

## Vorträge

**Dienstag, 28. Mai 2013, von 14:00 Uhr bis 15:00 Uhr, Seminarraum C 209, UZA 4**

**Vortrag im Rahmen der Habilitation von Dr. Dörfler Monika**

**(Fakultät für Mathematik, Universität Wien): „Local and Global Aspects of Time-Frequency Analysis – With Application to Sound Analysis“**

Abstract:

*In this talk I will introduce the basic ideas of time-frequency analysis both from a theoretical and applied point of view. The uncertainty principle prohibits the simultaneous resolution in time and frequency to arbitrary precision. This obstacle has led to numerous interesting developments in harmonic analysis over the past decades. I will describe the idea of quilted and non-stationary Gabor systems. For these systems, the strict regularity prescribed by the action of a related group (such as the Heisenberg group) is abandoned and replaced by more general construction principles. I will briefly address the question of the frame-property of these systems and suggest methods for perfect and approximate reconstruction from the (frame) coefficients obtained by means of the new systems. As an application, I present the construction of a perfectly invertible constant-Q transform, which solves a long-standing open problem in audio processing.*

*Related to the investigation of time-frequency resolution are the so-called time-frequency localization operators, defined via the short-time Fourier transform. I will present some results on the characterization of function spaces by means of families of these operators. Since the latter operators are compact and self-adjoint, it is of interest to study them via their spectral decomposition; it will be shown how, in the special case of Hermite-functions, the localization domain is determined by a single eigenfunction.*

*Finally, if time permits, the talk will be concluded by an example of transform-domain modelling in the time-frequency domain based on the idea of structured sparsity and applied to the problem of audio inpainting.*

**Univ.-Prof. Mag. Dr. Walter Schachermayer, Dekan Univ.-Prof. Dr. Harald Rindler**

**Mittwoch, 29. Mai 2013, von 11:00 Uhr bis 12:00 Uhr, Seminarraum D 107, UZA 4**

**Vortrag im Rahmen der Habilitation von Dr. Oleg Shcherbina**

**„Local Elimination Algorithms for Sparse Discrete Optimization Problems“**

Abstract:

*The thesis is dedicated to highly important issues of the research and development of decomposition methods for solving large-scale sparse problems of discrete optimization (DO) with a special block structure. To address these challenges, the author proposes to apply local elimination algorithms (LEA) for computing information that allows to obtain global information about the solution of the whole problem on the basis of computing local information.*

*The objectives of the thesis are: the development of a general algorithmic scheme of local elimination algorithms for solving a wide class of sparse DO problems and discrete problems from other areas of applied mathematics, the investigation of extending the capabilities of local elimination algorithms for various classes of DO problems, the study of the complexity of LEA, and the analysis and selection of block DO problem classes effectively solved by LEA.*

**Univ.-Prof. Dr. Arnold Neumaier, Dekan Univ.-Prof. Dr. Harald Rindler**

**Mittwoch, 29. Mai 2013, von 17:30 Uhr bis 18:30 Uhr, Seminarraum C 209, UZA 4**

**Vortrag im Rahmen der Habilitation von Dr. Beatrice Acciaio**

**(Fakultät für Mathematik, Universität Wien):**

**„Optimal Transport, Model-Independent Pricing and Trajectorial Inequalities “**

Abstract:

*We will illustrate the recently discovered connection between the problem of pricing financial derivatives in a model-free context and the Monge-Kantorovich optimal transport problem. Mathematically the crucial difference is that in the pricing problem the transport plans are required to be martingales. This link has already proved to be very fruitful. In particular, we will see how the duality theorem from optimal transport leads to new robust super-replication results.*

*This dual viewpoint also provides new insights on classical martingale inequalities. For instance, we establish a (new) sharp version of the classical Doob maximal inequality.*

**Univ.-Prof. Mag. Dr. Walter Schachermayer, Dekan Univ.-Prof. Dr. Harald Rindler**

## Fakultät für Mathematik

Mittwoch, 29. Mai 2013, von 15:00 Uhr bis 15:45 Uhr, Seminarraum C 209, UZA 4

### [Lectures for Everybody](#)

Claus Rüffler: „Modeling the Evolution of Biological Diversity“

Organized by H. Hauser

Montag, 27. Mai 2013, von 15:15 Uhr bis 17:00 Uhr, Seminarraum D 107, UZA 4

### [Arbeitsgemeinschaft Ergodentheorie](#)

Andrei Khrennikov: “Ergodicity and measure-preserving for p-adic dynamical systems”

[http://mat.univie.ac.at/~zweimueller/AG\\_ETHY.html](http://mat.univie.ac.at/~zweimueller/AG_ETHY.html)

Dienstag, 28. Mai 2013, von 11:15 Uhr bis 12:45 Uhr, Seminarraum S1, Althanstraße 12, 1090 Wien

### [Complex Analysis Seminar](#)

Martin Kolar: “Levi degenerate hypersurfaces and Chern-Moser theory”

organized by: A.K. Herbig

<http://www.univie.ac.at/complexanalysis/Activities/Seminar2013.html>

Dienstag, 28. Mai 2013, von 10:00 Uhr bis 11:00 Uhr, bis Freitag, 31. Mai 2013 von 10:00 Uhr bis 11:00 Uhr, Erwin Schrödinger Lecture Hall, Boltzmanng. 9, 1090 Wien

### [ESI Mini Lecture Course](#)

Prof. Vladimir Korepin (C.N. Yang Institute for Theoretical Physics, State University of New York, Stony Brook, U.S.A.): “The Algebraic Bethe Ansatz”

(Details siehe Attachment)

Organized by: J. Schwermer

Dienstag, 28. Mai 2013, von 15:00 Uhr bis 17:00 Uhr, Seminarraum D 101, UZA 4

### [Geometry and Analysis on Groups – Research Seminar](#)

Jan Spakula: “Uniformly bounded representations of hyperbolic groups”

<http://www.mat.univie.ac.at/~dosaj/GGTWien/Seminar.html>

Dienstag, 28. Mai 2013, von 17:00 Uhr bis 18:30 Uhr, Seminarraum C 209, UZA 4

### [Vortrag im Rahmen des Seminars Wahrscheinlichkeitstheorie](#)

Florian Stebegg: tba

Link: [http://www.mat.univie.ac.at/~finance\\_hp/seminarSS13\\_prob.html](http://www.mat.univie.ac.at/~finance_hp/seminarSS13_prob.html)

Dienstag, 28. Mai 2013, von 15:15 Uhr bis 16:45 Uhr, TU Institut für Diskrete Mathematik und Geometrie, Freihaus, grüner Turm (A), 8. Stock, Dissertantenr., Wiedner Hauptst. 8-10, 1040 Wien

### [Arbeitsgemeinschaft Diskrete Mathematik](#)

Christoph Neumann: „A complexity theorem for the Novelli-Pak-Stoyanovskii algorithm”

Mittwoch, 29. Mai 2013, ab 11:15 Uhr, Seminarraum, Alserbachstr. 23, 1090 Wien

### [NuHAG-Seminar](#)

Andrei Khrennikov (Linnaeus University): “P-adic and adelic wavelets”

Link: <http://www.univie.ac.at/nuhag-php/home/seminar.php?abstract=Y&id=2514>

Freitag, 31. Mai 2013, ab 14:00 Uhr, Erwin Schrödinger Lecture Hall, Boltzmanng. 9, 1090 Wien

### [ESI Seminar](#)

Dr. Justin Sawon: „Deformations of generalized K3 surfaces and Fourier-Mukai transforms”

Organized by: L. Katzarkov