



Banff International Research Station

for Mathematical Innovation and Discovery

09w5017: Mathematical Methods in Emerging Modalities of Medical Imaging Oct 25 - Oct 30, 2009

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.

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 Beverages in those areas.

SCHEDULE

Sunday

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

20:00 Informal gathering in 2nd floor lounge, Corbett Hall

Beverages and small assortment of snacks available on a cash honour-system.

Monday

7:00-8:45 Breakfast

8:45-9:00 Introduction and Welcome to BIRS by BIRS Station Manager, Max Bell 159

9:00-9:05 Opening by the organizers

9:05-9:45 P.Kuchment “Can one hear the heat of a body? Survey of the mathematics of Thermo- and Photo-acoustic tomography”

9:45-9:55 Break

9:55-10:35 P. Stefanov “Thermoacoustic tomography with a variable sound speed”

10:35-11:00 Coffee break, 2nd floor lounge, Corbett Hall

11:00-11:40 P. Burgholzer “Image Reconstruction in Photoacoustic Tomography taking acoustic attenuation into account”

11:40-13:00 Lunch

13:00-14:00 Guided Tour of The Banff Centre; meet in the 2nd floor lounge, Corbett Hall

14:00-14:30 Group Photo; meet on the front steps of Corbett Hall. Coffee

14:30-15:10 G. Bal “Inverse transport and inverse diffusion theories for photoacoustics”

15:10-15:50 S. Arridge “Quantitative Reconstruction in PhotoAcoustic Tomography”

15:50-16:00 Break

16:00-16:40 A. Katsevich “An accurate approximate algorithm for motion compensation in two-dimensional tomography”
16:40-17:40 Panel Discussion I
17:40-19:30 Dinner
Informal gatherings

Tuesday

7:00-9:00 Breakfast
9:00-9:40 J. McLaughlin “Biomechanical Imaging: Viscoelastic Models, Algorithms, Reconstructions; Application to Breast, Prostate and Brain”
9:40-9:50 Break
9:50-10:30 A. Manduca “Magnetic Resonance Elastography: Overview and Open Problems”
10:30-11:00 Coffee break, 2nd floor lounge, Corbett Hall
11:00-11:40 A. Nachman “Current Density Impedance Imaging”
11:40-13:00 Lunch
13:00-13:40 L. Kunyansky “Synthetic focusing in Acousto-Electric Impedance Tomography”
13:40-13:50 Break
13:50-14:30 Y. Xu “Ultrasound mediated imaging methods for electrical properties of biological tissues”
14:30-15:00 Coffee break, 2nd floor lounge, Corbett Hall
15:00-15:40 O. Scherzer “Impedance-Acoustic Tomography”
15:40-16:10 J. Schotland “Inverse Problem of Acousto-Optic Imaging”
16:20-16:50 W. Bangerth “[Reconstructions in ultrasound modulated optical tomography](#)”

16:50-17:50 Panel Discussion II
17:50-19:30 Dinner
Informal gatherings

Wednesday

- 7:00-9:00 Breakfast
9:00-9:40 A. Lawrence “Advances in Large Field and High Resolution Electron Tomography”
9:40-9:50 Break
9:50-10:30 E.T. Quinto “Electron Microscope Tomography”
10:30-11:00 Coffee Break, 2nd floor lounge, Corbett Hall
11:00-11:40 D. Isaacson “Problems in the diagnosis and treatment of breast cancer”
11:40-13:30 Lunch

Free Afternoon

- 17:30-19:30 Dinner
Informal gatherings

Thursday

- 7:00-9:00 Breakfast
9:00-9:40 E. Ritman “Micro-Tomographic Imaging of Coherent X-ray Scatter using a Polycapillary X-Ray Optic Imaging System and Multi-Energy X-Ray Detection”
9:50-10:30 V. Palamodov “Reconstruction in Doppler tomography”
10:30-11:00 Coffee break, 2nd floor lounge, Corbett Hall
11:00-11:40 C. Li “Photoacoustic tomography: Combing electromagnetic absorption contrast with ultrasonic detection”
11:30-13:30 Lunch
13:30-14:10 V. Markel “Inverse radiative transport with the method of rotated reference frames”
14:10-14:40 Coffee break, 2nd floor lounge, Corbett Hall
14:40-15:20 S. Moskow “The Inverse Born Series for Diffuse Waves.”
15:20-16:00 S. Carney “Deconstructing the Born series”
16:00-16:10 Break
16:10-16:50 F. Natterer “Possibilities and limitations of ultrasound tomography”
16:50-17:40 Panel III
17:40-19:30 Dinner
Informal gatherings

Friday

- 7:00-9:00 Breakfast
9:00-10:30 Informal Discussion/Panel
10:30-11:00 Coffee Break, 2nd floor lounge, Corbett Hall
11:00-11:30 Informal Discussion/Panel
11:30-13:30 Lunch

Checkout by 12 noon.

** 5-day workshops are welcome to use the 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.