

# What is Interdisciplinary Success, 4-5 OCT 2012, Lund

## Program & Abstracts

<b>Thursday, OCT 4</b>			
<b>Room 203</b>			
<b>09:00</b>		<b>Coffee</b>	
09:30	10:30	Uskali Mäki (Helsinki)	Interdisciplinarity and scientific progress
10:30	11:30	Annika Wallin (Lund)	Evidence or not evidence?
11:30	12:30	John Jackson (Boulder)	Unity of science as a barrier to interdisciplinary success: The case of evolutionary psychology
<b>12:30</b>	<b>13:45</b>	<b>Lunch (Tegners)</b>	
13:45	14:45	Rani Lill Anjum (Bergen)	Causation in Science - An interdisciplinary research project
14:45	15:45	Susann Wagenknecht (Aarhus)	Managing trust – Making interdisciplinary research teams work
<b>15:45</b>	<b>16:15</b>	<b>Coffee</b>	
16:15	17:15	Lena Wahlberg (Lund)	Uncritical trust- the impact of medical expertise on court decisions on compulsory mental care
17:15	18:15		
<b>19:30</b>		<b>Dinner (Kungshuset)</b>	
<b>Friday, OCT 5</b>			
<b>Room 318</b>			
<b>09:30</b>		<b>Coffee</b>	
10:00	11:00	Matti Sintonen (Helsinki)	Radical interdisciplinarity – some successes, some failures
11:00	12:00	Tilman Massey (Munich)	Best practice of interdisciplinary research: lessons from the history of biology
<b>12:00</b>	<b>13:30</b>	<b>Lunch (Tegners)</b>	
13:30	14:30	Hanne Andersen (Aarhus)	What kind of expertise is required for interdisciplinary success?
14:30	15:30	Till Grüne-Yanoff (Stockholm)	Investigating model exchanges for their interdisciplinary success
<b>15:30</b>	<b>16:15</b>	<b>Coffee</b>	
16:15	17:15	Florin Popa (Leuven)	Contextualized knowledge and interdisciplinarity. The case of social-ecological systems
17:15	18:15	Petri Ylikoski (Helsinki)	Adventures in Neuroland: economics and sociology compared
<b>19:30</b>		<b>Dinner (to be announced)</b>	

Talks last **55 minutes**, of which at least **25 are for discussion**, followed by a 5 min break

**Venue:** Kungshuset, Lundagård, Lund

**Thursday:** Room 203; **Friday:** Room 318

Rani Lill Anjum  
Norwegian University of Life Sciences  
rani.anjum@umb.no

### **Causation in Science - An interdisciplinary research project**

The methodological basis of this project is that philosophy should not dictate to science and nor should science dictate to philosophy. While these two disciplines have the same subject matter - understanding the world - they aim to answer very different questions. What can be achieved, however, is a reflective equilibrium: a unified view of causation that is both philosophically and empirically satisfactory. It is all well and good for philosophers to decide a priori what would make a good theory of causation, but what use is that if scientists are dealing with something else? By considering both the abstract and the concrete together in unison, an account can emerge that is both philosophically and empirically adequate and complete.

Florin Popa, Matthieu Guillermin  
University catholique de Louvain, Belgium  
florin.popa@uclouvain.be, mathieu.guillermin@uclouvain.be

### **Contextualized knowledge and interdisciplinarity. The case of social-ecological systems**

The current proposal aims at clarifying what criteria could be used for assessing the quality and potential of interdisciplinary research on sustainability issues. Specifically, we set out to: (1) clarify what interdisciplinarity implies (e.g. not only multidisciplinary or cross-fertilization between alternative methodologies) and what types of interdisciplinarity it is useful to distinguish for purposes of research evaluation; (2) analyze the way interdisciplinarity is addressed in sustainability science and in dealing with social-ecological systems; and (3) identify conditions for the efficiency and efficacy of interdisciplinary research.

Our analysis aims to reframe interdisciplinarity in terms of methodological pluralism and contextualized knowledge. Methodological pluralism refers to the need to consider the fit to context of different research methods, assumptions and epistemic values when making methodological choices. The context of research acts as a methodological 'orientation device', constraining the actual options available to the scientist while at the same time providing situational opportunities and guiding cues. By taking into account the specificity of its application domain, knowledge becomes contextualized. Interdisciplinarity provides the epistemic, institutional and social medium in which such a contextualization can take place.

Petri Ylikoski  
University of Helsinki, Finland  
petri.ylikoski@helsinki.fi

### **Adventures in Neuroland: economics and sociology compared**

In this presentation I will make some comparative observations about economists' and sociologists' recent engagements with the neurosciences. I will consider issues like: i) what drives interdisciplinary engagement and the choice of collaboration partners, ii) whether interdisciplinary cooperation might involve wrong disciplines, and iii) how rather

unscientific "common sense" is utilized as a background framework that makes interdisciplinary interaction possible.

Tilman Massey  
LMU Munich, Germany  
massey@web.de

### **Best practice of interdisciplinary research: lessons from the history of biology**

The idea of this paper is to look into history of science and extract from a successful case of interdisciplinary research some conducive conditions for that success.

The case study in question gives attention to the so called "modern synthesis of evolution" of the first half of the 20th century. Roughly spoken, "modern synthesis" refers to a fusion of genetics with Darwinian evolutionary biology, so it is of genuine interdisciplinary character. The resulting research program turned out to be extraordinarily stable and represents a Kuhnian paradigm to this day, making it a real success story. An analysis of the historiography shows that following aspects were relevant: (1) socio-pragmatic aspects, (2) methodological aspects, (3) conceptual change and (4) intended applications.

I point especially to the importance of the conceptual dimension of interdisciplinary research. Only if there is a consistent and uniform conceptual frame, on the basis of which different disciplines can work together, interdisciplinary research becomes interesting and relevant for the participating scientists in the long run. Under these premises conceptual unification (or in other words: theoretical integration) represents the best possible outcome of interdisciplinary research. I close with some words of caution regarding the interpretation of this result.

Annika Wallin  
Lund University, Sweden  
annika.wallin@lucs.lu.se

### **Evidence or not evidence?**

In this paper I explore how different theoretical standpoints (also within one and the same discipline) lead researchers to view empirical evidence as either compelling or not important at all, thus challenging the possibility of interdisciplinary success. I also try to identify some factors that might lead to this type of problem.

John Jackson  
University of Colorado, USA  
john.p.jackson@colorado.edu

### **Unity of science as a barrier to interdisciplinary success: The case of evolutionary psychology**

Fulfilling the dream of the logical empiricists and unifying all of science might seem to be the ultimate "interdisciplinary success." However, some attempts to unify are themselves

barriers to interdisciplinary success. An example is evolutionary psychologists' attempts to unify the social and natural sciences.

Evolutionary psychology (EP) seeks to explain universal psychological behaviors as products of specific modules of the human brain that evolved through natural selection. Evolutionary psychologists claim that the natural sciences have been increasingly unified but that social scientists, dedicated to the "Standard Social Science Model" (SSSM) have ideologically resisted any attempt to unify the social sciences with modern biological thought. EP claims that a complete explanation for any social behavior necessarily includes an account of the evolution of the psychological mechanisms.

EP's attempt to unify science fails for a number of reasons. First, the SSSM is a straw argument that does not describe the practices of the social sciences. Second, the model of explanation that evolutionary psychologists offer is incoherent. If "interdisciplinary success" is to mean anything at a minimum it must mean respectful and humble communication across disciplinary boundaries. EP is a case study in the opposite of such communication."

Till Grüne-Yanoff  
Royal Institute of Technology, Stockholm  
Gryne@kth.se

### **Investigating model exchanges for their interdisciplinary success**

Based on case studies of model exchanges in evolutionary game theory (between biology and economics) and intertemporal choice (between economics and psychology), I discuss criteria for the success of such exchanges.

In a first step, I delineate a number of ways in which the predicate 'interdisciplinary' may apply. I distinguish between individual interdisciplinary exchanges, where individual researchers from different disciplines interact, and institutional interdisciplinary exchanges, where these exchanges are buttressed by institutional arrangements like special conferences, journals, grants, departments and ultimately novel disciplines. Further, I distinguish different kinds of individual exchanges: collaboration, invasion, transfer and side-by-side.

In a second step, I sketch paths of progression, along which these exchanges may move, and which may constitute success for them, respectively. Only collaboration, I argue, has a chance to develop into institutional exchange. Success of this perhaps most widely recognized kind of 'interdisciplinarity' depends on the capacity of the models in the collaborative phase to constitute a stable conceptual basis for all disciplines involved. But this does not hold for other kind of exchanges, which follow different paths and have different success criteria. Together, this investigation provides a more differentiated picture of interdisciplinarity, and its respective success criteria.

Susann Wagenknecht  
Aarhus University, Denmark  
su.wagen@ivs.au.dk

### **Managing trust – Making interdisciplinary research teams work**

Successful interdisciplinary research collaboration is a collaboration saturated with mutual epistemic trust among relative lay and relative expert scientists. Without substantial trust, the relations of epistemic dependence which interdisciplinary collaboration implies cannot be managed in scientific practice. Based on an empirical case study, I will argue that particularly dialoguing practices and explanatory responsiveness are crucial for trust-building in interdisciplinary group collaboration.

Hanne Andersen  
Aarhus University, Denmark  
hanne.andersen@ivs.au.dk

### **What kind of expertise is required for interdisciplinary success?**

In recent publications, Collins, Gorman and others have argued that interdisciplinary collaborations can be analysed as trading zones varying along two different dimensions: a cultural dimension according to the degree of linguistic homogeneity or heterogeneity, and a power dimension according to the degree to which power is used to enforce the collaboration. On their account, only some trading zones, what they call inter-language trading zones, result in a truly merged culture in which a full blown creole language is the ideal end process. Other forms of trading zones are the enforced trading zone in which the expertise of an elite group is black-boxed for other participants, the subversive trading zone where one language overwhelms that of the other, and the fractionated trading zone which may either be a boundary object trading zone mediated by material culture of an interactional expertise trading zone mediated by language. Based on this typology, Collins et al have argued that interactional expertise trading zones are the norm for much new interdisciplinary work and that it will usually be the first step before an inter-language trading zone develops. Thus, a common developmental pattern will start from a heterogeneous collaboration, and as members of the trading zone become more interested in each other's work they will develop interactional expertise, that is, sufficient mutual knowledge of each other's fields to be able to interact in interesting ways, but without possessing the contributory expertise necessary to make original contributions outside of one's own field. The distinction between interactional and contributory expertise was originally introduced based on sociologists' fieldwork experience of learning the language of the scientists they studied while retaining their own material form of life and distinct contributory expertise. In this talk I shall argue that this differs in important ways from the situation of the collaborating scientists who produce joint contributions within an interdisciplinary area and that one of the main differences can be expressed as a differences with respect to whether they engage in a shared cooperative activity that includes epistemic dependence. On this basis, I shall propose a more detailed categorization of expertise in relation to interdisciplinary research.

Lena Wahlberg  
Lund University, Sweden  
lena.wahlberg@jur.lu.se

### **Uncritical trust- the impact of medical expertise on court decisions on compulsory mental care**

Trust is essential for scientific progress. This is particularly true of interdisciplinary projects in which the individual participants, due to their different specializations, lack the competence to fully assess each others' contributions. Yet, uncritical trust creates a risk that flawed information is allowed to migrate between disciplinary contexts. Trust, as an interdisciplinary virtue, should hence be supplemented by the development of tools for recognizing and managing this risk.

The use of scientific experts in court is one of many interdisciplinary contexts in which the problem of flawed migrating information is pivotal. This paper discusses the case in which Swedish administrative courts are to decide if the legal criteria for compulsory mental care are met, a decision which requires, for example, a careful balancing of the risk for an infringement of the patient's integrity vis-à-vis the risk for detriment of his or her health. Evidence suggests that courts to a large extent are in the hands of the medical experts and fail/are unable to properly scrutinize the latter's conclusions. The paper discusses why this epistemic dependence is problematic and how it can be mitigated.

Uskali Mäki  
University of Helsinki  
uskali.maki@helsinki.fi

### **Interdisciplinary imperialism and scientific progress**

Sometimes a relationship between two or more disciplines is characterized as "imperialistic" (such as the transfer of concepts, models, and methods from economics to other disciplines such as political science, law, and biology; or the intrusion of neuroscience or evolutionary theory into the social sciences). The talk sets out to specify the meanings of the very concept of scientific imperialism and to reflect on the role of normative standards – such as various kinds of success and progress – in its identification and assessment. The argument concludes that interdisciplinary imperialism is not predetermined to be good or bad. It all depends.

Matti Sintonen  
University of Helsinki  
matti.sintonen@helsinki.fi

### **Radical interdisciplinarity – some successes, some failures**

Abstract to follow