

# **The Academic Job Search in Mathematics**

# How to find available jobs?

- MathJobs.org
- EIMS job listings – found on AMS website
- SIAM Job Board – found on SIAM website
- *AMS Notices, MAA Focus, AWM Newsletter, NAM Newsletter, etc.*
- Chronicle of Higher Education
- HigherEdJobs.com
- The European Mathematical Society
- DMANET – for discrete mathematics
- University websites

# Types of Institutions

- Research universities with a Ph.D. program
- Universities with only Bachelor's or up to Master's program
- Liberal arts colleges
- Two-year (community) college
- Industry – corporations, government agencies

# Types of Positions

## Non-tenure track

- Postdoc – emphasis on research or teaching  
can go by various names
- Visiting Professor
- Adjunct Professor
- Instructor
- Lecturer

## Tenure track

- Assistant Professor
- Associate Professor
- Professor

# Timing

- When to prepare materials – right now. (or the summer before, if possible.)
- When to start looking at ads – as early as September
- Some applications are due in November – most are due around December (before Joint Meetings)
- Apply before deadline whenever possible, but still apply if after the deadline – it may be flexible.

# Application Materials

- Cover letter
- Curriculum Vitae
- Research Statement
- Teaching Statement
- Letters of Recommendation

# Cover Letter

- 1 to 1 1/2 pages
- 3 to 5 paragraphs
- Personalize as much as possible
- Master selling yourself; let them know what you can do for them, not what they can do for you
- Possible structure: Introduction, research paragraph, teaching paragraph, relevant experience and future goals paragraph, closing.

# Introduction of Cover Letter

- Position you are applying for and how you found out about the position
- When you will receive your Ph.D. and the institution, thesis adviser
- Indication of why you are applying for that particular job, any connections you have with the institution, with that type of institution (eg liberal arts) or with the location.

# Research paragraph in cover letter

- Give a brief description of your research.
- Remember to write for a general audience (mathematicians not in your area, scientists, deans).
- Indicate that more info can be found in your research statement if appropriate.
- If there is someone at the school in your field, you can mention it here.

# Teaching paragraph in cover letter

- Describe your experience in general (do not try to indicate every class you ever taught here).
- Talk about any awards you received.
- Talk about things such as your use of technology or innovative teaching techniques you use – anything that might set you apart from other applicants.

# Relevant experience, future goals paragraph in cover letter

- Mentor in an REU, IGL and your desire to work with undergrads.
- Any connection with the institution could also go here.
- Experiences in successful grants and desire to have some of your own.
- Anything else which might make you stand out.

# Closing of cover letter

- Indicate if you will be attending the Joint Meetings or if it happens you will be in their area soon.
- Thank you for your consideration.

# Curriculum Vitae

- Omit irrelevant information (sex, age, marital status).
- Check for spelling and grammar (more than once).
- Use the same font throughout; make the format nice, simple, easy to read.
- Include name, address, telephone number, email address.
- Things listed in reverse chronological order, generally.

# Typical components of a CV – the order may vary some.

- Education
- Research Interests (Brief)
- Teaching/Work Experience
- Research Experience and/or Publications
- Presentations
- Professional Activities
- Awards, Honors, Fellowships, Grants
- Professional Memberships, and any offices held or other service
- Conferences Attended (Optional)
- Service (Optional)
- References

# Education

- Degree, (expected) month and year, institution, dissertation topic, advisor, possibly committee members.
- Master's Thesis/Degree if applicable.
- B.S. (ex. summa cum laude).

# Research Interests

- General areas you are interested in followed by a few specifics, or a short list.

## Examples

**Number Theory:** Arithmetic of modular forms and Maas forms, with applications to integer partitions.

**Graph Theory:** Extremal and Structural problems.

**Algebraic Combinatorics:** Schubert calculus.

Analysis of PDEs, Singular Perturbations, Applied Mathematics

# Teaching (Work) Experience

- Title, dates, institution, city and state.
- Include level of involvement (full responsibility, recitation, co-teaching).
- List all classes taught by name (not just course number) with a brief description.
- You may include paid one on one tutoring.
- Some items will begin to phase out as time progresses.

# Research Experience and/or Publications

- Publications (indicate if published, accepted, submitted, in progress)
- You may also include undergraduate research projects not published, although these are less important.

# Presentations

- Title, Date, Conference or University name, city, state (or country).
- Try to vary titles of presentations you give even if they are on the same topic.
- If some are *invited*, include this information.
- Possibly include seminar talks at UIUC – these may drop off later as the list grows longer.

# Professional Activities

- Summer Programs.
- Panels.
- Departmental service – committees, mentor, etc.
- Events Organized (math club lecture series).
- Relevant volunteer work outside the University – related to mathematics, most likely.
- Journal referee, e.g. – any type of activity within the mathematical profession.

# Awards, Honors, Fellowships, Grants

- Grants.
- Teaching awards.
- Fellowships.
- Honor societies.
- Scholarships.
- Be judicious – from undergraduate, only put things which are especially notable, if any.

# References

- Advisor first.
- Give name, title, address, phone number and email.
- Your references will be submitting letters on mathjobs, but you can still list them on the CV which is used for job applications.

# Letters of Recommendation

Give your writers lots of information:

- Your career goals
- The types of schools to which you are applying
- Usually at least one letter which primarily addresses your teaching.
- Might have extra letter writers and use the most appropriate ones for your different schools, if you are applying for several types of jobs.

# Letters of Recommendation

## (cont'd)

- For a teaching recommendation - have a faculty member observe your teaching (ideally multiple times) so that they can write a letter that clearly indicates your strengths and areas of improvement.
- For a research recommendation – may be helpful to give writers a mini-lecture on your results so that they have more information than just your research statement. Ideally, they already know your research from departmental seminars, etc.

# Letters of Recommendation (Cont'd)

- Tell them what you want them to emphasize in their letters
  - give them your application materials
  - tell them your accomplishments
- Let your writers know the deadlines and **give them plenty of time**
- It's okay to give a polite and gentle reminder as needed.

# Teaching Statement

A teaching statement can address any or all of the following:

- Information about your teaching experience.
- Your beliefs about the teaching and learning process.
- Goals you have for students.
- ***How, specifically,*** you enact your beliefs and goals.
- Your growth and development as a teacher.
- Your accomplishments as a teacher.

# Teaching Statement (cont'd)

- Keep it brief—one or two pages.
- Use a narrative, first-person approach.
- Make it reflective and personal.
- Use ***specific examples*** of your practice.
- Demonstrate clear links between your philosophy and ***your actual practice***.
- Give insight into typical class period and/or other aspects of a course (those you have control over).

# Teaching Philosophy Statement (cont'd)

- Convey your enthusiasm and dedication to teaching.
- Emphasize ways in which you are student-centered.
- Demonstrate your excellent written communication skills.
- You might mention ways in which you plan to further develop as a teacher in the future.

# Research Statement

- Basic outline: introduction/background/motivation, your work, future research.
- Emphasize original work.
- Length varies by position type and other circumstances.
- Remember that it may be read by mathematicians outside your specific area, and even by non-mathematicians in some cases.

# Getting Organized

- Make a system for keeping track of applications and contacts which will work for you – electronic or on paper.
- Most will be in Mathjobs, so it is easy to see where you've applied, but as you get towards the interview stage, you'll want records of information about the school, and notes on contacts you've had.
- Tell everyone you're on the job market and seek advice, feedback on your application materials!

# Don't forget to graduate!

- Apply for the degree on Enterprise Self-Service.
- Thesis defense
- Thesis deposit
- <http://www.math.illinois.edu/GraduateProgram/thesis-resources.html>