

International Association for Media and Communication Research Asociación internacional de estudios en comunicación social Association internationale des études et recherches sur l'information et la communication

# **IAMCR 2016**

# Environment, Science and Risk Communication Working Group

Abstracts of papers presented at the annual conference of the International Association for Media and Communication Research<sup>1</sup> IAMCR

> Leicester, UK 27-31 July 2016



<sup>1</sup> We have endeavoured to ensure that these are the abstracts presented in Leicester. Nevertheless, due to cancellations, additions and other factors, abstracts may be included here that were not presented and abstracts that were presented may not be included. Please advise us of any errors at support2016@iamcr.org. Email addresses have been intentionally altered to prevent harvesting by spammers.

**Title:** Ethno-mapping Cultural Survival: Media and the Ecologically Noble Savage in the Amazon

Session Type: Individual submission

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Abstract: In 2013 the Paiter-Suruí became the first indigenous group in the world sanctioned to engage in forest carbon trading. To achieve this goal the Suruí (as they are more commonly known) had to not only overcome a history of marginalization and near extinction, but years of negotiating a complex web of bureaucratic regimes, national and international policies, corrupt officials, and conflicting self-interests and cultural practices, while working with non-profit and scientific actors to craft a plan of ecomitigation. Along the way the community became skilled at the use of media tools, such as the Internet, Google Earth, Android phones, and YouTube, to document illegal incursions, virtually "ethno-map" its territory, recover its cultural memory and establish global visibility. Through this mix of cultural memory, new media technology and image control the Amazonian tribe emerged as a global example for a new vision of indigenous rights and environmental defense. This status has been elaborated in no small part through the Suruí's projection of "indigenousness" in relation to international interests. This article critically explores what historical, political and economic forces have shaped the process, and how the community drew from its indigenous identity and negotiated global eco-politics to pursue the control of its forests. Emphasis is given to the Suruí's utilization of mobile media technologies to "ethno-map" its territory and control its cultural image, and how these activities has become central to its broader strategy for long-term cultural survival.

**Title:** Networks of scepticism and denial' Far-right environmental risk communication about climate change

Session Type: Individual submission

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Name: Bernhard Forchtner Email: bf79 (at) le.ac.uk Country: GB (United Kingdom) Affiliation: University of Leicester

**Abstract:** As climate change features regularly in contemporary public debates, the public understanding of this phenomenon and the ways it has been made meaningful via narratives and symbols, have been increasingly analysed. There are numerous analyses of media representations of climate change in different national contexts and of actors with different (mainstream) ideological backgrounds. However, although politics has witnessed the rise of various far-right actors over the past decades, few studies have looked at their 'environmental risk communication' (Beck; but cf. Forchtner & Kølvraa 2015; for analyses of conservative actors in the UK and US which illustrate similar patterns, cf. Carvalho 2007, Dunlap & McCright 2015, Miller & Dinan 2015). Research on the far-right has largely focussed on their opposition to cultural, ethnic and religious difference, and, in a few cases, on the (destruction of the) countryside and the effect of overpopulation on the national space. These issues could, however, be dealt with within/at the border of the nation – while a transnational, environmental crisis such as climate change poses severe ideological challenges to nationalist actors who view their communities as both 'limited and sovereign' (Anderson 2006: 6).

Against this background, I ask: first, how do far-right actors position themselves vis-a-vis the transnational, environmental crisis: climate change, a phenomenon demanding international cooperation and, thus, colliding with their ideal of national sovereignty? Which meanings emerge in their contributions to the discourses about climate change and how do these relate to their core topics, e.g. rejection of immigration and the European Union? Second, I compare how far-right stances are conditioned by different degrees of ideological rigour (from anti-immigration 'populists' to the extreme right) and ask: how is ideological rigour affecting their environmental risk communication?

Analysing German magazines and blog entries by non-party actors, published between 2007 and 2014, I argue that, although substantial differences exist between 'populist' and extreme right, climate change is often viewed sceptically (or even denied) for similar reasons. Furthermore, the observed scepticism/denial is instrumental in reproducing core, far-right beliefs, ranging from juxtapositions of 'pure' people versus 'corrupt' elites to the identification of a 'Jewish conspiracy' behind carbon trading schemes.

Data is analysed, first, through a quantitative discourse-network analysis based on coding the aforementioned data. This enables the visualisation of the structure of their communication in terms of positive/negative relations between actors, concepts, events and objects. This is complemented, second, by a qualitative analysis which draws on the discourse-historical approach in critical discourse analysis. This illuminates the most relevant relations, illustrating how climate change and associated risks are made meaningful through linguistic means.

This presentation contributes to a better understanding of a rarely researched dimension by offering insights on the crossroads of far-right meaning-making and environmental risk communication. By pointing to the effect of largely unexamined ideological convictions, it illustrates how anti-liberal-democratic and even racist stances arise out of responses to climate change.

**Title:** Framing Smog in China: A Semantic Network Analysis of Issues and Actors in News Coverage from 2000 to 2015

Session Type: Individual submission

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**Abstract:** As one of the most visible and concerned environmental problem in recent China, smog and air pollution have been gaining salience and significance in news coverage over the last decade. It engages public deeply and thus potentially offers a window into collective concerns regarding environment, politics, and media. It also offers an opportunity to compare roles of government, social movement, and publics in relations to each other and to smog-related issues.

Drawing on agenda setting theory, the first level of agenda setting examines the influence of issue salience in news(McCombs, 1997); the second-level agenda setting focuses on the effect of major issues as well as their attributes (McCombs, Shaw, & Weaver, 1997). The third-level agenda setting, or the network agenda setting model (NAS), suggests that news media can not only tell people what to think about and how to think about it, but also what and how to associate (Vu, Guo, & McCombs, 2014). Based on the idea of agenda setting and meaning networks, it can be argued that, when examining news coverage, it is necessary to analyze not only the salience of issues or actors (first-level agenda setting), the bilateral connections between issues or actors by their attributes (second-level agenda setting), but also the multiple connections between concepts such as issues and actors (third-level agenda setting).

Examining newspaper coverage of smog in China from 2000 to 2015, this paper aims to better understand the interaction of environment and public through media by asking questions including: What are the key issues about smog in the news coverage in China? Do spikes in news coverage of smog match with real-world surges in air pollution or do they occur when key events concerning environment happen? Who are the main actors that gain standing in news coverage and shape media discourse – in other words, which actors are used as quoted or paraphrased sources in news stories about smog? How are actors associated with issues in news coverage (e.g., being responsible for it, being a solution or cause for it, etc.)? Do main issues, actors, and association of issues and actors change over time or differ across different types of newspapers?

The China Core Newspaper Full-text Database was used for a search using the Chineselanguage keywords of 雾霾 (smog) or 空气污染(air pollution) to collect all the newspaper articles (including articles in national and local newspapers, state-controlled Party newspapers, market-oriented City newspapers, and general and special interest newspapers) covering smog from 2000 to 2015. Then an automated content analysis via AmCat (Amsterdam Content Analysis Toolkit) was conducted to measure the salience of issues and actors, and to estimate and visualize the semantic networks based on asymmetric conditional probabilities derived from occurrences and co-occurrences of issues and actors per unit (e.g., newspaper, year).

This study contributes to the development of environment communication in Asian setting, introducing the method of semantic network analysis to communication studies, and extending the perspective of first- and second-level agenda setting towards the network agenda setting model.

Title: The Polio vaccination debate on Facebook: Science, values, and risks

Session Type: Individual submission

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**Abstract:** The context of this study is a public health crisis which took place in Israel on August 2013. The Israeli Ministry of Health recommended vaccinating children with Oral Polio Vaccine (OPV) after detection of Polio virus in the sewage system of several towns. However, children in Israel were already regularly vaccinated with Inactivated Poliovirus Vaccine (IPV) which protects them from developing Polio but does not prevent them from becoming transmitters and spreading it if infected with the virus. The guideline hence sparked intense media coverage accompanied by a vibrant social media debate among Israeli parents on whether they should adhere to this recommendation. The goal of this study is to provide an initial science communication/social epistemology conceptualization of social media vaccination debates. In order to do so, we used the case-study of a Facebook discussion group called 'Parents talk about Polio vaccination'. We draw on a quantitative content analysis of 1793 items (an 'item' refers to a single post or a single comment) sampled from this group using a data-mining technique based on a PHP script. The sampling period was from August 14 to November 12, 2013, when the most intense activity in the group was detected. The items were written by 321 different commentators. The codebook comprised of six groups of variables: Topic of discussion; epistemological variables; socio-demographic variables; Positions regarding Polio vaccinations and vaccinations in general; and scientific components. Our data shows that the public use ample science when discussing vaccinations, yet scantly employ any empirical evidence. Even though the largest share of items addressed scientific or medical content (of the 1793 items analyzed, 60% had scientific or medical topics as primary content, such as discussing the virus, its characteristics, the vaccination, contagion, etc.), 1603 items (89%) did not present any empirical evidence to support their arguments. The majority of items were in favor of the Polio vaccination (74% of the determinable cases). 9% of the determinable cases in this discussion group were against the Polio vaccination. Another 17% of the determinable cases expressed a complex

position toward the Polio vaccinations. Those who supported Polio vaccination tended to

employ more empirical evidence than those who opposed it or had a complex position towards it ( $\chi$ 2= 49. 03, p < .005). Nevertheless, the eminence of scientific components in the items was poor, and correspondence analysis yielded no significant result as for the connection between position and use of evidence. In addition, we map and compare the risks brought up by the vaccination opponents and the risks brought up by the vaccination supporters to the risks assumed by scientists. We then use the framework suggested by Douglas (2009) to show how the Dialogical/Engagement with Science model is reflected in the data. We propose that the public may see science from a non-epistemological perspective, or be more concerned with values and inductive risks in science, elements which are normally left out in the scientific method. We suggest broadening the concept of 'evidence' when instigated in the public terrain.

**Title:** Public understanding of evidence in science communication: Effects of evidence frames on beliefs of recipients

# Session Type: Individual submission

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**Abstract:** The aim of this study is to investigate how the beliefs (as a core result of understanding) of recipients may are influenced by the way how evident scientific issues are framed in science TV programs. In a previously conducted representative content analysis of science TV programs about scientific medical issues (n=321), three evidence patterns were identified via cluster analysis. The evidence patterns differed significantly in their degree of representing belief, doubt, and uncertainty and can be described as formal-abstract frames. Certain aspects, in this case of evidence, are selectively stressed while others remain in the background. Formal-abstract frames focus on the structure of a media message (Matthes, 2014; Scheufele, 2010).

Such frames can change the importance of recipients' beliefs and/or introduce new beliefs (Lecheler & de Vreese, 2012). This investigation examines whether frame-prototypical science TV program clips influence the beliefs of recipients (FF). Analogous hypotheses are include: (H1) A prototypical science TV program clip of the frame scientific certain evidence representing high belief leads recipients to increased belief, (H2) a prototypical clip of the frame conflicting evidence representing high doubt leads recipients to increased doubt, and (H3) a prototypical clip of the frame uncertain evidence representing high uncertainty leads recipients to increased uncertainty more than a clip of the other frames. The belief measure is defined as the degree of which the recipient beliefs and doubt measure is defined as the degree of which the recipient is uncertain if he/she believes or doubts.

In this experiment, 686 students (84% freshmen) received a standardized survey before and after stimuli presentation. For every formal-abstract frame, two pretested real science TV program clips were tested. Thus, there are six experimental groups (n per group > 70) and two control groups. Confounding variables were controlled: attributed credibility, preference of intuition or deliberation, involvement, motivation, cognitive processing, viewing habits, and sociodemographics of the recipients.

In this comparison, the clips that used the frame conflicting evidence led to the greatest doubt and uncertainty and the least belief that recipients attributed to the content in the clip. Surprisingly, recipients exposed to the clips that used the frame uncertain evidence attributed the greatest belief and the least doubt and uncertainty. An ANOVA showed significant attribution differences between the frames. A repeated measures ANOVA

indicated that the attributions differed significantly. To detect the effect of preexisting beliefs, ordinary least square regressions were performed. Recipients without preexisting beliefs seem doubtful; recipients with preexisting beliefs directed their beliefs obviously according to the presented frames.

H1 and H3 cannot be verified universally, however if recipients with preexisting beliefs are considered exclusively, H1 can be verified. The clips that used the frame uncertain evidence received a surprisingly high persuasiveness. The recipients may avoid cognitive uncertainty. The overall results showed significant framing effects of the evidence frames of science TV program clips on the beliefs of recipients and consequently the influence on the public understanding of scientific issues.

**Title:** Environmental incentives for the media industry: a materialist perspective on ecomedia

# Session Type: Individual submission

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**Abstract:** Environmental approaches to media studies have tended to focus on environmental messages conveyed on television, film, newspapers and online. While these works have advanced the field of environmental communications, they rarely consider the resources that go into facilitating the conveyance of these messages. More recently, the widely held misconception of the media as an 'ephemeral' industry has been challenged by research on the industry's significant material footprint. Considerable studies on the energy consumed by information and communications technologies (ICT) (Plepys, 2001; Berkout, 2001; Rebitzer, 2002; Elliot, 2008; Seppälä, 2009) as well as more media studies related work (Bozak, 2011; Cubitt, 2005; Maxwell and Miller, 2011; Cox, 2014; Kääpä, 2014), have provided clear evidence that media production and consumption has a considerable impact on the environment. Despite this material turn, no systematic study of this sector has been conducted in ways that considers the role of the media industries as consumers and utilizers of a range of natural resources. To provide such a study this paper discusses key incentives that are emerging in the United Kingdom. As part of the requirements of the Climate Change Act for the country to attain an 80% reduction in its carbon emissions by 2050, the creative industries have implemented a range of initiatives to curb its environmental costs. Organisations like the British Film Institute, BAFTA, the Arts Council of England and Creative Scotland have designed means to measure and report on the industry's footprint. Moreover, these have now been established as mandatory requirements for producers seeking financing from both the Arts Council of England and Creative Scotland.

Despite the considerable implications of such developments for industrial practice, the footprint of UK media is practically ignored in academic research in the study of 'ecomedia. To provide a necessary intervention in this field, the paper will explore the rhetorical strategies used by the industry to communicate to a range of publics about its environmental responsibilities. The focus is on policy documents, industry accounts on reducing a production's environmental impact, motivational statements, and promotional material. By using a critical discourse approach to these documents, I address the logic governing the 'environmentality' of these statements, especially the balance between ideological and economic considerations. An additional dimension to this analysis comes from comparing the success stories promoted by the industry with statistics from

scientific studies on the carbon emissions from ICT as well as a range of other arguments from environmental sciences on issues that relate to the industry. From this discussion, I offer a critical evaluation of industrial strategies and regulatory considerations, which I address especially through the use of moralistic rhetoric and the potential of greenwashing. Furthermore, the fact that these areas go relatively unnoticed by media studies scholars suggests that material considerations need to find an appropriate place alongside the representational and the ideological. Through these suggestions, the work poses significant new pathways and areas of concern for both media and environmental studies.

# Title: FRAMING OF ENVIRONMENT IN NEWSPAPERS IN INDIA

Session Type: Individual submission

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**Abstract:** The media – newspapers in particular – play an important role in disseminating environmental issues. Although the growth of newspapers has stunted or dipped in the West, the same is yet to happen in India. In fact, the circulation of newspapers in India continues to grow with the huge population – illiterates becoming literates, and literates in regional languages becoming skillful of the English language. The newspapers cover the environmental stories in diverse perspectives such as those of government, human interest, nature/wildlife, pollution, business/economics, and science & technology. The growth of the internet has also changed the way and means of disseminating news in the field of journalism – print newspapers are now available online with frequently updated information. Even when the latest story of the newspaper's reporter is not there, it is supplemented with a news agency story. It is also now easy for media researchers to access numerous newspapers through online archives. Media coverage of environmental issues helps the reader understand the concepts that shape their beliefs and perspectives. Media professionals play a vital role in how environmental issues are perceived by the public. The media do the diverse framing of reality of environmental issues. As mentioned by Entman (1993), framing involves selection of some aspects of a perceived reality and make them more salient in a communicating text, in such a way as to promote a particular problem definition. The objectives of this study are to analyze the frames used in newspapers and to identify the difference between the English and Tamil newspapers in covering environmental stories in the Tamil Nadu province of India. Two English (The Hindu and The Times of India) and two regional newspapers (the Dina Thanthi and the Dinamani) were selected for the study. The print newspapers published in the calendar year 2014 were analyzed to find the newspaper framing of environmental issues. When it came to the text, word count was used as the unit of measurement. The study found that environment news stories were more of national and international stories than local stories. News articles on environment

appeared more in the environment section than the main pages. Climate change coverage in regional language (Tamil) newspapers is less compared to those of English newspapers. This shows that lack of capacity of the journalists to develop regional stories, and leaving 'climate change' as a distant reality to the readers. Communication of climate science through regional newspapers and also local news stories might improve the public's knowledge level regarding environmental issues in general and climate change in particular.

**Title:** Environmental Ethics and Memories of Food: A Case Study of Contemporary Documentaries

# Session Type: Individual submission

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**Abstract:** With increased global concern over food poverty and even obesity, resulting from highly saturated food products and increased factory farming, this paper will explore how environmental documentaries through their use of direct address and creative aesthetics and imaginaries foreground a range of cautionary tales around the ethical importance of modes of food production, waste, and (over)consumption. Beginning with the proposition that a tremendous amount of moral thinking, feeling and perception is undertaken when watching films, it is suggested that for most people in the West at least, the mass media is the primary way in which they acquire memories and ethical attitudes within contemporary culture (McGinn 174-5).

Yet it remains very difficult to get across complex environmental and ethical messages around food security, especially as it appears politically unacceptable to suggest that the global economy ought to shrink, in the struggle to become more environmentally sustainable and in using less carbon based energy sources for food production in the longer term. Most remain addicted to a form of 'affluenza' – unlimited wealth, affluence and expecting freely available cheap food – while embracing a more destructive form of conspicuous consumption that certainly does not stack up against the growing need for environmental sustainability (Jamieson 2012). Alternatively, calling for a stoical, resilient or frugal form of de-growth, involving a more historically conceived and balanced production-consumption model - recalling a Proustian memory trip - remains both difficult to visualise, much less promote on film (see Murray and Heumann, 2012; Retzinger et al., 2008; Ivakhiv, 2013; Rust et al., 2013; Smaill, 2014; Weik von Mossner, 2014).

While one suspects the future will lie somewhere between such polarising extremes, Western lifestyles will certainly have to change and this involves a radical transformation of public perceptions and behaviour, especially around food consumption and in dealing with excessive waste. Some evidence of this can be garnered from the growth of organic farming and the slow food movement. Following the methodology developed in Environmental Ethics and Film (Brereton, 2016) which examines Hollywood fictional narratives, this paper will focus on factual documentaries. Textual analysis of a number of provocative, even polemical eco-documentaries including Cowspiracy, Fast Food Nation, Food Inc. and Supersize Me among others, serve as a sounding board for contrasting scenarios and conjuring up a range of audio/visual stimuli to help tease out radical environmental and ethical hypotheses around food production and consumption. This evolving corpus of eco-documentaries, from the overtly polemical and preachy to the more subtle and nuanced invocation to behavioural change – together with fictional narratives – will over time be used as stimulus for ongoing audience studies, focused on the power of media to speak to environmental issues and hopefully inspire audiences to make real changes to the food cycle.

**Title:** The role of media in social knowledge transfer on pharmacological cognitive enhancement: Journalist's and recipient's perspective on PCE

# Session Type: Individual submission

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**Abstract:** There is consensus in communication science that media coverage can have an influence on the public understanding of technologies and social practices (Donsbach, 1987). Pharmacological cognitive enhancement (PCE) is a neurotechnology which attracts increasing public interest (Partridge et al., 2011). Though the use of prescription drugs to improve cognitive functioning in healthy people has been at first and primarily discussed by bioethicists and neuroscientists (e.g. Savulescu & Bostrom, 2009), PCE meanwhile gets more and more media attention (Partridge et al., 2011). As most people are not (yet) affected by personal experience (Franke, Lieb & Hildt, 2012), it is likely that the media representation of PCE will have an impact on how the technology is seen by potential consumers as well as in the public debate in general.

However, the role of media and journalists in the social knowledge transfer on PCE is rather unexplored. Meanwhile, there is at least some data on how PCE is reported that indicates that media coverage rather focuses on medical than on ethical issues, rather presents PCE as increasing and emphasizes rather positive than negative effects (Partridge et al., 2011; Author., 2016). But there is little empirical evidence on the factors behind this coverage. And there is no data on how this coverage actually is perceived by recipients and what influence it actually has on consumers and non-consumers attitudes, decisions and behaviour.

The present study brings together journalists' and recipients' perspectives on PCE. Using the example of Germany, it asks a) what professional and personal reasons there are for journalists to report about PCE (in a certain way) and b) how this media coverage is perceived by consumers and non-consumers. The study addresses attitudes and motives of journalists by conducting a) qualitative interviews with journalists (n=30) that recently reported about PCE. Media perception and its impact on the audience are investigated by b) qualitative interviews with consumers (n=30) and non-consumers (n=30) of PCE. The results show differences between journalists' and recipients' perception of PCE. Journalists basically assume that PCE is a topic their audience is interested in, although

feedback seems to be rare. While most journalists personally refuse PCE because of its unknown medical effects and side-effects and fear that media coverage about PCE will spread the phenomenon, they consider PCE promising for journalistic coverage, inter alia because of specific news factors. The widespread use of terms like "braindoping" is not an ethical judgement, but rather a professional decision to report in an easier and more comprehensible way. Consumers tend to be influenced more by their social environment, specialized web pages and blogs on PCE than by conventional mass media coverage although the results give an insight into the complex interplay of these different modes of communication. Neither journalists nor recipients assert that there is a "media hype" (Partridge et al., 2011) about PCE. Contrariwise, journalists regard this topic as rather underreported while first and foremost non-users state that they have never been in contact with any kind of media coverage on PCE.

**Title:** Message Framing of Energy Saving and Carbon Emission Reduction Coverage across Major News Media

Session Type: Individual submission

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**Abstract:** The latest report from the United Nations predicts that global temperature is likely to increase 3.7 °C by the late 21 century, which may exceed the tolerance level of the earth and humans. As greenhouse effect is a direct consequence of human activities, the United Nations has urgently called for every nation to curb domestic carbon emissions.

Greenhouse gas emissions in Taiwan have nearly doubled in the past twenty years, and carbon dioxide contributes to the most part. Although government and non-profit organizations have promoted energy saving and carbon emission reduction programs, the total and per-capita CO2 emissions in Taiwan are still on the top 20 list among all nations, suggesting that more efforts are needed.

Research shows that people in Taiwan receive information about emission reductions mainly from the media. However, most consider the information the media provide insufficient. Studies indicate that message framing can affect audience's environmental responses. Inspections of media framing on emission reductions become particularly important. This study analyzes related news reports from Taiwan's major news media, including the four largest newspaper platforms, The United Daily, The Liberty Times, The Apple Daily, and The China Times. Using a systematic sampling method, this study collects 1,156 news articles on energy savings and emission reductions from the websites and databases of these newspapers.

Results show that all newspapers started to have more coverage on energy savings and emission reductions in 2008, which may be due to the fact that the U.N.'s IPCC and former U.S. Vice President Al Gore Jr. won the Nobel Peace Prize in the previous year. Moreover, the EPA in Taiwan named 2008 "the First Year of Carbon Reductions" and announced several reduction programs.

Overall, more than 65% of the news articles are local news, about 30% are national news and less than 10% are international news. The mainstream media report the subject mainly from local viewpoints and lack international perspectives. The primary target audience of the news reports is the general public. Over 65% of the articles appeal to the public to take reduction action in daily life. Only about 20% appeal to the government and less than 10% appeal to the business sector, even though the industry contributes greatly to carbon emissions.

Over 75% of the news reports use the gain and loss frames to cover the subject.

The media mostly adopt the gain frame to emphasize the benefits of energy saving and emission reductions. About 20% use the responsibility attribution frame, highlighting those who should be responsible for energy saving and carbon reductions.

By examining the features and frames of news coverage on emission reductions, this study shows that Taiwan's mainstream media in general overlook the responsibility of the government and business sectors. The framing strategies of the news reports also weigh too much on the gains of emission reductions, and overlook the losses if people do not take action. Such inclination may lead various sectors to underestimate the risks of global warming and hinder them from taking proactive action.

Title: Framing of Renewable Energy by Political Actors and Media in Indonesia

Session Type: Individual submission

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**Abstract:** Providing a reliable, environmentally acceptable and efficient energy supply is one of the most challenging issues faced by almost every nation in the world. Especially in the context of climate change, renewable energies are discussed as an alternative to fossil fuels. This paper investigates the public relation activities of different (political) actors, presenting their arguments concerning renewable energies and the effects of their messages on media coverage. Despite the importance of the subject, just very few topic-related investigations in the field of communication research have been done. Furthermore the existing researches are limited almost exclusively to European countries and the US (Breuer and Wolling, 2014; Devine-Wright, 2011; Haigh, 2010; Heras-Saizarbitoria et al., 2011; Kim et al.,2014; Stephens et.al, 2009). As problems related to energy supply are not only relevant for industrialized countries but also for emerging countries, it is important to extend the research activities also to these countries. Indonesia is considered as a suitable country for such an investigation. It is one of the most populous countries of the world, with a fast growing economy and a political and media landscape that were transformed fundamentally in the last two decades.

Based on the frame building approach (Entman, 1993) the Indonesian case was investigated. This study addresses the following research questions:

- 1. Which frames about renewable energy are pushed by political actors in Indonesia?
- 2. How successful are the different actors in bringing their frames to the media?
- 3. Does newspaper ownership influence which frames are adopted by the media?

To answer these research questions a quantitative content analysis was conducted. 204 press releases published by political actors were analyzed and also a sample of 180 articles related to renewable energies from two high quality newspapers (Kompas and Republika) published between 2010 until 2014. The content analysis was conducted based on framing elements from Entman (problem definition, causal attribution, moral evaluation and treatment recommendation). The "problem definition" was differentiated into benefits and problems and for both four sub-dimensions were coded: economy, technology, ecology, society and politics.

Findings show that in the context of renewable energies all political actors, including NGOs, mostly highlight the technological benefits and the economic causes as the most

salient frame elements. However, NGOs also focus on the importance of a better policy to support the sector. By comparing the frames and quotes of actors and newspapers, it came clear that government is the most effective actor in penetrating their frame to the media. This finding proves that also after almost 20 years of political transition, the government remains more influential than other political actors. Nevertheless, media also emphasize economic, political and technological problems, which were ignored by government's press releases. This demonstrates that the media play an independent role in shaping the discourse about renewable energies in the country. Concerning the third research questions some hints are identified that newspaper ownership in Indonesia may influence the newsroom.

**Title:** The prevalence of science in South African environmental news media; analysis, journalist perspectives and the growing role of social media

# Session Type: Individual submission

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**Abstract:** Science literacy, not only of the public, but of journalists themselves, is an important consideration for media when publishing articles pertaining to environmental issues. The discourse on science communication cannot be separated from the reality that knowledge construction is a multi-faceted process involving social, cultural, political and scientific dimensions (Boykoff, 2009; Nisbet & Scheufele, 2009). Successful science communication is not achieved through science literacy alone. As a novel, baseline study into environmental science communication in South African media, this research had three main objectives; firstly, to explore the relationship between environmental journalists and the scientific authorities from a journalistic perspective. Secondly, to analyse the prevalence of scientific explanation associated with environmental issues of fracking, acid-mine drainage (AMD) and climate change and energy, in middle-to-high LSM, English-medium, South African newspapers, and thirdly, to gain an understanding of the growing role that social media (specifically applications such as Facebook and Twitter) play in environmental journalism. Scientific content in newspaper articles published between 01 June 2010 and 01 June 2013 were analysed for the three environmental case study topics. Additionally, sixteen environmental journalists were interviewed between August and November 2014, and data from these interviews informs this research. The results showed that science is indeed an important part of the discourse on fracking, AMD and to a lesser extent climate change and energy issues. Relationships between journalists and scientific experts appeared to be generally positive and valued, while social media appeared valuable to most journalists as a platform to gather and circulate information about environmental and science news and issues. This research found that the current quality and quantity of science in print news media is dependent on the local social context and target audience, as well as the global media context. Journalists' use of social media suggests that online platforms are of increasing importance to the development of environmental science journalism in South Africa. This research suggests that the existing positive relationships between journalists and scientists need to be fostered, and future research should look at ways to expand collaboration between journalists and scientists. The findings further support the need to address ways to make the discourse and framing around environmental science more accessible, relevant and contextual in order to engage all of South African society.

**Title:** Powers Alliance and Resistance: Framing analysis of Genetically Modified Organism News Reports in China

Session Type: Individual submission

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Abstract: Recently, the Genetically Modified Organism (GMO) terms originated from biotechnology have gradually entered public security area. The relevant news reports sparked a multitude of controversies and discussions. In fact these controversies are derived from the media presentation and construction for many "uncertainties" and potential multiple risks of scientific and technological developments. In this context, our research explored the discourse structure and frame of news reports relevant to GMO issues. Based on the meta-theory of framing, content analysis and discourse analysis have been conducted in this research on the GMO reports of two mainstream newspapers "People's Daily", "China Science Daily", and the professional newspaper "Beijing News" from 1 January 2013 to 31 December 2014 (189 news reports in total). As pioneers, the international scholars mainly explored the competition between the dominant powers and the democratic debaters in the reports, thus reaching a dynamic consensus on the definition of GMO in a battlefield. As a representative of the international critical study, they proposed the "public arena model". By using this model, they discussed the definition competition of the reported issues, forms of the reports, as well as political and cultural backgrounds of the reported issues. (Gartner, 1998) Compared to international scholars, the Chinese scholars focus more on media reports per se - the knowledge carrier. For instance, they indicated the mainstream media and professional media both rely on the fact frame, but the professional media pay closer attention to fact investigation with more diversified information source settings. (Zhu, 2014) Another scholar, from an innovative research perspective, analyzed the GMO reports of "Guangming Daily" through corpus linguistics. His analysis revealed that

experts/scientists, government officials/regulators staff and journalists, as the main discourse producers, refer to each other. (Sun, 2014) Meanwhile, the masses are portrayed as 'ignorant, non-assertive, vulnerable' information consumers in these media. There is no denying that the constructions of media discourse differ based on their media attributes, but the research results also provided three conclusions. Firstly, the associations of power elites dominated and leaded the public discourse, which was recognized as structural deficiency. Secondly, the discourse power of media aligned with each other in the process of reporting and presentation, which revealed their fixed objectives. Thirdly, although official newspapers "People's Daily" and "China Science daily" dominated the news resources, even further ideological hegemony constructed, the resistance from the public (represented by "Beijing News") never stop.

Title: The media's representation of the political discourse on fracking in Switzerland

Session Type: Individual submission

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**Abstract:** Recently, the potential risks and benefits of hydraulic fracturing (also known as fracking) to extract unconventional shale gas have raised a controversy in many European countries. In Switzerland, the political discourse was triggered when the Greens prompted the Federal Council of Switzerland to take position and provide the legislative basis for a moratorium. The Green's claim for a standardised legislative framework at the national level is therefore particularly significant as fracking is in general regulated at the cantonal level. However, given the dissimilar cantonal interests and potentials, fracking and its regulations are strongly politicized differently across Switzerland. While some cantons have already imposed a moratorium, others allowed exploration works of the ground, which is one reason why a stop-fracking-initiative was started in the Canton of Bern. Starting from this initial situation, the political discourse on fracking seems in full swing in Switzerland.

As in modern societies, political discourses such as the fracking discourse are mainly negotiated through communication, and various actors try to make their positions and arguments publicly visible. Thus, how the public perceives the political discourse on the regulation, risks, and benefits of fracking is mainly influenced by the media. Given that Switzerland is a direct democratic system, successfully influencing the public through the media becomes particularly important for the actors involved in a controversy.

Before this background, this paper aims to examine how the national political debate on fracking is represented in Swiss media. To gain insights into this debate and how the public may perceive it, a content analysis on the six most frequently used online newspapers in the German-speaking part of Switzerland was conducted. In the study period from January 2013 to September 2015, a total of 225 articles on fracking were published, of which 85 focused on the national debate and thus were examined in more detail. For each article, all the actors making claims on fracking were coded.

A total of 441 statements on the positions, arguments and demands of actors involved in the political debate were coded. The first results show that the fracking discourse in Switzerland is clearly dominated by political actors, in particular by Swiss parties and the government. In contrast, actors from science, economy and civil society were hardly involved in the discourse. Quite interestingly, so far, journalists only occurred in the role of mediators but not as critical commentators. In addition, significant differences in the positioning and argumentation between the various actors and interest groups can be explored.

**Title:** Mass media's influence on science policy. An explorative study of science policy decision-makers' mass media relations and willingness to adapt to media logic

Session Type: Individual submission

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**Abstract:** In recent years, the field of science in Germany is undergoing profound structural changes. For example, the field increasingly depends on competitive funding; external stakeholders demand, that scientists leave the ivory tower and engage with the general public. In this context, the access to mass media can be regarded as a resource to cope with new challenges. It seems likely, that access to mass media gains importance in times of changes, when actors have to cope with new demands and/or threats to their performance. In such phases, it seems important to mobilize every resources available to protect against risks and seize chances.

The paper is positioned in the field of mediatization research. I assume, that decisionmakers increasingly rely on and adapt to media logic in order to increase or preserve their performance. The study explores and compares decision-makers' perceptions of the role of mass media within the field of science policy as well as their motives and strategies dealing with mass media. The research questions are:

RQ1: How and why are decision-makers relying on mass media in order to observe and influence each other?

RQ2: To what extent are decision-makers willing to adapt to a specific media logic in order to increase their access to mass media?

In order to answer these questions, the study qualitatively analyses 35 semi-standardized interviews with decision-makers within organizations that are relevant in the field of German science policy: political parties (5), scientific actors (universities, non-academic research institutes, disciplinary associations; 23) and funding organizations (7). The interviewees are both, experts for their respective organizations and other organizations in the science policy constellation (and therefore: the mediatization of these organizations) as well as objects of mediatization – they establish and handle relations to mass media, anticipate media logic(s), evaluate transformations and are responsible for structural adaptations. In order to validate and contextualize data, the paper also analyzes 21 interviews with external observers – journalists that deal with science and science policy issues.

All interviews have been conducted using guidelines that have been deduced from theory

(actor-structure dynamics, mediatization) and existing research, the questions have been formulated openly and provided room for thoughts that have not been accounted for based on the literature review.

The results show that some decision-makers strongly rely on mass media to observe and influence each other and proactively advance processes of mediatization while others only carefully deal with mass media and guard themselves against media influences. The paper sheds light on these differences and develops a typology of science policy decision makers, their mass media relations and perception of mediatization. The typology differentiates five types of decision-makers and by comparison identifies factors that influence individual attitudes towards the role of mass media within science policy and the evaluation of chances and risks of adaptations to media logic. Among others: perceived need for legitimization, fear of competitive disadvantages and aim of improving reputation.

**Title:** Zika Virus and Risk Communication: social actors and discursive strategies in the dissemination of scientific information

Session Type: Individual submission

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Abstract: The objective of this study is to identify the social actors involved in the dissemination of scientific information on the outbreak of Zika virus infection and disease in Brazil, addressing their different communicative functions and discursive strategies and how they configure risk communication settings. First isolated in nonhuman primates in Uganda in 1947, the Zika virus arrived in Brazil in 2015, having as main transmission vector mosquito Aedes aegypti, present in Brazilian cities. The Zika virus infection outbreak has aroused the concern of Brazilian health authorities and was highlighted in the media because of the relationship found between the virus and microcephaly in babies, neurological condition in which the child's head is significantly smaller than the others of the same age and sex, impairing brain development. Concern also is enhanced because of the rapidity with which the virus spreads throughout Brazil, accounting 500 to 1.5 million infected people in 2015, and 4.180 suspected cases of microcephaly, in 22 Brazilian states since the beginning of the investigation, on October 22, 2015 until January 23, 2016. The forecasts predict that this number is likely to increase in the coming months due to climatic summer conditions, which allow a greater spread of the mosquito. In this scenario, the health authorities have begun to invest in a strategic social mobilization campaign to exterminate the mosquito breeding sites, in order to control the outbreak. The media, in general, works as a great ally in this fight. We use the theoretical-methodological approach of discourse analysis, having as reference the studies of Dominique Maingueneau (2014, 2008a; 2008b; 1997), Sophie Moirand (2004) on interdiscursive memory and of Marie-Anne Paveau (2013) on internet discourse. We have analyzed an heterogeneous corpus of news stories about the outbreak in online newspapers of the state of Pernambuco Jornal do Commercio and Diario de Pernambuco from the period of November 2015 to January 2016, as well as Twitter notes of communication agencies of the Ministry of Health of Brazil and the Oswaldo Cruz Foundation (Fiocruz), a research institution linked to the Ministry. Results point to two dissonant strategies: one assumed by newspapers that charges health authorities in the

control of the virus and another one assumed by the Ministry that encourages citizen mobilization. Local newspapers report the progress of the outbreak and its strategy is to rely on official and scientific sources on the Zika virus, its relationship with microcephaly and the evolution of cases of the disease in Brazil and worldwide. Newspapers locally map the virus, indicating the districts of Recife with mosquito outbreaks and the actions of health agents to destroy breeding sites. On Twitter, the Ministry operates nationwide encouraging mobilization actions of civilians. Fiocruz agency publishes scientific research in progress on the virus and disease diagnosis. Despite the mobilization attempts of the Ministry, the analysis shows that there is still little reflection on journalism on the role of citizens in this scenario.

**Title:** Partisanship and discursive strategies for politicization of climate change in European mobility week campaigns

# Session Type: Individual submission

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**Abstract:** European Mobility Week is an annual awareness raising campaign with unequal echoes and impact on different cities and regions of Europe. It shows elements that can influence the process of politicization (and depoliticization) of climate change in cities. The paper analyzes the discourse on climate change in sustainable mobility campaigns of European cities in different calls between 2005 and 2015. The city's assembly representation and the environmental policies for the mandate are the frame for the analysis of political construction of climate change. The work begins by identifying distinct discursive strategies in Europe irrespective of the region and the year studied. Then, these strategies are contrasted with assembly representation and environmental policies and measures included in the municipal agenda for the mandate. The article articulates two main claims. On the one hand, there is the idea that different discursive models are a reflection of manipulation of the campaign to politicize (or depoliticize) climate change. This is done by promoting specific sets of events as well as calling for specific behaviors, even symbolic, that contribute to the social construction of climate change as an environmental problem. On the other hand, the work explores the correlation between ideological composition of the municipal government and discursive strategy used in campaigns in order to understand how political construction of climate change may be biased by partisanship rather than framed by the ideological debate at regional or international level. The article argues that discursive strategies on climate change have a partisan bias that is used to strengthen a certain ideological model or political choice in local government rather than to reinforce true change of attitude and behavior.

**Title:** Representations of climate change in the news: An analysis of three newspapers' coverage in Thailand

Session Type: Individual submission

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# Abstract: Abstract

Representations of climate change in the news: An analysis of three newspapers' coverage in Thailand Duangkaew Dhiensawadkij Lecturer, Faculty of Journalism and Mass Communication, Thammasat University, Thailand, and PhD Candidate, School of Journalism, Media and Cultural Studies, Cardiff University, UK

Since the early age of the risk society, journalism's contribution to societal reflexivity has been questioned, especially with regard to environmental threats, risks and challenges. This paper reports on the findings of a study examining the representation of climate change in Thailand's three daily newspapers, Bangkok Post, Thai Rath and Bangkok Biz. Two methodological frameworks were employed, namely textual analysis and semistructured interviews, in this study. First, news articles published between June-December 2015, during the significant occurrences of El Niño and COP21, were gathered and analysed (740 articles in total, with 25 subjected to close textual critique). Findings document how narrative strategies work to prioritise expert knowledge in discursive terms, particularly where conflict-oriented frames between high-ranking government voices are shown to prevail over counter-frames advanced by environmental groups. In other words, correlated with the dominance of official discourses is the marginalisation of alternative framings of the risks associated with climate change. Second, semi-structured interviews were conducted with 23 journalists including reporters on the environment news desk. These findings disclose how different reporters elected to frame environmental occurrences in ways that are consistent with distinct genres of newspaper coverage. Especially relevant here are contrasting news values, the relative prominence of sources as news actors, the invocation of "balance in reporting," and the reaffirmation of objectivity as a professional standard. Brought to light is how journalistic treatments of "credible facts" are contested, including through negotiations over source expertise influenced by institutional factors. On the basis of the study's two dimensions, therefore, it will be argued that everyday, routinised conceptions of news professionalism work to place limits on the acceptable range of environmental perspectives for these Thai newspapers. These newspapers typically represent climate change as 'soft' or humaninterest news, thereby making it more difficult for voices calling for sustainable development to be taken seriously within 'hard' news reporting. In Thailand's classed society where mega-industrial projects are highly politicised, this study concludes, the representation of climate change in these newspapers' coverage reveals several reasons why journalism needs to challenge its own professionalism to engage with climate change as a "new risk" in the public sphere.

**Title:** Toward Pluralist Understandings of Nature: Lessons Learnt from a Chinese Village

Session Type: Individual submission

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Abstract: "Nature" is one of the key concepts addressed in environmental communication and many studies have explored the various ways we define, discuss, and interpret it. Theoretically, these studies can be traced back to two prominent theses in critical social theories: "social construction of nature" and "alienation from nature". Despite the prevalence of both theses, however, discussions on them have been contentious due to environmental scholars' varying understandings of nature, knowledge and the world. Another noticeable issue is that these discussions have been mainly based on the experiences of enlightenment and industrialization in Europe and North America. which may not be able to offer satisfying theoretical accounts for the social imaginations of nature in other parts of the world. Then, how shall we understand the concept of nature? This essay argues that we should adopt pluralist understandings of nature by (1) rethinking the essentialist tendency within both "alienation from nature" and "social construction of nature" theses and (2) acknowledging nature and its related concepts' varying interpretations in different socio-cultural contexts. To elaborate both arguments, this essay presents a meta-theoretical critique of both "social construction of nature" and "alienation from nature" from the standpoint of epistemological diversity. It argues that both theses are developed and anchored in Western experiences and as a result, they are not able to adequately account for the realities of non-Western communities. The essay then proposes a move toward pluralistic understandings of nature by acknowledging the diverse experiences of the world. To illustrate this point, the essay discusses the social imaginations of nature in contemporary China, which have been shaped by the country's growing market economy and its complex philosophical and cultural traditions (i.e. Buddhism, Confucianism, and Daoism). As a result, 'nature' in contemporary China becomes a critical modern intellectual and policy concept with a range of divergent understandings and manifestations. For one thing, China's integration into the global capitalism system makes the commodification of nature a common phenomenon, as demonstrated by the country's booming tourist industry. For another, the holistic view that human beings are inextricably part of nature remains strong in China, especially in rural regions where genuine wills for recreating a harmonious human-nature relation remain strong. Unlike occidental realist and postmodern views, this traditional Chinese view on nature emphasizes a sense of "positive symbiosis", which originates from China's pre-modern environmental ethics that embraces the complex relationship

between the physical world and human body/spirituality. The essay ends with a brief case study of Heyang, a transforming village in the east costal region of China, thereby demonstrating the significance of the holistic view of of human-nature relation for China's ecological future.

**Title:** A longitudinal analysis of agonistic media pluralism in the reporting on the Khudoni power plant in Georgia from the Soviet era to today (1979-2014)

Session Type: Individual submission

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**Abstract:** When the construction of the massive Khudoni hydro power plant, a project initiated by Georgia's Soviet government, was almost halfway to completion in 1985, the political, economic and social context related with Perestroika and Glasnost led to an intense social debate about the construction. The project was terminated in the 1990s parallel with the demise of the Soviet Union. Almost 15 years later, the project is revived by the government of independent Georgia in the context of prioritizing open market policies. The announcement of the project's revival induced insurmountable objections on the side of the dwellers of the Khudoni area, the public and civil society organizations. Ultimately, the resistance was so strong that in 2014 the government decided to put the project on hold again.

Starting from the risk conflicts-perspective (Maeseele 2015a, 2015b), the aim of this paper is to investigate the extent of agonistic media pluralism in the reporting on the Khudoni hydro power plant from the Communist era until today. In so doing, we draw primarily from the framework of a critical discourse analysis (Carvalho 2007, 2008).

Since the research is a longitudinal analysis of the case extending over 35 years, it is divided into two Critical Discourse Periods (1979-1990 & 2006-2014). The first discourse period analyses the coverage in Communist times, focusing on the newspapers The Communist and The Young Communist and the second discourse period examines the coverage in current times, focusing on Resonance, Kviris Palitra and Akhali Taoba.

Results from the Communist period revealed that the debate took place on four ideological fault lines - the techno-environmental, industrial, socio-economic and cultural fault lines. Second, during this period, there was an important discursive shift from a depoliticized issue based on a closed consensus to a relatively politicized issue about which there was agonistic pluralism.

Results from the second period reveal a much more ambiguous picture: although there appears to be a higher degree of agonistic pluralism overall, it depends on the specific newspaper whether politicized discourses are present throughout the newspaper of whether they are limited to the op-ed section.

We conclude by relating these findings to the shifting journalistic values, norms and practices from the Communist times until the current era.

Title: A step forward or backward: Environmental Reporting in China Faces a Dilemma

Session Type: Individual submission

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**Abstract:** Since President Xi Jinping came to power in spring, 2013, there have been increasing concerns about the state of China's physical environment. This has led to increasing protests in polluted areas, and these have raised concerns about the competence of the new administration to deal with such issues. This is an issue which impacts on all classes in society. Undoubtedly, the environmental problems have become a hot topic in all of the Chinese media.

This paper therefore demonstrates the complicated relationships between the professional environmental journalists, the state and the media outlets that may limit the coverage of environmental issues. In particular, the paper examines the way that journalists have reacted to the opportunities that greater public awareness has given them to report on environmental news and the way that they deal with the restrictions that are imposed on their activities. This helps to explain why environmental reporting is thus a special journalism in China.

The Chinese government proposed the so-called 'Decree of Government Information Openness' in 2008. Meanwhile, professional environmental journalists have been struggling to publish their outspoken stories, especially those relating to some sensitive pollution cases. As much of the Chinese media remains state-controlled, it is important to understand and explain not only how the media report on environmental issues and policies, but also to analyse the underlying and unwritten rules that govern the practices used in reporting on sensitive environmental topics.

This therefore invites a careful rethinking of information governance, by calling attention to the Chinese authorities in order to enhance the transparency of news information, which will definitely benefit the authorities' credibility in the long run, and will also help to solve China's environmental problems.

Much of the field work (participant observation & semi-structured, in-depth interviews) for this paper was conducted in China when these changes were becoming evident, and the fact that the researcher had access to working journalists makes this a potentially important contribution to the critical literature on Chinese journalism.

**Title:** Frame analysis of Japanese news coverage about COP21: How Japanese mass media communicated climate change and environmental issues

Session Type: Individual submission

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**Abstract:** The purpose of this paper is to report and discuss the result of frame analysis of Japanese mass media during the 2015 United Nations Climate Change Conference (COP21) held in Paris. Although people rely more and more on Internet communication, mass media still serves its important role to inform the public about society. Climate change is one of the most emergent global-scale problems today, and how the mass media covers and frames the issue may influence the public's knowledge, attitude and perception. The concept of media frames also extends to the concept of "audience frames". Some researchers have focused on the "audience frame" to explain audience cognition or interpretation. According to Scheufele(1999), media frame is the interpreted selection from the mass media, and audience frame is a version of reality built from personal experience, and interaction with their peers. Mikami et.al(1995) conducted the content analysis of newspaper coverage on environmental issues in Japan, and found out the frames mass media used for describing environmental problems were different from the audience' frames. Also, some of the media frame researchers mentioned that cultural factors should be more considered. Xie(2015) argued many issue-specific frames underscored the necessity to offer a culturally situated and diversified picture of climate change communication. Therefore, in this research, the author analyzed media frames of climate change and environmental issues covered by mass media in Japan during COP21, including possible audience frames of the environmental issues proposed by Kawabata(2015). With the result of the frame analysis, the author discusses how the mass media frames used in the news coverage may influence the audience' knowledge, attitude and perception about climate change and environmental issues.

Title: Memory snippets in science talks: Referencing scientific and public pasts

Session Type: Individual submission

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**Abstract:** The contextualized nature of scientific knowledge has been studied intensively by sociologists of science. And yet the ways by which scientists makes particular contexts relevant still needs to be explored. Rather than examining how scientific knowledge is shaped by its social and cultural contexts and anticipations as understood by sociologists (Nowotny et al., 2003, Jasanoff & Kim, 2015) experts' narratives are explored for the contexts that researchers select as salient for presenting their research as useful and credible and in relation to what in relation to what they project as explainable and accountable (Garfinkel et al., 1981, Lynch, 1997).

By working with an extended corpus of media interviews, reporting on a wide variety of scientific topics, this study examines how scientific and allied contexts are occasioned in the public accounting of research. This study adopts a social-interactional approach that sees narratives as doing different things and assume different forms in different settings, and as amenable to modifications, evaluations and contestation all participants to the talk in accordance with the discursive purposes for which stories were occasioned (Georgakopoulou, 2007, De Fina, 2013). Studies in different discourse environments identified narratives as constructed, circumstantially and interactionally in ways that responds to their tellers' agenda, and listeners' familiarity with the characters, places of events (Ochs & Capps, 2001,Georgakopoulou, 2007, Norrick, 2007). Accordingly, storied accounts were examined in this study as reflecting experts' communicative goals but in relation to the agendas projected as relevant in the interactional contexts in which his story is told.

The findings indicate that interviewees use and intercalate the story worlds of the laboratory (Latour, 1987), the clinic (Atkinson, 1995), the natural environment (Myers, 1990), and draw upon science fiction (Haran et al., 2008) as well as socially and culturally familiar scenarios. While many stories were structured as historical recollections, many others were reconstructed as ongoing or as anticipated occasions thus

highlighting the generality of the events narrated rather than their idiosyncratic and particular characteristics. Prior studies of personal accounts identified their spatial and temporal structuring to reflect their argumentative use in their context of telling (Riessman, 1990, Cheshire & Ziebland, 2005, Heinrichsmeier, 2012, Georgakopoulou, 2013). By focusing on narrative explanations of scientific research this study demonstrates the structuring of laboratory lives (Latour & Woolgar, 1986) in accordance with experts' framing of their research for news media audiences.

The conclusions will be discussed as instructing an understanding of scientific contexts as shaped by scientists in the public domain. Prior studies of the framing of research in the news media tended to focus on recurrent narratives (progress, risks, uncertainties) with which reporters tend to align (Nisbet & Scheufele, 2009, Maeseele, 2011, Ruhrmann et al., 2015). This study demonstrates how personal recollections of past occurrences are used in the reframing of scientific reports to accord with the representation that researchers seek to achieve. The flexible mode of occasioning of research experiences will be shown to be used in qualifying the sociotechnical imageries (Jasanoff & Kim, 2015) with which science news are generally infused.

Title: Discourses, disputes and silences in making data flow for the climate risk market

Session Type: Individual submission

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**Abstract:** Meteorological data flows provide an evidence base for global climate change. They increase our understanding of natural ecosystems, and they potentially have the power to convince publics to develop more sustainable modes of development. Yet, they are also used to exploit the ecological risks that they illuminate and empower established economic interests.

Over the last two decades, index-based climate risk products such as weather derivatives have emerged as a multi-billion dollar industry (Randalls 2010; Thind 2014). Products are priced based on vast indexes of historical and real-time observed meteorological data, and are dependent upon the data of national meteorological institutions such as the UK's Met Office. Weather risk market advocates are keen for this data to be made open and freely available in order to drive the development of global weather markets, yet data policies in many countries – including the UK – are perceived to be restrictive and creating barriers to growth.

In November 2011, the UK Government announced with some media hype that the Met Office would be releasing the largest volume of 'open' weather data made available by any country. At one level this announcement can be read as part of the roll out of the government's flagship Open Data agenda. However, upon closer inspection it is clear that the decision was part of more opaque central government policy narrative aimed at making data more readily exploitable by traders in the climate risk market, and enhancing the competitive position of the City of London in the global financial markets. Ultimately, the government proposal met resistance from the national Met Office due to the contradictory position the organisation faced as a Trading Fund mandated by the neoliberal state to sustain itself through commercial exploitation of its data and information services. Resultantly, despite the enthusiasm around the 2011 announcement, the subsequent data release, whilst substantial, was not as extensive as originally proposed and efforts continue to open some historic and real-time data.

In this paper, we present analysis of documentary sources and semi-structured interviews with policy makers and climate risk market participants to draw out this lesser known narrative. We illuminate key discourses, silences and tensions around opening the UK's weather data, and how they draw attention to some of the unexpected ways that data are being employed as a constitutive force in the accumulation of financial capital. Significantly, our findings identify little evidence of a wider critical discussion about the potential impacts of such markets on climate change mitigation and adaptation. We conclude that significant questions remain unanswered about the material impacts of climate risk markets, and argue that this discourse needs to be expanded beyond the bureaucratic wrangling of the UK's neoliberal state in order to open up a wider discussion about these forms of climate risk financialisation that critically addresses how they might, and might not, impact wider efforts to respond to climate change and build more equal and inclusive societies.

Title: Reporting the Great Barrier Reef: Media, Policy and the Politics of Protection

Session Type: Individual submission

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**Abstract:** At the contemporary historical juncture, our environments have never been so administered for protection and conservation. International organisations and treaties, alongside local and national governments, debate and implement policy after policy, accompanied by announcement after announcement – all of which seek to administer our environments to balance human impacts and damage to ecological fragilities. Despite the rise and permeation of these relatively new environmental policies over nearly 50 years, our environments are facing threats from which we can barely imagine a reprieve, let alone a solution capable of thwarting ecological disaster. Our policies are, by and large, failing to protect our environments.

Drawing on the Great Barrier Reef as a case study, this paper will consider the role of news media in reporting key 'protection' policy moments in the history of the Reef. Since the 1970s, the Great Barrier Reef has been a site where environmental policy has flourished, mirroring global environmental policy movements. The communication of environmental policy in the public sphere has been a key role for Australian news media. For many Australians (and others) their knowledge of the Reef, policy and any conflict and controversy therein, is communicated by news media.

In this paper we consider three key Reef policy moments: the 1974 establishment of the Great Barrier Reef Marine Park by the Australian government; the 1981 World Heritage Listing; and the 2012 threat by the IUCN to place the Reef on the World Heritage in Danger List. For each policy moment, we have collected news content across four newspapers: two regional dailies, which service communities alongside the Reef, and one state and one national publication.

This research offers insights into the role of various news media in reporting the Reef. We find significant, and at times troubling, changes in the ways 'protection' policy has been reported over time in the Australian context. We provide a nuanced analysis that explores

the historical, cultural and political context of reporting these key policy moments. Evident in this examination is the role of news media in different geographic contexts, highlighting the complex politics of protection, from the dawn of environmental 'protection' policy to the contemporary era of protecting the Reef in the context of environmental crises.

Title: The politicization of climate change: Problem or solution'

Session Type: Individual submission

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**Abstract:** In this paper, we report on the results of a literature review which has revealed two perspectives in the social sciences regarding the desirability of (dis-)agreement about climate change.

The dominant consensus-building perspective problematizes the politicization of climate change as an important barrier to climate action and resultantly sets out to develop depoliticizing communication strategies which foster social consensus and public engagement (Hoffman, 2015; Kahan, 2012; McCright & Dunlap, 2011; Nisbet, 2014). In contrast to this, the critical debate perspective problematizes climate change's capture in a depoliticized consensus and calls for its repoliticization to revive democratic debate and citizenship (Goeminne, 2012; Kenis & Lievens, 2015; Machin 2013; Swyngedouw, 2010).

The aim of this paper is twofold. First, we will distinguish both perspectives on the basis of their diverging problem diagnoses and recommendations. Second, we will argue how only the critical debate perspective provides the tools for transformative socio-ecological change based on both democratic debate and democratic citizenship. We conclude by discussing how this divergence is reflective of a larger split in the social sciences between problem-solving and critical theory and how social scientists could contribute to democratic debate and citizenship.

**Title:** Fairness, citizenship and (de)politicization: what with Fair Trade after commercialization'

## Session Type: Individual submission

# Authors:

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**Abstract:** As a historical social movement, Fair Trade has tried to challenge power relations and trade laws in favour of small farmers and agricultural labourers in the Third World (Van de Poel, 2008). However, the increasing commercialization of Fair Trade has been recognized as a threat to a proper debate on the advantages and disadvantages of the existent consumption and production practices in affluent, developed societies (Low & Davenport, 2007). According to the literature, commercialization is caused by both the adoption of Fair Trade products by commercial organisations for profits (Jaffee, 2012) and the recent introduction of explicit commercial strategies within Fair Trade organisations (Wilston & Curnow, 2013).

In this paper, we investigate whether and in what ways Fair Trade is interpreted differently in the strategic communication documents of four different organisations that sell Fair Trade in the Dutch-speaking north of Belgium: Oxfam-Wereldwinkels (NGO-cooperative), Fairphone (social enterprise), Colruyt (commercial enterprise) and the Trade Development Centre (state center). In so doing, we focus on the extent to which these interpretations present Fair Trade as part of a societal debate on existent consumption and production practices.

The analysis revealed different interpretations of both fairness and citizenship. The understandings of fairness varied widely between the selected organisations. Understandings of citizenship could be brought back to the duality between consumer and citizen-activist. Both the social enterprise and NGO-cooperative were found to discuss their own preferred interpretations of fairness as part of a democratic-ideological struggle between alternative models for consuming and producing. However, both commercial and non-commercial organisations in our analysis presented the consumer as the only possible interpretation of citizenship, other interpretations of citizenship were either absent or disavowed.

The paper concludes with a discussion on the dangers involved with the commercialization of Fair Trade. Attention is especially drawn to the depoliticization of citizenship by both commercialised and non-commercialised organisations, with a call for further research into the causes for the exclusion of other, more politicized citizenships in the debate.

**Title:** Citizen science and community development: The case of western coast wetland in Taiwan

Session Type: Individual submission

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**Abstract:** Techno-science industries were intensely future-oriented public policies with emphasis on the creation of new job opportunities yet accompany environmental pollution. The facilities of such industries were often initiated to set up in rural communities, which scarified for local people's health. Moreover, culture landscape of local communities might be destroyed. The ways of integrating human, cultural, historical, social and industrial features into local communities and developing grassroots, bottom-up actions of participatory communication have been widely discussed in community developments.

Citizen science is a fast-evolving arena of participatory science communication, emphasizing on the importance of lay knowledge in the production of scientific knowledge. In some cases of citizen-driven social and ecological justice initiatives, lay people in local communities played an active role in wider processes of knowledge dissemination. In Taiwan, one of intensively debated of techno-science issues in recent years was whether Kuokuang petrochemical plant should establish in the western coast wetland of Changhua county in Taiwan. The wetland over there constitutes rich ecological resources, which is the biggest and complete area in western coast in Taiwan. However, the project of settlement of Kuokuang petrochemical plant once faced the dilemma between local economy and environment protection. In 2011, the project finally cancelled. Five years passed by, it was the time to review the developments of local communities.

The aim of this study was to discusses the application of citizen science to the (re)production of local knowledge in communities. This study drew the case of western coast wetland in Taiwan and paid attention to the developments of local communities after the termination of project of Kuokuang petrochemical plant. Research questions were asked: How did local communities apply and disseminate local knowledge? How did they develop diverse forms of citizen science? Research methods employed included: 'secondary analysis' of publicity materials, such as news coverage, booklets and relevant official documents; 'in-depth interview' with different 20 local people, including laypersons, opinion leaders and cultural workers.

This study found that local communities were now showcasing the tradition of oyster farming as distinctive tourist attractions to keep them alive. They applied such a tradition to a creative eco-tour in the wetland, which reproduced local knowledge of oyster farming and shared ecological knowledge of community-based conservation. The income from ecotourism not only helped local economy but also straightened the identity of local communities. More importantly, local people transformed themselves into citizen scientists, paying much attention to ecological monitoring, environmental education in communities. Therefore, although ecotourism was economy-driven activity, it resulted in ecological conservation actions and developed local knowledge in citizen science in communities.

Title: COP21 Climate Conference in Argentinian and French Newspapers

Session Type: Individual submission

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**Abstract:** The international climate conference, COP21, was held in Paris in December 2015. It appears to have marked a turning point in international negotiations on the topic, after a number of rather unsuccessful venues in the series, Copenhagen in particular in 2009. In the present communication, we wish to compare elements of the media coverage of the Paris conference both in Argentina and France, taking advantage of the moment to analyse positions on climate change in general, in each country.

Among the major issues under discussion during the COP21 conference, differentiating the responsibility of different countries in greenhouse gas emission and global heating and hence in the financing of mitigation measures was a particularly important and sensitive point. The two countries we have chosen to observe have different positions on this question and indeed different historical roles in greenhouse gas emissions. A comparison of the public debates in the two countries allows this opposition to be explored in detail.

We shall present in this communication an analysis of the discourse of the main national daily newspapers in each country as a first step towards building a well-defined comparison between the two countries. The corpus retained covers the two weeks duration of COP21 and a spectrum of media (elite/popular, political orientation). In France we examine Le Monde, Le Figaro, Libération and Aujourd'hui en France, in Argentina, Clarín, La Nación, Diario Popular and Pagina12. We shall present a quantitative analysis comparing the types of subjects treated, the social actors mobilized, etc. and a qualitative analysis that will go deeper into world visions and modes of address, based on the Reading Contract theory of E. Veron.

To our knowledge, this will be the first comparison of such a spectrum of media between the two countries and will provide elements concerning not only the topic of climate change but also the two national media systems.

Title: Fracturing Debate' A Study of National (UK) Press Coverage of 'Fracking'

Session Type: Individual submission

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Name: Anders Hansen Email: ash (at) leicester.ac.uk Country: GB (United Kingdom) Affiliation: University of Leicester

Abstract: Hydrofracturing, now commonly shortened to 'fracking', has become one of the latest environmental concerns reported in the national (UK) news media. Considered in context of other likeminded and visible issues, the reporting of fracking offers a striking similarity to the coverage of past controversies over road building in rural environments, for instance. Observed likenesses with road building controversies include for example how its coverage (i) forms in context of governmental consent (for the operation of hydrofracturing and its consequences in the UK in this case) and (ii) how it includes the local community as interested and effected actors. Given this context, it is important to explore the relationship between national news media coverage and those vying interests (e.g. industry, environmental groups and local community etc.) on the issue and ask - to what extent does its reporting reflect different arguments, rebuttals and concessions on fracking? To address this question, the paper introduces findings from a research study in to the national (UK) press reporting of hydrofracturing over five years (2010-2015). The study explores the linguistic construction of the term 'fracking' and those prevalent news story themes on the issue over time and analyses how both features operate to inform the openings and dialogical possibilities for different news voices. The paper concludes that press reporting practices do operate to reproduce various interests and voices, found in the wider politicization of fracking, to differing degrees in coverage. Nevertheless, the presence of countervailing views and what can be said in reporting in particular is, it suggests, ultimately limited to those 'legitimate concerns' compatible with the government's position on the issue.

**Title:** Climate Change and the Transcendence of Everyday Life: Narratives from Stockholm

Session Type: Individual submission

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**Abstract:** Climate change is an abstract phenomenon that can be difficult to make sense of in everyday life due to its scale and scope. At the same time, when approached as a cultural phenomenon, climate change can potentially be associated to a plethora of aspects in everyday life, causally as well as symbolically. This study therefore explores the ways in which a macro-level phenomenon such as climate change is part of the everyday lives of individuals. I asked 15 young adults in Stockholm to take 5 to 10 photographs about climate change in their everyday lives, which have been further explored using qualitative in-depth interviews. Focusing on urban citizens, the study situates itself in the midst of late-modern life, characterized by high media-saturation and intensity of cultural flows. The empirical material shows how climate change is rendered culturally meaningful on the level of the everyday, and how the idea of climate change is used for interpretation and mobilization. Using the photographs and passages from the interviews, I re-iterate the central aspects of the 'climate narratives' of these individuals, which are conceived of different encounters, thoughts, memories, visions of the future, concerns, values, norms, practices, and actions. Theoretically, the study is informed by a Schützian micro-sociological perspective which allows to understand everyday life as 'transcendent'. According to Schütz, the ways in which individuals shape and modify their life-world, always relates to narratives and processes operating at different spatiotemporal scales such as careers, life-plans, or climate change.

**Title:** Same Script, Different Reading: Activist vs. Non-activisit Audience Attention to an Environmental Documentary

Session Type: Individual submission

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Abstract: Documentary film is one tool activists can use to educate publics about the damage caused by man-made pollution, as well as the benefits of applying more sustainable solutions to environmental problems. A recent example is "Water Blues, Green Solutions," which looked at green infrastructure policy initiatives in four major US cities: Philadelphia, Pennsylvania; Bronx, New York; Portland, Oregon; and San Antonio, Texas. But while filmmakers may assume providing information about sustainability will persuade viewers to adopt more environmental practices, little research actually exists about how audiences actually decode science-based documentaries. Guided by social action theory, this study sought to investigate how two kinds of audiences – environmental activists and non-activists– constructed meaning after viewing an environmental documentary. Two two-part focus groups were held with adults who had not seen the documentary in each of the cities four featured in the film, a total of eight groups. One group was made up of water activists from each area. The second group was a made up of volunteers who were recruited in each city, and paid \$50 and given lunch for their participation. Part 1 of each focus group began with a series of grand tour question designed to assess knowledge of, attitudes toward and evaluations of proposed solutions for a broad array of public policy issues. Next, groups watched the documentary together. After viewing, each group reconvened for Part 2, and discussed their opinions about the documentary, including the main information they understood from watching it, and any changes in attitude they experienced after viewing it. Results indicated increases in knowledge and awareness of the benefits of urban storm water initiatives among activist and non-activist groups. However, the salient information retained by the groups differed. While discussion in both groups focused on the economics of storm water initiatives after viewing the documentary, the conclusions drawn by the groups were different. The activists suggested the documentary illustrated the need for increased spending on water projects. They believed it would make ordinary citizens who saw it more likely to support higher taxes to further improve the local water

system. Non-activist groups, on the other hand, were engaged by the money-saving aspects of the sustainability systems. They focused on personal-level changes they might employ in their own homes, and spent more time discussing programs with direct benefits to consumers. In each case, non-activist groups privileged information from their own area in discussions.

Significantly, the activist focus group evinced deep belief in deficit thinking. They believed that providing more information about environmental issues was the key to getting more community support for large-scale water protection programs, increased hiring and increased regulation. Non-activists discussions after viewing the documentary contained no suggestion that additional knowledge would make them more supportive of increased water protection initiatives, especially if they cost additional money. The results indicate that although narratives with local interest did interest viewers, they did not necessarily lead to broader support for sustainable solutions, or calls for further adoption.

Title: Ebola vaccine trial in Ghana: Moral panic or risky society

Session Type: Individual submission

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Abstract: When a nation decides that it will not allow trial of vaccines in spite of its proximity to a disease outbreak, is it a case of 'moral panic', 'ignorance' or just a 'risky society'? In July 2015, an approved Ebola vaccine trial was suspended by the Ministry of Health of Ghana amid protest from members of parliament and the general public. Explanations of safety from experts leading the trial did not seem to make any difference, as Ungar (2001) had noted that "a safety model ... is not readily sold to a public whose demands for a yes/no risk evaluation hardly countenances a cost-benefit analysis." What was the media's role in 'inciting' this panic in relation to their responsibility to inform and educate the public? The purpose of this study is investigate the role of the media in the suspension of the 2015 Ebola vaccine trials in Ghana. Using interviews of media personnel in Ghana and analysis of media publications, the study investigates the part the media played in stirring up antagonism against the trial. The study draws on literature on moral panics (Cohen 1972) and risky society (Berk, 1992, 1995) to expose 'ignorance/misinformation' and institutional violations by the media that are passed on to the public. Ghana is an interesting case partly because by July 2015, the Ebola epidemic was under control in the affected West African countries and Ghana had not recorded any case. Secondly, these trials were the second phase of trials with the first phase successfully completed in the US, UK, Mali and Switzerland (Quaicoo-Duho, 2015). Again, vaccine trials in Ghana do not require the approval of parliament to proceed. This research is relevant now, as emerging diseases raise grave concerns, and the legacy media in developing countries continue to constitute major sources of information for the population, given financial and literacy constraints. It also throws light on the need for integrated public health risk communication in every aspect of public health management, in a way that is sensitive to context and audience values and culture.

**Title:** Traditional Ecological Knowledge, Neoliberalism and Memory: Indian Experiences

Session Type: Individual submission

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**Abstract:** India's environment has seen tremendous change over the last several decades, with rising temperatures, changing weather patterns and increased frequency of droughts and floods among other impacts. Not only is the country the third highest emitter of carbon dioxide, its capital New Delhi was declared the most polluted city in the world in June 2015. The neoliberal phase has further intensified environmental destruction. India's indigenous peoples are especially vulnerable to climatic and environmental change, even though these communities lead carbon-neutral or carbon negative lifestyles (Tauli-Corpuz and Lynge, 2008). In the state of Odisha, for instance, neoliberal reforms, enshrined in "rapid development" have deepened conflict over environmental rights, through a number of interrelated issues: increased presence of national/international industrial houses in the state (their mining/industrial activities contribute to environmental and climate change); secondly, the reduced role of the government that sees these mining and industrial activities on indigenous peoples whose lands are taken away and resources critical to their survival are facing destruction.

While the clash between neoliberalism and environmental change continues, in recent vears, the space and recognition given to indigenous (traditional) knowledge has widened. Indigenous knowledge, "rooted to a particular place and set of experiences," (Ellen and Harris, 2000) and its subset, traditional ecological knowledge (TEK) which can be seen as a "cumulative body of knowledge and beliefs" about relationships between living beings and their environment (Berkes, Folkes and Gadgil, 1995) has drawn attention in its capacity to inform observations, shape responses to climate change and sustainable development (UN, 2015, UNU-IAS, 2015). The 32nd Session of the IPCC (2010) recognised the value of indigenous and traditional knowledge in understanding "cost-effective, participatory and sustainable" adaptation strategies to climate change (quoted in Raygorodetsky, 2011). Indigenous knowledge, however suffers from lack of protection, since its creator/source is unidentifiable (Posey, 2000). Gadgil et al. (2000) point out that folk ecological knowledge is sensitive to "changing relationships between people and their ecological resource base." In Odisha for instance, among "mainstream" communities, "orally-disseminated traditional ecological knowledge is increasingly facing the challenge of dying out", due to the movement of people away from their

ecological bases in villages to cities (Mishra, 2015).

This paper, through a conceptual approach, examines the challenges to traditional ecological knowledge within the neoliberal Indian state. The questions this paper raises are of two levels: one, what are the neoliberal conceptions of nation/state (also manifested in the media) and how do they link to climate change (which is itself a global phenomenon with local repercussions). Secondly, if traditional environmental knowledge (TEK) should play a part in coping with climate and environmental change, while relying on 'memory' (both individual and collective memory- of pre-liberalisation environments, traditional knowledge), how can TEK be harnessed/relevant, particularly with fading/loss of memory, given the physical and emotional distances (created in the neoliberal state) from natural environments.

**Title:** Media Discourse and Debate in Risk Politics : Navigating and Mapping Uncharted Areas of Risk Communication and Bio-safety Issues in India

#### Session Type: Individual submission

#### Authors:

Name: Gita Bamezai Email: gitabamezai (at) gmail.com Country: IN (India) Affiliation: Indian Institute of Mass Communication (IIMC)

**Abstract:** 1. The contesting space between the scientists and the society assumes a position of conflict if the approach to scientific enquiry is seen as distinct from public good. Increasing mediatisation of scientific debates by explicitly casting the narrative into binaries has drawn media into resurrecting contentious debates. The divide between claims of scientific achievement and uncertainty about its potential are increasingly mediated in India with scientific claims on both sides. The media sets the agenda by highlighting risks and crisis and lack of transparency in the claims of new technologies perceived as of commercial interests. The contesting lines have been drawn between opponents of GMOs and those pointing to adverse outcome of the new technology. Expectation from media in provision of platform for a more in-depth understanding and perspective to scientific aspects of biosafety and import, transfer and use of GMOs have lead the debate into unconfirmed and speculative fears of environmental and health consequences. Missing from media coverage are quality, depth and accuracy of information in news articles and broadening public awareness of biosafety issues and effective implementation of the Protocol (Souza Dias. B, 2012). Indian Media coverage of Bio-Safety of GMO crops has shown a heavy preponderance of NGOs allegations of commercial and political overtones. Such attention is diversionary and reduces scientific clarity and meanings. The behavioural dimension can be applied in understanding why science alone fails to explain and convince. The paper analyses if the media debate on biosafety has rested on suspicion about neo-liberal forces than on credibility of the scientific know-how. The present paper follows a discourse analyses approach on Biosafety issues in the Indian media to sift the scientific from the politics of news. Allegations of Media determinism is consistently focused on Risks than Benefits. It reduces scope of a dialogue between the Public and Elites (Scientists, regulators, Policymakers) and presents benefits of GMOs as secondary and risks as primary areas of debate. Through content analysis of offline and on-line newspapers, mediated discussions and reporting have been analysed to map the contours of debate and its manifestation in policy change. Accusations against Media by Scientists/Policy-makers is that Media perpetuates ideas of risks than safety measures and work with limited information & reliable sources. Science seen earlier as unpartisan and improving lives through technological application is increasingly seen as exploitative and an aggrandizement on cultural systems and local know-how, especially in emerging

economies. (The Hindu, 2014). Public perception rests on how Media Reports intelligently. Today Public knowledge, attitudes, and perception of biotech products determine if bioInstitutional Affiliation

**Title:** Astroturfing and the Ecological Rift: Environmental Discourse and the Energy East Grassroots Advocacy Vision Document

Session Type: Individual submission

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**Abstract:** In 2014, at the height of global debate over oil and gas pipeline developments in North America, including construction of the contentious Keystone XL pipeline in the United States, documents were leaked by environmental activists highlighting the deliberate disruptions that some communicators were prepared to deploy in the public sphere. One of the world's largest public relations firms had developed a strategy to promote the controversial Energy East project in Canada that included mobilisation of third-party supporters and opposition research against pipeline opponents (The Guardian, 2014). Leaked by Greenpeace and made available to media, lawmakers, and the general public, these documents revealed the extent to which individuals engaged in professional communication practice and other forms of strategic messaging were prepared to go to confuse and manipulate public debates and political dialogue involving the planet's ecology. For example, the document suggested the deliberate recruitment and subsequent management of 35,000 "activists" to fight petroleum pipeline opponents across North America and promote the interests of a major oil corporation.

The term used in media reports to describe such as a strategy is that of astroturfing—the practice of using finances and outside support to create an illusion of grassroots enthusiasm (The Atlantic, 2015). Such a term should not be attributed to media hyperbole, nor can such a pollution of the public sphere be cast aside as a momentary lapse of ethics by one party. Increasingly, various forms of staged communication—sometimes described as manipulation or even propaganda—are viewed as influential in the public's relatively cautious response to climate change science and other environmental arguments against the destruction of the earth's natural geology and life systems. Furthermore, ethical considerations of communication borne of industrial output, including the extraction of mineral resources, need to be brought into ecological debates, especially as such activities change the natural systems sustaining life on earth.

This paper assesses the environmental implications of such public relations and media strategies—deployed by governments and corporations—through the lens of ecological theory put forth in John Bellamy Foster's The Ecological Rift (2011). Historical perspectives from Carolyn Merchant's Death of Nature (1990), describing the relationship between public discourse and ecological action over the course of several

centuries, are also considered. Through the works of Foster, Merchant, and others, an understanding of the role of deceptive communicative practices in the anthropocene can begin to be realized. The debates being waged in the media and on the ground across North America are related to both their relationship to hard science and environmental values. The provision of a fuller ecological foundation for analysing environmental communication helps not only to sort out the forces driving such communication, but also how this communication in turns shapes the environment. In turn, the rationalization of such actions on the part of organizations necessitates not only vigilance from environmental organizations, but also policy makers, governments, and other resource companies participating in such debates.

**Title:** Popularizing science in Russia: communication formats, media sources and journalistic practices

Session Type: Individual submission

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**Abstract:** Modern society faces popular science quite often seeing it textually as the translation of scientific information into the language of mass audience. It is possible to assume that science in mass society exists predominantly in popular dimension. According to historians, since XVII century Russian society passed through several historical forms of popular science genres – «folk science», textbooks for fans, science entertainment and popular science (A. Vaganov).

In last decades researchers discuss the mediatization of science, mass media penetration into the field of scientific knowledge, the impact of media logic on the representation of scientific achievements – the processes go in parallel with professional science communication, interaction between scholars and other social parties. The range of science popularization includes popular scientific literature and mass media, cinema, exhibitions and museums of popular science, public lectures, scientific cafes (V. Ivanitski), science slams, festivals and days of science etc.

Proposed paper reflects on the analysis of traditional media segment available for contemporary Russian audience as the source of information about science and scholars we may fix diversification of specialized channels. Generally it includes 1) leading commercial print press projects mostly related to foreign media or published as their analogs, 2) formerly successful and widely spread in Soviet history popular science magazines which are now implementing adaptive strategies, modifying their content and management policy, 3) state and departmental magazines of academic institutions. In terms of communicative and social effects which popularization of science should have the existence of niche media does not abolish and – in certain sense – actualizes the analysis of scientific discourse in national media of general interest. Firstly, the paper examines the peculiarities of information dedicated to science, scientific activity and results of scientific research published in the most official media outlets in Russia in 2010s. Secondly, it reflects the level of scientific culture Russian journalists have in the general contexts of scientific literacy and social perception of science.

Empirical study implying content analysis method clarifies the lack of balance in representation of different scientific disciplines with the domination of technical ones, biology, history and medicine. This set could be explained by general principles of common interest in science on the one hand and by current social and political situation in Russia – on the other hand. It also allows to describe the growing interest of journalists

to topics and news related to scientific activity that could be grounded in the changes in academic community. And at the same time it lets discuss the level of scientific literacy and professional competency of journalists raising the questions about the strategies and modes of scientific communication (M. Horst) realizing and spreading in last decades in Russia.

**Title:** Oil and environmental activism: The Norwegian media coverage of the IPCC AR5 reports

Session Type: Individual submission

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Name: Katherine Duarte Email: katherine.duarte (at) uib.no Country: NO (Norway) Affiliation: University of Bergen

**Abstract:** This paper aims to present how the climate science from the IPCC reports (AR5 2013-2014) is presented in the Norwegian media. The research questions focuses on who are the experts presenting the climate science and how is the science journalism connected to other present issues, such as politics, immigration, economical crisis, etc. A main focus will be: how are the newspaper coping with questions of adaptation, mitigation and problem definition when it comes to climate change in a distant future? The hypothesis is that the media makes space for only one expert at the time, excluding debate around the climate science, because the conclusion is unequivocal: Climate change is human made, and we will experience more extreme weather in the future (IPCC 2014). There is also reason to believe that some newspapers are more activists than others, in the sense that they criticize the government openly for not doing enough to mitigate, adapt and reduce CO2-emissions, as previous research has shown (Duarte forthcoming Eide, Kunelius et al. 2010, Eide and Kunelius 2012). While some newspapers give environmental NGOs more space, others give more space to experts in natural sciences, than politicians or administration. Also, the findings show that a large percentage of the articles, do not argue the science, but only report the consensus view of the IPCC. Quantitative content analysis has been used to analyze the material for this paper (N=148). The literature has previously described how the IPCC Conferences of Parties have been covered in the media, but little research has focused on the coverage of the climate science from the IPCC reports. The implications of this work in progress is that the media has a role as translator for the scientific findings and results of the IPCC. We expect that this research will highlight some issues with the presentation of the results, and will also open up for debate around who are the experts of climate science, being used as sources in the media coverage of climate change. Our goal is to make this translation of the science visible and easier for the reader of a complex issue such as climate change. Scientist are increasingly connecting climate change to extreme weather events, and we predict that the media will continue to pay more attention to this link in the future.

Keywords: climate science, science journalism, IPCC reports, media, experts, consensus, QCA

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Title: From Copenhagen to Paris: Norwegian COP21 coverage

Session Type: Individual submission

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**Abstract:** The Norwegian preparations to COP21 were high-profiled, both at the political level and in the media, and the coverage reached new peaks, equal to those under COP15 in Copenhagen six years ago. Even if leaders were more cautious in raising expectations, the Norwegian government maintained a high profile, highlighting Norwegian initiatives. The MediaClimate network, where this author has participated from the beginning, has provided analysis of press coverage of the COPs every second year since Bali (2007), and the Paris COP21 represents a new peak in press attention, similar to the one witnessed in 2009 (COP15, Copenhagen). This paper aims to

- Compare the COP21 and COP15 coverage in Norway's two largest newspapers, Aftenposten and VG, using content analysis, including genres, voices (also gender), themes etc.

- Examine the newspaper priorities in connection with the results of interviews with central journalists from the two newspapers, covering COP21.

- Conduct an in-depth analysis of the coverage of a special Norwegian initiative during Cop21, i.e. the launch of TCAF – Transformative Climate Action Facility – by the Norwegian PM on the first day of the COP, here in a wider range of press coverage. Previous analyses of the press coverage of COPs (Eide et al. 2010, Eide & Kunelius 2012) distinguish a diversity of discourses across the world, such as blaming the dominant global powers, consumer responsibility, techno-optimism etc. (Eide & Kunelius 2012). The particular Norwegian press discourses have addressed the Norwegian political dilemmas of global green ambitions vs. global oil exporter (Eide & Ytterstad 2011). Critical investigative journalism has evaluated the Norwegian climate-political approach as focused on quota trading and other measures targeting emissions in countries elsewhere (Andersson et al. 2012). This also seemed to be an important part of Norway's strategy in December 2015. This paper demonstrates how this strategy was reflected in mainstream press in Norway before, during and in the aftermath of the COP21, and how the Norwegian press coverage compared to the coverage in 20 other countries of the

MediaClimate network.

Title: Understanding visualisations of climate change in data journalism

Session Type: Individual submission

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**Abstract:** Science communication is an evolving field of expertise that continues to redefine the space between art and technology. Whether the modes used are static or interactive, the key is to convey why people should care about topics like climate change through powerful storytelling and compelling visuals (Cox, 2015). But the challenge is being able to tell a story accurately and effectively using scientific methods of visualisation.

In the emerging practice of data journalism, information visualisations are also central to engaging audiences more deeply with multimodal narratives, and to projecting reportorial authority and insight. As such, the way data narratives are constructed vary in aim from science communicators. The problem is data journalism's mythic association with truth and authority (Boyd & Crawford, 2012). To a general audience, this may mask forms of bias in ways data is presented or framed.

This paper presents a study of how data journalists use scientific information visualisations to tell stories about climate change and the implications for science communication. Specifically, it examines different approaches to narrative visualisation, how its forms invoke principles of information design, and how story-driven techniques may impact notions of objectivity and legitimacy.

Unlike previous literature, this study deals with conceptual problems surrounding the convergence of data journalism and information visualisation in regards to science communication. In the hopes of understanding its interdisciplinary nature, this study aims to conduct a content and textual analysis in interpretivist mode, adopting a comparative framework that draws from Tufte's information design principles and Kress and Van Leeuwen's social semiotic theory of multimodality. An interdisciplinary approach was necessary not only to explore the meaning-making potential of information visualisation but also to start positioning data journalism as a multimodal form of communication with its own design and production processes. In doing so, it will open up future research opportunities in the area of agenda-setting in scientific information visualisation.

415 visualisations of climate change were taken from Western news and non-news organisations during 2015, on the basis that science data journalism was also being

practised outside the newsroom. They varied in design, scale, and the style in which the data was integrated and conveyed.

The content analysis revealed that climate change visualisations possessed interdisciplinary methods of storytelling that blended science and rhetoric in ways that pushed the boundaries of traditional practices of news storytelling and information design. Most texts contained at least a single narrative arc, and were author-driven in nature, suggesting that visualisation design was used purposefully. Additionally, methods of stepping, clustering, and framing lent certain information prominence, or created purposeful movement in the story rather than simply representing temporal or spatial data changes.

In conclusion, this study argues that through particular design choices of graphical resources, information visualisations of climate change in data journalism are purposeful and more than a means to transmit scientific information. Rather, they might convey culturally and socially situated meanings about climate change and seek to reinforce the authority of journalism by combining artistic and scientific methods in a narratological and multimodal way.

**Title:** Power Struggle in and out of the Media Public Sphere: A Case Study of Chinese Newspapers' Coverage of Public Debate on Building Hydroelectric Power Station on A UNESCO World Heritage Site

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Abstract: The Nujiang (Salween) River in Yunnan Province of China is part of the UNESCO World Heritage site, i.e. The Three Parallel Rivers of Yunnan Protected Areas, inscribed in 2003 for its "outstanding natural feature," being a display of "the geological history of the last 50 million years," being a "dramatic expression of the ecological processes" and being "the area of richest biodiversity in China" (UNESCO, 2010). Yunnan Province in southwest China is among the least developed areas in the country. The potential hydroelectric power that could be generated by the Nujiang River has been targeted by the Chinese government as the power engine for the economic development of southwest China. On August 15 of 2003, the Yunnan Daily and other newspapers reported that the central government had approved Yunnan Provincial government's "Plan of Developing Nujiang River Hydroelectric Power," which raised fierce objection of the public that people from all walks of life articulated their negative opinions towards the project in the media. Public opposition forced then Prime Minister Jiabao Wen to announce that the central government would reconsider and delay the plan. And the Chinese media, mainly newspapers, have been debating on whether such a project should be built for years. However, the consensus of objecting the project reached by public deliberation within the media public sphere is defeated by the central government's official decision of starting the project announced by China's "Twelfth Five-Year Plan for Energy Development" in 2013.

This paper is a content analysis of the coverage of this debate of nine Chinese newspapers from 2003 to 2013. The nine newspapers studied includes: The People's Daily (official organ of China's central government); The Yunnan Daily (official organ of the Yunnan Provincial government); The China Youth Daily (national newspaper targeting the youth and famous for its environmental reporting); The Southern Weekend (weekly newspaper famous for investigative reporting on negative events in China); The 21st Century Business Herald and The Business Perspectives (two national economic newspapers); The China Environment News (official organ of the Ministry of Environmental Protection), The China Electric Power News (official organ of the State Electricity Regulatory Commission) and The Science and Technology News (official organ of the Ministry of Science and Technology). The time period studied was from August of 2003, when the central government approved the "Plan of Developing Nujiang River Hydroelectric power", to 2013, when the central government made the final decision to restart the project, marking the end of the public debate. The findings show that public deliberation centered around three issues, i.e. natural environmental protection, economic benefits and environmental justice, and the majority of oppositional opinion came from the latter two issues. The findings also reveal what other power groups may be playing in and out of the media public sphere beneath the apparent tug-ofwar between the government and the combination of scientists and environmental NGOs. The authors will then discuss the theoretical implications of such deviation of public policy from public opinion to our understanding of media power in non-democratic societies.