



The Space Above Albuquerque

Einstein Fellow receives Geological Society of America honor

Alumni Update

Einstein Fellows as AAAPT Master Teachers

Where Are They Now: Making an Impact in Fairfax County

Current Einstein Fellow Doug Baltz on Michigan STEM Partnership Board

Coming to Los Angeles for NSTA? Join us March 31, 5-7PM at **Tom's Urban** for our first official Einstein Fellowship Alumni Meeting. We look forward to seeing you there to catch up!

Join Us:



The Space Above Albuquerque

By Guest Writer and Current AEF Fellow: Jennifer Lane

As an Einstein Fellow in the NASA Aeronautics Research Mission Directorate (ARMD) my primary function is to provide education and outreach to agencies, schools, museums and informal educator groups in support of STEM education with a focus on aeronautics and specifically, NASA's role in aeronautics. My first outreach opportunity, found me traveling to Albuquerque, New Mexico for the *Albuquerque International Balloon Fiesta*. This 9-day event, held each year in early October attracts balloon enthusiasts from

all over the world with news coverage originating from more than 50 countries. In support of the international festival, NASA ARMD coordinates an agency exhibit to highlight the tagline, "NASA is with you when you fly" as well as their involvement in scientific balloon research and development. During the event, my assignment was to conduct an educational demonstration, "Peeps in Peril", [\(Continued on Page 2\)](#)

The [Joint Science Education Program/Joint Antarctic School Expedition](#) program applications are open through January 31st. These two NSF funded programs bring high school students to Antarctica and Greenland. For further information visit their website at: <https://dickey.dartmouth.edu/environment/programs>.



AEF Fellow Receives Additional Honor As Geological Society of America Fellow

Throughout her career, Aida Awad, 2016-2017 Albert Einstein Distinguished Educator Fellow, has been a fierce advocate for the improvement of K-12 earth-science education. In addition to providing countless students with an exemplary introduction to geology, she has held key leadership positions in the National Association of Geoscience Teachers (NAGT) greatly advancing both NAGT and the education mission of the Geological Society of America (GSA). Her effort has not gone unnoticed. Society [\(Continued on Page 2\)](#)

Alumni Update:

Prior to his AEF Fellowship, Dr. **Daniel Carpenter** taught high school science for twenty years in Lincoln, NE. He credits the fellowship with propelling his career in higher education and policy advocacy work at the community and institutional levels. Now, as a professor at Texas Tech University, he chairs the graduate STEM education program and the Graduate Academic Advisory Council, providing guidance on related policy.



(Cont.'d-ALBUQUERQUE)

to facilitate public understanding of the need high-altitude pilots have for pressure suits. This demonstration is part of NASA Aeronautics' educational initiative, *Museum in a Box*. *Museum in a Box* provides hands-on/minds-on lessons with an aeronautics theme to inspire future scientists, mathematicians and engineers. The Peeps in Peril demonstration comes from the unit containing physical science lessons on the relationship to temperature, pressure, density and human survival at high altitudes. Participating in the event is a highlight of my experience in the AEF program thus far. With an estimated total attendance of 850,000, the NASA Aeronautics exhibit communicates the often misunderstood or forgotten mission of the first A of NASA, Aeronautics. This opportunity Allowed me to promote my personal fellowship goal of researching inquiry-based learning and STEM education through the lens of NASA Aeronautics' contributions to flight.



NASA Aero "Museum in a Box": <http://www.aeronautics.nasa.gov/mib.htm>

Linkedin: <https://www.linkedin.com/in/jennifer-lane-4291924>

Twitter: @jlaneylady



Did you know that many excellent resources are available to STEM educators through the DOE Office of Science , Workforce Development for Teachers and Scientists (WDTS) website? <http://science.energy.gov/wdts/stem-resources/k-12-educators/>

(Cont.'d-AEF FELLOW HONOR)

Fellowship is an honor bestowed on the best in the profession in recognition of their distinguished contributions to the geosciences and is possible only through nomination by a current GSA Fellow and election at the spring GSA Council meeting. Earlier this year, Dr. Roy Plotnick, Professor at the University of IL Chicago nominated Awad for the prestigious award recognizing her distinguished contributions to the geosciences. Awad received her GSA Fellow ribbons at the GSA Annual Meeting in September in Denver, CO. The ceremony during the Presidential Address honored newly elected Fellows. Aida was an author on three abstracts at the meeting, presenting one oral talk and one poster.

Arthurs, L., Caulkins, J. L., **Awad**, A., Steer, D., Viskupic, K., Iverson, E., & Manduca, C. A. (2016). *Lessons learned from the InTeGrate Project: The challenge of integrating systems thinking into college STEM curricula.*

Awad, A., Arthurs, L., Caulkins, J. L., Viskupic, K., Iverson, E., Baldassari, C., & Manduca, C. (2016). *Lessons learned from the InTeGrate Project: Supporting post-secondary faculty in their design of curricular materials.*

Robeck, E., **Awad**, A., & Sullivan, S. (2016). *Promoting partnerships for NGSS implementation.*

NSTA

Los Angeles, California

March 30 - April 2, 2017

We'll be there! Will you?

Stop by our booth and say hello! See you in Los Angeles!





Einstein Fellows Well Represented in AAPT Physics Master Teacher Leaders

COLLEGE PARK, MD, December 1, 2016 — This weekend, a total of sixteen physics educators will meet at the American Association of Physics Teachers (AAPT). Selected by a committee that include representatives from the AAPT, the American Modeling Teachers Association, and the Physics Teacher Education Coalition, these teachers were named AAPT Physics Master Teacher Leaders. This group includes teachers from around the nation, and includes active elementary and secondary teachers of physics, pre-service teacher educators, and school administrators.

This taskforce is meant to be a response to the growing national need for teacher leadership at the K-12 level, as clearly identified by the President's Council of Advisors on Science and Technology in their 2010 *Prepare and Inspire* report. When educators are so frequently challenged by new initiatives, changing standards, and a diversifying student population, it is important that educators feel fully able to advocate for themselves and their students - along with their network of colleagues - at the classroom, school, district, state, and national level. This taskforce has been looking at ways that the AAPT can support this elevation of the teaching profession through ongoing professional development and leadership programs.

Collectively, these physics master teacher leaders have been working with AAPT HQ to prepare a report to be presented to the AAPT Board of Directors that details a new set of aspirational and coherent professional development and leadership models for K-12 physics education, with an emphasis on engaging teachers as advocates for change. Their strategic planning will provide guidance to the AAPT as it endeavors to recruit, prepare, and retain excellent science educators in the U.S. This work will be based on the existing collaborative efforts of the AAPT with PTRA, AMTA, and PhysTEC supported by a 100Kin10 Microchip Grant. From July through November 2016, these educators met virtually to consider physics teacher leadership, across the spectrum building on prior efforts such as the Teacher

[\(Continued on Page 4\)](#)

Making An Impact in Fairfax County

Former NASA Einstein Fellow Jenay Sharp Leach has accomplished much since her time in the Fellowship. Initially, she returned to the familiar environment of the classroom at Woodley Hills Elementary in Fairfax County, Virginia to teach math and science to curious, energetic students in grades 1-5 and serve as an instructional resource to teachers. It's here she feels some of her best work took place as she inspired students to live their dreams as NASA had inspired her. From there, she moved on to the University of Virginia. While working as a research assistant and supervisor of student teachers, she earned her Ph.D. in Education. Her research allowed her to combine the passions of her teaching career: inquiry, teacher professional development, and science for English Learners. Upon graduation, she returned to Fairfax County Public Schools, one of the nation's largest, most diverse districts. As such, there is always a challenge and something new to learn! Initially, she split her time between roles as a high school physics teacher and elementary science resource teacher. Finally, in the spring of 2016, she was named K-12 Science Coordinator. In this new role, she provides supervision in science for the district with a personal mission to provide all students with equal access to a high quality science education.



Baltz Assumes Leadership Role

Former Einstein Fellow, Doug Baltz was recently inducted into the Michigan STEM Partnership Board of Directors. The ceremony and presentations, held at CBS studios in Southfield, Michigan included a presentation by CBS Detroit on their upcoming 'Future of Innovation and Technology' Initiative (FIT). FIT addresses academic, skills, and opportunity gaps in Michigan. One goal of FIT is to reshape perceptions of manufacturing in Michigan so that the current/future workforce takes pride in the evolving face of the industry. MI STEM Partnerships also promote cross-sector collaborations to facilitate Powerful STEM education and workforce development opportunities across Michigan. For more information, visit (www.mistempartnership.com)

How About You?

Do you have news to share? We welcome submissions regarding your experience in the Einstein Fellowship and its impact on subsequent opportunities. Send your updates and accomplishments to Einsteinfellows@orise.orau.gov. Please put NEWSLETTER in the subject heading.



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Leadership Competencies, the Teacher Leader Model Standards and STEM Teacher Leadership resources developed by the U.S. Department of Education. At the weekend summit gathering, they will share insights on their own personal leadership journeys and craft proposed models for professional development and leadership that can be pursued by the AAPT.

The taskforce members have demonstrated significant teacher leadership in their careers and comprise a diverse set of personal and professional backgrounds from around the nation:

- Katya Denisova (Maryland, In-Service Teacher PD)
- Kelli Gamez-Warble (Arizona, Pre-Service Teacher Prep)
- Zhanna Glazenburg (New York, Middle/High School)
- Steve Henning (Massachusetts, High School)
- Bradford Hill (Oregon, High School)
- Scot Hovan (Minnesota, High School)
- Martha Lietz (Illinois, High School)
- Mike Mangiaracina (Washington, DC, Kindergarten/Elementary)
- Duane Merrell (Utah, Pre-Service Teacher Prep)
- Jeff Milbourne (California, High School)
- Don Pata (Michigan, High School)
- George Louis Ramirez (Texas, High School)
- Bill Reitz (Ohio, High School)
- Rex Rice (Missouri, High School)
- Ann Robinson (Georgia, High School)
- Florentia Spires (Virginia, Kindergarten/Elementary/Middle School)
- Josh Underwood (Kentucky, High School)

In addition, 13 teachers were selected to serve on a Teacher Advisory group, to provide vital feedback to the taskforce as they prepare their report: Patti Ego, John (Trey) Smith, Leah DeWeez, Kelly O'Shea, Alma Robinson, Jeff Steele, Kenric Davies, Michael Strange, Alice Flarend, Larry Cook, Zeke Kossover, Dan Crowe, and Fran Poodry.

The Physics Master Teacher Leader Taskforce is supported by a Leadership Advisory group, including AAPT Board Members Karen Jo Matsler, Jan Mader, and Elaine Gwinn, in addition to Pat Callahan (PTRA), Colleen Megowan (AMTA), and Jon Anderson (PhysTEC).

This article was made available through PressReleasePoint.com

