Welcome to the second issue of the WVUCE-STEM newsletter!

The fall and spring semesters have already come and gone. As we draw to a close of the summer semester, I would like to take this opportunity to share that WVUCE-STEM hosted its first two non-grant writing related Professional Development workshops in July: the NAPE Micromessaging to Reach and Teach Every Student Academy and UTeach Computer Science Principles. The workshops benefitted West Virginia high school teachers, WVU graduate students, and WVU faculty and staff. You can learn more about these two professional development events inside this issue on pages 5 and 6, as well as other Newsworthy things the WVU Center for Excellence in STEM Education has been up to recently.

I wish all of you a successful upcoming fall semester, and we, WVUCE-STEM, look forward to continue to work and partner with you.

Kindest Regards,

Gay Stewart
Director, WVU Center for Excellence in STEM Education
Eberly Professor of STEM Education and Professor of Physics
On April 22, 2017, WVUCE-STEM and WVUteach joined science advocates and scientists for the Morgantown March for Science. Photo taken from WV Gazette online article “Hundreds turn out for science marches in Morgantown, Huntington:” [Link to article](http://www.wvgazettemail.com/news-politics/20170422/)

In The News

March for Science

Approximately 500 participants gathered in front of WVU’s Woodburn Hall in Morgantown, WV, on Saturday, April 22, 2017, to kick off the WV March for Science. Both WVUCE-STEM and WVUteach were sponsors of the Morgantown event.

Per the March for Science [website](http://www.sciencemarches.org/), the March for Science occurred in more than 600 cities around the world. The March united participants around the important goal of championing science for the common good. The March was the beginning of a movement to:

- “Strengthen the role of science in policymaking
- Improve science outreach and communication
- Advance science education and scientific literacy
- Foster a diverse and inclusive scientific community.”

Giving WVU a national voice in STEM Education

WVUCE-STEM recently became an affiliate member of The National Alliance for Partnerships in Equity (NAPE).

NAPE is a consortium of state and local agencies, corporations, and national organizations. Through its four lines of business—professional development, technical assistance, research and evaluation, and advocacy—NAPE strives to achieve its mission of building educators’ capacity to implement effective solutions for increasing student access, educational equity, and workforce diversity.

West Virginia is a member state. WVUCE-STEM is collaborating with NAPE through an NSF-sponsored Robert Noyce Scholarship program to bring improved preparation to future teachers in these areas and to provide professional development for educators in WVUteach partner schools.
In The News

100Kin10 2017 Summit

WVUCE-STEM joined 260+ partners at the 6th annual 100Kin10 Summit held at the Intrepid Air and Space Museum in New York, NY, April 24th-26th, 2017.

WVUCE-STEM represents WVU in 100Kin10, a networked effort of 300+ partners working to support STEM educators and to train 100,000 excellent new STEM teachers by 2021. 100Kin10 partners include academic institutions, nonprofits, foundations, corporations, and federal agencies.

As a highlight of the 2017 Summit, President Clinton addressed the group of partners, who have already together trained more than 40,000 new STEM teachers in the first five years, and are on track to prepare 100,000 highly qualified STEM teachers by 2021. WVUCE-STEM and WVU are contributing towards the 100Kin10 goal through the WVUteach Program.

State STEM News

- On March 8, 2017, the WV Board of Education (BOE) decided, in a voice vote with no nays, to not label entire schools with A-F grades next school year.
- On March 23, 2017, members of the state BOE voted for Steve Pain to be the new superintendent of schools.
- On April 13, 2017, in a voice vote with no nays heard, the WV BOE approved providing computer science courses that public high school students can take to satisfy math and science graduation requirements.
In The News

WVUteach for a Day / WVUteach Day

As an early celebration to Teacher Appreciation Week, a number of UTeach programs across the country participated in UTeach for a Day as part of the UTeach 20th anniversary celebrations.

On Tuesday, May 2, 2017, from 1:14 p.m. – 2:25 p.m., a team of WVUteach students, Danielle Schlapo and Drew Schaefer, and WVU President, Dr. Gordon Gee, taught a mathematics lesson in the 5th grade classroom of Ms. Melissa Forinash at North Elementary School.

The day culminated at 7:00 p.m., when the Mayor of the City of Morgantown, Mayor Shamberger, declared May 2, 2017 as WVUteach Day!

Nationwide STEM News

- On March 9, 2017, the U.S. Senate voted 50–49 to end an accountability rule previously issued to identify and help struggling schools and students as part of an effort to help states implement the 2015 Every Student Succeeds Act.
- On March 15, 2017, the United States Senate Committee on Appropriations Subcommittee on Labor, Health and Human Services, Education, and Related Agencies held a hearing entitled, “STEM Education: Preparing Students for the Careers of Today and the Future.”

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Nationwide STEM News

On March 16, 2017, The STEM Education Coalition released a [statement](#) on the President’s Proposed Budget.

On March 21, 2017, the STEM Education Coalition released its [2016 Annual Report](https://example.com).

The National Association of State Boards of Education (NASBE) has launched a [website](https://www.nasbe.org) that tracks all 50 states’ boards of education meeting minutes regarding ESSA plans.

The Education Development Center (EDC) released their [State of the States Landscape Report: State-Level Policies Supporting Equitable K-12 Science Education](https://www.edc.org). This report surveys state-level efforts to improve access to K-12 computer science education opportunities in the United States.

On Monday, March 27, 2017, [President Donald Trump signed bills overturning two Obama-era education regulations](https://example.com), scrapping requirements for programs that train new K-12 teachers and rolling back a set of rules outlining how states must carry out ESSA.


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**In The News**

**NAPE Academy**

WVUCE-STEM hosted a professional learning event by the National Alliance for Partnerships in Equity (NAPE) Education Foundation July 11-14, 2017 at the WVUteach House.

Twenty-one WV teachers, WVU graduate students, and WVU faculty and staff participated in the workshop.

The program specifically addressed how to reach and teach every student in a math or science classroom. Embracing three key elements of professional learning, in-person workshops, professional learning community, and action research, the NAPE Academy is designed to increase the academic performance, and program completion of every student by providing a professional growth opportunity for educators with immediate application that will improve classroom pedagogy and instruction.
In The News

UTeach Computer Science Principles (CSP)

During the week of July 17-21, 2017, twenty-five West Virginia high school teachers gathered at the WVUteach House for the UTeach Computer Science Principles (CSP) professional development event.

UTeach CSP is a complete high school curriculum—designed by University of Texas at Austin computer scientists and experienced high school computer science teachers—that introduces students to the big ideas in the field of computer science through inquiry-and project-based learning approaches.

UTeach CSP was made possible through funding by The Education Alliance, the National Science Foundation, and the West Virginia Department of Education.
I received my PhD from the University of Illinois, Urbana-Champaign in 1994 for work in Condensed Matter Theory. Since that time I have directed my efforts toward Physics Education Research. My work attempts both to further understanding about how physics classes produce learning and how physics departments can work to more effectively to serve all students. I was part of the team that lead the physics departmental transformation at the University of Arkansas which increased the number of physics graduates from 2 per year to 27 per year and made the department a national leader in the graduation of highly qualified physics teachers.

My primary research interest is understanding physics class functioning, how that function can be improved, and the description of the knowledge state of physics students. Through the STEM-R grant, an NSF sponsored research grant for which I am the PI, I also study how math and science classes influence student retention and through the Pulsar Search Collaboratory grant how informal science programs shape student career decisions.

The STEM-R project partners with Jessica Deshler and Edgar Fuller of the Mathematics Department and Seth DeVore of the Physics and Astronomy Department to track the evolution of STEM students' affective state (self-efficacy, self-esteem, STEM identity, and sense of belonging) and their sense of career identity as they matriculate through the core sequence required for physical science and engineering majors: Calculus I, Physics I, Calculus II, and Physics II. The overall goal of the project is to identify the point where departure from the STEM disciplines nucleates and to use this knowledge to construct interventions to retain students to STEM.

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*Continued Faculty Member Spotlight*

The Pulsar Search Collaboratory (PI, Maura McLaughlin) supports a set of out-of-school science clubs across the country in which high school students examine real radio astronomy data to search for pulsars (rare astronomical objects). My work on the project, with partners Kathryn Williamson in Physics and Sue Ann Heatherly at the National Radio Astronomy Observatory, examines the evolution of high school students’ decisions to pursue STEM careers and the effect of programmatic elements on this decision. It will also do a detailed analysis of web traffic patterns as indicators of persistence in the project.

I am site leader of the American Physical Society’s Physics Teacher Education Coalition WVU site which works to graduate more highly qualified high school physics teachers in partnership with WVUteach. The project teams with Paul Miller in Physics and Jeffrey Carver in Curriculum & Instruction/Literacy Studies (CILS). WVUteach is a UTeach replication site which allows STEM majors to earn both a degree in their discipline and teaching certification in 4 years.

I am also the PI for the WVUteach Robert Noyce Scholarship program which will aid the transition to teaching for late-career WVU STEM majors. This project with Nancy Spillane (WVUteach Master Teacher), Matthew Campbell (CILS), and Jeffrey Carver (CILS) will provide scholarships to grow the WVUteach program while also delivering an innovative professional development program designed to prepare students for teaching in high needs environments. The first round of scholarship applications are now being accepted. Eligible students should be STEM majors who are juniors or seniors (or super seniors) and are part of the WVUteach program. Students receiving scholarships are expected to teach for two years in a high needs school for each year of scholarship support. We expect to make the first awards for the Fall 2017 semester.

I am currently (2017) the Chair of the American Physical Society’s Forum on Education and the American Association of Physics Teachers’ Committee on Teacher Preparation. I was for many years the editor of the National Science Digital Library’s portal on physics and astronomy teacher preparation. I was elected an APS Fellow in 2016 for my work on teacher preparation and departmental transformation.

For more information about the many projects my wife and I have been involved in and for resources for teachers and students visit StewartPhysics.com, our personal web site.

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