Job Applications in Academia

Focus is on postdoctoral and tenure-track positions
NSF Postdoctoral Fellowships: deadline October 16

Interested in government/industry/non-profit jobs?
Let me know, and we can arrange for an extra session

Career resources posted at http://icerm.brown.edu/pds
– Sample CVs, research+teaching statements
– Articles about job searches …

Job advertisements for academic positions

- Mathjobs http://www.mathjobs.org/
- AMS: http://www.ams.org/profession/employment-services/eims/eims-home
- SIAM: http://jobs.siam.org/home/index.cfm?site_id=686
- UK: http://www.jobs.ac.uk/
- Europe: http://www.euro-math-soc.eu/jobs.html
- France: http://www.cnrs.fr/en/join/Tenured-researchers.htm
  https://www.galaxie.enseignementsup-recherche.gouv.fr/ensup/candidats.html

Application package for academic positions

- AMS cover sheet
- Cover letter
- Curriculum Vitae
- List of reference writers
- Research statement
- Teaching statement

- Ask your advisor for input
- Ask a friend to proofread your application materials carefully (in particular, if English is not your native language)

AMS cover sheet

This form is provided courtesy of the American Mathematical Society.

This cover sheet is provided as an aid to departments in processing job applications. It should be included with your application material.

Please print or type.
Do not send this form to the AMS.

Academic Employment in Mathematics

AMS Standard Cover Sheet

Last Name _____

First Name _____

Middle Names _____

Address *through next June*

_____

_____

_____

Current Institutional Affiliation

_____

Highest Degree and Source

_____

Home Phone

_____

Email Address

_____

Work Phone

_____

Year of Ph.D. (optional) _____

Ph.D. Advisor _____

If the Ph.D. is not presently held, date on which you expect to receive _____

Indicate *the mathematical subject areas in which you have done research using the Mathematics Subject Classification printed on the back of this form, or on the AMS website. Use the two-digit classification, which bests fits your interests in the Primary Interest line and add additional 2-digit numbers in the Secondary Interests line.*

Primary Interest [ ] _____

Secondary Interests *optional* [ ] [ ] _____

Give a brief synopsis *of your current research interests (e.g.: finite group actions on four-manifolds). Avoid special mathematical symbols and please do not write outside of the boxed area.*

_____

_____

Most recent, if any, position held *post Ph.D.*

University or Company _____

Position Title _____ Dates _____

Indicate the position for which you are applying and position posting code, if applicable _____

If applying for a position which requires U.S. citizenship or U.S. permanent residency, indicate your eligibility ☐ Yes ☐ No

If unsuccessful for this position, would you like to be considered for a temporary position?

☐ Yes ☐ No If yes, please check the appropriate boxes.

☐ Postdoctoral Position ☐ 2+ Year Position ☐ 1 Year Position

List the names, affiliations and e-mail addresses *of up to four individuals who will provide letters of recommendation if asked. Mark the box provided for each individual whom you have already asked to send a letter.*

☐ _____

☐ _____

☐ _____

☐ _____

Cover letter

- Use the cover letter to introduce yourself.
- What position do you apply for?
- Briefly mention your current affiliation and position.
- What is your area of interest?
- Personalize the cover letter (if feasible):
  - Mention any specific professional interest you may have in the institution to which you apply.
  - Mention faculty with whom you expect to interact and work.

Curriculum Vitae

- Contact information
- Academic positions
- Education
- Awards & Honors
- Grants
- Publications
- Teaching
- Presentations
- Service
- Other work experience, computer skills, ...

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Employment

Spring 2012	Postdoctoral Fellow, Complex and Arithmetic Dynamics program, Institute for Computational and Experimental Research Mathematics (ICERM)
2010 –	Tamarkin Assistant Professor/ NSF Postdoctoral Fellow, Brown University.
Summer 2009	Intern, Microsoft Research, Cryptography group, (mentor: Kristin Lauter)
Summer 2008	Center for Communications Research, La Jolla, CA

Education

2010	Ph.D., University of California, Berkeley (advisor: Bjorn Poonen)
2005	B.S., University of Maryland, College Park, cum laude

Preprints[1]

1. On a uniform bound for the number of exceptional linear subvarieties in the Mordell-Lang conjecture. (with Joseph H. Silverman.) arXiv:1109.0207 submitted.
2. Higher-dimensional analogues of Châtelet surfaces. (with Anthony Várilly-Alvarado.) (To appear *Bull. London Math. Soc.*) arXiv:1101.5453
3. Failure of the Hasse principle for Châtelet surfaces in characteristic 2. (To appear *J. Théor. Nombres Bordeaux.*) arXiv:0902.3644

Publications

1. Failure of the Hasse principle for Enriques surfaces., (with Anthony Várilly-Alvarado.) *Adv. Math.* **226** (2011), no. 6, 4884–4901.
2. Igusa class polynomials, embeddings of quartic CM fields, and arithmetic intersection theory. (with Helen Grundman, Jennifer Johnson-Leung, Kristin Lauter, Adriana Salerno, Erika Wittenborn) WIN—Women in Numbers, Fields Institute Communications, vol. 60, Amer. Math. Soc., Providence, RI, 2011, pp. 35-60.
3. A family of varieties with exactly one pointless rational fiber. *J. Théor. Nombres Bordeaux.* **22** (2010), no. 3., 741–745.
4. Hilbert schemes of 8 points., (with Dustin A. Cartwright, Daniel Erman, and Mauricio Velasco.) *Algebra Number Theory* **3** (2009) 763–795.

Academic Honors

2010 –	NSF Postdoctoral Fellowship
2009 – 2010	Ford Foundation Dissertation Fellowship
2007 – 2008	Mentored Research Award, University of California, Berkeley
2007	Honorable Mention, NSF Graduate Research Fellowship Program
2005	Honorable Mention, NSF Graduate Research Fellowship Program

[1]Most recent versions of all preprints are available at http://math.brown.edu/~bviray

Research Talks

2012	Jan.	Joint Mathematical Meetings, Boston MA, "Arithmetic Geometry"
	Jan.	Joint Mathematical Meetings, Boston MA, "Dynamical Systems in Algebraic and Arithmetic Geometry"
2011	Nov.	Boston College, Number Theory Seminar
	Nov.	Banff International Research Station, Women in Numbers 2
	Oct.	The University of Maine, Maine-Québec Number Theory Conference
	Sept.	Brown University, 40 Years & Counting: AWM's Celebration of Women in Mathematics
	Jun.	Oberwolfach, Algebraische Zahlentheorie
	May	Emory University, Ramification in Algebra and Geometry at Emory
	Apr.	Brown University, Algebraic Geometry Seminar
	Apr.	AMS Special Sessions, College of the Holy Cross, "Modular Forms, Elliptic Curves, L-functions, and Number Theory"
	Apr.	University of Wisconsin, Madison, Number Theory Seminar
	Apr.	Amherst College, Five College Number Theory Seminar
	Mar.	Centre International de Rencontres Mathématiques, Arithmetic, Geometry, Cryptography, and Coding Theory 13
	Mar.	École normale supérieure/Université Paris-Sud, Variétés rationnelles
2010	Nov.	Boston University, Algebra Seminar
	Nov.	University of Connecticut, Algebra Seminar
	Oct.	Lorentz Center, Arithmetic of Surfaces
	Oct.	Microsoft Research, Workshop on Elliptic Curve Cryptography
	Jul.	Schloss Thurnau, Rational Points 3
	Apr.	Centre de Recherches Mathématiques, Workshop on Computer Security & Cryptography
	Mar.	Rice University, Algebraic Geometry Seminar
	Feb.	Stanford University, Number Theory Seminar
2009	Dec.	University of Michigan, Algebraic Geometry Seminar
	Nov.	New York University, Number Theory Seminar
	Nov.	Brown University, Algebra Seminar
	Nov.	Harvard University, Number Theory Seminar
	Nov.	Massachusetts Institute of Technology, Number Theory Seminar
	Nov.	AMS Special Sessions, Florida Atlantic University, "Arithmetic Geometry"
	Oct.	AMS Special Sessions, Penn State, "Function Fields and their Applications"
	Oct.	University of California, Berkeley, Graduate Student Colloquium
	Aug.	Microsoft Research, End-of-internship talk
	Apr.	Hausdorff Institute, Diophantine Equations Workshop
	Feb.	University of California, Berkeley, Number Theory Seminar
2008	Nov.	Banff International Research Station, Women in Numbers Conference
	June	University of Warwick, Algebraic Geometry Seminar
	Apr.	University of Maryland College Park, Algebra and Number Theory Seminar
	Mar.	Cornell University, Macaulay 2 Conference
2007	Oct.	Harvard/MIT, Baby Algebraic Geometry Seminar

Teaching Activities

2011	Fall	Primary Instructor, Brown University, Abstract Algebra I (undergraduate)
2011	Fall	Primary Instructor, Brown University, Linear Algebra
2008	Fall	Graduate Student Instructor, UC Berkeley, Analytical Geometry and Calculus II
2007	Spring	Graduate Student Instructor, UC Berkeley, Advanced Linear Algebra
2006	Fall	Graduate Student Instructor, UC Berkeley, Multivariable Calculus
2006	Spring	Graduate Student Instructor, UC Berkeley, Linear Algebra and Differential Equations
2005	Fall	Graduate Student Instructor, UC Berkeley, Calculus II
2005	Spring	Strauss Teaching Assistant, University of Maryland, College Park, Calculus II
2004	Fall	Strauss Teaching Assistant, University of Maryland, College Park, Calculus I

Organizing activities for conferences and meetings

2013 Feb.	Co-organizer of AIM workshop on "Brauer groups and obstruction problems: moduli spaces and arithmetic"
2012 Jun.	Program Committee, Tenth Algorithmic Number Theory Symposium
2012 Jan.	Co-organizer of a special session on "Rational Points on Varieties" at the Joint Mathematics Meetings
2011 Nov.	Project leader at Women in Numbers 2.

Service

2011 –	Active member in the Rose Whelan society, a student organization for women mathematicians at Brown University.
2011 –	Member of Girls' Angle advisory board.
2011 –	Member of graduate admissions committee, Brown University.
2010 –	Mentor at Girls' Angle, a math club for girls.
2009 – 2010	Organizer of Graduate Student Colloquium, a venue for graduate students nearing completion to give colloquium-style talks connected to their theses.
2009 – 2010	Graduate student mentor.
2008 – 2010	Active member and co-founder of Unbounded Representation, a student group focused on issues of diversity in mathematics at UC Berkeley.
2006 – 2010	Active member in Noetherian Ring, a student organization for women mathematicians at UC Berkeley.
2006 – 2008	Officer of Mathematics Graduate Student Association(MGSA) at UC Berkeley.
2005 – 2006	Co-organizer of Mentor Lecture Series.

Reference writers

- Usually, three to four letters are required,with one of these addressing your teaching skills, but more letters can often be submitted.
- Letters of recommendation are very important. Think carefully about whom you wish to ask:
  - Referees should know you and your work well enough to make a meaningful, sound judgment.
  - If possible, ask referees who are well known in their field and preferably from different places (but only if you feel that they know you and your work well and have the time and interest to write a substantive letter).
- For the teaching letter, ask somebody whom you worked with as a TA; if you taught a course as a lecturer, ask an appropriate faculty member to visit one of your classes to help them write a letter.

Research statement

- The first part of your research statement should be accessible to a general mathematical audience (hiring committees may/will include faculty not familiar with your research area). Put your research interests into a broader perspective (Why is your area important? What are the goals? How does your research fit into this vision?).
- The second part could be more specific and address your current and future research interests in more depth, intended for somebody with knowledge of your general area.
- For future research projects, find a good balance between concrete problems that you wish to work on and your long-term vision.
- Prepare research and teaching statements carefully. Have your friends and adviser(s) read them. Keep in mind that the shorter a statement, the higher the chance that it will be read (though you will need some space to adequately outline your interests).

Teaching statement

- Descriptive: What you do when you teach, types of activities or thinking in which you engage your students
- Analytical: Why you teach in the ways that you do, how has your thinking about teaching changed over time
- Empirical: Experiences or observations of student learning on which your decisions about teaching are based

- To what end: What are your objectives as a teacher? Do you want students to acquire specific skills or develop their critical thinking abilities or work on problem-solving strategies?
- By what means: How do you teach to achieve your goals?
- How to test: How do you test students and measure their performance? How do you design exams and homework?
- Why: Why do you teach? What personal satisfaction and rewards do you receive from teaching students?

Preparation for the academic job market

- Create and use opportunities to
  - participate in conferences, give and attend talks, …
  - talk with seminar speakers, visitors, conference participants about your and their research
  - build your own network of contacts, go for lunch or dinner with seminar speakers
  - work with undergraduates over the summer
- Seek teaching opportunities and document your teaching