URSA

UNDERGRADUATE RESEARCH & SCHOLARLY ACTIVITY

Undergraduate research is a high-impact practice that enhances student engagement, retention, completion, and success.

URSA Activities

- **URSA Student Project Awards:** Funding for original research and creative scholarly projects pairing undergraduates with faculty mentors at all UAF campuses.

- **URSA Student Travel Awards:** Funding for travel by undergraduates to support or present their original research.

- **URSA Mentoring Awards:** Funding for mentors (faculty, postdoctoral researchers, graduate students) to enhance or develop opportunities for undergraduate research, especially recurring opportunities.

- **Curriculum Support and Development:** Development of curricular opportunities for undergraduate research through creation of URSA courses and assistance developing departmental courses such as the Museum Research Apprenticeship Program (MRAP).

- **UAF Research and Creative Activity Day:** An annual celebration and presentation of research by undergraduate students at UAF. The event was cancelled in 2020 due to COVID-19.
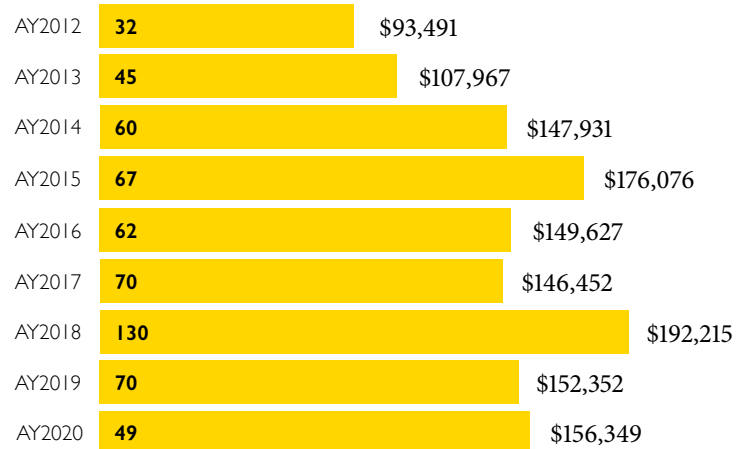
URSA Impact

- Presentations by undergraduates of their research at national and international meetings.
- Publications co-authored by undergraduates in peer-reviewed professional journals.
- Acceptance of UAF baccalaureate graduates to top graduate programs, professional schools and employment locally and nationally.

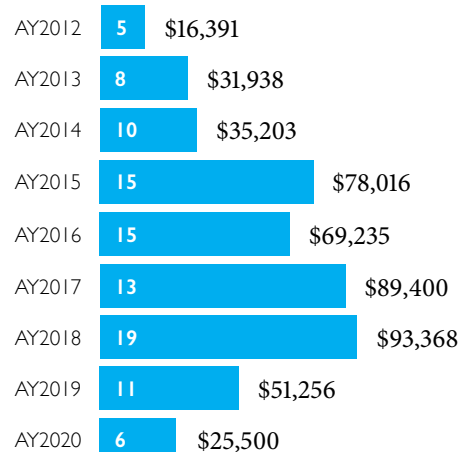### UAF undergraduates enrolled in 1 or more research courses

	FALL	SPRING	SUMMER	TOTAL
AY2012	137	210	15	362
AY2013	148	186	31	365
AY2014	134	205	31	370
AY2015	127	226	55	408
AY2016	107	217	47	371
AY2017 *	298	338	28	664
AY2018	279	305	11	595
AY2019	123	132	3	258
AY2020	306	192	26	524

* The significant increase in research courses reflects a change in the research course designation process.
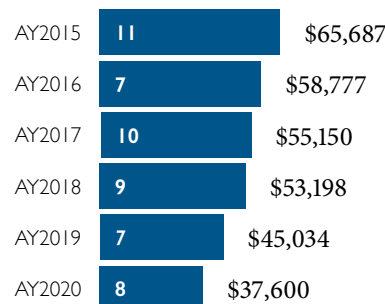
URSA Student Awards

Year	Count	Amount
AY2012	32	$93,491
AY2013	45	$107,967
AY2014	60	$147,931
AY2015	67	$176,076
AY2016	62	$149,627
AY2017	70	$146,452
AY2018	130	$192,215
AY2019	70	$152,352
AY2020	49	$156,349

URSA Mentoring Awards

Year	Count	Amount
AY2012	5	$16,391
AY2013	8	$31,938
AY2014	10	$35,203
AY2015	15	$78,016
AY2016	15	$69,235
AY2017	13	$89,400
AY2018	19	$93,368
AY2019	11	$51,256
AY2020	6	$25,500

URSA Innovative Technology and Education (ITE) Awards

Year	Count	Amount
AY2015	11	$65,687
AY2016	7	$58,777
AY2017	10	$55,150
AY2018	9	$53,198
AY2019	7	$45,034
AY2020	8	$37,600

All URSA student and mentoring awards derive from UAF's reinvestment of 1% ICR into student research. ITE awards derive from 20% of the student technology fee.

UAF — UNIVERSITY OF ALASKA FAIRBANKS

University of Alaska Fairbanks
Undergraduate Research and Scholarly Activity (URSA)
Annual Report AY 2019-2020

The mission of the University of Alaska Fairbanks (UAF) office of Undergraduate Research and Scholarly Activity (URSA), which was established in 2011, is to support, develop, and institutionalize UAF's diverse and robust undergraduate research and scholarly activity programs. This activity refers to student-faculty collaboration in the creation of discipline-specific and interdisciplinary knowledge. The primary means by which URSA fulfills its mission are as follows:

1. Provide funding for undergraduate students and faculty who collaborate on research and creative projects and activities;

2. Serve as a clearinghouse for projects that offer undergraduate students and faculty opportunities to collaborate in research or creative projects and activities;

3. Assist UAF faculty, staff, post-doctoral research associates, and graduate students who strive to create or maintain undergraduate research and creative scholarly programs;

4. Create regular events that serve as venues for undergraduate students to present their research and creative projects and activities;

5. Catalog and archive UAF undergraduate student participation in research and creative projects, as well as the outcomes and products of those projects; and

6. Facilitate UAF undergraduate student recruitment and retention initiatives through program-specific initiatives.

Through these programs and initiatives, URSA aims to improve skills in critical thinking, creative problem solving, communication, and methods of inquiry and to engender a culture of life-long learning for all students, as well as enhance preparation and education of undergraduates who will fill the needs of Alaska's 21st century workforce and society. URSA is UAF's resource for the development and promotion of experiential learning activities that engage undergraduate students, regardless of discipline, in support of UAF's goal to be a leading student-oriented research university. Based on the 2019 National Survey of Student Engagement (NSSE) for High-Impact Practices, UAF seniors scored higher than peer institutions on "working with a faculty member on a research project". In this age of ever-increasing information and access to that information, research literacy is a required competence for the entire populace, not just UAF students. Thus, offering opportunities for undergraduate students to participate in research and creative scholarship is a noted best practice in higher education. Building on existing efforts and capacities, URSA attracts, retains, and enables UAF students to pursue varying levels of research and scholarly activity engagement from independent study investigations to senior theses including scholarly exhibits and presentations, performances, or research endeavors.

1. URSA Administration
   a. Trent Sutton, UAF CFOS Department of Fisheries, continues as the URSA Director (19% of time year round).
   b. Kate Pendleton continued to serve as the 12-month, full-time URSA Coordinator during the academic year. She retired will retire August 2020. Marie-Sylvestre Olesen will become the URSA coordinator in August 2020, and the position has been changed to 10 months at three-quarter time.
   c. The URSA Faculty Advisory Board was expanded to include the following UAF faculty: Elaine Drew and Charles Mason from College of Liberal Arts (CLA), Peggy Keiper from School of Management (SOM), Carie Green and JoAnne Healy from School of Education (SOE), Steffi Ickert-Bond and David Valentine from College of Natural Science and Mathematics (CNSM), Sunwoo Kim and Sveta Stuefer from College of Engineering and Mines (CEM), Ana Aguilar-Islas from College of Fisheries and Ocean Sciences (CFOS), Anshul Pandaya from College of Rural and Community Development (CRCD), and Alexandra Fitts (UAF Vice Provost).
   d. The URSA Student Advisory Board members include the following UAF undergraduates: Cole Berner from School of Management (SOM), Nick Hasson from College of Natural Science and Mathematics (CNSM), Noah Khalsa from College of Fisheries and Ocean Sciences (CFOS), Kayli Brueniger from College of Liberal Arts (CLA), Elizabeth Smith from School of Education (SOE), and Daniel Manley from College of Engineering and Mines (CEM).
   e. The URSA Review Panel included the following UAF faculty: Ana Aguilar-Islas, Jungho Baek, Bahareh Barati, Nathan Belz, Andrea Bersamin, Cam Carlson, Rich Carr, Cheng-Fu Chen, Jack Chen, Ross Cohen, Wendy Croskrey, Marina Cuzovic-Severn, Margaret Darrow, Jan Dawe, David Denkenberger, Elaine Drew, Devin Drown, Annie Duffy, Daryl Farmer, Greg Finstad, Alexandra Fitts, Javier Fochessato, Jennifer Guerard, Brian Hemphill, Falk Huettman, Sun Woo Kim, Ilana Kingsley, Cecile Lardon, Ellen Lopez, Dan Mann, Jingqui Mao, Wendy Martelle, Charles Mason, Ryan Oliver, Anshul Pandaya, Jen Peterson, Terry Reilly, Joshua Reuther, Andrew Seitz, Jeremy Speight, Sveta Stuefer, Renate Wackerbauer, Peter Webley, Peter Westley, and Sveta Yamin-Pasternak.

2. Funding Awards
   a. The total amount of funding awarded by URSA in FY20 was $219,949 (66 awards total).
   b. A total of $181,849 was allocated during AY2019-20 for undergraduate student projects (fall/spring projects and summer undergraduate research projects), undergraduate student travel, and mentoring awards. No awards were given out for Research and Creative Activity Day because the event was canceled for 2020 due to the COVID-19 pandemic. The funding for the awards that were given out in FY20 were derived from UAF's reinvestment of 1% ICR into undergraduate student research and creative activity. Funding was allocated as follows:
      i. Fall and Spring Undergraduate Project Awards (22 awards [48 applicants] totaling $64,463)
      ii. Undergraduate Student Travel Awards (14 awards [27 applicants] totaling $31,815)
      iii. Summer Undergraduate Research Project Awards (13 awards [17 applicants] totaling $60,071)
      iv. Mentoring Awards (6 awards [24 applicants] totaling $25,500)
      v. Community Engaged Learning Awards (1 award [4 applicants) totaling $500)
   c. Innovative Technology and Equipment (ITE) Awards (8 awards [21 applicants] totaling $37,600). The ITE Awards represent a funding line (former UAF Technology Advisory Board [TAB] funds) through URSA which started in 2015, and are used to fund equipment and associated software purchases in support of undergraduate and graduate education and research at UAF. These funds are derived from 20% of the student technology fee.

3. Clearinghouse for Undergraduate Student Opportunities
   a. URSA continues to serve as UAF's clearinghouse for undergraduate student opportunities to engage in unique projects conducting research or creative scholarly activities. However, the process is informal (reliant on passive communication) and thus quantifying URSA's role as clearinghouse or student-faculty matchmaker is difficult because URSA is not a student program; rather, URSA is an embodiment of UAF's institutional support for undergraduate student and faculty collaboration in research and creative projects.
   b. Seventeen UAF students enrolled in URSA and MRAP (Museum Research Apprenticeship Program) courses during AY2019-20 (see 5. Curriculum Development below).
   c. Forty-nine students and/or groups received URSA funding in support of research or creative scholarship during the fall, spring, and summer of AY2019-20, and an additional 43 students and/or groups applied but did not receive funding (92 total applicants). Some of these students may have been matched with their project either directly by URSA or indirectly through URSA's request for proposals. In addition, walk-in students seeking advice with respect to identifying research opportunities and/or mentors are frequent in the URSA office (weekly at a minimum and daily in the weeks at the beginning of a semester and around an URSA application deadline date). URSA has not tracked or followed up with these ad hoc advisees because they do not all apply for funding and, as a result, are not entered into the database.

4. Student Tracking and Project Cataloging
   a. The URSA database currently has 2,819 UAF undergraduates that have been involved in research and creative activity since its creation in 2012.
   b. Since 2012, at least 41% of UAF undergraduate students participated in an academic research experience over the course of their baccalaureate studies. Further, the 2,235 students in the URSA database support that quantification of undergraduate student participation in research. Not included in the accreditation documents and not yet included in the URSA database are undergraduate students who are employed as research assistants. URSA has been working with UAF Human Resources and the UAF Office of Planning, Analysis, and Institutional Research (PAIR) to identify a means to include such students in the database.
   c. An online version of UAF Research and Creative Activity Day has been created within the Institutional Repository, which is a joint effort of URSA and Library Sciences Staff (https://scholarworks.alaska.edu/).

5. Curriculum Development
   a. URSA (Undergraduate Research and Scholarly Activity) courses offered in AY2019-20
      i. URSA 388 Undergraduate Research and Creative Scholarship II (Instructor: Trent Sutton; Enrollment: 0 students)
      ii. URSA 488 Undergraduate Research and Creative Scholarship I ((Instructor: Trent Sutton; Enrollment: 2 students)
   b. MRAP (Museum Research Apprentice Program) courses offered in AY2019-20
      i. MRAP 288 Museum Research Apprenticeship I (Instructor: Patrick Druckenmiller, Enrollment: 2 students; Kevin Winker, Enrollment: 4 students; Derek Sikes, Enrollment: 2 students; Mareca Guthrie, Enrollment: 1 student; Andres Lopez, Enrollment: 1 student)
      ii. MRAP 488 Museum Research Apprenticeship II (Instructors: Patrick Druckenmiller, Enrollment: 2 students; Angela Linn, Enrollment: 2 students; Andres Lopez, Enrollment 1 student)

6. Research and Creative Activity Day
   a. The UAF Research and Creative Activity Day was scheduled for 07 April 2020. However, due to the COVID19 pandemic, the event was canceled.

7. Student Highlights:

   a. Chenyi Ling (CEM - Computer Science) developed an app for rural Alaska that reports air quality and forecasting.
   b. Hannah Deuling (CNSM - Biology) will spend the summer working on a test developed by the Center for Disease Control and Prevention (CDC) testing for the 2019 Novel Coronavirus (2019-nCoV, or SARS-CoV-2) infection. The goal is to validate this test by determining its accuracy, effectiveness, and to compare it to similar testing methods used in other countries.
   c. Kendrick McCabe (CLA - Anthropology) continued his study of traditional naming practices as a complimentary strategy to promote Diné language and culture. He presented his research to the Human Research and Review Board in the Navajo Nation to gain approval to continue his work. He received a funded three-year fellowship to attend the University of New Mexico to pursue a Master's Degree in Anthropology.
   d. Phillip Wilson (CNSM - Geoscience) presented his work on prehistoric glacial surges near the Trans-Alaska Pipeline at the American Geophysical Union (AGU) event in San Francisco. He will be pursuing a Master's degree at UAF in Geology.
   e. Tibor Dorsaz (CFOS - Fisheries) presented his research on clam predation patterns as a way of understanding community impacts from sea star wasting disease at the 9th Naval Academy Science and Engineering Conference.
   f. Grace Burrell (CNSM - Chemistry and Biochemistry) will work on a project that will be conducted using tissues collected from arctic ground squirrels sampled during early, late and post-hibernation. We will design species-specific primers and use quantitative polymerase chain reaction (qPCR) to determine if gonadal maturation is cued by neuroendocrine signaling during hibernation.
   g. Feyne Elmore (CFOS - Fisheries) will use seawater samples and zooplankton samples collected at nearshore sites along the coast of the central Beaufort Sea near Prudhoe Bay, Alaska, to look for correlations in salinity, nutrient (nitrate and phosphate) concentrations, and the abundance and assemblage structure of zooplankton.
   h. Nic Gough (CEM - Electrical Engineering) will design and build a prototype of a vertical windmill for clean power generation for attachment to existing street light poles in and around Alaskan cities. By using existing light poles, his hope is the windmill will lower build costs and eliminate the need to find land for large scale wind farms.
   i. Michael Hevezi (CLA - Anthropology) will spend the summer gathering and analyzing data from local foragers of morel mushrooms in order to assess the effects of dynamic seasonal conditions (fires) on this popular subsistence resource.

j. Aidan Earnest and Emily Cohen (CLA - Political Science) researched different state statues on consent laws and the effects of these laws on the rates of sex crimes with the hope of pursing a statue in Alaska.

k. Nick Hasson (CNSM - Chemistry/Geoscience) was invited to travel to Harbin, China, to participate in the Forum for Polar Environment and Ecosystem. He will be pursuing a Master's degree in Chemistry at UAF.

l. DeAnna Lowden (CNSM - Chemistry and Biochemistry) worked with hibernating artic ground squirrels to mimic their mechanism for saving energy to potentially treat people who suffer from cardiac arrest and their survival rates.

m. Rodney Tracht (CLA - Psychology) was URSA's first distance-delivery student. His project involved researching the relationship between social media exposure and loneliness in older adults. He will pursue a Ph.D. in Psychology next fall at Alliant International University in Los Angeles, California.

n. Madeline Andriesen, Jenna Dreydoppel, Phoenix Williams, Taylor Hendricks, Jonathan Lange, and Lindsay Moisan (CLA - Music) took their musical talents on a trip to Anchorage middle and high schools for outreach and recruiting in conjunction with the Anchorage Opera and Fairbanks Opera.

o. Anthony Zizza, Kyle Jones, Joseph Becker, and Ron Hansen (CEM - Mechanical Engineering) worked on stress-corrosion cracking equipment to provide UAF with a fast and compact way to test under a tensile load within a corrosive environment.

p. Autumn Fornier (CNSM - Geoscience) studied paleo-storm records from Cape Espenberg, Alaska, to see what life was like to ancient Inupiaq Eskimos as well as what it might be like in the future.

q. Hannah Pothast (CLA - Psychology) looked at how people living in arctic environments are affected by rapidly changing light during transitional seasons.

r. Katelynn Bushnell (SOM - Economics) studied how the inflow of foreign direct investment can have effects on the environment in developing countries by looking at China with a given level of growth.

s. Abby Amick (CNSM - Chemistry) used nuclear magnetic resonance spectroscopy to look at water samples from permafrost and non-permafrost lakes near Fairbanks to better understand how climate change affects thawing permafrost lakes.

8. Mentor Highlights:

a. Tracie Haan and Taylor Seitz (CNSM - Biology) engaged nine undergraduate students with a comprehensive multi-day workshop aimed at teaching methods and techniques to produce microbiological research looking at subarctic soils for possible antibiotic compounds.

b. Megan Perra (CNSM - Biology) and her students (Gabrielle Camp and Kathryn Peterson) tested different windscreen solutions for acoustic monitoring equipment to look at the potential impacts of industry noise on wildlife with a particular focus on caribou.

c. Jamie Clark (CLA - Anthropology) and students Taylor Vollman and Sophie Zhang examined materials from ehe Croxton site, an archaeological site located on Tukuto Lake in Northern Alaska. They conducted a detailed analysis of human hunting and butchery/processing, and human behavior. The goal of the larger project is to produce a publication.

d. Carie Green (SOE - Education) received funding to work with students to investigate the emotional and behavioral processes of children's environmental identity development in an Alaskan non-rural and rural village context.

e. Joseph Holt (CLA - English) worked with Annie Wenstrup, Emma Charlton, Hunter Young, and Stanley Rogers on the undergraduate literary journal, Ice Box.

f. Jennifer Guerard (CNSM - Chemistry) mentored students Abby Amick and Alexander Gloger in examining sets of thermokarst core samples and permafrost samples to characterize organic and inorganic composition along depth and radiocarbon age.

g. Jen Peterson (CLA - Psychology) mentored Gabrielle Camp, Rodney Tracht, Leslie Siegfried, Maron Dodson, Else Cole, and Darby Hoban on a project examining the effects of pet ownership on the health and well-being of older adults.

1. **Continue to raise the profile of undergraduate research and scholarly activity at UAF.**
A fundamental aspect of URSA's mission is to ensure that UAF students, faculty, and staff are aware of the opportunities available for undergraduate research and creative scholarly activities. To accomplish this goal, there remains an increased efforts to promote URSA funding opportunities via email (e.g., directed emails to each college/school, UAF-sponsored communications such as The Cornerstone), strategically placed announcements throughout campus, presence and participation in UAF events (e.g., Inside Out, New Student Orientation, We Are CLA, UA Scholars night, etc.), periodic, directed communications with the Deans of the various colleges/schools, revision to the URSA website, attendance and participation in UA and UAF administrative meetings (e.g., Board of Regents, Provost Council, Dean's Council, etc.), and completion of an annual report each year. URSA will also be developing additional means of raising its profile, including student profile postcards, student-mentor videos for display on the URSA website and via eCampus, and meeting with UAF administrators, faculty, and staff during regularly scheduled meetings (e.g., Recruitment Admissions Meeting, Coordinator Meeting, URSA Faculty and Student Advisory Board Meetings, etc.) and impromptu meetings (e.g., Deans, student focus groups, etc.). The ultimate goal of these efforts is to not only better inform the UAF community on URSA's mission and activities, but to also raise awareness and interest for undergraduate research (as well as research in general) at UAF. To facilitate this goal, URSA will print posters for any undergraduate student presenting their research or creative activity at a workshop, meeting, or conference, regardless of their source of funding. In addition, URSA also has dozens of portable display boards for exhibiting posters which are available for any research event taking place on the UAF campus. From the UAF perspective, URSA serves as a student engagement tool; as such, promoting and showcasing undergraduate research and creative scholarship should be a key component of all UAF student events recruitment and retention events since UAF is the leading research institution in the UA system. Ultimately, these efforts will not only yield an increase in the percentage of undergraduates involved in research and creative scholarship at UAF, but will also diversify the types of scholarly activities funded by URSA across the UAF colleges/schools.

2. **Improve student tracking, project cataloging, and outcome assessment** of URSA-sponsored and non-URSA-sponsored research. An important data need at UAF requires that URSA obtain and make available accurate numbers of students and mentors engaged in undergraduate research and creative activities. Collecting comprehensive data is a challenge, especially for those students who are engaged in research and creative activities by virtue of holding a position as a student research assistant. The URSA Coordinator works closely with the Office of PAIR (Planning, Analysis, and Institutional Research), UAF Human Resources, and other undergraduate funding initiatives at UAF (e.g., BLaST [Biomedical Learning and Student Training], Honor's Program, RAHI [Rural Alaska Honors Institute], etc.) on student research participation to facilitate the collection of these data. It is also important to track those projects that are funded by URSA, funded by other units, or not funded at all, and to provide this information to the UAF Chancellor and Provost, other administrators in the UAF Provost's Office, and the Deans of the various UAF colleges/schools for informational purposes. Further, student projects in research and creative scholarship are diverse in discipline, which translates to diversity in mode and medium. URSA will work with the Library Sciences faculty to meet the challenge of archiving all projects in undergraduate research and scholarly activity, as well as making these archived documents available to be used as tools in recruitment, marketing, and development. The URSA staff will work with staff members in the Office of Admissions, Communications and Marketing, and Development to act as a resource for sharing exciting stories that can be used for promotional purposes. In addition to all of this is the need to conduct outcome assessment to determine whether URSA is making a difference in enhancing the educational experience for UAF undergraduates. Part of the challenge here is identifying not only products (e.g., presentations, displays, publications, etc.) generated by students while they are enrolled at UAF but also identifying these same products once students have graduated from the university. Another component to this is tracking where URSA-funded students end up following graduation (e.g., graduate school, professional school, etc.).

3. **Continue to rely on the URSA Advisory Boards and Review Panels** as active resources to develop and enhance current and future opportunities and initiatives as well as provide direction for the URSA mission. The current structure is that one group of faculty assists with general planning (the URSA Faculty Advisory Board) and a separate group of faculty (and some staff and student members) reviews student and faculty mentor applications (the URSA Review Panel). Members of both groups may provide feedback on the operation of URSA as well as bring forward new ideas, initiatives, and concerns related to the URSA mission. In terms of the specific structure and primary responsibilities of these two groups, we have the following: (1) the Faculty Advisory Board consists of two faculty members from each academic college/school at UAF and meets once each semester to discuss policy initiatives and opportunities related to URSA; and (2) the Review Panel meets in accordance with the various due dates of the undergraduate student project, undergraduate student travel, mentor, and ITE requests for proposals

and will primarily be responsible for reviewing the submitted proposals (note that there is no limit to the number of individuals that can participate on a review panel). However, both groups are essential for disseminating URSA information and increasing the understanding of URSA funding policies and processes for all interested faculty, staff, and students at UAF. A new addition two years ago was the creation of a Student Advisory Board that also meets once each semester to discuss policy initiatives and opportunities from the student perspective. The Student Advisory Board consisted of one student representative from each school or college, and the feedback that these individuals contributed was unique in providing the student perspective and perception on the implementation of URSA policies and programs.

4. **Continue to make UAF Research and Creative Activity Day (formerly known as UAF Research Day) the showcase event for undergraduate research and scholarly activity** at UAF. Based on feedback, UAF Research and Creative Activity Day will once again have a shortened duration (relative to events prior to 2016) and a fast-paced award's ceremony to maintain engagement of all participants and attendees. We will continue to expand Research and Creative Activity Day to include more than just traditional research and scholarly activity posters, but also to more broadly include other forms of visual and interactive displays. This was accomplished at the 2019 UAF Research and Creative Activity Day and was well received; as a result, expanding these types of displays will diversify and enhance research day at future events. The 2020 Research and Creative Activity Day had to unfortunately be canceled due to the COVID-19 pandemic. The UAF administration, as well as local members of the UA Board of Regents, will again be notified early during the fall 2020 semester to save the date for the 2021 event (06 April 2021) so that they can attend UAF Research and Creative Activity Day.

5. **Explore opportunities to expand URSA funding initiatives,** which will include developing a mechanism for undergraduate research and creative activity at rural UAF campuses, expanding funding availability for undergraduate student grants focusing on global change in the Center for Global Change and Arctic System Research, and consideration of the development of separate URSA-supported internship, capstone, and community-based learning programs. An additional initiative is to discuss and identify additional funding via private donors and grantsmanship as funding resources potentially begin to decline during the current UAF budget crisis.

6. **Increase the number of students enrolled in URSA-sponsored courses**: URSA 388 Undergraduate Research and Creative Scholarship I, URSA 488 Undergraduate Research and Creative Scholarship II, and MRAP (Museum Research Apprenticeship Program) 288 and 488. Historically, enrollment in these courses has been low (5-20 students per year), which is in large part due to a general lack of awareness that these opportunities exist. There is tremendous opportunity here to have more students participate in these courses, particularly for academic programs that do not have their own upper-division research/creative scholarship focused courses.

7. **Provide assistance for undergraduate students** to help them prepare for research and scholarly projects at UAF, which will include how to identify project ideas and mentors, write competitive proposals, and prepare posters for presentation purposes.

8. **Enhance the student-mentor experience** at UAF by developing and adopting guidelines, policies, and expectations for both students and mentors. This could result in the development of a student-mentor contract with clear expectations for both individuals (the student and mentor) engaged in research and creative activities. Along with this would be the development of a workshop/expert panel of successful mentors at UAF who would provide the panel audience an opportunity to ask questions and receive feedback on mentoring practices that have and have not worked for them. An outcome of this workshop/panel would be a "best practices" document that URSA can then provide to faculty mentors for guiding their mentoring experience. Another aspect of enhancing the student-mentor experience will be to continue to solicit feedback from students regarding interactions/experiences with their mentor and from mentors regarding their interactions/experiences with their student(s). This feedback will be used to help URSA identify and address potential problem areas as well as highlight positive aspects of the student-mentor relationship.

9. **Continue to assess the impact and outcomes** associated with URSA relative to student's success at UAF. Although URSA has been in place since 2012, a comprehensive outcomes assessment had not been completed on this program. During 2018, the Director and Coordinator of URSA examined metrics used by undergraduate research programs at other universities to identify the appropriate measures for measuring URSA outcomes. Both individuals also attended the 2018 Biennial Council on Undergraduate Research (CUR) Conference in Arlington, Virginia, which had a two and a half day series of sessions on assessing student outcomes in undergraduate research programs. Based on the information learned at that conference, URSA personnel implemented an outcomes assessment during to assess the annual Research and Creative Activity (RCA) Day event. In addition, URSA was one of the university undergraduate research programs selected to participate in the EvaluateUR (Evaluate Undergraduate Research) program funded by the National Science Foundation and administered by Buffalo State University. This program was developed to help better align student and mentor expectations, to improve both the student and mentor experience, and provide outcomes assessment information that can be used to determine the effectiveness of URSA (i.e., does URSA make a difference on the UAF campus). This program was initiated for the summer project awardees, and

consisted of an initial meeting of the summer award recipients, their mentors, and the URSA staff to discuss the program, and then a series of expectation and evaluation questionnaires that were completed by both the students and their mentors that were administered through an EvaluateUR dashboard. The results of this outcomes assessment program will be available in the fall 2020 semester and the URSA staff will evaluate the results, discuss them with the student and mentor participants, and then discuss with the Provost's Office whether this initiative should be continued and expanded to include the fall and spring project award periods.

Table 1. The number of URSA applications (student project, student travel, mentoring, CEL and ITE combined), awards, and awarded dollars for each college/school for AY2018-2019. The dollar amount awarded also includes awards to students for UAF Research and Creative Activity Day poster presentations.

College/School	Number of Applications	Number of Awards	Dollar Amount Awarded
CEM	21	9	$32,860
CFOS	12	5	$18,634
CLA	41	19	$60,414
CNSM	56	26	$83,366
CRCD	3	1	$2,500
CTC	2	1	$4,900
DGS	1	1	$5,000
SOE	5	2	$5,000
SOM	5	1	$2,500
Total	146	66	$219,949

Table 2. The number of URSA applications (Apps), awards, and total dollar amount awarded (Dollar Amt.) by award type for each college/school and department/unit within each college/school for AY2018-2019.

College/ School	Department/ Unit	Apps	Awards	Dollar Amt.	Project	Travel	Mentor	ITE	Research & Creative Activity Day	Community Engaged Learning
CEM	Alaska Center for Energy and Power	2	0	$0	$0	$0	$0	$0	$0	$0
	Civil & Env.	2	1	$4,000	$0	$4,000	$0	$0	$0	$0
	Comp. Sci.	2	1	$2,500	$2,500	$0	$0	$0	$0	$0
	Electrical Eng.	6	2	$15,000	$15,000	$0	$0	$0	$0	$0
	Mechanical	7	5	$11,360	$7,655	$3,705	$0	$0	$0	$0
	Mining & Geo.	3	0	$0	$0	$0	$0	$0	$0	$0
	Petroleum	0	0	$0	$0	$0	$0	$0	$0	$0
CFOS	Fisheries	7	5	$18,634	$12,500	$1,134	$0	$5,000	$0	$0
	Marine Biology	3	0	$0	$0	$0	$0	$0	$0	$0
	Oceanography	2	0	$0	$0	$0	$0	$0	$0	$0
CLA	Anthropology	8	4	$14,793	$5,000	$1,793	$3,000	$5,000	$0	$0
	Art	5	1	$2,000	$0	$2,000	$0	$0	$0	$0
	Comm. & Journalism	0	0	$0	$0	$0	$0	$0	$0	$0
	English	3	2	$6,500	$0	$4,000	$2,500	$0	$0	$0
	Foreign Language	1	0	$0	$0	$0	$0	$0	$0	$0
	History	2	0	$0	$0	$0	$0	$0	$0	$0
	Interdisciplinary Studies	1	1	$1,200	$1,200	$0	$0	$0	$0	$0
	Justice	1	1	$0	$0	$0	$0	$4,000	$0	$0
	Linguistics	0	0	$0	$0	$0	$0	$0	$0	$0
	Music	5	2	$3,505	$3,005	$0	$0	$0	$0	$500
	Northern Studies	0	0	$0	$0	$0	$0	$0	$0	$0
	Philosophy	0	0	$0	$0	$0	$0	$0	$0	$0
	Political Sci.	3	1	$3,672	$3,672	$0	$0	$0	$0	$0
	Psychology	9	5	$17,744	$8,744	$4,000	$5,000	$0	$0	$0
	Social Work	0	0	$0	$0	$0	$0	$0	$0	$0
	Sociology	0	0	$0	$0	$0	$0	$0	$0	$0
	Theater & Film	2	2	$7,000	$5,000	$2,000	$0	$0	$0	$0
CNSM	Atmospheric Science	1	0	$0	$0	$0	$0	$0	$0	$0
	Bio. & Wildlife	24	9	$35,470	$19,880	$800	$10,000	$4,790	$0	$0

College/School	Department/Unit	Apps	Awards	Dollar Amt.	Project	Travel	Mentor	ITE	Research & Creative Activity Day	Community Engaged Learning
	Chem. & Biochem.	28	5	$16,250	$6,000	$0	$10,000	$0	$250	$0
	Geosciences	14	10	$24,858	$18,358	$6,500	$0	$0	$0	$0
	IANRE	4	1	$2,500	$2,500	$0	$0	$0	$0	$0
	Math & Stats.	1	1	$4,135	$0	$0	$0	$0	$0	$0
	Physics	0	0	$0	$0	$0	$0	$0	$0	$0

College/School	Department/Unit	Apps	Awards	Dollar Amt.	Project	Travel	Mentor	ITE	Research & Creative Activity Day	Community Engaged Learning
CRCD	AK Native Studies	0	0	$0	$0	$0	$0	$0	$0	$0
	NW - Science	1	1	$2,500	$2,500	$0	$0	$0	$0	$0
	Rural Development	0	0	$0	$0	$0	$0	$0	$0	$0
CTC	Process Tech	1	1	$0	$0	$0	$0	$4,900	$0	$0
	Bunnell House	1	0	$0	$0	$0	$0	$0	$0	$0
DGS	Faculty Development	0	0	$0	$0	$0	$0	$0	$0	$0
	Student Support Services	1	1	$5,000	$0	$0	$0	$5,000	$0	$0
SOE	Education	5	2	$9,755	$0	$0	$5,000	$4,775	$0	$0
SOM	Accounting	1	0	$0	$0	$0	$0	$0	$0	$0
	Bus. Mgmt.	2	1	$0	$0	$0	$0	$0	$0	$0
	Economics	1	1	$2,500	$2,500	$0	$0	$0	$0	$0
	Finance	0	0	$0	$0	$0	$0	$0	$0	$0
	Homeland Security	1	0	$0	$0	$0	$0	$0	$0	$0
MUSEUM	Ethnology	0	0	$0	$0	$0	$0	$0	$0	$0

Table 3. The number of URSA applications (AP), awards (AW), and dollar amount (DA) for each college/school by awards type for AY2018-19.

College/ School	Student Project			Student Travel			Mentoring			ITE			Research and Creative Activity Day			Community Engaged Learning		
	AP	AW	DA	AP	AW	DA	AP	AW	DA	AP	AW	DA	AP	AW	DA	AP	AW	DA
CEM	9	6	$25,155	6	3	$7,705	3	0	$0	3	0	$0	NA	NA	NA	0	0	$0
CFOS	4	3	$12,500	1	1	$1,134	5	0	$0	2	1	$5,000	NA	NA	NA	0	0	$0
CLA	13	8	$26,621	10	5	$13,793	5	3	$10,500	9	2	$9,000	NA	NA	NA	4	1	$500
CNSM	31	17	$55,258	8	5	$9,183	8	2	$10,000	9	2	$8,925	NA	NA	NA	0	0	$0
CRCD	3	1	$0	0	0	$0	0	0	$0	0	0	$0	NA	NA	NA	0	0	$0
CTC	0	0	$0	0	0	$0	1	0	$0	2	1	$4,900	NA	NA	NA	0	0	$0
DGS	0	0	$0	1	0	$0	1	0	$0	1	1	$5,000	NA	NA	NA	0	0	$0
SOE	1	0	$0	1	0	$0	3	1	$5,000	1	1	$4,755	NA	NA	NA	0	0	$0
SOM	3	1	$2,500	2	0	$0	0	0	$0	0	0	$0	NA	NA	NA	0	0	$0