

DEPARTMENT OF MATHEMATICS

VIGRE Funding Report

(due 30 days after semester of support)

Semester/Summer and Year:

Spring 2009

Name: Ryan Smith

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

Course	Title	Grade	Instructor
Math 517B	Group Theory	A	Lux
Math 536B	Algebraic Geometry	A	Ulmer
Fren 500	French for Reading	A	Zegura
Math 599	Independent Study	S	Savitt

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

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.

I worked with Professor Savitt to read to the paper I will be doing my orals on (originally we had planned to do them at the end of this semester). In the process of reading the paper I also read several other papers, which I drew on to write my orals paper. Finally, I have been preparing for the Clay Institute Summer School on Galois representations this summer, after which I feel I will have sufficient knowledge of the subject to choose a research topic.

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)

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

VIGRE Report Part II

Report on academic and professional development activities

Ryan Smith

During spring semester 2009 I finished preparing for my comprehensive exams. This involved reading a paper by Deligne, “Les Constantes des Equations Fonctionnelles des Fonctions L”, as well as several other supporting papers. After I finished reading those articles, I wrote a paper which I will use as the written component of my comprehensive exams. Due to several key faculty members leaving Tucson over the summer I was not able to schedule my exam this semester, but I am ready to take it as soon as everyone returns in August.

This summer I am attending the Clay Institute summer school on Galois representations; after this intensive month long program I expect to be able to choose a sub-specialty in which to do research. In preparation for the event I’ve adhered to my plan to work on a follow up article by Gouvea once I finished the majority of my preparation for the exams.

During the semester I had the pleasure serving as a TA for Professor Thakur’s undergraduate algebra course. The pace of the course was quick, and I think I really made a difference for a number of students who were struggling to keep up. In addition to the time spent in the review sessions and office hours, the process of selecting problems for the sessions was enlightening.