**TED President’s Column**

**Welcome to the Jungle**

By Laura Hollister, Incoming President, NAGT Teacher Education Division; California Science Project Teacher Leader, Stanislaus County High Schools

Hello and welcome to a new school year. Each year, no matter how many years I have been teaching, I am surprised by how much work goes into our profession. The mental work, done throughout the summer as we pursue other activities, the lesson planning and preparation before classes start, and the paperwork and meetings that occupy the hours after class. This is a challenging time for teachers, as we are held responsible for teaching students who don’t have enough food and struggle with housing and work. How can students who worry about basic survival each day fully focus on school? How can we help support them? This is our challenge, but also our privilege.

I encourage you to always begin with kindness and to assume any struggles or challenges your students share with you are real. Teach them that they are professionals, pursuing a job that requires a large and complex skill set, and is filled with challenges. Teach them that they work they do is to be respected and admired. Help them create a strong professional foundation through memberships with professional organizations such as NAGT and NSTA, and encourage them to take their own professional development seriously, as many of the school districts who hire them will not have the funding or focus to do so. Encourage them to build a strong network of peers and mentors who they can lean on for emotional and professional support.

I am excited to work for all of you this year as the incoming TED Division president. I hope to help us continue to develop a roadmap for our work and to foster our connection to one another as we pursue this work. And I hope we can all lean on each other in this challenging education climate. Our work truly impacts the world and I look forward to making a difference with you.

**TED President’s Column**

**Holding to a Higher Standard**

By Eric Pyle, Outgoing President, NAGT Teacher Education Division; Department of Geology & Environmental Science, James Madison University (VA).

One of my pet projects over the last few years, when I started on the NSTA Board, was to track the number of new teacher certifications across science discipline. This was borne out of news reports on the declining enrollments in teacher education programs, and science & mathematics in particular. My own institution was seeing the same trends. But in these reports, actual numbers remained lacking. Fortunately, Title II of the Higher Education Act requires that states contribute the National Teacher Database, reporting on the number of program completers by degree, by subject area, and by major, among other data. Each year, these data are made available in the Fall online, for the previous academic year. Thus, the 2018 report (the most recent) provides 2016-17 data. It is a massive, yet very rich database, well worth exploring (see [https://title2.ed.gov/Public/Home.aspx](https://title2.ed.gov/Public/Home.aspx)).
For a presentation at ESERA (the European Science Education Research Association) meeting this week, I updated my chart filtering the data up to 2017. The numbers continue to be bleak in terms of decline (see Figure 1), but in the last year got even bleaker – there were almost 100 fewer Earth science certifications from the previous year (647 vs. 554). All subject areas in science show a proportional decline. Yet faced with such shortages nationwide, the response by many policy makers has been to lower the bar on what is required to become a science teacher, in a manner that is less than mindful. Short-term or emergency preparation programs have been successful in filling positions in the short-run, but upwards of 70% of these teachers leave the classroom within the first three years, never quite solving the shortage issue. In addition, any new program or substantive policy change can take at least 3-4 years to show any effect, longer than the term for most political offices. This also makes important the debate of whether it should be easier or harder to become a science teacher.

One means of assuring at least basic quality in preparation programs has been through program accreditation, which carries a specific US Department of Education legal definition, such that graduates of a program meet at least basic standards of competency. How this is carried out across the nation varies, with CAEP (Council for the Accreditation of Educator Programs) being the largest single player, currently having agreements with 17 state departments of education (down from 31 states two years ago. Science teacher preparation programs could also seek national recognition from NSTA as a part of that accreditation process, but the process is long and difficult, with few rewards for the preparers of accreditation portfolios.

Recently, there have been two developments in the accreditation/recognition domain. First, NSTA and ASTE (the Association for Science Teacher Education) revised the CAEP recognition standards to reflect the impact of the Framework for K-12 Science Education on the development of science curricula, instructional materials, assessments, and now science teacher preparation (see https://www.nsta.org/preservice). Earth & space science is well represented in within these standards in the context of the Framework. Second, NSTA recently dissolved its relationship with CAEP, leaving no current avenue for national recognition of science teacher preparation programs. As a consequence, however, NSTA is currently considering a revised framework for program recognition, free of the shackles of CAEP. This should translate into a much easier review process in the future.

Where does TED fit in? There are two opportunities that are presented to the TED membership. First of all, the revised standards are not just for secondary grades as before, but structured across all grade levels in the same grade bands as the Framework. As a result, one could apply these standards independently within teacher preparation programs, regardless of grade level, and have a solid backstop for demonstrating the quality of a given program. The second opportunity lies with the recognition review process as it develops. NSTA simply does not have the bandwidth or the manpower at this time to conduct reviews of a larger group of portfolios, and one prospect would be to invite members of affiliated groups to join in the review process. Experience in implementing these standards at one’s home institution would be a solid asset, and I personally invite TED members to use them as soon as possible.

At the end of the day, however, I would contend that barring any structural changes at the policy and social arenas on how teacher are treated (factors we cannot control), we can work towards preparing stronger
teachers of science, their programs guided by these standards (a factor that we can control). This changes the argument of whether we should make it easier or harder to become a science teacher. Instead, we should hold programs that prepare teachers to a higher standard and recognize them for their exemplary work. Standards for preparation should be high but documenting the attainment these standards need not be as hard as in the past. The new NSTA standards are a step in that direction.

**Outstanding Adjunct Faculty Award**

*By Kaatje van der Hoeven Kraft, NAGT Geosciences for Two-Year Colleges (Geo2YC) Division; Geology Faculty, Whatcom Community College (WA).*

Greetings all and I hope you are getting geared up for the Fall term (or squeezing the most you can out of those last few days of summer!).

As you get started moving into teaching mode, we would encourage you to consider any adjunct faculty who deserve a shout out for all their hard work for making your program the success that it is.

Consider nominating them (or yourself) today, it's easy and fast! [https://nagt.org/nagt/divisions/2yc/oafa.html](https://nagt.org/nagt/divisions/2yc/oafa.html)

Each seasonal winner is awarded an annual membership to NAGT and each annual winner (vote will be coming this fall!) receives a $700 award from Pearson Publishing to apply toward professional growth. So nominate someone today!

**NAGT Advocacy Committee Update**

*By Suzanne Metlay, Past-President, NAGT Teacher Education Division; Teachers College, Western Governors University (UT).*

The NAGT Advocacy Committee has **two vacancies for 2020** – this is your opportunity to get involved! This active committee discusses geoscience education concerns across the country, from controversies about state science standards to proposed legislation. Each committee member serves a renewable three-year term. Self-nominations are OK, especially candidates from under-represented groups in geosciences; the committee seeks to diversify membership. Please indicate your interest to incoming chair Catherine Riihimaki at car3@princeton.edu

Join the NAGT Advocacy mailing list: [https://nagt.org/mailman/listinfo/Nagt_advocacy](https://nagt.org/mailman/listinfo/Nagt_advocacy)

Look at the Advocacy Committee site at [https://nagt.org/nagt/policy/index.html](https://nagt.org/nagt/policy/index.html)

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**Scientists urged to join Youth Climate Strike on F 20 Sept**

*By Suzanne Metlay, Past-President, NAGT Teacher Education Division; Teachers College, Western Governors University (UT).*

Teens across the United States, inspired by teens in Europe, have been walking out of classrooms on Friday afternoons to protest inactivity on climate change by political leaders. On 20 September 2019, they invite adults to join them, especially scientists and science educators.

For more information, please see: [https://globalclimatестrike.net/](https://globalclimatестrike.net/)

- March for Science: [https://marchforstrike.com/events/scientists-join-the-global-climate-strike](https://marchforstrike.com/events/scientists-join-the-global-climate-strike)

**Adult Ally Guide:** [https://docs.google.com/document/d/1VcrJn-KY0wgc91jt5-RURIDjIYCqtSPfAwb9A7eaTc/edit](https://docs.google.com/document/d/1VcrJn-KY0wgc91jt5-RURIDjIYCqtSPfAwb9A7eaTc/edit)
TED Business Meeting and NESTA-sponsored Session at GSA-Phoenix

Stop by the NAGT Booth to get your TED luggage tag and use the GSA Meeting App https://gsa.confex.com/gsa/2019AM/meetingapp.cgi to schedule 2 upcoming events:

TED Business Meeting – All members are welcome!
- Sunday 21 Sept. 5:00-5:45pm in the Sheraton Hotel, Encanto B
- Please volunteer to serve on TED committees and look ahead to becoming an officer!

253 T189. Research and Strategies to Build a K–12 Geoscience Teacher Workforce
Cheryl L.B. Manning¹, Carla McAuliffe² and Belinda E. Jacobs¹,², (¹)National Earth Science Teachers Association, Fort Collins, CO (²)Center for STEM Teaching and Learning, TERC/NESTA, Cambridge, MA (³)1013 Pine Creek Dr, Austin Community College, Austin, TX

Volunteer at the NAGT Booth during AGU-San Francisco!

AGU FALL MEETING

Join us from 9 – 13 December 2019 in San Francisco and celebrate our Centennial.
https://www.agu.org/fall-meeting

NE/SE Sections Combined for GSA-Reston (VA) in March 2020
By Christopher Roemmele, NAGT Eastern Section Liaison, Department of Earth & Space Sciences, West Chester University (PA).

Looking for presenters for this session:
Reimagining Earth-Science Teacher Education: Reworking Veteran Approaches for Innovations in Preparing Geoscience Teachers
A session for earth-science teacher educators and geoscience teachers K–16 to share practices and insights in preparing new science teachers by revisiting, reminding, or emphasizing tried-and-true methods underlying aspiring new ideas in lesson planning and delivery, pedagogical content knowledge, NGSS and 3-dimensional learning, and earth-science literacy.

And this one - anyone willing to share a lab or activity at K-16 level:
NAGT and NESTA Share-a-Thon: I’ve Got an Activity (Lab or Demo) for That!
Join NAGT and NESTA members as they share their favorite geoscience classroom activities—lessons, labs, demos, and more. Promote scientific inquiry, active and hands-on learning, and critical thinking—with lots of free resources!

And one more -
A field trip for K-12 teachers - the Geology of Washington, DC area - led by Callan Bentley of NVCC
This trip examines the geology of Washington D.C., visiting exposures in C&O Canal National Historical Park, Rock Creek Park, Georgetown, and Lanier Heights, with lunch in Adams-Morgan. The trip discusses oceanic sediments, Snowball Earth, the Rock Creek shear zone, igneous rocks and Appalachian mountain-building, dinosaur bones, fossil trees, and Cenozoic erosion and faulting.

Also, next June 4-7, 2020, the NAGT Eastern Section conference meeting will be held at West Chester University, in West Chester, PA. There will most definitely be field trips to explore the varied geology of the Piedmont area of southeastern PA, and the old mines and quarries of the region. Tentative workshops include geoscience pedagogy, data mining/big data, and working with drones. Anyone can contact me for more information: CROEMMELE@wcupa.edu

Earth Educator Rendezvous Report
Sincere thanks to Peggy McNeal and Laura Hollister for representing TED at EER-Nashville in July 2019!
TED sponsored or contributed to the following events:
- 5 travel grants to qualifying K-12 teachers (+ one additional travel grant to 2YC instructor in memory of Sherry Oaks); Laura met one of the teacher travel grant recipients!
- “Saltine” social co-sponsored by all three NAGT professional divisions (GER, Geo2YC, & TED)
- Refreshment break between sessions
- Luggage tags available for TED members

Earth Educator Rendezvous 2020 will be at Stanford University in Palo Alto, CA!
https://serc.carleton.edu/earth_rendezvous/2020/index.html

TED Officer Election Results for FY20
Congratulations to the newly-elected officers of the Teacher Education Division! TED officers and ex officio members will rotate to their new positions at the TED Business Meeting at GSA-Phoenix on 21 September 2019.

NAGT Teacher Education Division Elected Officers 2019-2020
President: Laura Hollister, Turlock (CA) School District
Vice-President: George Bartuska, Lawton Chiles Middle Academy (FL)
Secretary-Treasurer: Peggy McNeal, Towson University
Media Director: Suzanne Metlay, Western Governors University
Past-President: Eric Pyle, James Madison University

Ex Officio Members of the TED Executive Committee
NAGT Executive Committee Liaison: Kathy Ellins, University of Texas at Austin
NAGT Eastern Section Liaison: Christopher Roemmele, West Chester University
NSTA Liaison: Paul Adams, Fort Hays State University
NSTA Region XVI Liaison: Rick Jones, University of Hawaii
NAGT Teacher Education Division Elected Officers 2018-2019

President: Eric Pyle, James Madison University
Vice-President: Laura Hollister, Turlock (CA) School District
Secretary-Treasurer: Peggy McNeal, Towson University
Past-President & Interim Media Director: Suzanne Metlay, Western Governors University

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Suzanne Metlay is solely responsible for content in this newsletter. No advocacy is intended during reporting of relevant news stories. Any bias is unintentional.