

DEPARTMENT OF MATHEMATICS

# VIGRE Funding Report

(due 30 days after semester of support)

Semester/Summer and Year:

Summer 2009

Name:

List the graduate courses you have taken this semester (including independent studies), your grades, and the instructors:

Course	Title	Grade	Instructor
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List the title, date and location of any talks you have given, either here or elsewhere:

Intrinsic Geometric Flows on Manifolds of Revolution, May 22nd, 2009, UT Austin Symposia on Analysis of Geometric Evolution.

If you are working on your dissertation, include a one paragraph description of your research progress. If you have not yet begun dissertation research, describe your progress toward finding a dissertation topic and advisor and beginning that research.

My research is nearing completion. My current focus is on getting all my results written in the form of publishable papers and a thesis. This summer I finished a paper which will be submitted for publication, began work on a second paper, and worked on the introduction section of my thesis.

List publications, if any.

Check all activities you completed during the funded period:

Academics:

- Independent Study
- Oral Comprehensive Exam
- Commence Thesis Research
- Conference attendance
- Conference participation
- Complete PhD

Professional development and outreach:

- AP Calculus Visit
- High School Workshops
- Undergraduate Research Project
- Undergraduate Research Seminar
- Super TA
- Mentoring junior graduate students for the qualifying exams
- RTG (help organize)
- Research Seminar (help organize)

Other (please specify)

I began work on my job search materials including completion of a teaching statement.

Attach a brief statement about your academic progress and professional development during the period of support.

## **Report on Academic and Professional Development Activities**

Jefferson Taft

My focus this summer was to get prepared for the job search which is beginning this semester. Mainly, I worked on writing my research into a publishable form. I will be submitting two papers for publication; one of which I finished this summer, the other is near completion, but lacks a proof of a technical detail on which I am still working. I also began work on a research statement, and finished my teaching statement. During the period of funding I was invited to speak at a conference and accepted. The talk was entitled "Intrinsic Geometric Flows on Manifolds of Revolution" given at the Symposium on Analysis of Geometric Evolution on May 22<sup>nd</sup>.

My vertical integration was to help my advisor, David Glickenstein, with the undergraduate research project funded by his grant. One of my roles is to attend meetings and contribute ideas when applicable. Another is to act as mathematical consultant to the undergraduates currently participating in the grant. These undergraduates have strong backgrounds in mathematics and computer science, but haven't seen some of the necessary graduate-level mathematics required by the project. I contributed to catching them up by giving a talk which briefly introduced the ideas of Riemannian Geometry in terms they are familiar with.

I would like to thank the VIGRE committee choosing to fund me. Thanks to the support of this grant it was a productive summer.