



AMERICAN ASSOCIATION OF PHYSICS TEACHERS
Arizona Section

Fall Meeting
Phoenix College
September 28, 2019

Business Meeting Minutes

1. Announcements *9:05 am*
 - a. Thanks to Nichole Spencer and Phoenix College for hosting.
 - b. Lunch pre-order and pay for El Pollo Loco
 - c. Introductions of attendees
 - d. Officer election by paper ballot
 - e. Spring meeting
 - i. April 18, 2020
 - ii. Northern AZ - site TBD
 1. Yavapai College
 2. Embry Riddle
 3. Lowell Observatory
 4. St. Mary's radio telescope
 - iii. Got a good lab, trip experience, or technical knowledge? Email Jim Ward at JWard@veritasprepacademy.org to be added to the agenda!
 - f. Announcement of next year's officers (* indicates new position)
 1. President *Jim Ward*
 2. Vice-President *Amy Johnson*
 3. Treasurer *Michael Canham*
 4. Secretary *Allison Van Liew*
 5. Section Representative *Kelli Warble*
 6. University Representative *Arlinda Hill*
 7. College Representative *Jeff Hengesbach*
 8. High School Representative *Lynn Jorgenson*
2. Treasurer's Report
 - a. \$4,226.52 before \$400-500 meeting expenses
 - i. Money from meeting fees usually covers the annual cost to keep website, book award, and breakfast or other fees incurred with each meeting.

General Meeting Minutes

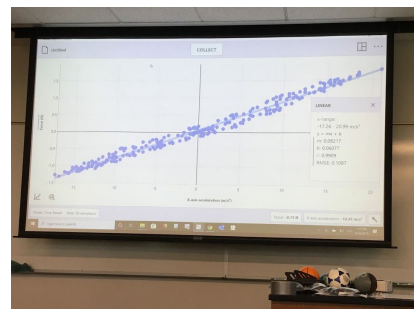
1. *Magic Mountain Field Trip* by Amy Johnson *8:37 am*
 - a. Timeline of turn around trip
 - b. Categories and expectations for lab work while at Six Flags.
 - i. Various measurements tools for measuring speed, acceleration, elevation, and distances.
 1. [Pasco \\$129 15-pack Amusement Park Physics](#)
 2. *Phones and meters not allowed on all rides.
 3. Alternatives for students not participating.
 - c. Park tickets and charter bus considerations
 - d. Behavior contract and parent permission form required



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- e. Extra tips:
 - i. Bring water to give students when leaving and returning to bus
 - ii. Brings a change of clothes for more comfort on the bus or in the event a student needs to change
 - iii. Bring jackets for cool weather
 - iv. Work in STEAM Shop at EMCC and use 3D printer and other tools to build and repair drones.
- f. Additional amusement park ideas:
 - i. Disneyland Youth Education Series
 - ii. Castles n Coasters Physics Day hosted by Desert Mountain HS
- g. See AzAAPT.org for more details
- 2. Break *10:30 am*
- 3. *ASU Physics Outreach* by Don Balanzat *10:45 am*
 - a. Contact
 - i. 480-965-8086
 - ii. DBalanza@asu.edu
 - iii. Also member of PIRA
 - b. ASU Physics Instruction Resource Team (PIRT)
 - i. Team of 6
 - ii. Provide lab and demo equipment for physics classes at ASU
 - iii. Come to schools for demos
 - 1. [PIRA website for full list](#)
 - 2. Applicable for ages 5-110
 - 3. Give at least 2 weeks advance notice
 - iv. Loan ASU's unused equipment to schools
 - 1. Online catalog being developed
 - c. Demos
 - i. Chain fountain
 - ii. Waiter's tray
 - iii. Eddy currents in copper tube
 - iv. Crookes tube
 - v. Polarizing sheets
 - vi. Floating superconductor
- 4. *STEP UP* by Nichole Spencer and Kelli Warble *11:20 am*
 - a. Supporting teachers to encourage the pursuit of undergraduate physics, especially among underrepresented groups
 - b. Curriculum
 - i. Everyday Action Guide
 - 1. How do you speak about STEM fields?
 - ii. Careers in Physics Lesson
 - iii. Women in Physics Lesson
 - iv. *posters available with discussion guidelines which are applicable beyond physics classrooms.
 - c. Physics majors score highly in LSAT and MCAT

- d. Internationally, Iran has a high percentage (60%) of undergraduate physics degrees obtained by women, while the US and Germany have low percentages.
 - i. Goal of STEP is to shift this trend through identifying unconscious biases.
- e. More information:
 - i. bit.ly/SUArizona
 - ii. bit.ly/saveazphys
- 5. *Vernier Tools* by Ann Hammersly
 - a. Contact
 - i. Arizona consultants for Vernier Software & Technology
 - ii. Ann Hammersly & Larry Dukerich
 - iii. ahammerslyvst@gmail.com & ldukerich@mac.com
 - b. Graphical Analysis 4 can be used for data analysis on any device (phone, tablet, computer with any platform)
 - i. Free
 - ii. Works with LabQuest and wired sensors as well as Go Direct bluetooth sensors
 - 1. Go Direct sensors can only sync to one device, but each device can pair with multiple GD sensors.
 - iii. Input data manually and add calculated columns
 - iv. Presentation mode for increases text size and better projector viewing
 - c. Demonstrated *force vs. acceleration* using a GD force sensor shaken vertically.
 - i. Ann also attached a GD accelerometer to her agility to assess the forces he experiences during a run.
 - d. Features of Vernier's service:
 - i. Vernier will loan equipment for you to test
 - ii. Lab books are being updated with new sensors and Graphical Analysis 4.
 - 1. If you previously purchased a printed lab book, you have access to these updated, downloads by logging in to your Vernier account and scrolling to Lab Book Electronic Resources.
 - iii. If you ever though *I wish I could do this better*, there is probably a Go Direct sensor available or being developed.
- 6. *The Tall Short Physics Bus* by Bruce Bayly
 - a. Contact
 - i. brucebayly@gmail.com
 - b. Started in 2003 because a group of physics enthusiasts wanted to expand their ability to share demonstrations and fuel excitement about math and science.
 - c. Based in Tucson with additional buses running in New York, Florida, and Missouri as colleagues have spread around the country.
 - d. Focus on communities with limited access to science experiments
 - i. <https://sites.google.com/view/exhibitsbyerik/>
 - ii. Will come to schools or events
 - 1. Free, but greatly appreciate donations.





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2. Pictures and thank you letters from students are valuable in maintaining support from sponsors.
3. May need to coordinate dates to setup multiple events in one trip if traveling beyond Tucson.
- e. Science Toy Maker is a sponsor of the bus and has a wealth of creative activities
 - i. <https://sciencetoymaker.org/>
7. Closing and door prizes
 - a.
8. Meeting adjourned *2:45 pm*