

## Workshop on real applied algebra

### Schedule

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): **Matías 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
- 18.30 - 21.00: Dinner at *Food Club Nørrebro*.

#### 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): **Jules Tsukahara** - Institut de Mathématiques de Jussieu-Paris Rive Gauche and INRIA (Paris)  
*Computing real log canonical thresholds of bivariate polynomials with rational coefficient*
- 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*
- 18.30 - 22.00: Dinner at *Munkekælderen* (University building, Frue Plads 4, Port A).

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

- 9.00 - 9.50 (Invited talk): **Beatriz Pascual-Escudero** - Universidad Politècnica 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