

International Conference "Trends in Harmonic Analysis"

Strobl 2007

Monday, June 18. - Friday, June 22. 2007



Monday, June 18.

09:00 - 09:15 : *Welcome*

09:15 - 10:05 : Pete Casazza: *The Feichtinger Conjecture in Mathematics and Engineering*

Session: (*Bürglsaal*) *FRAMES* [Chair: Führ]

10:45 - 11:10 : Peter Balazs: *Weighted and controlled frames*

11:45 - 12:10 : Ilya Krishtal: *Slanted matrices, sampling, and Banach frames*

Session: (*Seehaus*) *COMPUTATIONAL HARMONIC ANALYSIS* [Chair: Strohmer]

10:45 - 11:10 : Daniel Potts: *Fast Fourier transform at nonequispaced knots and applications*

11:15 - 11:40 : Daniela Rosca: *Spherical quadrature formulas with equally-spaced nodes on latitudinal circles*

11:45 - 12:10 : Stefan Kunis: *Efficient reconstruction of functions on the sphere from scattered data*

12:30 - 13:30 : *Lunch break*

14:00 - 14:40 : Stephan Dahlke: *Shearlet Coorbit Spaces and Related Banach Frames*

Session: (*Bürglsaal*) *COORBIT THEORY* [Chair: Antoine]

15:15 - 15:40 : Daryl Geller: *Nearly Tight Frames and Space-Frequency Analysis on Manifolds*

15:45 - 16:10 : Hartmut Fuehr: *Painless Gabor expansions on homogeneous manifolds*

16:15 - 16:40 : Milton Ferreira: *Spherical Continuous Wavelet Transforms arising from sections of the Lorentz group*

Session: (*Seehaus*) *WAVELETS* [Chair: Bakic]

15:15 - 15:40 : Richard S. Laugesen: *Affine synthesis onto Lebesgue and Hardy spaces*

16:15 - 16:40 : Victor Didenko: *Estimates of the spectral radius for refinement and subdivision operators*

Tuesday, June 19.

Session: (*Bürglsaal*) *SPARSE REPRESENTATION* [Chair: Rauhut]

09:00 - 09:25 : Przemyslaw Wojtaszczyk: *Thresholding and compressed sensing*

09:30 - 09:55 : Massimo Fornasier: *The theory of iterative thresholding algorithms and their acceleration methods*

10:00 - 10:25 : Jared Tanner: *The surprising structure of Gaussian point clouds and its implications for signal processing*

Session: (*Seehaus*) *COMPLEX ANALYSIS* [Chair: Englis]

09:00 - 09:25 : Dusanka Perisic: *Kernel Theorem for the space of generalized Gelfand-Shilov spaces*

09:30 - 09:55 : Yurii Lyubarski: *Vector-valued Gabor frames with Hermite functions*

10:00 - 10:25 : Sofia Olhede: *The Hyperanalytic Wavelet Transform*

11:00 - 11:50 : Albert Cohen: *Near optimal recovery of arbitrary signals from uncomplete measurements*

14:00 - 14:40 : Maarten V. De Hoop: *Dyadic parabolic decomposition, approximation of functions by wave packets, and evolution equations*

14:50 - 16:20 : *Poster session*

Session: (*Bürglsaal*) **WAVELETS** [Chair: Laugesen]

16:20 - 16:45 : Damir Bakic: *Orthonormal wavelets with general integer dilations*

16:50 - 17:15 : Jeffrey Blanchard: *Minimally supported frequency composite dilation wavelets*

17:20 - 17:45 : Mihaela Dobrescu: *Circular and Hyperbolic Rotations and MRA Wavelets*

Session: (*Seehaus*) **COMPLEX ANALYSIS** [Chair: Lyubarski]

16:20 - 16:45 : Richard Rochberg: *Discrete Models for Spaces of Holomorphic Functions*

16:50 - 17:15 : Miroslav Engliš: *Toeplitz operators and Segal-Bargmann analysis*

17:20 - 17:45 : Brendan Farrell: *Inverse-Closedness of a Banach Algebra of Integral Operators on the Heisenberg Group*

Wednesday, June 20.

Session: (*Bürglsaal*) **SPARSE REPRESENTATION** [Chair: Tanner]

09:00 - 09:25 : Holger Rauhut: *Identification of matrices having a sparse representation*

09:30 - 09:55 : Goetz Pfander: *Sampling and sparsity: from vectors and functions to matrices and operators*

10:00 - 10:25 : Alex Powell: *Signal estimation from noisy dense measurements.*

Session: (*Seehaus*) **HARMONIC ANALYSIS** [Chair: Weisz]

09:00 - 09:25 : Apostolos Vourdas: *Harmonic analysis on a Galois field*

09:30 - 09:55 : Philippe Jaming: *Nazarov's uncertainty principle in higher dimension*

10:00 - 10:25 : W. R. Madych: *Harmonic Polysplines*

11:00 - 11:50 : Vladimir Temlyakov: *Convergence of Greedy Approximation for the Trigonometric System*

14:00 *Excursion*

Thursday, June 21.

Session: (*Bürglsaal*) **SPARSE REPRESENTATION** [Chair: Fornasier]

09:00 - 09:25 : Smbat Gogyan: *Renormalized Haar system as quasi-greedy basis in $L^1(0,1)$*

09:30 - 09:55 : Karin Schnass: *Average Performance Analysis for Thresholding*

10:00 - 10:25 : Pawel Bechler: *Frames and n -term approximation*

Session: (*Seehaus*) **HARMONIC ANALYSIS** [Chair: Neuhauser]

09:00 - 09:25 : Shobha Madan: *Structure of the spectrum and Fuglede's Conjecture for three intervals*

09:30 - 09:55 : Mohammad Ali Dehghan: *Biframe Duals and Reflexivity*

10:00 - 10:25 : Parasar Mohanty: *Extensions of Bilinear Multipliers*

11:00 - 11:50 : Roman Vershynin: *Uncertainty principles, frames and vector quantization*

12:30 - 13:30 : *Lunch break*

14:00 - 14:40 : Loukas Grafakos: *Gabor Ridge Functions: theory and applications*

Session: (*Bürglsaal*) *TIME-FREQUENCY ANALYSIS* [Chair: Rzeszotnik]

15:15 - 15:40 : Ole Christensen: *Pairs of explicitly given Gabor frames*

15:45 - 16:10 : Franz Luef: *The density theorem of Gabor analysis: an operator algebraic approach*

16:15 - 16:40 : Maurice De Gosson: *The Weyl Representation of Metaplectic Operators and the Conley-Zehnder Index*

Session: (*Seehaus*) *WAVELETS* [Chair: Madych]

15:15 - 15:40 : Martin Ehler: *N-term approximation by nonseparable wavelet bi-frames*

15:45 - 16:10 : Ataollah Askari Hemmat: *Fractal sets and their relation with wavelet sets*

16:15 - 16:40 : Jean-Pierre Antoine: *Locally supported orthogonal wavelet bases on the sphere via stereographic projection*

Friday, June 22.

Session: (*Bürglsaal*) *PSEUDODIFFERENTIAL OPERATORS* [Chair: De Gosson]

09:00 - 09:25 : Henning Kempka: *Generalized 2-microlocal Spaces*

09:30 - 09:55 : Maria Perel: *New exact integral representations of solutions of the wave equation based on continuous wavelet analysis*

10:00 - 10:25 : Ziemowit Rzeszotnik: *Banach algebras of pseudodifferential operators and their almost diagonalization*

Session: (*Bürglsaal*) *PSEUDODIFFERENTIAL OPERATORS* [Chair: Kaiblinger]

11:00 - 11:25 : Elena Cordero: *Strichartz Estimates in Wiener Amalgam Spaces for the Schrödinger Equation*

11:30 - 11:55 : Agissilaos Athanassoulis: *Generalization of the Weyl-Moyal calculus and computational homogenization of wave propagation*

Session: (*Seehaus*) *TIME-FREQUENCY ANALYSIS* [Chair: Christensen]

09:00 - 09:25 : Norbert Kaiblinger: *Connecting discrete and continuous Gabor frames*

09:30 - 09:55 : Piotr Wojdylo: *Non-Separable Wilson Tight Frames for 2D*

10:00 - 10:25 : Ferenc Weisz: *Some summability results for Gabor series*

Session: (*Seehaus*) *TIME-FREQUENCY ANALYSIS* [Chair: Luef]

11:00 - 11:25 : Patrik Wahlberg: *Weyl product algebras and modulation spaces*

11:30 - 11:55 : Abdumalik Rakhimov: *Localization of spectral expansions of distributions*

12:30 - 13:30 : *Lunch break*

14:00 - 14:40 : Luigi Rodino: *Fourier integral operators and multidimensional wavelets*

14:45 - 15:20 : Thomas Strohmer: *The Unreasonable Effectiveness of Banach Algebras in Numerical Analysis*

15:20 *Conclusion*