

Arturo Magidin Curriculum Vitæ

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Main Research Area: Algebra, group theory, p -groups, capability, amalgams.
Other Research Interests: Number theory, arithmetic geometry, universal algebra.

EDUCATION

- **University of California at Berkeley.** Ph. D. in Mathematics, May 1998.
Advisor: George M. Bergman.
- **Universidad Nacional Autónoma de México.** Matemático, April 1993.

ACADEMIC POSITIONS

- 2009–** **University of Louisiana at Lafayette.** Department of Mathematics.
Associate Professor.
- 2005–2009** **University of Louisiana at Lafayette.** Department of Mathematics.
Assistant Professor.
- 2003–2005** **University of Montana.** Dept. of Mathematical Sciences. Adjunct
Assistant Professor.
- 2002–2003** **University of Montana.** Dept. of Mathematical Sciences. Visiting
Assistant Professor.
- 1998–2002** **Universidad Nacional Autónoma de México.** Instituto de Mate-
máticas. Research Assistant Professor.
- 1994–1998** **University of California at Berkeley.** Dept. of Mathematics. Grad-
uate Student Instructor.
- 1993** **Universidad Nacional Autónoma de México.** Fac. Química. In-
structor.
- 1991–1993** **Universidad Nacional Autónoma de México.** Fac. Ciencias.
Teaching Assistant.

PUBLICATIONS

1. *Certain homological functors for 2-generator p -groups of class two*, with Robert F. Morse. Submitted.
2. *A new classification of 2-generator p -groups of class two*, with Azhana Ahmad and Robert F. Morse. In preparation.
3. *Embedding p -groups of class two and prime exponent in capable and non-capable groups.* *Bull. Austral. Math. Soc.* **79** (2009), pp. 303–308. MR 2496934.

4. *Computational Group Theory and the Theory of Groups. Proceedings of the Special Session on Computational Group Theory, Davidson College 2007*. Editor (with Luise-Charlotte Kappe and Robert Morse). *Contemporary Mathematics* **470**, American Mathematical Society, 2008.
5. *Capability of nilpotent products of cyclic groups II*. *Journal of Group Theory* **10** (2007) no. 4, pp. 441–451. MR 2334753 (**2008e**:20047).
6. *On the capability of finite groups of class two and prime exponent*. Under revision. arXiv:0708.2391. (2007) 43 pp.
7. *Capable two-generator 2-groups of class two*. *Comm. Algebra* **34** (2006) no. 6, pp. 2183–2193. MR 2236108 (**2007b**:20037).
8. *Gauss's Lemma for number fields*, with David McKinnon. *The American Mathematical Monthly* **112** no. 5 (2005), pp. 385–416. MR 2139573 (**2005m**:11199).
9. *Capability of nilpotent products of cyclic groups*. *J. Group Theory* **8**, no. 4 (2005), pp. 431–452. MR 2152690(**2006c**:20073).
10. *On the orders of generators of capable p -groups*. *Bull. Austral. Math. Soc.* **70** no. 3 (2004), pp. 391–395. MR 2103970(**2005i**:20030).
11. *Amalgams of nilpotent groups of class two*. *J. Algebra* **274**, pp. 1–63 (2004). MR 2040861(**2004m**:20050).
12. *Introducción a la Criptología* (lecture notes), with José Galaviz. *Vínculos Matemáticos* no. 15 (2003), F. Ciencias, UNAM, 378 pp.
13. *Nonsurjective epimorphisms in decomposable varieties*. *Algebra Universalis* **48**, 145–150 (2002). MR 1929901(**2003h**:20052).
14. *Dominions in varieties generated by simple groups*. *Algebra Universalis* **48**, 133–143 (2002). MR 1929900(**2003h**:20051).
15. *Dominions in decomposable varieties*. *Algebra Universalis* **43** (2-3), 217–232 (2000). MR 1773940(**2001m**:20038).
16. *Dominions in varieties of nilpotent groups*. *Comm. Algebra* **28**(3), 1241–1270 (2000). MR 1742653(**2000m**:20053).
17. *Absolutely closed nil-2 groups*. *Algebra Universalis* **42**(1-2), 61–77 (1999). MR 1736342(**2001a**:20055).
18. *Dominions in finitely generated nilpotent groups*. *Comm. Algebra* **27**(9), 4545–4559 (1999). MR 1705886(**2001f**:20070).
19. *Capable groups of prime exponent and class two, II*. arXiv math.GR/0506578 (2005), 30 pp.
20. *Capable groups of prime exponent and class two*. arXiv math.GR/0401423 (2004), 20 pp.
21. *A correction to a result of B. Maier*. arXiv math.GR/0102215 (2001), 5 pp.
22. *Amalgamation bases for nil-2 groups of odd exponent*. arXiv math.GR/0006065 (2000), 29 pp.

TEACHING EXPERIENCE

- **University of Louisiana.** Calculus, 2005-2006, 2008. Honors Calculus, 2008-2009. Fundamentals of Mathematics, 2009. Number Theory, 2006. Advanced Linear Algebra, 2006, 2008-2009. Undergraduate Abstract Algebra, 2007. Calculus and Applications, 2007. Linear algebra, 2005, 2007, 2009. Graduate Abstract Algebra, 2007-2009.
- **University of Montana.** Linear algebra (with computer lab), 2005; Multi-variable calculus, 2004; Precalculus, 2003-2004; Calculus, 2002-2005; Graduate Algebra, 2002-2003.
- **Universidad Nacional Autónoma de México.** Cryptology, 2002; Linear Algebra, 2001; Number Theory, 2000; Introductory Algebra, 2000; Calculus, 1998; Introductory Algebra (Instructor), 1993; Introductory Algebra (Teaching Assistant) 1991, 1993; Calculus (Teaching Assistant), 1992; Abstract Algebra (Teaching Assistant), 1993.
- **University of California at Berkeley.** Linear Algebra (Instructor) 1997; Multivariable Calculus (Teaching Assistant) 1996-1997; Calculus (Teaching Assistant) 1995; Linear Algebra (Teaching Assistant) 1994.

GRANTS

- **Research Competitiveness Grant,** Louisiana Board of Regents. Research and travel grant, to help achieve national competitiveness for federally funded grants. 2007-2010.
- **Summer Research Award,** University of Louisiana at Lafayette, 2007.
- **Summer Research Award,** University of Louisiana at Lafayette, 2006.
- **Research Grant,** CONACyT, Mexico, 1999-2002.
- **Research Grant,** PRIDE Level B, UNAM. 1999-2002.
- **Travel and Research Grant.** CONACyT, Mexico, 1999.
- **Graduate Fellowship.** DGAPA, UNAM, 1994-1998.
- **Department of Education National Need Fellowship.** 1993-1994.
- **NSF Graduate Research Fellowship.** Honorable Mention, 1993, 1994.

ACADEMIC HONORS

- **Member, Graduate Faculty.** University of Louisiana at Lafayette. 2005-present.
- **National Science Foundation Graduate Research Fellowship.** Honorable Mention, 1993, 1994.
- **Best Undergraduate Thesis in Mathematics in Mexico.** Sotero Prieto Prize, Mexican Mathematical Society, 1993.
- **Top graduating student in Mathematics.** Gabino Barreda Medal, UNAM, 1993.
- **Graduation with Highest Honors.** Facultad de Ciencias, UNAM, 1993.

ACADEMIC SERVICE**Professional Service.**

- **Co-organizer, Special Session on Computational Group Theory.** With L-C Kappe and Robert Morse. AMS Sectional Meeting, Kalamazoo MI, October 2008.
- **Co-organizer, Special Session on Computational Group Theory.** With L-C Kappe and Robert Morse. AMS Sectional Meeting, Davidson NC, March 2007.
- **Referee.** Refereed papers for ISRAEL JOURNAL OF MATHEMATICS, JOURNAL OF GROUP THEORY, COMMUNICATIONS IN ALGEBRA, JOURNAL OF ALGEBRA, MALAYSIAN JOURNAL OF SCIENCE, STUDIA LOGICA, and PROCEEDINGS OF THE AMS.
- **Reviewer.** Math Reviews, 2005–present. 31 reviews written to date.
- **Chair, Contributed Paper Session.** AMS National Meeting, Atlanta, January 2005. Group Theory session.

University and Departmental Service.

- **Master's exam committee.** Chair, one student. University of Louisiana at Lafayette, 2009.
- **Doctoral thesis committee.** Two students (mathematics), University of Louisiana at Lafayette, 2006, 2007.
- **Master thesis committee** (outside observer). One student (astronomy), University of Louisiana at Lafayette, 2006,
- **University committees.** Student Discipline Committee, University of Louisiana at Lafayette. 2008–present.
- **Departmental committees.** Department of Mathematics, University of Louisiana at Lafayette. Including Assessment Committee. 2005–present.
- **Exam coordinator.** First year calculus. U. Montana, Fall 2004.
- **Course coordinator.** Calculus. U. Montana, Fall 2003.
- **Seminar coordinator.** Algebra seminar, U. Montana, Fall 2002.
- **Program restructuring.** Undergraduate program in Mathematics, Facultad de Ciencias, UNAM, (1999-2000).
- **Colloquium Coordinator.** Graduate Student Colloquium, Dept. of Mathematics, University of California at Berkeley, 1995–1996.

COMPUTER SKILLS

Programming in C and Pascal (advanced). Programming in Scheme and C++, GAP (intermediate). HTML (intermediate). Use of T_EX, L^AT_EX, Windows, UNIX, etc.

LANGUAGES

Spanish (Native language).

English (Near native).

Hebrew (advanced spoken, intermediate written).

German (beginning written).

French (beginning written).

Japanese (rudimentary knowledge).

PROFESSIONAL MEMBERSHIPS

American Mathematical Society; Mathematical Association of America; Pi Mu Epsilon.

TALKS, SEMINARS, AND CONFERENCES

- **Groups St. Andrews in Bath 2009.** *Classifying 2-generator p -groups of class 2 and computing their nonabelian tensor square and related functors.* University of Bath, Bath, UK, 2009.
- **2009 Zassenhaus Group Theory Conference.** *Embedding p -groups of class two and prime exponent into capable and non-capable groups.* Franklin and Marshall College, Lancaster, PA, 2009.
- **AMS National Meeting.** *A new classification of 2-generated p -groups of class two.* Contributed papers session on Group Theory. Washington DC, 2009.
- **AMS Sectional Meeting.** *A classification of 2-generated p -groups of class two.* Special Session on Computational Group Theory. Western Michigan University, Kalamazoo, MI, 2008.
- **Harlaxton Conference on Computational Group Theory and Cohomology.** *A new classification of 2-generated p -groups of class two.* Harlaxton College, United Kingdom, 2008.
- **2008 Ohio State University–Denison Meeting.** *Capability of semiextraspecial groups.* Preliminary report. Columbus, OH, 2008.
- **AMS National Meeting.** *More results on the capability of finite groups of class two and prime exponent.* Contributed paper in Group Theory. San Diego, CA, 2008.
- **Joint Meeting of the AMS and NZMS.** *Capable groups of class two and prime exponent.* Special Session on Group Theory, Actions, and Computation. Victoria University, Wellington, New Zealand, 2007.
- **Southern Regional Algebra Conference.** *Capability of groups of class two and prime exponent. Preliminary report.* University of Louisiana at Lafayette, Lafayette, LA, 2007.
- **Tulane University.** *Capable p -groups of class two and prime exponent.* Algebra seminar. New Orleans, LA, 2007.
- **2007 Zassenhaus Group Theory Conference.** *Capability of p -groups of class two and prime exponent.* Saint Louis University, St. Louis, MO, 2007.
- **AMS National Meeting.** *Capability of p -nilpotent products of cyclic p -groups.* Contributed talk on Group Theory. New Orleans, LA, 2007.
- **AMS National Meeting.** *Capability of nilpotent groups of class two and prime exponent. Preliminary Report.* Contributed talk on Group Theory. San Antonio, TX, 2006.
- **Southeastern Louisiana University.** *The Prehistory of the Fundamental Theorem of Arithmetic.* Invited Colloquium Talk, Mathematics Department. Hammond, LA, 2005.
- **University of Louisiana at Lafayette.** *The Prehistory of Unique Factorization into Primes.* Colloquium Talk, Mathematics Department. Lafayette, LA, 2005.
- **University of Waterloo.** *Coproducts, Grassmannians, and Groups, Oh My!* Invited Colloquium Talk, Dept. of Pure Mathematics. Waterloo, Canada, 2005.

- **Zassenhaus Group Theory Conference.** *Capability of nilpotent groups of class two and prime exponent.* Auburn University - Montgomery. Montgomery, AL, 2005.
- **University of Louisiana at Lafayette.** *Capable p -groups: using old ideas to get new results.* Invited Colloquium Talk. Lafayette, LA, 2005.
- **Auburn University - Montgomery.** *Capable p -groups.* Invited Colloquium Talk. Montgomery, AL, 2005.
- **AMS National Meeting.** *Capable two-generator p -groups of class two.* Contributed talk on Group Theory. Atlanta, GA, 2005.
- **U. Montana.** *How is an election like a triangle? Some of the geometry and paradoxes of voting and elections.* Math Club talk. Missoula, MT, 2004.
- **U. Montana.** *Peering profoundly into p -groups.* Algebra Seminar, Missoula, MT, 2004.
- **AMS National Meeting.** *Capability of certain nilpotent products of cyclic groups.* Contributed talk on Group Theory. Phoenix, AZ, 2004.
- **St. Louis University.** *Capability of nilpotent products of groups.* Invited talk, Algebra Seminar. St. Louis, MO, 2003.
- **St. Louis University.** *Are the Isomorphism Theorems for groups and rings really the same theorem?* Invited Colloquium talk. St. Louis, MO, 2003.
- **U. Montana.** *Elliptic curves and modular forms.* Math Club invited talk. Missoula, MT, 2003.
- **AMS National Meeting.** *An analogue of Gauss's Lemma for number fields.* Contributed paper on Number Theory. Baltimore, MD, 2003.
- **U. Montana.** *Amalgams, or, a brief story of two groups who wish to become one.* Colloquium of the Department of Mathematical Sciences, Missoula, MT, 2002.
- **Vanderbilt University.** *Amalgams and dominions of nilpotent groups of class two.* International Conference on Modern Algebra, Nashville, TN, 2002.
- **Instituto de Matemáticas, Unidad Morelia.** *Amalgamas: una breve historia de grupos que quieren estar juntos.* Colloquium of the Mathematics Institute. Morelia, Mexico, 2002.
- **Universidad Veracruzana.** *La Conjetura de Hanna Neumann.* XVII Colloquium of Graph Theory, Combinatorics, and Applications. Xalapa, Mexico, 2002.
- **AMS Annual Meeting.** *Amalgams of nilpotent groups of class two.* Contributed talk in Group Theory. San Diego, CA, 2002.
- **Instituto de Matemáticas, UNAM.** *Amalgamas, o cómo pegar dos grupos.* Colloquium of the Mathematics Institute. Mexico City, Mexico, 2001.
- **University of California, Santa Barbara.** *Gluing group.* First Annual UC Berkeley-UC Santa Barbara Algebra Day. Santa Barbara, CA, 2001.
- **Annual Meeting of the AMS.** *Amalgamation bases for nilpotent groups of class two and odd exponent.* Contributed talk in Group Theory. New Orleans, LA, 2001.

- **Vanderbilt University.** *A (somewhat) biased look at dominions and epimorphisms.* First Annual Thomasina Coverly Memorial Conference on Ordered Sets and Universal Algebra. Nashville, TN, 2000.
- **Tufts University.** *How to glue groups together.* Mathematics Department Colloquium. Somerville, MA, 2000.
- **University of Melbourne.** *Dominions in decomposable varieties of groups.* 17th Annual Victoria Algebra Conference. Melbourne, Australia, 1999.
- **IAS-Park City Mathematics Institute.** Participant in Summer School in Arithmetic Algebraic Geometry. Park City, UT, 1999.
- **Tulane University.** *Amalgamation bases for nilpotent groups of class two.* Conference on Algebra in Honor of Laszlo Fuchs. New Orleans, LA, 1999.
- **University of California at Berkeley.** *Amalgamation bases for nilpotent groups of class two.* Geometric Group Theory Seminar. Berkeley, CA, 1998.
- **Annual Meeting of the Sociedad Matemática Mexicana.** *Dominios y epimorfismos no suprayectivos en variedades de grupos.* Featured talk in Group Theory. Hermosillo, Mexico, 1998.
- **University of Arkansas, Fayetteville.** *Dominions in varieties of nilpotent groups.* Conference on Combinatorial Methods in Algebra. Fayetteville, AK, 1998.
- **University of California at Berkeley.** *Varieties of groups are the spice of life.* Graduate Student Colloquium, Department of Mathematics. Berkeley, CA, 1997.
- **University of California at Berkeley.** *Gödel's Incompleteness Theorem.* Graduate Student Colloquium, Department of Mathematics. Berkeley, CA, 1996.
- **University of California at Berkeley.** *Underlying sets, adjoint functors, and other 'Abstract Nonsense'.* Graduate Student Colloquium, Department of Mathematics. Berkeley, CA, 1996.
- **University of California at Berkeley.** *The dominions of Isbell.* General Algebra Seminar, Department of Mathematics. Berkeley, CA, 1996.
- **Annual Meeting of the Sociedad Matemática Mexicana.** *Generalización de condiciones suficientes para la existencia de núcleos en digráficas.* Contributed talk in Graph Theory. Guanajuato, Mexico, 1992.