

Argument technologies and public debate: the design perspective

WG3 meeting, APPLY network

29 Sep – 01 Oct 2021

Istituto di Scienze e Tecnologie della Cognizione, CNR, Aula Piaget (1st floor)

Via San Martino della Battaglia 44, 00185 Roma

WED, 29 SEP

14:00-14:10 Opening remarks

14:10-15:05 **Towards the automatic identification and analysis of fallacious arguments: the case of political debates**

Serena Villata (INRIA-CNRS Sophia Antipolis, FR)

15:05-16:00 **Probably, with low confidence**

Federico Cerutti (University of Brescia, IT)

16:00-16:15 Coffee break

16:15-17:10 **Concurrent Language for Argumentation (CLA)**

Stefano Bistarelli & Carlo Taticchi (University of Perugia, IT)

17:10-18:05 **Mapping ‘the constructive turn’ in comment sections of news websites**

Monika Mačiulienė (Vilnius Gediminas Technical University, LT)

18:05-19:00 **Social media fatigue, context collapse and argumentative accidents: how to improve public debate when nobody cares**

Fabio Paglieri (ISTC-CNR Roma, IT)

THU, 30 SEP

09:00-09:55 **Fake news about fake news**

Walter Quattrociocchi (CDCS Sapienza University of Roma, IT)

09:55-10:50 **Meet the Luiss Data Lab and the Italian Digital Media Observatory**

Lorenzo Federico (Data Lab LUISS Roma, IT)

10:50-11:10 Coffee break

11:10-12:05 **Metalinguistic arguments over what counts as a “COVID-19 death”: what are institutional arguments about?**

Marcin Lewiński (NOVA University of Lisbon, PT)

12:05-13:00 **Public debate on (EU) policy-making issues? A stakeholder perspective**

Sandrine Roginsky (Université Catholique de Louvain, BE)

13:00-14:30 Lunch break

- 14:30-16:00 **Teamwork**
What kind of argument technologies and argument-based tools/methods for EU policy makers?
- 16:00-16:15 Coffee break
- 16:15-17:10 **Attention and trust in online argumentation**
Catarina Dutilh Novaes (Vrije Universiteit Amsterdam, NL) [online talk]
- 17:10-18:05 **Argument mining for the public utility**
Marco Lippi (University of Modena and Reggio Emilia, IT) [online talk]
- 18:05-19:00 **Argumentation's designability, and the contestability of its design**
Mark Aakhus (Rutgers University, US) [online talk]
- 20:30 Social dinner

FRI, 01 OCT

- 09:00-09:55 **Finding pathways for bringing 'argumentative awareness' in the public debate**
Sarah Bigi (Catholic University of the Sacred Heart, Milano, IT)
- 09:55-10:50 **Herd immunity against disinformation: options and dilemmas for educational intervention**
Francesco Caviglia (Aarhus University, DK)
- 10:50-11:10 Coffee break
- 11:10-12:05 **Fallacy checking in a human computer interaction environment**
Elena Musi (University of Liverpool, UK)
- 12:05-13:00 **Enforcement, explainability and large-scale formal argumentation**
Sylvie Doutre (IRIT University of Toulouse Capitole, FR)
- 13:00-13:15 Closing remarks

BOOK OF ABSTRACTS

(in chronological order)

Towards the automatic identification and analysis of fallacious arguments: the case of political debates

Serena Villata (INRIA-CNRS Sophia Antipolis, FR)

Wed, 29 Sep, 14:10-15:05

Argumentation is the process by which arguments are constructed and handled. Thus argumentation means that arguments are compared, evaluated in some respect and judged in order to establish whether any of them are warranted. The field of artificial argumentation is emerging as an important aspect of Artificial Intelligence research. The reason for this is based on the recognition that if we are to develop robust intelligent systems, then it is imperative that they can handle incomplete, inconsistent and fallacious information. In this talk, I will focus on the issue of identifying fallacious arguments in political debates and I will investigate the role of machine learning and reasoning methods to tackle this issue. I will also present the French ATTENTION project (starting on January 2022) about the generation of counter-argumentation to fight online disinformation.

Probably, with low confidence

Federico Cerutti (University of Brescia, IT)

Wed, 29 Sep, 15:05-16:00

On 27th August 2021, the Office of the Director of US National Intelligence (ODNI) released an unclassified summary of the Intelligence Community assessment on COVID-19 origins. In it, we read that "most agencies [...] assess with low confidence that SARS-CoV-2 probably was not genetically engineered." Such reports directly feed the public discourse, but nuances—such as the degree of belief—are often lost. In this talk, we will discuss how AI research in argumentation and learning and reasoning with uncertainty can help deal with such nuances, albeit we are still brainstorming for what concerns effectively supporting public discourse. We will also comment on the dangers of partisanship and ideology—including our own ones as creators of AI pieces of machinery—and the importance of distinguishing between sensemaking and decision making.

Concurrent Language for Argumentation (CLA)

Stefano Bistarelli & Carlo Taticchi (University of Perugia, IT)

Wed, 29 Sep, 16:15-17:10

Agent-based modelling languages naturally implement concurrency for handling complex interactions between communicating agents. On the other hand, the field of Argumentation Theory lacks of instruments to explicitly model concurrent behaviours. In this paper we introduce a tool for dealing with concurrent argumentation processes and that can be used, for instance, to model agents debating, negotiating and persuading. The tool implements operations as expansion, contraction and

revision. We also provide a web interface exposing the functionalities of the tool and allowing for a more careful study of concurrent processes.

Mapping ‘the constructive turn’ in comment sections of news websites

Monika Mačiulienė (Vilnius Gediminas Technical University, LT)

Wed, 29 Sep, 17:10-18:05

This research critically examines the guidelines of the comments sections of the twenty largest online news outlets over the last ten years. Rather than focusing on the familiar negative comments of news consumers and their narratives, we analyze and compare the news outlets’ guidelines and how they have led in what we call ‘a constructive turn’. We propose our own theoretical framework to analyze what is encouraged and what is discouraged in news outlets’ guidelines. In addition, we have focused on the presence and the transparency of moderation policies that have been around in these guidelines. Results show an increasing focus on constructivity in the guidelines of the comment sections and a shift to more positivity, rather than on deleting and filtering negative or toxic comments. Although platforms differ in their views on the role of commenting and the definition of constructivity, the turn towards the constructive design of the commenting platform is shared by them.

Social media fatigue, context collapse and argumentative accidents: how to improve public debate when nobody cares

Fabio Paglieri (ISTC-CNR Roma, IT)

Wed, 29 Sep, 18:05-19:00

This talk starts from an anecdotal observation: an increasing number of social media users seem to show symptoms of fatigue and dissatisfaction, typically motivated by feeling overwhelmed by the amount, content, and (poor) quality of other people’s contributions, by how often their own posts are misinterpreted and therefore stir trouble, or both. Notably, the vast majority of these flabbergasted users do not quit social media or even reduce their daily exposure, yet they keep complaining about it. Investigating this curious phenomenon requires discussing the collapse of communicative context typical of social media interactions, as well as reminding us of the actual motivations behind the structure of social media platforms (the goals of service providers) and the way people use them (the goals of users). In this scenario, genuine argumentation is shown to happen more like a frequent accident than as a well-designed interaction. This is not meant to suggest that designing argumentative practices to improve public debate on social media is hopeless, but rather to clarify the nature and scope of this noble ambition: the challenge, in a nutshell, is to improve argument quality on platforms that are not designed to reward good arguments, for users that are not primarily motivated to engage argumentatively in the first place. This has important implications on how we should approach this daunting task: in particular, I will argue that (i) facilitating error detection, promoting critical engagement and cultivating digital literacy are crucial mostly, or even solely, as educational tools, whereas, (ii) when it comes to supporting online public debate “in the wild”, the golden rule is to make good arguments more visible than bad ones, without necessarily engaging with the latter at all – an argumentative variation on the old “don’t feed the trolls” mantra.

Fake news about fake news

Walter Quattrociocchi (CDCS Sapienza University of Roma, IT)

Thu, 30 Sep, 09:00-09:55

Do echo chambers exist on social media? By focusing on how both Italian and US Facebook users relate to two distinct narratives (involving conspiracy theories and science), we offer quantitative evidence that they do. The explanation involves users' tendency to promote their favored stories and hence to form polarized groups. Confirmation bias helps to account for users' decisions about whether to spread content, thus creating informational cascades within identifiable communities. At the same time, aggregation of favored information within those communities reinforces selective exposure and group polarization. We provide empirical evidence that users tend to assimilate only confirming claims and ignore apparent refutations because they focus on their preferred narratives. The COVID-19 pandemic was the perfect storm for this phenomenon and the WHO coined the term infodemics to refer to the overabundance of information. We explored these processes during the pandemic's initial phase finding that reliable and questionable information spread similarly. We conclude the presentation by showing how different social media platforms (Facebook, Twitter, Gab, and Reddit) elicit very different polarization dynamics.

Meet the Luiss Data Lab and the Italian Digital Media Observatory

Lorenzo Federico (Data Lab LUISS Roma, IT)

Thu, 30 Sep, 09:55-10:50

The Luiss Data Lab is an interdisciplinary research center that focuses on how to use data science and AI to improve digital communication and journalism. We will give an overview of the many projects it has been involved with, mainly focusing on the effort to identify and fight disinformation and conspiracy theories spreading on social media and improve broader digital literacy, such as SOMA, MediaFutures and the new Italian Digital Media Observatory.

Metalinguistic arguments over what counts as a “COVID-19 death”: what are institutional arguments about?

Marcin Lewiński (NOVA University of Lisbon, PT)

Thu, 30 Sep, 11:10-12:05

In this presentation I explore the plausibility and consequences of treating arguments over what counts as a COVID-19 death as metalinguistic arguments. While unquestionably related to the epidemiological and public health issues, these arguments are also arguments about how a term should be used. As such, they belong to the class of institutional arguments that conclude in representative declarations (Searle, 1975), that is, officially instituted definitions based on the best possible representation of facts. Against this background, I briefly analyze official statements (of WHO, governments) and media reports to critically reconstruct the metalinguistic elements of the dispute over what a COVID-19 death is. This analysis shows how inconclusive epistemic reasons are intertwined in nuanced and complex ways with value-based practical reasons to produce an interesting type of metalinguistic arguments. (Note: this work had been jointly developed with my ArgLab colleague Pedro Abreu.)

Public debate on (EU) policy-making issues? A stakeholder perspective

Sandrine Roginsky (Université Catholique de Louvain, BE)

Thu, 30 Sep, 12:05-13:00

As part of this COST action, a series of interviews were conducted between February and May 2021 with stakeholders operating at the EU level and involved in a variety of issues (from disability right to housing, from women's rights to finance, from racism or environment, etc.). The presentation will outline the main conclusions that can be drawn and how they challenge our understanding of what public debate is about. In doing so, the presentation also explores how stakeholders have been handling the pandemic situation, i.e. working remotely, and how it has impacted their activities, with a focus on their advocacy work. Eventually the objective of the presentation is to highlight specific points of concern to be considered in exploring argumentation and public debate.

Attention and trust in online argumentation

Catarina Dutilh Novaes (Vrije Universiteit Amsterdam, NL)

Thu, 30 Sep, 16:15-17:10 [[online session](#)]

When discussing online argumentative processes, theorists tend to focus only on the final stage of such processes, that is the actual exchange of reasons. However, equally important are the preliminary stages which determine who gets to argue with whom, that is, i.e., who will be heard and who will be excluded from these conversations. In my talk, I present a three-tiered model of epistemic exchange, which distinguishes three stages in these processes: 1) the source catches the receiver's attention; 2) the receiver makes choices among different possible sources; 3) the receiver engages with the shared content. Importantly, these agents are viewed as located in complex networks of potential interactions. I argue that this model sheds new light on online argumentation in various domains, and present the case study of vaccine debates.

Argument mining for the public utility

Marco Lippi (University of Modena and Reggio Emilia, IT)

Thu, 30 Sep, 17:10-18:05 [[online session](#)]

Argument mining technologies have nowadays reached a level of maturity that enables their use in many concrete application domains. In several contexts, in fact, the interpretability of argumentation models is a highly desirable property, sometimes even required for many artificial intelligence systems. In this talk some applications of argument mining systems for the public utility will be presented, focusing in particular on the analysis of political debates, the mining of medical literature, the detection of fake news.

Argumentation's designability, and the contestability of its design

Mark Aakhus (Rutgers University, US)

Thu, 30 Sep, 18:05-19:00 [[online session](#)]

Argument technologies invite argumentation scholars to engage with design. This talk will explore some key issues about argument's designability and the contestability of its design in the ever-expanding arena of technologies for argument. In so doing, the prospects of design as a way of knowing about argument will be addressed as neither design nor technology are easily situated within empirical or normative approaches common in argumentation studies.

Finding pathways for bringing 'argumentative awareness' in the public debate

Sarah Bigi (Catholic University of the Sacred Heart, Milano, IT)

Fri, 01 Oct, 09:00-09:55

Recently, it has not been unusual to hear or read comments regarding unsatisfactory communicative skills of many actors on the public stage: politicians, scientists, medical doctors, intellectuals, etc. There seems to be some need for clarification regarding basic concepts regarding human communication, argumentative practices, and their connection with a democratic organization of society. In my talk, I would like to address the issue in two steps: first, I would like to update the group on a new line of research I am pursuing and which might be of interest; second, by taking as starting points one scientific article and one article from a newspaper, both published recently, I would like to open up a discussion about how argumentation scholars could contribute to improving the quality of debate in different sectors of public life.

Herd immunity against disinformation: options and dilemmas for educational intervention

Francesco Caviglia (Aarhus University, DK)

Fri, 01 Oct, 09:55-10:50

Resistance against disinformation is a property of communities, rather than individuals, which gives schools and educators a responsibility, albeit without a clear mandate. Dialogic pedagogies with focus on both relational and epistemic dimensions are gaining momentum as a way forward. However, bringing true dialogue into the classroom means working on the edge of individual and institutional competencies for all the parties involved, with trust as key ingredient.

Fallacy checking in a human computer interaction environment

Elena Musi (University of Liverpool, UK)

Fri, 01 Oct, 11:10-12:05

One of the major challenges of the current information ecosystem is the rapid spread of misinformation through digital media. Even though unintentionally dangerous, misinformation has a wide societal impact: 59% of fake news do not contain neither fabricated nor imposter content, but rather reconfigured misinformation (Brennen et al., 2020), which proliferates through social media, the main source of news for infodemically vulnerable citizens. In the frame of the UKRI funded project *Being Alone Together: Developing Fake News Immunity* (<https://fakenewsimmunity.liverpool.ac.uk/>), we propose to counter misinformation providing citizens with the means to act as their own fact-checkers and communication gatekeepers to avoid creating and spreading misleading news. We do so combining Fallacy Theory (Carmi, Musi and

Aloumpi 2021) with Human Computer Interaction. Drawing from the multi-level annotation of a dataset of 1500 COVID-19 related news web-crawled from 5 English fact-checkers (Snopes, The Ferret, Politifact, Healthfeedback.org, Fullfact), we propose a systematic procedure to identify fallacious arguments across different digital media sources and type of claims (e.g. predictions, interpretations). We then built two chatbots, the *Fake News Immunity Chatbot* (<http://fni.arg.tech/>) and the *Vaccinating News Chatbot* (http://fni.arg.tech/?chatbot_type=vaccine), respectively targeting citizens and communication gatekeepers. Through these chatbots, users interactively learn how to fact-check through fallacies and create fallacy-free news content talking to the fathers of critical thinking (Aristotle, Gorgias, Socrates) and members of the research team. Drawing from the results of the analysis and users' interaction with the chatbot I will discuss the following issues: What are the most frequent fallacious arguments triggering misinformation? What sources are more likely to spread misinformation? What types of claims tend to be fallacious? Do HCI-mediated philosophical modes of inquiry increase active-inoculation?

Enforcement, explainability and large-scale formal argumentation

Sylvie Doutre (IRIT University of Toulouse Capitole, FR)

Fri, 01 Oct, 12:05-13:00

This presentation will overview enforcement approaches in formal argumentation, recent advances related to algorithmic aspects of large-scale frameworks, and perspectives for explainability in these contexts.