



Banff International Research Station
for Mathematical Innovation and Discovery

Workshop (11w5086)
Advancing numerical methods for viscosity
solutions and applications

February 13-18, 2011

TIME TABLE

	MON	TUE	WED	THU	FRI
9.00-10.30	Tutorial 3	Tutorial 2	Tutorial 3	Talks S3	Free
Coffee Break	2nd floor lounge, Corbett Hall				
11.00-12.30	Tutorial 1	Tutorial 1	Tutorial 4	Talks S4	Free
Lunch Break	Sally Borden Building				
14.00-15.30	Tutorial 2	Talks S1	Free	Talks S5	
Coffee Break	2nd floor lounge, Corbett Hall				
16.00-17.30	Tutorial 4	Talks S2	Free	Round-Table	

Tutorial 1: *Semi-Lagrangian schemes* (R. Ferretti)

Tutorial 2: *Fast-Marching and Fast-Sweeping methods*
(A. Vladimirovsky and H. Zhao)

Tutorial 3: *Control applications* (I. Mitchell)

Tutorial 4: *Discontinuous Galerkin methods* (F. Li)

Each talk has 30 min, every Talk Session has 3 talks.

General Informations

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 are available on a cash honor system.

Few changes to the above daily schedule are planned on Monday and Friday.

Monday

- 8:45-9:00 Introduction and Welcome by BIRS Station
Manager, Max Bell 159
- 9:00- Lectures
- 1:00-2:00 Banff Centre tour
- 2:00 Group Photo

Friday

- 9:00- Lectures
- Warning: checkout of the guest rooms by 12 noon.

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
The above hours refer to the service availability. 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.



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TALK SESSIONS

Tuesday - TS1

- Benamou *"Local High Frequency wave content Analysis"*
Camilli *"Shortest paths and Hamilton-Jacobi equations on a network"*
Yu *"A new approximation for effective Hamiltonians for homogenization of a class of Hamilton-Jacobi equations"*

Tuesday - TS2

- Akian *"Max-Plus algebra in the numerical solution of Hamilton-Jacobi and Isaacs Equations"*
Vladimirsky *"Optimal Control with Budget Constraints and Resets"*
Forcadel *"Generalized Fast Marching Method and applications"*
Kao *"Split Bregman Method for Minimization of Region-Scalable Fitting Energy for Image Segmentation"*

Thursday - TS3

- Sethian *"Fast Marching Methods and Eikonal Solvers: Applications to Discovering New Materials in Computational Chemistry and Retinopathy Diagnosis"*
Carlini *"A Generalized Fast Marching Method on Unstructured Grid"*
Cristiani *"Two New Ordered Upwind Methods for Hamilton-Jacobi Equations"*

Thursday - TS4

- Bokanowski *"Discontinuous Galerkin Scheme for Front Propagation with Obstacle"*
Nave *"On some high-order, optimally local schemes for interface problems"*
Zidani *"Convergence result of a non-monotone scheme for HJB equations"*

Thursday - TS5

- Oberman *"Numerical Methods for Geometric Elliptic Partial Differential Equations"*
Serna *"Hamilton-Jacobi equations with shocks arising from general Fokker-Planck equations: analysis and numerical approximation"*
Gomes *"Adjoint methods for obstacle problems and weakly coupled systems of PDE"*

Thursday 16:00-17:30

- Klompaker *"Semi-Lagrangian schemes using sparse grids for front propagation"*

Round-Table/Open discussion