

MATHEMATICS, SIGNAL PROCESSING AND LINEAR SYSTEMS

NEW PROBLEMS AND DIRECTIONS

CHAPMAN UNIVERSITY, NOVEMBER 14-19, 2017

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TUESDAY, NOVEMBER 14, 2017

9:00 a.m.	Opening Remarks	Dean Andrew Lyon
9:30 a.m.	<i>Thoughts on optimal control</i>	Paul Fuhrman
10:30 a.m.	<i>Plane waves decomposition, hypergeometric functions and Twistors</i>	Ahmed Sebbar
11:00 a.m.	Coffee Break	
11:15 a.m.	<i>The Scope of Semidefinite Programming</i>	William Helton
11:45 a.m.	<i>Quasi-monogenic functions</i>	Swanhild Bernstein
12:15 p.m.	Lunch	
2:00 p.m.	<i>Green Technology, M-Path Poly-Phase Filter Banks</i>	Fred Harris
2:30 p.m.	<i>An introduction to Aharonov-Berry superoscillations</i>	Fabrizio Colombo
3:00 p.m.	Coffee Break	
3:15 p.m.	<i>Self-adjoint Vessels and Impedance-Conservative Overdetermined Multidimensional Systems</i>	Ariel Pinhas
3:45 p.m.	<i>Matrix convex sets without absolute extreme points</i>	Eric Evert
4:15 p.m.	Adjourn for the day	

WEDNESDAY, NOVEMBER 15, 2017

9:00 a.m.	Opening Remarks	Pres. Daniele Struppa
9:30 a.m.	<i>Monge-Kantorovich optimal transport of matrix-valued distributions</i>	Tryphon Georgiou
10:00 a.m.	<i>Hardy Hodge decomposition of vector fields</i>	Laurent Baratchart
10:30 a.m.	<i>Complex Hardy Spaces Rational Approximation and Applications</i>	Tao Qian
11:00 a.m.	Coffee Break	
11:15 a.m.	<i>Compressed sensing in Quaternionic analysis</i>	Uwe Kaehler



11:45 a.m.	<i>On the outlying eigenvalues of a polynomial in large Independent random matrices</i>	Serban Belinschi
12:15 p.m.	Lunch	
2:00 p.m.	<i>Positive Realness of Descriptor Fractional Systems: Test and Output Feedback</i>	Yirmeyahu Kaminsky
2:30 p.m.	<i>The isomorphism for noncommutative analytic varieties</i>	Guy Salomon
3:00 p.m.	Coffee Break	
3:15 p.m.	<i>The Bounded Real Lemma for nonrational operator-valued transfer functions</i>	Joseph Ball
3:45 p.m.	Adjourn for the day	

### THURSDAY, NOVEMBER 16, 2017

10:00 a.m.	<i>Spectral factorization of invertible semi-separable systems via inner-outer factorization</i>	Patrick Dewilde
10:30 a.m.	<i>Inverse source problems in magnetostatics: linear estimator for moment recovery</i>	Juliette Leblond
11:00 a.m.	Coffee Break	
11:15 a.m.	<i>Noncommutative hyperbolic metrics</i>	Victor Vinnikov
11:45 a.m.	<i>Couplings of differential operators</i>	Jussi Behrndt
12:15 p.m.	Lunch	
2:00 p.m.	<i>Algebraic division or interpolation through analytic methods</i>	Alain Yger
2:30 p.m.	<i>A remark on sliding mode differentiation and calculus of variation</i>	Mamadou Mboup
3:00 p.m.	Coffee Break	
3:15 p.m.	<i>Non-Commutative Harmonic Analysis for ternary Clifford algebras</i>	Paula Cerejeiras
3:45 p.m.	<i>On Szego's theorem for polynomials orthogonal in an indefinite metric</i>	Maxim Derevyagin
4:15 p.m.	<i>On Parametrization of All the Exact Pole-Assignment State-Feedbacks for LTI Systems</i>	Yossi Peretz
4:45p.m.	<i>Ternary algebras and applications</i>	Adrian Vajiac
5:30p.m.	CAOT Journal Anniversary	

FRIDAY, NOVEMBER 17, 2017

9:30 a.m. to 12:10pm	Discussion and Workshop
12:10 p.m.	Lunch
2:00 p.m. to 4:10pm	Discussion and Workshop

SATURDAY, NOVEMBER 18, 2017

9:30 a.m.	Discussion and Workshop	
10:00 a.m.	<i>Linear systems associated with regular noncommutative formal power series</i>	Vladimir Bolotnikov
10:30 a.m.	<i>Operator algebras and signal processing</i>	Palle Jorgensen
11:00 a.m.	Coffee Break	
11:15 a.m.	<i>A new approach to solution of completely integrable PDEs</i>	Andrey Melnikov
11:45 a.m.	<i>On quaternionic metaharmonic layer potentials in <math>R^2</math></i>	Baruch Schneider
12:15 p.m.	Lunch	
2:00 p.m.	<i>Semicircular Elements Induced by Orthogonal Projections Signals with Statistical Data?</i>	Ilwoo Cho
2:30 p.m.	<i>Multicomplex Analysis and a Multicomplex Fourier Transform</i>	Mihaela Vajiac
3:00 p.m.	Coffee Break	
3:15 p.m.	<i>From Brownian motion to bits (and back) The distortion-rate function of sampled Wiener processes</i>	Alon Kipnis
3:45 p.m.	<i>Realizations of Non-Commutative Rational Functions</i>	Motke Porat
	<i>Around a Matrix Centre: A Generalization of the Fliess-Kronecker Theorem</i>	
4:15 p.m.	<i>Arrhythmia Classification Feature Extraction with Symlet Wavelets</i>	Alex Barrett
4:45 p.m.	<i>Linear Stochastic Systems and a new family of Topological Algebras</i>	Daniel Alpay
5:30pm	Conference Dinner	

SUNDAY, NOVEMBER 19, 2017

9:30 a.m. to 12:15p.m. Discussion and Workshop

12:15 p.m. Lunch

2:15 p.m. Adjourn