



CARISBERGFONDET



Workshop on real applied algebra

Schedule (preliminary)

March 23–25, 2026

Venue: HCØ building, University of Copenhagen, Universitetsparken 5, 2100 Copenhagen.

Monday 23rd of March 2026 (Talks in Auditorium 5, with one exception)

- 9.00 - 9.50 (Invited talk): **Irem Portakal** - MPI for Mathematics in the Sciences (Leipzig).
The Nash equilibrium scheme
- 9.50 - 10.15 (Contributed talk): **Roser Homs** - Universitat Politècnica de Catalunya (Barcelona).
Maximum likelihood thresholds for colored Gaussian graphical models
- 10.15 - 10.40 (Contributed talk): **Niharika Chakrabarty Paul** - MPI for Mathematics in the Sciences (Leipzig).
Torus actions on matrix Schubert and Kazhdan-Lusztig varieties and their links to statistical models
- 10.40 - 11.00: **Coffee break**. Change of classroom.
- 11.00 - 11.50 (Invited talk, Aud 6): **Jie Wang** - AMSS-CAS (Beijing).
Scalable ground-state certification of quantum spin systems via structured noncommutative polynomial optimization
- 11.50 - 13.20: **Lunch**
- 13.20 - 14.10 (Invited talk): **Matias Bender** - INRIA Saclay-CMAP (Paris-Saclay).
Certificates of nonnegativity of polynomials
- 14.10 - 14.35 (Contributed talk): **Alexander Zenkovich** - École Normale Supérieure (Paris).
A new spherical criterion for unconstrained polynomial optimization
- 14.35 - 15.10: **Coffee break**
- 15.10 - 15.35 (Contributed talk): **Jaewoo Jung** - Daegu Gyeongbuk Institute of Science and Technology (Daegu).
On quadratic persistence and Pythagoras numbers of totally real projective varieties
- 15.35 - 16.00 (Contributed talk): **Nico Lorenz** - Ruhr-Universität Bochum (Bochum).
Pythagoras number and supreme torsion forms
- 16.00 - 16.25 (Contributed talk): **Tomasz Kowalczyk** - Jagiellonian University (Krakow).
Sums of squares of regular functions on real rational surfaces
- 16.30 - 17.30: Discussion

Tuesday 24th of March 2026 (Talks in Auditorium 5)

- 9.00 - 9.50 (Invited talk): **Khazhgali Kozhasov** - Université Côte d'Azur (Nice).
Stubborn polynomials
- 9.50 - 10.15 (Contributed talk): **Francesco Maria Mascarin** - MPI for Mathematics in the Sciences (Leipzig).
Lissajous varieties
- 10.15 - 10.40 (Contributed talk): **Oskar Henriksson** - MPI of of Molecular Cell Biology and Genetics (Dresden).
Computing discriminant complements using pseudo-witness sets
- 10.40 - 11.00: **Coffee break**
- 11.00 - 11.50 (Invited talk): **Lorenzo Baldi** - University of Leipzig (Leipzig).
Toric extensions of Pólya's theorem
- 11.50 - 13.20: **Lunch**
- 13.20 - 14.10 (Invited talk): **Marta Panizzut** - Arctic University of Norway (Tromsø).
Positive geometry of del Pezzo surfaces
- 14.10 - 14.35 (Contributed talk): Pending confirmation
- 14.35 - 15.10: **Coffee break**
- 15.10 - 15.35 (Contributed talk): **Erin Connelly** - University of Osnabrueck (Osnabrueck).
A computer vision problem in flatland
- 15.35 - 16.00 (Contributed talk): **Jiayi Li** - MPI of molecular cell biology and genetics (Dresden).
Local learning coefficients in transformers: An algebro-geometric lens on generalization in neural networks
- 16.00 - 16.25 (Contributed talk): **Jules Tsukahara** - Institut de Mathématiques de Jussieu-Paris Rive Gauche and INRIA (Paris).
Computing real log canonical thresholds of bivariate polynomials with rational coefficient
- 18.00 - : Dinner at *Munkekælder* (University building, Frue Plads).

Wednesday 25th of March 2026 (Talks in Auditorium 3)

- 9.00 - 9.50 (Invited talk): **Beatriz Pascual-Escudero** - Universidad Politécnica de Madrid (Madrid).
Real and positive solutions of vertically parametrized systems
- 9.50 - 10.15 (Contributed talk): **Gökçen Dilaver Tunç** - Bursa Technical University (Bursa).
Extending generalized splines
- 10.15 - 10.40 (Contributed talk): **Angelo El Saliby** - MPI for Mathematics in the Sciences (Leipzig).
Global rigidity of highly regular vertex-transitive graphs
- 10.40 - 11.00: **Coffee break**
- 11.00 - 11.50 (Invited talk): **Marta Casanellas** - Universitat Politècnica de Catalunya (Barcelona).
Using algebraic geometry to identify phylogenetic networks
- 11.50 - 13.20: **Lunch**. Sandwiches