



Banff International Research Station

for Mathematical Innovation and Discovery

10w5007

Convex Algebraic Geometry

14 - 19 February, 2010

MEALS

*Breakfast (Buffet): 7:00 – 9:30 am, Sally Borden Building, Monday – Friday

*Lunch (Buffet): 11:30 am – 1:30 pm, Sally Borden Building, Monday – Friday

*Dinner (Buffet): 5:30 – 7:30 pm, Sally Borden Building, Sunday – Thursday

Coffee Breaks: As per daily schedule, 2nd floor lounge, Corbett Hall

*Please remember to scan your meal card at the host/hostess station in the dining room for each meal.

MEETING ROOMS

All lectures will be held in Max Bell 159 (Max Bell Building accessible by walkway on 2nd floor of Corbett Hall). LCD projector, overhead projectors and blackboards are available for presentations. *Note that the meeting space designated for BIRS is the lower level of Max Bell, Rooms 155- 159. Please respect that all other space has been contracted to other Banff Centre guests, including any Food and Beverages in those areas.*

SCHEDULE

MONDAY

8.45 Welcome talk by BIRS Station Manager

9:00-10:30 SCHEIDERER: Bounded Polynomials and Stability of Pre-Orderings

10:00-10.30 Coffee (2nd floor lounge, Corbett Hall)

10:30-11:30 PARRILO

lunch

13:00 BIRS photo (please meet on steps of Corbett Hall)

13:30-14:15 RANESTAD: The convex hull of a space curve

break

14:25-15:10 SOTTILE: Orbitopes

15:10-15:40 Coffee

15:40-16:25 BASU: Toda's theorem: Real & Complex
break

16:35-17:20 ROSTALSKI: Semidefinite Relaxations of Grassmann Orbitopes

dinner

19:30-20:15 KALTOFEN: Certifying the radius of positive semidefiniteness via
Artinprover

TUESDAY

9-10 :00 RENEGAR: Optimization over Hyperbolicity Cones

10:00-10.30 Coffee

10:30-11:30 NETZER: Spectrahedra and their projections

lunch

13:00-14:00 Guided tour of the campus (meet in 2nd floor lounge, Corbett Hall)

14:15-15:00 MARSHALL: Lower bounds for a polynomial in terms of its coefficients

15:00-15:30 Coffee

15:30-16:15 HAUENSTEIN: Numerical Algebraic Geometry

break

16:30-17:15 PLAUMANN: Exposed faces and projections of spectrahedra

dinner

19:30-20:15 LAURENT: Error and degree bounds for positivity certificates on the
hypercube

WEDNESDAY

8.45-9.45 REZNICK: Cones of convex forms

Coffee

9.50-10.50 BRAENDEN: Tropicalization of hyperbolic polynomials

lunch - free afternoon

dinner

19:30-20:15 LABS: Towards visualization of Convex Algebraic Geometry

THURSDAY

9-10:00 DERKSEN: (Poly) Matroid Polytopes

10:00-10:30 Coffee

10:30-11:30 VINNIKOV (video-tape)

lunch

13:30-14:15 THEOBALD: Amoebas of Genus at most one

break

14:25-15:10 VINZANT

15:10-15:40 Coffee

15:40-16:25 BLEKHERMAN: Convex forms and faces of the cone of sum of squares polynomials

break

16:35-17:20 SMITH: Determinantal equations

dinner

19:30-20:15 HENK: Representing Polyhedra by Few Polynomials

FRIDAY

9-10:00 PUTINAR: Optimization of Non-Polynomial Functions and Applications

10:00-10:30 Coffee

10:30-11:30 VALLENTIN: Approximation algorithms for SDP with rank constraints

Checkout by 12 noon.

** 5-day workshop participants are welcome to use BIRS facilities (2nd Floor Lounge, Max Bell

Meeting Rooms, Reading Room) until 3 pm on Friday, although participants are still required to checkout of the guest rooms by 12 noon. **