

Djordje Milićević

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Department of Mathematics
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Current position

2012- *Assistant Professor* (tenure-track), Bryn Mawr College

Areas of specialization

Analysis on Arithmetic Manifolds, Automorphic Forms, Analytic Number Theory

Appointments held

2016 Guest/Research Fellow, Max-Planck-Institut für Mathematik, Bonn, Germany
2015-2016 Research Visitor, University of Melbourne, Australia
2011-2012 Guest/Research Fellow, Max-Planck-Institut für Mathematik, Bonn, Germany
2010-2011 Visiting Assistant Professor, Amherst College
2006-2010 T.H.Hildebrandt Research Professor/Assistant Professor, University of Michigan
2006 Clay Liffoff Fellow, Clay Mathematics Institute
2002-2006 Assistant in Research and Instruction, Princeton University
2000-2001 Assistant in Teaching and Research, Faculty of Mathematics, University of Belgrade

Education

2001-2006 PH.D. in Mathematics, Princeton University (advisor: Peter Sarnak)
1996-2000 DIPL.MAT., Faculty of Mathematics, University of Belgrade, valedictorian
1992-1996 Mathematics High School in Belgrade, valedictorian, best student of the first 30 classes

Invited research visits

- 2016 Texas A&M University at Qatar
'12,13,14,16 Georg-August-Universität Göttingen, Germany
2012,14 Institut Galiléé, Université Paris 13, France
2011 Mathematisches Forschungsinstitut Oberwolfach, “The Analytic Theory of Automorphic Forms”
2011 École Polytechnique Fédérale de Lausanne, “Group Actions in Number Theory” semester
2010 Centre de Recherches Mathématiques and McGill University, Montréal
2009-2011 University of Illinois at Chicago
2008 Alfréd Rényi Institute of Mathematics, Hungarian Academy of Sciences
2006 Centre de Recherches Mathématiques, Montréal
2000 Moscow State University, Faculty of Mathematics and Mechanics, student research
1998 Weizmann Institute of Science, Rehovot, Israel, summer research in the Karin Kupcinet International Summer School

Publications & talks

JOURNAL ARTICLES

- 2016 Valentin Blomer, Étienne Fouvry, Emmanuel Kowalski, Philippe Michel, Djordje Milićević, “Some applications of smooth bilinear forms with Kloosterman sums”, [arXiv:1604.07664](https://arxiv.org/abs/1604.07664), to appear in the *Proceedings of the Steklov Institute of Mathematics*.
- 2016 Valentin Blomer, Étienne Fouvry, Emmanuel Kowalski, Philippe Michel, Djordje Milićević, “On moments of twisted L -functions”, [arXiv:1411.4467](https://arxiv.org/abs/1411.4467), to appear in the *American Journal of Mathematics*.
- 2016 Djordje Milićević, “Sub-Weyl subconvexity for Dirichlet L -functions to prime power moduli” *Compositio Mathematica* 152:4 (2016): 825–875, [arXiv:1407.4100](https://arxiv.org/abs/1407.4100).
- 2016 Valentin Blomer, Gergely Harcos, Djordje Milićević, “Bounds for eigenforms on arithmetic hyperbolic 3-manifolds”, *Duke Mathematical Journal* 165:4 (2016): 625–659, [arXiv:1401.5154](https://arxiv.org/abs/1401.5154).
- 2016 Rizwanur Khan, Djordje Milićević, Hieu T. Ngô, “Non-vanishing of Dirichlet L -functions in Galois orbits”, [arXiv:1507.00111](https://arxiv.org/abs/1507.00111), *International Mathematics Research Notices IMRN*, DOI 10.1093/imrn/rnv320.
- 2015 Valentin Blomer, Djordje Milićević, “ p -adic analytic twists and strong subconvexity”, *Annales scientifiques de l'École normale supérieure* 48:3 (2015): 561–605.
- 2015 Valentin Blomer, Djordje Milićević, “The second moment of twisted modular L -functions”, *Geometric and Functional Analysis (GAFA)* 25:2 (2015): 453–516, [arXiv:1404.7845](https://arxiv.org/abs/1404.7845).
- 2015 Valentin Blomer, Djordje Milićević, “Kloosterman sums in residue classes”, *Journal of the European Mathematical Society* 17:1 (2015): 51–69, [arXiv:1410.4538](https://arxiv.org/abs/1410.4538).
- 2011 Djordje Milićević, “Large values of eigenfunctions on arithmetic hyperbolic 3-manifolds”, *Geometric and Functional Analysis (GAFA)* 21:6 (2011): 1375–1418.
- 2010 Djordje Milićević, “Large values of eigenfunctions on arithmetic hyperbolic surfaces”, *Duke Mathematical Journal* 155:2 (2010): 365–401.
- 2016 Valentin Blomer, Gergely Harcos, Péter Maga, Djordje Milićević, “The sup-norm problem for $GL(2)$ over number fields”, [arXiv:1605.09360](https://arxiv.org/abs/1605.09360), submitted for publication.

Djordje Milićević, “The explicit Hardy-Littlewood-Atkinson formula in number fields”, preprint.

TALKS

- 2017 AMS Special Session “An Amicable Combination of Number Theory: A Dedication to Dr. Helen G. Grundman”, Joint Mathematics Meetings, American Mathematical Society (upcoming)
- 2017 MAA Invited Paper Session on “ L -Functions and Other Animals”, Joint Mathematics Meetings, Mathematical Association of America (upcoming)
- 2016 University of Michigan, Group, Lie and Number Theory (GLNT) seminar (upcoming)
- 2016 Philadelphia Area Number Theory Seminar
- 2016 University of Bristol, Heilbronn Number Theory Seminar
- 2016 Georg-August-Universität Göttingen, Oberseminar Analytic Number Theory
- 2016 Ruprecht-Karls-Universität Heidelberg, Oberseminar Modular Forms
- 2016 Russian Academy of Sciences, Steklov Mathematical Institute, Contemporary Problems in Number Theory seminar
- 2016 Eidgenössische Technische Hochschule (ETH) Zürich, Number Theory seminar
- 2016 Universität Bielefeld, Arithmetic Geometry seminar
- 2016 Max-Planck-Institut für Mathematik, Bonn, Number Theory Lunch Seminar
- 2016 30th Automorphic Forms Workshop, Wake Forest University
- 2016 Texas A&M University at Qatar, Science Colloquium
- 2015 University of New South Wales, Sydney, Number Theory seminar
- 2015 University of Queensland, Brisbane, Mathematics Colloquium
- 2015 University of Melbourne, Algebra/Geometry/Topology seminar
- 2015 Philadelphia Area Number Theory Seminar
- 2015 Special Session on Interactions between Geometry, Group Theory, and Number Theory, American Mathematical Society, Sectional Meeting, Michigan State University
- 2015 University of Novi Sad, Analysis seminar
- 2015 29th Automorphic Forms Workshop, University of Michigan
- 2014 Swarthmore College, Mathematics and Statistics Colloquium
- 2014 Philadelphia Area Number Theory Seminar
- 2014 Workshop on Analytic Number Theory and Geometry, Université Paris 13
- 2014 The Ohio State University, Number Theory seminar
- 2014 Automorphic Forms and Arithmetic, Georg-August-Universität Göttingen
- 2013 State University of New York, University at Buffalo, Analysis seminar
- 2013 Modular Forms and Modular Integrals in Memory of Marvin Knopp, American Mathematical Society, Sectional Meeting, Temple University
- 2013 Villanova University, Mathematics & Statistics Colloquium
- 2013 Temple/Bryn Mawr Number Theory Seminar
- 2013 27th Automorphic Forms Workshop, University College Dublin
- 2012 Haverford College, Bi-Co Mathematics Colloquium
- 2012 Hungarian Academy of Sciences, Alfréd Rényi Institute of Mathematics, Number Theory seminar
- 2012 Institut Henri Poincaré, Paris

2012 Max-Planck-Institut für Mathematik, Bonn, Number Theory Lunch Seminar
 2012 Georg-August-Universität Göttingen, Oberseminar Analytic Number Theory
 2012 Stanford University, Number Theory seminar
 2012 University of Texas at Austin, Algebra, Number Theory, and Combinatorics seminar
 2012 Institute for Advanced Study, School of Mathematics, Princeton, Analysis seminar
 2012 Bryn Mawr College, Bi-Co Mathematics Colloquium
 2011 University of Copenhagen, Geometry and Analysis seminar
 2011 Eidgenössische Technische Hochschule (ETH) Zürich, Number Theory seminar
 2011 Universität zu Köln, Oberseminar Number Theory
 2011 Serbian Academy of Sciences and Arts, Mathematical Institute, Colloquium
 2011 École Polytechnique Fédérale de Lausanne, Centre Interfacultaire Bernoulli, Seminar
 2011 Bryn Mawr College, Bi-Co Mathematics Colloquium
 2010 Five College Number Theory seminar
 2010 Princeton Workshop on Quantum Chaos: Arithmetic and Dynamics, Princeton University
 2010 Amherst College, Mathematics Colloquium
 2010 Bowdoin College, Mathematics Colloquium
 2009 University of Michigan, Group Theory, Number Theory, and Representation Theory (GLNT) seminar
 2008 University of Illinois at Chicago, Number Theory and Arithmetic Geometry seminar
 2008 Hungarian Academy of Sciences, Alfréd Rényi Institute of Mathematics
 2007 Johns Hopkins University, Number Theory seminar
 2006 American Mathematical Society, Sectional Meeting, University of Connecticut
 2006 University of Michigan, Number Theory seminar
 2006 City University of New York, Graduate Center, Differential Geometry and Lie Theory seminar
 2006 *L*-Functions and Related Themes, Analysis in Number Theory program, Centre de Recherches Mathématiques, Université de Montréal
 2005 University of Texas at Austin, Number Theory seminar
 2000 Serbian Academy of Sciences and Arts, Mathematical Institute

REVIEWS AND INVITED CONTRIBUTIONS

2011- *AMS Mathematical Reviews/MathSciNet* reviews: MR2661540 (Choi: Poincaré series and the divisors of modular forms), MR2726097 (Bernstein, Reznikov: Subconvexity bounds for triple *L*-functions and representation theory), MR2862393 (Zhang: A mean value related to D. H. Lehmer's problem and the Ramanujan's sum), MR2887612 (Munshi: A note on simultaneous nonvanishing twists), MR3003991 (Tang: A note on the Fourier coefficients of Hecke-Maass forms), MR3058727 (Dou/Zhang: Six short chapters on automorphic forms and *L*-functions), MR3283005 (Farmer, Koutsoliotas, Lemurell: Maass forms on $GL(3)$ and $GL(4)$), MR3313407 (Jin, Lim: On the regularized imaginary Doi-Naganuma lifting), MR3347956 (Manickam, Meher, Ramakrishnan: Theory of newforms of half-integral weight), MR3369905 (Munshi: The circle method and bounds for *L*-functions—III: *t*-aspect $GL(3)$ *L*-functions)
 2014 "1927: William Lowell Putnam Mathematical Competition", a section of "The Pi Mu

Epsilon 100th Anniversary Problems: Part III”, *Pi Mu Epsilon Journal* 14:1 (2014): 65–99.

Grants, prizes, honors & fellowships

- 2016 “Philadelphia Area Number Theory Seminar”, Mellon Tri-College Faculty Forum Seed Grant
- 2015–2018 Grant DMS-1503629: “Arithmetic Manifolds, Automorphic Forms, Exponential Sums, and L -Functions”, PI, National Science Foundation, Division of Mathematical Sciences
- 2015/16 Junior Faculty Research Leave, Bryn Mawr College
- 2014– “Tri-College Mathematics Problem Seminar”, project funded by Bryn Mawr College through the Andrew W. Mellon Foundation grant to BMC “Creating a Vital and Sustainable Curriculum for the 21st Century”
- 2014–2015 Young Investigator Grant H98230-14-1-0139: “Arithmetic Manifolds, L -Functions, and Analysis”, PI, National Security Agency Mathematical Sciences Program
- 2012–2016 Start-Up Research Grant, K/G Fund for Faculty Research, Bryn Mawr College
- 2007 Spring/Summer Research Fellowship, University of Michigan, Department of Mathematics
- 2001–2006 Assistantship in research and instruction with summer support, full first-year fellowship, Princeton University
- 2001–2004 Studenica Foundation Fellowship
- 1999–2001 Fellowship of Serbian Academy of Sciences and Arts
- 1999 International Mathematics Competition for University Students, Grand First Prize
- 1997–1998 Annual Vojtěch Jarník Competition in Mathematics, two First Prizes
- 1997 International Mathematics Competition for University Students, First Prize
- 1995–1996 International Mathematical Olympiad, two Silver Medals
- 1996 International Olympiad in Informatics, Bronze Medal
- 1995–1996 Balkan Mathematical Olympiad, two First Prizes
- 1992–1996 Four first ranks at federal competitions in Mathematics, four first prizes at republic competitions in Mathematics, first prize (1996) at republic and federal competitions in Computer Science

Teaching experience

BRYN MAWR COLLEGE

- 2012– Math 102 Calculus II (Fall ’13)
- Math 201 Multivariable Calculus (*Fall ’16*)
- Math 290 Elementary Number Theory (Spring ’13, Spring ’15)
- Math 301 Real Analysis I (Fall ’13)
- Math 302 Real Analysis II (Spring ’14)
- Math 395/396 Research Seminar (Fall ’13, Spring ’14, Fall ’14, Spring ’15)
- Math 398/399 Senior Conference (Fall ’12, Spring ’14, Fall ’14)
- Math 403 Number Theory (independent study course, Fall ’12)
- Math 501 Graduate Analysis I (Fall ’12, Fall ’14, *Fall ’16*)
- Math 502 Graduate Analysis II (Spring ’13, Spring ’15, *Spring ’17*)

Mathematics major advisor
2014-15 Led the weekly Mathematics Problem Solving Seminar
2016- M.A. thesis advising
2013- Undergraduate honors thesis advising
2012- Ph.D. thesis advisor of Frank Romascavage

AMHERST COLLEGE

2010-2011 Math 12 Intermediate Calculus (Fall '10)
Math 13 Multivariable Calculus (Fall '10, Spring '11)
Math 28 Introduction to Analysis (Spring '11)
Math 98 Number Theory and Analysis (special topics course, Spring '11)
Led a weekly practice seminar for the William Lowell Putnam examination (Fall '10)
Mentored independent reading courses in Number Theory and Linear Algebra

UNIVERSITY OF MICHIGAN

2006-2010 Math 214 Linear Algebra and Differential Equations (Fall '06)
Math 217 Linear Algebra (Winter '07, Fall '09, Winter '10)
Math 289 Problem Seminar (Fall '08, Winter '09, Fall '09, Winter '10); Michigan ranked in top 10 in the 2008 Putnam exam (first since 1999)
Math 475 Elementary Number Theory (Fall '07)
Math 476 Computational Laboratory in Number Theory (Fall '07)
Math 575 Introduction to the Theory of Numbers (Fall '08)
Math 775 Topics in Analytic Number Theory (Families of Automorphic L -functions, Winter '08)
Integrated computer laboratory components and developed proof-writing modules, collaborative learning, and one-on-one mentoring in Linear Algebra courses
2009 Mentored an REU project on subconvexity of L -functions
2007-2008 Mentored independent reading/final papers in Number Theory courses

PRINCETON UNIVERSITY

2002-2006 MAT 103 Calculus (Fall '03/'04)
MAT 104 Calculus (Fall '02/'03, Spring '03)
MAT 202 Linear Algebra with Applications (Spring '04)
MAT 214 Numbers, Equations and Proofs (grader)
2001-2006 Led, organized and taught practice seminar for Princeton students entering the William Lowell Putnam Examination. Princeton finished second three times during this five-year period and won for the first time in 2006
2001-2004 VIGRE mentoring program graduate mentor

BELGRADE

2000-2001 Teaching Assistant at the Faculty of Mathematics, University of Belgrade: co-taught courses and conducted exams in Analysis I, Distributions and Partial Differential Equations, Mathematical Logic, Mathematical Logic in Computer Science

- 2000-2001 Geometry II (Trigonometry, space geometry, descriptive geometry), Mathematics High School, Belgrade
- 1996-2001 Trained Yugoslav teams for international mathematical competitions and coordinated the yearlong effort; lectured on a wide variety of extracurricular topics for talented students

Service to the profession

PROBLEM SOLVING

- 2011-2014 William Lowell Putnam Examination, member of the three-person Questions Committee, Chair of the Questions Committee (2013), authored nine original problems used in the 2011, 2012, and 2013 competitions
- 2010-2013 Grading the William Lowell Putnam Examination
- 2000-2009 International Mathematics Competition for University Students: served on the High Jury and as a team leader in seven competitions, for the University of Michigan ('08, '09), Princeton University ('04, '05, '06), and the University of Belgrade ('00, '01), member of the Problem Selection Committee ('01, '04, '08, '09), chaired the jury meetings ('08), authored eight problems used in the competitions
- 2006-2011 Prepared problem seminar materials for future instructors at Michigan and Amherst
- 2010 Graded Williams–Middlebury Green Chicken Mathematics Contest
- 2007-2010 Graded Michigan Mathematics Prize Competition
- 2000- Member, Serbian Commission for high school competitions in Mathematics

POPULAR AND OUTREACH TALKS

- 2016 Keynote presentation on the occasion of the 50th anniversary of the Mathematics High School, Belgrade
- 2011 “What is... an L -function?”, “Mathematics Alive” undergraduate seminar, Mathematical Institute, Belgrade
- 2009 “What is... a modular form?”, Mathematics High School, Belgrade
- 2008 “The smallest uncountable ordinal and other tales”, Undergraduate Math Club, University of Michigan
- 2008 “Transcendental numbers”, Undergraduate Math Club, University of Michigan

PEER REVIEW

- 2016 National Science Foundation Review panel, Division of Mathematical Sciences (upcoming)
- 2015 External reviewer for the American Mathematical Society–National Security Agency Mathematical Sciences Grant Program
- 2013 External reviewer for the National Sciences and Engineering Research Council of Canada (NSERC)
- 2011- Reviewing service for *Mathematical Reviews*
- 2004- Refereeing service for *Acta Arithmetica*, *Annales de l'Institut Fourier*, *Archiv der Mathematik*, *Compositio Mathematica*, *Duke Mathematical Journal*, *International Mathematics Re-*

search Notices IMRN, Journal d'Analyse Mathématique, Journal de l'Institut de Mathématiques de Jussieu, Journal of the American Mathematical Society, Journal of Number Theory, Proceedings of the American Mathematical Society, Research in Number Theory, The Ramanujan Journal

COMMITTEE WORK

- 2014-2015 Served on the Committee on Endowed Lectures, Bryn Mawr College
- 2012- Served on a doctoral defense committee, six doctoral preliminary examination committees in Mathematics and Physics, Bryn Mawr College
- 2013 Swarthmore College Honors Program, outside examiner for Complex Analysis
- 2010-2011 Served on the comprehensive senior examination committee, Amherst College
- 2009-2010 Served as a lead member on the committee to reform the gateway Linear Algebra course at the University of Michigan. Mentored teaching assistants involved in the project, fine-tuned the curriculum, and developed a problem bank and ready-to-use models for future instructors.
- 2007-2010 Served on four doctoral defense committees, two preliminary examination committees, University of Michigan
- 2009- Member of the Serbian Committee for systematic development and research support of undergraduate and graduate mathematical talent

ORGANIZER SERVICE

- 2015 Co-organizer of the Philadelphia Undergraduate Mathematics Conference Series (supported by the National Science Foundation DMS grant through the Mathematical Association of America RUMC program)
- 2014- Organizer of the Philadelphia Area Number Theory seminar
- 2012- Bryn Mawr College organizer for the Bi-Co Mathematics Colloquium

FURTHER SERVICE

- 2016 Prepared and led an invited session of the Philadelphia Area Math Teachers' Circle (upcoming)
- 2013,16 Freshman Customs Week faculty adviser, Bryn Mawr College
- 2016 Customs Week panel on Academic Honor Code, Bryn Mawr College
- 2016 Professional development panel on "Balancing Professional Responsibilities", 30th Automorphic Forms Workshop, Wake Forest University
- 2015 Professional development panel on "Mathematics with +1's and ε 's", 29th Automorphic Forms Workshop, University of Michigan
- 2014- Pre-doctoral and doctoral mentor, National Alliance for Doctoral Studies in the Mathematical Sciences
- 2013 Panel participant in the New Faculty Orientation program, Bryn Mawr College
- 2013 Professional development panel on "Tenure expectations for mathematicians around the world", 27th Automorphic Forms Workshop, University of Dublin
- 2008 Breakout session on "Classes outside the 'Intro program' ", Professional Development Program, University of Michigan, Department of Mathematics

- 2006 Graduate School Discussion Panel, Undergraduate Math Club, University of Michigan
- 2004-2006 Maintained the departmental general examinations web site
- 2003-2004 Organized and gave talks in a graduate student learning seminar on representation theory of semisimple groups, after Knapp's book
- 2002-2003 Organized and gave talks in a graduate student learning seminar on Jacquet-Langlands $GL(2)$ theory, after Godement's notes

Memberships

American Mathematical Society
 Mathematical Association of America
 Association for Women in Mathematics

Additional conferences attended

- 2016 Cohomology of Arithmetic Groups, Max-Planck-Institut für Mathematik, Bonn
- 2016 L -Functions and Automorphic Forms, Mathematics Center Heidelberg and Ruprecht-Karls-Universität Heidelberg, Germany
- 2015 Number Theory Down Under 2015, Centre for Computer-Assisted Research Mathematics and its Applications (CARMA), University of Newcastle, Australia
- 2014 Analysis, Spectra & Number Theory, Princeton University and Institute for Advanced Study (IAS)
- 2014 Summer School on Analytic Number Theory, Institut des Hautes Études Scientifiques (IHÉS), Paris, France
- 2014 AMS/MAA Joint Mathematics Meetings, Baltimore
- 2013 Analytic Number Theory, Centre International de Rencontres Mathématiques (CIRM), Marseille, France
- 2013 Combinatorics, Multiple Dirichlet Series and Analytic Number Theory; Automorphic Forms, Combinatorial Representation Theory and Multiple Dirichlet Series program, Institute for Computational and Experimental Research in Mathematics (ICERM), Brown University
- 2012 Marvin Knopp Memorial Conference, Temple University
- 2012 Modular Forms, Mock Theta Functions, and Applications, Universität zu Köln
- 2010 International Conference on Spectral Geometry, Dartmouth College
- 2010 AMS/MAA Joint Mathematics Meetings, San Francisco
- 2008 Clay Research Conference, Massachusetts Institute of Technology
- 2008 The Midwest Number Theory Days, University of Illinois at Chicago
- 2005 Equidistribution in Number Theory, Séminaire de Mathématiques Supérieures/NATO Advanced Study Institute, Université de Montréal
- 2004 Matrix Ensembles and L -functions, Random Matrix Approaches in Number Theory programme, Isaac Newton Institute for Mathematical Sciences, Cambridge, UK
- 2004 Workshop on Spectral Theory and Automorphic Forms, Université de Montréal
- 2003 The Web of Modularity, University of Illinois at Urbana-Champaign
- 2003 Additive Number Theory and Applications to Harmonic Analysis, CUNY Graduate Center

- 2003 Number Theory Workshop, Brown University
- 2002 Automorphic Forms and Applications, Graduate Summer School, IAS/Park City Mathematics Institute
- 2002 Workshop on Zeta-functions and associated Riemann Hypotheses, Courant Institute of Mathematical Sciences, New York University
- 2001 10th Congress of Yugoslav Mathematicians, Belgrade

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