

# Workshop on "Time-frequency analysis and nonstationary filtering"

at the Banff International Research Station (BIRS)

Saturday, September 24. - Thursday, September 29. 2005



## Saturday, September 24.

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16:00 - 22:00 : *Check-in begins*  
 20:00 - 22:00 : *Informal gathering (Corbett Hall)*

## Sunday, September 25.

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08:45 - 09:00 : *Welcome*  
 09:00 - 09:30 : Pete Casazza: *Pure Mathematics, Applied Mathematics and Engineering: A common thread*  
 09:40 - 10:10 : Thomas Strohmer: *Capacity of time-varying channels and pseudodifferential operators*  
 10:10 - 10:50 : *Coffee break*  
 10:50 - 11:30 : John Klauder: *Signal Transmission in Passive Media*  
 11:30 - 13:00 : *Lunch*  
 13:00 - 13:45 : *Guided Tour of the Banff Center*  
 13:45 - 14:15 : Hans Feichtinger: *What do we know about Gabor multipliers?*  
 14:30 - 15:00 : Goetz Pfander: *Sampling of operators and channel measurements*  
 15:00 - 16:00 : *Coffee and discussion*  
 16:00 - 16:30 : Peter Balazs: *Gabor Multipliers with Application to Psychoacoustics*  
 16:40 - 17:10 : Bruno Torresani: *Identifying sparse hybrid time-frequency models*  
 17:30 - 19:30 : *Dinner*

## Monday, September 26.

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09:00 - 09:30 : Palle Jorgensen: *Computation of wavelet coefficients in generalized multiresolution systems*  
 09:40 - 10:10 : Syed T. Ali: *A Suggestion for a Vectorial Gabor Transform*  
 10:10 - 10:50 : *Coffee break*  
 10:50 - 11:20 : Zuowei Shen: *Deconvolution: A wavelet frame approach.*  
 11:20 - 11:30 : *Photo shooting*  
 11:30 - 13:30 : *Lunch*  
 13:30 - 14:00 : Massimo Fornasier: *Frame adaptive methods for signal processing and operator equations*  
 14:10 - 14:40 : Sacchi Mauricio: *On the Regularization of the Local Radon Transform - Applications to Seismic Coherent Noise Atenuation*  
 14:40 - 15:45 : *Coffee and discussion*  
 15:45 - 16:15 : Franz Hlawatsch: *Linear Methods for Time-Frequency Filtering [joint work with Gerald Matz]*  
 16:30 - 17:10 : Ross Mitchell: *Time/Frequency Applications in Medical Imaging*

**Tuesday, September 27.**

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09:00 - 09:30 : Bernhard Bodmann: *Frame paths and error bounds for sigma-delta quantization*  
09:40 - 10:10 : David Larson: *Frames and Operator Theory*  
10:20 - 10:50 : Gitta Kutyniok: *Shearlets: Sparse Directional Representations of Images within a Multiresolution Analysis Structure*  
11:00 - 11:30 : Kasso Okoudjou: *On some Fourier multipliers for modulation spaces*  
11:30 - 13:00 : *Lunch*  
13:00 - 18:00 : *Excursion*

**Wednesday, September 28.**

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09:00 - 09:30 : Joachim Toft: *Schatten properties for pseudo-differential operators and localization operators on modulation spaces of Hilbert type*  
09:40 - 10:10 : Alessandro Oliaro: *Continuity of localization operators in  $L^p$  spaces*  
10:10 - 11:00 : *Coffee*  
11:00 - 11:30 : Christopher Heil: *The Homogeneous Approximation Property for Wavelet Frames*  
11:30 - 13:30 : *Lunch*  
13:30 - 14:00 : Gary Margrave: *A stable, explicit nonstationary filter for wavefield extrapolation*  
14:10 - 14:40 : Lou Fishman: *Phase Space and Path Integral Methods in Seismic Wave Propagation Modeling and Imaging*  
14:40 - 15:40 : *Coffee and discussion*  
15:40 - 16:10 : Maarten de Hoop: *Analysis of 'wave-equation' imaging of reflection seismic data with curvelets*  
16:20 - 16:50 : Felix Herrmann: *Non-linear seismic data regularization and separation with directional curvelet frames*  
17:00 - 17:30 : Peter Gibson: *Gabor deconvolution of one-dimensional seismic data*

**Thursday, September 29.**

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09:30 - 10:00 : Chris Stolk: *TBA*  
09:40 - 10:10 : Michael Lamoureux: *The Rotation Algebra in Time-Frequency Analysis*  
10:20 - 10:50 : Karlheinz Groechenig: *Mapping properties of localization operators*