A Final Report on:

Atlantic Analysis Days

January 20 - 21 at Dalhousie University hosted by Jon Borwein.

We had 6 prestigious guest speakers including Bruce Berndt (Illinois), Peter Borwein (Simon Fraser), Alexander Ioffe (Technion), Adrian Lewis (Cornell), Boris Mordukhovich (Wayne State) and José Francisco Rodrigues (Coimbra and Lisbon).

The Friday sessions focused on non-smooth analysis and the Saturday sessions were devoted to analysis in general.

This was a technology-enabled conference. Peter Borwein's presentation came from IRMACS in Vancouver over an Access Grid connection. This was a fully interactive event as participants were able to attend the presentation as well as to ask questions at the end. We also broadcast most events across Canada using epresence software. Furthermore, the talks by Qiji Jim Zhu and Gabor Pataki were also delivered over technology supplied by the D-Drive lab from Michigan and Chapel Hill respectively.

The event was attended by 40 participants from across Canada, the United States and Europe, including 10 graduate students from Atlantic Canada.

Schedule

Friday, January 20: Non-Smooth Analysis Sessions

8:00 am	Breakfast

9:00 am	**Plenary Speaker: Alexander Ioffe** (Technion)
	    Tame Functions, Variational Analysis and the Morse-Sard Theorem
	        presentation slides

10:00 am	Coffee and refreshments

10:30 am	**Hristo Sendov** (University of Guelph)
	    Characterization of the Higher-Order Derivatives of Separable Spectral Functions
	        presentation slides

11:00 am	**János Pintér** (Pintér Consulting Services and Dalhousie with Maplesoft) Global Optimization Toolbox for Maple

11:30 am	**Chris Hamilton** (Dalhousie) Symbolic Computation of Fenchel Conjugates presentation slides
12:00 pm	**Herre Wiersma** (Dalhousie) Asplund Decompositions of Monotone Operators presentation slides
12:30 pm	Lunch
2:00 pm	**Plenary Speaker: Boris Mordukhovich** (Wayne State) Methods of Variational Analysis in Nonsmooth Optimization presentation slides
3:00 pm	**Qiji Jim Zhu** (Western Michigan University) D-Drive Lab Variational Analysis and Alchemy presentation slides
3:30 pm	**Gabor Pataki** (UNC Chapel Hill) On the Closedness of the Linear Image of a Closed Convex Cone presentation slides
4:00 pm	**Heinz Bauschke** (UBC Okanagan) Fitzpatrick functions, cyclic monotonicity and Rockafellar's antiderivative presentation slides
4:30 pm	Break
5:30 pm	**Plenary Speaker: Adrian Lewis** (Cornell) Eigenvalues and Optimization presentation slides
6:30 pm	Reception

Saturday, January 21: General Analysis Sessions

8:00 am	Breakfast
9:00 am	**Plenary Speaker: José Francisco Rodrigues** (Coimbra and Lisbon) Systems of Unilateral Problems And Applications presentation slides
10:00 am	Coffee and refreshments
10:30 am	**Franklin Mendivil** (Acadia University) Iterated Function Systems and the Ergodic Theorem presentation slides
11:00 am	**Keith F. Taylor** (Dalhousie) Crystal Symmetries and Wavelets presentation slides

11:30 am	**Margo Kondratieva** (Memorial University) Discrete Green's Theorem, Series Convergence Acceleration, and Surprising Identities presentation slides
12:00 pm	**Bruce Smith** (Dalhousie) Time Series and Point Process Methods, with Application to Sealevel Data presentation slides
12:30 pm	Lunch
2:00 pm	**Plenary Speaker: Peter Borwein** (Simon Fraser) Computer Science Auditorium Some Highly Computational Problems Somewhere Between Diophantine Number Theory, Harmonic Analysis and Combinatorics presentation slides
3:00 pm	**Plenary Speaker: Bruce Berndt** (Illinois) The Five Strangest, Most Fascinating, Most Interesting Results in Ramanujan's Lost Notebook (In the Speaker's Most Humble Opinion) presentation slides
4:00 pm	**Jonathan Borwein** (Dalhousie) Computer Assisted Discovery and Proof of Generating Functions for Riemann's Zeta presentation slides
4:30 pm	Break
6:30 pm	Self-hosting Conference Dinner **Saege Bistro**