# Scientific Program

**Monday, January 23rd**

*1st Morning Session*

9:00 – 9:15 Opening

9:15 – 10:15 H.G. Feichtinger
*Wiener amalgam spaces and their use in Gabor analysis I*

10:15 – 10:50 Coffee break

*2nd Morning Session*

10:50 – 11:20 G. Steidl
*Wavelet inspired four pixel schemes for anisotropic diffusion*

11:20 – 11:50 S. Anthoine
*A variational framework to handle multiple intput/output in image processing*

11:50 – 12:20 C. Sagiv
*Certainty and uncertainty in filter bank design methodology*

12:20 – 12:50 E.A. Lebedeva
*Meyer wavelet with the minimal uncertainty and its numerical approximation*

12:50 – 14:15 Lunch

*1st Afternoon Session*

14:15 – 15:15 K. Gröchenig
*Time-Frequency Analysis: from wireless communications to abstract harmonic analysis I*

15:15 – 15:45 H. Rauhut
*Random sampling of sparse trigonometric polynomials*

15:45 – 16:15 Coffee break

*2nd Afternoon Session*

16:15 – 16:45 G. Pfander
*Widening Shannon's sampling theorem*

16:45 – 17:15 H. Thielemann
*Optimally matched wavelets*

17:15 – 17:45 N. Babacev
*Detection of cardboard faults during the production process*

17:45 – 18:15 S. Bader
*Facilitation of wavelet-based peak discovery in ion mobility spectrometry data*

**Tuesday, January 24th**

*1st Morning Session*

9:00 – 10:00 K. Gröchenig
*Time-Frequency Analysis: from wireless communications to abstract harmonic analysis II*

10:00 – 10:30 M. Wild
*Characterizing discrete-time function spaces*

10:30 – 10:50 Coffee break

*2nd Morning Session*

10:50 – 11:20 E. Novak
*Optimal approximation of elliptic problems by linear and nonlinear mappings I*

11:20 – 11:50 W. Sickel
*Optimal approximation of elliptic problems II*

11:50 – 12:20 S. Dekel
*Meshless anisotropic wavelets and smoothness spaces in* $\mathbb{R}^d$

12:20 – 12:50 F. Pitolli
*Totally positive functions through nonstationary subdivision schemes*

12:50 – 14:15 Lunch

*1st Afternoon Session*

14:15 – 15:15 H.G. Feichtinger
*Wiener amalgam spaces and their use in Gabor analysis II*

15:15 – 15:45 P. Oswald
*Regularity of semi-regular vector subdivision and FE preconditioning*

15:45 – 16:15 Coffee break

*2nd Afternoon Session*

16:15 – 16:45 M. Werner
*Adaptive frame methods for elliptic operator equations*

16:45 – 17:15 T. Gantumur
*Adaptive wavelet methods for operator equations*

17:15 – 17:45 D. Radunovic
*Wavelets and singularly perturbed boundary problems*

*Conference Dinner*

**Wednesday, January 25th**

*1st Morning Session*

9:00 – 10:00 I. Daubechies
*tba.*

10:00 – 10:30 G. Kutyniok
*Shearlets: sparse directional representations of images*

10:30 – 10:50 Coffee break

*2nd Morning Session*

10:50 – 11:20 J.-P. Antoine
*Wavelets and wavelet frames on the 2-sphere*

11:20 – 11:50 M. Ferreira
*Clifford analysis and the spherical continuous wavelet transform*

11:50 – 12:20 D. Rosca
*Wavelets on the sphere*

12:20 – 12:50 M. Holschneider
*Frames of spherical Poisson wavelets and their application in geomagnetic modelling*

12:50 – 14:15 Lunch

*1st Afternoon Session*

14:15 – 15:15 I. Daubechies
*tba.*

15:15 – 15:45 D. Potts
*Wavelet decomposition on the sphere*

15:45 – 16:15 Coffee break

*2nd Afternoon Session*

16:15 – 16:45 S. Kunis
*Nonequispaced FFT on the hyperbolic cross*

16:45 – 17:15 H. Führ
*Efficient implementation of wedgelets and related schemes*

17:15 – 17:45 D.A. Lorenz
*Optimal control problems with sparsity constraints in image processing*

*Problem Session*

**Thursday, January 26th**

*1st Morning Session*

9:00 – 9:30 C. Heil
*The homogeneous approximation property for wavelet frames*

9:30 – 10:00 M. Ehler
*Construction of multivariate wavelet frames*

10:00 – 10:30 V.A. Zheludev
*Multiwavelet frames based on Hermite splines*

10:30 – 10:50 Coffee break

*2nd Morning Session*

10:50 – 11:20 K. Koch
*Nonseparable interpolating scaling vectors and multiwavelets*

11:20 – 11:50 S. Gala
*Boundedness wavelet multipliers in multipliers space*

11:50 – 12:20 P. Balazs
*Frame multiplier*

12:20 – 12:50 F. Luef
*Gabor analysis over finite Abelian groups*

12:50 – 14:15 Lunch

*1st Afternoon Session*

14:15 – 14:45 A. Zakharova
*Generalized frames*

14:45 – 15:15 K. Bittner
*Biorthogonal spline wavelets on the interval*

15:15 – 15:45 T. Raasch
*Adaptive wavelet schemes for parabolic equations*

15:45 – 16:15 Coffee break

*2nd Afternoon Session*

16:15 – 16:45 R. Pandey
*A note on the construction and application of wavelets on* $\mathbb{Z}$

16:45 – 17:15 A. Mayeli
*Continuous wavelets and frames on stratified Lie groups*

17:15 – 17:45 J. Prestin
*Polynomial bases and frames*