

# The Governor's School Of Southside Virginia

## Spring 2014 Newsletter

### Virginia Junior Science and Humanities Symposium

Five students from the Alberta campus of The Governor's School of Southside Virginia presented their research projects at the Virginia Junior Science and Humanities Symposium held March 20th and 21st at James Madison University. The students orally presented their projects in this prestigious program against seventy-two other competitors. Jasmine Harrison, Francesca Whitfield, and Raia Walker were selected for Best Oral Presentation in the Humanities. Their research project entitled "I Don't Want to Give You the Wrong Depression: A Qualitative Study of the Works of Emily Dickinson" analyzed the content of Emily Dickinson's poems for depressive disorder characteristics. Alyssa Drohan and Elizabeth Wells presented their research project entitled "The Effect of Salicylic Acid on the Ability of Tomato and Bean Plants to Develop An Immunity to Tobacco Mosaic Virus." All five students were presented with certificates of participation.



The program is designed to challenge and engage students (Grades 9-12) in science, technology, engineering or mathematics (STEM). Students compete by presenting the results of their original research efforts before a panel of judges and an audience of their peers. The Virginia Junior Science and Humanities Symposium is a collaborative effort with the research arm of the Department of Defense and administered in cooperation with nationwide colleges and universities. JSHS aims to prepare and support students to contribute as future scientists and engineers—conducting STEM research on behalf of or directly for the Department of Defense, the Federal research laboratories, or for the greater good in advancing the nation's scientific and technological progress.

(l-r) Jasmine Harrison, Alyssa Drohan, Francesca Whitfield, Elizabeth Wells, Raia Walker

### Keysville Site Hosts Roaring 20s Event on May 16th

The winter's inclement weather forced the cancellation of the Keysville site's "Puttin' on the Ritz" outreach event for the third grade students in our seven feeder divisions. The seniors had worked diligently on the project since last May and did not want all of their planning and hard work to go to waste. The students and staff brainstormed and altered the original plan and hosted their Alberta counterparts for a Roaring 20s celebration on May 16th. The site event included costumes, games, hands-on activities, a jazz band, courtesy of Central of Lunenburg High School, and social time for juniors and seniors at both sites.

The rising senior class is hard at work on the plans for a *Peter Pan*-themed event for our feeder divisions' third graders for October 2014. We are anticipating an exciting fall event. Stay tuned for details.



### Senior Research Symposium Held on April 9 at Keysville Site

The Keysville Site's annual research symposium was held on April 9th when fourteen projects were presented to a full house. Several research teams presented on different types of bacterial growth by subjecting them to ultrasonic frequency or music, different brands of deodorant, or sylitol, an alcohol sugar. Other teams investigated different types of treatments on plants using caffeine, electro-shock, or Gibberellic Acid monitoring growth. Two studies dealt with aspects of eye color or pupil dilation as a result of stimuli, and two other teams studied termites' attraction to wood products or various colored inks. One team looked at cell phone radiation emitted by various apps; another team looked at the bioluminescent quality of Dinoflagellates due to fertilizer in their environment, while another team looked at model concert hall dimensions sound reverberation time. Interesting results were reported by all teams.



Projects are graded on several components that include formal presentation of the project to a public audience using PowerPoint, the tri-board display and research binder where the students professionally demonstrate their in-depth knowledge of experimental design, research methodology, and statistical analysis of their chosen research topic.

The two-year research cycle begins in the junior year, taught by Mrs. Ward, and culminates in the senior research course taught by Mrs. Hamilton. All faculty members serve as group mentors.

## Genes, Genomes and Personalized Medicine

Celeste Paynter, GSSV instructor at the Alberta site, has been selected to participate in “Genes, Genomes and Personalized Medicine” - a professional development course offered through the Milwaukee School of Engineering’s Center for BioMolecular Modeling (CBM). This course will be held at the CBM in Milwaukee July 7-12th. It is a two-year rotation, with the first year designed to make plans on the implementation of 3-D printer biomolecular materials in the classroom, which will include assessment pieces to determine the efficacy/engagement of the materials in the classroom and with the students. Each participant is asked to develop an online portfolio on Trello.com as a way to document what she did in the classroom, how effective it was, and whether the students learned from the materials. This portfolio will be shared with the CBM staff and CBM’s external evaluator in order to determine how effective the materials are in achieving our teaching goals.

## Alberta STEM Students Launch Rocket in Culpeper, Virginia

Students from Southside Virginia Community College’s Calculus II class launched a class-project rocket on April 5th from Battlefield Park in Culpeper. SVCC’s Brent Richey started this project with students in the GSSV STEM program while they were in Calculus I and II.

According to Richie, they used a K660 motor which has about 2400 Newton/Seconds of impulse, and it reached an apogee of 3688 feet and a max velocity of 480 MPH. It returned on a dual deployment system which released a 36 inch parachute at apogee and then a huge 120 inch parachute at 900 feet. On board were dual altimeters that recorded data and controlled the main chute deployment at 900 (that’s where the class programmed it to deploy). It really was a perfect launch and recovery.

The rocket was launched at Battlefield Park near Culpeper, Virginia with the Tripoli Central Virginia club. Participants must launch these big ones at sites that have all the appropriate licenses and waivers from the FAA, and that was the closest one.

The airframe of the rocket was wrapped in fiberglass provided to us by BGF. They make that specific fiberglass for their customers in the aerospace industry.



## Keysville Site Math Instructors Facilitate

### STEM-H Conference

*Mr. James Wilkerson with students at STEM-H Conference*



James Wilkerson, Amy McClure, and Deborah Hamilton, GSSV and SVCC instructors, presented at the STEM-H Summit on February 28, 2014. The summit was hosted by the John H. Daniel campus. This event was targeted to 9th grade students in the high schools in our service district who are not certain of their college plans or career paths. We had a variety of vendors, including representatives from Old Dominion University, Mary Baldwin College, Virginia Advanced Study Strategies, and Longwood University in the morning as the students arrived.

In addition, Mr. Wilkerson, Mrs. McClure, and Mrs. Hamilton conducted presentations in their subject areas. Presentations included program introductions, hands-on activities, and discussion time for students and faculty. Students learned a great deal about math and chemistry-related careers. Students were also provided lunch, and the conference’s keynote speaker was Roger Storm from NASA.

*Mrs. Amy McClure with students at STEM-H Conference*



### *The Governor’s School of Southside Virginia*

**Providing gifted, highly motivated juniors and seniors a challenging, interdisciplinary program of studies that develops leaders who possess the skills, global perspective, and vision needed to address the challenges of a rapidly changing society.**

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