Department of Mathematical Sciences

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Masterclass: Expanders and rigidity of group actions

Department of Mathematical Sciences

The University of Copenhagen

2-6 May 2016

The purpose of this PhD Masterclass is to give an introduction to the theory of expander graphs, and present some of their recent applications to important problems in geometric (and analytic) group theory, and to operator algebras. In particular, we will address connections to rigidity properties (such as property (T) and fixed point properties) of group actions on Banach spaces. The masterclass is aimed primariy at junior researchers, such as PhD students and postdocs.

Speakers:

The main lecture series will be delivered by:

- **Alex Lubotzky**, Hebrew University
- **Nicolas Monod**, Ecole Politechnique de Lausanne
- **Damian Osajda**, Polish Academy of Sciences
- **Mikael de la Salle**, ENS Lyon

There is also a special Department Colloquium by **Alex Lubotzky** on Wednesday, May 4, at 15:15, which will be incorporated into the schedule of the Masterclass.

Titles, abstracs and program:

- Alex Lubotzky: *High dimensional expanders in pure and applied mathematics.*
- Nicolas Monod: *Amenability and fixed point theorems.*
- Damian Osajda: *Groups containing expanders.*
- Mikael de la Salle: *Rigidity properties for group actions on Banach spaces.*

Click **HERE** for abstracts, and **HERE** for the program.

Lecture notes:

- Nicolas Monod (notes taken by Chris Cave): I+II, III+IV, V+VI
- Alex Lubotzky (notes taken by Lars Hesselholt): I+II, III+IV

Venue:

The lectures will be held at the Department of Mathematical Sciences at the University of Copenhagen. The event is hosted by the Centre for Symmetry and Deformation. We also acknowledge support and funding from the Faculty of Science and from the Villum Foundation.

You can find information for short term visitors including directions to the Mathematics Department HERE**.** And HERE you can find a map with the HCØ building and the Math Department.

Accommodation:

We recommend Hotel de 9 Små Hjem, which is pleasant and inexpensive and offers room with a kitchen. Other inexpensive alternatives are CabInn that has several locations in Copenhagen: the Hotel City (close to Tivoli), Hotel Scandivania (Frederiksberg, close to the lakes), and Hotel Express (Frederiksberg) are the most convenient locations; the latter two are 2.5-3 km from the math department. Somewhat more expensive - and still recommended - options are Hotel Nora and Ibsen's Hotel. See also this list of recommended hotels and hostels.

Participants whose accommodation expenses will be paid directly by the Masterclass (see "Support" below) will typically be given shared rooms in CabInn Hotel Scandivania.

Support:

Participants can apply for support to cover accommodation expenses (in shared rooms). If support is granted, the organizers of the Masterclass will book the accommodation and pay for it directly. Indicate on the registration form if you wish to be considered for support, and send in this case an email to Chris Cave (Chris.Cave@math.ku.dk), with a brief motivation for why you wish to attend the Masterclass. Please, attach a brief CV. If you have a preferred roommate, you are welcome to give their name on the registration form.

Deadline for applying for support has passed.

Registration:

Deadline for registration has passed.

Participants

List of **participants**.

Contact

For questions about the meeting, please write to one of the organizers: Magdalena Musat (musat@math.ku.dk) or Chris Cave (Chris.Cave@math.ku.dk)

Find us

See map and transport information.

Organizers: Magdalena Musat and Chris Cave.

Centre for Symmetry and Deformation
Department of Mathematical Sciences, University of Copenhagen

VILLUM FONDEN

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