INVITED SPEAKERS

Denis Bonnay (University Paris Ouest, IRePh & IHPST)
"What people think: judgement aggregation and opinion research"

On one hand, it is common doxastic practice to attribute beliefs to groups of agents, on the other hand, we have learnt from judgment aggregation theory that aggregating opinions is anything but simple. Why is that group beliefs so easily spring into existence, when they should be so hard to achieve? In the recent philosophical literature on collective beliefs, most, if not all, answers to this problem implicitly or explicitly assume that group beliefs do not supervene on individual beliefs simpliciter. Group beliefs require something more, such as deliberate consistency maintenance or joint intentions. This something more is meant to explain why non-individual beliefs are possible and real in spite of impossibility results. In this talk, I want to argue in favor of a different account of collective beliefs, according to which a) collective beliefs supervene on individual beliefs simpliciter, b) coherence, stricto and lato sensu, is a guide rather than an enemy to collective belief attribution, c) doxastic groups are characterized as doxastic units displaying a high-level of doxastic coherence. This account will be based on a critical comparison between the take on collective belief which is congenial to judgment aggregation theory and standard methodology used in sociology and opinion research.

Bryce Huebner (Georgetown University, USA)
"Accountability and values in radically collaborative research"

In this paper I discuss a crisis of accountability that arises when scientific collaborations are massively epistemically distributed. I argue that social models of epistemic collaboration, which are social analogs to what Patrick Suppes called a "model of the experiment," must play a role in creating accountability in these contexts. I also argue that these social models must accommodate the fact that the various agents in a collaborative project often have ineliminable, messy, and conflicting interests and values; any story about accountability in a massively distributed collaboration must therefore involve models of such interests and values and their methodological and epistemic effects.

Christian List (London School of Economics, UK)
"Three kinds of collective attitude"

Erik Olsson (Lund University, Sweden)
"Probabilistic Updating in Epistemic Groups: The Laputa Model"

The talk describes a Bayesian model for updating degrees of belief and trust in epistemic groups. Various features of the model are presented, including qualitative updating rules that can be derived from the underlying probabilistic framework. The underlying model is complex and analytical results are correspondingly difficult to prove. For that reason, a simulation program, Laputa, has been developed which allows for effortless exploration of the model. In the talk it is demonstrated

how various more complex holistic features of the model can be uncovered with the help of Laputa. For instance, it turns out inquirers in the Laputa model, just as real inquirers, are vulnerable to belief polarization. Finally, two applications of the model are discussed that involve assessing the epistemic goodness of social practices in the sense of Goldman (1999): determining the optimal threshold of assertion for group members and the optimal communication structure for the group.

Jan Sprenger (Tilburg University, The Netherlands)
"A socio-epistemic variant of the No Alternatives Argument"

In most scientific disciplines, several lines of research compete with each other. Only one of them (call it H) may achieve an important intermediate result, or comply with a set of constraints that are essential to the solution of a scientific research puzzle. Does this lack of alternatives provide a valid argument in favor of H? Inparticular, should we allocate our resources to this line of research, rather han to less explored competitors?
We analyze this question by means of the No Alternatives Argument (NAA) recently put forward by Dawid, Hartmann and Sprenger (2012). While our previous analysis focuses on the empirical adequacy of a scientific theory, I now transfer the structure of the argument to the social epistemology of science. It turns out that while NAA remains logicallyvalid in the socio-epistemic case, it is questionable whether the argument is strong enough to justify clear-cut preferences among different lines of research.

K. Brad Wray (State University of New York, USA)
"The Impact of Collaboration on the Epistemic Culture of Science"

I examine how collaborative research affects the epistemic culture of science. First, I argue that some groups of scientists hold views that are irreducibly the views of the group. I also address the following two questions: (i) what do appeals to collective knowledge explain?; and (ii) what is the epistemic significance of the phenomena that such appeals explain? Finally, I examine challenges that collaborative research raises for refereeing in science. I argue that journal editors and editorial boards are out of step with the changes occurring in science as a consequence of collaborative research.

CONTRIBUTED SPEAKERS

Anouk Barberousse, Henri Galinon and Marion Vorms (University Lille 1, University of Clermont, University of Paris 1, France)
"Community Modeling Systems: New Wave Scientific Collaboration"

In an attempt at analyzing present-day collaboration practices within the climate-modeling community, we present three examples of "community modeling" which differ according to the intensity of the involved collaboration. We propose new epistemic tools in order to conceptualize the apparition of these large-scale collaborations. We try to evaluate the relative weights of the epistemic, technical, and operational constraints that are put on the elaboration of collaborative meteorological, climate and environmental models.

Thomas Boyer and Cyrille Imbert (Archives Henri Poincaré, France)
"Scientific groups: the reason for collaborating"

For a given scientific problem, scientists can either work on their own and compete against each other, or can unite their forces and collaborate as a team. What is the best strategy for them? Instead of assuming an arbitrary reward or efficiency profile, we propose a basic sequential model of the research process, which accounts from the micro agent scale for these macro distributions. Investigating the model enables one to understand group configurations and group dynamics. For instance, we study why teams may want to grow bigger and bigger, at the expense of the community's efficiency. And we thereby shed light on the role of the priority rule in the development of groups through various fields of modern science.

Rogier de Langhe (Tilburg University, The Netherlands)
"To Specialize or to Innovate? An Internalist Account of Pluralistic Ignorance"

Academic and corporate research departments alike face a crucial dilemma: to exploit known frameworks or to explore new ones; to specialize or to innovate? Here I show that these two conflicting epistemic desiderata are sufficient to explain pluralistic ignorance and its boom-and-bust-like dynamics. The robustness of this result suggests that pluralistic ignorance is an inherent feature rather than a threat to the rationality of epistemic communities.

Jeroen de Ridder (VU University Amsterdam, The Netherlands)
"What Could Group Knowledge Be?"

We often talk as if groups and other collectives are capable of having knowledge, but the idea that groups can have knowledge in any literal sense remains controversial in mainstream epistemology. I think part of the problem is that authors writing about group knowledge often have different conceptions in mind. Hence, real progress can be made by analyzing these different conceptions in more detail.
Hence, in this paper, I analyze and evaluate several existing proposals for construing group knowledge and then add a proposal of my own. I will argue that some existing proposals are unacceptable as construals of group knowledge; that others have potential but need to be developed in ways that have so far gone unnoticed; and that my own proposal adds a novel and plausible construal of group knowledge to the fold. As a corollary of this, I claim that 'group knowledge' has multiple senses.

Meghan Dupree (University of Pittsburgh, USA)
"Valuable but not Viable: Collaborations as Knowledge Producing Communities"

This paper explores the relationship between collaborative research projects and the greater scientific community within the framework of Helen Longino's feminist contextual empiricism. I suggest a potential problem for Longino's view with respect to collaborations: it appears that individual members of a collaborative research project can know their findings, but independent researchers cannot know their findings. However, collaborative research projects are often given the same weight by the scientific community as individual research projects. I argue that feminist contextual empiricism can be revised to accommodate this fact by introducing a constraint on communities that produce scientific knowledge called viability. Only viable communities are capable of having knowledge, and individuals can only derive knowledge through membership in a viable community. I argue that because collaborations are not viable, the members of collaborations do not know the findings of their research until the scientific community at large absorbs the research results.

Paul Égré (ÉNS, France) and Olivier Roy (Münich Center for Mathematical Philosophy, Germany)
"Is common knowledge needed for coordination?"

To what extent is the notion of common knowledge (of preferences, rationality, or actions) needed between agents to ensure coordination? The notion of common knowledge was originally proposed by D. Lewis as a key component of the official definition of convention retained in his seminal book on the topic (Lewis 1969). Because of that, it is commonly thought that some amount of common knowledge between agents is necessary to ensure coordination, and in particular to achieve equilibria in coordination games. Since Lewis's original definition, skepticism has been expressed about the need for common knowledge on at least two fronts: from the standpoint of evolutionary game theory, where coordination equilibria are seen as resulting from very low principles of rationality (Skyrms 2004); and from the standpoint of epistemic game theory proper, where common knowledge has been argued not to be necessary to achieve Nash equilibria in games in general (Aumann and Brandenburger 1995). The aim of our paper is to clarify the issue, focusing on both criticisms. We argue that despite appearances to the contrary, Lewis himself did not quite view common knowledge as a necessary condition for the emergence or even the maintaining of coordination equilibria. However, he characterized it as a stability or reliability condition. We propose to relate this characterization to Aumann and Brandenburger's epistemic characterization of Nash equilibria, where common knowledge is presented as only a sufficient condition for equilibria, yet as a `tight' condition, such that its absence makes room for coordination failure.

Mads Goddiksen (Centre for Science Studies, Department of Physics and Astronomy, Aarhus University, Denmark)
"Collaboration and Authorship"

On the background of several cases of misconduct in multi-authored papers, the journal *Nature* proposed, but did not adopt, a new authorship policy five years ago intended to clarify who is responsible for the validity of a collaborative paper. We discuss the underlying views on collaboration that caused much of the criticism of the 2007 proposal, and which partly survived in the revised proposal adopted by *Nature* in 2009. We argue that the current guidelines overlook important aspects of the collaborative process.

Genco Guralp (Johns Hopkins University, USA)
"Collaborative Research in Cosmology: Discovering the Acceleration of the Universe"

The discovery that the expansion of the universe is accelerating has been hailed as one of the major breakthroughs in recent cosmology. In this paper, I study the two research collaborations that, working independently, provided evidence for this result through supernovae measurements. I argue that these teams exemplify a specific type of an epistemic group which I call a generative collaboration. Based on oral history interviews and textual analysis, I define three main features of this type of collaboration, namely, epistemic potency, long-termism and internal referentiality. I show that these features of generative collaboration puts it in a decidedly advantageous position for securing epistemic goals such as achieving significant results and producing robust evidence, as well as equally important non-epistemic goals such as obtaining funding and recruiting talented students, which play crucial roles in sustaining the project.

Koray Karaca (University of Wuppertal, Germany)
"The data-selection process of the ATLAS experiment as a distributed cognitive system"

In the present work, drawing on Hutchins' and Giere's accounts, I shall seek to characterize the data-acquisition system of the ATLAS experiment—currently underway at the Large Hadron Collider (LHC) at CERN—as a "distributed cognitive system". I shall argue that the data-selection system of the ATLAS experiment should be seen as a distributed cognitive system in the following three different senses earlier suggested by Hutchins; namely: (1) cognitive processes associated with the data-selection system are distributed over the various research units; (2) the operation of the data-selection system requires coordination with external units; (3) cognitive processes associated with the data selection system are distributed in time; meaning that data-selection proceeds in three separate levels of increasing complexity and delicacy in such a way that the output of the previous level is the input for the next level. I shall also argue that the case of the ATLAS experiment vindicates Giere's claim that distributed cognitive systems are hybrid systems in that they are partly (dynamic) physical, computational and human cultural systems.

Nicolas Lechopier (University of Lyon 1, France)
"Epistemic Communities and Reciprocity. Case-study of an Environmental-Health Research Partnership"

 The aim of this paper grounded in research ethics is to show that research cooperations between scientists and participants-non-scientists suppose a certain kind of knowledge concerning the epistemic attitudes of each partners. A case-study of an environmental-health research in the brazilian amazon region allowed to document some discrepancies about the interpretation of what it is to do research, as well as a range of regulatory activities. This illustrates the need of a special form of reciprocity for the building of a genuine "epistemic community".

Conor Mayo-Wilson (Carnegie Mellon University, USA)
"The Dynamics of Scientific Collaboration"

Some scientists (e.g., Kahneman and Tversky) form collaborative relationships that last the entirety of their careers.   Others (e.g. Von Neumann) collaborate with different researchers at different times.   The dynamics of collaboration are often driven by social factors, such as personality conflicts, geographical proximity, institutional affiliation, and so on. This raises the question, "is there any epistemic benefit to encouraging scientists to change collaborators over time?" I argue there is: discovery can be hastened by dynamic collaborative relationships. This paper develops a simple game theoretic model of communal scientific inquiry, and argues that (i) diverse research methodologies and (ii) dynamic collaborative endeavors can be viewed as a scientific planner's best mixed strategies in a game against Nature.

Ryan Muldoon (University of Pennsylvania, USA)
"Investigating Competition and Cooperation in Science"

Previous models of the division of cognitive labor implicitly assume that scientists are always better off working on their own. This talk seeks to explore how scientists decide whether they are better off collaborating with others, or competing with them. I argue that these decisions are driven by the

demands of the problems under investigation, and the skills constraints that labs face. Thus, the formation of epistemic groups is driven by the epistemic landscape.

Eddie Soulier and Elie Abi-Lahoud (University of Technology of Troyes, France and University College Cork, Ireland)
"Social Epistemology for Knowledge Fostering in Online Communities of Intelligence"

Social Epistemology studies several cases of human-to-human Knowledge exchange models as opposed to the traditional human-to-world reasoning models (Goldman, 1999; 2006; 2009). Social Epistemology is often presented as a social theory of Knowledge (Bouvier & Conein, 2007). It aims at studying the impact of social factors on Knowledge adoption. Those so-called social transactions are in the heart of the ISICIL project (Gandon & al., 2009) serving as a ground for our paper. Several approaches of Social Epistemology are presented here (Veridistic, Aretist, Argumentative, Pragmatic and Holistic approaches). Our model is based on Goldman's V-value Framework, and the following variables: Asker's Interest, Asker's Expertise, Informant's Interest, Informant's Expertise, Guaranties on Information, Informant's Reliability. An electronic forum allows us to capture the structure of an interaction between agents. We describe the suggested techniques to quantify, in the context of ISICIL, the Socio-Semantic variables previously listed, which are combined in an on-going work aiming at providing an aggregation algorithm.

Alain Trognon and Martine Batt (University of Lorraine, France)
"From results on Social Psychology of Collective Induction in Experimental Groups to Hypothesis on Epistemology of Collective Induction in Scientist's Groups"

In almost a century of research's works, experimental social psychology of problem's resolution in groups have gain an extensive set of data firmly covered, thin, robust, convergent, orderly and, cumulative, which constitute indisputable resources for practitioners of groups and soon for designers of these multi-agent systems which are rapidly developing in Artificial Intelligence, in robotics and in social-technologies. Now, we know why and how it may be relevant to use a dyad or a group for respectively reinforcing an acquisition and finding innovative solutions. We know the conditions that must be met so that a group and a team, which is a "higher" form of group (Forsyth 2010), are productive (Johnson & Johnson 1992; Quin, Johnson & Johnson 1997).
Are epistemologists interested in these findings? That is the problem we will explore after having summarized the findings of experimental social psychology of problems resolution in groups and showing their relevance to scientific research groups.

Anna Zielinska (University Paris Descartes, France)
"Ethics committees without bioethical theory. Decision procedure in the evaluation of research protocols in biomedicine."

The only good reason to justify bioethics as a discipline (which means accepting its oversimplified meta-ethical framework), is to take seriously worries about the possibility of the proper evaluation of difficult moral cases in a biomedical context. This paper aims to show that this worry is unjustified, given the remarkable capacity of a cross-disciplinary ethical committee to provide an exhaustive account of analysed cases. Indeed, collective and interdisciplinary expertise about each case is the only way to deal with controversial and problematic cases in biomedicine, in both clinical research and practice. Garrard and Wilkinson have recently suggested that "bioethics is better off with moral theory than without it" (2003). My suggestion is that certainly, we do need moral theories in any thinking about moral decisions. Yet, these theories do not need to form moral systems, and in consequence, there is no need for a systematic enterprise such as bioethics.

Interdisciplinary ethics committees, with their dynamics and with their capacity to grasp the complexity of studied situations, appear as the best solution to the theoretical difficulties of biomedicine.