

# SciMo Says

**The Newsletter for Science in Motion at Susquehanna University  
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## **Dr. Courtney Thomas, Director Says...**

Currently, I am meeting with legislators to advocate for 2010-11 SIM state funding. May 19<sup>th</sup> I met with **Representative Russell Fairchild** (R-85) who informed me that legislation to include SIM as a line item in the state budget passed the House and an identical bill passed the Senate. Unfortunately, no funding is tied to those bills. This is a really tough year for the state budget since we are looking at a one to two billion dollar deficit. Rep. Fairchild continues to support the SIM program.

I met with **Representative David Millard** (R-109) May 20<sup>th</sup>. Rep. Millard stated SIM is a testament to the cooperative effort between universities and high schools. He will continue to advocate for SIM funding through the Appropriations committee on which he serves. Rep. Millard also mentioned that the SIM program has created its own level of respect.

**Senator John Gordner** (R-27) met with me May 21<sup>st</sup>. He spoke highly of the SIM program specifically stating he knows the value of SIM. While the budget doesn't look good, he still supports funding SIM. Most likely, if SIM is funded, it will be lower than the current level of funding.

I went to Harrisburg to meet with **Representative Tim Seip** (D-125) May 24<sup>th</sup>. He believes increasing state revenue will allow continued state funding of programs such as SIM. Rep. Seip plans to introduce his SMART PLAN legislation to modernize sales tax in a special legislative session.



*Rep. Garth Everett with N. Schuylkill & Dr. Thomas at Capitol Day*



*Maria Spotts & Danielle Snyder (N. Schuylkill) with Rep. Rick Mirabito*

I met with several legislators May 26<sup>th</sup> in Harrisburg. **Representative Garth Everett** (R-84) and I discussed the difficult budget situation. He did say SIM is a very popular program that he supports funding. I met with

**Senator David Argall** (R-29) to discuss SIM. While the state drained reserve funds to balance this year's budget, he stated he supports SIM and will try to get program funding. **Representative Neal Goodman** (D-123) predicts the new budget will be similar to this year's budget holding everyone at last year's funding level. He told me SIM can count on his support. **Representative Merle Phillip's** (R-108) staff director Steve Pancoe met with me while Rep. Phillips was in session. Mr. Pancoe suggested Senate Republicans traditionally have supported SIM funding and to approach those members regarding including SIM funding in the state budget. **Senator Lisa Baker's** (R-20) legislative director Maggie Giannelli did not have any news regarding budget proceedings, but did tell me SIM has Senator Baker's support. **Senator Jake Corman** (R-34), chair of the Senate Appropriations Committee, told me it will be difficult to get SIM in the budget at this year's level or higher. However, the SIM program is well supported within his caucus.

One constant during all of my meetings with legislators is that letters from constituents are very influential. **Please write your legislators** to let them know you support **including SIM funding in the 2010-2011 state budget!**

**SIM Capitol Day** was held **Monday June 7<sup>th</sup>** in the East Rotunda of the Capitol Building. **North Schuylkill** students Maria Spotts, Megan Temple, Danielle Snyder and Ryan Cicioni along with teacher John Slotterback attended Capitol Day with SU-SIM. The SU-SIM display was visited by **Rep. Garth Everett, Rep. Rick Mirabito, Senator Bob Robbins, Rep. Robert Belfanti Jr., Rep. Russell Fairchild** and **Senator John Gordner's** aide. I visited with **Senator Gene Yaw** (R-23), **Representative Robert Belfanti Jr.** (D-107), and **Representative Rick Mirabito** (D-83) all supporters of the SIM program.

The **SIM Summer Workshop** dates have been changed to **Wednesday June 16 through Friday June 18, 2010** at Susquehanna University.

### **Mike McDevitt, Chemistry/Physics Mobile Educator Says...**

Mother Nature proved to be very kind to our Outdoor Presentations for our *Liquid Nitrogen Demo Days* at **Jersey Shore, Millville, and Bloomsburg High Schools**. Only at Jersey Shore High School did a brief thunder storm interrupt the presentation. The storm appeared suddenly and I was unable to get all the equipment under cover. An unexpected discovery! The demo dewars flask was left out in the rain with



some liquid nitrogen still in the container. A perfectly formed ice sickle was present from the lid to the bottom of the flask. The rain flowed from the lid into flask, freezing as it entered. As usual, liquid nitrogen ice cream was a resounding favorite demo of the presentation. The only drawback proved to be an inability to see the difference in light intensity on the flashlight bulb and lightstick demos. In summary, I have declared outdoor Liquid Nitrogen demos to be manageable and very successful. Plus, and most importantly the clean up thanks to squirrels, chipmunks and starlings proved to be much less time consuming.

*Bloomsburg High School making Liquid Nitrogen ice cream*

The Science in Motion Vans were also busy with experiments not involving liquid nitrogen. **Pam Ulicny's Tri-Valley** biology students performed a very successful *pGLO Bacterial Transformation* experiment. Her environmental students tried our *Greenhouse Effect* experiment. **Milton** students were involved in several *Crime Scene* scenarios. They incorporated our *DNA Fingerprinting* experiment, *Gas Chromatography of Clear Liquids*, and *Melting Point of Solids* sections of SIM crime scenes. **Deb Slattery's** chemistry students at **Danville High School** enjoyed a week of *Chemistry Crime Scene* experiments. Later in the month the chemistry crime scene experiments traveled to **Tracy Hepner's** Chemistry students. **Carol Hoagland's Millville High** physics students and **Mark Peterman's Loyalsock High School** Physics students performed experiments at Knoebel's Amusement Park. Accelerometers, barometers, and motion detectors were incorporated into experiments for seven different park rides.

Thank you for a very eventful and rewarding year. Hopefully, I will be seeing many of you at our summer workshop.

### **Dr. Mary Howe, Water Quality and Biology Mobile Educator Says...**

The 2010 SU SIM Water Quality Project is wrapping up for the school year. We completed Phase 3 of the spring 2010 SU SIM Water Quality Project with five testing visits in May. **Mary Dahlmann's** Freshmen and **John Slotterback's** Juniors and Seniors at **Shikellamy** and **North Schuylkill High Schools** collected their last set of samples in the second week of May. The third week of May was very busy with water quality visits in Columbia, Northumberland, and Juniata counties. **Jay McHenry** at **Benton High School**, **John Hernandez** at **Sunbury Christian Academy**, and **Johnna Kratzer** from **Juniata High School** all took students to do the final streamside visits for the season. John Hernandez even invited a class of third graders from Sunbury Christian Academy to join us at the stream. Each third grader paired up with an Upperclassman from the High School to learn about the macroinvertebrates living in Lithia Springs Creek. Many thanks to the students and teachers for participating in this project.



Sunbury Christian upperclassmen and 3<sup>rd</sup> graders explore WQ



Shikellamy students & teacher Mary Dahlmann stream side

I also had time to do some Bio drops and visits in May. **Karen Avery** at **Mountoursville High School**, **John Hernandez** at **Sunbury Christian Academy**, and **Dan Smith** at **Juniata High School** all ran *DNA Fingerprinting* gel electrophoresis labs in May. **Mary Dahlmann** at **Shikellamy High School** and I worked with six classes of freshman biology students learning about CO<sub>2</sub> metabolism and the carbon cycle during *Photosynthesis and Respiration* in plants. We got great results using fresh picked poke weed leaves as our plant tissue. Mike McDevitt and I helped **Jocelyn Bailey** and **Kathleen Bower** run their annual Crime Scene Investigation at **Milton High School** with equipment for chemical and DNA analyses. For my last visit of the year, **Elizabeth Bennet** and I helped students at **Millville High School** analyze muscle proteins from five fish species. The *Protein Electrophoresis* lab is great fun and the Kaleidoscope protein standards provided by BioRad are excellent.



Millville HS student separating fish proteins via electrophoresis

## Experiment of the Month

### Testing for Genetically Modified Organisms at the supermarket

We will be testing a variety of foods for the presence of GMOs (Genetically Modified Organisms) at the SIM Summer Workshop in June. This lab has a host of technical and pedagogical advantages. On the technical side, the GMO lab introduces students to one of the most important advances in biological research of the last 20 years, the Polymerase Chain Reaction or PCR. PCR is one of the most commonly used procedures in all of biology today. Students also become familiar with the idea of a transgene vector; these tools are used in all aspects of applied genetics including medicine (gene therapy) and the food industry (GMOs). Finally, this lab uses all of the standard methods and equipment associated with the DNA gel electrophoresis labs.



For pedagogical reasons, the GMO lab is excellent because it is real life biology. Students use samples that can be bought at any grocery store and evaluate them for the presence of the transgene vectors that are used to genetically modify food crops.



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