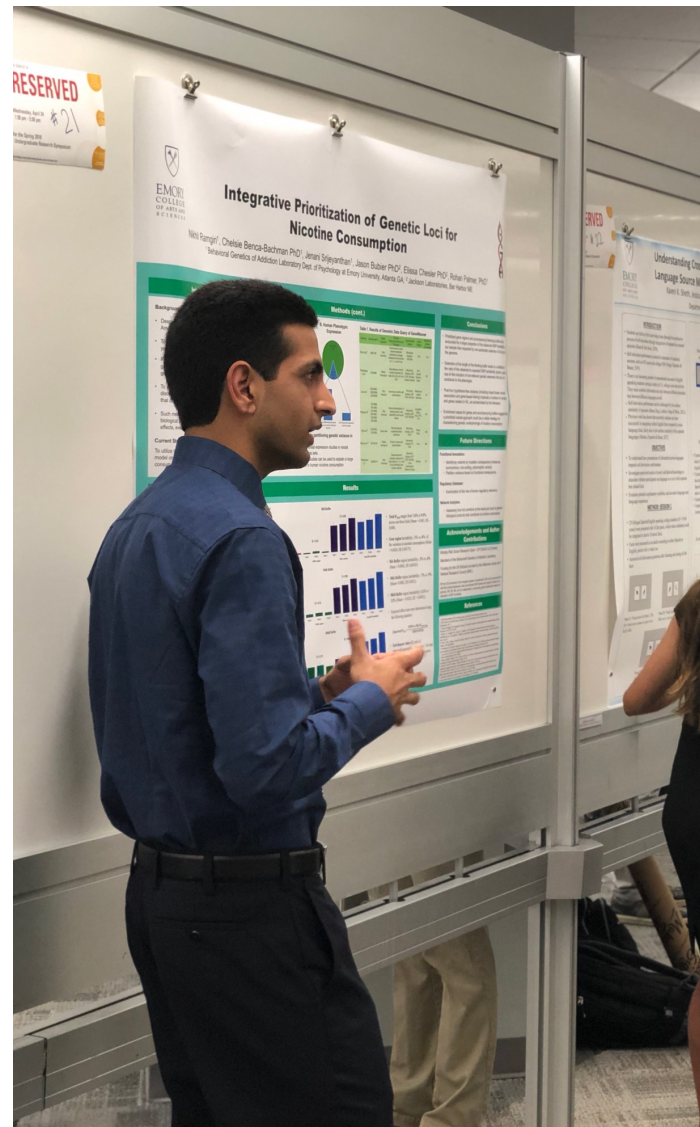# Ad Hoc Committee on Undergraduate Research

Final Report

2019

JUNE 17, 2019

Emory College of Arts & Sciences

Committee Report

EMORY
COLLEGE
OF ARTS AND
SCIENCES

Purpose & Charge

Emory College's strategic plan, "*Leading the Liberal Arts and Sciences: Strategic Priorities or Emory College of Arts & Sciences*" identified the goal to enhance and expand the undergraduate research experiences for our students.[1] To support this strategic area, Dean Michael Elliott formed an ad hoc committee of faculty and staff to review our current undergraduate research activities and to make recommendations on how to best support growth in this priority area. Specifically, Dean Elliot charged the committee to:

1. Explore and define the various ways Emory College students participate in undergraduate research across the disciplines.
2. Consider the ways we as an institution capture and track participation in undergraduate research.
3. Articulate the role and work of a centralized undergraduate research office within the college.
4. Propose ways to leverage centralized resources to support and bolster activities happening at the programmatic and/or departmental level.
5. Identified centralized support mechanisms that will encourage departments increase research experiences and opportunities for their majors.
6. Recommend resources that would help interested students and faculty mentors to make connections.
7. Recommend programs, projects, and initiatives the College support to directly offer student research opportunities.

The committee met multiple times over the 2018-2019 academic year. Committee membership included:

Cathryn Johnson, Sociology   Thomas Gillespie, Environmental Sciences
Adam Glynn, Political Science   Roger Deal, Biology
Ken Ono, Math   Kristin Wendland, Music
Keith Anthony, Fox Center   Ichiro Matsumura, Biochemistry
Susan Gagliardi, Art History   Cora MacBeth, OUE

> *"Engaging in research — and the learning that takes place at the frontier of what is known and understood — requires the kind of intellectual focus that underlies a liberal education, and it is a uniquely powerful way to support deeper learning."*
> *-Emory College Strategic Plan-*

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[1] *Leading the Liberal Arts & Sciences: Strategic Priorities for Emory College of Arts and Sciences,* December 2017. Accessed February 12, 2019. http://college.emory.edu/main/docs/strategic-planning/strategic-plan-2017.pdf

Committee Work

The ad hoc committee evaluated undergraduate research programs at a number of peer institutions to benchmark against our institution's offerings. The committee also discussed the diversity of research experiences available to students at Emory within the college and beyond, including opportunities in Emory's professional and graduate schools (e.g., School of Medicine, Law School, and Rollins School of Public Health) and opportunities in the greater Emory Area (e.g. Children's Healthcare of Atlanta, Centers for Disease Control, and the Carter Center). While the diversity of experiences available to students is truly an asset to our undergraduate population, tracking student participation in formal and informal research programs remains a significant challenge. The committee also discussed the evolution of Undergraduate Research Programs at Emory and we gratefully acknowledged Dr. Patricia Marsteller for her career-long commitment to advancing these efforts.   The committee noted the impact of internal and external funding from a variety of sources, including the Howard Hughes Medical Institute (HHMI) and the Emtriva™ funds on the evolution of our programs. The breadth of undergraduate research programs at Emory is significant and there are many ways for students to engage in research.   The programs offered by Emory's Undergraduate Research Programs are similar in scope to what is offered by our peers.

The committee also surveyed ECAS departments and programs to better understand how undergraduate research programs are supported at the department level. The committee also spoke with chairs and directors of undergraduate study about how they define research in their disciplines and asked for examples of undergraduate research in their areas (Appendix A). The committee also reviewed research course enrollment data provided by Institutional Research (Appendix B) to better understand how departments are tracking research experiences within the disciplines and awarding academic credit for research experiences. While formal undergraduate research courses exist in most departments, the course naming conventions and course numbering schemes vary from department to department. These inconsistencies can lead to an incomplete and flawed picture of actual student participation.

The committee also reviewed and discussed a number of national reports and publications relevant to Undergraduate Research Programs. The reports that were of specific relevance to this committee's work included:

1. Hensel, N. (Ed.). (2012). *Characteristics of excellence in undergraduate research (COEUR)*. Washington, D.C.: Council on Undergraduate Research. https://www.cur.org/assets/1/23/COEUR_final.pdf
2. Levenson, Cathy W. 2010. "Enhancing Undergraduate Research in the Arts and the Humanities." Peer Review 12(2). Accessed October 27, 2018. https://www.aacu.org/publications-research/periodicals/enhancing-undergraduate-research-arts-and-humanities
3. National Academies of Sciences, Engineering, and Medicine. 2017. *Undergraduate Research Experiences for STEM Students: Successes, Challenges, and Opportunities*. Washington, DC:

Committee Recommendations

The Ad Hoc Committee on Undergraduate Research strongly supports and endorses Emory College of Arts and Sciences' goal to increase the number of undergraduate research experiences available to students. The committee recommends increased institutional support for undergraduate research programs and a number of revisions to existing structures. The following recommendations and proposal directly build off of the College's strategic planning document. The committee has also recommended a timeline and a budget to support increasing participation.

1. ***Improve Tracking of Student Participation in Undergraduate Research***

a) The College should develop a standardized set of research courses and numbers. Specifically, departments need to distinguish between directed readings, directed research, and independent research. Within broad disciplinary areas (i.e., humanities, social sciences, and STEM), faculty should develop unified ways of using coursework to designate coursework that includes authentic research experiences. Each course should include a syllabus that explicitly articulates the research designation and expected outcomes.
Resources: Faculty and staff time to develop the standardized courses/course numbering schemes.

b) Emory College students participate in research in a variety of ways. While students working with faculty in established college departments can often get credit for undergraduate research, students who conduct research outside of college departments often struggle to receive academic credit or formal recognition for their work. Undergraduate student research volunteers are quite common in the medical school. Students should have a way of receiving appropriate academic credit for these endeavors even if the research area doesn't align with a specific college discipline. The Office of Undergraduate Research has Scholarly Inquiry & Research Experience (SIRE) Courses available for students participating in the Research Partners Program. These satisfactory/unsatisfactory courses could be expanded to recognize undergraduate research endeavors beyond the college with appropriate oversite.
Resources: Staff time to develop a SIRE type research for credit tracking system and to organize a small oversite committee each semester.

c) Encourage departments and programs to collect and report on undergraduate research and creative works as an essential part of program planning and the preparation of self-study documents. Undergraduate research outcomes should be included as part of the annual faculty activity reports. Requiring standardized reporting should reinforce the importance of these activities.

Resources: Departmental staff time to track and collate undergraduate research information.

d) Develop a systematic way of collecting information about undergraduate student publications, presentations, and performances. It is important to collect this information at the University Level, as a large number of students conduct research with faculty outside of the college. Undergraduate student presentations, publications and performances should be collated into an annual report and shared with the Emory community.
Resources: Undergraduate research programs staff time to develop a system to track student accomplishments in Undergraduate Research.

e) Improve quality of questions about undergraduate research on the ECAS Senior Exit Survey. Include questions about participation in formalized research programs, research projects conducted in classes, and research experience outside of Emory. The current senior survey asks about assistance in finding research opportunities and if students have worked on an academic research project with a faculty member. Improving the questions and defining different types of research experiences will improve the data quality.
Resources: Staff time to develop and update survey questions.

2. ***Increase Faculty Development and Recognition in Areas Related to Undergraduate Research***

a) Leadership should establish a faculty award to recognize excellence in undergraduate research. This award should be distinctly different from advising and mentorship awards. It should recognize significant accomplishments with undergraduate researchers. Awardees could potentially be recognized at Commencement or the Honor's Ceremony. Eventually, the College could consider establishing rotating faculty chairs in undergraduate research.
Resources: Short term- Funds to purchase plaque and support a small research award for faculty (3K/year). Long term- Endowment to support chaired positions in undergraduate research (25K/ year).

b) A centralized fund to help support experimental and short-term projects aimed at increasing participation in undergraduate research should be created. This fund should not be used permanently to support faculty pet-projects or individual faculty members' research programs, but rather to support the development of new research-intensive courses and pilot projects at the departmental level that would benefit a large number of students. Funds could be used to support the development new courses that embed authentic research experiences into the course or lab.   In some lab courses, one-time equipment purchases might be needed. Part of the application process should require departments to talk about sustainability after the pilot program. How, if the pilot is successful, will the research program be sustained at the department level?

Resources: (20K/year) to support different projects and time to develop of an application and review process.

c) Undergraduate Research support at the Department level should enhanced by recognizing faculty contributions to the organization and oversite of undergraduate research activities. The committee recommends that departments and programs designate a Director of Undergraduate Research (DUR). In smaller departments, the Director of Undergraduate Studies (DUS) could also assume the Director of Undergraduate Research (DUR) role. In larger departments, these positions would likely be separate roles. This would allow leadership to form a listserv for these faculty leaders to better communicate opportunities and programs with specific faculty contacts. This service role within departments should be viewed as a significant service responsibility.
Resources: Faculty time for the DUR role.

d) Emory College should support and promote the development of programs that help engage students in undergraduate research earlier in their careers. Faculty and departments should be encouraged to establish programs, courses, and seminars that help students understand what research looks like and how projects are research developed. The college should establish a faculty workshop on developing courses that integrate authentic research experiences. The workshop could use the recent QEP model to engage faculty. The summer workshop would help faculty explore models of research integrated courses in a variety of disciplines and help faculty develop their own research integrated courses. After the summer workshop, faculty participants would meet several times over the course of the semester to report progress on the development of their courses. The expectation would be that faculty participants would offer these courses the following academic year (with appropriate approvals). Courses with embedded research components could be especially impactful in the humanities as undergraduate students often aren't exposed to humanities research in entry level courses. Graduate students can also be used to support faculty members in the development of authentic course-based research experiences. The University of North Carolina has been offering workshops and programs that have helped faculty embed undergraduate research opportunities across the curriculum since 2003.[2] William and Mary developed a number of Undergraduate Research Integrated courses with the help of a Mellon

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[2] Pukkila, Patricia J., Martha S. Arnold, Aijun Anna Li, Donna M. Bickford. 2013. "*The Graduate Research Consultant Program: Embedding Undergraduate Research Across the Curriculum*." CUR Quarterly 33(4): 28-33.
https://www.cur.org/assets/1/23/v33.4_Pukkila-Arnold-Li-Bickford.pdf

grant (2007-2009).[3] One of the strategies William and Mary used was to invite faculty that have successfully integrated research into their courses meet with and mentor faculty interested in doing so. The proposed ECAS summer workshop would serve a similar function. *Resources: 25K/year to support 1) a summer two-day faculty development workshop that explores best practices for developing research inclusive courses; 2) small stipends to encourage faculty participation and course development; and 3) graduate student support.*

e) Emory College's Office of Research Funding Support should continue to increase its efforts to help faculty understand how to include undergraduate researchers on different types of external research grants. The office should collect examples of successful grant proposals that have included undergraduate researchers and create a database. ECAS should provide funds to match externally funded undergraduate positions to increase the total number of undergraduate students supported.   The matching funds will also encourage faculty to include undergraduate research positions in proposals. The Office of Research Funding Support should also continue to help faculty develop innovative grant proposals for NSF, NIH, NEA, and private foundations that support undergraduate research (e.g., REU proposals).   The committee noted that many training grants and proposals centered around undergraduate education require detailed assessment plans. The Office of Research Funding should have expertise available to support the development of assessment plans, logical models, and long-term program assessment.   It is recommended that the college identify and hire staff in this area. Investments in this area should lead to increased number of externally supported undergraduate research positions.
Resources: Matching funds to support additional undergraduate researchers (30K/year). Assessment position in ECAS Office of Research Funding (90K/year).

f) Academic leadership should formalize mechanisms to recognize ECAS faculty contributions to undergraduate research. Undergraduate research endeavors should be part of the annual faculty evaluation and review process. Expectations around undergraduate research should be established at the department level. Faculty effort spent mentoring undergraduate researchers should be recognized as part of faculty workloads. The college should develop methods of evaluating and recognizing contributions in undergraduate research consistently. Mentoring undergraduate researchers takes a lot of time and effort. This type of work must be recognized or rewarded in an equitable way if faculty are going to fully participate.

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[3] William and Marty Mellon Report, 2008. Accessed April 10, 2019.
https://www.wm.edu/as/charlescenter/_documents/mellon/QEPMellonFYR.pdf

Resources: Include undergraduate research outcomes (e.g., publications, performances, presentations, and grants) as part of the new faculty reporting system when developed.

3. ***Increase Financial Support for Undergraduate Research***

a) The IRES (International Research Experience for Students) program to support international research projects should be restarted. This program gave students unique opportunities to pursue research experiences abroad for 8-10 weeks each summer. The program included a seminar component that helped prepare students for their research abroad experiences by providing country/location specific information.   This reestablishment of this program would offer a unique international research opportunity to a small number of students each year. *Resources: Collaborative works between OUE, OISP, and Halle Institute would be needed to reestablish the program and funding to support student stipends and travel ($50K/ year). This program is one that could continue to grow overtime with time and additional financial/donor support.*

b) The amount of funding available for the Summer Undergraduate Research Experience Program (SURE) should be increased so that more students can participate in this program. For the past two years, SURE has received approximately 110 applications from enrolled and eligible Emory College students. The applications are reviewed by faculty committees and typically over 75% of the applications are ranked fundable. However, funding limitations mean only 30-40% of applicants can be funded. Students must identify mentors and write proposals as part of the SURE application process. Students are finding willing and available faculty mentors. The committee recommends that the college aims to eventually fund all qualified applicants by significantly increasing its investment in the SURE program. In addition, the program needs to increase the stipend amounts for students. Right now, we award $3000/student and provide housing. This stipend is significantly less than many other private and federally funded programs (e.g., NSF and NIH). Funding levels for REUs at our peer institutions offer stipends of $5000/student and include housing. Some Emory students are not able to participate in SURE because they need to earn significant income over the summer and opt to earn more my accepting alternative positions. The committee recommends that the summer SURE stipend amount be increased to at least $4000. *Resources: Funding for SURE program should be increased to $300K (from $125K). As participation in undergraduate research continues to increase, the committee expects the number of applicants to SURE will also increase. Leadership should plan for these increases in the SURE budget accordingly.   As the SURE program continues to grow, Undergraduate Research Programs will also need additional Graduate Fellows Support to help oversee the additional Responsible Conduct of Research and Professional Development Sessions ($12K).*

c) Increased funding should be made available to support student conference travel. Emory students are routinely accepted to present their work at national and international research conferences and workshops.   These conferences and meetings are opportunities for our students to bring their work to audiences beyond our campus. Participation in meetings and scholarly conferences is often viewed as a significant achievement when our students apply for scholarships and for admission to graduate and professional programs. Professional conferences and meetings are a unique professional development experience for undergraduates. Currently, the Undergraduate Research Programs office only dedicates between $10 - 12K each year to support conference travel. Undergraduate Research Programs receives significantly more requests for conference funding than they able to support. The college should triple current investments in this area and plan to annual increases to the conference travel budget as the number of undergraduates participating in undergraduate research increases. While the increased conference travel support won't necessarily increase the number of students participating in undergraduate research, conference travel enhances the student experience and provides professionalization opportunities.[4]

Resources: Funding for Conference Travel should be increased to $36K (from $12K) and continually increased to ($60K) over the next five years to support continued growth in undergraduate research.

d) Funding for the Independent Research Grant program should be increased. Each year, undergraduate research programs receives numerous outstanding grant applications from students seeking support for original research projects and creative works. The grant applications are divided into three separate areas (i.e., humanities, social sciences, and biological and physical sciences) and reviewed by faculty subcommittees. Many of the proposal are deemed worthy of funding but limited funds (~$30K) mean we can only support between 6-9 in each scholarship area each year. The college should triple its support for independent research grants to better support undergraduates pursuing independent projects. This increased support would especially impactful in humanities fields where students often need funds to travel to archives and in disciplines that require field work. As the number of students participating in undergraduate research continues to increase, the funding allocated to support independent grants should continue to increase to match

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[4] Mabrouk, P. A. "*Survey Study Investigating the Significance of Conference Participation to Undergraduate Research Students." Journal of Chemical Education* **2009** *86 (11), 1335. DOI: 10.1021/ed086p1335*

anticipated growth. Funding levels for independent research projects with an international component should also be increase. The current Grant Program allows students to request $1000 in research funding for domestic research projects and $2000 for international projects. The $2000 funding limit for international projects is low and students often need to find additional funding sources for their projects or contribute personal funds. Funding for international projects should be increased to $3500.

Resources: Funding for Independent Research Grants should be increased to $90K (from $30K)

e) The number of students participating in the Research Partners Program (RPP or SIRE) should double over the next 3-5 years. The Research Partners Program is a formalized program that helps students find research mentors and establish projects. Each year the Research Partners Program helps place between 60-90 students with faculty mentors. The SIRE 299R seminar structure allows students to meet weekly with a graduate student SIRE leader and develop different research and professional development skills. The SIRE program culminates with the Spring Research Symposium where all SIRE students are expected to give research posters or oral presentations. The research partners program could easily handle more students if additional support was provided the program. In some cases, the centralized SIRE program could partner with larger departments that might wish to host their own departmental Research Partners Program. There are several costs associated with the SIRE program. First, graduate fellows are supported to help organize the SIRE Seminar courses and they help plan research activities for the SIRE students. SIRE also is able to offer work study funds so that undergraduate students can use work study funding to support time spent conducting undergraduate research. If students are not qualified for work study, the SIRE program works with students to arrange academic credit for the students. The work study component helps ensure we have an economically diverse group of undergraduates participating in the researcher partners program.

Resources: Funding for Research Partners Program should be increased to $200K (from $100K).

f) The Undergraduate Research Program team and library should collaborate to provide additional support for the publication of student work. Faculty have noted that open access publishing is becoming more common and publishing with undergraduate students in these journals can be expensive. The library has a fund to support open access publications but it is limited. The college should establish separate funds that specifically help offset publishing costs when the publication involves undergraduate researchers. In addition, Emory has an in-house Undergraduate Research Journal (EURJ). The EURJ publication has existed since 2006 and is run by an Emory College Student Editorial Board. The board changes each year. While the student editorial boards have done a wonderful job collecting articles and publishing between one and three issues each year, the organization lacks an administrative home and

basic support that could help smooth the transitions between new editorial boards each year. The past issues of EURJ are also very difficult to find and are not systematically archived. The library should house and index all past issues of EURJ in their digital archives. These archives should be the permanent home for EURJ and it should be accessible outside the University. The EURJ team receives support from College Council but the funding levels have been decreased in recent years. The college should support EURJ by committing funding to support the publication and editing costs. A vibrant and visible Undergraduate Research Journal would help demonstrate the importance of undergraduate research as an integral part of our academic community. The committee noted that many of peer institutions have significantly more professional and visible undergraduate research journals.[5]

Resources: The college should establish a publication fund for undergraduate researchers of 20K year. The library is already working with the EURJ team to archive past issues and to establish a permanent home for future issues. An additional $3K should be budgeted annually to support publication and editorial costs.

4. ***Increase Faculty Engagement in the Oversite of Undergraduate Research Programs and Expand the Definition of Undergraduate Research***

a) Staffing and Structure: Undergraduate Research Programs within Emory College offers a variety of opportunities to Emory College students and serves faculty, departments, and programs from a variety of Schools including Oxford, Laney, and the School of Medicine. Each summer Undergraduate Research programs partners with these units to bring non-Emory students to campus for the SURE program. For example, during the 2019 SURE program over seven different organizations provided funding for 40 SURE slots for non-Emory students. The funds for the non-Emory students often come from federal or foundation grants. The Office of Undergraduate Education's Undergraduate Research Programs staff oversee all administrative work associated with bringing those students to campus including hiring processes, housing, safety training, and associated ethics and professional development programming. The staff also oversee the administration of the research partners program (RPP or SIRE), the SIRE
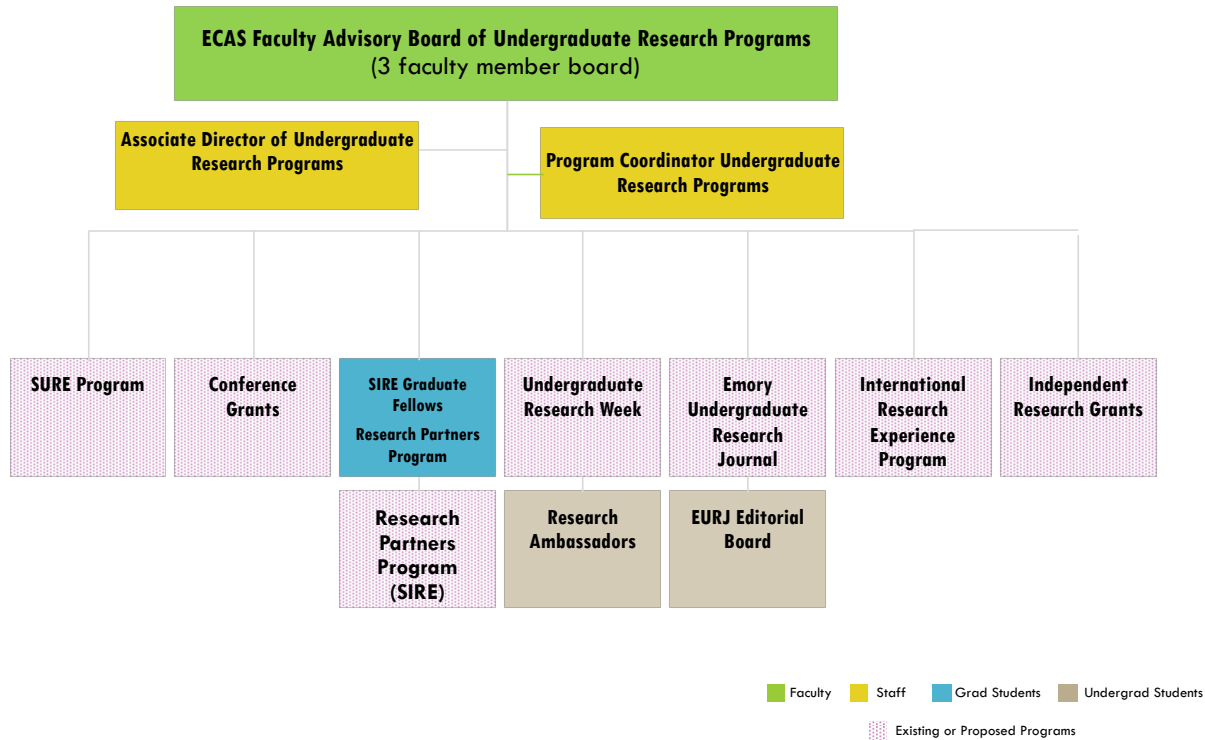
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[5] Vanderbilt: http://vurj.vanderbilt.edu/index.php/vurj/issue/archive; Hopkins: https://issuu.com/hurj;
Columbia: https://curj.columbia.edu; UNC: https://uncjourney.unc.edu ; Princeton: https://purj.org ;
Rice: http://ricecatalyst.org; Penn: https://repository.upenn.edu/curej/ ; Stanford: https://surj.stanford.edu
Dartmouth: https://sites.dartmouth.edu/dujs/

Graduate Fellows Program, the Spring Undergraduate Research Symposium, Independent Research Grants, Conference Grants, and other related events. The current office structure (2 full-time staff and a dedicated graduate assistant) is handling the work associated with these programs at their current size, dedicated staffing would likely need to increase if the signature programs double in size over the next five years.   There is also a need for more intentional and consistent faculty engagement with the operation of Undergraduate Research Programs. Increased faculty engagement would help shape and define undergraduate research programs as they grow. With respect to faculty engagement, the committee considered four different structures for the Undergraduate Research Programs office. All four structures considered are shown in Appendix C. The committee considered a faculty director (0.5 FTE) model with staff support. While this model would ensure faculty engagement, it would be a model that provides deep engagement with one faculty member with expertise in one scholarship area. The second model the committee considered is one with a full-time faculty director (1.0 FTE) and one additional support staff. This model also lacks a breadth of faculty engagement. The committee also noted that the administrative workload associated with the variety of programs currently offered is significant and more staff support would be needed. The third model the committee discussed was a faculty co-director model. In this model, two faculty members would oversee different aspects of existing programs. In this model, the faculty co-directors would be compensated with a month of summer salary. The faculty co-directors would share responsibility for organizing faculty review committees, hosting events, and helping to oversee the SURE summer program and SIRE fellows. The committee felt this model would help ensure faculty engagement but that the breadth and scope workload could be too large for two faculty. The committee recommends that three faculty members (one from each division) help oversee the Undergraduate Research Program office with an advisory board model. A team of dedicated faculty would provide consistent faculty input and help increase awareness of URP programs and resources. The Faculty advisory board would meet with Directors of Undergraduate Research in their respective areas and make improvements on existing programs and process. The faculty advisory board would help oversee selection committees for the independent grants program, the SURE program, and conference grants program. The Dean should help identify the advisory board for Undergraduate Research Programs.

Recommended UPR Structure with Faculty Advisory Board

ECAS Faculty Advisory Board of Undergraduate Research Programs
(3 faculty member board)

Associate Director of Undergraduate Research Programs

Program Coordinator Undergraduate Research Programs

SURE Program	Conference Grants	SIRE Graduate Fellows Research Partners Program	Undergraduate Research Week	Emory Undergraduate Research Journal	International Research Experience Program	Independent Research Grants
		Research Partners Program (SIRE)	Research Ambassadors	EURJ Editorial Board		

Faculty   Staff   Grad Students   Undergrad Students

Existing or Proposed Programs

Resources: Faculty engagement and funds to support summer salary or research funds to recognize additional workload (15K). Additional staff lines will be required as the program office continues to support more students, faculty, and programs.

b) Undergraduate Research Programs should improve its branding and marketing to be more inclusive of different types of scholarship. Some students in the creative disciplines are not aware that they can apply for funds to help support their work. The term undergraduate research gives the impression that the office supports STEM and social science research only. The office name doesn't necessarily have to change but some general mission statement and vision statement should be developed that makes it clear the office is intended to support undergraduate research, scholarship, and creative works. The new website should also include a database of undergraduate research opportunities and an easy way for faculty and programs to submit undergraduate research opportunities. The database should identify on campus and off campus opportunities and be inclusive of all fields and disciplines.
Resources: Staff time to overhaul the website and develop database of opportunities and an opportunity submission process. Staff time will be required to oversee the opportunity submission process and to update the research opportunities database. Website updates are currently underway. A model for an undergraduate research opportunities searchable database has been identified and can be implemented on the new website.

Recommended Timeline

Short Term Goals
Summer 2019 – December 2019

1. Overhaul URP website and create a searchable Undergraduate Research Opportunities Database and an opportunity submission process
2. Develop and inclusive mission and vision statement for the undergraduate research programs
3. Establish a faculty advisory committee (or some method for regular faculty engagement) and staffing structure and growth plan for URP.
4. Continue to work with library to establish permanent home for EURJ and make sure past issues are digitally archived and accessible.
5. Establish a working group to look at research courses and directed readings and to make recommendations to Curriculum Committee to standardize how departments are using and tagging research courses. Develop sample course descriptions for different areas of inquiry as appropriate.
6. Expand use of SIRE 299R (or develop a similar ECAS level course) to recognize undergraduate research endeavors beyond the college during the fall and spring terms.
7. Establish a one-credit summer research course to give students credit for conducting research over the summer and track participation. This course would complement the summer internship course and have an application process and a linked CANVAS course.
8. Hire replacement staff for two vacant URP positions (Associate Director & Assistant Director/ Program Coordinator).
9. Review Senior Exit Survey and work with IR personal to craft questions that will fully capture a breadth of research experiences.
10. Increase funding available to support conference travel.

Midterm Goals
January 2020 – December 2023

1. Develop annual reporting mechanisms for departments that captures undergraduate research presentations, publications, and performances.
2. Include undergraduate research activities as part of the OFARS/ ECAS annual faculty reporting process and formalize mechanisms for recognizing ECAS faculty contributions to undergraduate research.
3. Establish a faculty award that recognizes excellence in Undergraduate Research.
4. Establish a centralized fund to help support experimental and short-term projects aimed at increasing participation in undergraduate research.

5. Identify departments that want "in-house" research partners programs and pilot these programs at the department level.
6. Work with departments and programs to establish a cohort of directors of undergraduate research or (DURs).
7. Establish a summer faculty workshop to investigate best practices for developing courses that integrate authentic research experiences.
8. Increase support for the Office of Research Funding so the office can better support faculty writing grants with significant undergraduate research components and hire an assessment expert to assist faculty with grant assessment plans.
9. Work with library to establish permanent home for EURJ and a permanent archive of past issues. Work with EURJ student leaders to operationalize the article submission, review, and the publication process.
10. Establish a working group to look at research courses and directed readings and to make recommendations to Curriculum Committee to standardize how departments are using and tagging research courses.
11. Hire replacement staff for two vacant URP positions (Associate Director & Assistant Director/ Program Coordinator).
12. Review Senior Exit Survey and work with IR personal to craft questions that will fully capture a breadth of research experiences.
13. Increase SURE stipends to 4K.
14. Increase funding to support independent research projects and increase the funding amount allocated for international research projects.

Long-term Goals
January 2024 – December 2025

1. Re-establish the IRES-like program to support more international research experiences for students.
2. Increase funding for the SURE program to the point that all qualified applicants receive support.
3. Double financial support for the research partners (or SIRE) program and increase number of departmentally housed research programs.
4. Re-evaluate staffing needs of the centralized Undergraduate Research Programs Office and hire additional support staff in areas of need.

Appendix A

Information from selected departments and programs about how they define undergraduate research (or scholarship) and mechanisms to mechanisms student participation. The goal of the surveys was to develop a better understanding of undergraduate research/scholarship and creative works that appropriately reflects the work our students do and to be more inclusive of the humanities and arts as we continue to grow undergraduate research programs.

I. Research in the Arts
What is "Student Research" In Music?
Academic Research

- Honors theses
- Supervised Reading
- Capstone projects
- Class papers and presentations
- Coaching to present at conferences
- "Class intersections" between two research classes
- Halle FCHI undergraduate global research fellowship
- Humanities Undergrad fellowship
- Friends of Music research fund
- Engagement with the Rose Library and Pitts Theology Library Spec Collections
- Research trips to the library in many of our research classes
- Bringing in guest lecturers
- Student awards - Curry, Beinecke

"Creative Works" as "Research" = "Creative Scholarship"?

- Performers equate performance with research
- Excellence in playing one's instrument
- Professional-level performance
- Outcomes are compositions and recordings
- The preparation for a performance
- The pedagogy of performance
- Developing a reputation through performances in one's area in off-campus venues, especially under professional auspices
- For composers, performances and commissions of their music
- Release and distribution of commercial recordings
- Invited masterclasses or workshops

What is "Student Research" in Dance?

Academic Research

- Students present research traditionally through poster and paper presentations
- Honors projects
- Independent research projects
    - historical research, somatic, or pedagogical
    - Currently we have a student researching protest, a yoga practice, modern dance in Taiwan, and one inspired by the course "sex, power, and ballet."

"Creative Works" as "Research" = "Creative Scholarship"?

- **Original choreographic works**
    - Consistently recognized for excellence and innovation at the American College Dance Association southeast regional conference
    - annually produces **original works** by students and faculty
- **Towards a definition:** "Creating original work, at its essence, is the capacity to linger in ambiguity, intricacy, and the non-verbal sphere where language does not yet articulate what we sense and feel. It is an act of experimentation that encourages creative freedom through the practice of improvisation and collaboration. **Movement research** excavates aspects of our lived culture to allow movement illustrates multiplicity. The evidence we produce requires tapping into deeply rooted messages embedded in the body. Authentic movement vocabularies reflect habits, patterns, and affinities that are all part of a particular cultural identity. As **"movement scientists"** we study non-verbal communication, emotional states, the spatial intricacies of human relationships and developmental patterns. **Creative scholarship provides an important vehicle for public performances,** locally and nationally.

What is "Student Research" in other arts departments?

- Visual Arts
- Creative Writing
- Theater
- **Film and Media (only department that responded)**

From Film and Media Studies – Summary of Honors Research Projects

Purpose: Whatever the research area – film studies, media studies, film production, or photography– students must be committed to the **thorough process of exploring the still and moving image in its many forms.**

Requirements for the film production thesis:

- An **original idea or concept** that the student proposes to explore in visual form. If the work is to be adapted from previously written material, the student must have a strong vision as to how they will make it their own.
- Creative outcome: A finished visual project of at least **5 but no more than 20 minutes**, with a **public screening.**
- Supporting paper: The required support paper accompanying the film production and photography tracks provides the committee with an **integrated synthesis of and reflection on the creative process**. Readings, activity on set or in the darkroom, discussions, and reflection **should reveal the artist thoughts, processes and the outcomes.** Additionally, the paper should comprehensively **apply and integrate information attained from course work** in the program's curriculum (history, theory, criticism, mediamaking.)

II. Humanities

General: Research in the humanities can take a number of forms. Some of the most common forms of research include working in archives, digital data mining, and textual analysis.

Examples from Art History

ARTHIST 397R Internship in the History of Art: Internships vary, but students may engage in research projects when they undertake certain internships. For example, internships with conservators at the Carlos Museum may lead to student research on an object or objects in the museum's collections. Or internships with curators at the High Museum of art my lead to student research on an object or objects in the museum's collections that could inform the museum's display or labeling of an object.

ARTHIST 398R, Supervised Reading & Research: The structure of the supervised reading and research a student undertakes varies from student to student and project to project. One possibility is for students to enroll in ARTHIST 398R when working as undergraduate research assistants on a faculty-led digital or spatial art history project. Other students enroll in ARTHIST 398R when they want to write a formal research paper but aren't eligible to write an honors thesis or don't elect to pursue the honors-thesis track.

ARTHIST 495R, Honors: In the spring before their senior year, students who are eligible to apply to the honors program in art history submit thesis proposals to the department. The department's faculty reviews the proposals and selects viable projects for the honors program. Criteria for determining the viability of a project include the originality of the proposed topic, the scope of the proposed topic, and the ability for a faculty member in the department to advise the writing of a thesis on the proposed topic during the student' senior year.

SIRE / SURE: Students occasionally pursue research with faculty in our department via the SIRE and SURE programs. They may work as undergraduate research assistants on faculty-led projects, including digital and spatial art history projects. Or this year a student in the department is proposing to develop a syllabus for an undergraduate course under the supervision of her faculty mentor.

In the recent past, our department was able to identify a single recipient of the **John Howett Fellowship for Honors Students in Art History** each year. To apply for the fellowship, students proposed independent research projects abroad. Applicants commonly sought to examine specific works or specific documents, and they planned to incorporate their findings into their honors theses. I'm not sure that this funding still exists. However, for scholars of art history at any level, it is critical that we access specific works or specific documents wherever they are, meaning we must often travel to museums, archives, or other repositories.

Examples from Music

1. Capstone and Honors projects in all three of our music tracks: performance (recital), composition (recital), and research (thesis); students may also do a hybrid research/performance project

2. Original research related to coursework - 300- and 400-level courses in music history, ethnomusicology, and music theory, as well as all Continued Writing courses, include a research component, typically embedded into the course syllabus in such a way that students are introduced to research methods within the heart of the course itself

3. MUS 497R: Supervised Reading, which provides opportunities for students to work intensively, one-on-one, with a faculty member on their research projects.

III. Research in Social Sciences

Examples from Sociology

1. RISE program (Research in Sociology at Emory) – undergrads work with faculty and doctoral students on sociology research projects:
http://sociology.emory.edu/home/undergraduate/research/index.html

2. Research projects assigned in classes. Attached is an example of a research project in Culture and Society, SOC 221 – a foundation course in sociology:

http://sociology.emory.edu/home/documents/syllabi/SOC221-Puckett-Fall20171.pdf

Another example is in the Study Abroad in London program – students conduct a survey in the field in London regarding the British health care system.

3. Participation in Southeastern Undergraduate Sociology Symposium (SEUSS) (and includes undergrads from many other institutions in the southeast:
http://sociology.emory.edu/home/undergraduate/seuss.html

4. Internship in sociology: sometimes students conduct research during their internships:
http://sociology.emory.edu/home/undergraduate/internship.html

5. Honors and Directed Research designations courses (SOC 495A and 495B and SOC 497R) for students.

IV. Undergraduate Research in STEM

Examples from Math

1. Independent research resulting in a peer-reviewed publication. Students could enroll in general research courses or honors courses if appropriate.

2. Independent study with a professor where a student learns the state-of-art results on a contemporary topic. Students would enroll in designated research courses.

3. "Big data" analysis as an application of mathematics (e.g. demographic studies, searching for clusters in large data sets, etc.). Students could enroll in either a research course or potentially an internship course.

4. Mathematical modeling of "real world" processes (e.g. cancer tumor growth, fluid flows, etc.) as part of a semester long class.

Examples from Environmental Science

1. Designated research courses that guide students through the research process (finding a mentor to honors thesis or publication) ENVS 299R, ENVS 399R, ENVS 495R and ENVS 499R.

2. The department has a designated contact to help students find a research mentor (Dr. Wegner) and the department encourages all students to participate if possible.
(http://envs.emory.edu/home/undergraduate/research/index.html)

3. ENVS celebrates and promotes honors theses, student presentations and publication to help promote student achievements. http://envs.emory.edu/home/research/students/index.html

4. ENVS has an internal grant that can be used to helps support student work. (http://envs.emory.edu/home/undergraduate/scholarship_grants/lester_grants.html)

Examples from Faculty in School of Medicine

1. Some students (499R, honors thesis students and SURE) are usually able to work in the lab on a quasi-independent part of a larger project. If students are enrolled during the fall or spring term, they might be able to get academic credit from their major or minor departments.

2. Others, particularly those on the iGEM (international genetically engineered machine) team, work together on projects they design (though sometimes with guidance from a faculty member). http://2018.igem.org/Team:Emory

3. Sometimes SIRE students (and unofficial volunteers- who receive no credit) don't have enough time to commit to research, so faculty give them small projects. That can mean supervised lab work, as much to learn techniques and evaluate their potential as to actually accomplish anything. It can also mean some assigned readings and some one-on-one discussions.

Appendix B

Research Course Enrollment Data from Institutional Research

Emory College Students Participating in Formal Research*

Academic Years 2013-2014 through 2017-2018

Engagement	Type	2012-13	2013-14	2014-15	2015-16	2016-17
Course Credit	ECAS Honors or Research Course**	689	766	927	1093	1165
	Honors Research Course	76	106	84	93	94
	Honors Thesis Course	14	15	15	24	23
URP Research Program	Independent Grants	24	23	24	24	27
	Research Partners (or SIRE Program)	73	91	81	63	56
	Research Ambassadors◆				6	7
	Peer Mentor◆	16			9	10
	IRES♣	6	5			
	Summer RPP♠	11	8	10		
	Conference Grant	4	13	19	12	19
	SURE Program	60	55	60	68	45
Grand Total		739	813	968	1125	1192

Grand total shows a deduplicated count of students participating in formal research courses and/or programs.

* Includes all Emory College degree-seeking students enrolled as of Date of Record in any given term of the academic year.

** Includes all Emory College courses with "Honors" or "Research" in the title, as reported on the previous Strategic Plan Dashboard

◆ Research Ambassadors program began in 2015-16. Peer Mentor program was piloted in 2012-13 and reintroduced in 2015-16.
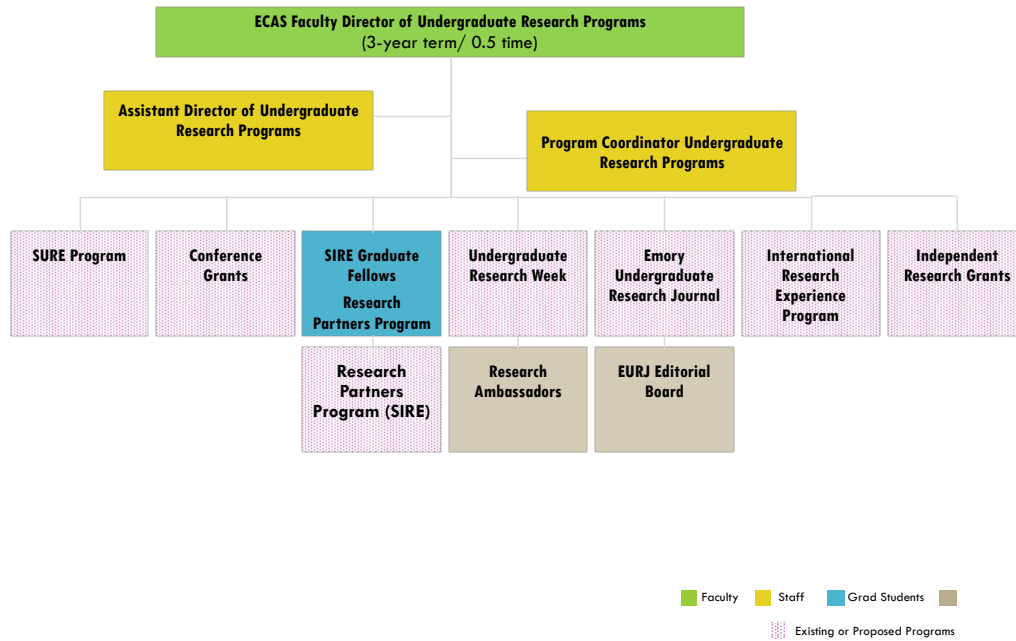
♣ IRES program was discontinued in 2014-15.

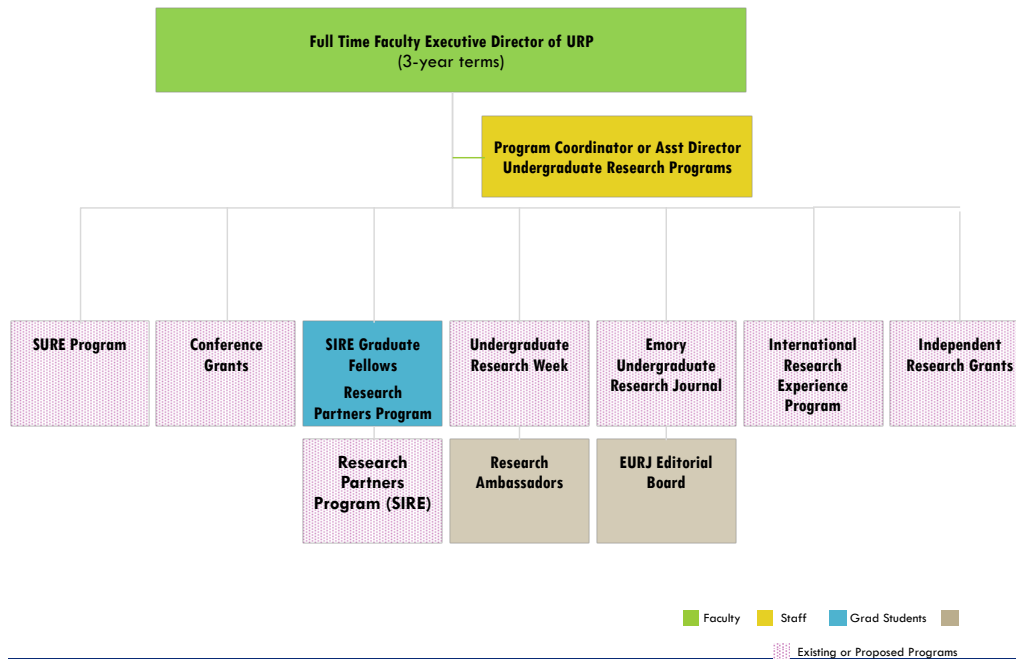♠ The Summer RPP program was folded into SURE in 2015-16.

Appendix C

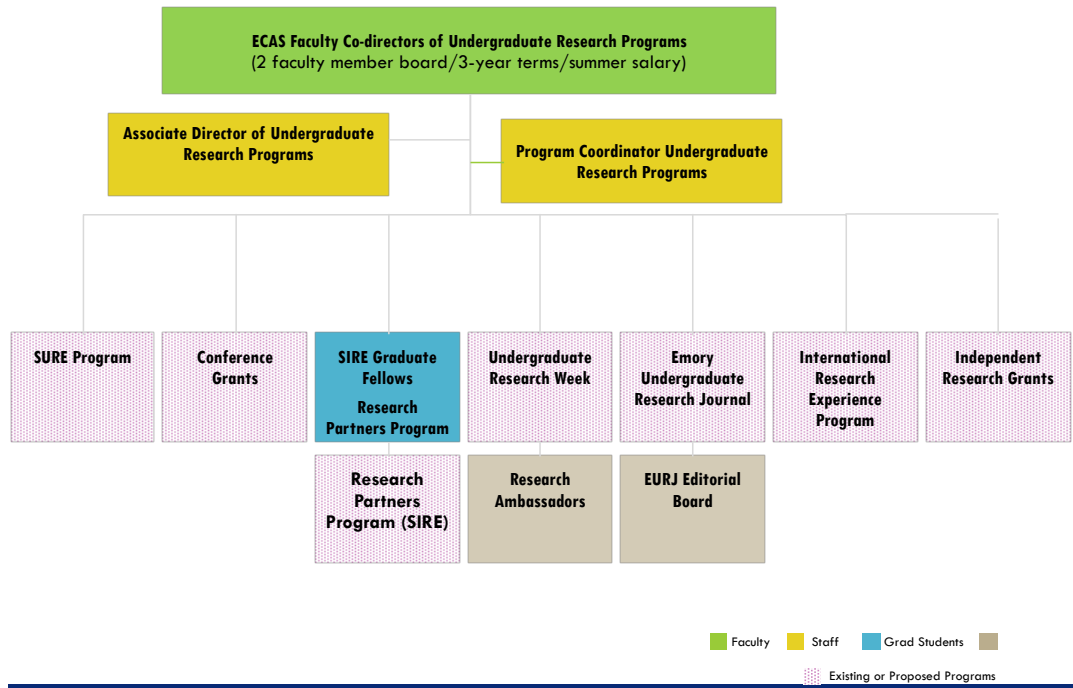Possible organizational structures for the Undergraduate Research Programs

A. Faculty director (0.5 FTE) with support from an assistant director and program coordinator

B. Full-time (1.0 FTE) faculty director with a dedicated program coordinator or associate director.

C. Faculty co-director model with an associate director and program coordinator

D. Advisory board (3 faculty members) with an associate director and a program coordinator.