ESI Erwin Schrödinger International Institute
for Mathematical Physics

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Golod-Shafarevich Groups and Algebras and Rank Gradient
August 20 - 24, 2012

Organized by: M. Ershov and N. Nikolov

- **Monday, August 20, 2012**
  09:30: Opening and Registration [Organizers/ESI Director]
  10:00 – 11:00: Miklós Abért
  Rank gradient and where it leads 1
  11:00 – 11:30: coffee break
  11:30 – 12:30: Efim Zelmanov
  Introduction to Golod-Shafarevich groups and algebras 1
  12:30 – 15:00: lunch break
  15:00 – 15:50: Tom Lenagan
  Algebras with restricted growth
  16:05 – 16:55: Natalia Iyudu
  The Anick conjecture on the minimal Hilbert series of quadratic algebras
  17:10 – 18:00: Jason Bell
  On the Kurosh problem with growth restrictions

- **Tuesday, August 21, 2012**
  09:00 – 10:00: Miklós Abért
  Rank gradient and where it leads 2
  10:00 – 10:30: coffee break
  10:30 – 11:30: Marc Lackenby
  Rank gradient and property tau 1
  11:40 – 12:30: Jan-Christoph Schlage-Puchta
  On the p-deficiency of groups (joint work with Yiftach Barnea)
  12:30 – 15:00: lunch break
  15:00 – 16:00: Efim Zelmanov
  Introduction to Golod-Shafarevich groups and algebras 2
  16:10 – 17:00: Rostislav Grigorchuk
  The subgroup structure of certain amenable groups and the relative gradient rank
  17:10 – 17:40: problem session 1

- **Wednesday, August 22, 2012**
  09:00 – 10:00: Marc Lackenby
  Rank gradient and property tau 2
  10:00 – 10:30: coffee break
  10:30 – 11:30: Miklós Abért
  Rank gradient and where it leads 3
  11:40 – 12:30: Lukasz Grabowski
  Decidability aspects of computing spectral measures
  12:30 – 15:00: lunch break
  15:00 – 15:50: Gabor Elek
  Structural Lück approximation
  16:10 – 17:00: Andreas Thom
  Normal generation of subgroups and l^2-invariants
  17:10 – 18:00: Mikhail Ershov
  Introduction to Golod-Shafarevich groups and algebras 3

- **Thursday, August 23, 2012**
  09:00 – 10:00: Miklós Abért
  Rank gradient and where it leads 4
  10:00 – 10:30: coffee break
  10:30 – 11:30: Nigel Boston
  Pro-p Galois groups with restricted ramification
  11:40 – 12:30: Nikolay Nikolov
  Growth of Betti numbers of lattices in semisimple Lie groups
  12:30 – 15:00: lunch break
  15:00 – 16:00: Mark Lackenby
  Rank gradient and property tau 3
  16:10 – 17:10: Mikhail Ershov
  Introduction to Golod-Shafarevich groups and algebras 4
  17:15 – 17:50: problem session 2

- **Friday, August 24, 2012**
  09:00 – 09:50: Dmitri Piontkovskii
  Golod-Shafarevich theorem for operads
  09:50 – 10:20: coffee break
  10:20 – 11:10: Michael Bush
  Computing pro-p Galois groups
  11:20 – 12:10: Farshid Hajir
  Galois groups arising in arithmetic dynamics
  12:10 – 13:00 problem session 3

All lectures as well as the opening and registration take place in the ESI Boltzmann Lecture Hall