10 YEAR RETROSPECTIVE REPORT
2012-2022

Prepared by the staff of the Office of Undergraduate Research

Dr. Peter Civetta, Director
Dr. Megan Wood, Associate Director
Victoria Saxum, Budget, Administration, and Communication
Diamond Jones, Outreach Coordinator/Advisor

OUR Program Breakdown

Total=$1.5 Million
Northwestern’s Office of Undergraduate Research (OUR) was officially formed in the fall of 2012. Founding Director Dr. Peter Civetta was charged by then Associate Provost for Undergraduate Education Ron Braeutigam with overseeing the development and expansion of existing programs as well as doing an assessment that would address unmet needs. In addition, he was given two mandates: 1) to increase participation by students in the arts and humanities, and 2) to increase participation by first and second year students.

At that time, a number of programs had already begun or were in pilot stages. The Undergraduate Research Grant (URG) program, which focuses on funding independent student projects, began in the summer of 2000. In 2006-07, a Conference Travel Grant program, the Undergraduate Research and Arts Exposition, and a partnership grant called the Circumnavigators Travel-Study Award began. The next year a small pilot for an Undergraduate Language Grant (ULG) began. Faculty review had been established for grant applications, but advising was very limited and offered only to URG applicants.

Civetta was hired in 2009, and he collaborated extensively with undergraduate deans and other units already engaged in undergraduate research to determine how the new office could be the most impactful. For example, he collaborated with WCAS to adjust the calendars and expectations of their two summer grant programs to make them more cohesive and coherent for students.

Civetta started with part time Graduate Assistant Jana Measells, who offered such great counsel that she came on as a full time advisor soon afterwards. With funding from the Arthur Vining Davis Foundations (AVDF) in 2016, he started a pilot of the Undergraduate Research Assistant Program (URAP), designed to help students just getting started to find mentorship; this program is now our second largest. When the office was formed, the first Administrator was hired. Dr. Mary Leighton was hired as the first Assistant Director in 2015, as student participation had already nearly doubled. In that same time period, Civetta was approached by recent graduate Emily Hittner, who articulated the need for OUR to have an outreach coordinator that was connected closely to the undergraduate experience – she came with two powerpoints to support her idea! She was hired on a part time basis, and the role became formal the following year, always being filled by a recent graduate of Northwestern. In 2016, we collaborated with the Searle Center on a joint position to run a series of research workshops for students. This position has recently been changed to an Education Program Manager overseeing all of our workshop programming. In 2017, Dr. Megan Wood took over the Assistant Director position, and her excellence has helped to shape the development of OUR (and quickly led to a promotion to Associate Director).

Wood and Civetta collaborated on a second AVDF grant to create our latest grant, the Emerging Scholars Program. This grant focuses on the needs of our FGLI and BIPOC students providing 15 months of sustained funding. It is paired with personal and professional development workshops that we feel will be the model for support for all of our students in the coming years.

OURs staff includes two outstanding other members: Administration/Communication/Finance Tori Saxum and Outreach Coordinator/Advisor Diamond Jones. They bring an unparalleled level of excellence to the office.

This report offers a brief overview of the first 10 years of the Office of Undergraduate Research and how we sought to reach and expand our goals of supporting students. It is presented in conjunction with the results of a survey of OUR alums over the same time period. Quotes are taken directly from that survey.

“There is zero chance that I would have the job I have now without undergraduate research. My position asks for a masters degree in a research-related field, which I do not have. But I do have three years of undergraduate research experience carried out under a faculty mentor. :)

“The extent of support provided to write grants - and the fact that the office genuinely wanted to support everybody who was applying: I suppose it was billed as a competition, but really it just felt like motivation to clarify your own research ideas and aims...which was great training for research outside of undergraduate!”
Engaging in Research Early

At the onset of grappling with how to get students involved earlier in their academic career, we discovered a simple problem. While our flagship URG program provided ample opportunities to engage in research, it was predicated on students being ready to do an independent project. Through advising, we learned that many students felt unprepared and wanted to learn from faculty first. Therefore, we created the Undergraduate Research Assistant Program, where faculty can apply to hire students who are new to the field. Our thinking was to create a potential pipeline, where students could first learn the ropes in a strongly mentored environment and then, if interested, could pursue independent projects via URGs in the future. Started as a pilot program which funded 13 students, URAP now regularly funds over 150 students a year with a majority of them being in their first and second year. The pipeline idea has also flourished. During this past year, 23 students moved from URAP to a Summer URG, and they succeeded mightily, holding an 85% award rate that is significantly higher than the average acceptance rate.

In addition to the formation of URAP, we also improved outreach and advising for first/second year students. Through collaborations with schools and student groups, we learned that in many fields it was possible for students to do independent work early on as long as they had support in how to develop a project. For example, Medill students often focus on internships at the end of their junior year, which explained why we had limited participation; however, we began to target first/second years for Summer URGs, as they could work on their own journalism pieces which could provide them with portfolio materials for future internship applications. These efforts have greatly increased the participation of first/second years; in fact, for the past two years more sophomores received Summer URGs than any other class, which is particularly notable given the challenges faced by these students due to COVID.

These successes led to an unexpected concern; exceptional students would use up all of their available funding opportunities before the end of their undergraduate career (you can only receive 1 AYURG and 1 Summer URG). Essentially, we helped them to start earlier, which meant they exhausted resources earlier. Therefore, in collaboration with the undergraduate schools, we created the Undergraduate Research Grant Advanced programs for both summer and academic year. It allows students to apply for and receive additional URG funding. The expenses are an equal cost share between OUR and the student’s school, and all schools are participating with the exception of Bienen.

“I felt like my naivete was never shamed, and instead my budding curiosities were nurtured while guiding me to create projects that were feasible. I have always had trouble communicating my interests especially in the form of grant writing where I try to convince someone else that my project is important. The staff at OUR always took the time to patiently work me through draft after draft until I could get what I needed to say out! As a student who struggled financially during my undergraduate time, undergrad research was a light in the tunnel allowing me to not only do something super cool and relevant during my summers, but allowing me to live and really focus on my interests in a way that was often difficult without funding.”
**Increasing Participation in the Arts**

It is a common goal for schools to want to expand undergraduate research opportunities into the humanities and arts, but the path is not simple. We took a multi-pronged approach that has yielded tremendous results. It started with outreach. In general, students in the arts, humanities, and journalism don’t think that undergraduate research is relevant to them; it is viewed as a lab/STEM activity. We began by meeting students in their home departments and showcasing work being done by students and faculty in their discipline. Since much faculty work in these areas is done individually, students rarely experience what their faculty do, so by showcasing it, students could see research as a real and viable option. The key was to meet them where they were and to use the language of their field. We also sought out and received two grants from the Arthur Vining Davis Foundations to, among other initiatives, build out a library of video resources. In fact, we created two comic web series to help guide students through common problems getting involved in research as well as a series of interview videos with faculty about research in the humanities and arts.

Next, we had to tackle advising. Different from lab/research group work where projects can be generated for the student, arts, humanities, and journalism students are largely going to be creating their own projects. There is no reason that an undergrad should know how to develop their own independent research or creative project, so we had to fill the void. We also didn’t want to add this momentous undertaking onto already overburdened faculty, so we built an advising infrastructure to help students get started in the development process and connect with faculty around specific areas of need/expertise. In addition to our one-on-one advising, we created the Arts, Humanities, and Social Science Research Workshops to help students prepare Summer URG applications.

Once we were able to start helping students to generate applications, we encountered a new problem with faculty review. While humanists were always on the review committees, there weren’t always members from the arts and journalism, creating a challenging review environment. Reviewers generally understand their own fields, but they struggled to see how research worked in a creative arts project. Therefore, we invited more arts and journalism faculty onto the committee, and with them, we created standards and expectations for how to evaluate projects with creative outputs like a documentary or a music composition. Since then, these types of projects have thrived. Arts and journalism students are using grants to build portfolios and explore their artistic voices, and the grants have become an attractive and sought after opportunity. For example, in the most recent Summer URG competition, over a quarter of all funded projects had a creative output, and these students had a success rate 12 points higher than the general population.

Finally, we had to find a way to showcase this incredible work. We already ran the Undergraduate Research and Arts Exposition, which focuses on students giving posters and oral presentations, but we realized that an arts student wouldn’t want to talk about their art; they would want to share it. Therefore, working with a group of students, we created the Creative Arts Festival as a new part of the Expo. Utilizing a jury of industry arts professionals, the Festival showcases creative work from across disciplines, carving a unique niche where all of the arts come together across all of our campus (NUQ students regularly present at the Festival).

“*It was my first experience being paid for my labor to create content and manage my own time as an artist.*”

“*It gave me confidence to try new things and branch out of my comfort zone, which ultimately has been the biggest asset to my career.*”
ADVISING

The cornerstone of the development of OUR has been advising. While there were programs that pre-date OUR, the challenge to grow them stemmed from students not knowing they were available and how to get involved once they did. We realized that we couldn’t fault students for not knowing what they hadn’t been taught, and since we knew the value and importance of undergraduate research, it had to be our mission to provide them the support that they needed. The first order of business was the creation of a comprehensive website that not only promoted OUR grants and programs, but also provided all students with basic information about how to get started. This initial project has been completely overhauled two times since then as we seek to create a single space for students to connect to the resources they need.

Next, we began offering one-on-one advising to students applying to all of our programs and for students who wanted advice on getting started, such as how to find to a lab. We quickly discovered the intense demand for this type of advising, and we also, unsurprisingly, discovered that students who utilized advising did better in grant competitions. This discovery led directly to the increase in OUR staff with an Assistant/Associate Director, Outreach Coordinator/Advisor, and most recently the Education Program Manager. The staff carry a tremendous advising load, as we put that work at the center of what we do. For example, in 2021-22, OUR’s 4 advisors met with over 1,100 students across over 2,000 individual meetings with many of these meetings requiring advisors to review and offer feedback on proposal drafts.

Even given this extraordinary capacity, we realize we needed other means for scaling up our ability to meet student demand. We created an annotated library of sample grant proposals that students could use to understand the mechanics and arguments used in successful proposals. We created introductory workshops designed to help students find faculty mentors and/or labs, and we began offering them every week of every quarter. We created presentation workshops for Expo presenters, realizing the students need help learning how to effectively communicate what they have learned to a non-expert audience. In fact, we developed so many different workshops that we recently created a new position to oversee and further develop (and make cohesive) our growing collection of support resources. Connected to this new position and a recent Arthur Vining Davis Foundations grant, we are currently piloting a new series of workshops to support students once they have begun their research experience, hoping to help them have the most impactful experience possible and helping them to leverage their experiences towards whatever career path they seek.

“I really appreciated the team’s enthusiasm and willingness to explore novel ideas. I truly appreciated how much you all went out of your way to help students.”

“I remember having a half baked idea and receiving really thoughtful support in ensuring my idea was practical but also something that could have impact.”

“I appreciated the trust and responsibility it put into the student to follow through on their plans and intentions. There was enough guidance, but also was a beautiful sense of freedom.”

In the end, the core of OUR is found in the individual relationships that we build with students, seeking to learn about their total selves and findings ways to support their goals and dreams.
Faculty Support

Faculty are the heart of all undergraduate research. Without their selfless support and encouragement, students would never gain the skills necessary to take advantage of the benefits of research. We recognize that faculty serve as the foundation of all that we do, which in most cases involves them working beyond their normal responsibilities. During our first decade, 1,383 unique faculty have served as a sponsor for a successful student grant application, an astonishing number given the size of our campus. 263 of them supported at least 5 successful students, and 106 faculty supported at least 10 successful students. The top 3 sponsors are Claudia Haase (66), Haoqi Zhang (59), and Renee Engeln (57). Many of the faculty involved are non-tenure eligible, highlighting their particularly deep commitment to supporting students. For example, a third of all 2022 Summer URG winners had NTE sponsors.

“Wow... I could gush all day about my faculty mentor. She, and the lab environment that she created, was instrumental in nurturing and expanding my intellectualism ~and~ in helping me to become confident in my research and writing abilities. I struggled a lot (and sometimes still do struggle) with the imposter syndrome, and she helped to dismantle the ideas that I had that I wasn’t enough, or that my voice and contributions weren’t valuable. Her mentorship honestly played the largest role in me pursuing grad school.”

Given this additional workload for faculty, OUR has worked to craft our advising support to take as much weight off of faculty as possible. We have built an advising infrastructure that allows the faculty-student interactions to be focused on the faculty’s area of expertise. OUR seeks to support students just getting started and learning the processes involved, and OUR offers proposal/application support to minimize the amount of faculty involvement needed. Our goal is not to replace faculty; rather, it is to let them focus on crucial areas of methodological and scholarship support in their fields. We see our advising as complementary. We are also working to enhance faculty-student communication through the use of our new communication agreements that will be a part of grants moving forward. If everyone starts on the same page, everyone has a better experience.

In addition to their role as student mentors, faculty play the key role in our decision-making processes. All grant award decisions are made by faculty, and members of OUR are not voting members of any review committees. This process allows grants to maintain rigorous standards of excellence, for as we know getting faculty to agree on anything is a miracle! These committees make final decisions based on who they feel is worthy/ready for the grant as opposed to being limited by an arbitrary cap. Nearly 200 different faculty have served on our various review committees, and a large number of them remain dedicated members for years. For example, the following faculty served for all 10 years on these committees: Karrie Snyder (URAP), Elisa Baena (ULG), Greg Buchanan and Stephen Hill (Circumnavigator), Neal Blair and Fred Northrup (URG), and the remarkable Erin Waxenbaum who served all 10 years on both the URG and Circumnavigators committees. In honor of our anniversary, we are sending certificates of appreciation to all faculty who served on one of our committees.

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<tr>
<th>Professor</th>
<th>Department</th>
<th>Students</th>
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<tr>
<td>Claudia Haase</td>
<td>Human Development and Social Policy</td>
<td>66</td>
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<tr>
<td>Haoqi Zhang</td>
<td>Computer Science and Design</td>
<td>59</td>
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<tr>
<td>Renee Engeln</td>
<td>Psychology</td>
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<tr>
<td>Robin Nusslock</td>
<td>Psychology</td>
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<tr>
<td>Lilah Shapiro</td>
<td>Human Development and Social Policy</td>
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<td>David Rapp</td>
<td>Learning Sciences and Psychology</td>
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<td>Erik Anderson</td>
<td>Molecular Biosciences</td>
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<td>John Rogers</td>
<td>Materials Science and Engineering</td>
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<td>Wendy Pearlman</td>
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<td>Thomas Meade</td>
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<td>Samuel Stupp</td>
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<td>Rives Collins</td>
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**Financial Support**

“In the year before the formation of OUR, their programs awarded just under half a million dollars to students ($476,869). Ten years later, OUR awarded over $1.5 million ($1,565,691). This dramatic increase shows the dedication and support of Northwestern to these objectives of getting more undergrads involved in research. More important are the number of students impacted by these financial resources. The number of students funded by OUR has nearly tripled from the 221 supported the year before OUR was formed.”

It is not just the expansion of the programs themselves that have benefited students, but also the growth within the support offered. As OUR sought to support more and more FGLI students, it discovered that some of its funding levels did not provide the level of support needed to allow those students to participate. For example, the pay rate for URAP has been increased from $10/hour to $15.50/hour in the coming year. The Summer URG stipend has also been raised in stages from $3,000 to $4,000, and the Emerging Scholars Program provides students with 15-months of support, allowing them to focus on learning objectives instead of having to keep scrambling for the next grant.

“We have also sought ways to collaborate with other units with similar goals, cost sharing grants to help support a broader range of students across the University. For example, we collaborate with Feinberg’s NG2 to fund Summer URGs. This arrangement allows them an easy way to recruit and review applicants without setting up their own review system, and it allows us to reallocate our cost savings to additional students. We have also looked for ways to leverage existing resources about which students might not be aware. We have partnered with the Work Study Office to help students convert URAP into their Work Study job as well as raising awareness for faculty and students that research assistantships can be a student’s Work Study job. We have partnered with Financial Aid to connect Conference Travel Grant awardees with the Emergency Aid process if they need additional support to attend their event. We also partnered with the University Library to provide free printing of posters for the Expo.”

The phenomenal growth of OUR has primarily come through appropriated budget from central administration, but there is significant opportunity for further donor growth. We have also used our two AVDF grants for pilot funding for new grant programs: URAP and Emerging Scholars. We know the positive impact of undergraduate research, and we know how important financial support is for whether students can participate. Therefore, we will continue to look for ways to expand student opportunities.

![Total Funding Awarded to Students](chart.png)

2012-2013 Office of Undergrad Research is Created

- **2007-08**: $250,000
- **2008-09**: $350,000
- **2009-10**: $450,000
- **2010-11**: $550,000
- **2011-12**: $650,000
- **2012-13**: $750,000
- **2013-14**: $850,000
- **2014-15**: $950,000
- **2015-16**: $1,050,000
- **2016-17**: $1,150,000
- **2017-18**: $1,250,000
- **2018-19**: $1,350,000
- **2019-20**: $1,450,000
- **2020-21**: $1,550,000
- **2021-22**: $1,650,000

- **Total Money**: $476,869
- **2012-2013 Office of Undergrad Research is Created**
THE NEXT TEN YEARS!

"Undergraduate research is an outstanding opportunity to delve further into an area that interests you and find out if you are interested in pursuing research over the long term. Whether or not you are interested in a research career, an undergraduate research experience can help you build a whole suite of transferable skills: self-directed work and organization, research and data analysis techniques, technical reading and writing, and communication, among others. More importantly, it showed me that I COULD do research and gave me the confidence to continue asking questions and seeking answers."

We know this work is only beginning, and as we prepare for the next phase of the Office of Undergraduate Research, we commit to the following goals:

We commit to meeting students where they are; students are not just brains and intellect, but fully human with needs and demands beyond the scope of their intended research objectives. We pledge to continue to center individual advising that focuses on their whole person. We pledge to work to meet their financial, intellectual, and creative needs in pursuing research and to provide the support necessary for them to fully maximize and leverage the experience.

We commit to supporting faculty’s ability to mentor and evaluate students. We pledge to provide meaningful advising to students to reduce needed faculty time, and we pledge to maintain faculty review as the main factor in grant decision-making. We plan to listen to, and engage with, faculty to determine ways that we can support them in their mentorship of students.

We commit to supporting the University’s goals as outlined by senior leadership, seeking ways to integrate our work with the wider aspirations of the University Provost and President.

We commit to engaging with our wider community, making sure we are not isolated but integrated into the worlds in which we move. We pledge to continue our social justice initiatives to support local BIPOC and woman-owned businesses whenever possible and to try to share the benefits of research with the community through outreach and education. Each member of OURs staff will have a community outreach component of their position, such as Civetta’s continued volunteering at ETHS.

The Office of Undergraduate Research has been a collective effort, and we are grateful for all of the staff who have served during these 10 years: Dr. Megan Wood, Tori Saxum, Diamond Jones, Christina Ginardi, Dr. Evangeline Su, Bryce O’Tierney, Jennah Thompson-Vasquez, Tori Larsen, Karen Burchell, Dr. Mary Leighton, Rebecca Way, LaKeshia Buckner-Smith, Veronique Filloux, Emily Hittner, Marla Isaacs, Brian Goo, Gretchen Oehlschlager, Jana Measells, Christopher Hayden, and Dr. Peter Civetta.

We are also grateful for the dedicated support of senior leadership who championed this work and this office: Associate Provost for Undergraduate Education Miriam Sherin, Provost Kathleen Hagerty, former Associate Provost for Undergraduate Education Ron Braeutigam, former Provost Jonathan Holloway, and former Provost Dan Linzer.

“DO IT! NO MATTER WHAT YOUR PROFESSIONAL GOALS OR PERSONAL INTERESTS ARE. It’s a great way to customize your education and create experience that you can very easily talk about with future employers. Also, you can make the impact you want to make in the world with your research, and the right mentor will help you do just that.”"