Applied Category Theory 2018 Workshop - Protocol

**Format**

The workshop will take place from Monday 30th April to Friday 4th May 2018 in Leiden, The Netherlands. The workshop is loosely structured into four themes: Dynamical Systems, Systems Biology, Cognition and AI, and Causality.

**Participants**

There are 55 invited participants including a number of invited speakers in each of the four themes, 16 graduate students who have participated in the preceding School at Snellius, and a mix of early career and established researchers across the area.

**Goals**

To instigate a multidisciplinary research programme in which concepts, structures, and methods from one scientific discipline can be used in another.

1. To explore the use of category theory within and across different disciplines
2. To create a more cohesive and collaborative ACT community
3. To accelerate research by outlining common goals and open problems for the field.

We want to create an environment that will allow us to attain the goals outlined above. We will do this firstly by setting a flexible schedule that provides the right balance between coming together as a whole group, and working separately in focussed work groups. Secondly, we want the physical environment to help attain these goals, by providing the right sort of information about who is around and what is being talked about.

**Scheduling**

Each day will comprise:

* A plenary session consisting of 1-3 talks and an extended questions and discussion session
* Time for working groups, including a long lunch break
* An afternoon talk and/or working group time
* Finally, a plenary session in which working groups report back on their discussions during the day

At the start and the end of each day, everyone comes together to report back on working groups, questions, or discuss topics of interest.

During the course of the day, and of course in the evenings over dinner and drinks, participants will talk in smaller groups, with more focussed discussion and work. Working groups can meet in the offices, common room, and lecture theatre.

**Recording**

Each plenary lecture will be recorded and placed on the Oxford Quantum YouTube channel. Slides will be made available on the applied category theory website.

**Discussion topics**

The workshop should result in:

1. Identification of ways in which category theory can be used within and across different disciplines
2. An outline of common goals and open problems in the field.

Discussion areas will initially be introduced by speakers. Invited speakers should in the course of their talks raise questions for discussion and links to other workshop themes (Dynamical Systems, Systems Biology, Cognition and AI, and Causality). These will form the basis of discussions in the plenary session following the talks, and in the more focussed workgroup sessions.

The questions raised by speakers are just a starting point, and cross-disciplinary themes, goals, and problems will emerge and develop over the week. A portion of the wall space in the main Lecture Room will be reserved for recording these areas, and these will be that can be updated and amended as the week progresses. Anyone can add to these topics, and they will be updated by an organiser or chair during the plenary discussions.

**Physical layout** of the centre at Oort (see attached floorplan).

People are assigned to offices alphabetically **(do we want to ask Lorentz if we can change this?)**.

Working groups can use the offices (3-6 people), the common room (8-10 people), the lecture room (55 people), the organizers’ room (8 people), or 301 (10-15 people).

* The lecture room has a big blackboard wall – part of which will be reserved for discussion topics
* All offices have whiteboards
* The hallway has several whiteboards
* The Common room has a blackboard wall

**Community building**

We want people to get to know each other and their research during the course of the week. Participants should be able to build meaningful collaborations that will result in identification of common goals and concrete research.

1. We will ask each participant to submit 3 bullet points describing their interests, and a recent photo. Participants will be given offices of 3-6 people for the week.
2. Photos and research interests of each participant will be displayed on the office doors, so that people can easily find out who a particular person is and what their interests are.
3. Participants can bring posters and hang them outside their office, if wished.

