

Curriculum Vitae

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Ilya M. Spitkovsky

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Education

- 1987 Doctor of Science in Physics and Mathematics (Habilitation Degree)
Georgian Academy of Sciences, Tbilisi
- 1978 Candidate of Science in Physics and Mathematics (Ph.D. Equivalent)
University of Belarus, Minsk
- 1975 Master of Science (with Honors) in Mathematics and Education
University of Odessa, Ukraine

Academic Positions

- 2013–2024 Division of Science and Mathematics
New York University Abu Dhabi (NYUAD), UAE
Professor of Mathematics, Emeritus
& Visiting Professor (since September 2024)
Professor (September 2014 – August 2024)
Visiting Professor (September 2013 – May 2014)
- 1990–2016 Department of Mathematics
College of William & Mary, Williamsburg, VA
Professor of Mathematics, Emeritus (since November 2016)
Professor (August 1993 – 2016; on leave July 2013 – August 2016)
Associate Professor (August 1992 – August 1993)
Visiting Professor (August 1990 – July 1992)
- 1986–1989 Department of Integral Equations and Boundary Value Problems
Marine Hydrophysical Institute, Ukrainian Academy of Sciences
Leading Research Fellow (October 1988 – November 1989)
Senior Research Fellow (February 1986 – September 1988)
- 1978–1986 Department of Integral Equations and Mathematical Simulation
Economics Institute, Ukrainian Academy of Sciences
Senior Research Fellow (December 1980 – February 1986)
Junior Research Fellow (November 1978 – December 1980)

1976–1989 Department of Mathematics
 (part-time) University of Odessa, Ukraine
Professor (September 1987 – July 1989)
Associate Professor (September 1980 – July 1982)
Assistant Professor (February 1976 – July 1978)

Long-Term Research Visits

Isaac Newton Institute for Mathematical Sciences, Cambridge, UK (August 2019)
 Technical University of Berlin, Germany (June – July 2018)
 Instituto Superior Tecnico, Lisbon, Portugal (Spring 2009)
 University of Pisa, Italy (Summer 2004)
 Katholieke Universiteit Leuven, Belgium (April – May 2003)
 Technische Universität Darmstadt, Germany (Summer 1992)

Editorial Positions

Integral Equations and Operator Theory	Editorial Board member (2004 – present)
Operator Theory: Advances and Applications	Associate Editor (2009 – present)
Operators and Matrices	Editorial Board member (2006 – present)
International Journal for Information & Systems Sciences	Associate Editor (2008 – present)
Armenian Journal of Mathematics	Editorial Board member (2008 – present)
International Journal of Mathematics and Mathematical Sciences	Editorial Board member (2009 – 2023)
Annals of Functional Analysis	Editorial Board member (2014 – present)
Special Matrices	Editorial Advisory Board member (2015 – present)
Electronic Journal of Linear Algebra	Associate Editor (2016 – present)
Journal of Integral Equations and Applications	Editorial Board member (2018 – 2025)
Journal of Fourier Analysis and Applications	Editorial Board member (2021 – present)
Transactions of A. Razmadze Mathematical Institute	Associate Editor (2022 – present)
The Graduate Journal of Mathematics	Associate Editor (2023 – Present)

Honors, Prizes, and Awards

April 2024	NYU Distinguished Teaching Award
May 2023	Faculty Award for Teaching Excellence, NYUAD
September 2021	10-year Golden Visa recipient, the United Arab Emirates
September 2020	Honorary member of the Razmadze Mathematical Institute (Georgia)
November 2016	Professor Emeritus, William & Mary
February 2013	Plumeri Award for Faculty Excellence, William & Mary
May 2010	Simon Teaching Prize, William & Mary
May 1993	Alumni Fellow Teaching Award, William & Mary
September 1984	Certificate Senior Scientist in Mathematical Analysis, awarded by the Academy of Sciences of the USSR
April 1984	Ukrainian Academy of Sciences Award “For the best research in mathematics among young scientists”
1974–1975	Lenin scholarship

Courses Taught

Calculus, linear algebra, foundations of mathematics, analytic geometry, differential equations, real analysis, complex analysis, general topology, functional analysis, operator theory, linear programming, C^* -algebras, boundary value problems, spectral theory of Toeplitz operators, mathematics of finance, introduction to computational algebraic geometry.

Graduate and Undergraduate Advising

Ph.D. Students

1988	Sergei Yatsko	University of Odessa, Ukraine
1990	Peter Tishin	University of Odessa, Ukraine
1990	Aziz Tashbaev	University of Odessa, Ukraine

Post Doctorate Advising

Spring 1996	Torsten Ehrhardt	(Technical University of Chemnitz, Germany)
2002–03 AY	Josue Ramirez	(CINVESTAV, Mexico)
2009-10 AY	J. Loreto Hernández	(Universidad Autónoma de México)

Honors/Capstone Projects

2005-06 AY	David Rose	Results concerning the Aluthge transform
2006–07 AY	Abraham Isgur	Factorization of some almost periodic matrix functions
2012–13 AY	Tyler Moran	On almost normal matrices
2013–14 AY	Ruey Ting Chien	Numerical ranges of some tridiagonal matrices
2014–15 AY	Mirjana Stevanovic	On arrowhead matrices
	Claire Marie Thomas	On flat portions on the boundary of the numerical range
2016–17 AY	Siyu (Shelley) Zhong	On the normalized numerical range of normal matrices
2017–18 AY	Ali N Hamed	On the maximal numerical range of some matrices
2018–19 AY	Aleksandra Badowska	The product numerical range and its application
	Titas Geruba	Structured matrices with elliptical numerical ranges
2019–20 AY	Kenya Vasquez	Ellipticity criteria for the numerical range
	Qixiao He	Numerical ranges of partial isometries
	Thanin Quartz	On the Stampfli point of some operators and matrices
2021–22 AY	Muyan Jiang	Higher rank numerical ranges of some tridiagonal matrices
	Ibrahim Suleiman	On partial isometries with circular numerical ranges
2022-23 AY	Nhi Pam Le Yen	On low-dimensional row stochastic matrices
2023–24 AY	Ziad Hassan	On Kippenhahn curves of some reciprocal matrices
	Nikita Popov	On the Gau-Wu conjecture for partial isometries

Research Experience for Undergraduates (REU)

Sigal Gottlieb, Inequalities involving the numerical radius (Summer 1991, advised jointly with Charlie Johnson),

Mark Gelfand, Almost periodic factorization: Applicability of the division algorithm (Summer 1993),

Dennis Keeler, The numerical range of 3×3 matrices (Summer 1994, advised jointly with Leiba Rodman),

Sudheer Shukla, Equality of higher numerical ranges of matrices and a conjecture of Kippenhahn on hermitian pencils (Summer 1995, advised jointly with Chi Kwong Li),

Darryl Yong, Almost periodic factorization of certain block triangular matrix functions (Summer 1995),

Daniel Quint, New cases of almost periodic factorization of triangular matrix functions (Summer 1996, advised jointly with Leiba Rodman),

Ronald Walker, Almost periodic factorization of block triangular matrix functions revisited (Summer 1997),

Laren Caston and Milena Savova, On eigenvalues and boundary curvature of the numerical range (Summer 1999, advised jointly with Nahum Zobin),

Nicholas McCarthy and David Ogilvie, Birkhoff's theorem and convex hulls of Coxeter groups (Summer 1999, advised jointly with Nahum Zobin),

Walter Lin, Factorization of some triangular almost periodic matrix functions (1999-2000 AY),

Chris Hillar, Positive eigenvalues and two-letter generalized words (Summer 2000, advised jointly with Charlie Johnson),

Ethan Brown, On matrices with elliptical numerical ranges and on flat portions on the boundary of the numerical range (Summer 2002 and 2002-03 AY),

Justin Droba and David Rose, On some properties of the Aluthge transform (Summer 2005),

Anastasia Boryssenko and Bich Hoai, On power dominance of positive semi definite matrices (Summer 2006, advised jointly with Charlie Johnson),

Hakan Seyalioglu, Cones invariant under families of matrices (2006-07 AY, advised jointly with Leiba Rodman),

Ashwin Rastogi, On comparison of the division algorithm and Portuguese transformation approach to explicit factorization of certain matrix functions (2007-08 AY, advised jointly with Leiba Rodman),

Eduard Einstein, The ratio field of values (Summer 2009, advised jointly with Charlie Johnson),

Jeffrey Eldred, Numerical ranges of companion matrices (Spring 2010–Summer 2011),

Daniel Corey and Ryan Kirk, The product field of values (Summer 2011, advised jointly with Charlie Johnson),

Timothy Leake, Multiply generated points of the numerical range (Summer 2012),

Weston Barger, Spectral behavior of skew hermitian matrices under hermitian perturbations (Summer 2012, advised jointly with Charlie Johnson).

Parth Palihar, Continuous selections of the inverse field of values generating function (Summer 2013, advised jointly with Brian Lins).

Andrei-Florian Stoica, Normalized numerical range (2015-16 AY),

Stephen Newman, Doubly stochastic single eigenvalue problem (Summer 2021, advised jointly with Charlie Johnson).

Computational Science Training for Undergraduates in the Mathematical Sciences (CSUMS)

Tyler Moran, Numerical ranges of almost normal matrices (Summer 2012),

Zach Price, On the spectra of some cyclic matrices (Summer 2012, advised jointly with Charlie Johnson).

The results of work with undergraduates are published in joint publications [250, 249, 248, 246, 240, 239, 237, 232, 230, 228, 219, 215, 205, 204, 199, 198, 197, 192, 186, 185, 183, 179, 177, 176, 168, 159, 157, 152, 150, 144, 141, 140, 139, 129, 127, 117, 114, 112, 105, 100, 98, 93, 92, 88, 84, 71] with them.

Fellowships and Grants

Grants awarded by outside agencies

2021	Collaborative Research: NSF Grant DMS-1620073 “AIM & ICERM Research Experiences for Undergraduate Faculty (REUF – program mentor)
2013–18	NSF Grant DMS-1331021 “Computational and Statistical theory and techniques in the study of large data sets” \$ 880,000 Senior Personnel
2012–16	EU Grant 318910 “Asymptotics of Operator Semigroups” Scientist in charge on the William & Mary side
2005–09	NSF Grant DMS-0456625 “Wiener-Hopf Factorization and its Applications” \$ 153,000
2000–04	NSF Grant DMS-9988579 “Problems in Operator and Matrix Theory” \$ 201,489
1999	NRC COBASE Grant “Toeplitz Operators with Matrix Semi Almost Periodic Symbols and their Applications in Diffraction Theory” \$ 2,750
1998–2000	NSF Grant DMS-9800704 “ Almost Periodic and Multivariable Periodic Matrix Functions: Extensions, Factorizations, Applications” \$ 120,522
1997–99	NATO Grant CRG-950332 “Toeplitz Operators and Algebras of Convolution Type Operators” (renewal) \$ 7,400
1995–97	NATO Grant CRG-950332 “Toeplitz Operators and Algebras of Convolution Type Operators” \$ 6,234
1994–97	NSF Grant DMS-9401848 “Topics in Operator Theory” \$ 67,500
1991–93	NSF Grant DMS-9101143 “Matrices, Operators and Factorization” \$ 37,550

Internal Grants

2013–	Faculty Research funding, Division of Science and Mathematics
2024	New York University Abu Dhabi (NYUAD)
2013	Faculty summer research grant, William & Mary
2008	Faculty Research Assignment (taken during 2008-09 academic year)
2005	Faculty summer research grant, William & Mary
2001	Faculty Research Assignment (taken during 2002-03 academic year)
2000	Faculty summer research grant, William & Mary
1998	Faculty summer research grant, William & Mary
1995	Faculty Research Assignment, William & Mary
1994	Faculty summer research grant, William & Mary
1993	Faculty summer research grant, William & Mary.

Research

h-index 29, see <https://scholar.google.com/citations?user=xX8KtawAAAAJ>

Patents

1. Multivariable matrix spectral factorization, *US Patent 10,951,919 B2* (Mar. 16, 2021) (with *L. Ephremidze*).

Books

13. Achievements and challenges in the field of Toeplitz operators, *Operator Theory: Advances and Applications* **306**, Birkhäuser–Verlag, Basel-Boston, 2025, vii+315 pp. (with *A. Böttcher*, *O. Karlovykh*, and *E. Shargorodsky* — Editors). **MR4888858**.
12. Operator and norm inequalities and related topics, *Trends in Mathematics*, Birkhäuser, 2022 (with *R. Aron*, *M. Moslehian*, and *H. Woerdeman* — Editors). **MR4508487**.
11. The Mathematical Legacy of Victor Lomonosov, *Advances in Analysis and Geometry* **2**, De Gruyter, 2020 (with *R. Aron*, *E. Gallardo*, *M. Martin*, *D. Ryabogin*, and *A. Zvavitch* — Editors). **MR4312024**.
10. Large truncated Toeplitz matrices, Toeplitz operators, and related topics, *Operator Theory: Advances and Applications* **259**, Birkhäuser–Verlag, Basel-Boston, 2017, xxvi+740 pp. (with *D. Bini*, *T. Erhardtdt*, and *A. Karlovich* — Editors). **MR 3587843**.
9. Operator Theory, Operator Algebras, and Applications, *Operator Theory: Advances and Applications* **242**, Birkhäuser–Verlag, Basel-Boston, 2014, xiv+373 pp. (with *A. Bastos*, *A. Lebre*, and *S. Samko* — Editors). **MR3236900**.
8. Operator Theory, Pseudo-differential Equations, and Mathematical Physics, *Operator Theory: Advances and Applications* **228**, Birkhäuser–Verlag, Basel-Boston, 2013, xxvi+406 pp. (with *Yu. Karlovich*, *L. Rodino*, and *B. Silbermann* — Editors). **MR 3059564**.
7. Convolution Equations and Singular Integral Operators, *Operator Theory: Advances and Applications* **206**, Birkhäuser–Verlag, Basel-Boston, 2010, xxii+217 pp. (with *L. Lerer* and *V. Olshevsky* — Editors). **MR 2011g:47001**.
6. Topics in Operator Theory. Volume II: Systems and Mathematical Physics, *Operator Theory: Advances and Applications* **203**, Birkhäuser–Verlag, Basel-Boston, 2010, 455 pp. (with *J. A. Ball*, *V. Bolotnikov*, *J. W. Helton* and *L. Rodman* — Editors) **MR 2011e:47005**.

5. Topics in Operator Theory. Volume I: Operators, Matrices, and Analytic Functions, *Operator Theory: Advances and Applications* **202**, Birkhäuser–Verlag, Basel–Boston, 2010, 640 pp. (with *J. A. Ball, V. Bolotnikov, J. W. Helton and L. Rodman* — Editors). **MR 2011e:47004**.
4. Convolution Operators and Factorization of Almost Periodic Matrix Functions, Birkhäuser–Verlag, Basel–Boston, 2002, 462 pp. (with *A. Böttcher and Yu. I. Karlovich*) **MR 2003c:47047**.
3. Factorization of Measurable Matrix Functions, *Mathematical Research* **37**, Akademie–Verlag, Berlin & *Operator Theory: Advances and Applications* **25**, Birkhäuser–Verlag, Basel–Boston, 1987, 372 pp. (with *G.S.Litvinchuk*). **MR 89e:47022 & 90g:47030**.
2. Factorization of almost periodic matrix functions and (semi)Fredholmness of some classes of convolution type equations, Manuscript no. 4421-85, VINITI 1985, 137 pp. (with *Yu.I.Karlovich*).
1. Factorization of matrix functions, Manuscript no. 2410-84, VINITI, 1984, 460 pp. (with *G.S.Litvinchuk*).

Refereed research papers

255. Explicit factorization of piecewise constant matrix functions, *Journal of Dynamical and Control Systems* **31** (2025), 12 pp. (with *G. Giorgadze*). **MR4852225**.
254. Unified approach to reciprocal matrices with Kippenhahn curves containing elliptical components, *Linear and Multilinear Algebra* **23** (2025) 1346–1368 (with *M. Jiang*). **MR4898768**.
253. On the group of linear preservers of the Gau–Wu number, *Linear Algebra and Applications* **700** (2024), 1–25 (with *A. Guterman and E. Shen*). **MR4778250**.
252. On the exact spectral factorization of rational matrix functions with applications to paraunitary filter banks, *Journal of Fourier Analysis and Applications* **30:43** (2024), 24 pp. (with *L. Ephremidze and G. Mishuris*). **MR4780618**.
251. Diagonal entries of inverses of diagonally dominant matrices, *Linear Algebra and Applications* **692** (2024), 84–90 (with *C. R. Johnson, C. Marijuán, and M. Pisonero*). **MR4730319**.
250. On 3-by-3 row stochastic matrices, *Special Matrices* **11** (2023), 2023-0103 (with *Nhi Pham*). **MR4646243**.
249. Numerical ranges of some Foguel operators, *Oper. Matrices* **17** (2023), 179–185 (with *M. Jiang*). **MR4577948**.

248. On low-dimensional partial isometries, *Electronic Journal of Linear Algebra* **39** (2023), 124–135 (with *Q. He and I. Suleiman*). **MR4597878**.
247. Core invertibility of operators from the algebra generated by two orthogonal projections, *Acta Sci. Math. (Szeged)* **89** (2023), 257–268 (with *A. Böttcher*). **MR4612078**.
246. New views of the doubly stochastic single eigenvalue problem, *Linear and Multilinear Algebra* **71** (2023), 1462–1469 (with *S. Newman and C. R. Johnson*). **MR4585862**.
245. On the spectral factorization of singular, noisy, and large matrices by Janashia-Lagvilava method, *Trans. A. Razmadze Math. Inst.* **176** (2022), 361–366 (with *A. Gamkrelidze and L. Ephremidze*). **MR4524227**.
244. Factorization of singular matrix polynomials and matrices with circular higher rank numerical ranges, *SIAM J. Matrix Anal. Appl.* **43** (2022), 1423–1439 (with *E. Poon and H. Woerdeman*). **MR4469514**.
243. On J -unitary matrix polynomials, *J. Math. Sci. (N.Y.)* **266** (2022), 196–209 (with *L. Ephremidze and A. Saatashvili*). **MR4533017**.
242. On multivariable matrix spectral factorization method, *Journal of Mathematical Analysis and Applications* **514** (2022), 126300 (with *L. Ephremidze*). **MR4419537**.
241. The Gau-Wu number for 4-by-4 and selected arrowhead matrices, *Linear Algebra and Applications* **644** (2022), 192–218 (with *K. Camenga, P. Rault, and R. Yates*). **MR4393905**.
240. The Gau-Wang-Wu conjecture on partial isometries holds in the 5-by-5 case, *Electronic Journal of Linear Algebra* **38** (2022), 107–113 (with *I. Suleiman and E. Wegert*). **MR4387575**.
239. On some reciprocal matrices with elliptical components of their Kippenhahn curves, *Special Matrices* **10** (2022), 117–130 (with *M. Jiang*). **MR4348664**.
238. An algorithm for J -spectral factorization of certain matrix functions, *60th IEEE Conference on Decision and Control (CDC)* (2021), 5820–5825 (with *L. Ephremidze*).
237. Kippenhahn curves of some tridiagonal matrices, *Filomat* **35** (2021), 3047–3061 (with *N. Bebiano, J. Providência, and K. Vazquez*). **MR4365421**.
236. On partial isometries with circular numerical range, *Concrete Operators* **8** (2021), 176–185 (with *E. Wegert*). **MR4349682**.
235. On Kippenhahn curves and higher-rank numerical ranges of some matrices, *Linear Algebra and its Applications* **629** (2021), 246–257 (with *N. Bebiano and J. Providência*). **MR4305331**.

234. Non-parallel flat portions on the boundaries of numerical ranges of 4-by-4 nilpotent Matrices, *Electronic Journal of Linear Algebra* **37** (2021), 504–523 (with *M. Cox, W. M. Greve, G. K. Hochrein, and L. J. Patton*). **MR4294052**.
233. The norm attainment problem for functions of projections, *Archiv der Mathematik* **117** (2021), 397–403 (with *A. Böttcher*). **MR4310137**.
232. On the Stampfli point of some operators and matrices, *Operators and Matrices* **15** (2021), 1267–1287 (with *T. Quartz*). **MR4364598**.
231. On the generalization of Janashia-Lagvilava method for arbitrary fields, *Georgian Mathematical J.* **29** (2022), 353–362 (with *L. Ephremidze*). **MR4431312**.
230. On some 4-by-4 matrices with bi-elliptical numerical ranges, *Linear and Multilinear Algebra* **69** (2021), 855–870 (with *T. Geryba*). **MR4230452**.
229. On explicit Wiener-Hopf factorization of 2×2 matrices in a vicinity of a given matrix, *Proceedings of the Royal Society A* **476** (2020), 0027–38. (with *L. Ephremidze*). **MR4126497**.
228. On the numerical range of some block matrices with scalar diagonal blocks, *Linear and Multilinear Algebra* **69** (2021), 772–785 (with *T. Geryba*). **MR4230447**.
227. Inverse continuity of the numerical range map for Hilbert space operators, *Operators and Matrices* **14** (2020), 77–90 (with *B. Lins*). **MR4080924**.
226. Quantitative results on continuity of the spectral factorization mapping, *J. London Math. Soc.* **101** (2020), 60–81 (with *L. Ephremidze and E. Shargorodsky*).
225. On a parametrization of non-compact wavelet matrices by Wiener-Hopf factorization, *Transactions of Razmadze Mathematical Institute* **173** (2019), no.2, 31–36 (with *L. Ephremidze and N. Salia*). **MR40335600**.
224. Integral operators of the $\mathcal{L}$ -convolution type in the case of a reflectionless potential, in *Modern Methods in Operator Theory and Harmonic Analysis, Springer Proceedings in Mathematics & Statistics* **291** (2019), 175–198 (with *D. Hasnyan, A. G. Kamalyan, and M. Karakhanyan*). **MR4008985**.
223. Singularities of base polynomials and Gau-Wu numbers, *Linear Algebra and Applications* **581** (2019), 112–127 (with *K. Camenga, L. Deaett, P. Rault, T. Sendova, and R. Yates*). **MR3981613**.
222. A note on the maximal numerical range, *Operators and Matrices* **13** (2019), 601–605. **MR4008501**.

221. Signatures of quantum phase transitions from the boundary of the numerical range, *Journal of Mathematical Physics* **59** (2018), no. 12, 121901, 21 pp. (with *S. Weiss*). **MR3883127**.
220. On the Fredholm property of a class of convolution-type operators, *Mat. Zametki* **104** (2018), no. 3, 407–421 (with *A. G. Kamalyan*), in Russian. Translation in *Math. Notes* **104** (2018), 288–303. **MR3849090**.
219. On the maximal numerical range of some matrices, *Electronic Journal of Linear Algebra* **34** (2018), 288–303 (with *A. N. Hamed*). **MR3841396**.
218. On a generalization of Smirnov’s theorem with some applications, *Georgian Math. J.* **25** (2018), 217–220 (with *L. Ephremidze*). **MR3808283**.
217. A note on the factorization of some structured matrix functions, *Integral Equations and Operator Theory* **90** (2018), 7 pp. (with *A. Voronin*). **MR3807958**.
216. Elliptical higher rank numerical range of some Toeplitz matrices, *Linear Algebra and Applications* **549** (2018), 256–275 (with *M. Adam and A. Aretaki*). **MR3784348**.
215. The normalized numerical range and the Davis-Wielandt shell, *Linear Algebra and Applications* **546** (2018), 187–209 (with *B. Lins and Siyu Zhong*). **MR3771879**.
214. A note on Anderson’s theorem in the infinite-dimensional setting, *Journal of Mathematical Analysis and Applications* **421** (2018), 349–353 (with *R. Birbonshi and P. D. Srivastava*). **MR3759545**.
213. Robert Sheckley’s Answerer for two orthogonal projections, *Operator Theory: Advances and Applications* **268** (2018), 125–138 (with *A. Böttcher*). **MR3793301**.
212. Similarity between two projections, *Integral Equations and Operator Theory* **89** (2017), 507–518 (with *A. Böttcher and B. Simon*). **MR3735507**.
211. On the algorithmization of Janashia-Lagvilava matrix spectral factorization method, *IEEE Transactions on Information Theory* **64** (2018), 728–737 (with *L. Ephremidze and F. Saied*). **MR3762588**.
210. On the partial indices of triangular matrix functions with prescribed indices of their diagonal elements, *Operator Theory: Advances and Applications* **262** (2018), 251–285 (with *K. V. Harutyunyan and A. G. Kamalyan*). **MR3792246**.
209. A distance formula related to a family of projections orthogonal to their symmetries, *Operator Theory: Advances and Applications* **267** (2018), 371–376. **MR3837645**.
208. Operators with compatible ranges in an algebra generated by two orthogonal projections, *Advances in Operator Theory* **3** (2018), 117–122. **MR3730342**.

207. On Robinson's Energy Delay Theorem, *Transactions of A. Razmadze Mathematical Institute* **171** (2017), 16–23 (with *L. Ephremidze and W. H. Gerstaecker*). **MR3623628**.
206. On non-optimal spectral factorizations, *Georgian Math. J.* **24** (2017), 517–522 (with *L. Ephremidze and I. Selesnik*). **MR3731342**.
205. On the normalized numerical range, *Operators and Matrices* **11** (2017), 219–240 (with *A.-F. Stoica*). **MR3602640**.
204. Normal Matrices subordinate to a tree and flat portions of the field of values, *Linear Algebra and its Applications* **507** (2016), 198–207 (with *C. R. Johnson, M. Stevanovic, and M. Turnansky*). **MR3536953**.
203. Pre-images of extreme points of the numerical range, and applications, *Operators and Matrices* **10** (2016), 1043–1058 (with *S. Weis*). **MR3584690**.
202. Numerical ranges of 4-by-4 nilpotent matrices: Flat portions on the boundary, *Operator Theory: Advances and Applications* **259** (2017), 561–591 (with *E. Miltzer, L. J. Patton, and M.-C. Tsai*). **MR3674639**.
201. Quantitative results on continuity of the spectral factorization mapping in the scalar case, *Bol. Soc. Mat. Mex.* **22** (2016), 517–527 (with *L. Ephremidze and E. Shargorodsky*). **MR3544152**.
200. Continuity of the maximum entropy inference: Convex geometry and numerical range approach, *Journal of Mathematical Physics* **57** (2016), 015204, 17 pp. (with *L. Rodman, A. Szkota, and S. Weis*). **MR3808888**.
199. Corrections and additions to 'Inverse continuity on the boundary of the numerical range', *Linear and Multilinear Algebra* **64** (2016), 100–104 (with *T. Leake and B. Lins*). **MR3433382**.
198. Line segments on the boundary of the numerical ranges of some tridiagonal matrices, *Electronic Journal of Linear Algebra* **30** (2015), 693–703 (with *C. M. Thomas*). **MR3426294**.
197. Matrix spectral factorization with perturbed data, *Mem. Differential Equations Math. Phys.* **66** (2015), 65–82 (with *L. Ephremidze*). **MR3454245**.
196. Toeplitz operators of finite interval type and the table method, *Journal of Mathematical Analysis and Applications* **432** (2015), 1148–1173 (with *M. C. Câmara and C. Diogo*). **MR3378415**.
195. Rank-deficient spectral factorization and wavelets completion problem, *International Journal of Wavelets, Multiresolution and Information Processing* **13** (2015), 1550013 (with *L. Ephremidze and E. Lagvilava*). **MR3350063**.

194. Some extremal properties of the partial indices of triangular matrix functions, *Reports. National Academy of Sciences of Armenia* **115** (2015), 87–92 (with *K. V. Harutyunyan and A. G. Kamalyan*). **MR3497382**.
193. On possible tuples of partial indices of triangular matrix functions, *Reports. National Academy of Sciences of Armenia* **115** (2015), 7–14 (with *K. V. Harutyunyan and A. G. Kamalyan*). **MR3469521**.
192. On the numerical ranges of some tridiagonal matrices, *Linear Algebra and its Applications* **470** (2015), 228–240 (with *R. T. Chien*). **MR3314314**.
191. Some aspects of a novel matrix spectral factorization algorithm, *Proceeding of A. Razmadze Mathematical Institute* **166** (2014), 49–60 (with *L. Ephremidze and N. Salia*). **MR3300615**.
190. One sided invertibility of matrices over commutative rings, corona problems, and Toeplitz operators with matrix symbols, *Linear Algebra and its Applications* **459** (2014), 58–82 (with *M. C. Câmara and L. Rodman*). **MR3247215**.
189. Factorization of matrices with symmetries over function algebras, *Integral Equations and Operator Theory* **80** (2014), 469–510 (with *L. Rodman*). **MR3279513**.
188. Factorization of some triangular matrix functions and its applications, *Operators and Matrices* **9** (2015), 1–29 (with *Yu. I. Karlovich and Juan Loreto-Hernandez*). **MR3338549**.
187. On the Gau-Wu Number for Some Classes of Matrices, *Linear Algebra and its Applications* **444** (2014), 254–262 (with *K. Camenga, P. Rault and T. Sendova*). **MR3145844**.
186. Inverse Continuity on the Boundary of the Numerical Range, *Linear and Multilinear Algebra* **62** (2014), 1335–1345 (with *T. Leake and B. Lins*). **MR3261740**.
185. Pre-images of Boundary Points of the Numerical Range, *Operators and Matrices* **8** (2014), 699–724 (with *T. Leake and B. Lins*). **MR3257887**.
184. On the factorization of some block triangular almost periodic matrix functions, *Operator Theory: Advances and Applications* **242** (2014), 25–52 (with *A. Bastos, A. Bravo, and Yu. Karlovich*). **MR3243305**.
183. The distribution of eigenvalues of doubly cyclic Z_+ -matrices, *Linear Algebra and its Applications* **439** (2013), 3576–3580 (with *C. R. Johnson and Z. Price*). **MR3119872**.
182. On Numerical Ranges of Rank-two Operators, *Integral Equations and Operator Theory* **77** (2013), 441–448 (with *L. Rodman*). **MR3116668**.
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8. Noethericity, n - and d -normality of singular integral operators with matrix coefficients admitting the discontinuities of semi-almost-periodic type, *Proceedings of the 7th All-Union school on the operator theory in functional spaces*, Minsk (1982) (with Yu.I.Karlovich).
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30. In memory of Yuri Ilyich Lyubich, *Journal of Mathematical Physics, Analysis, Geometry* **19** (2023), 822–836 (with *G. Belitskii*, *A. Bloch et.al.*).
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26. Remembering Leiba Rodman 1949–2015), *Operator Theory: Advances and Applications* **262** (2018), 3–12 (with *J. A. Ball*, *M. A. Kaashoek*, and *A. C. M. Ran*).

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16. Toeplitz operators with semi-almost periodic matrix symbols on Hardy spaces, *Preprint # 276, Departamento de Matemáticas, CINVESTAV del I.P.N.* (2000), 23 pp. (with *A. Böttcher and Yu. Karlovich*).
15. Factorization of piecewise constant matrix functions and systems of linear differential equations, *Preprint 1999-048, MSRI*, 59 pp. (with *T. Ehrhardt*).
14. Two papers on inverse problems for the partial indices of matrix functions, *Preprint 98-34, Technische Universität Chemnitz, Fakultät für Mathematik* (1998), 41 pp. (with *A. Böttcher and S. M. Grudsky*).
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11. Almost periodic factorization of block triangular matrix functions with a singular constant term in their off-diagonal block, *Technical Report 97-1, University of Washington, Department of Applied Mathematics* (1997), 47 pp. (with *D. Yong*).
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6. Matrix Riemann-Hilbert boundary value problem in the problems of isothermal and thermal gas gliding, Manuscript no. 580-B89, deposited at VINITI 01/24/89, 3–42 (with *A. V. Latyshev*).
5. Factorization of some piecewise constant matrix functions and its applications, Manuscript no. 4726-B88, deposited at VINITI 06/15/88, 35 pp. (with *A. M. Tashbaev*).
4. Application of differential equations in some natural science problems, *Methodical Report* (1988), 25 pp. (with *A. N. Kvitko*), Odessa State Pedagogical Institute.
3. Factorization of matrix functions and its applications, *Doctoral dissertation* (1987), 300 pp., Mathematical Institute, Georgian Academy of Sciences, Tbilisi.
2. Noethericity criterion for block-triangular operators and problems of the theory of matrix function factorization, Manuscript no. 2543-81, deposited at VINITI 05/28/81, 23 pp. Annotation in *Sibirsky Matem. Zh.* **23** (1982), no. 1.
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Public presentations (from 1988)

1988	
January	21st Voronezh winter mathematical school, USSR
February	Conference on bounded value problems devoted to the memory of F. Gahov, Odessa, USSR (plenary talk)
June	All-Union Conference on approximate solving of integral equations, Pushchino, USSR
August	International Conference on Operator Theory: Advances and Applications, Calgary, Alberta, Canada (plenary talk)
September	All-Union Conference on Integral Equations and Mathematical Analysis, Teberda, USSR
October	Technical University, Chemnitz, and Leipzig University, Germany (colloquia talks) 13th All-Union school on the Operator Theory in Function Spaces, Kuibyshev, USSR
1989	
January	22nd Voronezh winter mathematical school, USSR
February	2nd Conference on bounded value problems devoted to the memory of F. Gahov, Odessa, USSR
March	All-Union Conference on Complex Analysis and its applications, Chernogolovka, USSR (plenary talk)
May	Mathematical Institute, Polish Academy of Sciences, Krakow, Poland (series of lectures),
October	International seminar on Schur Analysis, Leipzig, Germany
December	Vienna University, Austria
1990	
April	Conference on Function Spaces, South Illinois University, Edwardsville (plenary talk) College of William and Mary, Williamsburg, VA
May	City College, City University of New York
October	University of Maryland, College Park
November	2nd SIAM Conference on Linear Algebra in Signals, Systems & Control, San Francisco, CA
1991	
January	Brigham Young University, Provo, Utah Joint Mathematics Meeting of AMS, MAA, SIAM, San-Francisco, CA 7th Annual South-Eastern Analysis Meeting, University of North Carolina at Charlotte
February	Howard University, Washington, DC
March	West Virginia University, Morgantown, WV

	University of Toronto, Canada
April	University of Oklahoma, Norman
May	Carleton University, Ottawa, Canada
	Canadian Operator Symposium, University of Montreal, Canada
	Great Plains Operator Theory Symposium, Texas A&M University, College Station, TX
September	4th SIAM Conference on Applied Linear Algebra, University of Minnesota, MN
November	Virginia Polytechnic Institute and State University, Blacksburg
1992	
March	8th Annual South-Eastern Analysis Meeting, University of Tennessee, Knoxville
May	Great Plains Operator Theory Symposium, University of Iowa, Iowa City
	Instituto Superior Tecnico and Universidade de Lisboa, Lisbon, Portugal
June	Chemnitz Technical University, Germany
July	Institute for Applied Analysis and Stochastics, Berlin, Germany
	Technische Hochschule, Darmstadt, Germany
	First European Congress of Mathematics, Paris, France
	Workshop on Matrix Theory, University of Bielefeld, Germany
August	2nd Conference of the International Linear Algebra Society, Lisbon, Portugal
	Workshop on Numerical Ranges and Numerical Radii, College of William and Mary
September	Wabash Modern Analysis Conference, Indianapolis, IA (plenary talk)
	Toeplitz and Wiener-Hopf Operators Conference, University of California, Santa Cruz, CA
1993	
March	Old Dominion Operator Theory and Analysis Conference, University of Richmond, VA
	9th Annual South-Eastern Analysis Meeting, Memphis State University, TN
April	881st Meeting of the AMS, Howard University, Washington, D.C.
October	Northeastern Operator Algebra/Operator Theory Meeting
	West Chester University, PA
	Functional Analysis on the Eve of the Twenty-first Century, Rutgers University, New Brunswick, NJ
1994	
January	International Conference on Harmonic Analysis and Operator Theory
	Caracas, Venezuela (plenary talk)
	International Meeting on Singular Integral and Pseudo-Differential Operators and their Applications, Oberwolfach, Germany
March	891st Meeting of the AMS, Kansas State University
	SUNY at Buffalo, Buffalo, NY

April	Third Old Dominion Operator Theory and Analysis Conference, University of Richmond, VA
May	Second Conference on Function Spaces, South Illinois University, Edwardsville Banach International Mathematical Center, Warsaw, Poland Chemnitz Technical University, Germany Mining Academy of Freiberg , Germany
June	The Interaction between Functional Analysis, Harmonic Analysis, and Probability, University of Missouri at Columbia 18th Symposium on Real Analysis, University of Virginia, Charlottesville
July	Instituto Superior Tecnico, Lisbon, Portugal
August	2nd Workshop on “Numerical ranges and numerical radii”, University of Coimbra, Portugal
October	The legacy of Norbert Wiener: A centennial symposium, MIT, Cambridge, MA
November	896th Meeting of the AMS, University of Richmond, VA Universidad Autonoma, Madrid, Spain
December	International Conference on Operator Theory for Complex and Hypercomplex Analysis, Mexico City, Mexico

1995

March	German-Israeli Workshop on Linear One-Dimensional Singular Integral Operators, Tel Aviv, Israel Bar-Ilan University, Ramat Gan, Israel
April	Conference on Mathematical Analysis and Automatic Control, University of Alabama, Tuscaloosa, AL
May	Instituto Superior Tecnico, Lisbon, Portugal University of Algarve, Faro, Portugal
June	NSF-CBMS Conference on Approximation Dynamics with Applications to Numerical Analysis, University of Missouri, Columbia, MO
August	International Workshop on Operator Theory and Applications, University of Regensburg, Germany
October	Wabash Modern Analysis Seminar, Crawfordsville, IN Indiana University, Bloomington, IN

1996

March	Minisymposium on Systems of Singular Integral Equations on Composed Curves, Technische Universität Chemnitz-Zwickau, Germany Hagen Universität, Hagen, Germany
May	12th Annual South-Eastern Analysis Meeting, University of Richmond, VA Vrije Universiteit, Amsterdam, the Netherlands Delft Universitet of Technology, Delft, the Netherlands Technische Hochschule, Darmstadt, Germany

June	Great Plains Operator Theory Symposium, Arizona State University, Tempe, AZ International Workshop on Operator Theory and Applications, Indiana University, Bloomington, IN
August	6th Conference of the International Linear Algebra Society, Chemnitz, Germany
October	University of Maryland, College Park
December	Conference on Modern Banach Space Theory, Kent State University, OH
1997	
January	918th Joint Meeting of the AMS, MAA and SIAM, San Diego, CA
March	International Conference “Mathematics Today and Tomorrow”, University of Central Florida, Orlando
May	XIII South Eastern Analysis Meeting, University of Florida, Gainesville Workshop on Matrix and Group Theory, Universidade de Coimbra, Portugal Instituto Superior Tecnico, Lisbon, Portugal Universidade de Lisboa, Portugal
June	First International Congress of the ISAAC (International Society for Analysis, its Applications and Computation), University of Delaware, Newark
1998	
May	International Conference “Fourier Analysis and Applications”, Kuwait University, Kuwait Universita degli Studi di Roma “La Sapienza”, Italy (series of lectures) Third Conference on Function Spaces, South Illinois University, Edwardsville
June	University of Namur, Belgium (series of lectures) Fourth Workshop on Numerical Ranges and Numerical Radii, University of Wisconsin - Madison 7th Conference of the International Linear Algebra Society (ILAS) University of Wisconsin - Madison
July	International Workshop on Operator Theory and Applications University of Groningen, the Netherlands
August	International Congress of Mathematicians, Berlin, Germany
November	Virginia Operator Theory and Complex Analysis Meeting, University of Richmond (two plenary talks)
1999	
January	University of Toronto, Canada
March	940th Meeting of the AMS, University of Florida, Gainesville International Conference on Recent Advances in Analytic and Numerical Treatment of Operator Equations, Klaffenbach, Germany
May	15th Annual South-Eastern Analysis Meeting, Vanderbilt University, Nashville TN

2000	
January	Joint Mathematics Meeting of AMS, MAA, SIAM, Washington, D.C.
March	XVI South Eastern Analysis Meeting, Charlottesville, VA
May	University of Erlangen, Germany Academy of Czech Republic, Prague
June	International Workshop on Operator Theory and Applications, Bordeaux, France 5th International Workshop on the Numerical Ranges, Nafplio, Greece
September	International Workshop on Operator Theory and Applications Summer School on Factorization and Integrable Systems University of Algarve, Faro, Portugal
December	North-South Analysis seminar at CINVESTAV, Mexico City, Mexico
2001	
February	Matrix Theory Seminar, University of Coimbra
March	XVII South Eastern Analysis Meeting, University of Georgia, Athens, GA
April	International Conference on Toeplitz Matrices in Honor of Bernd Silbermann, Pobershau/Erzgebirge, Germany
June	University of Algarve, Faro, Portugal Instituto Superior Tecnico, Lisbon, Portugal Computational methods and function theory, University of Aveiro, Portugal
July	SIAM Conference on control and its applications, San Diego, CA
August	Third International Congress of the ISAAC (International Society for Analysis, its Applications and Computation), Berlin, Germany
October	Trends in Banach spaces and Operator Theory, Memphis, TN
November	Integrable Systems Seminar, Duke University, NC
2002	
January	International Conference on Factorization, Singular Operators and Related Problems, Universidade da Madeira, Portugal
March	XVIII South Eastern Analysis Meeting, University of North Carolina, Chapel Hill University of Arkansas, Fayetteville (colloquium talk) 975th AMS Meeting, Georgia Tech, Atlanta, GA Georgia State University, Atlanta (colloquium talk)
April	University of Leeds, UK (colloquium talk) Functional Analysis seminar, University of Newcastle, UK
May	University of Sussex, UK London Analysis seminar, UK Yorkshire Functional Analysis group, UK
June	6th International Workshop on the Numerical Ranges, Auburn University, AL
August	Bell Laboratories, Lucent Technologies, NJ
September	San Francisco State University, CA (colloquium talk)

October	Abö Akademie, Finland Analysis Seminar, Michigan State University, East Lansing Kent State University, OH (colloquium talk)
November	982nd Meeting of the AMS, University of Central Florida, Orlando University of Bremen, Germany Chemnitz Technical University, Germany
December	Matrix Theory Seminar, University of Coimbra, Instituto Superior Tecnico, Lisbon, Portugal
2003	
January	IUPUI, IN (colloquium talk)
February	Seminar of the Numerical Analysis and Computational Mathematics Group, University of Cagliari, Italy Seminar of the Department of Mathematics, University of Pisa, Italy
March	XIX South Eastern Analysis Meeting, University of Tennessee, Knoxville, TN
April	Analysis Seminar, University of California, Berkeley Cal Poly State University, San Luis Obispo (colloquium talk) Operator Theory Seminar talk, Cal Poly State University, San Luis Obispo
May	Universite Catholique de Louvain, Belgium Vrije Universiteit, Amsterdam, the Netherlands Third Conference of the European Research Network “Analysis and Operators” Tenerife, Canary Islands, Spain University of Namur, Belgium
August	Fourth International Congress of the ISAAC (International Society for Analysis, its Applications and Computation), Toronto, Canada
December	International Conference on Matrix Analysis and Applications, Nova Southeastern University, Fort Lauderdale, Florida
2004	
February	University of Virginia, Charlottesville (colloquium talk)
March	Florida Atlantic University, Boca Raton (colloquium talk)
June	University of Pisa, Italy (crash lecture course)
November	Southern California Matrix Meeting, San Jose State University, CA
2005	
April	University of Central Florida, Orlando (colloquium talk) XXI South Eastern Analysis Meeting, Washington and Lee University, Lexington, VA
May	New Perspectives for Boundary Value Problems and their Asymptotics NSF-CBMS research conference, UTPA, Edinburg, TX
June	5th International Conference on Matrix Analytic Methods in Stochastic Models

July	Pisa, Italy (plenary talk) International Workshop on Operator Theory and Applications, Storrs, CT (semi-plenary talk)
December	Seminar talks, Universities of Minho, Porto, and Coimbra, Portugal
2006	
February	Special Semester on Gröbner Bases and Related Methods, Radon Institute for Computational and Applied Mathematics, Linz, Austria
March	XXII South Eastern Analysis Meeting, University of Florida, Gainesville, FL University of Miami (colloquium talk)
July	8th Workshop on “Numerical ranges and numerical radii”, University of Bremen, Germany
August	International Workshop on Operator Theory and Applications, Seoul National University, South Korea (plenary talk)
September	International Workshop on Operator Algebras, Operator Theory and Applications, Instituto Superior Tecnico, Lisbon, Portugal (plenary talk)
December	2nd International Workshop on Matrix Analysis and Applications Nova Southeastern University, Fort Lauderdale, Florida
2007	
January	CINVESTAV, Mexico City, Mexico (colloquium talk)
March	University College, London (colloquium talk) XXIII South Eastern Analysis Meeting, University of Richmond, VA
April	1027th AMS meeting, University of Arizona, Tucson (invited special session talk)
May	Drexel University (colloquium talk) AMS-SMM Joint Meeting, Zacatecas, Mexico (invited special session talk)
June	Instituto Superior Tecnico, Lisbon, Portugal (Functional Analysis and Applications seminar)
July	Cal Poly State University, San Luis Obispo (colloquium talk)
September	Workshop on the Riemann-Hilbert problem and Toeplitz operators, Heriot-Watt University, Edinburgh, Scotland (plenary talk)
2008	
January	Instituto Superior Tecnico, Lisbon, Portugal (Functional Analysis and Applications seminar)
April	University of Alaska Fairbanks, AK (colloquium talk)
May	International Workshop on Analysis, Operator Theory and Applications Cancun, Mexico (plenary talk) 6th International Conference on Differential Equations and Dynamical Systems Morgan State University, Baltimore, MD (invited special session talk) 5th Linear Algebra Workshop, Kranjska Gora, Slovenia

June	15th Conference of the International Linear Algebra Society (ILAS) Cancun, Mexico (plenary talk)
July	9th International Workshop on the “Numerical Ranges and Numerical Radii”, The College of William and Mary
September	Brown University, Providence, RI (Analysis seminar)
November	Virginia Operator Theory and Complex Analysis Meeting, Virginia Commonwealth University, Richmond (plenary talk) Workshop on Toeplitz-like operators and related topics, CINVESTAV, Mexico City, Mexico (plenary talk)
2009	
January	The University of Southern Mississippi, Hattiesburg, MS (colloquium talk) University of South Alabama, Mobile, AL (colloquium talk)
February	Drexel University, Philadelphia, PA (Analysis seminar)
March	University of Seville, Spain (Analysis seminar) University of Lisbon, Portugal (colloquium talk) Autonomous University of Madrid, Spain (Analysis seminar)
April	Instituto Superior Tecnico, Lisbon, Portugal (Seminar on Functional Analysis and Applications — two talks) Barcelona Analysis Seminar, Spain
May	University of Algarve, Faro, Portugal 2nd Najman Conference on Spectral Problems for Operators and Matrices, Dubrovnik, Croatia Haifa Matrix Theory Conference, Israel Complex Analysis & Dynamical Systems IV, Nahariya, Israel Universite Pieree et Marie Curie – Paris 6 (Functional Analysis seminar)
June	University of Bordeaux, France University of Marseille, France (Analysis seminar) Meeting on Operators and Matrices, College of William & Mary, Williamsburg, VA
October	Functional Analysis Seminar, Oxford University, UK London Analysis Seminar, University College London
December	Courant Institute seminar, NYU
2010	
January	Cal Poly State University, San Luis Obispo (colloquium talk) SUMO Speaker series, Stanford University
June	International Summer School and Workshop “Harmonic Analysis and Related Topics”, Lisbon, Portugal
July	Instituto Superior Tecnico, Lisbon, Portugal (Seminar on Functional Analysis and Applications) International Workshop on Operator Theory and Applications, Berlin, Germany (semi-plenary 45 min talk)

October	Workshop on Operator Theory, Complex Analysis and Applications Lisbon, Portugal
November	1065th Meeting of the AMS, University of Richmond, VA (invited special session talk)
2011	
January	University of California in Santa Cruz (colloquium talk) IUPUI, Indianapolis, IN (colloquium talk)
March	XXVII South Eastern Analysis Meeting, University of Florida, Gainesville
April	International seminar “Modern methods and problems of Operator Theory, Harmonic Analysis, and their Applications”, Rostov-on-Don, Russia (invited lecture via video conference) University of Tennessee in Chattanooga (colloquium talk)
June	Summer School and Workshop on Selected Topics of Operator Theory Lisbon, Portugal (course of three 90 minutes lectures)
July	Integral and Differential Operators and Their Applications, Aveiro, Portugal (plenary lecture) Research Experience for Undergraduate Faculty (REUF) workshop American Institute of Mathematics, Palo Alto, CA (group leader)
September	International conference “Continuum Mechanics and related problems of Analysis” Tbilisi, Georgia (plenary lecture) 2nd International Conference of the Georgian Mathematical Union, Batumi, Georgia
December	Workshop on “Stability, hyperbolicity, and zero localization of functions” American Institute of Mathematics, Palo Alto, CA
2012	
January	University of Strathclyde, Glasgow, UK (colloquium talk) Brunel University, London, UK (Applied Mathematics and Analysis seminar)
March	Temple University, Philadelphia (Applied Mathematics and Scientific Computing Seminar)
April	NYU at Abu Dhabi, UAE (Science seminar) Second International Scientific Conference on Contemporary Methods, Problems and Applications of Operator Theory and Harmonic Analysis Rostov-on-Don, Russia (invited lecture via video conference) Cornell University, Ithaca, NY (Analysis seminar)
September	Workshop on Operator Theory and Operator Algebras Lisbon, Portugal (invited speaker)
October	University of Connecticut (colloquium talk)
2013	
January	University of Reading, UK (Analysis seminar) Brunel University, London, UK (colloquium talk)

March	29th Annual South-Eastern Analysis Meeting, Virginia Tech, Blacksburg, VA
May	Louisiana State University, Baton Rouge, LA (colloquium talk) Structured Quartet Research Ensembles program on “ Possible shapes of the numerical ranges for certain classes of matrices”, American Institute of Mathematics, Palo Alto, CA (group leader) Drexel University, Philadelphia, PA (Analysis seminar)
June	18th Conference of the International Linear Algebra Society (ILAS) Providence, RI (invited special session talk) New Directions for Mathematics REUs, Mount Holyoke College, MA
August	1st Mathematical Congress of the Americas, Guanajuato, Mexico (invited special session talk)
September	NYU at Abu Dhabi, UAE (Science seminar)
October	Istanbul Analysis Seminar, Turkey International conference on Groups, Group Rings and Related Topics UAE University, Al-Ain, United Arab Emirates
December	24th International Workshop on Operator Theory and Applications, Bangalore, India (invited special session talk)
2014	
February	NYUAD Research Conference, Abu Dhabi, United Arab Emirates
June	Universidad Autónoma de Madrid and Instituto de Ciencias Matemáticas Madrid, Spain (colloquium talk) Workshop on Operator Theory, Complex Analysis, and Applications Lisbon, Portugal Third Wiener-Hopf Workshop, University of Aveiro, Portugal
August	19th Conference of the International Linear Algebra Society (ILAS) Seoul, Korea (invited special session talk) ICM Satellite Conference on Operator Algebras and Applications Cheongpung, Korea
October	National Technical University of Athens, Greece (seminar talk)
November	Conference on Mathematics and its Applications (CMA 2014), Kuwait
December	Seminar on Matrix Analysis of the Center for Mathematical Modeling and Scientific Computing at the National Chiao Tung University Hsinchu, Taiwan Department of Applied Mathematics, National Sun Yat-sen University Kaohsiung, Taiwan
2015	
March	University of Jordan, Amman
April	The Second International Conference on Mathematics and Statistics (AUS-ICMS'15), American University of Sharjah, UAE

May	Functional Analysis Seminar, Institute of Analysis and Scientific Computing Vienna University of Technology, Austria
June	Institute of Mathematics, Academy of Czech Republic, Prague Joint AMS-EMS-SPM International Meeting, Porto, Portugal (invited special session talk)
July	Humboldt Kolleg (invited talk), Georgian National Academy of Sciences 26th International Workshop on Operator Theory and Applications Tbilisi, Georgia (invited 50 min and special session talks) Swedish-Georgian Conference on Analysis and Dynamical Systems Tbilisi, Georgia (invited talk)
September	University of Odessa, Ukraine
October	University of Malaga, Spain
2016	
March	University of Salerno, Italy (seminar talk) University of Bari Aldo Moro, Italy (seminar talk)
May	University of Ljubljana, Slovenia (seminar talk)
June	International conference on Complex Analysis and Related Topics, Lviv, Ukraine (plenary talk) Workshop on Operator Theory and Complex Analysis Coimbra, Portugal (invited talk) 13th Workshop on “Numerical ranges and numerical radii”, Soochow University, Taipei, Taiwan
July	International Workshop on Operator Theory and Operator Algebras Lisbon, Portugal (plenary talk) 27th International Workshop on Operator Theory and Applications Washington University in St. Louis (invited special session talk)
October	University of Crete, Greece (seminar talk)
2017	
January	Joint Mathematics Meeting of AMS and MAA, Atlanta, GA (invited special session talk) Portland State University, OR (Analysis seminar talk)
March	Vrije Universiteit Amsterdam, the Netherlands
May	Institute of Mathematics, Ukrainian Academy of Sciences, Kuiv (Functional Analysis Seminar) Kuiv Mathematical Society (colloquium talk)
June	Hilbert Function Spaces Conference (Gargnano, Italy)
July	Workshop on Operator Theory, Complex Analysis, and Applications Lisbon, Portugal
August	28th International Workshop on Operator Theory and Applications Chemnitz Technical University, Germany (semi-plenary talk)

September	Armenian Mathematical Society, Yerevan (colloquium talk)
October	Workshop on Analysis and its Applications American University of Sharjah, UAE
November	University of Catania, Italy (seminar talk) International conference on Groups, Group Rings and Related Topics, Khorfakkan, Sharjah, UAE
2018	
February	International Workshop on Operator Algebras, Quantum Probability & Innovative Applications, UAE University, Al Ain (invited talk)
May	Operators, Functions, and Systems of Mathematical Physics conference Baku, Azerbaijan (invited talk)
June	Lulea University of Technology, Sweden 14th Workshop on “Numerical ranges and numerical radii”, Technical University of Munich, Germany
July	Technical University of Berlin, Germany
September	9th International Workshop on Analytic Methods of Analysis and Differential Equations Minsk, Belarus (Plenary talk)
2019	
January	Florida Atlantic University, Boca Raton, FL (colloquium talk) Nova Southeastern University, Fort Lauderdale, FL (colloquium talk)
April	King Saud University, Riyadh, Saudi Arabia
May	3rd Workshop on expository lectures in Mathematics American University of Sharjah (invited lecture)
June	The Fifteenth Workshop on “Numerical ranges and numerical radii”, Toyo University, Kawagoe Campus, Japan
July	Univesity of Stuttgart, Germany (colloquium talk) 30th International Workshop on Operator Theory and Applications Instituto Superior Tecnico, Lisbon, Portugal (semi-plenary talk)
August	12th International Congress of the ISAAC (International Society for Analysis, its Applications and Computation), Aveiro, Portugal Workshop on the “Factorization of matrix functions: New techniques and applications”, Cambridge, UK
September	International Conference “Morse theory and its applications”, Kyiv, Ukraine
2020	
Febuary	The Third International Conference on Mathematics and Statistics (AUS-ICMS2020), American University of Sharjah, UAE
May	International Workshop on Advanced Topics in Dynamical Systems (IWATDS-2020), University of Kufa, Iraq (online participation)

August	International online seminar on “Analysis, Differential Equations and Mathematical Physics” Southern Federal University, Rostov-on-Don, Russia
October	International conference “Functional Analysis and Mathematical Education” dedicated to 100th anniversary of the birth of Professor Avraam Straus Ulyanovsk, Russia (online)
2021	
May-June	Research Experience for Undergraduate Faculty (REUF) workshop Houghton, MI (mentor; online participation)
June	Workshop on Operator Theory, Complex Analysis, and Applications Lisbon, Portugal (online participation)
August	XI International Conference of the Georgian Mathematical Union Batumi, Georgia (plenary talk — online participation)
November	Online Seminar on Linear Algebra and Operator Theory (Oselt)
2022	
April	Joint Mathematical Meeting of AMS and MAA, Seattle, WA (online) (two invited special session talks)
September	33rd International Workshop on Operator Theory and Applications Krakow, Poland (invited special session talk)
2023	
June	16th International Workshop on the Numerical Ranges University of Coimbra, Portugal
2024	
August	Tbilisi Analysis & PDE Workshop (TAPDE 2024) Institute of Mathematics, University of Georgia

Professional service

University Committee service

College (William & Mary) or Science Faculty (NYUAD) -wide:

Library Policy Advisory Committee, Arts and Sciences Library Committee (1993 – 1997), Transportation Advisory Committee (Spring 2000 – Fall 2002), Integrity Panel (Fall 2017 – Spring 2019)

Departmental (William & Mary) or Program (NYUAD) -wide:

Graduate Studies Committee (1992–1993, 1996 – 2000), Library Representative (1993–1995, 1997 – 2002), Grants Opportunities Committee (Fall 1998 – 2000), Computer Committee (Fall 1999), Honors Committee (Fall 2007 – Spring 2008), Personnel Committee (Fall 1995, Fall 2000 – Spring 2002, Fall 2003 – Spring 2006, Fall 2007 – Spring 2008), Search Committee (Fall 2004 – Spring 2005, Fall 2007 – Spring 2008), Colloquium Committee (Fall 2003 – Spring 2008, Fall 2009 – Spring 2013), Merit Evaluation Committee (Fall 1998 – Spring 2000, Fall 2006 – Spring 2007, Fall 2009 – Spring 2012), Undergraduate Curriculum Committee (Fall 2012 – Spring 2013), Search Committee (Fall 2014 – Spring 2015), Curriculum Committee (Fall 2017 – Spring 2019).

Other professional service

IWOTA steering committee member August 2008–Present

ILAS Advisory Committee chair April 2023–Present

Editor for the special issues of *Acta Appl. Math.* devoted to Antonio Avantaggiati (v. 65, nos. 1–3, 2001), *Complex Analysis and Operator Theory* dedicated to Georgii Semenovich Litvinchuk (v. 2, no. 2 and 4, 2008), *Linear Algebra and Applications* dedicated to Professor Friedland (v. 431, 2009), Professor Rodman (v. 470, 2015), and Professor Böttcher (in preparation), *Special Matrices* dedicated to Professor Johnson (v. 7, 2019), as well as IWOTA 2008 Proceedings (v. 202 and 203, 2010), “Convolution Equations and Singular Integral Operators” (v. 206, 2010), “Operator Theory, Pseudo-Differential Equations, and Mathematical Physics” (v. 228, 2013), “Operator Theory, Operator Algebras, and Applications” (v. 242, 2014), “Large truncated Toeplitz matrices, Toeplitz operators, and related topics” (v. 259, 2017), and “Achievements and Challenges in the Field of Convolution Operators” (in preparation) of the series *Operator Theory: Advances and Applications*.

Reviewer for *Mathematical Reviews* and *Zentralblatt* (more than 200 reviews written)

Referee (at an average rate of about 30 papers per year) for journals in operator theory, integral equations, boundary value problems, matrix theory, control theory, among which: Proceedings of the National Academy of Sciences, Annals of Mathematics, Advances in Mathematics, Journal of the AMS, Transactions of the AMS, Proceedings of the AMS, Journal of the London Mathematical Society, Journal of the Australian Mathematical Society,

Proceedings of the Royal Society of Edinburgh, Journal of Operator Theory, Journal of Functional Analysis and Applications, Journal of Mathematical Analysis and Applications, Journal of Inequalities and Applications, Journal of Physics A: Mathematical and Theoretical, Numerical Functional Analysis and Optimization, Michigan Mathematical Journal, Rocky Mountain J. Math., Linear Algebra and its Applications, Linear and Multilinear Algebra, Electronic Journal of Linear Algebra, SIAM J. Control and Optimization, Aequationes Mathematicae, Indagationes Mathematicae, Integral Equations and Operator Theory, Journal of Integral Equations and Applications, Indiana Journal of Mathematics, Complex Analysis and Operator Theory, Operators and Matrices, Operator Theory: Advances and Applications, Canadian Mathematical Bulletin, International Journal of Mathematics and Mathematical Sciences, St. Petersburg Math. J., Mathematische Nachrichten, Proceedings of the Armenian Academy of Sciences, Applied Mathematics and Computation, International Journal of Applied Mathematics and Computer Science, Automatica, CUBO, and others.

Conference organizer: Member of the Steering Committee, International Workshops on Operator Theory and its Applications (July 2008 – present)

Member of the Organizing Committee, Old Dominion Operator Theory and Analysis Conference (Williamsburg, VA, 1995).

Member of the NSF Operator Algebras/Operator Theory Panel (2000-2001).

Member of the Scientific Program Committee, International Conference “Factorization, singular operators and related problems” (Madeira, Portugal, January 2002)

Member of the Program Committee, International Workshop on Operator Theory and its Applications (Storrs, CT, July 2005)

Member of the Program Committee, International Workshop on Operator Theory and its Applications (Seoul, Korea, July–August 2006)

Member of the Scientific Program Committee, Summer School and a Workshop on Operator Algebras (Lisbon, Portugal, September 2006)

Special session organizer, Seventh Joint International Meeting of the AMS and the Sociedad Matematica Mexicana (Zacatecas, Mexico, May 2007)

Member of the Organizing Committee, The 19th International Workshop on Operator Theory and its Applications (Williamsburg, VA, 2008)

Special session organizer, The 20th International Workshop on Operator Theory and its Applications (Guanajuato, Mexico, September 2009)

Special session organizer, Eighth Joint International Meeting of the AMS and the Sociedad Matematica Mexicana (Berkeley, CA, June 2010)

Member of the Organizing Committee, International Linear Algebra Society Conference (Pisa, Italy, June 2010)

Member of the Scientific Committee, Integral and Differential Operators and Their Applications (Aveiro, Portugal, July 2011)

Special session organizer, The 22nd International Workshop on Operator Theory and its Applications (Seville, Spain, July 2011)

Member of the Scientific Committee, International conference “Continuum Mechanics and related problems of Analysis” (Tbilisi, Georgia, September 2011)

Special session organizer, The 24th International Workshop on Operator Theory and its Applications (Bangalore, India, December 2013)

Member of the Scientific Committee, The Third Wiener-Hopf Workshop (Aveiro, Portugal, June 2014)

Member of the UAE Math Day 2015 Organizing and Scientific Committees

Special session organizer, AMS-EMS-SPM (American Mathematical Society, European Mathematical Society, and Sociedade Portuguesa de Matemática) International Meeting (Porto, Portugal, June 2015)

Special session organizer, The 26th International Workshop on Operator Theory and its Applications (Tbilisi, Georgia, July 2015)

Chair of the UAE Math Day 2016 Organizing and Scientific Committees

Mini-symposium organizer, Meeting of the International Linear Algebra Society (Iowa, July 2017)

Special session organizer, Joint Mathematics Meetings (San Diego, CA, January 2018)

Member of the Scientific Committee, International conference “Operators, Functions, and Systems of Mathematical Physics” (Baku, Azerbaijan, May 2018)

Special session organizer, Joint Mathematics Meetings (Baltimore, MA, January 2019)

Special session organizer, AMS Western Section Meeting (Fresno, CA, May 2020)

Member of the Program Committee, Conference devoted to the One hundred years Anniversary of Professor A. V. Shtraus (Ulyanovsk, Russia, October 2020)

Special session organizer, International Workshop on Operator Theory and its Applications (Krakow, Poland, September 2022)

Member of the UAE Math Day Local Organizing Committee (NYUAD, March 2024)

Special session organizer, International Workshop on Operator Theory and its Applications (University of Kent. Canterbury, UK, August 2024)

Special session organizer, International Workshop on Operator Theory and its Applications (University of Twente. Enschede, The Netherlands, July 2025)