Discussions during „C*-algebras and geometry of groups and semigroups"

March 29th - 31rd 2021 online

Monday

How can future interaction between operator algebras and other subjets be increased?

- Organise more cross-fertilisation focused workshops. Activities around concrete questions could be organised in advance.

- The introduction of a paper plays a crucial role when addressing different communities. Make aspects of introduction writing a discussion topic between colleagues that face a similar situation.

- Try to organise online events that address a broader audience. Online formats can be helpful to lower the stakes of participation.

- Do not forget systematic theory development in operator algebras themselves. It will be the basis for future success.

- Organise joint working seminars with other research group in your department or at other places in the world. Online formats might be helpful to reach out to a large enough circle of people, encompassing necessary competence.

- Try to address specified groups to foster interaction during mini-workshops. A clear perception of flat hierarchy is relevant to ensure open discussions.

What are perspectives for research on semigroup C*-algebras?

- Simplicity of groupoid C*-algebras

- Study product systems

- Embedability questions, such as „when does a semigroup embed into an amenable group?" (Possible suggestion: this could characterise nuclearity of the semigroup C*-algebra)

- Understand connections to (higher) graph C*-algebras

Tuesday

How can mini-conferences, possibly in online or hybrid format, be organised and financed? Consider specifically location, topics, funding

- Funding

- Reuse applications, by first applying to conference centres and in case of rejection, organise an event locally.

- Check local funders for small grants. E.g. the LMS has micro-funding schemes. CNRS in France offers mirco-grants for young researcher, with a success rate of 80%.

- Online formats can reduce costs significantly. This also applies to hybrid conferences.

  - Suitable equipment (e.g. microphone, camera, projector, smartboard) has to be present. Oberwolfach is mentioned as one good example. Possibly unused travel funds could be used to acquire such equipment.

  - Beware of late conference times, which puts researchers with family responsibilities in a disadvantageous situation.

  - Time shift is an important factor in the planning of (semi)online formats.

Location

- Oberwolfach mini-workshops are mentioned as one good example. Other locations such as Lumiy are discussed too.

- The earlier idea of first applying to conference centres and in case of rejection, organising an event locally, applies.

Topics (Little contributions and discussion here)

- The role of groupoids should be made more explicit, not hidden in „semigroup theory".

- There are growing interactions between representation theory and operator algebras.

- Noncommutative geometry could get a place in some events.

Other aspects

- The QIP conference are mentioned a good examples of managing online events

  - A moderated, separate chat is with the possibility to vote for questions is available.

  - „Research speed dating" was used to help young researchers creating contacts.

  - QIP has many more participants

- Ensure that introductory talks on different topics are given. Possibly combine this with a group chat encouraging questions.

What are perspectives for group C*-algebras and their cousins?

- Study uniformly recurrent subgroups and their interaction with operator algebras

- Develop results on totally disconnected locally compact groups

- Study operator algebras generated by unitary representations, other than the regular one. These can be for example quasi-regular representations or representations of geometric origin.

- Understand NCG aspects of group operator algebras