



Banff International Research Station

for Mathematical Innovation and Discovery

Quadrature Domains and Laplacian Growth

July 15-20, 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: 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 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)
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.

Monday (PRELIMINARIES, INTRODUCTORY MATERIAL)

- 7:00–8:45** Breakfast
- 8:45–9:00** Introduction and Welcome to BIRS by BIRS Station Manager
- 9:00–10:00** *Bjorn Gustafsson*: Quadrature Domains and Related Subjects
- 10:00–10:30** Coffee Break (2nd floor lounge, Corbett Hall)
- 10:30–11:30** *Alexander Vasiliev*: A Historical Survey on the Hele-Shaw Flow
Chair: Mihai Putinar
- 11:30–13:00** Lunch
- 13:00–14:00** Guided Tour of The Banff Centre; meet in the 2nd floor lounge, Corbett Hall
- 14:00** Group Photo; meet on the front steps of Corbett Hall
- 14:10–15:10** *Mark Mineev*: Physics and All Exact Solutions in Laplacian Growth
- 15:10–15:30** Coffee Break
- 15:30–16:30** *Razvan Teodorescu*: Laplacian Growth and Random Matrices
- 16:30–17:30** *Nikolai Makarov*: Fractals and Conformal Theory
Chair: Ilya Gruzberg
- 17:30–19:30** Dinner

Tuesday (QUADRATURE DOMAINS AND RELATED AREAS OF FUNCTION THEORY)

7:00–8:30 Breakfast

8:30-9:30 *Dmitry Khavinson*: Gravitational lensing by elliptical galaxies and the Schwarz function

9:30-10:30 *Makoto Sakai*: Construction of quadrature domains with infinite volume (a preliminary report)

10:30-11:00 Coffee Break

11:00-11:30 *Lavi Karp*- TBA

Chair: Bjorn Gustafsson

11:40–13:00 Lunch

14:00-15:00 *Edward Saff*-TBA

15:00-15:30 Coffee Break

15:30-16:30 *Nikos Stylianopoulos*: Orthogonal Planar Polynomials: Construction, Distribution of Zeros and Recovery of the Defining Domain

16:30-17:30 *Vladimir Tkachev*-Meromorphic resultants and the exponential transform

Chair: Darren Crowdy

17:30–19:30 Dinner

Wednesday(INTEGRABILITY IN FLUID MECHANICS AND RELATED TOPICS)

7:00–9:00 Breakfast

9:00-10:00 *Darren Crowdy*: Integrability in fluid mechanics

10:00-10:30 Coffee Break

10:30-11:30 *Jens Hoppe*: Integrable surface motions and fluid dynamics

Chair: Dmitry Khavinson

11:30–13:30 Lunch

Free Afternoon

17:30–19:30 Dinner

Thursday (ADVANCES IN RANDOM MATRICES AND LAPLACIAN GROWTH)

7:00–8:30 Breakfast

8:30-9:00 *Artem Abanov*: Selection in Laplacian Growth

9:00-10:00 *John King*: TBA

10:00-10:30 Coffee Break

10:30-11:00 *Chris Scullard*: Random growth and the Schwarz-Christoffel Growth

11:00-12:00 *Oksana Yermolaeva*: Non-Laplacian growth, algebraic domains and finite reflection groups

Chair - Mark Mineev

12:00–13:30 Lunch

14:00-15:00 *Ilya Gruzberg*: Loewner chains

15:00-15:30 *Ferenc Balogh*: Orthogonal Polynomials for Exponential

Type Weights on the Complex Plane and Generalized Quadrature Domains

15:30-16:00 Coffee Break

16:00-17:00 *John Harnad*: Tau Function and Random Growth

Chair: Nikolai Makarov

17:30–19:30 Dinner

Friday (PERSPECTIVES)

7:00–9:00 Breakfast

9:00 Formal and informal discussions

10:00-11:00 Coffee Break

11:30–13:30 Lunch

Checkout by 12 noon.