

## VORTRÄGE KW42

14:45 Kaffeejause

**Wednesday, 20. October 2021 15:45 until 17:15**

SKY LOUNGE, 12. OG, OMP 1

**"Low-rank tensor refinement for the data-driven solution of PDEs"**

**Vladimir Kazeev (Universität Wien)**

**Antrittsvorlesung**

**Abstract:**

*The approximation of complex data in suitable low-dimensional subspaces is fundamental to scientific computing and data science: it allows for exposing the hidden structure of data, for exploiting this structure computationally by operating with relatively few parameters and, possibly, for analyzing the data by interpreting those parameters.*

*In the context of PDEs, much of the work of numerical analysts traditionally consists in designing — by hand — efficient approximation subspaces for specific classes of problems. In this talk, we will discuss a modern approach based on tensor networks, which is aimed at approximating solutions in subspaces computed adaptively from the data at hand and «online», as opposed to those constructed in any «offline» fashion (for example, analytically or by massive precomputation).*

*Starting with the adaptive low-rank approximation of matrices, we will discuss how it generalizes to higher-dimensional arrays and to functions, leading to efficient numerical methods for PDEs. We will see what issues arise in the design, analysis and implementation of low-rank tensor approximations and algorithms and how these aspects rest on the long-standing traditions of the fields of analysis, approximation theory, numerical analysis, numerical linear algebra and scientific computing.*

**Im Anschluss: vinum cum pane**

Org: Fakultät für Mathematik, Dekan Radu Ioan Boț

[https://mathematik.univie.ac.at/fileadmin/user\\_upload/f\\_mathematik/Vortraege/2021\\_22/Einladung\\_Anttrittsvorlesung\\_Kazeev.pdf](https://mathematik.univie.ac.at/fileadmin/user_upload/f_mathematik/Vortraege/2021_22/Einladung_Anttrittsvorlesung_Kazeev.pdf)

<https://mathematik.univie.ac.at/eventsnews/mathematisches-kolloquium/>

**Monday, 18. October 2021 13:30 until 14:30**

ZOOM MEETING

**"Mean-field analysis of training dynamics of neural networks and its applications"**

**Alexandr Shevchenko (IST Austria)**

**VGSCO-Seminar**

Org: Vienna Graduate School on Computational Optimization

<https://vgSCO.univie.ac.at/activities/colloquia/>

**Monday, 18. October 2021 15:30 until 16:30**

ZOOM MEETING

**"Second Order Dynamics with Closed-Loop Damping"**

**Ernö Robert Csetnek (U Wien)**

**One World Optimization Seminar**

Org: R. I. Boț (U Wien), S. Sabach (Technion - Israel Institute of Technology Haifa, M. Staudigl (Maastricht U)

[https://mathematik.univie.ac.at/fileadmin/user\\_upload/f\\_mathematik/Vortraege/2021\\_22/abstract\\_Csetnek\\_OWOS.pdf](https://mathematik.univie.ac.at/fileadmin/user_upload/f_mathematik/Vortraege/2021_22/abstract_Csetnek_OWOS.pdf)

<https://owos.univie.ac.at/>

**Tuesday, 19. October 2021 13:15 until 14:45**

HS 10, 2. OG, OMP 1

**"On the exceptional zero conjectures of Katz p-adic L-functions for CM fields"**

**Adel Betina (U Vienna)**

**SE Representation Theory and Automorphic Forms**

Org: H. Grobner, A. Minguez-Espallargas, A. Mellit

**Tuesday, 19. October 2021 14:00 until 15:00**

ZOOM MEETING

**"Almost relevant corrections for direct measurements of electron's g-factor"**

**Benjamin Koch (TU Wien)**

**Joint Theory Seminar**

Org: E. Battista

**Tuesday, 19. October 2021 15:00 until 17:00**

ZOOM

**"Automorphisms and splittings of special groups"**

**Elia Fioravanti (MPIM-Bonn)**

**Geometry and Analysis on Groups Research Seminar**

Org: G. Arzhantseva, Ch. Cashen, Y. Lodha

<https://univieanna.zoom.us/j/97810758446>

<https://mathematik.univie.ac.at/forschung/seminare/geometry-and-analysis-on-groups-seminar/>

**Tuesday, 19. October 2021 15:00 until 16:30**

HS 8, 1. OG, OMP 1

**"Strongly unbounded subadditive colorings"**

**C. Lambie-Hanson (Czech Academy of Sciences; CZ)**

**KGRC SE**

Org: KGRC

**Tuesday, 19. October 2021 16:00 until 17:30**

TU WIEN, ZEICHENSAAL 3, 7. STOCK

**"Friendly bisections of random graphs"**

**Matthew Kwan (IST Austria)**

**Vortrag**

Org: M. Drmota

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

**Tuesday, 19. October 2021 16:45 until 17:45**

HS 3, EG. OMP 1

**"Fluctuating Boltzmann equation and large deviations for a hard sphere gas "**

**Thierry Bodineau (Ecole Polytechnique) (online)**

**Vienna Probability Seminar**

Org: M. Beiglböck, N. Berestycki, L. Erdős, J. Maas, F. Toninelli

[https://mathematik.univie.ac.at/forschung/stochastik-und-finanzmathematik/vienna-probability-seminar/?no\\_cache=1](https://mathematik.univie.ac.at/forschung/stochastik-und-finanzmathematik/vienna-probability-seminar/?no_cache=1)

**Tuesday, 19. October 2021 17:55 until 18:55**

HS 3, EG. OMP 1

**"Scaling limits for planar aggregation with subcritical fluctuations"**

**Vittoria Silvestri (Roma La Sapienza)**

**Vienna Probability Seminar**

Org: M. Beiglböck, N. Berestycki, L. Erdős, J. Maas, F. Toninelli

[https://mathematik.univie.ac.at/forschung/stochastik-und-finanzmathematik/vienna-probability-seminar/?no\\_cache=1](https://mathematik.univie.ac.at/forschung/stochastik-und-finanzmathematik/vienna-probability-seminar/?no_cache=1)

**Wednesday, 20. October 2021 10:45 until 12:15**

SR 12

**"TEST - Unit testing scientific software"**

**Tommsch Mejstrik (University of Vienna)**

Org: K. Gröchenig, J. L. Romero, M. Ehler

[https://mathematik.univie.ac.at/en/eventsnews/full-news-display/news/test-unit-testing-scientific-software/?no\\_cache=1&tx\\_news\\_pi1%5Bcontroller%5D=News&tx\\_news\\_pi1%5Baction%5D=detail&cHash=b1e7f6641afae581149ae344f1969b98](https://mathematik.univie.ac.at/en/eventsnews/full-news-display/news/test-unit-testing-scientific-software/?no_cache=1&tx_news_pi1%5Bcontroller%5D=News&tx_news_pi1%5Baction%5D=detail&cHash=b1e7f6641afae581149ae344f1969b98)

**Thursday, 21. October 2021 15:00 until 15:45**

HS 13, 2. OG., OMP 1

**"Variations on a theorem of Silver"**

**C. Lambie-Hanson (Czech Academy of Sciences; CZ)**

**KGRC SE**

Org: KGRC

**Thursday, 21. October 2021 15:00 until 16:00**

ZOOM MEETING

**"Homogenization of the Einstein equations under symmetry"**

**Rita Teixeira de Costa (Princeton)**

**Vortrag**

Org: Gravitationsphysik

**Thursday, 21. October 2021 15:15 until 16:15**

ZOOM MEETING

**"On Krebs' more reasonable proof of Cobham's theorem"**

**Robbert Fokkink (Delft University of Technology)**

**Seminar Ergodentheorie & Dynamische Systeme**

Org: H. Bruin, R. Zweimüller