

Cuntz-Pimsner Cross-Pollinati

25 – 29 June 2018 @ Snellius

Overview and goals. This weeklong workshop brought together 28 participants from a variety of backgrounds to study *Cuntz–Pimsner algebras*, a class of C^* -algebras that combine a tractable structure with ample applicability. This class is broad enough to encompass C^* -algebras witnessing many of the most interesting and impressive aspects of C^* -algebra theory, and also provide connections to gauge theory and quantum mechanics via Connes’ noncommutative geometry.

By bringing together mathematicians that represented several different approaches to Cuntz–Pimsner algebras, as well as a 50-50 mix of senior and early career researchers and of male and female mathematicians, the goals of the *Cuntz–Pimsner Cross-Pollination* workshop were to

- extend what is known for specific examples and subclasses into a unified body of knowledge about Cuntz–Pimsner algebras and their higher rank generalizations;
- find new applications of Cuntz–Pimsner algebras;
- strengthen the ties between the different communities of researchers working on Cuntz–Pimsner algebras;
 - highlight and promote the contributions of women researchers to the field of C^* -algebras. The workshop organizing committee was comprised of four women. Women also made up 46% of the participants in the workshop, 50% of our invited lecturers, and 36% of the contributed talks.

Participants attended from a wide range of geographical locations, including Brazil, Canada, Iran, Japan, Korea, New Zealand, the United States, and of course a number of European countries including the Netherlands.

In addition to 14 research talks delivered by our participants throughout the week in a standard conference format, the workshop also had four distinguished lectures which took place on the first day. These lectures, given by four prominent experts, were designed to facilitate the third goal above by providing the participants with overviews of various aspects of the field.

In order to further the first three goals listed above, the workshop included a *gong session* at the end of the first day, in which each participant described their current research interests in two minutes or less. The purpose of the gong session was to help participants identify other participants’ expertise or interests that might be relevant to their own research, and consequently to inspire discussions.

The third day of the workshop included a *plenary discussion*. Topics of discussion were suggested by the participants, and consisted of problems which they viewed as central open questions about Cuntz–Pimsner algebras and their generalizations. On the final day, the workshop concluded with another discussion, stemming from problems presented earlier in the workshop, about a future research agenda for the continued study of Cuntz–Pimsner algebras and their applications.

Participant feedback. Several of the workshop participants reported to the organizers that the workshop facilitated conversations with other researchers, including researchers with whom they had not previously interacted. It was also observed that the climate of the workshop felt more inclusive and supportive than other conferences due to its collaborative atmosphere, relatively small size, and diversity of participants. Finally, participants expressed enthusiasm for the idea of holding a follow-up conference in approximately two years’ time, to continue to strengthen the research community centred on Cuntz–Pimsner algebras.

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