

The 24th Southeastern Analysis Meeting
& the 23rd Shanks Lectures

Vanderbilt University
Nashville, Tennessee, USA

March 5–9, 2008

Schedule of Talks

| Wednesday, March 5, 2008 | | |
|--------------------------------------|---|---|
| Morning | | |
| 8:30 | | Registration Opens in Stevenson Center Lobby* |
| Room: SC 4309 | | |
| 9:45-10:00 | | Welcome |
| 10:00-11:00 <i>Shanks Lecture</i> | Charles Fefferman <i>Princeton University</i> | Whitney's Interpolation Problem and Interpolation I |
| 11:00-11:30 | | Coffee Break |
| 11:30-12:30 <i>Shanks Lecture</i> | Charles Fefferman <i>Princeton University</i> | Whitney's Interpolation Problem and Interpolation II |
| 12:30-2:00 | | Lunch Break |
| Afternoon | | |
| Room: SC 4309 | | |
| 2:00-3:00 | Michael T. Lacey <i>Georgia Institute of Technology</i> | The Small Ball Inequality in all Dimensions |
| 3:00-3:30 | | Coffee Break |
| 3:30-4:00 | Leonid Slavin <i>University of Missouri</i> | The s -function and the exponential integral |
| 4:00-4:30 | Tao Mei <i>University of Illinois at Urbana-Champaign</i> | H^1 -BMO duality associated with semigroup of operators on general measure space |
| 4:30-5:00 | Matthew Calef <i>Vanderbilt University</i> | A Limiting Case for Riesz s -Energies |
| 5:00-5:30 | Vladimir Eiderman <i>Michigan State University</i> | Cartan type estimates for Riesz transforms |
| 5:30-6:00 | Ravshan Ashurov <i>Uzbek Academy of Sciences</i> | On summability of eigenfunction |
| 6:30 | | Reception (Atrium of Buttrick Hall) |

*Registration will be available from 8:30 a.m. and before and after coffee breaks March 5-6. If you are unable to register during these times, please come to the Department of Mathematics offices for assistance.

Thursday, March 6, 2008

Morning

Room: SC 4309

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| 9:00-10:00 | Stefan Richter <i>University of Tennessee</i> | Some remarks on the dilation theory for commuting d-contractions |
| 10:00-10:30 | | Coffee Break |
| 10:30-11:30 | Sergei Treil <i>Brown University</i> | Singular integrals and perturbation theory |
| 11:30-12:00 | Raúl Curto <i>University of Iowa</i> | Spectral pictures of hyponormal 2-variable weighted shifts |
| 12:00-12:30 | Laurent Baratchart <i>INRIA, France</i> | Extremal problems for harmonic gradients |
| 12:30-2:00 | | Lunch Break |

Afternoon

Room: SC 4309

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|-----------|--|--|
| 2:00-3:00 | John McCarthy <i>Washington University</i> | Matrices and Varieties |
| 3:00-3:30 | Peter Duren <i>University of Michigan</i> | Valence of Analytic and Harmonic Functions |
| 3:30-4:00 | | Coffee Break |

| | Session A Room: SC 4327 | Session B Room: SC 5211 | Session C Room: SC 4309 |
|-----------|---|---|--|
| 4:00-4:30 | Hyun-Kyoung Kwon <i>Brown University</i> Similarity of Operators and Geometry of Eigenvector Bundles | Emanuel Carneiro <i>University of Texas at Austin</i> Some extremal functions in Fourier analysis | Greg Knese <i>University of California at Irvine</i> Polynomials defining distinguished varieties |
| 4:30-5:00 | Lawrence Fialkow <i>SUNY New Paltz</i> Solution of the $y = x^3$ truncated moment problem | Sung Eun Kim <i>Judson University</i> Calderon's Problem for Lipschitz Piecewise Smooth Conductivities | Brent Carswell <i>Allegheny College</i> Wold-type decompositions for invariant subspaces of the Bergman space |
| 5:00-5:30 | Nathan Feldman <i>Washington & Lee University</i> Somewhere Dense Orbits of Tuples of Operators | Gary Sampson <i>Auburn University</i> Estimates of Oscillatory Integrals | Maria Martin <i>University of Michigan</i> Limits of the hyperbolic derivative of conformal maps onto smooth domains with corners |
| 5:30-6:00 | Alan Paterson The families index theorem without embedding | Erkinjon Karimov <i>Uzbek Academy of Sciences</i> Non-local problems with special gluing conditions for mixed type partial equation differential | Rachel Weir <i>Allegheny College</i> An integral formula in weighted Bergman spaces |

| Morning | | | |
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| 7:45-8:45 | Room: SC 1310 | SEAM's Ladies Breakfast | |
| Room: SC 4309 | | | |
| 9:00-10:00 | Wing Suet Li <i>Georgia Tech.</i> | The Horn conjecture for sums of compact self-adjoint operators | |
| 10:00-10:30 | | Coffee Break | |
| 10:30-11:30 | Guihua Gong <i>University of Puerto Rico</i> | Positive scalar curvature and non commutative geometry | |
| 11:30-12:30 | Xiaoman Chen <i>Fudan University</i> | On Operator Norm Localization Property | |
| 12:30-2:00 | | Lunch Break | |
| Afternoon | | | |
| Room: SC 4309 | | | |
| 2:00-3:00 | Vladimir Peller <i>Michigan State University</i> | Approximation by analytic matrix functions in L^p | |
| 3:00-3:30 | Christopher Heil <i>Georgia Institute of Technology</i> | Gabor Schauder Bases and the Balian–Low Theorem | |
| 3:30-4:00 | | Coffee Break | |
| | Session A Room: SC 4327 | Session B Room: SC 5211 | Session C Room: SC 4309 |
| 4:00-4:30 | Zubin Gautam <i>University of California at Los Angeles</i> A critical-exponent Balian-Low theorem | Alberto Condori <i>Michigan State University</i> Monotone Thematic Factorizations of Matrix functions | Yun-Su Kim <i>University of Toledo</i> A Generalization of Beurling's Theorem |
| 4:30-5:00 | Zhongyan Li <i>North China Electric Power Univ., China</i> Multipliers, Phases and Connectivity of Wavelets in $L^2(\mathbb{R}^2)$ | Vita Borovyk <i>University of Missouri, Columbia</i> On the ergodic limit of the spectral shift function | James Qiu <i>Southwestern Univ. of Finance and Economic, China</i> The spaces of rational functions and a generalized Beurling's theorem |
| 5:00-5:30 | Xingde Dai <i>University of North Carolina at Charlotte</i> Equivalent conditions on direct path of wavelet sets | Waclaw Szymanski <i>West Chester Univ.</i> Extremely non-multiplicative, non-symmetric, non-commutative operator spaces | Bo Li <i>SUNY at Buffalo</i> On Burbea's m th order Bergman "metric" and Berezin's operator calculus |
| 5:30-6:00 | Ilya Krishtal <i>Northern Illinois University</i> Non-commutative extensions of Wiener's Lemma in frame and time-frequency analysis | | John Ryan <i>University of Arkansas</i> Sharp L^2 inequalities for Dirac type operators |
| 7:00 | Conference Dinner | Golden Coast | |

Saturday, March 8, 2008

Morning

Room: SC 4309

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| 9:00-10:00 | Alexander Volberg <i>Michigan State University</i> | The Cauchy Integral, Its Friends and Family: Analysis, Geometry and Combinatorics |
| 10:00-10:30 | | Coffee Break |
| 10:30-11:30 | Jingbo Xia <i>SUNY at Buffalo</i> | Boundedness and Compactness of Hankel Operators on the Sphere |
| 11:30-12:00 | Mrinal Raghupathi <i>University of Houston</i> | Nevanlinna-Pick Interpolation for $C + BH^\infty$ |
| 12:00-12:30 | Stephan Garcia <i>Pomona College</i> | New Classes of Complex Symmetric Operators |
| 12:30-2:00 | | Lunch Break |

Afternoon

Room: SC 4309

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|-----------|--|---|
| 2:00-3:00 | Richard Rochberg <i>Washington University</i> | The Dixmier trace of Bergman space Hankel operators |
| 3:00-3:30 | Elizabeth Strouse <i>University of Bordeaux</i> | Toeplitz Operators and matrices, eigenvalue distribution, spectrum and attracting features |
| 3:30-4:00 | | Coffee Break |
| | Session A Room: SC 4309 | Session B Room: SC 4327 |
| 4:00-4:30 | Ruhan Zhao <i>SUNY at Brockport</i> Characterizations of Bloch type spaces by divided differences | Michael Dritschel <i>Newcastle University</i> Transfer function realization for C^* -correspondence valued Schur-Agler classes |
| 4:30-5:00 | Jie Miao <i>Arkansas State University</i> Bounded Toeplitz Products on the Weighted Bergman Spaces of the Unit Ball | Quanlei Fang <i>Virginia Tech</i> The left tangential operator-argument interpolation problem on the noncommutative ball |
| 5:00-5:30 | Trieu Le <i>University of Toronto</i> Diagonal Toeplitz operators on weighted Bergman spaces | Richard Spjut <i>University of California at Santa Barbara</i> Parameter Collapse due to the Zeros in the Inverse Condition |
| 5:30-6:00 | Gabriel Prajitura <i>SUNY at Brockport</i> Aluthge transforms of cyclic operators | Sanne ter Horst <i>Virginia Tech</i> The relaxed commutant lifting problem as a general H^2 interpolation problem |

Sunday, March 9, 2008

Morning

Room: SC 4309

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| 9:00-9:30 | Joseph Ball <i>Virginia Tech</i> | De Branges-Rovnyak functional-model reproducing kernel spaces: multivariable generalizations |
| 9:30-10:00 | William Ross <i>University of Richmond</i> | Truncated Toeplitz operators |
| 10:00-10:30 | Kei Ji Izuchi <i>Niigata University, Japan</i> | Cross Commutators on Backward Shift Invariant Subspaces over the Bidisk |
| 10:30-11:00 | Karel Stroethoff <i>University of Montana</i> | Weighted Composition Operators into Bloch Spaces |
| 11:00 | Coffee Break | End of the conference |