

## Noyce Visiting Professor Report 2001-2002

Members of the Noyce Visiting Professor Committee were Arnold Adelberg, Mathematics (Director); Charles Duke, Physics; Leslie Lyons, Chemistry; Sam Rebelsky, Computer Science.

The Noyce Visiting Professor for academic year 2001-2002 was Dr. Rachele S. Heller, who is Professor of Computer Science at George Washington University in Washington, D.C. and also Interim Associate Dean for Academic Affairs at that institution. She is an authority on educational uses of computing and co-edits "Computers and Education: An International Journal". Professor Heller is the creator of a nationally recognized projects-based course on electronic commerce.

Because of her obligations at GWU, Prof. Heller was unable to spend extended periods at Grinnell. She came twice to Grinnell during the first semester and met with students and faculty to set up her course in the second semester. During the second semester, she taught the e-commerce course at Grinnell and concurrently taught it at GWU. She was physically present at Grinnell at the beginning of the semester (end of January) and generally during the first week of each month of the semester. During the periods when she was not at Grinnell, students worked independently on their projects.

There is clearly considerable student demand for this kind of education, which is very different from what we usually offer. The pre-registration for the course was 58, which we cut down to the mid 30's by eliminating all freshmen and most sophomores. We also tried to keep a balance of techies and non-techies.

Prof. Rebelsky of the Computer Science Department, who is on the Noyce Committee and is also Chair of the Technology Studies concentration, was very involved in the course. I am including his very informative report as an attachment.

The course had a number of unusual features, including use of a student assistant, Ming Gu, and effective use of visiting speakers during periods when Prof. Heller was not on campus. This summer Ming Gu is continuing to work with Prof. Heller at GWU, digitizing the videotapes of the visitor and working on material for the e-commerce course.

Prof. Heller also gave a scholar's convocation on Online Education and met with personnel in Computer Services and with other administrators.

During the Fall Semester, we also invited Drs. Corinne Manogue and Tevian Dray to campus, to determine their suitability as future Noyce Visitors. The visit demonstrated that they will be appropriate Noyce Professors and helped us hammer out details of their visit – what kinds of courses they will offer, levels, prerequisites and credits. This will be the first time that we will have had two Noyce Visiting Professors simultaneously, for a whole semester.

We think that the interdisciplinary aspects of the visit, involving team-teaching and shared research across the disciplines of mathematics and physics, is very much in the spirit of the Noyce program, and should have many beneficial effects for Grinnell.

Drs. Manogue and Dray are currently Hutchcroft Visiting Professors at Mount Holyoke College. They hold joint appointments in Physics and Math at Oregon State University and are contemplating moving from a research environment to a liberal arts college. They will be team-teaching two courses at Grinnell, a math course entitled "Vector Calculus for Mathematicians and other Scientists" and a co-listed physics-math course entitled "Octonions in Mathematics and Physics". The material in this course is related to their own innovative research interests in cosmology.

The pre-registration for both courses was quite substantial, about at their enrollment caps (upper teens for each). They will be run as interactive seminars. Clearly the Noyce courses have established themselves as a special feature of the Grinnell education. This popularity shows up in many ways including unsolicited testimonials, exit interviews, course enrollments, etc.

In sum, we are pleased to have been able to explore a variety of educational methodologies and to have participated in a number of substantial educational experiments. We think this variety is entirely consistent with the Noyce grant.

We developed a Noyce web site last year and recently revised it to conform with Grinnell standards. I would like to thank Vicki Wade and Stephanie Peterson for their work on this site. The current url is <http://www.grinnell.edu/academic/noycevisit>. We believe that an accurate and attractive site will help us get out the message about this remarkable program, as well as help in our search for further candidate Noyce Professors and in the recruitment of talented science students.

Respectfully submitted,

Arnold Adelberg (for Noyce Committee)  
Director  
June 14, 2002

Enclosures: Report on e-commerce course, article on Prof. Heller, announcements of Noyce Visits.