

# A Multidisciplinary Celebration of Undergraduate Research: The Loyola College in Maryland Undergraduate Student Research and Scholarship Colloquium

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## Description

Loyola College, a small, liberal arts mid-Atlantic college with approximately 3200 undergraduate students (and 3200 graduate students), created the Undergraduate Student Research and Scholarship Colloquium as a celebration of student scholarly endeavors. The annual colloquium is the culmination of significant efforts on the part of undergraduate students and their faculty mentors. The goal is to encourage scholastic endeavors that focus on either the generation of new knowledge or the creative integration of existing scholarship into new formalisms. The selection process requires the submission of proposals in December, which are then reviewed by multidisciplinary panels of faculty judges in one of the five major categories — Arts & Humanities, Business, Performance/Demonstration, Natural, and Social Sciences. Up to fifteen student proposals (three per division) are selected to move forward for oral presentation at the colloquium, which is typically held on a Saturday morning in late March or early April. During the colloquium, students have 15 minutes to present their work, and five minutes for a question/answer session, in one of five concurrent divisional sessions. Presentations are rated by a second panel of faculty judges who determine first (\$300), second (\$150), and third place (\$100) in each division. Students whose projects are selected for presentation are already winners but their ranking for the prize money is determined later. The colloquium is the embodiment of the college's commitment to the whole person and to the intellectual, spiritual, and professional development of its students. Crucial to this mission is the dedication and involvement by faculty and administration.

**History.** The development of the colloquium began in early 1997 when faculty members Lovell Smith and Heather Thomas were discussing the need for a showcase for undergraduate student research. They subsequently requested the formation of a steering committee for such an event, and in January of 1998 the Loyola Academic

Senate approved the formation of the Committee on Student Research and Scholarship (CSRS). Funding was requested from the Office of the Provost to initiate the first campus-wide undergraduate scholarship competition in 1999-2000 academic year.

**Budget.** The original 1999-2000 budget request for the colloquium was \$6945 of which \$5000 was approved. However, after calculating projected costs for the 2000-2001, the budget was increased to \$7000, partly because of the decision to offer three monetary awards in each division, rather than two. This was done to be more inclusive and recognize more student scholars. In addition, we procured monies to pay for a keynote speaker, additional funding for catering (we underestimated the number of attendees the first year), and gift certificates for the information technology personnel who ensured that the equipment was working correctly the day of the colloquium. The budget for the 2001-2002 academic year is \$8200, and we have added funding to each area of our budget. This year's allocations are: office supplies (\$500), advertising (\$1500), student awards (\$4000), entertainment (\$1000), guest speakers (\$1000), and miscellaneous (\$200). The colloquium continues to be funded under the auspices of the Office of the Academic Vice President.

**CSRS Membership.** The colloquium is now in its third year, and the coordinating committee (CSRS) is comprised of six faculty members who represent four academic divisions (Arts & Humanities, Business, Natural, and Social Sciences), and two at-large members. Beginning in 2000-2001, we decided to have co-chairpersons for the committee because of the extensive coordination required to orchestrate the entire process. In spring 2002, we decided that appointment to the committee would occur in staggered terms so that there would always be a sufficient number of returning members from whom the new members could "learn the ropes".



Loyola College Undergraduate Student Research and Scholarship Colloquium finalists with their faculty mentors.

## Administration

Planning the colloquium is a year-long process, beginning in August of an academic year, and culminating in the colloquium itself in late March or early April. Administration can be thought of in eight distinct components:

**Initial Planning and Statement of Objectives.** One of the first tasks was to define scholarship on as broad a level as possible. Because students from all divisions are eligible to submit proposals, the program description needed to be inclusive in its language. The following characteristics of scholarly enterprise were finally agreed upon:

Student-scholarship is an intellectual undertaking that creates something that did not exist before, is substantive to the discipline, and is communicated to others. Expressions of student-scholarship generate one or more of the following: knowledge about ourselves and our universe, new insights, and new technologies and applications of knowledge that can benefit humankind. The aim of student-scholarship can be discovery, artistic creativity, integration, or application.

We then drafted a flowchart to illustrate each of the aforementioned areas (see [www.loyola.edu/studentresearch](http://www.loyola.edu/studentresearch)). The next task was to devise an arena in which students would present their scholarship.

After much discussion, the committee decided to create a scholarly competition, rather than an open forum for presentation of all submissions. This decision was based on the ideal of stimulating interest in the program, recognizing excellence in research, fostering the professional development of the participants, and highlighting (to the

broader student body) the importance the college places on these endeavors. Students would compete in one of five academic areas: arts and humanities, business, natural and social sciences, and performance/demonstration. The latter category was created to recognize the applied arts and sciences, regardless of discipline. A framework for the process was then devised, including the format of student proposal submissions, criteria for judging and selection, presentation of the projects, final judging, and awarding of monies.

**Publicizing the Overall Competition.** Initially, much of the publicity surrounding this event centered upon informing faculty about the new colloquium through pamphlets, emails, and our web site, and encouraging them to advise students whose research they were mentoring to submit a proposal. Loyola has a strong tradition in undergraduate research, and has several programs in place to facilitate student scholarship. For example, the Hauber Memorial Summer Research Fellowship Program funds fifteen to twenty students each summer to interact closely with research mentors in the natural sciences and engineering. Funds for student scholarship are also available through the Center for Humanities and the Catholic Studies Program, as well as through funding received through grants to faculty members. As the colloquium was a new endeavor for Loyola, it was imperative that faculty members demonstrate support and personal involvement, in addition to encouraging student participation. As the years have progressed, students have begun to seek out faculty mentors with the hopes of entering a project for the colloquium. Significant publicity was gained from coverage of events by the college newspaper, advertisements on the college television

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In his demonstration of acoustical special effects, Chris Thompson plays a few riffs on the guitar.

Thompson received First Place in the Performance/Demonstration Division for his project: "DSPFXG: Digital Signal Processing Effect for Guitar."

network, emails to faculty and students, as well as posters placed liberally across campus. All publicity directed students and faculty to the colloquium web site ([www.loyola.edu/studentresearch](http://www.loyola.edu/studentresearch)) which provided information on the application process, the proposal submission criteria, the nature of the colloquium, and the monetary awards for those whose projects were selected. Similar publicity methods were also utilized to promote attendance at the colloquium.

**Student Submission of Proposals.** Students are required to submit a proposal at the end of the fall semester preceding the colloquium. Initially, the application deadline was February 1, and only completed projects were accepted. However, in the second year, the program was expanded to include work that would be completed the spring semester, prior to the colloquium. This was an important modification, because many departments traditionally conduct senior research projects in the spring term, and these students were now eligible to apply for the colloquium. This change also affected the judging criteria for all submissions, as students are judged during the oral presentations on their completed work. We have had one student presenter who did not complete his project; he presented pilot data, and received 3rd place

because he did not meet the stipulation of completing his project.

In all cases, students must enlist a faculty mentor/sponsor before they may submit a proposal. We believe that the student-mentor interaction is a critical component in the development of undergraduate scholars. The undergraduates are still in the process of learning what scholarship entails; observing the actions of their mentors in a one-to-one relationship on the research project is an excellent opportunity for learning. In addition, student submissions are modeled after our Faculty Summer Research Grant proposals with which most faculty members are familiar, so the students' proposals are enhanced by their faculty mentors' experience in this area. For example, the Faculty Summer Research Grant Program stresses the readability of proposals across disciplines, also an important factor in the student colloquium. Since colloquium proposal submissions are evaluated by faculty members from a variety of disciplines within each division, technical jargon is discouraged. Students are encouraged to write for a general audience, as are their mentors when they apply for analogous summer research grants.

Loyola stresses the importance of integrity and academic honor. Thus far, we have never heard of problems with faculty mentors writing students' proposals in order to further their own programs of research.

**Faculty Judging.** After the proposal submission deadline in December, the CSRS meets to prepare the submissions for judging. The committee removes student and faculty identifying information, and assembles packets of related submissions and relevant judging criteria to be sent to the first round judges. These judges are solicited from among the college faculty, and comprise the five major divisions. For example, judges in the Social Sciences Division include one faculty member from each of the following departments: education, political science, psychology, and sociology. In the case of the Performance/Demonstration Division, faculty judges are selected to match the student entries. For example, if students from the chemistry and history departments submit performance/demonstration proposals, then faculty judges from the chemistry and history departments are solicited. Complete packets are sent to each division's judges in early January.

Faculty judges blindly rate each proposal, for their division, on Phase I criteria. Phase I criteria consist of six questions which assess such areas as student's statement of purpose of the project, use of appropriate methodology, incorporation of pertinent knowledge from existing

literature, grammar, syntax, and professionalism of writing. Each question is rated on a four-point Likert-type scale that ranges from "strongly agree" to "strongly disagree." Division judges then meet and choose up to three proposals that will be sent forward. These proposals are presented orally months later at the colloquium and are then rated by a second team of faculty judges on the original Phase I criteria, as well as Phase II criteria which address the quality of oral presentations themselves. Then a final, overall rating is calculated for each presentation.

Ideally, fifteen projects representing the five domain areas will have been sent forward to the colloquium. However, judges are instructed that they need not send forward three projects, if all three are not sufficiently meritorious. This has happened in both the 2000-2001 and 2001-2002 years. One issue the CSRS is currently debating is whether to give students feedback from the Phase I judges, regardless of whether their project moves forward. Another issue is whether we should start paying faculty for participating as judges. We hope to have decisions on these issues for the 2002-2003 academic year.

#### **Notification and Preparation of Student Finalists.**

Round One judges inform the CSRS committee of their selections by February 15th. The committee notifies students and their mentors by March 1st. Students whose projects have been selected for presentation are sent a letter of congratulations, as well as instructions on collaboration with their faculty mentor on the preparation for their presentation. Student finalists' parents are also sent a letter acknowledging their son or daughter's accomplishment, and an invitation to attend their presentation at the colloquium.

**Colloquium.** Colloquium Day is comprised of four parts: The introductions, the presentations, the luncheon, and the awards. Throughout the day, the focus is on the celebratory nature of the colloquium and the fact that all finalists have already achieved a significant honor by being invited to present. To demonstrate the importance of the colloquium and the students' achievements, we believe it is essential for members of the administration to be involved by welcoming the students, faculty, family, and friends, and by presenting the awards at the end of the colloquium.

The presentations are divided into five concurrent sections for each of the divisions. Each student prepares a fifteen-minute presentation, with five additional minutes set aside for questions from the judges and audience, and

five minutes between presentations. The student presentations are timed; students are stopped if they exceed the time limit to assure fairness and professionalism. Round Two judges, who are solicited in a similar manner to Round One judges (i.e. by division), attend their divisional session and rate the students presentations, giving equal weighting to Phase I and Phase II criteria. (Phase II criteria assess the students' organization, oral presentation, professionalism, command of the subject matter, etc.) Most students create audio-visual presentations; these are highly practical due to the large number of high-technology classrooms on campus. Guests are encouraged to move from room to room to experience a wide variety of talks, and the presentations are timed to begin and end concurrently to facilitate attendance at different divisional sessions and foster a spirit of multidisciplinary appreciation. The sessions are run concurrently, allowing us to perform the entire event in a fraction of the time necessary for sequential presentation. This maximizes student, faculty, and administrative attendance.

After the three presentations in each division, lunch is provided for students and guests while the judges meet to deliberate on first, second, and third place awards. The awards ceremony includes a keynote address from an invited speaker. This speech is geared toward the importance of student scholarship in the broadest sense, and helps the audience focus on undergraduate research and scholarship as a whole. Awards are announced and presented by appropriate members of the administration (e.g. arts and humanities awards by the Dean of Arts and Science). The fifteen students who presented (three per division) each receive their certificates and letters indicating when they may collect their first place (\$300), second place(\$150), or third place(\$100) monies. Of course, if fewer than the maximum fifteen proposals were sent on by the Round One judges for presentation, then fewer prizes are awarded.

#### **Evolutionary Process: Successes and Changes**

1. The colloquium is now in its third year, and it appears to become more successful each year. The first year of the colloquium there were eight submissions, and eight projects were accepted and presented in three concurrent sessions. The second year there were 17 applications; thirteen went forward to the colloquium and were presented in five concurrent sessions. This year there were 17 submissions, and twelve were chosen to move forward for presentation. Interestingly,

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Kathleen Barker, winner in the Arts & Humanities Division, presents her paper, "Dekker and Middleton's *The Roaring Girl*: Editing a Renaissance Play."

this year there were eight Natural Science entries, and no Performance/Demonstration submissions. As the colloquium process is still a work in progress, it was decided by the CSRS to have two natural science sessions; one for biology (three presentations) and one for chemistry (two presentations). We chose to expand the Natural Science Division in an effort to encourage student participation. The issue of expanding the colloquium and number of presentation sessions continues to be a topic for discussion. We are hopeful that, through continued publicity, next year we will have more submissions across all divisions.

2. In 2000-2001, we included awards for "Promising First Year Scholars," initiated by the Dean of Freshman. First-year students were encouraged to submit works that demonstrated their scholastic potential. A separate panel of faculty judges selected the top three papers whose authors received certificates during the award ceremony, but no monetary prizes. We look forward to these students eventually submitting proposals for the main oral competition. Thus we are attempting to foster student scholarship from the beginning by celebrating their early successes.
3. Each year we use the faculty judges' feedback to revise the judging process and provide amended criteria that are fair and inclusive of all disciplines. The first year we suggested areas for assessment, but provided no

concrete criteria or uniform rating scale. We introduced uniform scoring criteria for Phase I and Phase II during the second year, and refined the standards further during the third year. Creating a set of overall criteria has been a major challenge, especially for the difficult-to-judge Performance/Demonstration Division, but we continue to revise and solicit feedback in an effort to solidify these criteria.

4. One of the major successes of the colloquium has been the diversity of proposals. Over the years, students have presented a wide range of topics such as the development of a signal processing system for guitar amplifiers, a photo essay of a student's experiences in El Salvador, understanding retrovirus replication in HIV using NMR spectroscopy, and treatment efficacy for survivors of abuse, to name a few. The Performance/Demonstration Division, in particular, has exposed students and faculty to the possibilities of creative expression in a variety of disciplines.
5. Another major success has been increasing colloquium attendance. Approximately eighty students, faculty, and parents attended the first colloquium in 1999-2000. The following year, attendance rose to approximately 120, and included the College President, Academic Vice President, and many of the campus' academic deans. Attendance by such important college administrators increased the visibility and prestige of this event. The 2000-2001 colloquium was covered not only by *The Greyhound*, the student newspaper, but also *Loyola Magazine*, a publication for the Loyola community and alumnae. We look forward to even greater attendance and media coverage for the 2001-2002 colloquium.

Finally, the student-faculty mentoring relationships have proven to be very positive experiences. As one student commented:

*"I worked as my mentor's research assistant on a project. As I realized my interest in a project of my own, my professor quickly and generously guided me in the right direction. I would not have undertaken a project of this scope without his help. He spent considerable time 'teaching me the ropes'. . . I deeply appreciate my mentor's guidance and attention, and I aspire to (someday) reach the high level of scholarship that my mentor achieves regularly."*

*Drs. Lowry and Olsen were co-chairs for the 2000-2001 CSRS Colloquium.*