

# Graduate Student Seminars: Encouraging Student Participation and Developing Essential Research Skills Using Cookies, Doughnuts, and Mathematics

Technical seminars are an important part of graduate education in mathematics. However, graduate students are commonly “seen and not heard” in such seminars, as their voices typically are overwhelmed by those of faculty members. Doctoral programs should institute special seminar series aimed specifically at graduate students (and other young scientists).

Two years ago, while a graduate student in the Center for Applied Mathematics (CAM) at Cornell University, I revived a defunct series of talks by graduate students. The idea for reinventing what are now called the Mathematical Sciences Graduate Student Seminars arose during a conversation with some friends the previous spring. Although we were in the same program, most of us knew little about our colleagues’ research beyond buzzwords (and perhaps general background information). We agreed it was worthwhile to learn more about each other’s work through informal talks and discussions that were actually understandable, so I decided to pursue this idea.

The seminars in this series serve two primary purposes: (1) to foster interactions between graduate students in various disciplines both academically and socially, and (2) to allow students the opportunity to present their work and to discuss it with a broad group of their peers. Although polished presentations are neither demanded nor expected, the majority of the talks have been good and several were superb. These seminars offer a chance for students to get to know each other, practice their speaking skills, offer constructive criticism, etc. A typical seminar draws an audience of ten to fifteen students and one to three professors. The talks have covered diverse areas of applied mathematics, including genomics, coupled oscillators, polymers, pattern formation, ventricular fibrillation, hopping robots, hybrid dynamical systems, finite element methods, and quantum chaos. Additionally, some students have discussed research from internships, and others have led discussions on topics such as the experience of women in graduate school.

How does one actually initiate such a seminar series? My first step, during the summer of 2000, was to contact both Terry Fine, the director of graduate studies of Cornell’s applied mathematics program, and Steve Strogatz, the director of Cornell’s Integrative Graduate Education and Research Traineeship (IGERT) grant in nonlinear science, to see what kind of reaction my thoughts would elicit. Terry

Fine supported my efforts, and Steve Strogatz was especially enthusiastic, offering not only encouragement but also money to purchase muffins and doughnuts.

The next step was to announce the seminar series and find enough speakers to be able to hold it either weekly or biweekly. To inform people of my plans, I sent email to Cornell’s CAM and IGERT mailing lists. To acquire speakers, I contacted advanced graduate students both within and outside CAM and IGERT shortly after the fall 2000 semester began. Through this process, as well as by word of mouth, I was able to find enough speakers for the seminar series’ first semester. Obtaining speakers has subsequently become easier, as this seminar series has become an established part of the academic landscape for Cornell’s applied mathematics and nonlinear science programs. During the fall 2001 semester I started passing along the duties of running this seminar series to Suzanne Shontz, a fellow CAM graduate student. We determined together which students should be invited to speak, and she did the majority of the work during the spring 2002 semester. I expect that she will similarly find an apprentice for the future.

I utilized several media to announce individual talks. Every department in which CAM advertises its colloquia also received flyers about each talk, and the talks were included in weekly seminar listings distributed by the mathematics and physics departments. Additionally, I sent two emails every week—one on the day of the seminar and another two days before—to the CAM and IGERT colloquium mailing lists. Moreover, the CAM and IGERT webpages both contain links to the seminar series’ webpage (<http://www.cam.cornell.edu/colloquia/mathsciences.html>).

An interdisciplinary environment assisted the establishment of this seminar series at Cornell. However, similar efforts should be able to flourish elsewhere. Indeed, my purpose here is not primarily to describe a single successful endeavor, but rather to invite others to replicate it. This requires effort on the part of both graduate students and established faculty. Indubitably, any seminar series involving primarily graduate students also requires active participation by graduate students in its organization and implementation. Nevertheless, the encouragement (and perhaps financial assistance) of established scientists is also an integral component in establishing seminar series such as the one I have described.

Ultimately, it would be ideal for every graduate program in the mathematical sciences, whether interdisciplinary or not, to include a medium for students to present their research to each other in a comfortable environment that also incorporates some of the canonical structures of scientific research.

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## Letters to the Editor

### Universities under Curfew

When some of us decided in early April to circulate a statement announcing our refusal to cooperate with official Israeli institutions in the wake of the ongoing Israeli military reoccupation of most of the Palestinian autonomous zones, we anticipated, and indeed hoped, that our initiative would provoke a substantial discussion of our reasons for taking such a difficult step, in the pages of the *Notices* or elsewhere. We did feel entitled to expect, however, that the discussion would be based on the text of our statement rather than on the thoroughly misleading interpretation presented in the letter entitled “A boycott by passport” published in the November 2002 issue. The letter quotes our statement briefly, leading the reader to believe that our intention was “essentially [to] bar all serious contact with Israeli nationals.” This interpretation is so far-fetched that we have to assume that many of the signatories simply did not read our statement.

Certainly few of them can have read the explanatory material at <http://www.pjpo.org/>. Regarding the Mona Baker incident which occupies most of the text of “A boycott by passport”, we do not believe that it is our role to comment on the decisions of individual signatories of our statement, and we decline to do so in this instance. Mona Baker herself did not consult us either before or after taking her action. Nevertheless, our own position is clear. A letter posted at [http://www.pjpo.org/letter\\_opposition.html](http://www.pjpo.org/letter_opposition.html) in response to a petition opposed to our initiative reaffirms this commitment and makes it more precise:

The letter from Etingof states that “Targeting innocent fellow scientists is unacceptable.” We agree. The final sentence of our statement affirms our intention to continue collaborating with, and hosting, Israeli scientists, and it goes without saying that this intention applies to all Israeli colleagues,

regardless of their political perspectives. In particular we are aware of the “harm”, in our opinion limited, our initiative may cause individual Israeli scientists, and are determined to do everything in our power to avoid doing harm, especially to younger colleagues whose resources are limited.

On the other hand, many individual scientists who signed our statement have been subjected to harassment by colleagues. Some of us, both junior and senior scientists, have received threatening messages, including threats to boycott scientific activities with which we are involved and journals on whose editorial boards we serve.

We also draw your attention to the following response, posted at <http://www.pjpo.org/faq.html>, to the question, “Is the boycott compatible with scientific responsibilities?”

We signed the “Call for a boycott of Israeli scientific institutions” as individuals only. This means it remains subordinated to our duties and will in no way affect our conduct in any official capacity such as editor of a scientific journal, organizer of a scientific conference, director of a scientific group or institution, or officer of a university or a scientific society—or in any directly or indirectly related matter.

Given the original text and the above clarifications, it is hard to see how anyone can honestly construe our statement as a call for a “boycott by passport”. We thus cannot consider the letter published in the *Notices* a contribution to a substantial discussion: it does not address our statement. For the same reasons, Peter Shalen’s letter to the *Notices* is irrelevant to our petition.

The “boycott by passport” letter does, however, raise an important point. Of course we too “condemn all

actions that deny academic freedom to individuals solely on the basis of their nationality.” Palestinian universities were subjected to repeated closures from the beginning of the Israeli occupation to the creation of the Palestinian authority. With the current military reoccupation of the Palestinian autonomous zones, closure has again become a fact of daily life for Palestinian colleagues. To quote a recent statement signed by academics and others from around the world and published at <http://www.birzeit.edu/>, “Following Israel’s military re-occupation of West Bank towns (including Ramallah) in mid-June 2002, all Palestinian educational life within the re-occupation zones has been brought to a grinding halt by a blanket curfew imposed on the civilian population.”

Before the Oslo process, the Council of the AMS refused on several occasions to take a position against the closure of Palestinian universities. The—we hope temporary—opprobrium of the readers of the *Notices*, due to a misrepresentation of our objectives, would be a small price to pay if the AMS were to make known its intention henceforward to support academic freedom for Palestinians as well as for colleagues of other nationalities.

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**Editor’s Note:** The above letter was endorsed by twelve mathematicians, whose names are listed on the Web at <http://www.pjpo.org/AMS.html>.

—Harold P. Boas