

ROMYAR T. SHARIFI

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POSITIONS

2009-	University of Arizona, Associate Professor
2007-2009	McMaster University, Associate Professor
2004-2007	McMaster University, Assistant Professor
2003-2004	Max Planck Institute for Mathematics, Guest
2001-2003	Harvard University, NSF Math. Sciences Postdoctoral Research Fellow
2000-2001	University of Arizona, NSF VIGRE Postdoctoral Research Fellow
1999	Mathematical Sciences Research Institute, Postdoctoral Fellow in the Program on Galois Groups and Fundamental Groups

EDUCATION

June 1999	Ph.D. in Mathematics, The University of Chicago Advisor: Spencer J. Bloch
August 1995	S.M. in Mathematics, The University of Chicago
May 1994	B.A. in Mathematics and Physics, University of California at Berkeley

GRANTS AND AWARDS

2010-2012	NSF Conference Grant for Iwasawa 2010
2009-	National Science Foundation Research Grant (DMS-0901526)
2007-2008	NSF Conference Grant for Summer School on Iwasawa Theory
2006-2009	Early Researcher Award, Ministry of Research and Innovation, Ontario
2005-2009	NSERC Discovery Grant
2005-2009	Canada Research Chair in Number Theory, Tier II
2001-2003	NSF Mathematical Sciences Postdoctoral Research Fellowship

SHORT-TERM VISITS

May-June 2010	Institut des Hautes Études Scientifiques, Paris
July-Oct. 2009	Isaac Newton Institute, Cambridge
May 07-Aug. 08	Fields Institute, Toronto
June 2006	Institut des Hautes Études Scientifiques, Paris
Sept. 2005	Le Centre de Recherches Mathématiques, Montréal
June-July 2005	Max Planck Institute for Mathematics, Bonn
June-July 2002	University of Regensburg
June-July 2001	University of Nottingham

RESEARCH

Algebraic number theory: Iwasawa theory, Galois groups and their representations, modular forms, p -adic L -functions

PUBLICATIONS

- Galois module structure of local unit groups, preprint, to appear in *Algebra Number Theory*, arXiv:1108.3328, 37 pages.
- Nekovar duality over p -adic Lie extensions of global fields, with M. F. Lim, preprint, arXiv:1104.1230, 57 pages.
- A reciprocity map and the two-variable p -adic L -function, *Ann. of Math.* **173** (2011), 251-300.
- Cup products and L -values of cusp forms, *Pure Appl. Math. Quart.* **5**, Special Issue: In honor of Jean-Pierre Serre (2009), 339-348.
- On Galois groups of unramified pro- p extensions, *Math. Ann.* **342** (2008), 297-308.
- Iwasawa theory and the Eisenstein ideal, *Duke Math. J.* **137** (2007), 63-101.
- Massey products and ideal class groups, *J. reine angew. Math.* **603** (2007), 1-33.
- On the failure of pseudo-nullity of Iwasawa modules, with Y. Hachimori, *J. Alg. Geom.* **14** (2005), 567-591.
- A cup product in the Galois cohomology of number fields, with W. McCallum, *Duke Math. J.* **120** (2003), 269-310.
- Relationships between conjectures on the structure of pro- p Galois groups unramified outside p , in Arithmetic Fundamental Groups and Noncommutative Algebra, *Proc. Sympos. Pure Math.* **70** (2002), 275-284.
- Determination of conductors from Galois module structure, *Math. Z.* **241** (2002), 227-245.
- Minimal conductors of Kummer extensions by roots of unit elements, *J. Ramanujan Math. Soc.* **16** (2001), 101-117.
- On norm residue symbols and conductors, *J. Number Theory* **86** (2001), 196-209.
- Twisted Heisenberg groups and local conductors, Ph.D. thesis, The University of Chicago, 1999.
- Ramification groups of nonabelian Kummer extensions, *J. Number Theory* **65** (1997), 105-115.
- On cyclotomic polynomials, power residues, and reciprocity laws, *Enseign. Math.* **43** (1997), 319-336.

INVITED CONFERENCE TALKS

Cycles on Modular Varieties, BIRS, Banff, Canada, Oct. 2011.

Development of Galois-Teichmüller theory and anabelian geometry, RIMS, Kyoto, Japan, Oct. 2010.

Modular/Geometric Iwasawa Theory and p -adic L -functions, UCLA, June 2010 (3 lectures).

Non-Commutative Algebra and Iwasawa Theory, ICMS, Edinburgh, Sept. 2009.

Non-Abelian Fundamental Groups in Arithmetic Geometry: Introductory Workshop, Isaac Newton Institute, July 2009.

IAS/Park City Mathematics Institute: Arithmetic of L -functions, Park City, Utah, July 2009.

Québec/Maine Number Conference on Number Theory, U. Laval, Oct. 2008.

Canadian Number Theory Association X Meeting, U. Waterloo, July 2008.

Conference in Honour of John Labute, Montreal, Nov. 2007.

Algebraische Zahlentheorie, Oberwolfach, Germany, June 2007.
 Canadian Number Theory Association IX Meeting, UBC, Vancouver, July 2006.
 Iwasawa 2006, Limoges, France, July 2006.
 Pro- p Extensions of Global Fields and Pro- p Groups, Oberwolfach, Germany, May 2006.
 Galois Theory in Arithmetic and Geometry, AMS Special Session, Durham, NH, Apr. 2006.
 Field Extensions and Algorithms, AMS Special Session, San Antonio, Jan. 2006.
 Open Questions and Recent Developments in Iwasawa Theory – in honor of Ralph
 Greenberg's 60th Birthday, Boston U., June 2005.
 Arithmetic Algebraic Geometry, AMS Special Session, Atlanta, Jan. 2005.
 Arithmetic Geometry, CMS Special Session, Montreal, Dec. 2004.
 Weekend Workshop on Arithmetic and Geometry of Higher Dimensional Varieties, Fields
 Institute, Oct. 2004.
 Iwasawa 2004, Besançon, France, July 2004.
 Algorithms and Number Theory, Schloss Dagstuhl, Germany, May 2004.
 Geometric Methods in Algebra and Number Theory, U. Miami, Dec. 2003.
 The John H. Barrett Memorial Lectures: Recent Progress in Arithmetic and Algebraic
 Geometry, University of Tennessee-Knoxville, April 2002.
 Arithmetic Aspects of Fundamental Groups, Maratea, Italy, Sept. 2001.
 NoMaDS (Nottingham-Manchester-Durham-Sheffield) Meeting, Sheffield, July 2001.
 Galois Theory and Explicit Methods, CIRM, Luminy, France, June 2001.
 Field Theory and Arithmetic, St. Etienne, France, May 2001.
 Number Theory with a Geometric Flavor, AMS Special Session, Las Vegas, April 2001.
 Graduate and Postdoctoral Education in Arithmetic Geometry: The Arizona Winter School,
 AMS Special Session, New Orleans, Jan. 2001.
 Galois Representations, AMS Special Session, Urbana-Champaign, May 1999.
 Midwest Algebraic Number Theory Day, UIUC, March 1997.
 Undergraduate Research, AMS Special Session, Eugene, June 1994.

EXTERNAL SEMINARS AND COLLOQUIA

2012	UCLA (colloq. and seminar)
2011	Northwestern University, University of Chicago
2010	University of Texas at Austin
2009	Institut de Mathématiques de Jussieu, University of Bristol, University of Birmingham, Stanford University, Arizona State University (colloq. and seminar)
2008	McGill University, University of Arizona, Duke University, Cornell University
2007	Université de Franche-Comté, Université de Caen (seminar and lecture series)
2006	University of Rochester, University of Western Ontario (colloquium)
2005	McGill University, University of Western Ontario, Max Planck Institute for Mathematics, Ohio State University, University of California at San Diego, Rice University
2004	University of Notre Dame, University of Wisconsin, University of Illinois at Urbana-Champaign, McMaster University, Queen's University, Boston University, Michigan State University, University of Virginia, Cambridge University, Universität Heidelberg, International University Bremen (colloquium)
2003	University of Washington, University of California at Irvine, University of California at Santa Barbara, Universität Göttingen

- 2002 Boston University, Columbia University, Brown University, Universität Regensburg, University of Arizona, University of California at Berkeley, California Institute of Technology, Amherst College, University of Massachusetts at Amherst
- 2001 University of London, Nottingham University, University of Arizona, Brandeis University

CONFERENCE ORGANIZATION

- Oct. 15-16, 2011 Primary Organizer, Workshop on Iwasawa Theory, University of Arizona
Funded by NSF grant DMS-1005225
- July 5-9, 2010 Co-organizer, Iwasawa 2010, University of Toronto
Funded by the Fields Institute and NSF grant DMS-1005225
- Dec. 8-10, 2007 Co-organizer, Special Session on Iwasawa Theory, CMS Winter Meeting
- Aug. 9-13, 2007 Primary Organizer, Summer School in Iwasawa Theory, McMaster Univ.
Funded by the Fields Institute and NSF DMS-0646805
- June 4-8, 2007 Contact Organizer, Modular Forms: Arithmetic and Computation,
Banff International Research Station

EXTERNAL SERVICE

- 2007-2009 Member, Research Committee, Canadian Mathematical Society

DEPARTMENTAL SERVICE

- 2011- Member, Peer Review Committee at U. Arizona
- 2009- Undergraduate advisor
- 2010-2011 Organizer, Algebra and Number Theory Seminar at U. Arizona
- 2009-2011 Member, Graduate Committee at U. Arizona
- 2009-2010 Supervisor for independent study courses of 3 graduate students
- 2009-2010 Colloquium co-chair at U. Arizona
- 2008 Member, Appointments Committee at McMaster
- 2006-2008 Responsible for algebra section of Qualifying Examination at McMaster
- 2005-2008 Member, Graduate Committee at McMaster

POSTDOCTORAL CO-SUPERVISION

- 2008-2009 M-L. Hsieh
- 2007-2009 M. Agarwal
- 2007-2009 S. Yazdani, NSERC Postdoctoral Fellow
- 2005-2007 D. Ghioca and B.D. Kim
- 2004-2005 S. Kim

GRADUATE SUPERVISION

- 2011 R. Gottesman, M.S. Thesis, "Some conductors of Kummer extensions of local fields", University of Arizona
- 2010- M. Lafferty, Ph.D. student, University of Arizona
- 2010- D. Q. Nguyen Ngoc, Ph.D. student, University of Arizona
- 2005-2010 M. F. Lim, Ph.D. Thesis, "Duality over p -adic Lie extensions of global fields", McMaster University

2004-2006 T. Davis, M.S. Thesis, “Computations in Galois cohomology and Hecke algebras”, McMaster University

UNDERGRADUATE SUPERVISION

2007 & 2008 P. Wake, NSERC Undergraduate Student Research Award

YOUTH OUTREACH

Mar. 2008 Presentation to 10th-12th grade students at Math@Mac Day
2005-2006 Problems and Puzzles presentations to local high school students

TEACHING EXPERIENCE

2011-2012 Algebraic Number Theory I-II at U. Arizona
2010-2011 Iwasawa Theory, Abstract Algebra I-II at U. Arizona
2009-2010 Algebraic Number Theory II at U. Arizona
2008-2009 Abstract Algebra I at McMaster, Linear Algebra I at U. Arizona
2007-2008 Abstract Algebra I, Graduate Algebra I at McMaster
2006-2007 Linear Algebra II, Graduate Algebra I at McMaster
2005-2006 Linear Algebra III, Graduate Algebra II at McMaster
2004-2005 Linear Algebra II, Algebraic Number Theory at McMaster
2000-2001 Calculus I, Calculus II, Research Tutorial Group at U. Arizona
1996-1999 Calculus, Studies in Mathematics at U. Chicago
1995-1996 Teaching assistant for undergraduate topology sequence at U. Chicago

CITIZENSHIP U.S.A.