

FOUNDATIONS

NEWSLETTER OF THE GEO2YC DIVISION OF THE NATIONAL ASSOCIATION OF GEOSCIENCE TEACHERS
Volume V, Issue 4: December 2016

Supporting Scholars at Two-Year Schools: Wisconsin Space Grant Consortium and the Great Scholarship Experiment

by Beth A. Johnson

University of Wisconsin-Fox Valley, Menasha, WI*

For those of us who teach at two-year colleges, it can be a frustrating experience to try to find scholarships, research grants, and internships for our students. Even if by some miracle we are able to find ones that are not restricted to upperclassmen, the timelines for application and receipt of the resources are often not compatible with the realities of how long these students remain on our campuses. However, there is hope out there with organizations such as the Wisconsin Space Grant Consortium (WSGC) that are willing to focus time and resources on two-year college students if we as faculty are willing to make the request.

The WSGC is a member of NASA's Space Grant program that makes it their mission to fund educational, research, and informal educational projects to increase awareness and understanding of space and aerospace endeavors among the students of the state. For the last three years, I have served as my campus' institutional representative for WSGC. And in an Advisory Council discussion on

increasing applicants for WSGC undergraduate scholarships, I pointed out that although five affiliate member institutions were two-year schools, few of those students could apply for the scholarships.


Sometimes, success means being in the right place at the right time

What those of us who teach at two-year schools understand is that we don't have students in our classes or at our institutions for very long. They can't apply for scholarships with application deadlines in April and an award of funds in August. We're lucky to have them for a semester, maybe a year before they move on. We as faculty can't apply for research grants for them with similar deadlines because the student we have in mind may transfer before the grant money arrives, and we have no guarantee there will be another geoscience student we can tap to take over. Finally, students at two-year schools have fewer opportunities for internships, directed research, etc. compared to students at four-year schools, so they can't compete as effectively for the same awards. If the WSGC wanted to increase scholarship applications at the two-year schools and retain the clause that the scholarship recipients must be enrolled at or applying to an affiliate member, the scholarship deadline needed to be changed.



WSGC accepted the challenge

WSGC decided to do an experiment for one year. They took a portion of their scholarship funds and set it aside specifically for students from two-year campuses. The application deadline would be in the early fall and selections made by the beginning of December for students to use the funds for their spring semester tuition. Prior to this experiment, they had received twelve scholarship applications statewide in their Spring 2015 scholarship call. In the first application period for students at two-year schools in Fall 2015, they had seven applications for the two-year students alone! The number of scholarship applicants also dramatically increased for the Spring 2016 undergraduate scholarship, which was open to all students, going up to a total of twenty-six applicants, seven of which were from two-year schools. The results were so impressive that the WSGC is making this a regular part of their scholarship program now. In Fall 2016, they received eight applications from two-year students and are interested in increasing the number of scholarships they are awarding because of it.

Students at my two-year campus have benefitted greatly from WSGC's willingness to support them, both in terms of scholarships and internships. It is my hope that we in the NAGT can similarly help geoscience students at two-year schools. Perhaps this success story can be used as a model to create scholarships or reallocate existing resources to give these students a chance at more opportunities in the field. At the very least, it serves as a reminder to me to, "Ask and ye shall receive." 

**Author's Note: University of Wisconsin-Fox Valley is one of fourteen freshman/sophomore campuses in the state, offering a liberal arts education for associate's degree-seeking students as well students intending to transfer to four-year schools. These campuses differ from a traditional community college in that they do not award applied associate's degrees, which are handled by the state technical colleges.*

CLICK HERE TO
Nominate your Outstanding
Adjunct Faculty
or visit

http://nagt.org/nagt/divisions/2yc/oafa_nomination.html

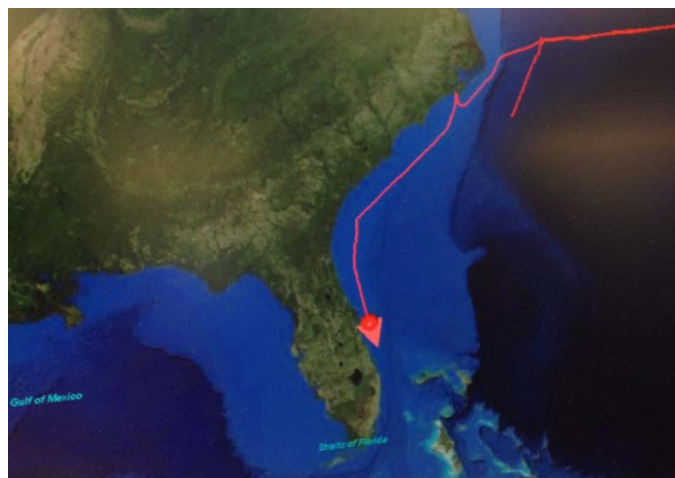
2YCs on a STEMSEAS Voyage

by Kaatje Kraft

Whatcom Community College, Bellingham, WA

This past summer I had the distinct privilege of serving as one of two faculty mentors on the Oceanographic Research Vessel *Endeavor* as part of the STEMSEAS program. Science, Technology, Engineering and Math Student Experiences at Sea (STEMSEAS) is a NSF-funded program that takes advantage of the transit times that research vessels take between research expeditions in which the goal is to, "provide ship-based, 6-10 day exploratory experiences for undergraduates from diverse backgrounds aboard NSF-funded research vessels" ([STEMSEAS website](#)).

The funding for the grant paid for students to participate in one of three different transits. *Endeavor* departed from Morehead City, NC, and circled around the southern tip of Florida before arriving in Gulfport, MS, five days later.



Part of our track indicating where the previous research crew came from, where they dropped them off, picked us up and part of our route around FL.

The incredible part of the experience for me was that of the 13 students who were on the transit, 10 of them were either currently enrolled at or had recently transferred from a two-year college. This included a student from my own institution. In the short week I spent with the students on *Endeavor* I was able to watch them grow as academics and as a community of support. Our students often feel

isolated at their individual institutions, but from the first night the students on board *Endeavor* were realizing that their own struggles were similar to those joining them on this adventure.




The ship's galley converted into a presentation space for students presenting their work.

Once at sea, students delved into a variety of mini projects. Under the guidance of my colleague and co-mentor, Stephen Pekar from Queens College, students were able to find and identify different radiolarians and foraminifera in core samples that we were able to have shipped to us to bring on board (since there wouldn't be time to stop to collect a core sample on the transit itself). I worked with students on interpreting real time meteorological and geochemical data coming in from the ship's own onboard instruments. On our last night on board *Endeavor* students presented on the work they had been doing.



The students along with Stephen and me on our last night on the ship.

Students were asked to blog about their experiences (and also some of the crew who helped them during their time on the vessel). To read about their experiences in their own voices, the July expedition is available by following [this link](#).

This experience is one of many national level programs that are targeted toward two-year college students (and sometimes their faculty). I encourage all of you to share of programs you know about, and to pay attention to those announcements that do come through the feed. And encourage your students to apply! You never know when one may end up being a transformative experience in their pursuit of a STEM-based major. 



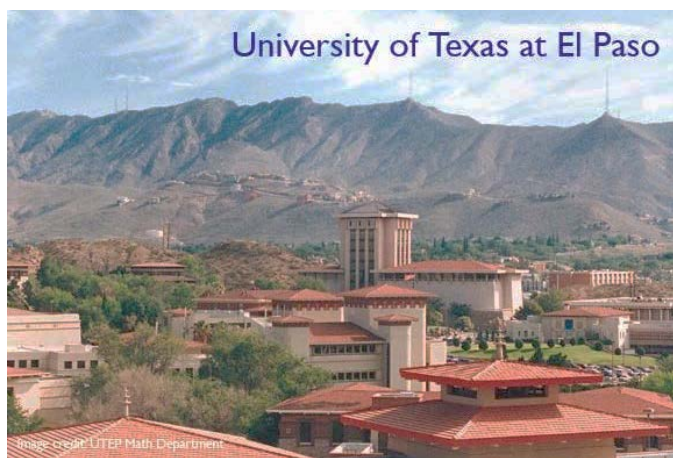
UTEP-ROCCS!

by Joshua Villalobos
El Paso Community College, El Paso, TX

I'm happy to inform you that the REU: *The University of Texas at El Paso- Research Opportunity for Community College Students* (UTEP-ROCCS) is now open for applications! This program targets specifically 2YC students from across the US, and aims to engage them in the study of geologic problems within the El Paso region through a variety of formative research and field experiences. Students will be mentored both by other undergraduate students who have had research experiences, and by faculty from the University of Texas at El Paso (UTEP) and El Paso Community College (EPCC). The project focuses on 2YC students since an increasing number of "traditional" students entering the geosciences spend their first two years at a 2YC and over 50% of underrepresented students start their higher education at a 2YC.

The UTEP-ROCCS program will involve 4 weeks in the El Paso region followed by 4 weeks at their home institutions with intensive virtual mentoring.

The research projects will focus on how the geology and morphology of the El Paso region influence local soil development, surface and groundwater hydrology, and landscape evolution, as well as evolution of the southern Rio Grande Rift. The project will use a model for cognitive change related to social interactions to determine which on-site activities were the most successful at increasing collaboration and the knowledge/skills base of the 2YC students. The model will also assess the quality and degree of interaction between the 2YC participants and their faculty or student mentors. Few REU programs in geosciences specifically target 2YC students to conduct research outside of their community. Thus this REU will serve as a model for other institutions to involve 2YC students in REU projects and the training materials developed will be helpful to other institutions wishing to recruit and retain 2YC students.



The applications for the first cohort of 2YC students for summer '17 are due **January 31st, 2017** and can be found on the [UTEP-ROCCS website](#) along with other program details. If you have any students who:

- Have a minimum GPA of 2.5
 - Will have completed at least two introductory geoscience courses before June 2017
 - Have some mathematics background (pre-calculus ready is preferred)
 - Are US citizens or permanent residents
 - Will be enrolled as a 2YC student (preferably full-time, but not required) in the Spring 2017 semester
 - Have an expected graduation date (for associate's degree) beyond June 2017
 - Have an interest in the geosciences as a career *or* is a Geology/Science Major
- please have them apply!

If you have any questions please don't hesitate to ask either Diane Doser (doser@utep.edu) or myself (jvillal6@epcc.edu). Thanks for your support and we look forward to working with your best and brightest 2YC geoscience students next summer here in Far West Texas!




President's Column

by Brett Dooley

Mt San Jacinto College, San Jacinto, CA

Change can be turbulent and scary, but it provides a catalyst for growth for those who see it through. We have seen this nationally and at the state-level with anti-science rhetoric and policy. Fortunately for me, not ALL change is turbulent. Thanks to the dedication of Kaatje Kraft from Whatcom Community College, and her predecessor Ben Wolfe from University of Kansas, Edwards Campus, I head to the helm of a far more stable ship than has sailed for the past few years. I am also fortunate to have the experience and continuity of Wendi Williams from North West Arkansas Community College, Chris Johnson from Salt Lake Community College, and Tom Whittaker from Unity College all returning to office as secretary/treasurer, webmaster, and newsletter editor respectively. Finally, I am pleased to welcome Callan Bentley from Northern Virginia Community College as the incoming vice-president. It will be an honor and pleasure to work with them to serve the division.

As Kaatje was coming into her role as president of the division last year she said she had been reminded "of the importance of the community we build in our classrooms for our students. As many of our students represent those on the fringe of society, it's the community we build for them in our classrooms and on campus that helps them to keep persisting in spite of their ongoing challenges." I am certain none of us could appreciate the prescience of her words. As this semester winds down and we begin to plan next semester we can focus on building those communities within our classes as well as fostering or solidifying them between colleagues and peers. Our students, those on the fringe of society, are the most vulnerable.

As the new-year approaches, may we find: support from one another, security in our community, and the strength to fight to keep the earth sciences well represented across the country. 

[Insert Exhibit Name Here]: Collaboratively Building an Exhibit from Scratch

by Brett Dooley
Mt San Jacinto College, San Jacinto, CA

A unique collaboration between a 2YC and science center began during the Spring Semester 2016. Dr. Alton Dooley, Jr. recently began as the director of the Western Science Center (WSC) in Hemet, CA. Through a museum educator, he was introduced to physical anthropology professor Erik Ozolins. During a visit to the Mt. San Jacinto College (MSJC) - Meniffee Campus, Erik showed Alton a cabinet filled with cast replicas of a huge range of primate skulls. As Alton recalls, “Even though I don’t do research on humans, most of the skulls were familiar to me. In my previous job at the Virginia Museum of Natural History, I collaborated with my wife Brett Dooley, who was then a biology and geology professor at Patrick Henry Community College, to develop museum short courses to teach human evolution to high school and college students using many of the exact same casts. Erik, of course, was using the skulls for exactly the same purpose in a classroom setting.” It was just two guys geeking out to science. Alton mentioned something about wishing his museum had access to such a collection because it could make a compelling exhibit on

human evolution. Erik thought the two institutions could work out such an arrangement, particularly if MSJC students were involved. And so it began ...

Over the next few months, the two talked about ways Erik could help the museum gain access to specimens and Alton could provide MSJC students with authentic museum experiences without removing the cast skulls from the students enrolled in anthropology courses. Erik wrote an internal grant through MSJC since the project would meet two key components of the college’s mission: student classroom instruction and community outreach. Once the exhibit closes, the casts will be relocated to the anthropology department at the MSJC - San Jacinto Campus, which does not have as robust a collection as that on the Meniffee Campus.

MSJC “has a course/program called Cooperative Work Experience (which is essentially an occupational internship). Alton and the WSC would be the employer for the students and Erik would serve as the faculty advisor. Erik and the other full-time Anthropology professor at MSJC, Pam Ford, identified possible Anthropology majors at the college who might be interested in the project.” Erik

sent an email to all majors, hoping four or five students would be interested, and ending up hearing from 14 interested in the initial meeting. By the second meeting, seven students signed up for the internship.

Under the guidance of Alton, Darla Radford (WSC’s collections manager), Erik, Pam, along with help from Brittney Stoneburg (WSC’s

marketing and events associate), and input by yours truly, these seven MSJC students began to plan an exhibit. It was decided students, faculty, museum staff, and I would meet monthly. The first month involved brainstorming ideas for: topics to be included, exhibit layout, and exhibit title. Six hominin taxa were decided upon for heavy focus in the exhibit. Students selected the taxon in which they were most interested, were to do a preliminary information search about the taxon, and be ready to



Professor Erik Ozolins (left) & Dr. Alton Dooley (right)

do a brief report out during the next month's meeting. And thus the saga continued...



Erik facilitating conversation to decide on taxa to include.

During the second meeting Darla took the students through the WSC exhibits to look with a critical eye at how information was presented. For most of the students this was the first time their focus was on presentation rather than content and it involved a rather steep learning curve. For the first time students faced the notion that how information is presented and the manner with which different components within an exhibit work together are just as important as what specimens are on display. Later in the semester Erik and a number of students took a trip to the San Diego Museum of Man to investigate further how exhibits are put together, and particularly how an exhibit on hominin evolution was designed.

Throughout the semester, students refined the research they were doing based upon input and recommendations by Erik, Alton, and Darla. Each month the group met to revise ideas for what to include and how to include it. Darla introduced the students to a common layout schema for focal and subsidiary components of the exhibit and a swath of natural colors that could be used to design the exhibit panels. Of course, students also continued with content revisions.


An interesting thing happened over the course of the semester. The students who stayed involved grew bolder. Early in the semester, Alton and Erik would talk a lot, and their intonation, speed of monologue, and physical expressions made it easy to pick up on the enthusiasm they had. One could see the students absorbing the knowledge but also the passion. The

growth and maturation of their intellectual rigor was astonishing. The students entered the internship at different points in their studies, with different writing abilities, with varying levels of self-confidence, and different degrees of familiarity with museums and the nuanced differences between writing an academic paper and a text panel for public consumption. One of the most rewarding aspects of taking part in the project is seeing changes in the students, many of whom are non-traditional. A woman, who had been one of the shyest students in September, began by April to voice her opinions. She even gained the confidence to question suggestions made by others, including her professor!

More than creating a high quality exhibit, the school-museum collaboration had numerous, positive impacts. The students gained a unique set of experiences, including essential 21st Century skills such as collaboration, technology use, and critical thinking that will help all of them as they continue their education. The professors have seen the influence of this experience on student self-efficacy and growth of content knowledge, which will hopefully lead to a greater degree of service learning. The community and college have a wonderful, showcase of home-grown talent of which to be proud. The museum has broken ground for a potential source of collaborative efforts to keep creativity with rotating exhibits high. The exhibit just opened, and I couldn't be more proud to have been a part of it!



@MaxMaston watching Darla and Peter finishing some sign installation.


For additional details on this project you can read the student and professional participant [blog](#) maintained by the WSC. 

Outstanding Adjunct Faculty Award Updates

As the members of the Outstanding Adjunct Faculty Award (OAF) Committee, we are very pleased to remind you that we will have an election for the annual OAF coming soon. Each of these quarterly winners, Robert Rohrbach from El Paso Community College (Summer 2015), Bernie Dougan from Whatcom Community College (Fall 2015), Jessica Moore from SUNY Ulster (Winter 2016) and John Maher from Johnson County Community College (Spring 2016) is doing great work for their college and their students. We ask you to determine who deserves the annual award along with \$750 funding for a professional development opportunity of their choosing provided from Pearson Publishing. The ballot is available via [this link](#), and requires you to login. Voting will run through the end of the year. Voting for the OAF shows your support for our hard working adjuncts. Please remember to keep those nominations coming throughout the year and remember we welcome self-nominations as well.



Lastly, we hope you will consider joining our award committee. We're looking for a little bit of new blood to add into the mix. The time commitment is minimal, but the impact is so important for our adjuncts. We hope you'll consider joining us in reading about these amazing faculty, we welcome adjunct or full time faculty. If you are interested, please email Kaatje Kraft (kkraft@whatcom.ctc.edu).

And regardless of if you're on the committee or not, we hope you'll continue to spread the word about this award. 

The (Geo2YC) Haps

A few of you have been letting us know about events you have participated in recently. We'd love to share a few more stories about conferences, field trips, workshops, or other events that are happening or have recently happened (the haps) in your neck of the woods...

Submitted by Karen Layou (Reynolds Community College, Richmond, VA):



Not even Hurricane Matthew could stop Geo2YC students and faculty from participating in the 46th Virginia Geological Field Conference (VGFC) on Saturday, October 8! The VGFC is a state-wide organization of professional, academic, and amateur geoscientists who gather annually to take in the geology around the Commonwealth. These field trips are particularly beneficial to students as a chance to network and engage with a variety of geoscience professionals. This year's field trip explored the effects of modern and historical sea-level change on sedimentary deposits of the Coastal Plain of Mathews County. Reynolds Community College geology professor, Karen Layou, was a co-leader of the trip, along with Pete Berquist of Thomas Nelson Community College, Rowan Lockwood of the College of William and Mary, and Rick Berquist of the Virginia Division of Geology and Mineral Resources. Around 60 geoscientists participated, including all of the 2YC faculty and students in the photo above.

Callan Bentley (Northern Virginia Community College, Annandale, VA) captured a number of you at the Geo2YC annual meeting held at the Denver GSA in September:



From left to right: Outgoing NAGT Geo2YC president, Kaatje Kraft (Whatcom Community College), current NAGT Geo2YC secretary/Treasurer Wendi Williams (NorthWest Arkansas Community College), Gretchen Miller (Wake Technical Community College), and Kristie Bradford (Lone Star College – Tomball).



And, on the left, Eric Baer (Highline College) and Bill Richards (North Idaho College).



are doing, we, the Geo2YC officers, wanted to put a brief spotlight on this event. Sponsored by the National Science Foundation (NSF) and the American Association of Community Colleges (AACC) the annual Community College Innovation Challenge seeks to highlight the vital role played by community colleges in building up the U.S. science and engineering enterprise.

The Innovation Challenge is a contest where students tackle real-world scientific challenges. In this, the third iteration, students will submit projects under one of three themes:

- *Maker to Manufacturer*, which considers the development of innovative methods or solutions that address the typical hurdles for small-scale manufacturing.
- *Energy and Environment*, which calls for projects that develop innovative approaches to sustainable pathways.
- *Security Technologies*, which seeks original, practical methods to design, build, analyze and operate computer and network systems that are secure, private and usable.

NSF and AACC invite teams (3-5 students, a faculty mentor, and a community/industry partner) to submit their ideas before February 15th 2017. Resource guides for all three themes, as well as details about the Innovation Challenge submissions, eligibility, and prizes, are available on the challenge's [website](#).

While it is true that this year only one of the three themes is aligned with the geosciences, previous challenges have been more closely aligned. So if not this year, keep an eye out for next year.



Third Annual Community College Innovation Challenge

by Tom Whittaker
Unity College, Unity, ME

In case you may have missed it, and in case this might align with something you and your students

Internships Through the National Parks

by Tom Whittaker
Unity College, Unity, ME

The general theme of this issue of *FOUNDATIONS* has been to present recent and current opportunities for 2YC students to engage in transformative geoscience-based activities or find funding to

support their scholarly activities. Here I wanted to throw out a couple of internship opportunities in the national parks. This time of year I always share these opportunities with my students and I wish I could say that I knew a student who had been able to accept an offer (if you do, and would like to share their/your story with us please get in touch).

Another opportunity out there for our students is the Mosaics in Science ([MIS](#)) Diversity Internship Program. This program (run in partnership with Environment for the Americas and Greening Youth Foundation) provides college students and recent graduates 18-35 years old that are under-represented in STEM (science, technology, engineering, and math) career fields with on-the-ground, natural resource science-based, work experience in the National Park System. A number of projects in previous years have been geoscience-based, and this year looks to be no different ([learn more here](#)).




Each internship is comprised of working eleven weeks in a park followed by a four day career workshop held in Washington, D.C. The time away from home can be limiting factor for some of our students, but interns receive a generous stipend and travel and housing costs are covered. Applications for this program are accepted December 1st 2016 through January 31st 2017.

Separately, the National Park Service also runs a program, in partnership with the Geological Society of America (among others), called “Geoscientists in the Park”. The “[GIP](#)” program also offers internships to students and recent graduates 18-35 years old to work in America’s National Parks for ~12 weeks. Like the Mosaics program a stipend is provided and the program covers housing. Some of these positions are undoubtedly for students who have a number of geoscience courses under their belts, but those students who couple their interest in geoscience with a desire to educate will also find plenty of opportunities.

The deadline for Geoscientist in the Park applications in February 1st 2017, for Spring and

Summer interns, and July 1st 2017 for Fall and Winter interns.

If you know of any further opportunities, at national or regional levels, for students to engage in field-based programs please consider sharing them through our newsletter. Contact me (thomasewhittaker@gmail.com) or any other [NAGT Geo2YC Division officer](#). 

Letter from the Editor

by Tom Whittaker

Unity College, Unity, ME

thomasewhittaker@gmail.com

Dear Colleagues,

Thank you for another great year of thought-provoking articles and exciting announcements! Of course, as this year ends and another begins we continue to be on the lookout for new material. If you are looking to let people know about work you are doing may I encourage you to keep Geo2YC and the newsletter in your thoughts.

With the New Year comes a new “volume” of the newsletter (vol. 6 if you can believe it!). As you may know, each volume carries a unique banner image overprinted with the newsletter name. For 2017 we would like to “crowd-source”, and obtain permission to use an image you have taken of a rock up close, or a thin-section micrograph.

At this time of year it is also common for many subscriptions to expire. If that is the case for your membership to NAGT and this division I sincerely hope you will consider renewing for 2017.

If you have questions or comments about the content of [FOUNDATIONS](#), or have suggestions for future newsletter items please contact me (see above).

Thank you! 