While the context in which Chinese journalists operate is very different from, for example, that of British journalists, who have a tradition of scepticism towards government officials (Henningham and Delano, 1998; cited in Franklin et al, 2005). As a result, environmental journalists in China cannot fully perform their adversarial role. Meanwhile, citizen journalism has been expanding rapidly, by the new media capability, which is circumventing conventional journalists' restriction. This represents a changing dynamic in journalists/ public/government relationship triangle.

At the moment, there is an existing, preconceived and maybe inaccurate model of state control of journalism in China. More specifically, the state control over Chinese media is a model (Tong, 2011; Zhao, 2000; Tong & Sparks, 2009; Li, 2010; Brady, 2006). But the above model is not working as efficiently as it did previously. Because of the environmental issues, the political constraints on reporting is changing. Due to the deterioration of physical environment, the public are circumventing the control mechanism.

Thus, this paper for the first time will provide a comprehensive framework analysis of the positive engagement of citizen journalism regarding environmental reporting. While the new situation is that the authorities recognise that they can let information out, but they also notice that if it is under some degree of control might be better than no control at all. Under such circumstance, journalism is changing in China as evidence of environmental movements in the new media era.

The research is partly based on my personal experience as a Chinese science and technology journalist, and will apply semi-structured, in-depth interviews with environmental journalists (who

work for mainstream media organizations and investigative newspapers), environmental protestors, local victims, etc., as well as content analysis with the articles published by citizen journalists, to plot the role of citizen journalism in influencing reporting control as evidence through environmental movements in the new media era in China.

**Id:** 23400

**Title:** Framing Deep Geothermal Energy on Twitter

**Session Type:** Individual submission

**Authors:**

Name: Alison Anderson

Email: aanderson@plymouth.ac.uk

Country: GB (United Kingdom)

Affiliation: University of Plymouth, UK

**Abstract:** Geothermal energy has considerable potential as a renewable technology but its widespread adoption will depend upon social acceptance, shaped in part by media framing and the local context (Stauffacher et al., 2015). The way in which media frame geothermal energy projects and the choices about what information is presented, how, and by whom, can have a critical effect on public awareness and attitudes (Entman, 1993). In the past some controversy has been generated with regard to geothermal sites such as those at Landau (Germany) and Basel (Switzerland) which were closed in part due to negative public perceptions concerning seismicity (Reith et al., 2013). Other studies have highlighted concerns over potential noise and groundwater pollution (DECC, 2013)

This paper presents initial findings from the first in-depth study examining news media framing of geothermal energy in the UK. To date scholarship on the social aspects of energy production has been dominated by public perception studies with scant consideration of the role of the media, especially digital media (Djerf-Pierre et al., 2016), so this study fills a key gap. The analysis focuses on the United Downs Deep Geothermal Power (UDDGP) project in Cornwall, South West England, examining the first two weeks following the start of drilling in November 2018. We focus here on findings from a detailed sentiment analysis of Twitter over this period, using COSMOS software. Initial analysis suggests that the geothermal project was largely seen in positive terms and framed in terms of technological progress.

**Id:** 23419

**Title:** Dignity and Disaster in the Media Monster: Cyclone Reporting in Australia's Deep North

**Session Type:** Individual submission

**Authors:**

Name: Deb Anderson

Email: deb.anderson@monash.edu

Country: AU (Australia)

Affiliation: Monash University

**Abstract:** Media International Australia has amplified the need for critical, empirical engagement with the role of journalism in reporting extreme weather events, highlighting prevailing discourses of victimization and blame. This paper extends that discussion to the era of 'post-truth' discourse on anthropogenic climate change. It focuses upon an under-researched topic: cyclone reporting in Australia's Wet Tropics. In-depth interviews were conducted with local and fly-in reporters who covered cyclones Debbie (2017), Yasi (2011) and Larry (2006), three severe tropical cyclones that devastated the same stretch of north Queensland coastline. The interviews cast a critical eye on popular forms of storytelling: the immediate public crisis, disaster marathon or conflicted media event. Interviews also probed the concurrent reliance on the universal imaginary of cyclone—the 'Monster'—in media coverage, where community members symbolised 'ordinary' responses to the consequences of social-environmental risk. This sparked reflexive debate in the interviews over disaster reporting ideals, practice and culture, spotlighting the role of identity (or 'community') and dignity as frames in disaster news. It also enabled wider discussion on the role of journalism in covering traumatic weather events, in both a national context of politicized discourse on climate change and a global context of unrelenting disaster reporting that has, in recent decades, heightened people's sense of insecurity and powerlessness. Indeed, the interviews drew attention to the core interpretive problems of climate change—how the abstraction of global environmental risks through science, technology and the media is affecting personal identity and ontological security. With research suggesting the frequency of the most intense cyclones has increased around the globe, this paper argues for new thinking on disaster reporting, given the media's centrality in communicating global climatic risks to the public.

**Id:** 23427

**Title:** Writing Off Nature: Tracing the Past and Future of Environmental Journalism in India

**Session Type:** Individual submission

**Authors:**

Name: Maitreyee Mishra

Email: maitreyee.mishra@manipal.edu

Country: IN (India)

Affiliation: Manipal University and Heidelberg University

**Abstract:** As India's environmental woes continue to reach unprecedented levels, the role of environmental journalism should ideally be to inform, educate, and challenge the status quo. However, particularly for the mainstream media, this is not the case. On the one hand, while most developed countries saw a decline in print publications, India saw a 60 percent increase in newspaper circulation between 2006 and 2016 (Audit bureau of Circulations, 2017). Despite this growth, in 2015, Reporters Without Borders named India (and Cambodia) as the "deadliest countries" for environmental journalists. For a country with a long history of environmental movements, particularly those triggered by the struggles and diminishing rights of the country's poor (see Guha, 2014), the shrinking space available to environmental stories is rather alarming. Friedman (2015) has argued that environmental journalism has been impacted by three factors: the internet, downsizing, and mainstreaming. The general decline in mainstream media's environmental interest (Cox, 2013) can be extended to India as well.

Media coverage of environmental news is shaped by socio-cultural, economic and political factors. India's 1991 economic reforms paved the way for neoliberal policies that have degraded natural spaces, given over control of India's environments to multinational corporations, and as Guha (2006) has argued, neoliberalism has led to seeing environmentalists themselves as an impediment to growth. Covering environmental news may sometimes mean challenging powerful corporations, governments, and others, as well as offending potential advertisers.

'Development' continues to dominate public discourse with many in India's middle class and the media viewing environmental impacts of development as less important than development itself. Media coverage of conflicts between indigenous peoples and mining corporations, for instance, has been shaped by existing perceptions of the place of indigenous (tribal) people within Indian society (the media often reiterate the view that tribal people are 'backward' and need to move closer to mainstream society) (see Mishra, 2013). The physical and cultural distance of journalists from indigenous (tribal) peoples and their environments, and the lack of emotional and cultural connection, ultimately dictates the way stories about tribal struggles against environmental change are woven.

This paper, while charting the history and nature of Indian environmental journalism, and drawing from interviews with environmental journalists, contemplates on its future. I argue that Indian environmental journalism can be divided into four phases: (i) pre-Bhopal (before the 1984 Bhopal disaster where a Union Carbide plant released toxic gas killing thousands in the Indian city); (ii) post-Bhopal (the aftermath; shaped media responses to environmental disasters); (iii) post-1991 (the

economic reforms and beyond); and (iv) post-2000 (includes the shift to digital platforms). Today, few newspapers and news media have a dedicated environment section, and Down to Earth is the only Indian magazine to focus exclusively on environmental issues. A dearth of environmental stories in the news media may not necessarily mean indifference towards environmental issues, but may instead highlight the lack of resources, financial and other pressures, and over-reliance on 'official' sources of information, among other challenges facing environmental journalism.

**Id:** 23554

**Title:** Blame the Victims If Bad Things Cannot Be Turned Good: A Framing Analysis of How Chinese Official Media Reported the Quangang Pyrolysed Carbon Nine Leakage Event of 2018

**Session Type:** Individual submission

**Authors:**

Name: Zhan Li

Email: 389059679@qq.com

Country: CN (China)

Affiliation: Xiamen University

**Abstract:** As Entman (1993) summarized, although many disciplines in the social science and humanities involves the concept of framing, the communication field is the most suitable discipline to offer a unified theoretical framework to engage in framing analysis because the modern is a mediated society that people inescapably perceive the world through the media text. Through presenting or omitting certain pieces of information, sources and ways of structuring the narrative of media text, media content producers frame the social reality for the audience. For communication researchers, to reveal how the media define problems, identify whom to blame, judge the nature of the event, and recommend solution by the media through content analysis can provide much insight of the power relationship that defies the assumed objective role of mass media in western societies. In a media system like China where journalistic objectivity is subjugated to the overtly claimed propaganda role of mass media serving the government, the official media have always framed environmental disasters as a case of “bad things turn good” because it is the exact moment that the government achieves success by correcting the bad situation (Sun, 1994; 2004). Previous research found that the most authoritative newspaper, namely the People’s Daily, has almost never covered on-going environmental disasters, but rather reported such events after the crisis is over, when news reports can sing praise of the local government (Li & Pei, 2007). Then, how would the Chinese media frame on-going environmental crisis when it is too difficult, if not impossible, to present the “bad” nature of the disaster? Adopting Entman’s (1993) theoretical framework, this paper analyzes how the Chinese media covered the Pyrolysed Carbon Nine leakage event that happened in Quangang of Fujian Province on November 4 of 2018, by identifying the frames of the problem definition, the subjects to blame, and the resolutions of future risks. Through a content analysis of all relevant news reports from Chinese newspapers and television news, the findings of this paper will show how the Chinese media framed the disaster as not serious enough and pointed the finger to the victims living near the culprit petrochemical company for not willing to move from that area in the past years. The relationship between the Chinese media system and media reporting logic of environmental disasters will also be discussed.

**Id:** 23628

**Title:** Framing and Sources: Environmental Justice in Bangladesh Newspaper

**Session Type:** Individual submission

**Authors:**

Name: jahnnabi das

Email: zamanak36@hotmail.com

Country: AU (Australia)

Affiliation: University of technology Sydney

**Abstract:** With the rapid economic development and growing population, Bangladesh is one of the most environmentally vulnerable countries in the world. In this country, news reporting of environmental issues is vibrant and vigorous, although it attracts scant scholarly attention. In fact, environmental journalism in this South Asian country is one of the least studied topics in the area of journalism research. The current study attends to this country and examines news sources in two newspapers in Bangladesh, focusing on their coverage of river systems and climate change in 2009 and 2015. This study explores various sources, such as politicians, bureaucrats, activists, and citizens, and the patterns of emphasis in the news by using these sources to understand the framing of river degradation and climate change. The aim here is to illustrate the journalists' influence in defining these environmental problems against various news sources and social actors. The analysis reveals an emphasis on political and bureaucratic sources in 2009 and on expert and citizen sources in 2015. Additionally, the analysis also demonstrates that the journalists—as actors in defining the reality—have exerted 'influence' on accentuating environmental concerns by shifting their source emphasis over time from politicians and bureaucrats to experts and citizens, thus upholding the discourse of environmental justice from varied contexts.

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**Id:** 23710

**Title:** The View from Here: Global Environmental Protest in an Age of Mediatisation

**Session Type:** Individual submission

**Authors:**

Name: Libby Lester

Email: Elizabeth.Lester@utas.edu.au

Country: AU (Australia)

Affiliation: University of Tasmania

**Abstract:** This paper explores environmental protest as it occurs within the evolving conditions of mediatisation, and how such protest forms communities that inhabit – consciously, if not physically – the places that are pressured and threatened by human activity. These protests, places and activity are simultaneously local and global, shaped as much by the translocal and transnational movement of resources, goods, people and ideas as they are by the ways each of us experiences a place, an anxiety, a loss. So too are the communities of protest, consciously formed and shaped by their members who identify as affected and/or responsible, and who claim rights to influence and interfere in outcomes. The members of these communities are ‘here’, whether they are wanted or not.

The connection between people and environment is changing. As more governments, companies and individuals scan the globe for access to primary resources such as minerals and timber, for food, power and water, and for destinations for work, holidays and homes, pressures on places and communities grow. At the same time, global environmental risks – most notably, climate change – produce new networks and unfamiliar forms of politics. We know that media and communications are integral to this change. They interact with the geographically diverse groups and individuals that now seek to influence the negotiations and decisions that affect often far away landscapes and communities. Together, they push and puncture the boundaries that contain the ‘local’ and distort the form we apply to the ‘global’. Consciousness of and empathy for other places is reconfigured by knowledge of shared risks and impact, even by a sense of belonging. ‘Communities’ are formed that transcend local places and national boundaries.

Drawing on extensive fieldwork of resource procurement and trade in the Australia-Asian region, the paper highlights ways in which this shared sense of ‘here’, with its accompanying privileges and responsibilities, is evoked, and to what outcomes for local landscapes, people and conflicts. What role do transnational corporations, NGOs and governance forums play in the formation and recognition of the ‘here’? It also asks to what extent the formation of such communities is now a pre-condition for political visibility of issues, and if so, what happens to those places, risks and conflicts that go unnoticed, are ignored or are deliberately made invisible to outside audiences? Or is it possible that these global ‘communities of concern’ are simply spectres, conjured by marketers and activists to alter our buying behaviours and pressure corporations and governments into shifting their practices?