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Fakultät für Mathematik

Vorträge

**Mittwoch, 29. April 2015, ab 16:15 Uhr, Sky-Lounge (12 OG),
Oskar-Morgenstern-Platz 1, 1090 Wien**

Mathematisches Kolloquium

Prof. Dr. Gitta Kutyniok (Technische Universität Berlin)

Abstract: Modern imaging data are often composed of several geometrically distinct constituents. For instance, neurobiological images could consist of a superposition of spines (pointlike objects) and dendrites (curvelike objects) of a neuron. A neurobiologist might then seek to extract both components to analyze their structure separately for the study of Alzheimer specific characteristics. However, this task seems impossible, since there are two unknowns for every datum. Compressed sensing is a novel research area, which was introduced in 2006, and since then has already become a key concept in various areas of applied mathematics, computer science, and electrical engineering. It surprisingly predicts that highdimensional signals, which allow a sparse representation by a suitable basis or, more generally, a frame, can be recovered from what was previously considered highly incomplete linear measurements, by using efficient algorithms. Utilizing the methodology of Compressed Sensing, the geometric separation problem can indeed be solved both numerically and theoretically. For the separation of point and curvelike objects, we choose a deliberately overcomplete representation system made of wavelets (suited to pointlike structures) and shearlets (suited to curvelike structures). The decomposition principle is to minimize the ℓ_1 norm of the representation coefficients. Our theoretical results, which are based on microlocal analysis considerations, show that at all sufficiently fine scales, nearly-perfect separation is indeed achieved. This project was done in collaboration with David Donoho (Stanford University) and Wang-Q Lim (TU Berlin).

15:45 Uhr – 16:15 Uhr K & K (Sky Lounge)

Univ.-Prof. Dipl.-Ing. Dr. Otmar Scherzer

Dekan Univ.-Prof. Dr. Harald Rindler

Mittwoch, 29. April 2015, von 15:00 Uhr bis 16:00 Uhr, HS 13, 2. Stock, Oskar-Morgenstern-Platz 1, 1090 Wien

Habilitationsvortrag

Dr. Calin Iulian Martin (Fakultät für Mathematik, Universität Wien):

„Nonlinear capillary-gravity and gravity water waves with vorticity“

Abstract: We present recent results concerning water waves over rotational flows driven by gravity and surface tension. We consider the case of water flows without stagnation points, as well as the situation where stagnation points are present in the flow.

Univ. Prof. Adrian Constantin

Dekan Univ.-Prof. i.R. Dr. Harald Rindler

!!!!!! Montag, 27. April 2015, !!!! um 16:45 Uhr, SR 10, 2. OG., Oskar-Morgenstern-Platz 1, 1090 Wien

Arbeitsgemeinschaft Ergodentheorie

Vadim Kaimanovich: „Boundary actions of random subgroups“

http://mat.univie.ac.at/~zweimueller/AG_ETHY.html

Dienstag, 28. April 2015, ab 15:00 Uhr, Seminarraum Biomathematik, 9 Stock

Oskar-Morgenstern-Platz 1, 1090 Wien

Arbeitsgemeinschaft Biomathematik

Stefan Müller (Radon Inst., Linz): “Recombination as a chemical reaction network”



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Dienstag, 28. April 2015, von 15:15 bis 16:45 Uhr, TU Dissertantenraum, Freihaus, Turm A, 8. Stock, Wiedner Hauptstraße 8-10, 1040 Wien

AG Diskrete Mathematik

Henri Muehle: "Generated Groups, Shellability, and Transitivity of the Hurwitz Action"

<http://dmg.tuwien.ac.at/nfn/agdm.html>

Dienstag, 28. April 2015, von 15:00 Uhr bis 17:00 Uhr, Seminarraum 8, 2. Stock, Oskar-Morgenstern-Platz 1, 1090 Wien

Geometry and Analysis on Groups

Nick Wright (Univ. of Southampton): "Geometric Examples of the Baum-Connes conjecture and Langlands duality."

Organized by G. Arzhantseva, Ch. Cashen

<http://www.mat.univie.ac.at/~gagt/abstracts/150428.html>

Dienstag, 28. April 2015, von 9:45 Uhr bis 11:15 Uhr, Seminarraum 12, 2 Stock, Oskar-Morgenstern-Platz 1, 1090 Wien

Complex Analysis Seminar

Jan-Fredrik Olsen: "On a sharp estimate for Hankel operators and Putnam's inequality"

<http://www.univie.ac.at/complexanalysis/Activities/Seminar2015.html>

Mittwoch, 29. April 2015, um 15:00 Uhr, Besprechungszimmer 9. Stock, Oskar-Morgenstern-Platz 1, 1090 Wien

Öffentliches Defensio

Dipl. Ing. Christoph Winkler: "A Close Look at Actin Driven Movement: From Image Analysis to Simulation"

Donnerstag, 30. April 2015, ab 11:00 Uhr, Währingerstrasse 17, 4. St., Zi 405, 1090 Wien

Geometric Analysis and Physics (GAP)

Walter Simon: "Initial data for rotating cosmological solutions of Einstein equations"

Organized by M. Bauer (UV), V. Branding (TU), D. Fajman (UV), J. Joudioux (UV)
(Details siehe Attachment)

Donnerstag, 30. April 2015, ab 13:30 Uhr, Seminarraum 7, 2 Stock

Oskar-Morgenstern-Platz 1, 1090 Wien

Mathematical Physics Seminar

Aleksey Kostenko (Uni. Wien): "Spectral Theory of Wannier-Stark Operators"

Organized by G. Teschl

Donnerstag, 30. April 2015, von 16:00 Uhr bis 18:00 Uhr, Josephinum, SR (Zi. O2.101), Währingerstr. 25, 1090 Wien

KGRC Research Seminar

Lyubomyr Zdomskyy (KGRC): "Remainders of topological groups and Grigorieff forcing"

http://www.logic.univie.ac.at/2015/Talk_04-30_a.html

Donnerstag, 30. April 2015, von 16:30 Uhr bis 18:00 Uhr, TU Seminarraum 101C, Freihaus, Grüner Bereich, 4. Stock, Wiedner Hauptstraße 8, 1040 Wien

Vienna Seminar in Mathematical Finance and Probability

Christophe Profeta (Université d'Evry Val d'Essonne, FR): "Peacocks and Associated Martingales"

<http://www.fam.tuwien.ac.at/events/vs-mfp/>