



Banff International Research Station

for Mathematical Innovation and Discovery

CosmoStat2013
March 17th-22nd 2013

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, in the foyer of the TransCanada Pipeline Pavilion (TCPL)
- *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 the lecture theater in the TransCanada Pipelines Pavilion (TCPL). An LCD projector, a laptop, a document camera, and blackboards are available for presentations.

SCHEDULE

Sunday

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

Monday

- 7:00-8:30 Breakfast
Morning session chair: Roberto Trotta
- 8:45-9:00 Introduction and Welcome by BIRS Station Manager
- 9:00-10:30 Each participant to give a 2-mins introduction about themselves and their field of interest
- 10:30-11:00 Coffee Break
- 11:00-12:00 **Alan Heavens**: Statistical challenges in cosmology, 45'+15'
- 12:00-13:00 Lunch
- 13:00-14:00 Guided Tour of The Banff Centre; meet in the 2nd floor lounge, Corbett Hall
Afternoon session chair: Alan Heavens
- 14:00-15:00 **Kaisey Mandel**: Hierarchical Bayesian methods in SNIa cosmology, 45'+15'
- 15:00 Group Photo; meet in foyer of TCPL (photograph will be taken outdoors so a jacket might be required).
- 15:10-15:30 Coffee Break
- 15:30-16:30 **Mike Hobson**: SkyNet: rise of the machine-learning in astronomy, 45'+15'
- 16:30-17:30 **Ethan Anderes**: Statistical discussant, 45'+15'
- 17:30-18:00 **Martin Hendry**: Robust approaches to analysing galaxy redshift surveys, 20'+10'
- 18:00-18:30 **Jessi Cisewski**: Modeling the IGM with Lyman alpha data and persistent homology, 20'+10'
- 18:30-19:30 Dinner

Tuesday

- 7:00-8:30 Breakfast
Morning session chair: Martin Kunz
- 8:30-9:30 **Farhan Feroz**: The MultiNest algorithm and applications, 45'+15'
- 9:30-10:00 **Francois Lanusse**: Spherical 3D wavelets for the study of wide galaxy surveys, 20'+10'

10:00-10:30 Coffee Break
10:30-12:00 Free or informal interactions
12:00-13:00 Lunch

Afternoon: Free or informal interactions

18:30-19:30 Dinner

After dinner session chair: David van Dyk

19:30-20:30 **Jason McEwen**: Sparsity, 45'+15'

20:30-21:00 **Adrienne Leonard**: 3D weak lensing reconstructions with compressed sensing, 20'+10'

Wednesday

7:00-8:30 Breakfast

Morning session chair: Joakim Edsjo

8:30-9:30 **Pat Scott**: Statistical challenges in astroparticle physics, 45'+15'

9:30-10:30 **Savvas Koushiappas**: Limits on dark matter annihilation from dwarfs, 45'+15'

10:30-11:00 Coffee Break

11:00-11:15: **Chad Schafer**: ABC, 15'

11:15-12:00 **David van Dyk**: Statistical discussant, 45'+15'

12:00-13:00 Lunch

13:00-16:30 Informal interactions

Afternoon session chair: Pat Scott

16:30-17:00 **Chiara Arina**: Reconstruction of Dark Matter parameters with the future XENON1T and IceCube86? 20'+10'

17:00-17:30 **Miguel Pato**: Taming astrophysical bias in direct dark matter searches, 20'+10'

17:30-18:00 **Charlotte Strege**: Statistical challenges in SUSY scans, 20'+10'

18:00-18:30 **Alex Kim**: Standardizing SNIa using Gaussian Process data regression, 20'+10'

18:30-19:30 Dinner

Thursday

7:00-8:30 Breakfast

Morning session chair: Mike Hobson

8:30-9:30 **Shirley Ho**: Statistical challenges in extracting BAO from BOSS, 45'+15'

9:30-10:30 **Chad Schafer**: Statistical challenges in LSST 45'+15'

10:30-11:00 Coffee Break

11:00-12:00 **Bruce Bassett**: Statistical challenges in supernova cosmology, 45'+15'

12:00-13:00 Lunch

13:00-16:00 Informal interactions

Afternoon session chair: Bruce Bassett

16:00-17:00 **Planck Cosmology Results** – Roundtable discussion, journal club style, led by Marting Kunz, Mike Hobson, Jason McEwen, Christophe Ringeval, Shirley Ho. Papers available from 12:00 noon GMT from <http://www.esa.int>

17:00-17:30 **Risa Wechsler**: Statistical inference from cosmological simulations, 20'+10'

17:30-18:00 **Natasha Karpenka**: Supernova classification using neural networks, 20'+10'

18:00-18:30 **Ingunn Wehus**: Bayesian CMB analysis with Gibbs sampling, 20'+10'

18:30-19:30 Dinner

Evening session chair: Martin Hendry

19:30-20:15 **Raul Jimenez**: Cosmology summary and open challenges, 45'

20:15-21:00 **Joakim Edsjo**: Astroparticle summary and open challenges, 45'

Friday

7:00-8:30 Breakfast

8:30-12:00 Informal interactions

12:00-13:00 Lunch

13:00 End of workshop

Checkout by 12 noon.

** 5-day workshop participants are welcome to use BIRS facilities (BIRS Coffee Lounge, TCPL and Reading Room) until 3 pm on Friday, although participants are still required to checkout of the guest rooms by 12 noon. **