

# Workshop 06w5082 Syzygies and Hilbert Functions

## October 14 –19, 2006

### MEALS

Breakfast (Continental): 7:00–9:00 am, 2nd floor lounge, Corbett Hall, Sunday–Thursday

\*Lunch (Buffet): 11:30 am–1:30 pm, Donald Cameron Hall, Sunday–Thursday

\*Dinner (Buffet): 5:30–7:30 pm, Donald Cameron Hall, Saturday–Wednesday

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 lunch and dinner.**

### MEETING ROOMS

All lectures will be held in Max Bell 159 (Max Bell Building accessible by bridge on 2nd floor of Corbett Hall). Hours: 6 am–12 midnight. LCD projector, overhead projectors and blackboards are available for presentations. *Please 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 Beverage in those areas.*

### SCHEDULE

#### Saturday

- 16:00** Check-in begins (Front Desk - Professional Development Centre - open 24 hours)  
Lecture rooms available after 16:00 (if desired)
- 17:30–19:30** Buffet Dinner, Donald Cameron Hall
- 20:00** Informal gathering in 2nd floor lounge, Corbett Hall  
Beverages and small assortment of snacks available on a cash honour-system.

#### Sunday

- 7:00–8:30** Breakfast
- 8:30–8:45** Introduction and Welcome to BIRS by BIRS Station Manager, Max Bell 159
- 8:45–9:45** David Eisenbud, Powers of ideals and regularity of rational varieties
- 10:00–10:45** Dave Bayer
- 10:45** Coffee Break, 2nd floor lounge, Corbett Hall  
Informal discussions
- 11:30–1:30** Lunch
- 3 – 4** Coffee, 2nd floor lounge, Corbett Hall
- 4–4:30** Volkmar Welker, Spherical initial ideals
- 4:35–5:05** Marc Chardin, The geometry of syzygies
- 5:10 – 5:40** Takayuki Hibi, Algebraic shifting and graded Betti numbers
- 6:20 – 7:30** Dinner

## **Monday**

<b>7:00–9:00</b>	Breakfast
<b>9:00 – 10:00</b>	Lucho Avramov, Generic Poincare series
<b>10:00</b>	Group Photo; meet on the front steps of Corbett Hall
<b>10:05 – 10:30</b>	Coffee Break, 2nd floor lounge, Corbett Hall
<b>10:30 –11:15</b>	Vic Reiner, Invariants, syzygies, and combinatorics
<b>11:30 – 12:00</b>	Irena Peeva, Problems on Hilbert functions
<b>12:00–1:00</b>	Lunch
<b>1:00–2:00</b>	Guided Tour of The Banff Centre; meet in the 2nd floor lounge, Corbett Hall
<b>2:30 – 3:15</b>	Coffee Break, 2nd floor lounge, Corbett Hall
<b>3:30 – 4</b>	Uwe Nagel, Problems on Hilbert functions of Gorenstein algebras
<b>4:10 – 4:40</b>	Trivedi, Hilbert-Kunz multiplicity for curves
<b>5:00 – 5:30</b>	Juan Migliore, New directions for the Multiplicity Conjecture
<b>5:40 – 6:10</b>	Giulio Caviglia, The lex-plus-powers conjecture
<b>6:15–7:30</b>	Dinner
<b>After dinner</b>	Informal discussions

## Tuesday

<b>7:00–9:00</b>	Breakfast
<b>9:00 – 9:30</b>	Winfried Bruns, h-vectors of Gorenstein polytopes
<b>9:45 – 10:15</b>	Dale Cutkosky, Failure of tameness for local cohomology
<b>10:15 – 10:45</b>	Coffee Break, 2nd floor lounge, Corbett Hall
<b>10:45 – 11:15</b>	Klaus Altmann, Torus actions on normal varieties
<b>11:30 – 12:00</b>	Mauricio Velasco, The Cox ring of Del Pezzo surfaces
<b>12:00–1:30</b>	Lunch
<b>1:30</b>	Outing: meet in the 2nd floor lounge, Corbett Hall
<b>5:30–7:30</b>	Dinner
<b>After dinner</b>	Informal discussions

## Wednesday

<b>7:00–9:00</b>	Breakfast
<b>9:00 – 9:30</b>	Greg Smith, Toric Varieties as Fine Moduli
<b>9:45 – 10:15</b>	Noam Horwitz, Edge ideals
<b>10:15 – 10:45</b>	Coffee Break, 2nd floor lounge, Corbett Hall
<b>10:45 – 11:15</b>	Chris Francisco, Sequentially CM edge ideals
<b>11:30 – 12:00</b>	Hema Srinivasen, Gorenstein Artinian algebras of embedding dimension four
<b>12:00–1:30</b>	Lunch
<b>1:30 – 2:00</b>	Oana Veliche, Infinite syzygies over local rings with radical cube zero
<b>2:15 – 2:45</b>	Aldo Conca, Integrally closed and componentwise linear ideals
<b>4 – 4:30</b>	Informal lecture: Hal Schenck, Line and conic arrangements
<b>2:45 – 4:45</b>	Coffee, 2nd floor lounge, Corbett Hall
<b>4:45 – 5:15</b>	Srikanth Iyengar, Rank of differential modules
<b>5:30 – 6:00</b>	Brian Harbourne, Determining Graded Betti Numbers of Ideals of Fat Point Subschemes with Generic Support in the Plane
<b>6:15–7:30</b>	Dinner
<b>7:30 – 8:00</b>	Hiro Abo, The Quillen-Suslin theorem and the construction of vector bundles

## Thursday

<b>7:00–9:00</b>	Breakfast
<b>9:00 – 9:30</b>	Jeff Mermin, Three simplicial resolutions
<b>9:45 – 10:15</b>	Atsushi Noma, Hypersurfaces cutting out a projective variety
<b>10:15 – 11:15</b>	Coffee, 2nd floor lounge, Corbett Hall
<b>11:30–1:30</b>	Lunch