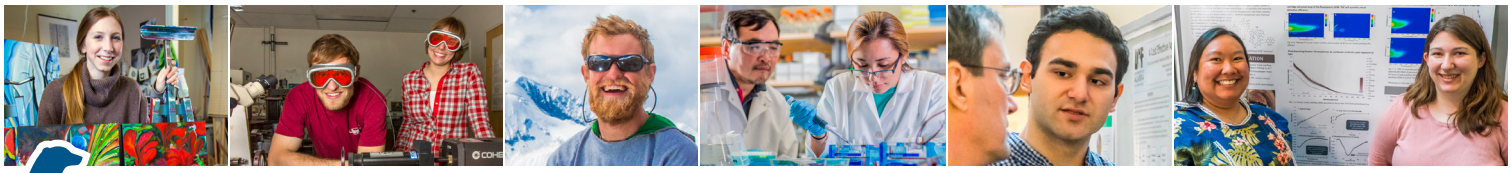


URSA UNDERGRADUATE RESEARCH & SCHOLARLY ACTIVITY

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.

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.

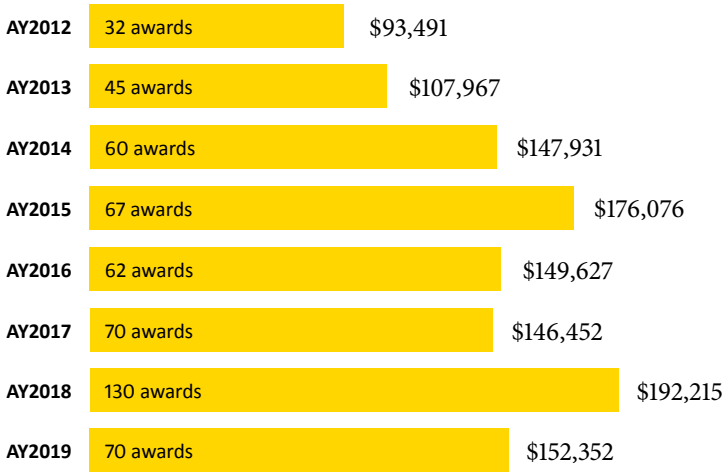
Selected Performance Indicators

UAF undergraduates enrolled in 1 or more research courses

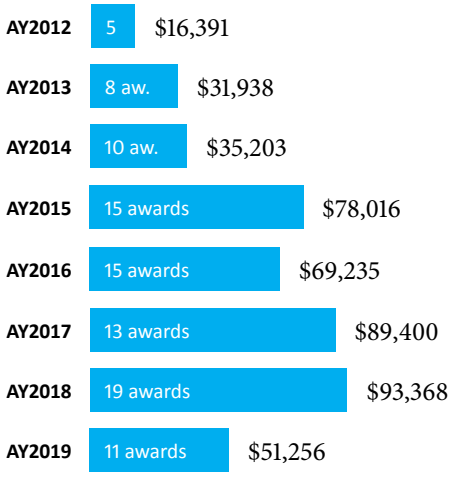
	FALL	SPRING	SUMMER	TOTAL
AY2012	137	210	15	362
AY2013	148	186	31	365
AY2014	134	205	31	370
AY2015	127	226	55	408
AY2016	107	217	47	371
AY2017*	298	338	28	664
AY2018	279	305	11	595
AY2019	326	313	74	713

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

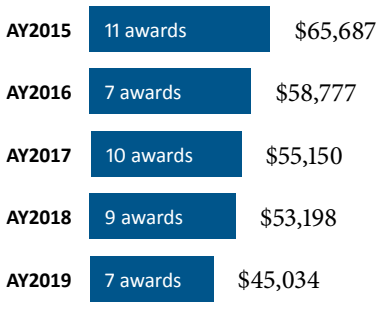
URSA Student Awards



URSA Mentoring Awards



URSA Innovative Technology and Education (ITE) Awards



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.

UNIVERSITY OF ALASKA FAIRBANKS

University of Alaska Fairbanks
Undergraduate Research and Scholarly Activity (URSA)
Annual Report AY 2018-19

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 2016 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.

University of Alaska Fairbanks
Undergraduate Research and Scholarly Activity (URSA)
Major Accomplishments

1. URSA Administration
   a. Trent Sutton, UAF CFOS Department of Fisheries, continues as the URSA Director (18% of time year-round).
   b. Kate Pendleton continues to serve as the full-time URSA Coordinator during the academic year and half-time during the summer.
   c. The URSA Faculty Advisory Board was expanded to include the following UAF faculty: Brian Hemphill and Charles Mason from College of Liberal Arts (CLA), Josh Lupinek from School of Management (SOM), Carie Green and JoAnne Healy from School of Education (SOE), Steffi Ickert-Bond and Kris Hundertmark from College of Natural Science and Mathematics (CNSM), Sunwoo Kim and Sveta Stuefer from College of Engineering and Mines (CEM), David Valentine and David Verbyla from School of Natural Resources and Extension (SNRE), Andrew Seitz 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. An URSA Student Advisory Board members include the following UAF undergraduates: Cole Berner from School of Management (SOM), Jeremy Thomas from College of Natural Science and Mathematics (CNSM), Noah Khalsa from College of Fisheries and Ocean Sciences (CFOS), Sierra Vonhaften from School of Natural Resources and Extension (SNRE), Maria Jacobson-Panozo from College of Rural and Community Development (CRCD), Sarah Manriquez 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, Amy May, Ryan Oliver, Anshul Pandaya, Jen Peterson, Terry Reilly, Joshua Reuther, Andrew Seitz, Jeremy Speight, Sveta Stuefer, Dave Verbyla, Renate Wackerbauer, Peter Webley, Peter Westley, and Sveta Yamin-Pasternak.

2. Funding Awards
   a. The total amount of funding awarded by URSA in FY19 were $248,643 (88 awards total).
   b. A total of $203,609 was allocated during AY2018-19 for undergraduate student projects (fall/spring projects and Summer Undergraduate Research projects), undergraduate student travel, Research and Creative Activity Day awards, and mentoring awards. The funding for these awards are 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 (19 awards [67 applicants] totaling $52,726)
      ii. Undergraduate Student Travel Awards (24 awards [39 applicants] totaling $44,877)
      iii. Summer Undergraduate Research Project Awards (10 awards [32 applicants] totaling $50,000)
      iv. Mentoring Awards (11 awards [38 applicants] totaling $51,256)
      v. Community Engaged Learning Awards (2 awards [3 applicants) totaling $1,000)
      vi. Research and Creative Activity Day Awards (15 awards [136 applicants] totaling $3,750)
   c. Innovative Technology and Equipment (ITE) Awards (7 awards [15 applicants] totaling $45,034). The ITE Awards represented a funding line (former UAF Technology Advisory Board [TAB] funds) through URSA starting in 2015, which was used to support equipment and associated software 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. Twenty UAF students enrolled URSA and MRAP (Museum Research Apprenticeship Program) courses during AY2018-19 (see 5. Curriculum Development below).
   c. Eighty-eight students received URSA funding in support of research or creative scholarship during the fall, spring, and summer of AY2018-19, and an additional 240 students applied but did not receive funding (328 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 2,235 UAF undergraduates that have been involved in research and creative activity since its creation in 2012.
   b. The 2013-2014 UAF accreditation report stated that 41% of UAF undergraduate students have 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 488 Undergraduate Research and Creative Scholarship II (Instructor: Trent Sutton; Enrollment: 6 students)
   b. MRAP (Museum Research Apprentice Program) courses offered in AY2019-20
      i. MRAP 288 Museum Research Apprenticeship I (Instructor: Patrick Druckenmiller; Enrollment: 3 students, Kevin Winker: Enrollment: 1 student, Link Olson; Enrollment 1 student, Joshua Reuther; Enrollment: 3 students)
      ii. MRAP 488 Museum Research Apprenticeship II (Instructors: Joshua Reuther; Enrollment: 1 student, Link Olson; Enrollment 1 student, Angela Linn; Enrollment: 4 students)

6. Research and Creative Activity Day
   a. The UAF Research and Creative Activity Day was held on 09 April 2019; a total of 128 UAF undergraduate students presented or hosted displays at the event.
   b. Dean's Choice Awards ($250 per student per school/college, up to four students per school/college) were given for each college or school; the awardees and their poster title for each college/school were as follows:
      i. College of Engineering and Mines (CEM) – Jim Samson (3D-Printed Rodent Treadmill); Travis Oen (Preliminary Study Investigating Benefits of Applying Artificial Intelligence to Avalanche Research); Tristan Sayre (Quantifying Unlawful Use of Off-highway Vehicle Use on Public Facilities in Alaska)
      ii. College of Liberal Arts (CLA) – Kendrick McCabe (Reclaiming Traditional Names to Promote Dine (Navajo) Language and Culture); Michael Lorain (Wood Selection for Archaeological Fish Trap Stakes in Southeast Alaska); Casey Winkelman (Utah Vocal Arts Academy Summer Opera Festival); Buck Barbieri and Naomi Hutchens (Collaborative Animation Production from Students' Perspective: Creating Short 3D CG films through international team-work).
      iii. College of Natural Science and Mathematics (CNSM) - Carl Burnside (Using Stable Isotopes to Infer Migration Routes of Crested Auklets); Michael Kaden-Hoffman (Effects of Solvent Dielectric Constant and Boiling Point on Electrospun Nanofiber Diameter); Phillip Wilson (UAV Based Lichenometry); Faith Long, Ana Strachan, and Shayna Matson (Elucidating the Antigen Process for Vaccine Development).
      iv. School of Education (SOE) – Katie Hasbrouck, Logan Lockwood, and Ava Parrish (Maartin the Robot – The Next Generation of Therapy for Children with Autism).
      v. College of Fisheries and Ocean Sciences (CFOS) – Kelsie Maslen (Isotopic Analysis of Trophic Feeding Levels of Male Capelin (*Mallotus villosus*).
      vi. School of Natural Resources and Extension (SNRE) – Trevor Schoening (Analyzing the Distribution of Vegetable Production in Alaska).
      vii. School of Management (SOM) Jillian Bjornstad, Jordan Kashatok, Maynard Maglayla, Roquel Mills-Bain, and Judy Obat (Caribou Tracks, "Tuttu Tumi:" A Forest School).

7. Student Highlights:
   a. Kendrick McCabe (CLA-Anthropology) is studying whether the reclamation of traditional naming practices could serve as a complimentary strategy to promote Diné language and culture.
   b. David Park (CEM-Computer science) designed a unidirectional heat transfer wall for space missions.
   c. Audrey Freeman (CEM-Civil Engineering) developed a two-dimensional model to explore temperature dependent internal movement within frozen debris lobes.
   d. Alyx Hoover (CFOS-Ocean Sciences) looked into identification of larval Arctic lamprey *Lenthenteron camtschaticum* and Alaskan brook lamprey *Lenthenteron alaskense* using gill pore papillae.

e. Lacey Higham (SNRE-Natural Resource Management) is working on recycling glass bottles to use as mulch in the Georgeson Botanical Garden and testing heat retention and weed suppression properties.
f. Phillip Wilson (CNSM-Geoscience) has developed new techniques for UAV-based remote lichenometry and is studying surges events in the Black Rapids Glacier. The Trans-Alaska pipeline crosses the area covered by previous surges.
g. Craig Chythlook and Kevin Huo (CLA-Political Science) traveled to Rovaniemi, Finland, to participate in the Model Arctic Council (MAC) which gathers students from circumpolar universities to expand their knowledge of challenges and concerns in the Arctic.
h. Sarah Manriquez (CLA-Art) created a documentary and photo exhibit about the life of a homeless woman from Fairbanks.
i. Nick Hasson (CNSM-Geoscience) analyzed five lakes during the summer to look at changes in thermodynamics, metal(s), reducing conditions and retrieved lake sediment core samples for multivariable modeling and comparison to samples from other seasons.
j. Burgenne Illingworth (CNSM-Biology) researched how seasonality affects the shedding prevalence of cercariae from snails in Interior Alaska.
k. Kellie Lynch (CLA Interdisciplinary-Ethnography) built ten gamelan instruments and investigated how Gamelan music functions in difference communities and is establishing a community orchestra in Fairbanks, Alaska.
l. Jeremy Thomas's (CNSM-Physics) project involved spontaneous switching between differently ordered activity patterns is observed in coupled neuron networks. Transient activity at the network and system level has underlying mechanisms that are relatively unknown. Numerical simulations and statistical methods determined the types of pattern switching, the associated time scales, sensitivity, and dependence on network coupling.
m. Jillian Bjornstad, Maynard Maglaya, Roquel Mills-Bain, Judy Obat, and Jordan Kashatok (SOM-Business Administration) participated in the American Indian Business Leaders: Business Plan Competition in Portland, Oregon.

8. Mentor Highlights:

a. Claudia Ihl (Northwest Campus-Science) and her student Alex Ashford continued an investigation of the foraging and habitat choices of urban Muskoxen during summer to better understanding why they are in Nome and how their presence near houses and dog yards could be discouraged. Muskoxen within Nome city limits have killed many dogs and their presence is causing much anxiety to local residents.
b. Brenda Konar (CFOS-Ocean Sciences) and her students, Tibor Dorsaz and Brian Zhang, quantified biological responses to climate-induced changes in physical and chemical conditions along a gradient of glacial to non-glacial coastal water.
c. Kirsten Ressel (CFOS-Fisheries) trained students Kelsie Maslen and Cameron O'Neil, to process capelin in the lab using protocols applicable to many fish-based research projects as well as teaching student techniques in morphological analyses.
d. Margaret Darrow (CEM-Geological Engineering) provided students Melinda Byrd and Jaimy Schwarber, with the opportunity to perform and analyze change detection of Arctic permafrost slopes using two high-resolution, LIDAR-derived digital elevation models.
e. 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.
f. Ryan Oliver (CNSM-Chemistry) mentored student Jim Samson who built a 3D treadmill to test the alterations to skeletal muscle structure and function of ground squirrels during extremely cold conditions.
g. Sine Anahita (CLA-Sociology) mentored students Annelise Fullerton and Shayle Lliaban, as they researched the 1950 and 1954 Loyalty Board Hearings of Alaska's first female geologist, Ruth A.M. Schmidt. The student's research will culminate in a podcast.
h. Chisato Murakami (CLA-Japanese Studies) accompanied students to Anchorage to participate in the Alaska State Japanese Speech Contest by giving speeches in Japanese. The group included Hokulani Akeitekit, Francine Simeon, Apryle Collison, Steven Ruedy, Justin Janson, Jasmine Kobayashi, Megan McGee, Bethany Paju, and Reina Takeuchi.
i. Ryan Fitzpatrick (CLA-Music) took student music teachers Seth Blohm, Emily Doyel and Jenna Dreydoppel to the NafME All-Northwest Conference to gain professional development for their training as music educators.
j. Joanne Healy (SOE-Education) mentored students Katie Hasbrouck and Logan Lockwood in researching how a humanoid robot can affect social and language skills in individuals who experience Autism Spectrum Disorders.
k. Alexis Will (CNSM-Biological Sciences) mentored student Carl Burnside in researching corticosterone, an indicator of nutritional stress in seabirds to try and determine why there was a mortality event in 2018 in the Bering Strait.

University of Alaska Fairbanks
Undergraduate Research and Scholarly Activity (URSA)
AY 2019-20 Challenges and Goals

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. To accommodate the increased number of student participants, more space will be reserved for the 2020 event to allow more poster display boards and space for faculty, staff, students, and other visitors to view the posters. In addition, 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 UAF administration, as well as local members of the UA Board of Regents, will again be notified early during the fall 2019 semester to save the date for the 2020 event (07 April 2020) 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 488, 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.

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 has 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 program 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 different 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 2019 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.

10. **In support of undergraduate research and scholarly activity**, URSA provided scholarship donations to CLA for the We Are CLA event (two $500 scholarships), $500 to the Biology Graduate Student Associations for the Midnight Sun Science Symposium, and $400 to the Environmental Chemistry Symposium.

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	55	14	$39,078
CFOS	18	9	$27,141
CLA	113	31	$71,056
CNSM	107	21	$65,243
CRCD	4	2	$7,000
CTC	1	0	$0
DGS	3	0	$0
SNRE	5	2	$5,250
SOE	5	2	$5,170
SOM	17	6	$21,250
MUSEUM	1	1	$7,455
Total	329	88	$248,643

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	Civil & Env.	2	1	$250	$0	$0	$0	$0	$250	$0
	Comp. Sci.	16	4	$6,250	$0	$6,000	$0	$0	$250	$0
	Electrical Eng.	7	2	$12,500	$5,000	$0	$0	$7,500	$0	$0
	Mechanical	21	5	$12,578	$10,460	$1,868	$0	$0	$250	$0
	Mining & Geo.	8	2	$7,500	$2,500	$0	$5,000	$0	$0	$0
	Petroleum	1	0	$0	$0	$0	$0	$0	$0	$0
CFOS	Fisheries	18	9	$27,141	$7,500	$3,316	$10,000	$6,075	$250	$0
CLA	Anthropology	13	7	$18,198	$7,500	$2,788	$0	$7,410	$500	$0
	Art	15	6	$11,271	$5,000	$3,882	$0	$1,639	$250	$500
	Comm. & Journalism	3	0	$0	$0	$0	$0	$0	$0	$0
	English	6	0	$0	$0	$0	$0	$0	$0	$0
	Foreign Language	11	1	$3,870	$0	$0	$3,870	$0	$0	$0
	History	3	1	$2,450	$2,450	$0	$0	$0	$0	$0
	Justice	5	2	$1,601	$0	$1,601	$0	$0	$0	$0
	Linguistics	3	0	$0	$0	$0	$0	$0	$0	$0
	Music	15	6	$14,208	$5,000	$4,000	$4,458	$0	$250	$500
	Northern Studies	0	0	$0	$0	$0	$0	$0	$0	$0
	Philosophy	0	0	$0	$0	$0	$0	$0	$0	$0
	Political Sci.	8	2	$4,000	$0	$4,000	$0	$0	$0	$0
	Psychology	16	2	$4,000	$0	$4,000	$0	$0	$0	$0
	Social Work	0	0	$0	$0	$0	$0	$0	$0	$0
	Sociology	4	1	$3,008	$0	$0	$3,008	$0	$0	$0
	Theater & Film	11	3	$8,450	$5,000	$3,450	$0	$0	$0	$0
CNSM	Atmospheric Science	1	0	$0	$0	$0	$0	$0	$0	$0
	Bio. & Wildlife	54	11	$36,800	$23,845	$0	$5,000	$7,455	$500	$0
	BLaST	0	0	$0	$0	$0	$0	$0	$0	$0
	Chem. & Biochem.	28	5	$16,250	$6,000	$0	$10,000	$0	$250	$0
	Geosciences	18	3	$7,746	$7,496	$0	$0	$0	$250	$0
	Math & Stats.	0	0	$0	$0	$0	$0	$0	$0	$0
	Physics	6	2	$4,447	$2,475	$1,972	$0	$0	$0	$0
	Vet Med	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	$5,000	$0	$0	$5,000	$0	$0	$0
	Rural Development	3	1	$2,000	$0	$2,000	$0	$0	$0	$0
CTC	Process Tech	1	0	$0	$0	$0	$0	$0	$0	$0
DGS	Faculty Development	0	0	$0	$0	$0	$0	$0	$0	$0
	Student Support Services	2	0	$0	$0	$0	$0	$0	$0	$0
	Interdisciplinary Studies	1	0	$0	$0	$0	$0	$0	$0	$0
SNRE	NRM	5	2	$5,250	$5,000	$0	$0	$0	$250	$0
SOE	Education	5	2	$5,170	$0	$0	$4,920	$0	$250	$0
SOM	Accounting	3	1	$2,500	$2,500	$0	$0	$0	$0	$0
	Bus. Mgmt.	11	4	$14,750	$5,000	$2,000	$0	$7,500	$250	$0
	Economics	2	0	$0	$0	$0	$0	$0	$0	$0
	Finance	0	0	$0	$0	$0	$0	$0	$0	$0
	Homeland Security	1	1	$4,000	$0	$4,000	$0	$0	$0	$0
MUSEUM	Ethnology	1	1	$7,455	$0	$0	$0	$7,455	$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	20	5	$17,960	6	4	$7,868	4	1	$5,000	3	1	$7,500	23	3	$750	0	0	$0
CFOS	4	3	$7,500	3	2	$3,316	4	2	$10,000	1	1	$6,075	6	1	$250	0	0	$0
CLA	23	6	$24,950	16	14	$23,721	10	3	$11,336	5	2	$9,049	57	4	$1,000	2	2	$1,000
CNSM	43	12	$39,816	6	1	$1,972	15	3	$15,000	3	1	$7,455	38	4	$1,000	0	0	$0
CRCD	1	0	$0	1	1	$2,000	1	1	$5,000	0	0	$0	0	0	$0	1	0	$0
CTC	0	0	$0	0	0	$0	1	0	0	0	0	$0	0	0	$0	0	0	$0
DGS	1	0	$0	1	0	$0	1	0	$0	1	0	$0	0	0	$0	0	0	$0
SNRE	3	1	$5,000	0	0	$0	1	0	$0	0	0	$0	1	1	$250	0	0	$0
SOE	1	0	$0	1	0	$0	1	1	$4,920	0	0	$0	2	1	$250	0	0	$0
SOM	8	1	$7,500	5	2	$6,000	1	0	$0	1	1	$7,500	7	1	$250	0	0	$0
MUSEUM	0	0	$0	0	0	$0	0	0	$0	1	1	$7,455	0	0	$0	0	0	$0