Workshop Nonholonomic Dynamics and Integrability
January 28 – February 2, 2007

MEALS

*Breakfast (Buffet): 7:00–9:00 am, Donald Cameron Hall, Monday–Friday
*Lunch (Buffet): 11:30 am–1:30 pm, Donald Cameron Hall, Monday–Friday
*Dinner (Buffet): 5:30–7:30 pm, Donald Cameron Hall, Sunday–Thursday
Coffee Breaks: 10:00–10:30 am and 3:00–4:00 pm, 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 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

Sunday

16:00 Check-in begins (Front Desk - Professional Development Centre - open 24 hours)
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.

Monday

7:00–8:45 Breakfast
8:45–9:00 Introduction and Welcome to BIRS
9:00 – 10:00 Lecture
Speaker: **L. Bates** (University of Calgary)
Title: *What happened to the Hamilton-Jacobi equation*
10:00 – 10:30 Coffee Break, 2nd floor lounge, Corbett Hall
10:30 – 11:30 Lecture
Speaker: **J. Sniatycki** (University of Calgary)
Title: *Conservation laws, symmetry and reduction*
11:30–13:00 Lunch
13:00–14:00 Guided Tour of the Banff Centre; meet 2nd floor lounge of Corbett Hall
14:00 Group Photo; meet on the front steps of Corbett Hall; informal discussions
15:00 – 16:00 Coffee Break
16:00 – 17:00 Lecture
Speaker: **Yu. Baryshnikov** (Bell Labs)
Title: *Spherical billiards with many 3-periodic orbits*
17:00 – 17:15 Break
17:15 – 18:15 Lecture
Speaker: **V. Zharnitsky** (University of Illinois)
Title: *Periodic orbits in outer billiards*
18:15–19:30 Dinner
informal discussions

Tuesday

7:00–9:00 Breakfast

9:00 – 10:00 Lecture

Speaker: **A. Agrachev** (SISSA)

Title: *Rolling balls and octonions*

10:00 – 10:30 Coffee Break

10:30 – 11:30 Lecture

Speaker: **R. Montgomery** (University of California, Santa Cruz)

Title: *G_2 and the rolling distribution*

11:30–13:30 Lunch
informal discussions

15:00 – 16:00 Coffee Break

16:00 – 17:00 Lecture

Speaker: **A. Bloch** (University of Michigan)

Title: *Connections between nonholonomic mechanics and control*

17:00 – 17:15 Break

17:15 – 18:15 Lecture

Speaker: **M. Levi** (Penn State)

Title: *A simple example of Arnold diffusion*

18:15–19:30 Dinner
informal discussions

Wednesday

7:00–9:00 Breakfast

9:00 – 10:00 Lecture

Speaker: **D. Zenkov** (North Carolina State University)

Title: *Momentum conservation, integrability, and applications to control*

10:00 – 10:30 Coffee Break

10:30 – 11:30 Lecture

Speaker: **Yu. Fedorov** (Universitat Politechnica de Catalunya)

Title: *Discretization of integrable nonholonomic systems on Lie groups*

11:30–13:30 Lunch
informal discussions

15:00 – 16:00 Coffee Break

16:00 – 17:00 Lecture

Speaker: **V. Jurdjevic** (University of Toronto)

Title: *Rolling sphere problems on spaces of constant curvature*

17:00 – 17:15 Break

17:15 – 18:15 Lecture

Speaker: **T. Tokieda** (University of Cambridge)

Title: *Slipping and rolling toys and their integrability*

18:15–19:30 Dinner
informal discussions

Thursday

7:00–9:00 Breakfast

9:00 – 10:00 Lecture

Speaker: **M. de Leon** (Inst. de Matematicas y Fisica Fund.)

Title: *Hamilton-Jacobi theory for nonholonomic mechanical systems*

10:00 – 10:30 Coffee Break

10:30 – 11:30 Lecture

Speaker: **W. Respondek** (INSA de Rouen)

Title: *Integrability and non-integrability of sub-Riemannian problems*

11:30–13:30 Lunch
informal discussions

15:00 – 16:00 Coffee Break

16:00 – 17:00 Lecture

Speaker: **Yu. Sachkov** (University of Pereyaslavl)

Title: *Maxwell strata and conjugate points in Euler's elastic problem*

17:00 – 17:15 Break

17:15 – 18:15 Lecture

Speaker: **A. Ruina** (Cornell University)

Title: *Some mechanics perspectives on non-holonomic constraints*

18:15–19:30 Dinner
informal discussions

Friday

7:00–9:00 Breakfast

9:00 – 10:00 Lecture

Speaker: **L. Garcia Naranjo** (University of Arizona)

Title: *Almost Poisson bracket for nonholonomic systems on Lie groups*

10:00 – 10:30 Coffee Break

10:30 – 11:30 Lecture

Speaker: **P. Lee** (University of Toronto)

Title: *Infinite-dimensional geometry of optimal mass transport*

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. **