



Center for Computational Science Fellows Program

Join in, Make a Difference, Stand out

The mission of the CCS Fellows Program is to inspire a new generation of leaders in computational science. This is a prestigious designation awarded to selected students. It is offered to two undergraduate students and two graduate students per year.

Students from any of UM's Schools and Colleges may apply through an application form that requires them to list their computational skill sets and describe the areas of research that fascinate them. Applicants are encouraged to think about research in a cross-disciplinary way, and to challenge the traditional boundaries of scientific discovery. They may propose a project that they would like to work on, but this is not a requirement.

All Fellows have the opportunity to use CCS's High Performance Computing facilities for their research, and to work closely with CCS faculty and staff. No stipend is offered, but there is a cash prize at the end. The application and selection process takes place in the Fall semester. Once selected, Fellows are assigned **two** faculty mentors: one from the student's own Department or Program, who would usually be the student's existing academic advisor or research mentor, and the other from a different School or College at UM, who would usually be the student's CCS mentor. Fellows are expected to conduct a research project for the duration of the Program, enroll in appropriate courses, coordinate with their mentors, and approach CCS faculty and staff for access to software or HPC facilities as needed. At the end of the Program, students are required to present their work at the CCS Fellows Symposium, when Certificates of Completion and Prizes will be awarded.

CCS Undergraduate Fellows start defining their projects with their two mentors as soon as they are selected, and conduct the work during the academic year. They can enroll for research and writing credits within their departments, thus earning credits and possibly becoming eligible for summa cum laude honors. CCS Undergraduate Fellows conclude the Program at the end of that academic year's Spring term.

CCS Graduate Fellows are expected to work on a defined project that is within the scope of their graduate research thesis project. Their own research advisor or principle investigator is required to be one of the mentors, and they will be provided with a CCS mentor according to their cross-disciplinary interests and/or research needs. CCS Graduate Fellows also conclude the Program at the end of the Spring semester, but they will be given the opportunity to continue their work over the summer if needed.

The CCS mentors will guide the Fellows through the design, management, analysis, interpretation and communication of their research. The CCS mentors will consult with the academic mentors to direct the Fellows towards any training opportunities that might help them, and involve them in lab meetings and other activities of their research groups. The academic mentor is responsible for guiding the student towards research or writing credit courses that might be applicable. Applicants are encouraged to suggest a CCS mentor, either from our website or by previously having met a CCS faculty member, but the final decision of CCS mentor assignment will rest with the Steering Committee.

Steering Committee: Gary Beecham (Sch of Medicine), Alberto Cairo (Sch of Communication), Mohamed Iskandarani (RSMAS), Sawsan Khuri (CCS), Vance Lemmon (Sch of Medicine), Kamal Premaratne (Col of Engineering), Mitsu Ogihara (Col of Arts&Sciences), Juhong Park (Sch of Architecture)

Application Process

Applicants are required to complete the Application Form, and submit it to the CCS Education email address (ccseducation@med.miami.edu) along with a transcript, a CV, and, in the case of graduate students, a support letter from their academic mentor.

Publicity will start the Monday of the third week of the Fall semester. Deadline for applications will follow 4 weeks after that. There will be two reminders before the deadline.

The announcement will be emailed to offices of Undergraduate Research, Graduate Office (UM, Med Sch, RSMAS, CoE, CAS), and to student groups at CoE, CAS, Med School, and RSMAS. Media Relations will help publicize it internally (E-Veritas etc) and through student media.

The CCS Fellows 2016-2017 will be announced on September 12th. The deadline will be October 10th.

Student Selection Process

The selection criteria are:

- a. Student must have computational skills sufficient to get started on the proposed project.
- b. The proposed project integrates ideas from more than two disciplines.
- c. Graduate students should have a well-formulated, achievable research question that is in line with their academic mentor's letter of support.
- d. Graduate students need a support letter from their academic advisor or PI.
- e. Application must be complete, and must be well written, well organized and well thought-through
- f. Previous research experience is not a requisite, but an advantage
- g. Student must be in good standing with the university

Managing the program

CCS will host a launch event mid-semester to introduce the Fellows to CCS and CCS to the Fellows, and to make sure everyone is on the same page with regards to expectations of meetings and flow of the project. Fellows will be expected to present a 3-minute outline of their prospective project at this event. We will then reach out every 6-8 weeks to make sure everything is on track.

Fellows will be invited to attend any HPC or data analysis workshops we host, and any other relevant training sessions and/or seminars as they come up.

CCS Fellows Symposium

The students will be expected to present their work at the CCS Fellows Symposium in April.