

## Beyond Interdisciplinarity in Engineering and Social Sciences

**Dr. Pablo Lanillos and Dr. Andreas Bischof**

**When:** 14 & 15 December (see schedule below)

**Where:** Arcisstraße 21, room 502.01.229 (if the location of a particular activity deviates from this address it is specified in the schedule, see below)

### **Description:**

Since the 80s the research community is experiencing a drift towards interdisciplinarity. For instance, in social sciences there has been a 10% increment in citations to other disciplines. On the one hand, funders, such as the European Union, are pushing to a research more focused on societal challenges, where only one discipline cannot provide the solution. On the other hand, researchers increasingly acknowledge and promote interdisciplinarity as an enhancement to scientific creativity. For example, projects like DFG cluster of excellence COTESYS or the EU Human Brain Project combine neurosciences, engineering and social sciences. Furthermore, we witness the emergence of more and more interdisciplinary fields where the collaboration between social and engineering science forms the basis, for example, the field of Neuroengineering. However, interdisciplinarity comes with new challenges for which researchers and institutions need to be prepared in order to cross disciplinary borders. In this sense, it is of paramount importance, especially for junior researchers, to learn to engage into collaboration with other disciplines as early as possible in order to achieve real interdisciplinarity.

This workshop presents the motivation, examples and reflective exercises for doing collaborative research that involves engineering and social sciences. Thus, the workshop prepares the participants to see beyond traditional disciplinary boundaries, to face interdisciplinary collaborations and pursue a unique profile. Moreover, the planned activities enforce the students to put themselves in other shoes, a requirement that is needed for fruitful collaborations.

### **Target audience**

The workshop has been prepared for engineering and social scientist doctoral students as well as master students that are about to finish. There are no prior knowledge requirements but an open mind to work with students from other disciplines.

### **Assignments and reading**

Researchers will have to prepare the required readings in advance to the first session of the course. For the second session, the students will have to design and present a collaboration between different disciplines based on the activities realised in the first session

### Material to read previous to the session:

1- Nature. Why interdisciplinary research matters. Nature. 2015;525(7569):305. pmid:26381966.  
<https://doi.org/10.1038/525305a>

## Schedule

### Thursday, 14.12.2017

**13:00** Joint Meal at Munich Filmschool Mensa (Bernd-Eichinger-Pl. 1)

**14:00-15.30** Introduction & Role Play: The interdisciplinary mirror.

**16:00-17.00** Talks. Two senior researchers will explain their personal experience in collaborative research with different disciplines.

- Return ticket from robotics to cognitive psychology. Dr. Pablo Lanillos. ICS, TUM

- Constructive vs. reconstructive thinking in engineering and sociology. Dr. Andreas Bischof. Miteinander group, TU Chemnitz.

**17:00-18:30** 'Interdisciplinarity's got talent'. Participants in groups will prepare and present an interdisciplinary collaboration. Which one will be the best?

**19:00-** Joint Dinner at FRIDA bar & restaurant (Steinheilstr. 10)

### Friday, 15.12.2017

**09.00-10:00** Invited speaker. *Prof. Agnieszka Wykowska*, Social Cognition in Human-Robot Interaction. ERC starting grant. Italian Institute of Technology.

**10:00-11.00** Recap & Reflection. With the literature provided and the concepts learnt on Thursday the challenges and the benefits of interdisciplinary collaboration will be consolidated.

**11:00-11.30** Closing remarks, and final questions and answers.