DVR 0065528

Programme on

"Algorithmic and Enumerative Combinatorics"

October 16 – November 24, 2017

organized by

Mireille Bousquet-Mélou (CNRS, U de Bordeaux), Michael Drmota (TU Vienna), Christian Krattenthaler (U Vienna), Peter Paule (U Linz), Michael Singer (North Carolina State U, Raleigh)

Workshop 2 on "Computer Algebra in Combinatorics"

November 13 – 17, 2017

- **Monday, November 13, 2017**

  09:00 – 09:30 **Registration**

  09:30 – 11:00 **Alin Bostan** (INRIA, Saclay, France)
  Introductory Talk: Computer algebra for lattice path combinatorics, I

  11:00 – 11:30 *Coffee / Tea Break*

  11:30 – 12:30 **Robin Pemantle** (University of Pennsylvania, Philadelphia, USA)
  Introductory Talk: Automatic computation of multivariate asymptotics

  12:30 – 14:30 *Lunch Break*

  14:30 – 16:00 **Alin Bostan** (INRIA, Saclay, France)
  Introductory Talk: Computer algebra for lattice path combinatorics, II

  16:30 – 18:30 *Reception*

- **Tuesday, November 14, 2017**

  09:00 – 10:00 **Stephen Melczer** (University of Pennsylvania, Philadelphia, USA)
  Multivariate singularity analysis and hyperplane arrangements

  10:00 – 10:30 *Coffee / Tea Break*

  10:30 – 11:10 **Mark Wilson** (University of Auckland, New Zealand)
  ACSV: help wanted from computer algbra(ists)

  11:20 – 12:00 **Bruno Salvy** (INRIA and École Normale et Supérieure Lyon, France)
  Algorithmic tools for the asymptotics of diagonals

  12:00 – 14:00 *Lunch Break*

  14:00 – 14:40 **Dan Romik** (University of California at Davis, USA)
  The Taylor expansion of the Jacobi theta function at $x = 1$

  14:50 – 15:30 **Armin Straub** (University of South Alabama, USA)
  Properties of Laurent coefficients of multivariate rational functions

  15:30 – 16:10 *Break*

16:10 – 16:50 **Frédéric Chyzak** (INRIA Saclay, France)
Computing solutions of linear Mahler equations

- **Wednesday, November 15, 2017**

  09:00 – 10:00 **Tom Roby** (University of Connecticut, USA)
  A path formula for birational rowmotion on a product of two chains

  10:00 – 10:30 *Coffee / Tea Break*

  10:30 – 11:10 **Moulay Barkatou** (CNRS, Université de Limoges, France)
  Algorithms for removing apparent singularities of linear differential systems

  11:20 – 12:00 **Maximilian Jaroschek** (Technische Universität Wien, Austria)
  How not to define desingularization

  12:10 – 12:50 **Georg Regensburger** (Johannes Kepler Universität Linz, Austria)
  Consequences of the fundamental theorem of calculus in differential rings

  12:50 – *Free afternoon*

- **Thursday, November 16, 2017**

  09:00 – 10:00 **Philippe Di Francesco** (University of Illinois at Urbana-Champaign, USA)
  Arctic curves in path models from the tangent method

  10:00 – 10:30 *Coffee / Tea Break*

  10:30 – 11:10 **George Labahn** (University of Waterloo, Canada)
  Matrix Normal Forms and Ore Domains

  11:20 – 12:00 **Guoce Xin** (Capital Normal University, Beijing, China)
  Some progress on the sweep maps

  12:00 – 14:00 *Lunch Break*

  14:00 – 14:40 **Christoph Koutschan** (Johann Radon Institute for Computational and Applied Mathematics, Linz, Austria)
  Symbolic evaluation of determinants and rhombus tilings of holey hexagons

  14:50 – 15:30 **Marc Mezzarobba** (Université Pierre et Marie Curie, Paris, France)
  Numerical evaluation of D-finite functions in `SageMath` *with applications*

  15:30 – 16:10 *Break*

  16:10 – 16:50 **Marko Petkovsek** (Univerza v Ljubljani, Slovenia)
  Convolutions as solutions of linear recurrences

  19:00 *Heurigenabend* ($\sim$ Conference Dinner)

- **Friday, November 17, 2017**

  09:00 – 10:00 **Tanguy Rivoal** (CNRS, Université Grenoble Alpes, France)
  Algorithmic determination of exceptional algebraic values of E-functions

  10:00 – 10:30 *Coffee / Tea Break*

  10:30 – 11:10 **David Broadhurst** (Open University, Milton Keynes, United Kingdom)
  Applications of integer relation algorithms

  11:20 – 12:00 **Mark Giesbrecht** (University of Waterloo, Canada)
  Quasideterminants, degree bounds and "fast" algorithms for matrices of differential and difference polynomials

- **Monday – Friday**

  Poster: **Sergei Abramov** (Russian Academy of Sciences, Moscow, Russia)
  On the arithmetic and shift complexities of inversion of difference operator matrices

All talks take place at ESI, Boltzmann Lecture Hall!