	Monday, September 16		Tuesday, September 17		Wednesday, September 18		Thursday, September 19		Friday, Se	ptember 20
08:00	Registration	08.20	P.4 Özlem Imamoglu (ETH)	08.20	P.6 Josef Hofbauer	08.20	P.8 Susanna Terracini		LehrerInnen-Tag Room W211/12	Hochschul-Tag Room W206
09:00	Opening Ceremony	06.30	r.4 Oziem imamogiu (ETH)	08.30	(UNI Wien)	06.30	(Universitá di Torino)		· ·	Registration
	P.1 Wilhelm Schlag (Yale University)	09:30 10:00	M1. Industrial and Applied	09:30	P.7 ÖMG Award Winner: Christopher Frei	09:30	M2. Mathematical Finance in		L.1 Tichy (TU Graz)	HT.1 Pickhardt (HS Albstadt Sigmaringen)
10:30	*	10.00	Mathematics, M6. Enumerative and	10:30	(University of Manchester)		the age of Machine Learning, M4. Spectral Theory,	10:15	L.2 Dorner	<b>₩</b> HT.2
	P.2 Helmut Pottmann (KAUST & TU Wien)		Algebraic Combinatorics & Sections S01, S05, S07, S08, S12		M5. Inverse Problems for Partial Differential Equations & Sections S06,		M5. Inverse Problems for Partial Differential Equations		(UNI Graz)	Süss-Stepancik (PH NÖ)
12:00	Lunch	12.20			S10	12.20		11:45	Lunch	Lunch
		12:30	Lunch	12:30	Lunch	12:30	Lunch			
	P.3 Marlis Hochbruck (KIT Karlsruhe)	14:00	P.5 Efstathia Bura (TU Wien)	14:00	Excursions	14:00	P.9 Fritz Gesztesy	13:30	L.3 Lindner (PH OÖ)	HT.3 Gröblinger (UNI Innsbruck)
14:45			,				(Baylor University)	14:30	•	•
	M1. Industrial and Applied Mathematics, M3. Parallel and	15:00	<b>Sections S02, S03, S05, S07,</b>			15:00	M2. Mathematical Finance,	15:00	Discussion	Discussion
	Distributed Optimization and Simulation, M6.Enumerative and Algebraic Combinatorics	13.30	S08, S09				M4. Spectral Theory, M5. Inverse Problems for			
	& Sections S01, S08, S11  Break	17.00	Break	17.00	Start guided walk or take the		Partial Differential Equations  Break	16:30	Closing	Closing
	M1. Industrial and Applied				,					
	Mathematics, M3. Parallel and Distributed Optimization and Simulation, M6.Enumerative and Algebraic Combinatorics & Sections S01, S08, S11	17:30	Sections S02, S03, S04, S05, S07, S09	18:30	Cable Car  Reception and Conference		M2. Mathematical Finance, M4. Spectral Theory, M5. Inverse Problems for Partial Differential Equations			
19:00	Reception at Café Schräg	19:00			Dinner at Karren		Public lecture by Karl Sigmund (UNI Wien)			

# **ÖMG Conference 2019**

University of Applied Sciences Vorarlberg  $\,-\,$  September 16  $-\,$  20, 2019



# Monday, September 16, Afternoon & Evening Sessions

	Room W211/12	Room W205	Room W206
	Minisymposium M1:	Section S11:	Section S08:
45.45	Industrial and Applied Mathematics	Probability, Statistics	Functional Analysis, Real and Complex Analysis
15:15 -	M1a.1 C. Erath	S11a.1 T. Fetz	S08a.1 M. Kolář
15:30 -	Efficient solving of a time-dependent interface problem.	Computing upper probabilities of failure using Monte Carlo simulation, reweighting techniques	Infinitesimal symmetries of weakly pseudoconvex manifolds.
15:45 -	M1a.2 <b>K. Frick</b> Using extended Kalman	S11a.2 <b>E. Sönmez</b> Random Walk on the	S08a.2 <b>M. Reiter</b> The reflection map of sphere
16:00 -	Filters for solving non-linear inverse problems.	Random Connection Model.	mappings.
16:15 -	M1a.3 <b>R. Kowar</b> Iterative methods for PAT in	S11a.3 <b>C. Pfeifer</b> Embedding an empirically	S08a.3 <b>G. Racher</b> On Fourier multipliers.
16:30 -	dissipative media.	based decision strategy for backcountry skiers into a subjective probability	On Fourier maniphers.
16:45 -		subjective producting	
17:00 -			
17:15 -	M1b.1 <b>G. Zangerl</b> Full field inversion in	S11b.1 <b>W. Woess</b> Recurrence of 2-dimensional	S08b.1 <b>C. Bargetz</b> On Generic Properties of
17:30 -	photoacoustic tomography with variable sound speed.	queueing processes, and random walk exit times from the quadrant.	Nonexpansive Mappings.
17:45 -	M1b.2 B. Kaltenbacher	S11b.2 A. Steinicke	S08b.2 E. Nigsch
18:00 -	Parameter identification and uncertainty quantification in stochastic state space models and its application	BSDEs with Jumps in the $L^p$ -setting: Existence, Uniqueness and Comparison.	The geometrization of the theory of full Colombeau algebras.
18:15 -	M1b.3 L. Neumann Block coordinate descent	-	
18:30 -	method for ill-posed problems.		
18:45			

	Room U405	Room U406	Room U407
	Section S01:	Minisymposium M3:	Minisymposium M6:
	Logic, Set Theory, and Theoretical Computer Science	Parallel and Distributed Optimization and Simulation	Enumerative and Algebraic Combinatorics
15:15 -	S01a.1 M. Koelbing	M3a.1 H. Shoukourian	M6a.1 <b>W. Fang</b>
15:30 -	Distributivity of forcing notions.	Predicting the efficiency of LRZ's cooling infrastructure using machine learning.	The Steep-Bounce Zeta Map in Parabolic Cataland.
15:45 -	S01a.2 <b>J. P. Schürz</b>	M3a.2 <b>P. Gschwandtner</b>	
16:00 -	Strong measure zero sets on $2^{\kappa}$ .	Towards Multi-objective, Region-based Auto-tuning for Parallel Programs.	M6a.2 <b>A. R. Miller</b> Some results on characters
16:15 -	S01a.3 J. Schilhan	M3a.3 T. Feilhauer	of symmetric groups.
16:30 -	The tower spectrum.	Optimization with the Distributed Execution Framework.	
16:45 -			
17:00 -			
17:15 -	S01b.1 L. Halbeisen	M3b.1 K. Rheinberger	M6b.1 M. Schlosser
17:30 -	Formen des Auswahlaxioms in der Ringtheorie.	Analyzing Autonomous Demand Side Algorithms with Parallel Computation Frameworks.	A weight-dependent inversion statistic and Catalan numbers.
17:45 -		T Tambe Worker	
18:00 -			
18:15 -	S01b.2 V. Torres-Pérez		
	Diamonds, games and cardinal invariants.		
18:45 -			

### **ÖMG Conference 2019**

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#### Tuesday, September 17, Morning Sessions

	Room W211/12	Room W205	Room W206	Room U210	
	Minisymposium M1:	Section S07:	Section S08:	Section S12:	
10.00	Industrial and Applied Mathematics	Partial Differential Equations and Calculus of Variations	Functional Analysis, Real and Complex Analysis	Financial and Actuarial Mathematics	
10:00 - 10:15 - 10:30 -	M1c.1 M. Liebrecht Process Model for the Industrial Plate Leveling Operation with Special Emphasis on Online	S07a.1 <b>B. Schörkhuber</b> Nonlinear asymptotic stability of homothetically shrinking Yang-Mills solitons.	S08c.1 <b>M. Dymond</b> Highly irregular separated nets	S12.1 <b>J. Sass</b> Utility Maximizing Strategies under Increasing Model Uncertainty in a Multivariate Black	
10:45 -	M1c.2 <b>D. Rothermel</b> Nonlinear inverse heat transfer problems in modelling the cooling process of heavy plates.		S08c.2 <b>I. Kossovskiy</b> Classification of homogeneous strictly pseudoconvex hypersurfaces in $\mathbb{C}^3$ .	S12.2 <b>S. Desmettre</b> Severity Modeling of Extreme Insurance Claims for Tariffication.	
11:00 -	M1c.3 <b>P. Sellars</b> Graph Based Methods for Hyperspectral Image Classification.	S07a.2 <b>R. Bürger</b> Two-locus clines maintained by diffusion and recombination in a heterogeneous environment.	S08c.3 <b>F. Haslinger</b> The $\partial$ -complex on the Segal-Bargmann space.	S12.3 <b>J. A. Strini</b> Optimal dividends and funding in risk theory.	
11:30 -	M1c.4 <b>J. Schwab</b> Regularizing Networks for Solving Inverse Problems.	S07a.3 <b>S. Blatt</b> The negative $L^2$ gradient flow for $p$ -elastic energies.	S08c.4 <b>K. Gröchenig</b> Sampling, Marcinkiewicz-Zygmund sets, approximation, and quadrature rules.	S12.4 <b>S. Thonhauser</b> Optimal reinsurance for expected penalty functions in risk theory.	
12:00 - 12:15 - 12:30 -	M1c.5 <b>A. Maier</b> Known Operator Learning – An Approach to unite Physics, Signal Processing, and Machine Learning.	S07a.4 <b>A. Kiesenhofer</b> Small data global regularity for half-wave maps in 4 dimensions.			

	Room U405	Room U406	Room U407
	Section S01:	Section S05:	Minisymposium M6:
10.00	Logic, Set Theory, and Theoretical Computer Science	Computational Geometry and Topology	Enumerative and Algebraic Combinatorics
10:00 -	S01c.1 <b>M. Müller</b> Automating Resolution is	S05a.1 <b>R. Kwitt</b> Deep Homological	M6c.1 <b>M. Kauers</b> Making Many More Matrix
10:15 -	NP-Hard.	Learning.	Multiplication Methods.
10:30 -		S05a.2 <b>D. Egas Santander</b>	
10:45 -		Topological explorations in neuroscience.	M6c.2 <b>B. Stufler</b> Local convergence of
11:00 -	S01c.2 <b>S. Schumacher</b> The relation between two	S05a.3 <b>A. Rolle</b> Spaces of clusterings.	random planar graphs.
11:15 -	weak choice principles.		
11:30 -	S01c.3 <b>V. Fischer</b> Independence and almost	S05a.4 <b>A. Nikitenko</b> Stochastic applications of	M6c.3 E. Y. Jin Exact and asymptotic
11:45 -	disjointness.	discrete topology.	enumeration of ascent sequences and Fishburn matrices.
12:00 -	S01c.4 <b>W. Wohofsky</b> Cardinal characteristics and	S05a.5 <b>Ž. Virk</b> Detecting lengths of	
12:15 -	the Borel Conjecture.	geodesics with higher-dimensional persistence.	

### Tuesday, September 17, Afternoon & Evening Sessions

	Room W211/12	Room W205	Room W206
	Section S09:	Section S07:	Section S08:
45.00	Numerical Analysis, Scientific Computing	Partial Differential Equations and Calculus of Variations	Functional Analysis, Real and Complex Analysis
15:30 -	S09a.1 <b>O. Steinbach</b> Space-Time Finite Element Methods.	S07b.1 <b>I. Glogić</b> Threshold for blowup for the	S08d.1 <b>S. Haller</b> The heat kernel expansion of Rockland differential
15:45 - 16:00 -	Methods.	supercritical cubic wave equation.	operators and applications to generic rank two
16:15 -	S09a.2 <b>R. Eberle</b> Vibration of a beam under structural randomness.	S07b.2  N. Vorderobermeier  On the analyticity of critical points of the Möbius energy.	S08d.2 <b>U. Grupel</b> Intersections with random geodesics in high dimensions.
16:30 -	S09a.3 A. K. Yadav	S07b.3 L. Cossetti	difficustons.
16:45 -	Effect of Impedance on Reflection of Plane Waves in a Rotating	Unique Continuation for the Zakharov Kuznetsov equation.	
17:00 -	Magneto-thermoelastic		
17:15 -			
17:30 -	S09b.1 <b>J. M. Melenk</b> An adaptive algorithm for	S07c.1 <b>L. Forcella</b> Interpolation theory and	
17:45 -		regularity for incompressible fluid models.	
18:00 -	S09b.2 <b>V. Devi</b> An operational matrix	S07c.2 <b>D. S. Wallauch</b> Stable blowup for a	
18:15 -	approach for two-dimensional hyperbolic telegraph equation.	nonlinear Klein-Gordon equation.	
18:30 -	S09b.3 <b>R. K. Maurya</b> Multistep finite difference	S07c.3 <b>A. Tumanyan</b> Fredholm property of	
18:45 -	scheme for electromagnetic waves model arising from dielectric media.	regular hypoelliptic operators in multianisotropic Sobolev spaces.	
19:00			

	Room U405	Room U406	Room U407
15:20	Section S03: Number Theory	Section S05: Computational Geometry and Topology	S02: Algebra, Discrete Mathematics; S04: Algebraic Geometry, Convex and Discrete Geometry
15:30 - 15:45 -	S03a.1 <b>K. Destagnol</b> Counting points of given degree and bounded height via the height zeta function.	S05b.1 <b>J. Liang</b> Topological Structures of Probabilistic Landscape of Stochastic Reaction Networks.	S02a.1 <b>A. Panholzer</b> Label-quantities in trees and mappings.
16:00 - 16:15 -		S05b.2 <b>L. L. Cristea</b> On fractal geometric and topologic properties of triangular labyrinth fractals.	S02a.2 <b>D. Krenn</b> Optimal Multi-Pivot Quicksort and its Asymptotic Analysis.
16:30 - 16:45 -	S03a.2 <b>N. Rome</b> On Serre's Problem for Conics.	S05b.3 <b>G. Leobacher</b> Necessary and sufficient conditions for the local unique nearest point	S02a.3 <b>M. Wibmer</b> Galois groups of differential equations.
17:00 - 17:15 -		property of a real	
17:30 - 17:45 -	S03b.1 <b>C. Frei</b> Arithmetic progressions in binary quadratic forms and norm forms.	S05c.1 <b>A. Brown</b> Convergence and Stability of Random Mapper.	S02b.1 <b>A. Zastrow</b> Some observations on Archipelago-Groups.
18:00 - 18:15 -		S05c.2 <b>U. Bauer</b> Dualities and clearing for image persistence.	S04.1 <b>H. Al-Zoubi</b> Anchor rings of finite type Gauss map in the Euclidian 3-space.
18:30 - 18:45 -	S03b.2 <b>S. Yamagishi</b> Solving equations in many variables in primes.		



# **ÖMG Conference 2019**

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# Wednesday, September 18, Morning Sessions

	Room W211/12	Room W205	Room W206
	Minisymposium M5:	Section S06:	Section S10:
	Inverse Problems for Partial Differential	Ordinary Differential Equations and	Optimization
	Equations	Dynamical Systems	
11:00 -	M5a.1 <b>M. Haltmeier</b> NETT: Solving Inverse	S06.1 <b>P. Szmolyan</b> Periodic solutions and and	S10.1 I. A. R. Moghrabi
11:15 -	Problems with Deep Neural Networks.	switching behavior in a model of bipolar disorder.	A Multi-step Hybrid Conjugate Gradient Method.
11:30 -	M5 2 D Ohmann	COC 2 V Halim	
11:45 -	M5a.2 <b>D. Obmann</b> Sparse synthesis regularization using deep neural networks.	S06.2 <b>Y. Halim</b> On a system of difference equations of second order solved in a closed from.	
12:00 -	M5a.3 <b>R. Ramlau</b>	S06.3 C. E. Arroud	
12:15 -	Singular Value Decomposition for Atmospheric Tomography.	Optimality conditions of Moreau sweeping process.	
12:30			

Changes



### Thursday, September 19, Morning Sessions

	Room W211/12	Room W205	Room W206
	Minisymposium M5:	Minisymposium M2:	Minisymposium M4:
10.00	Inverse Problems for Partial Differential Equations	Mathematical Finance in the age of Machine Learning	Spectral Theory
10:00 -	M5b.1 <b>W. Rundell</b> Determining nonlinear terms	M2a.1 JP. Ortega Dynamic and Control	M4a.1 <b>T. Kappeler</b> On the integrability of the
10:15 -	in a reaction-diffusion system.	Theoretical Aspects of Reservoir Computing.	Benjamin-Ono equation with periodic boundary conditions.
10:30 -	M5b.2 <b>F. Hettlich</b> Identification and Design of	M2a.2 L. Grigoryeva Forecasting of Realized	M4a.2 <b>A. Sakhnovich</b> Discrete Dirac systems:
10:45 -	EM-Chiral Scattering Obstacles.	(Co)Variances with Reservoir Computing.	spectral and scattering theories and Verblunsky-type
11:00 -	M5b.3 <b>A. Agaltsov</b> Uniqueness and	M2a.3 <b>L. Gonon</b> Error Bounds for Random	M4a.3 <b>A. Kostenko</b> On the absolutely
11:15 -	reconstruction in a passive inverse problem of helioseismology.	Recurrent Neural Networks and General Reservoir Computing Systems.	continuous spectrum of generalized indefinite strings.
11:30 -	M5b.4 <b>A. Wald</b> Parameter identification for	M2a.4 <b>T. Krabichler</b> Deep ALM.	M4a.4 <b>R. Donninger</b> Strichartz estimates for the
11:45 -		Zeep HEM.	one-dimensional wave equation.
12:00 -	M5b.5 <b>G. Mercier</b>	M2a.5 A. Kratsios	
12:15 -	On convergence of Total Variation regularized inverse problems.	Universal Approximation Theorems.	
12:30 -			

#### Thursday, September 19, Afternoon & Evening Sessions

	Room W211/12	Room W205	Room W206
	Minisymposium M5:	Minisymposium M2:	Minisymposium M4:
15.00	Inverse Problems for Partial Differential Equations	Mathematical Finance in the age of Machine Learning	Spectral Theory
15:30 - 15:45 -	M5c.1 I. Piotrowska- Kurczewski	M2b.1 <b>H. Wutte</b> Randomized shallow neural networks and their use in	M4b.1 <b>G. Raikov</b> Threshold Singularities of the Spectral Shift Function
10:00	Generalized tolerance regularization.	understanding gradient descent.	for Geometric Perturbations of a Magnetic Hamiltonian.
16:00 -	M5c.2 F. Romero Hinrichsen	M2b.2 <b>C. Cuchiero</b> Modeling rough covariance	M4b.2 <b>J. Michor</b> Rarefaction and shock
	Dynamical super-resolution with applications to Ultrafast ultrasound imaging.	processes.	waves for the Toda equation.
16:30 - 16:45 -	M5c.3 <b>R. Klein</b> Regularizing sequential subspace optimization for	M2b.3 <b>W. Khosrawi</b> A Neural Network Approach to Local Stochastic Volatility	M4b.3 <b>M. Piorkowski</b> Riemann-Hilbert approach to asymptotic analysis.
17:00 -	the identification of the stored energy of a	Calibration.	
17:15 -			
17:30 -	M5d.1 <b>S. Eberle</b>	M2c.1 <b>J. Teichmann</b>	M4c.1 R. Sousa
17:45 -	Solving the inverse problem of linear elasticity with monotonicity methods.	Learning stochastic dynamics by random signatures with applications to mathematical Finance.	Product formulas and convolutions for solutions of Sturm-Liouville equations.
18:00 -		M2c.2 S. Svaluto-Ferro	M4c.2 <b>Z. Rao</b>
18:15 -		Infinite dimensional polynomial jump-diffusions.	Optimal Blowup Stability for the Energy Critical Wave Equation.
18:30 -		M2c.3 S. Rigger	
18:45 -		Interacting Particle Systems, Default Cascades and the M1-topology.	
19:00			