NAGT Geo2YC Division

FOUNDATIONS

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SAGE Musings: The SAGE 2YC Project Blog

By Carol Ormand
Science Education Resource Center, Carleton College, Northfield, MN

The SAGE 2YC project, Supporting and Advancing Geoscience Education in Two-Year Colleges, now has a project blog, SAGE Musings. We post a new Musing once every two weeks, supporting 2YC geoscience faculty in using evidence-based strategies to improve all students' academic success, broaden participation in geoscience and STEM, and facilitate students' professional pathways in STEM. While most posts are directly related to one of those project goals, others address overarching topics of interest, such as time/task management or catalyzing change in the two-year college setting. You can see the collection of blog posts, and search the collection for postings on specific topics, here: http://serc.carleton.edu/sage2yc/musings.html.

SAGE Musings emerged as a blog from bi-weekly emails we were sending to our cohort of "Change Agents" – two dozen 2YC geoscience faculty members in ten teams across the US: http://serc.carleton.edu/sage2yc/teams/index.html. After sending a number of these emails to our Change Agent teams, we realized that they are likely to be of interest to a much larger audience. To this end, we encourage you to share SAGE Musing blog posts, and the information they contain, with

A screenshot of the SAGE Musings home page.

	Supporting the Academic Success of All Students	Broadening Participation in STEM	Facilitating Students' Professional Pathways	Catalyzing Change	Other
Think-Pair-Share	X				
Geoscience Careers			X		
Last Day of Class	X		X		
Stereotype Threat		X			
Backwards Course Design	X				
Metacognition and Mindset	X				
Time-Task Management					X
Assessing Student Understanding Through ConcepTests	X				
Recruiting Students into the Geosciences			X		
Using the Math You Need to Support Quantitative Skills	X				
Microvalidation		X	X		
Involving Students in Authentic Research	X	X	X		
Student Motivation	X				
Preparing Students for the Geoscience Workforce			X		
Blogs					X
Student-Centered Syllabi	X				
Teaching Geoscience Online	X				
Developing Students' Science Identity			X		
Institutional Change at Two-Year Colleges				X	
Seeing the World Through Multiple Frames				X	

your colleagues. We also welcome comments on the blog posts; we hope that they stimulate ideas and conversations for you and your colleagues.

At the time of this publication, blog post topics have included all those shown in the table above. If you have ideas for topics you would like to see addressed in future SAGE Musings, please send your suggestions to Carol Ormand at cormand@carleton.edu. And if you know of colleagues who are interested in the topics addressed in these blog posts, please tell them about SAGE Musings.

The SAGE 2YC project and its website are the product of two awards from the National Science Foundation's Division of Undergraduate Education.

Report From Our 2015 Outstanding Adjunct Faculty Award Winner

By Karen Bridges
Howard Community College, Columbia, MD

Since being named the recipient of the NAGT 2015 Outstanding Adjunct Faculty Award, my career has taken a turn. In August, I began a full time position at Howard Community College in Columbia, MD. Along with the new appointment came the

herculean task of redeveloping the Fundamentals of Soil Science course and its associated laboratory. Not having run since at least 2009, the courses materials and supplies were either missing, discarded, or beyond repair. It was my job to get both courses up and ready for the next semester (spring 2017), all in addition to my five-prep teaching load. To add to my apprehension, I had never taken a soils class myself; I only remembered hearing snippets of content imbedded in my geomorphology course -- 30 years ago! The task was daunting, and in developing the course, one specific obstacle I encountered was trying to obtain samples depicting various soil structures. While collecting local soils were a possibility, aimlessly digging trenches in the forests in and around Columbia, Maryland did not seem like the best approach.

Pearson

In a seemingly unrelated situation, the engineering department in my division recently secured several 3D printers, available for faculty, students', and community members' projects. Each semester, proposals are submitted to the 3D Innovation Hub administrators for approval. Entirely unfamiliar with the printing process, and whether the anticipated outcome was even possible, I submitted a proposal to print models of soil structures for the students in the class, the cost of which would be covered by the Pearson prize. My proposal was accepted and, coincidentally, the first prototypes should be available by the end of this week. The product was not completed in time for this semester's students; however, they will be participating in the final printing phase as part of our course. While outside the traditional scope of a soils class, this project has presented a unique opportunity for my students to observe a multidisciplinary approach to solving a problem from beginning to end, as well as receiving an introduction to the possibilities of a relatively new technology.

I want to thank Ms. Sharon Lyon, my department chairperson, for having nominated me for this recognition, and also Pearson Publishing. As faculty, I think we always strive to provide our students with new and relevant experiences, and I have been able to do just that.

President's Column

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

As spring approaches, we tend to think of new beginnings. Flowers bloom; babies are born; a new crop of Girl Scouts pop up at grocery stores with cookies for sale. It is also a time of endings. Within 2YCs, students graduate. While this particular ending is a cause for celebration, sadly, it has recently also been a time when we see colleges collapse departments to save dollars in a difficult economy or with a decline in student enrollment.

Typically, chemistry, physics, and biology departments remain safe because they are foundational for traditional career pathways, like engineering and biomedical sciences. That leaves geoscience (departments/programs/courses) – often thought of by others as a "soft" science with a narrow range of career opportunities – to bear the brunt when dollars for the support of science are limited. For a time during the early 2000s,

environmental science programs thrived and kept geosciences alive. More recently, conservative financial decisions, growing political and social distrust of the roles played by science and scientists within society, and declining importance of the environment as an issue among the populace threaten even those programs.

When I left a full-time position with a split biology/geology load two years ago, the geology portion was not replaced. Currently, a colleague in Illinois is facing the strong possibility of being laid off, for budgetary reasons. This will mean the loss of all geology, meteorology, and astronomy courses at the college. There are undoubtedly other examples of which I am unaware, as this is a difficult statistic to calculate (Wilson, 2016).

A few years ago, the two-year division solicited contributions for a white paper on the need for geoscience to educate a science-literate citizenry prepared to consider the consequences of major challenges that face us nationally and locally. As you reflect on the semester consider the role you have in students' lives, especially those not entertaining the pursuit of further science education. Please, have an eye open over the coming months for emails soliciting input for finally completing this white paper. Respectfully, I ask you to consider voicing your ideas even if you have previously not done so.

Citation: Wilson, Carolyn, 2016. "Status of the Geoscience Workforce, 2016" American Geosciences Institute

2YC-4YCU Transfer Support Workshop

By Heather Macdonald
College of William and Mary, Williamsburg, VA

We want to let you know about a workshop on **Building Pathways for Success: Supporting Student Transfer from Two-Year Colleges to Four-Year Colleges and Universities** that we'll be offering at the Earth Educators' Rendezvous that will be held in Albuquerque this July.

Nearly half of all undergraduates in the US begin their college education at two-year colleges. Given the importance of community colleges in the academic pathways of so many undergraduate students, what can we do to facilitate the transfer of students from two-year colleges to four-year geoscience and environmental programs? This workshop will focus on strategies to support student transfer, beginning with identifying future geoscientists at 2YCs, continuing through the transfer process, and extending into supporting students who have made the transition to a four-year college or university.

We welcome participation by all those who are interested in supporting student transfer from two-year colleges (2YCs) to four-year colleges and universities (4YCUs). We particularly encourage 2YC-4YCU teams to attend.

The goals of the workshop are to:

- Explore promising practices for supporting transfer students in their pathways from their first geoscience course at a community college to graduation from a four-year college or university
- Share strategies for supporting transfer students, before, during, and after they transfer
- Foster increased communication and collaboration of those interested in building pathways to success for transfer students
- Provide time and structure for participants to develop individualized action plans tailored to their situations

For further information please consider contacting our workshop conveners: Heather Macdonald (College of William & Mary), Norlene Emerson (University of Wisconsin-Richland), and Jan Hodder (Oregon Institute of Marine Biology).

CLICK HERE TO
Nominate your Outstanding Adjunct Faculty
or visit
http://nagt.org/nagt/divisions/2yc/oafa_nomination.html

2016 Outstanding Adjunct Faculty Award Winner – Jessica Moore

By Karen M. Layou
Reynolds Community College, Richmond, VA

The OAFA Committee would like to congratulate Jessica Moore of SUNY – Ulster County Community College, who was voted by Geo2YC Division members as the winner of the 2016 Outstanding Adjunct Faculty Award! Jessica will be receiving a professional development stipend of $750 from Pearson Publishing, which she hopes to put toward taking a course in curriculum or field course development so that she may continue to bring the world of geoscience to her classroom. We look forward to hearing from Jessica in a year to find out where she's going to take her students next!

For those of you who follow the OAFA, starting in 2017, the award cycle has been restructured. We will now have three honorees recognized throughout the calendar year (Winter, Spring, and Fall) with an annual winner selected from those three and announced in December. This keeps the award cycle within a calendar year and timed with the Geo2YC Division Foundations newsletter publication schedule. All three honorees will receive complimentary membership to NAGT and the Geo2YC Division for a year, and the annual winner also receives a stipend from Pearson Publishing. Keep an eye out in this edition of Foundations for the Winter 2017 honoree.

Early Career Workshop for Geoscience Faculty

By Kaatje Kraft
Whatcom Community College, Bellingham, WA

Are you a full-time faculty member in your first three years? Please consider applying for the Early Career Workshop. All of the facilitators are alumni of the workshop. As the facilitator from a two-year college, I think it's critical that our voice is heard at this workshop. It helps you develop a cohort of colleagues who are going through similar experiences in your academic career, but it also helps 4YC/U faculty learn more about how amazing 2YC programs are and why they should want to collaborate with us (some of whom are already eager to do so). Yes, Baltimore is miserable in the July (speaking as PNW summer snob), but the workshop more than makes up for the humidity. There is funding for those who can't afford to pay for the full cost of the workshop, so be sure to apply for those funds if they're needed. If you have any questions, please don't hesitate to contact me directly, I'll be happy to answer any questions I can: kkraft@whatcom.edu

If you are in your first three years of a permanent academic position, please apply to join us for a multi-day workshop in a stimulating and resource-rich environment where you will participate in sessions on topics including effective teaching strategies, course design, establishing a research program in a new setting, working with research students, balancing professional and personal responsibilities, and time management. The workshop is offered by NAGT On the Cutting Edge

professional development program for geoscience faculty with support from the National Science Foundation, Geological Society of America and American Geophysical Union.

The registration fee is estimated to be $1250 ($1200 for NAGT members) will cover the workshop, accommodations on the University of Maryland campus, and most meals. Participants will pay for some meals, and participants or their home institutions must provide transportation to and from the workshop. In cases where the cost of attending this workshop would cause financial hardship, you may apply for a stipend to help defray these costs. Ask your department or university for funds to attend as well – many have been quite supportive. The registration fee will be due in May after notification of acceptance into the workshop.

Our National Science Foundation grant provides funding for the remainder of the operational costs of the workshop. To be supported by these funds, a participant must be either a US citizen, a permanent resident, or in the employ of a US institution. If you don't meet these requirements and are interested in participating in this workshop at your own expense, please indicate this on the application form.

The application and more details are available on the website and the deadline to apply is March 22nd.

Outstanding Adjunct Faculty Award Winter 2017 Honoree: Sherry Oaks

By Karen M. Layou
Reynolds Community College, Richmond, VA

The OAFA Committee is pleased to recognize Sherry Oaks of Front Range Community College as the Winter 2017 Honoree. Sherry was nominated by Sadredin Moosavi.

Sadredin writes, “Sherry brings her experience and dedication to community college classrooms filled with non-traditional students whose lives reflect the challenges that come when “life happens”. Her presence and patient work serve as a model for students whose lives have been stressed or less than the stereotypical ideal, who still can lead to meaningful careers in the geosciences that contribute to the community. Her background and dedication demonstrate that they are as worthy of faculty with world-class experience as their peers at R1 campuses. Sherry remains professionally active in geoscience education at all levels, currently focusing on development of virtual field trips/experiences in which the student voice is captured in educational products that help their peers whose health or circumstances limit access to the field to participate in this most important component of the geosciences.”

Sherry Oaks and Geology Students viewing Earth System Science at NOAA Science on a Sphere, Fiske Planetarium, University of Colorado, Boulder.

Thank you Sherry, for your efforts in making geoscience accessible to all. We are pleased to support Sherry with a one-year complimentary membership to the NAGT Geo2YC Division, and she will be entered into the pool of honorees under consideration for the Annual Outstanding Faculty Award, which is sponsored by a professional development stipend of up to $750 from Pearson Publishing.

If you are an adjunct faculty working to enhance your classrooms or department, or if you have adjunct colleagues who are doing great things the Geo2YC community should know about, please consider completing a nomination form.

The Deadline Calendar

By Tom Whittaker
Unity College, Unity, ME

It is highly likely that most, if not all, of the following events have already crossed your radar (perhaps even multiple times due to cross-listing of event notifications via email), but here we simply highlight the *deadlines* associated with them.

Workshop for Early Career Geoscience Faculty

Application Deadline: March 22nd 2017

As an alum of this workshop I would encourage others to participate. The only way it could have been better was if there were more 2YC faculty there – maybe we should have our own, but until that happens this is a great experience.
The workshop takes place July 9-14 at the University of Maryland.

Earth Educator Rendezvous

Travel Stipend Application Deadline: April 1st 2017

Early Bird Registration Deadline: May 1st 2017

An event that brings together researchers and practitioners working in all aspects of undergraduate Earth education. At my *alma mater* too!
This event takes place July 17-21 at the University of New Mexico.

Presidential Awards for Excellence in Mathematics and Science Teaching

Nomination Deadline: April 1st 2017

The 2017 Awards will honor mathematics and science (including computer science) teachers working in grades 7-12.

Teaching About Earth Online (Workshop)

Application Deadline: April 2nd 2017

"There is a need to develop best practices for teaching about Earth online, as new technological topics, pedagogical approaches, and teaching materials that incorporate active learning and data emerge. This workshop will focus on best practices, collecting resources, and developing materials that can be widely disseminated."
This event takes place May 30 – June 1 at Penn State University, State College, PA

Where Have You Taken Your Geo2YC Pencil This Year?

The following collection of images are all excellent reasons why you need a NAGT Geo2YC Division pencil – if you haven't already picked one up. If you have, and you've been taken photos of it in use please consider sharing. If you do not yet own one of these fabulous instruments, please look for them at the NAGT booth at the next workshop/conference (and there may also be opportunities to request them by mail).

The images below are submitted to us this quarter by Callan Bentley, our current NAGT Geo2YC VP.Enjoy!

(Above) Volcanic agglomerate, Eshaness, Shetland Islands, Scotland (approximate location 60.5°N, 1.6°W)

(Below) Hand sample of komatiite (from the Komati Fm?) Barberton Greenstone Belt, southeastern Africa

(Above) Buck Reef Chert of the Barberton Greenstone Belt, southeastern Africa

(Below) Barite crystal horizon in Archean Barberton Greenstone Belt, southeastern Africa

(Below) Mylonite from the Moine Thrust, northern Scotland

Letter from the Editor

by Tom Whittaker
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Dear Colleagues,

In the previous issue of this newsletter (Dec 2016), I put out a request for a new banner image for the front page. The request was addressed by Karen Layou of Reynolds Community College in Richmond, VA, who supplied a fantastic image of an Ordovician (Cincinnatian) limestone packed with invertebrate fossils. Thank you Karen!

There may be a similar call for a new banner image at the end of this year, so if you snap an excellent photo or develop a cool diagram (that looks good when reduced to a thin strip) consider submitting it.

I say "may" because my 3-year term as newsletter editor will be up by the time that decision is made. This position, along with one or two other Division Officer positions, will become vacant by the time of the GSA annual meeting. Please keep an eye out for the opportunities to nominate yourself or others for these positions. If you have questions about the newsletter position (time commitment etc.) I would be happy to answer them.

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!