

2017 Spring Meeting

The SEPS AAPT Spring Meeting will take place **March 17 and 18 at West Chester University.**

ACT 48 Credits available - FREE PARKING - campus map available

To register, please, send your check (made out to SEPS/AAPT) to our Treasurer and indicate your school or college and which afternoon workshop you will be attending.

TREASURER: Art Zadrozny, 16 Painters Lane, Chesterbrooke, PA 19087

Deadline for pre-registration is Friday, March 3rd.

FEES:

Friday night buffet dinner	SEPS Members: \$25	Non-Members: \$30
Saturday (includes light breakfast, lunch and workshops)	SEPS Members: \$40	Non-Members: \$45

Late, on-site registration: \$55

SCHEDULE OF EVENTS:

Friday

Buffet dinner / Registration	6:00 pm	
Friday Night Speaker	7:00 pm	Shawn Pfeil of West Chester University <i>Topic: Nanofabrication without the Nanofab (abstract below)</i>

Saturday

Coffee & Registration	8:30 am	
Introductions	9:00 pm	West Chester University Physics Department
Speaker	9:15 am	Paul Angiolillo, St. Joseph's University <i>Topic: Carbon-based Electronics: A Nexus of Physics, Chemistry and Biology</i>
Panel Presentation	10:30 am	Why Physics First for 9th Graders? <i>Discussion of the pros / cons of a Physics-Chemistry-Biology 3-year sequence</i>
Business Meeting	11:45 am	Election of Officers, reports
Lunch / Tour	12:15 pm	During lunch, there will be an opportunity to tour the West Chester Physics Labs
Afternoon Session	1:30	Two Concurrent Sessions (choose one) Teaching Astronomy: <i>A panel discussion for high school and college levels</i> The Best 9th Grade Physics Labs: <i>Hands-on exploration of labs taught in 9th grade</i>

Nanofabrication without the Nanofab

Shawn Pfeil West Chester University

When we think of micro and nanofabrication, we typically think of conventional techniques, such as UV and electron beam lithography. While we, as a field, have been able to push these techniques to provide true nanoscale fabrication, it has been at the cost of great expense and requirements for dedicated equipment. Here, we will discuss how self-assembly can be used to make micro and nano-patterned devices. In particular, we will discuss our own groups work using Nano Sphere Lithography (NSL) to make arrays nanophotonic devices for single-molecule biophysics, and the combination of NSL and catalyzed growth to

make arrays of nanowires. This route to nanoscale devices promises to allow relatively inexpensive fabrication.

Carbon-based Electronics: A Nexus of Physics, Chemistry, and Biology

Paul Angiolillo Saint Joseph's University

The last 40 years has witnessed dramatic advances in electronics, and as part of these advances, a concomitant paradigm shift in the materials used for electronic devices. Part of this has been spurred by attempts to mimic or model the highly efficient electron and energy transfer processes typified in photosynthetic bacteria and green plants, and by electron transfer mechanisms in our own cellular mitochondria. A historical sketch will be given along with selected vignettes of the author's contribution to the development of organic electronic materials. Connections among the natural sciences will be thematically provided. Where appropriate, connections to the Philadelphia scientific community will be highlighted.

Physics First Schools and Presenters

Ridley HS - Ray Howanski

Twin Valley HS - Mike Mannix

Friends Central – Anna Schall

Germantown Friends – D.Williamson, G.Nelson, T.Spinka

Shipley School – Elizabeth Zodda, Ryan Batkie

Westtown School - Barry Feierman