

Workshop on  
“Mathematical Challenges of Structured Function Systems”

March 19 – 23, 2018

organized by

Maria Charina (U Vienna), Karlheinz Gröchenig (U Vienna),  
Mihai Putinar (UC, Santa Barbara), Joachim Stöckler (TU Dortmund)

• Monday, March 19, 2018

09:00 – 09:30 **Registration**

09:30 – 09:35 **Opening Remarks**

09:35 – 10:35 **Mihai Putinar**

*Applied Hermitian positivity*

10:35 – 11:00 *Coffee / Tea Break*

11:00 – 12:00 **Harry Dym**

*J-inner functions and interpolation problems*

12:00 – 14:00 *Lunch Break*

14:00 – 15:00 **Karlheinz Gröchenig**

*Problems in time-frequency analysis*

15:00 – 15:30 *Coffee / Tea Break*

15:30 – 16:30 **Joaquim Ortega-Cerda**

*Sampling and interpolation problems in complex analysis*

• Tuesday, March 20, 2018

09:00 – 10:00 **Joachim Stöckler**

*Algebraic methods for the construction of multivariate wavelet frames*

10:00 – 10:30 *Coffee / Tea Break*

10:30 – 11:30 **Mariantonia Cotronei**

*(Multi)wavelets and System Theory*

11:30 – 12:30 **Kelly Bickel**

*Canonical Transfer Function Realizations*

12:30 – 14:15 *Lunch Break*

14:15 – 15:15 **Greg Knese**

*Moment problems on the torus and sums of squares*

15:15 – 15:45 *Coffee / Tea Break*

15:45 – 16:45 **Tomas Sauer**

*Discrete directional transforms and anisotropy*

- **Wednesday, March 21, 2018**

09:00 – 10:00 **Alexander Borichev**

*Reproducing kernels in Fock spaces*

10:00 – 10:30 *Coffee / Tea Break*

10:30 – 11:10 **Karl-Mikael Perfekt**

*The spectrum of the Neumann-Poincare operator on domains with corners and conical points*

11:15 – 11:55 **Markus Faulhuber**

*A Weltkonstante in Time-Frequency Analysis*

12:00 – 14:15 *Lunch Break*

14:15 – 24:00 **Excursion or discussions**

- **Thursday, March 22, 2018**

09:00 – 09:40 **Qiyu Sun**

*Phaseless sampling and reconstruction of real signals*

09:45 – 10:25 **Mihalis Kolountzakis**

*Computational questions about translational tiling*

10:25 – 11:00 *Coffee / Tea Break*

11:00 – 11:40 **Ole Christensen**

*Aspects of frame theory on LCA groups*

11:45 – 12:25 **Jakob Lemvig**

*System bandwidth and the existence of generalized shift-invariant frames*

12:30 – 14:30 *Lunch Break*

14:30 – 15:10 **Yurii Lyubarskii**

*Lower frame bounds for incomplete lattices*

15:15 – 15:55 **Jose Luis Romero**

*Sampling, Gabor Frames, and totally positive functions*

- **Friday, March 23, 2018**

09:00 – 9:40 **Konrad Schmüdgen**

*The truncated moment problem*

09:45 – 10:25 **Maria Lopez Quijorna**

*Polynomial optimization with the truncated GNS construction*

10:25 – 10:30 **Closing**

10:30 – 11:00 *Coffee / Tea Break*

**All talks take place at ESI, Boltzmann Lecture Hall!**