

Teacher Professional Development through the Pennsylvania Earth Science Teachers Association (PAESTA)



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<http://www.paesta.org/>



Penn State Earth and Space Science Partnership (ESSP)

- **Goal:** improve the teaching and learning of Earth and Space Science (ESS) in middle grades for Pennsylvania teachers and students
- **Approach:** professional development workshops for teachers in 7 urban and rural partner districts
- **Focus:** integrate content and pedagogical improvement



ESSP Teacher Leadership

- Leaders in future workshops
- Present at conferences
 - *PAESTA Conference, NEGSA 2014*
- Publish in practitioner journals
 - See Guertin & Furman (2013), “Mentoring Middle School and High School Earth Science Teachers to Publish.” *In the Trenches*, 3(1): 4-5.
 - Summer 2013 issue of NESTA’s *The Earth Scientist*



Pennsylvania Earth Science Teachers Association (PAESTA)

- State affiliate of NESTA, formed 2011
- **Mission** = To facilitate and advance excellence in Earth and Space science education across the state of Pennsylvania
- **Vision** = To create a strong and active community of Pennsylvania educators working together to elevate the understanding of and respect towards the Earth and Space sciences as a discipline



Welcome to the Pennsylvania Earth Science Teachers Association

We are the Pennsylvania affiliate of the National Earth Science Teachers Association (NESTA®), whose mission is to facilitate and advance excellence in Earth and Space Science education.

Become a member and share your ideas, vision and energy – [join PAESTA](#) today! Membership is free and open to any educator or supporter of Earth and Space science education from Pennsylvania or outside the state.



News from PAESTA

Call for Abstracts: Northeastern Geological Society of America

Geological Society of America (GSA) Northeastern Section, 49th Annual Meeting, March 23-25, 2014,

Science in the News

Deep-Sea Creatures Washing Ashore

Video from CNN.com from October 20, 2013, with footage of the oarfish and saber-toothed whale.

Forum / Featured Member

[Active](#) [New](#) [Featured](#)

- Equipment Loan opportunity
- The Cryosphere and Global Warming
- Weather Patterns
- iPad apps
- Do Moons in our Solar System Support Life?

[More](#)

Earth Science Image

Ground Penetrating Radar at Cumberland Cemetery



<http://www.paesta.org/>

ESS Advocacy

| Advocacy | Forums | Contact |
|----------------------------|--------|---------|
| Position Statements | | |
| Careers | | |
| Discipline Statistics | | |
| Related Orgs and Societies | | |

Roles in the Organization

- Elected officers
- Assistant eNewsletter editor
- Committees
 - Teacher Advisory Committee
 - Teaching Resources Committee
 - Nominations, Awards, etc.
- *Currently, more positions than members serving*

Conference Opportunity

- Annual PAESTA Conference
 - 2012 - 52 attendees, 5 teacher presenters
 - 2013 - 48 attendees, 10 teacher presenters
- *"I've never done anything like this before"*
- *"So should I try to do a presentation along this line or just come and learn from your expert teachers?"*
- *"Do you have anyone who is speaking at the conference on topics related to teacher agency?"*
- *"How would you prefer that I dress? I've never presented at one of these before. My inclination (probably from my business days) would be to wear a suit, but if we want to establish a more casual tone I'd be quite comfortable in khakis and a button-down. Let me know what you'd rather."*
- *"Copyright-wise, is this forum educational? Could my slides include images from websites, as long as I give credit?"*

Encouraging Teachers to Lead Handout

Levels of Leadership for Teachers



Pennsylvania Earth Science Teachers Association

Level 1

- Become a member of PAESTA and receive information via the website, or read the monthly eNewsletter and forward information to colleagues. Level 1 teachers are not proactive about engaging with PAESTA, its membership, or its resources.

Level 2

- Actively use the PAESTA website as a “go to” resource and encourage others to do the same, post or respond in an online discussion forum, attend the PAESTA conference, and recommend membership to colleagues. Level 2 teachers use resources but do not help grow the organization.

Level 3

- Engage in a professional learning community, encourage colleagues to get involved, add materials to the PAESTA Classroom and use or comment on existing resources, nominate self or others for recognition as PAESTAR or Featured Member. A Level 3 teacher will present at the PAESTA conference.

Level 4

- Level 4 teachers will serve on PAESTA committees or as elected officers, present and/or publish curricular innovations, initiate networks and connections between members and actively work to promote the organization and the Earth and Space sciences as a discipline.

Moving ahead

- Increasing the community & identity of PAESTA by/for its members
 - ESS discipline
 - ESS teaching
- Increasing connections to other state organizations
 - PSTA
 - PA Department of Education
- Anchoring and sustaining the organization



T11. Examples of Next-Generation Science Standards Implemented in the K–12 Classroom by and for Teachers

Tanya Furman, Penn State, furman@psu.edu; Laura Guertin, Penn State, Brandywine, guertin@psu.edu.

Description: This session seeks to encourage K–12 teachers to present their instructional methods and curricular innovations as they integrate the new NGSS (The Next Generation Science Standards) into their classroom teaching. We look forward to having K–12 teachers share early successes and challenges with the NGSS. In addition, we welcome university faculty and informal science educators to share their materials and resources that are benefitting K–12 teachers and classrooms.

Abstract deadline: December 10th