

CURRICULUM VITAE

Mihai Putinar

Education:

1980 M.S., University of Bucharest, Romania.

1984 Ph.D., University of Bucharest, Romania.

Thesis: *Multivariable spectral theory*; advisor: Constantin Bănică.

Appointments:

2008-Spring, Professor in residence, Los Alamos Laboratories, New Mexico.

2007-Fall, Visiting researcher, LAAS-CNRS, Toulouse, France.

2007-Winter, Professor in residence, Institute for Mathematics and Its Applications, Minneapolis.

2005-Fall, Visiting Professor, University of Cyprus, Nicosia.

2005-Summer, Visiting Professor, University of Konstanz, Germany.

2002- Summer, Visiting Professor, Ben Gurion University of the Negev, Israel.

2000 - Summer, Visiting Professor, Université de Lille I, France.

2000 - Spring, Visiting Professor, The Royal Institute of Technology, Stockholm, Sweden.

1998-present Member of the Center for Control Engineering and Computation, U.C. Santa Barbara.

1997 - present, Professor, University of California, Santa Barbara.

1997 - Summer, Visiting Professor, Saarland University, Saarbrücken, Germany.

1996 - 1997, Professor, University of California, Riverside.

1995 Visiting Scholar, Mathematical Sciences Research Institute, Berkeley.

1993 - 1996 Associate Professor, University of California, Riverside .

1992 Visiting Scholar, Münster University, Germany.

1991-1993 Assistant Professor, University of California, Riverside .

1991 Visiting Associate Professor, University of Kansas, Lawrence .

1990 Visiting Professor, University of Iowa, Iowa City.

1980-1990 Scientific Researcher, Institute of Mathematics of the Romanian Academy (former Department of Mathematics- INCREST).

Research areas:

Operator theory : multivariable spectral theory, hyponormal operators, perturbation theory, local spectral theory;*Complex analytic geometry*: the cohomology of analytic sheaves, holomorphic vector bundles on compact complex manifolds, the theory of Stein spaces;

Analysis: Moment problems, quadrature formulas, rational approximation.

Professional service:

2010 Co-organizer of the workshop "Integrable and stochastic Laplacian growth in modern mathematical physics", Banff Center, Canada.

2010 Co-organizer of the workshop "Multivariate operator theory", Banff Center, Canada.

2009 Co-organizer of the conference "Multivariate operator theory and applications", Fields Institute, Toronto, Canada.

2008 Co-organizer of the focused research group activity "Hausdorff geometry of complex polynomials, positive charge distributions and normal operators", Banff Center, Canada, and the American Institute of Mathematics, Palo Alto.

2007 Co-organizer of the workshop "Laplacian growth and quantum physics", Banff Center, Canada.

2007 Co-organizer of the workshop "Optimization and Control", Inst. Math. and Appl., Minneapolis.

2006 Co-organizer of the workshop "Positive polynomials and applications", Mathematical Theory of Networks and Systems XVII, Kyoto, Japan.

2005 Co-organizer of the workshop "Theory and Algorithms of Linear Matrix Inequalities", Amer. Inst. Math., Palo Alto, CA.

2005 Co-organizer of the session "Function Theory", Amer. Math. Soc. Meeting, Santa Barbara.

2004 Co-organizer of the session "Semialgebraic geometry, operator theory and applications", Mathematical Theory of Networks and Systems XVI, University of Leuven, Belgium.

2003 Organizer of the conference "Quadrature Domains and Applications", Santa Barbara, CA.

1995 Co-organizer of the semester "Holomorphic spaces" at the Mathematical Sciences Research Institute, Berkeley, CA.

Editorial appointments:

1987-1995 Editor *Mathematica Balkanica*

1982-present Reviewer for *Mathematical Reviews* and *Zentralblatt für Mathematik*

Member of the editorial board of the following journals and book series:

Journal of Operator Theory published by Theta Foundation

Integral Equations and Operator Theory published by Birkhäuser

Journal of Mathematical Analysis and Applications published by Elsevier

Operator Theory: Advances and Applications published by Birkhäuser

Complex Analysis and Operator Theory published by Birkhäuser.

The Open Mathematics Journal, *The Open Applied Mathematics Journal*, Bentham Science Publishers.

The International Journal of Mathematics and Mathematical Sciences published by Hindawi.

Grants and Awards:

2006 Department of Energy-Los Alamos Laboratory Research Grant (co-PI)

2005, 2008 Mathematics Research Institute (Oberwolfach): research in pairs programme

1992, 1995, 1998, 2000, 2002, 2003, 2007, 2009 National Science Foundation (USA) Grants.

1996, 2000 Natural Science Research Council (Sweden) Grants (co-PI)

1991 Alexander von Humboldt Fellowship (Germany).

1990 International Mathematical Union Grant.

1987 *Simion Stoilow* Prize of the Romanian Academy.

1977 First Prize at the Student Balkaniad of Mathematics- Belgrade (Yugoslavia).

Students:

PhD students: CHIYU HE, JIM GLEASON, GAEMUS COLLINS, ZHEN HE, ROGER ROYBAL, BRIAN SITTINGER.

PostDocs supervised: ROLAND WOLFF (Germany), ERIC REOLON (Germany), SEBASTIAN SANDBERG (Sweden), STEPHAN R. GARCIA (US).

Mentored undergraduate students: JEFF DANCIGER, SIMON WEINSTEIN-SALZEDO

Recent invited talks:

February 2005, Conference : *Complex Symmetric Operators*, Virginia Analysis Seminar, Richmond, VA.

March 2005, Seminar: *Complex symmetric operators and applications*, Texas A & M.

April 2005, Conference: *Positive pluri-harmonic polynomials*, Colloquium on non-commutative real algebra, Saskatoon, Canada.

April 2005, Seminar: *Non-commutative Positivstellensätze*, Colloquium on non-commutative real algebra, Saskatoon, Canada.

April 2005, Invited Address: *Positive Polynomials*, Amer. Math. Soc. Meeting, Santa Barbara, CA.

May 2005, Conference: *Positivity aspects of the Fantappiè transform*, PDE's and Harmonic Analysis Meeting, Trondheim, Norway.

June 2005, Conference: *Positivity in a free *-algebra*, ETH Zürich and Univ. Zürich.

June 2005, Series of Lectures: *From sums of squares to the spectral theorem and back*, Univ. Konstanz, Germany.

September 2005, Series of lectures: *Introduction to Quadrature Domains*, Univ. Cyprus, Nicosia.

December 2005, Seminar: *Nonlinear polynomial optimization*, Indian Statistical Inst., Bangalore.

December 2005, Seminar: *Finite term relation for planar orthogonal polynomials*, Indian Statistical Inst., Bangalore.

December 2005, Conference: *Poincaré's variational principle in potential theory*, Indian Inst. Science, Bangalore.

January 2006: *The exponential transform and applications*, Growing interfaces conference, Los Alamos.

February 2006: *Positive polynomials and applications*, Center for Control Theory and Engineering, U. C. Santa Barbara.

April 2006, Colloquium: *The Fantappiè transform*, Texas Univ. at San Antonio.

May 2006, Invited Address, *Poincaré's variational principle in potential theory*, Great Plains Operator Theory Seminar, Iowa City.

July 2006: *Uniqueness in the multidimensional moment problem*, Math. Theory of networks and Systems XVII, Kyoto, Japan.

July 2006, Invited address: *Complex symmetric operators*, Int. Workshop in Operator Theory and Applications, Seoul, Korea.

January 2007, Seminar: *Moments of positivity*, Inst. Math. Appl. Minneapolis.

February 2007, Colloquium: *Poincaré's variational principle in potential theory*, Vanderbilt Univ., Nashville.

March 2007, Seminar: *Positive polynomials on projective limits of real algebraic varieties*, Univ. Illinois at Urbana-Champaign.

May 2007, Colloquium: *Orthogonal polynomials in the complex domain*, Claremont Colleges, California.

July 2007, Seminar: *Optimization with sparse polynomial data*, Univ. of Saskatchewan, Canada.

September 2007, Seminars: *Moment problems and applications*, LAAS-CNRS, Toulouse, France.

October 2007, Invited lecture: *Hankel forms on planar domains*, Potential Theory and Applications, Björn Gustafsson's fest, KTH-Stockholm, Sweden.

December 2007, Seminar: *Hankel forms on planar domains*, Univ. of Cyprus, Nicosia.

February 2008, Graduate colloquium: *Bergman orthogonal polynomials on an archipelago*, U. C. Santa Barbara.

February 2008, Colloquium: *Orthogonal polynomials in the complex domain*, Univ. of Wyoming, Laramie.

February 2008, Colloquium: *Positive polynomials*, Univ. of Washington, Seattle.

February 2008, Seminar: *Real algebraic geometry over a free *-algebra*, Univ. of Washington, Seattle.

February 2008, Colloquium: *Bergman orthogonal polynomials on an archipelago*, Indiana University, Bloomington.

March 2008, Seminar: *Bergman orthogonal polynomials on an archipelago*, U. C. Irvine.

March 2008, Seminar: *Polynomials on odd dimensional spheres*, 2008 Algebra and Optimization Day, Caltech, Pasadena.

May 2008, Communication: *Measures with zeros in the inverse of their moment matrices*, Amer. Math. Soc. Meeting, Claremont, California.

June 2008, Conference: *Analytic Hilbert Modules*, Operator theory with Application to Geometry and Topology— In Honor of Ronald Douglas' Seventieth Birthday June 2—June 6, 2008, Qinhuang island of China.

June 2008, Conference: *Complex orthogonal polynomials*, Complex Analysis and Mathematical Physics, Sophus Lie Center, Norway.

August 2008, Conference: *Multivariate determinateness*, Centre Res. Math.-Montreal, Canada.

September 2008, Lecture: *Bergman orthogonal polynomials on an archipelago*, Banff Center, Canada.

October 2008, Colloquium: *Poincaré's variational problem in potential theory*, Louisiana State Univ., Baton Rouge.

December 2008, Conference: *Poincaré's variational problem in potential theory*, Centre Res. Math.- Montreal, Canada.

February 2009, Seminar: *Resolvent estimates for non-selfadjoint Schrödinger operators*, Univ. California Berkeley.

April 2009, Seminar: *Division problems in Bergman space*, Oberwolfach Math. Inst., Germany.

June 2009, Conference: *Polynomial optimization*, Los Alamos National Laboratory.

August 2009, Conference: *Extremal positive pluriharmonic functions in the ball*, Fields Inst., Toronto, Canada.