

Florin Petre Boca

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Curriculum Vitae

Address

Department of Mathematics
University of Illinois at Urbana-Champaign
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Education

1993 Ph.D. in Mathematics, University of California Los Angeles
1986 B.S. Universitatea București
1980 Diploma de Bacalaureat, Liceul de Matematică-Fizică Mihai Viteazul, Ploiești

Positions held and other employment

since 2012 Professor, University of Illinois at Urbana-Champaign
2005-2012 Associate Professor, University of Illinois at Urbana-Champaign
2001-2005 Assistant Professor, University of Illinois at Urbana-Champaign
1995-2001 EPSRC Advanced Research Fellow: Swansea University (1995-1997) and
Cardiff University (1998-2001)
1993-1995 Postdoctoral Fellow, University of Toronto
1990-1993 Ph.D. Student, U.C.L.A.
1988-2013 Researcher, Institute of Mathematics of the Romanian Academy
1986-1988 Math Teacher, Liceul Industrial No.3, Buzău
1980-1981 Compulsory military service, Romanian Army

Research Interests

Operator Algebras, Number Theory, Dynamical Systems, Operator Theory

Honors, Recognitions, and Outstanding Achievements

- Engineering and Physical Sciences Research Council Advanced Research Fellowship: Swansea University (1995-1997) and Cardiff University (1998-2001).
- Simion Stoilow prize of the Romanian Academy for work published in 1997.

Ph.D. Students

- Joseph Vandehey (Ph.D. 2013), advised jointly with Kevin Ford
- Byron Heersink (Ph.D. 2017)
- Claire Merriman (Ph.D. 2019)
- Christopher Linden (Ph.D. 2020)
- Maria Siskaki (Ph.D. 2023)

Math Genealogy <https://www.genealogy.math.ndsu.nodak.edu/id.php?id=40089>

Postdocs Mentored

- Pierre Fima (2008 - 2009), jointly with Zhong-Jin Ruan
 - Michael Brannan (2012 - 2015), jointly with Zhong-Jin Ruan
 - Francesco Cellarosi (2012 - 2015), jointly with Jayadev Athreya
 - Adam Dor-On (2018 - 2021)
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Publications

- (1) F. Boca, V. Nițică: *Combinatorial properties of groups and simple C^* -algebras with a unique trace*, J. Operator Theory **20** (1988), 183-196.
<http://www.theta.ro/jot/archive/1988-020-001/1988-020-001-012.pdf>
- (2) F. Boca, V. Nițică: *Extensions of groups and simple C^* -algebras*, in Linear Operators in Function Spaces (Timișoara, 1988), Operator Theory: Advances and Applications, Vol. **43**, Birkhäuser-Verlag, 1990, pp. 123-130.
<https://link.springer.com/book/10.1007/978-3-0348-7250-8>
- (3) F. Boca: *Free products of completely positive maps and spectral sets*, J. Functional Analysis **97** (1991), 251-263.
<https://www.sciencedirect.com/science/article/pii/002212369190001L>
- (4) F. Boca, F. Rădulescu: *Singularity of radial subalgebras in II_1 factors associated with free products of groups*, J. Functional Analysis **103** (1992), 138-159.
<https://www.sciencedirect.com/science/article/pii/002212369290139A>
- (5) F. Boca: *Completely positive maps on amalgamated product C^* -algebras*, Math. Scandinavica **72** (1993), 212-222.
<http://www.mscaand.dk/article/view/12445/10461>
- (6) F. Boca: *On the method of constructing irreducible finite index subfactors of Popa*, Pacific J. Math. **161** (1993), 201-231.
<http://msp.org/pjm/1993/161-2/pjm-v161-n2-p01-s.pdf>

- (7) F. P. Boca: *Amalgamated Product von Neumann Algebras and Subfactors*, Ph.D. Dissertation, viii + 59 pp., University of California Los Angeles, June 1993.
- (8) F. P. Boca: *Ergodic actions of compact matrix pseudogroups on C^* -algebras*, in Recent Advances in Operator Algebras (Orléans, 1992), Astérisque **232** (1995), pp. 93-110. http://www.numdam.org/book-part/AST_1995__232__93_0/
- (9) F. P. Boca: *On the flip fixed point algebra in certain noncommutative tori*, Indiana J. Math. **45** (1996), 253-272. <https://www.jstor.org/stable/24899156>
- (10) F. P. Boca: *The structure of higher-dimensional noncommutative tori and metric diophantine approximation*, J. Reine Angew. Mathematik **492** (1997), 179-219. <https://www.degruyter.com/document/doi/10.1515/crll.1997.492.179/html>
- (11) F. P. Boca, A. Zaharescu: *Facteurs de type III associés aux ensembles de nombres premiers*, C. R. Acad. Sci. Paris, t. **324**, Serie I, 1997, 797-800.
- (12) F. P. Boca: *A note on full free product C^* -algebras, lifting and quasidiagonality*, in Operator Theory, Operator Algebras and Related Topics, Timișoara 1996, The Theta Foundation, Bucharest 1997, pp. 51-63. <https://arxiv.org/abs/1508.03123>
- (13) F. P. Boca: *Around a characterization of the lattice of higher relative commutants*, preprint Univ. of Wales Swansea, 1997.
- (14) F. P. Boca: *Projections in rotation algebras and theta functions*, Commun. Math. Phys. **202** (1999), 325-357. <https://arxiv.org/abs/math/9803134>
- (15) F. P. Boca, A. Zaharescu: *Factors of type III and the distribution of prime numbers*, Proc. London Math. Soc. **80** (2000), 145-178. <https://arxiv.org/abs/2212.14080>
- (16) F. P. Boca: *On the spectrum of certain discrete Schrödinger operators with quasiperiodic potential*, Duke Math. J. **101** (2000), 515-528. <https://projecteuclid.org/journals/duke-mathematical-journal/volume-101/issue-3>
- (17) F. P. Boca, C. Cobeli, A. Zaharescu: *Distribution of lattice points visible from the origin*, Commun. Math. Phys. **213** (2000), 433-470. <https://link.springer.com/article/10.1007/s002200000250>
- (18) F. P. Boca, A. Zaharescu: *Pair correlation of values of rational functions (mod p)*, Duke Math. J. **105** (2000), 267-307. <https://projecteuclid.org/journals/duke-mathematical-journal/volume-105/issue-2/>
- (19) F. P. Boca, P. Goldstein: *Topological entropy for the canonical endomorphism of Cuntz-Krieger algebras*, Bull. London Math. Soc. **32** (2000), 345-352. <https://arxiv.org/abs/math/9906210>

- (20) F. P. Boca, C. Cobeli, A. Zaharescu: *A conjecture of R. R. Hall on Farey points*, J. Reine Angew. Mathematik **535** (2001), 207-236.
<https://www.degruyter.com/document/doi/10.1515/crll.2001.049/pdf>
- (21) V. Augustin, F. P. Boca, C. Cobeli, A. Zaharescu: *The h -spacing distribution between Farey points*, Math. Proc. Cambridge Phil. Soc. **131** (2001), 23-38.
<https://www.cambridge.org/core/journals/mathematical-proceedings-of-the-cambridge-issue/495B8FAC78069CC6954908BC32F8E128>
- (22) F. P. Boca, A. Zaharescu: *On a class of subgroups of \mathbb{R} associated with subsets of prime numbers*, Houston J. Math. **27** (2001), 823-844.
<https://www.math.uh.edu/~hjm/Vol127-4.html>
- (23) F. P. Boca, A. Zaharescu: *On the pair correlation for fractional parts of vector sequences*, Archiv der Mathematik (Basel) **77** (2001), 498-507.
<https://link.springer.com/article/10.1007/PL00000523>
- (24) F. P. Boca: *Rotation C^* -Algebras and Almost Mathieu Operators*, The Theta Foundation, Bucharest, 2001, ISBN 973-99097-7-9, xviii+172 pp. (distributed by AMS)
<http://www.ams.org/bookstore-getitem/item=THETA-2>
- (25) F. P. Boca, M. Vâjâtu, A. Zaharescu: *Integer points close to algebraic curves*, J. London Math. Soc. **65** (2002), 10-26.
<https://londmathsoc.onlinelibrary.wiley.com/toc/14697750/2002/65/1>
- (26) F. P. Boca, R. N. Gologan, A. Zaharescu: *On the index of Farey sequences*, Quart. J. Math. **53** (2002), 377-391.
<https://arxiv.org/abs/math/0201044>
- (27) F. P. Boca, R. N. Gologan, A. Zaharescu: *The average length of a trajectory in a certain billiard in a flat two-torus*, New York J. Math. **9** (2003), 303-330.
<https://nyjm.albany.edu/j/2003/9-16.pdf>
- (28) F. P. Boca, R. N. Gologan, A. Zaharescu: *The statistics of the trajectory of a certain billiard in a flat two-torus*, Commun. Math. Phys. **240** (2003), 53-73.
<https://arxiv.org/abs/math/0110217>
- (29) F. P. Boca, C. Cobeli, A. Zaharescu: *On the distribution of the Farey sequence with odd denominators*, Michigan Math. J. **51** (2003), 557-573.
<https://projecteuclid.org/journals/michigan-mathematical-journal/volume-51/issue-3/>
- (30) F. P. Boca, R.N. Gologan, A. Zaharescu, *Sur le modèle du gaz de Lorentz périodique*, An. Univ. Craiova Ser. Mat. Inform. (Perpignan, 2002) **30** (2003), 63-70.
<http://inf.ucv.ro/~ami/index.php/ami/article/view/104/102>

- (31) F. P. Boca, A. Zaharescu: *On the correlations of directions in the Euclidean plane*, Trans. Amer. Math. Soc. **358** (2006), 1797-1825.
<https://arxiv.org/abs/math/0404112>
- (32) F. P. Boca, A. Zaharescu: *Farey fractions and two-dimensional tori*, in Noncommutative Geometry and Number Theory (Max Planck Institute, Bonn, 1993), Aspects of Mathematics **E37**, Vieweg Verlag, Wiesbaden, 2006, pp. 57-77.
<https://link.springer.com/book/10.1007/978-3-8348-0352-8>
- (33) F. P. Boca, A. Zaharescu: *Norm estimates on almost Mathieu operators*, J. Functional Analysis **220** (2005), 76-96.
<https://www.sciencedirect.com/science/article/pii/S0022123604003465>
- (34) F. P. Boca, A. Zaharescu: *The correlations of Farey fractions*, J. London Math. Soc. **72** (2005), 25-39. <https://arxiv.org/abs/math/0404114>
- (35) F. P. Boca, A. Zaharescu: *The distribution of the free path lengths in the periodic two-dimensional Lorentz gas in the small-scatterer limit*, Commun. Math. Phys. **269** (2007), 425-471. <https://arxiv.org/abs/math/0301270>
- (36) F. P. Boca: *Products of matrices $\begin{bmatrix} 1 & 1 \\ 0 & 1 \end{bmatrix}$ and $\begin{bmatrix} 1 & 0 \\ 1 & 1 \end{bmatrix}$ and the distribution of reduced quadratic irrationals*, J. Reine Angew. Mathematik **606** (2007), 149-165.
<https://arxiv.org/abs/math/0503186>
- (37) F. P. Boca: *On the distribution of angles between geodesic rays associated with hyperbolic lattice points*, Quart. J. Math. **58** (2007), 281-295.
<https://arxiv.org/abs/math/0608078>
- (38) F. P. Boca: *Rotation algebras and continued fractions*, in Operator Algebras, Operator Theory and Applications (Lisbon, 2006), Operator Theory Adv. and Appl., Vol. **181**, Birkhäuser, 2008, pp. 121-142.
<https://link.springer.com/book/10.1007/978-3-7643-8684-9>
- (39) F. P. Boca: *A problem of Erdős, Szűsz and Turán concerning diophantine approximations*, Int. J. Number Theory **4** (2008), 691-708.
<https://www.worldscientific.com/doi/10.1142/S1793042108001626>
- (40) F. P. Boca: *An AF algebra associated with the Farey tessellation*, Canad. J. Math **60** (2008), 975-1000. <https://arxiv.org/abs/math/0511505>
- (41) F. P. Boca, R. N. Gologan, *On the distribution of the free path length of the linear flow in a honeycomb*, Ann. Inst. Fourier (Grenoble) **59** (2009), 1043-1075.
<http://www.numdam.org/item/10.5802/aif.2457.pdf>
- (42) F. P. Boca: *The distribution of the linear flow length in a honeycomb in the small-scatterer limit*, New York J. Math. **16** (2010), 651-735.
<https://nyjm.albany.edu/j/2010/16-27v.pdf>

- (43) F. P. Boca, J. Vandehey: *On certain statistical properties of continued fractions with even and with odd partial quotients*, Acta Arith. **156** (2012), 201-221.
<https://www.impan.pl/en/publishing-house/journals-and-series/acta-arithmetica/all/156/3>
- (44) F. P. Boca, B. Heersink, P. Spiegelhalter, *Gap distribution of Farey fractions under some divisibility constraints*, Integers **13** (2013), A44, 15pp.
<http://math.colgate.edu/~integers/n44/n44.pdf>
- (45) F. P. Boca, V. Paşol, A. A. Popa, A. Zaharescu: *Pair correlation of angles between reciprocal geodesics on the modular surface*, Algebra Number Theory **8** (2014), 999-1035. <https://msp.org/ant/2014/8-4/p08.xhtml>
- (46) F. P. Boca, A. A. Popa, A. Zaharescu: *Pair correlation of hyperbolic lattice angles*, Int. J. Number Theory **10** (2014), 1955-1989. <https://arxiv.org/abs/1302.5067>
- (47) F. P. Boca: *The distribution of rational numbers and ergodic theory*, Rev. Roumaine Math. Pures Appl. **62** (2017), 41-62.
http://imar.ro/journals/Revue_Mathematique/pdfs/2017/1/3.pdf
- (48) F. P. Boca, C. Merriman: *Coding of geodesics on some modular surfaces and applications to odd and even continued fractions*, Indag. Math. **29** (2018), 1214-1234.
<https://arxiv.org/abs/1711.06965>
- (49) F. P. Boca, C. Linden: *On Minkowski type question mark functions associated with even or odd continued fractions*, Monatsh. Math. **187** (2018), 35-57.
<https://arxiv.org/abs/1705.01238>
- (50) F. P. Boca, B. Heersink, C. Merriman: *Counting periodic points of the Farey map through a number theoretical method*, Commun. Math. Phys. **365** (2019), 998-1002, appendix to B. Heersink, *Distribution of the periodic points of the Farey map*, Commun. Math. Phys. **365** (2019), 9711-1003.
<https://link.springer.com/article/10.1007/s00220-019-03283-0>
- (51) F. P. Boca, C. Merriman: *α -Expansions with odd partial quotients*, J. Number Theory **199** (2019), 322-341. <https://arxiv.org/abs/1806.06166>
- (52) F. P. Boca, M. Radziwiłł: *Limiting distribution of eigenvalues in the large sieve matrix*, J. Eur. Math. Soc. (JEMS) **22** (2020), 2287-2329.
<https://arxiv.org/abs/1609.05843>
- (53) F. P. Boca, M. Siskaki: *Distribution of periodic points of certain Gauss shifts with infinite invariant measure*, Nonlinearity **34** (2021), 4570-4603.
<https://arxiv.org/abs/2008.00050>
- (54) F. P. Boca, M. Siskaki: *A note on the pair correlation of Farey fractions*, Acta Arith. **205** (2022), 121-135. <https://arxiv.org/abs/2109.12744>

- (55) F. P. Boca, M. Siskaki: *On the Gauss-Kuzmin-Lévy problem for nearest integer continued fractions*, preprint arXiv <https://export.arxiv.org/pdf/2209.07452>.
- (56) J. Anderson, F. P. Boca, C. Cobeli, A. Zaharescu: *Distribution of angles to lattice points seen from a fast moving observer*, preprint arXiv <https://export.arxiv.org/pdf/2307.14656>.

Books edited

- (1) Florin P. Boca, Ola Bratteli, Roberto Longo, Heinz Siedentop, *Advances in Operator Algebras and Mathematical Physics (Sinaia, 2003)*, xvi+285 pp., The Theta Foundation, Bucharest 2005, ISBN 973-85432-7-4 (distributed by AMS).
<https://www.ams.org/bookstore-getitem/item=THETA-8>
- (2) Florin P. Boca, Radu Purice, Șerban Strătilă, *Perspectives in Operator Algebras and Mathematical Physics (Bucharest, 2005)*, xii+148 pp., The Theta Foundation, Bucharest 2008, ISBN 978-973-87899-1-3 (distributed by AMS).
<http://www.ams.org/bookstore-getitem/item=THETA-11>

Presentations

- (1) *Euclidean dynamics and quadratic irrationals*, The 10th Congress of Romanian Mathematicians, Pitești June 30-July 5, 2023.
- (2) *The Gauss problem for nearest integer continued fractions*, A Day in Operator Algebras (conference honoring the 80th birthday of Șerban Strătilă), IMAR, București, June 28, 2023.
- (3) *Periodic points of some Gauss type shifts*, Homogeneous Dynamics and Related Topics Conference (online), University of Exeter, UK, May 16-19, 2022.
- (4) *Periodic points of Gauss shifts*, Math Colloquium (in person), University of Iowa, April 21, 2022.
- (5) *Correlations of Farey fractions and distribution of eigenvalues in large sieve matrices*, Number Theory Seminar (online), University of Illinois at Chicago, March 4, 2022.
- (6) *The distribution of reduced quadratic irrationals*, Texas Number Theory and Combinatorics Seminar (online), University of Texas at Tyler, February 24, 2022.
- (7) *Distribution of reduced quadratic irrationals*, Diophantine Analysis and Related Topics Conference (online), May 31-June 4, 2021.
- (8) *Distribution of reduced quadratic irrationals of even and of backward type*, Diophantine Analysis Seminar (online), September 29, 2020.

- (9) *On some measure-preserving transformations in ergodic theory of numbers*, Ergodic Theory and Related Fields, IMAR, București, October 7-11, 2019.
- (10) *α -Expansions with odd partial quotients*, AMS Joint Meeting, Baltimore, MD, January 16-19, 2019.
- (11) *Minkowski type question mark functions associated with even or odd continued fractions*, AMS Sectional Meeting, Nashville, TN, April 14-15, 2018.
- (12) *Farey statistics and the distribution of eigenvalues in large sieve matrices*, Linear Analysis Seminar, Texas A&M University, November 10, 2017.
- (13) *Farey statistics and applications*, Dynamics in Number Theory and Geometry Conference, Queen's University, Kingston, Canada, August 21, 2017.
- (14) *Moments and distribution of eigenvalues in large sieve matrices*, Vilnius Conference in Combinatorics and Number Theory, Vilnius, Lithuania, July 17-21, 2017.
- (15) *Moments and distribution of eigenvalues in large sieve matrices*, AMS Sectional Meeting, Bloomington, IN, April 1-2, 2017.
- (16) *The distribution of rational numbers and measure-preserving transformations*, Math Colloquium, University of Missouri at St. Louis, October 31, 2016.
- (17) *Distribution of eigenvalues in large sieve matrices*, Operator Algebras Seminar, Purdue University, October 31, 2016.
- (18) *Distribution of eigenvalues in large sieve matrices*, Math Colloquium, Indiana University, October 21, 2016.
- (19) *Statistics of Farey fractions and distribution of eigenvalues in large sieve matrices*, 17th Workshop on Noncommutative Harmonic Analysis (Random matrices, representation theory and free probability, with applications), Bedlewo, Poland, July 24-30, 2016.
- (20) *Statistics of Farey fractions and distribution of eigenvalues in large sieve matrices*, Fourth Bucharest Number Theory Day, IMAR, București, July 19, 2016.
- (21) *Statistics of Farey fractions and distribution of eigenvalues in large sieve matrices*, Workshop in Noncommutative Analysis, University of Iowa, June 4-5, 2016.
- (22) *Correlations of Farey fractions revisited*, Number Theory Seminar, University of Illinois at Urbana-Champaign, April 7, 2016.
- (23) *Some statistical properties of digits in continued fractions_i*, Geometry, Groups and Dynamics/GEAR Seminar, University of Illinois at Urbana-Champaign, September 10, 2015.
- (24) *Some statistical properties of digits in continued fractions*, Third Bucharest Number Theory day, IMAR, București, August 3, 2015.
- (25) *Non-commutative tori: properties and structure*, Summer Workshop in Operator Algebras and Applications, IMAR, București, July 14, 2015.

- (26) *The distribution of rational numbers and measure-preserving transformations*, Number Theory and Dynamics, Mittag-Leffler Institute, Stockholm, Sweden, July 6-10, 2015.
- (27) *The distribution of rational numbers and ergodic theory*, The 8th Congress of Romanian Mathematicians, Iași, June 26-July 1, 2015.
- (28) *Spacing statistics of lattice angles*, Geometry, Topology, and Dynamics Day at Eastern Illinois University (in memory of Nikolai Chernov), April 25, 2015.
- (29) *The distribution of rational numbers and measure-preserving transformations*, Monthly Lecture, IMAR, București, November 12, 2014.
- (30) *Irregularities in the distribution of hyperbolic lattice angles*, AMS Sectional Meeting, Greensboro, NC, November 8, 2014.
- (31) *C^* -algebras and continued fractions*, Ergodic Theory and Dynamical Systems Seminar, University of Bristol, UK, October 9, 2014.
- (32) *Irregularities in the distribution of Euclidean and hyperbolic angles*, Math Colloquium, Cardiff University, UK, October 8, 2014.
- (33) *Norm estimates of almost Mathieu operators*, Mini-workshop in Operator Algebras, IMAR, București, August 19, 2014.
- (34) *Irregularities in the distribution of lattice angles (Euclidean vs. hyperbolic)*, Second Bucharest Number Theory Day, IMAR, București, July 22, 2014.
- (35) *Non-randomness of the distribution of rational numbers (Stern-Brocot vs. Farey)*, Math Colloquium, Eastern Illinois University, April 8, 2014.
- (36) *Irregularities in the distribution of lattice angles (Euclidean vs. hyperbolic)*, Math Colloquium, Purdue University, March 4, 2014.
- (37) *Operator algebras and continued fractions (four lectures minicourse)*, School on Non-commutative Geometry and Applications, Poiana Brașov, Romania, September 1-8, 2013.
- (38) *Continued fractions, Farey fractions, and ergodic theory*, Anniversary Conference Faculty of Sciences – 150 years, Universitatea București, August 30, 2013.
- (39) *Irregularities in the angular distribution of hyperbolic lattice points*, The 7th Congress of Romanian Mathematicians, Brașov, June 29 -July 5, 2011.
- (40) *Some noncommutative structures associated with continued fractions*, Selected Topics in Non-commutative Geometry, University of Victoria, Canada, June 27-July 2, 2010.
- (41) *Some noncommutative structures associated with continued fractions*, Operator Algebra Seminar, Purdue University, February 23, 2010.

- (42) *The angular distribution of lattice points and applications to some problems in geometric probability*, Math Colloquium, University of Saskatchewan, Canada, January 8, 2010.
- (43) *The angular distribution of lattice points and applications to some problems in geometric probability*, Monthly Colloquium, IMAR, București, December 16, 2009.
- (44) *Some noncommutative structures associated with continued fractions*, RT-NCG second midterm review conference, Copenhagen, Denmark, September 30, 2009.
- (45) *The distribution of the free path length of the linear flow in a honeycomb*, AMS Sectional Meeting, Urbana, March 29, 2009.
- (46) *Farey fractions, Kloosterman sums, and geometric probability*, Math Colloquium, University of Tennessee, Knoxville, October 24, 2008.
- (47) *Continued fractions and operator algebras*, 1st Annual Meeting of the E.U. Network in Noncommutative Geometry, Dublin, Ireland, June 16-20, 2008.
- (48) *Continued fractions and operator algebras*, Workshop on Structure of C^* -algebras (in honour of the 60th birthdays of Ola Bratteli and Akitaka Kishimoto), The Fields Institute, Toronto, Canada, November 12-16, 2007.
- (49) *Continued fractions and operator algebras*, 10th Workshop: Non-commutative harmonic analysis with applications to probability, Bedlewo, Poland, August 6-12, 2007.
- (50) *Angular distribution of lattice points*, Analysis Seminar, Cornell University, April 2, 2007.
- (51) *C^* -algebras and continued fractions*, Operator Methods in Fractal Analysis, Wavelets and Dynamical Systems, Banff International Research Station, Canada, December 2-7, 2006.
- (52) *Continued fractions and AF algebras*, AMS Sectional Meeting, Cincinnati, October 21-22, 2006.
- (53) *Rotation algebras and continued fractions*, Operator Algebras, Operator Theory and Applications, International Summer School and Workshop, Instituto Superior Técnico, Lisbon, Portugal, September 1-5, 2006.
- (54) *Continued fractions and AF algebras*, Great Plains Operator Theory Symposium, Iowa City, May 24-28, 2006.
- (55) *The Pascal triangle with memory*, Operator Algebras and Mathematical Physics 3, IMAR, București, August 10-17, 2005.
- (56) *Some statistical problems related to the integer equation $ad - bc = 1$* , Zwei-Städte-Kolloquium zur Analysis Regensburg-Erlangen, July 21, 2005.

- (57) *Some statistical problems related to the equation $ad - bc = 1$* , The 3rd Annual Spring Institute on Noncommutative Geometry and Operator Algebras, Vanderbilt University, May 9-May 20, 2005.
- (58) *The statistics of the linear flow on a punctured two-torus*, Workshop on The Structure of Amenable Systems, PIMS, Banff, Canada, October 30-November 4, 2004.
- (59) *On the distribution of some sequences related to Farey fractions*, AMS Sectional Meeting, Nashville, TN, October 16-17, 2004.
- (60) *The statistics of the linear flow on a punctured torus*, Noncommutative Geometry and Operator Algebras Seminar, Vanderbilt University, April 20, 2004.
- (61) *Farey fractions and some problems on commutative and noncommutative two-tori*, Annual Miniconference in Modern Analysis, IUPUI, March 5-6, 2004.
- (62) *The spacing statistics of Farey fractions and applications*, Workshop on Noncommutative Geometry and Number Theory, Max-Planck Institute for Mathematics, Germany, August 18-22, 2003.
- (63) *Spectral properties of certain classes of operators in rotation algebras*, Operator Algebras and Mathematical Physics 2, Sinaia, Romania, June 26-July 4, 2003.
- (64) *Some spectral computations in rotation algebras*, Recent Advances in von Neumann Algebras (conference in honor of Masamichi Takesaki's 70th birthday), UCLA, May 14-17, 2003.
- (65) *Some quantitative results on the spectrum of almost Mathieu operators*, AMS Sectional Meeting, Bloomington, IN, April 4-6, 2003
- (66) *Factors of type III associated with some subsets of prime numbers*, Operator Algebras Seminar, Purdue University, 2003.
- (67) *Spectral properties of certain operators in rotation algebras*, Wabash Extramural Modern Analysis Seminar, Wabash College, March 1, 2003.
- (68) *Spectral properties of almost Mathieu operators*, Math Colloquium, University of Toronto, Canada, December 4, 2002.
- (69) *Topics on the distribution of Farey fractions*, 2002 Illinois Number Theory Conference, University of Illinois at Urbana-Champaign, May 17-18, 2002.
- (70) Mathematical Sciences Research Institute, Berkeley, 2000.
- (71) Mathematical Seminar, BRIMS, Hewlett-Packard Institute, Bristol, U.K., 2000.
- (72) Mathematical Colloquium, Université de Neuchâtel, Switzerland, 1999.
- (73) Yorkshire Functional Analysis Group Meeting, University of Leeds, UK, 1999.
- (74) Linear Analysis Seminar, Texas A&M University, 1999.
- (75) Colloquium and Functional Analysis Seminar, University of Texas at Austin, 1999.
- (76) International Workshop: New Results in Quantum Mechanics and Related Topics, University of Bucharest, 1998.

- (77) *Topics on non-commutative tori*, 50th British Mathematical Colloquium (morning speaker), University of Manchester, UK, April 6-9, 1998.
- (78) *Projections in A_θ and theta functions*, C^* -algebren Meeting, Mathematisches Forschungsinstitut, Oberwolfach, Germany, February 1-7, 1998.
- (79) Von Neumann Algebras and Dynamical Systems Conference , Sophus Lie Conference Center, Nordfjordeid, Norway, August 1997.
- (80) Functional Analysis Seminar, University of Lancaster, UK, 1997.
- (81) Non-commutative Geometry Seminar, University of Cambridge, UK, 1997.
- (82) Functional Analysis Seminar, Mathematical Institute, University of Oxford, UK, 1997.
- (83) Functional Analysis Seminar, University of Glasgow, UK, 1996.
- (84) Functional Analysis Colloquium, University of Edinburgh, UK, 1996.
- (85) International Conference on Operator Theory (OT16), Timișoara, Romania, July 2-10, 1996.
- (86) Operator Algebras Seminar, Osaka Kyoiku University, Japan, 1996.
- (87) S. Sakai's Seminar, Nihon University, Tokyo, Japan, 1996.
- (88) Mathematical Colloquium, Tohoku University, Japan, 1996.
- (89) Operator Algebras Seminar, University of Tokyo, Japan, 1996.
- (90) Operator Algebras Seminar, Collège de France, Paris, France, 1996.
- (91) Functional Analysis Colloquium and Operator Algebras Seminar, UC Berkeley, 1995.
- (92) Linear Analysis Seminar, Texas A&M University, 1995.
- (93) Workshop on Classification of Amenable C^* -algebras, Fields Institute, Waterloo, Canada, 1994.
- (94) Canadian Symposium on Operator Theory, Ottawa, Canada, 1994.
- (95) *Actions of compact quantum groups on operator algebras*, AMS Sectional Meeting, Cincinnati, January 12-15, 1994.
- (96) Satellite Conference on Operator Algebras of the First European Congress of Mathematicians, Orléans, France, 1992.
- (97) International Conference on Operator Algebras and their Connections with Algebraic Topology and Ergodic Theory (OATE 2), Craiova, Romania, 1989.
- (98) *Combinatorial properties of groups and simple C^* -algebras with unique trace* (joint talk with V. Nițică), International Conference on Operator Theory (OT10), Timișoara, Romania, June 6-16, 1988.

Courses Taught at UIUC

Term	#	Course Title
Fall 2001	242	Calculus of Several Variables
Fall 2001	388	Mathematical Methods in Engineering and Science
Spring 2002	285	Differential Equations and Orthogonal Functions
Fall 2002	285	Differential Equations
Fall 2002	385	Differential Equations II
Spring 2003	347	Real Variables
Fall 2003	285	Differential Equations and Orthogonal Functions
Fall 2003	285	Differential Equations and Orthogonal Functions
Spring 2004	441	Real Analysis I (graduate course)
Fall 2004	225	Introductory Matrix Theory
Spring 2005	347	Fundamental Mathematics
Spring 2005	385	Intro Differential Equations
Fall 2005	348	Fundamental Mathematics - ACP
Fall 2005	540	Real Analysis I (graduate course)
Spring 2006	595	Special topics (An Introduction to Selberg's Trace Formula)
Fall 2006	595	Special topics (Type II_1 factors)
Spring 2007	231	Calculus II (large section)
Spring 2007	231	Calculus II (large section)
Fall 2007	347H	Fundamental Mathematics (honors)
Fall 07	444	Elementary Real Analysis
Spring 08	540	Real Analysis I (graduate course)
Fall 08	416H	Abstract Linear Algebra (honors)
Fall 2008	542	Complex Variables I (graduate course)
Spring 2009	595	Special Topics (Analytic and Probabilistic Aspects of Continued Fractions)
Fall 2010	221	Calculus I (large section)
Fall 2010	231	Calculus I (large section)
Spring 2011	541	Real Analysis II (graduate course)
Fall 2011	531	Analytic Theory of Numbers (graduate course)
Fall 2011	241H	Calculus III (honors)
Spring 2012	447	Real Variables
Spring 2012	542	Complex Variables I (graduate course)
Fall 2012	241	Calculus III (large section)
Fall 2012	241	Calculus III (large section)
Fall 2013	453	Elementary Number Theory
Fall 2013	453	Elementary Number Theory
Spring 2014	418	Introduction to Abstract Algebra II

Term	#	Course Title
Spring 2015	522	Lie Groups and Lie Algebras (graduate course)
Spring 2015	546	Hilbert Spaces (graduate course)
Fall 2015	241	Calculus III (large section)
Fall 2015	241	Calculus III (large section)
Spring 2016	428H	Honors Topics (An Introduction to Fourier Analysis and Wavelets)
Spring 2017	446	Applied Complex Variables
Fall 2017	424H	Honors Real Variables
Fall 2017	540	Real Analysis (graduate course)
Spring 2018	541	Functional Analysis
Fall 2018	542	Complex Variables I (graduate course)
Fall 2018	546	Hilbert Spaces (graduate course)
Spring 2019	447	Real Variables
Fall 2019	417	Intro Abstract Algebra
Fall 2019	447	Real Variables
Spring 2020	444	Elementary Real Analysis (hybrid)
Fall 2020	446	Applied Complex Variables (online)
Fall 2020	446	Applied Complex Variables (hybrid)
Spring 2021	444	Elementary Real Analysis (online)
Fall 2021	444	Elementary Real Analysis (in person)
Fall 2021	444	Elementary Real Analysis (in person)
Spring 2022	541	Functional Analysis (graduate course)
Fall 2022	546	Hilbert Spaces (graduate course)
Spring 2023	444	Elementary Real Analysis
Spring 2023	444	Elementary Real Analysis

Professional Service

- Member of the EPSRC Mathematics College, UK, 1998-2003.
- Member, Mathematics Commission, National Council for Certifying University Titles and Diplomas, Romanian Ministry of Education and Research, 2011-2012.
- Associate editor for Journal of Operator Theory (since 2016)
- Expert committee member , Laboratoire Européen Associé CNRS Franco-Roumain (Mathématique & Modélisation), since 2011.
- Refereed papers for 49 journals
- Refereed grant proposals in Mathematics for several organizations
- Reviewed 72 papers and 4 books for Zentralblatt

Conferences Co-Organized

- *Operator Algebras and Mathematical Physics 1*, Constanța, Romania, July 2-7, 2001, organizers: F. P. Boca, G. Nenciu, R. Purice, B. Ramazan, Ș. Strătilă.
 - *The 23rd Great Plain Operator Theory Symposium (GPOTS 2003)*, UIUC, May 28 - June 1, 2003, organizers: F. P. Boca, M. Junge, Z.-J. Ruan.
 - *Operator Algebras and Mathematical Physics 2*, Sinaia, Romania, June 26 - July 4, 2003, organizers: F. P. Boca, R. Gologan, G. Nenciu, R. Purice, B. Ramazan, F. Rădulescu.
 - *Operator Algebras and Mathematical Physics 3*, București, Romania, August 10-17, 2005, organizers: F. P. Boca, G. Nenciu, R. Purice, F. Rădulescu, Ș. Strătilă.
 - AMS Special Session on *The Interface Between Number Theory and Dynamical Systems*, Urbana, March 27-29, 2009, organizers: F. P. Boca, J. A. Lagarias, K. Stolarsky.
http://www.ams.org/meetings/sectional/2152_program_ss17.html#title
 - AMS Special Session on *Operator Algebras and Operator Spaces*, Urbana, March 2-29, 2009, organizers: F. P. Boca, M. Junge, Z.-J. Ruan.
http://www.ams.org/meetings/sectional/2152_program_ss8.html#title
 - *School in Operator Algebras*, Institute of Mathematics of the Romanian Academy, Bucharest, September-November, 2009, organizers: F. P. Boca, F. Rădulescu.
 - *Great Plains Operator Theory Symposium (GPOTS 2016)*, UIUC, May 23-27, 2016, organizers: F. P. Boca, M. Junge, Z.-J. Ruan. <https://conf.math.illinois.edu/gpots16/>
 - *Wabash Modern Analysis Seminar and Miniconference*
<https://www.math.purdue.edu/~mdd/wabash.html>
 - *Bucharest Number Theory Days 9 (in honor of Alexandru Zaharescu's 60th birthday)*, June 1-3, 2021, organizers: F. P. Boca, A. C. Cojocaru, V. Pașol, A. A. Popa
<http://imar.ro/~apopa/BNTD9.html>
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Professional Membership

- American Mathematical Society
- London Mathematical Society
- Mathematical Association of America