

# Curriculum Vitae

## Mihai Putinar

### Education:

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

Thesis: Multivariable spectral theory; advisor: Constantin Banica,

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

### Appointments:

2014 - present, Professor of Pure Mathematics, Newcastle University, UK.

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

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

2005 - present, Honorary Member, Institute of Mathematics of the Romanian Academy of Sciences, Bucharest, Romania.

2013 - 2015, Professor, Nanyang Technological University, Singapore.

1991 - 1996 Assistant/Associate Professor, University of California, Riverside

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

### Sabbaticals and Visiting Positions:

2017 Summer, Visiting researcher, LAAS-CNRS, Toulouse, France.

2016-Summer, Visiting Professor, Univ. Paul Sabatier, Toulouse, France.

2015-Fall, Visiting Professor, University of Konstanz, Germany.

2013-Summer, Visiting Fellow, Isaac Newton Institute, Cambridge, UK.

2013-Summer, Visiting Professor, Dortmund Technological University, Germany.

2013-Summer, Professor in Residence, Center for Advanced Study, Norwegian Academy of Sciences.

2011-Fall, Visiting Scholar, Mittag-Leffler Institute, Stockholm, Sweden.

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, Universite de Lille I, France.

2000 - Spring, Visiting Professor, The Royal Institute of Technology,

Stockholm, Sweden.

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

Mihai Putinar 1995 Visiting Scholar, Mathematical Sciences Research Institute, Berkeley.

1992 Visiting Scholar, Muenster University, Germany.

1991 Visiting Associate Professor, University of Kansas, Lawrence .

1990 Visiting Professor, University of Iowa, Iowa City.

### **Prizes and Awards:**

2013 Gambrinus Fellow

2011 Romanian National Order of Merit with the rank of Knight

2007 The Horace Mochizuki Teaching Award - University of California at  
Santa Barbara.

1991, 2015 Humboldt Fellowship

1987 Simion Stoilow Prize of the Romanian Academy

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

### **Grants:**

2016 International Centre Math. Sci. Edinburgh: research in pairs

2013 Nanyang Technological University Research Grant.

1992, 1995, 1998, 2000, 2002, 2003, 2007, 2009, 2010 National Science  
Foundation (USA) Grants.

2005, 2008, 2011, 2016 Mathematics Research Institute (Oberwolfach): research in  
pairs programme

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

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

1990 International Mathematical Union Grant.

### **Professional service:**

2019 Co-organizer of the workshop "Operator Theoretic Methods in Dynamic Data Analysis,  
Modeling and Control", Inst. Pure Appl. Math., Los Angeles.

2018 Co-organizer of the workshop "The Neumann-Poincare Operator, Plasmonics, and Field  
Concentration", Jeju Island, South Korea.

2018 Co-organizer of the workshop "Mathematical challenges of structured function systems",  
Erwin Schroedinger Institute, Vienna, Austria.

2018 Co-organizer of the workshop "Analysis of operators on function spaces: a conference  
dedicated to the mathematics of Serguei Shimorin", Mittag-Leffler Inst. Stockholm, Sweden.

2017 Co-organizer of the workshop "Herglotz-Nevanlinna functions and their applications",  
Mittag-Leffler Inst. Stockholm, Sweden.

2016 Co-organizer of the workshop "Bounded analytic interpolation in passive electromagnetics and composite materials", SIAM conference, Philadelphia.

2016 Co-organizer of the Mini-workshop "Applied Koopmanism", Oberwolfach, Germany.

2015 Co-organizer of the Spring School in Several Complex Variables, Newcastle University, UK.

2015 Co-organizer of the workshop "Multivariate Operator Theory", Banff, Canada.

2014 Co-organizer of the minicourse: "Polynomial optimization and control", Mathematical Theory of Networks and Control, Groningen, Netherlands.

2013 Co-organizer of the Nanyang Technological University-Seoul National University workshop on mathematics and its applications, Singapore.

2013-14 Co-organizer of the semester "The inverse moment problem", Institute of Mathematical Sciences, Singapore.

2013 Co-organizer of the workshop "Structured Function Systems and Applications", Oberwolfach, Germany.

2012 Co-organizer of the Special Section "Applications of Complex Analysis to Mathematical Physics", Amer. Math. Soc. Meeting, Tampa, Florida.

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

2010 Co-organizer of the workshop "Multivariate Operator Theory", Banff Center, Canada.

2010-2012 Organizer of the focused research group: "Geometry of Polynomials", Amer. Inst. Math., Palo Alto.

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

2008-2010 Co-organizer of the focused research group activity "Hausdorff geometry of complex polynomials, positive charge distributions and normal operators", Ban 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.

Mihai Putinar 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 Activity:**

2013 - Editor in Chief of the journals *Mathematical Reports* and *Revue Roumaine de Mathematiques Pures et Appliquees* published by the Romanian Academy of Sciences.

Associate Editor for the following journals and book series:

*Journal of Operator Theory* published by Theta Foundation  
*Integral Equations and Operator Theory* published by Birkhuser  
*Operator Theory: Advances and Applications* published by Birkhuser  
*Complex Analysis and Operator Theory* published by Birkhuser  
*Analysis and Mathematical Physics* published by Birkhuser  
*The International Journal of Mathematics and Mathematical Sciences* published by Hindawi.

2001-2013 Associate Editor for *Journal of Mathematical Analysis and Applications* (Elsevier)

1987-1995 Editor of *Mathematica Balkanica*

**Students:**

PhD students: Chiyu He, Jim Gleason, Gaemus Collins, Zhen He, Roger Roybal, Brian Sittinger, Richard Spjut, Charles Martin, Martin Harrison.

PostDocs supervised: Roland Wolff (Germany), Eric Reolon (Germany), Sebastian Sandberg (Sweden), Stephan R. Garcia (US).

Mentored undergraduate students: Jeff Danciger, Simon Weinstein-Salzedo, Akshat Kumar.

**Recent invited talks:**

October 2017: Positivity transformers, North East Analysis Meeting, Albany, NY.

September 2017: Positivity transformers, King's College, London, UK.

March 2017: Herglotz functions in several dimensions, Mittag-Leffler Institute.

November 2016: The legacy of A. Markov in moment problems, U. Delaware.

October 2016: Neumann-Poincare operator on a domain with corners, U. C. Berkeley.

September 2016: Positivity certificates, Vorace meeting. Toulouse, France.

September 2016: Poincare variational principle in potential theory, Colloquium, Inst. Math. Toulouse, France.

June 2016: The geometry of critical points of complex polynomials, Junior Colloquium, Univ. Vienna, Austria.

June 2016: Schoenberg positivity theorem in fixed dimension, Colloquium, Univ. Vienna, Austria.

June 2016: Neumann-Poincare operator on a domain with corners, Colloquium, Univ. Autonoma, Madrid.

May 2016: Phase regularization of moment sequences, SIAM meeting, Philadelphia.

February 2016: The entropy method in moment problems, Oberwolfach workshop, Germany.

October 2015: Quillen property of real algebraic varieties, Colloquium, University of Koeln, Germany.

October 2015: Matrix positivity preservers in fixed dimension, University of Stuttgart, Germany.

October 2015: Schoenberg positivity theorem in fixed dimension, Seminar, University of Konstanz, Germany.

October 2015: Markov legacy in inverse problems, ETH Zurich, Switzerland.

July 2015: Lectures on the Neumann-Poincare operator, Inha University, S. Korea.

July 2015: Matrix positivity preservers in fixed dimension, Second International Workshop and the Neumann-Poincare operator and related topics, KAIST, Daejeon, S. Korea.

May 2015: Schoenberg positivity theorem in fixed dimension, Colloquium, U.C. San Diego.

February 2015: Quillen property of real algebraic varieties, Colloquium, Univ. Wisconsin, Madison.

November 2014: Hermitian sums of squares, Amer. Inst. Mat., Palo Alto, CA.

November 2014: Apolarity, Graduate Colloquium, UC Santa Barbara.

November 2014: A class of 2D orthogonal polynomials, UCLA-CalTech Analysis and PDE Seminar.

July 2014: Moment problems and positive polynomials, Mathematical Theory of Networks and Systems, Groningen.

May 2014: Hermitian complexity of real algebraic varieties, US-Uzbekistan Mathematical Analysis Conference, Fullerton, California.

March 2014: Polynomial inequalities and numerical range, ARAG workshop, Aalto University, Helsinki, Finland.