



THE GOVERNOR'S SCHOOL for SCIENCE AND TECHNOLOGY



Spring 2013

Student Highlights



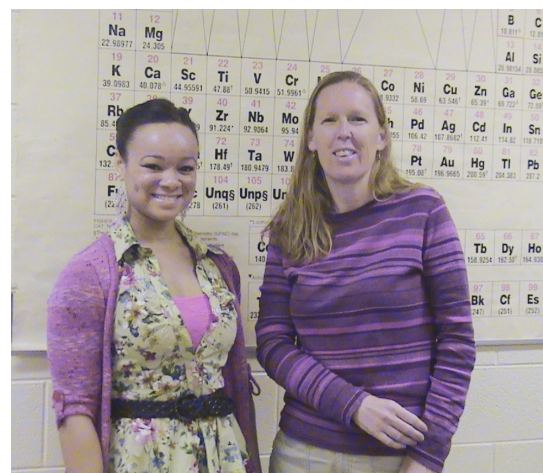
Governor's School student, Kayla Young of Hampton was accepted into the **Minority Introduction to Engineering and Science (MITES)** program. MITES is a residential program geared toward the low number of minority high school students pursuing advanced technical degrees. Accepted students are given the unique opportunity to partake in course study and engage in STEM activities with MIT attendees and faculty. For six weeks, Kayla will be interacting with people from diverse cultural backgrounds who share the same desire to pursue higher education.

"I believe that the Governor's School played an instrumental role in my acceptance into MITES and has prepared me for the rigor of the program. The creation of a diverse pool of capable scientists constitutes the mission of MIT, and through commitment to the MITES program, I intend to champion this effort."
Kayla



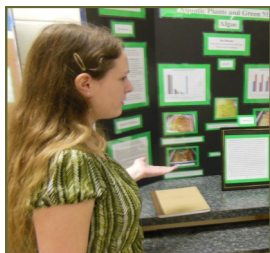
INTERNATIONAL SPACE OLYMPICS KOROLEV, RUSSIA

Governor's School students, Ryan Chanza of Hampton (pictured far left) and Joey Kun Hsu of Yorktown (pictured far right) were among five Virginia high school students selected to participate in the International Space Olympics in Korolev, Russia, October 16th - 27th, 2012. During the 10-day competition, students presented their own technical, economic, and social projects; took part in competitions involving physics, mathematics, literature, and computer science; met Russian cosmonauts and space industry specialists; visited the Russian Mission Control Center and the Space Museum; undertook a cultural program of visits to the Kremlin, Red Square, cathedrals, and ballet; and stopped at local schools to meet students and learn about their culture and life. Hsu's project, "Scrollable Lightweight Plates for Space Structures" earned him 2nd place in the overall competition, and Chanza's project "Altering the Angle of Photovoltaic Cells to Maximize Solar Power Efficiency" earned him 3rd place overall. Hsu and Chanza both earned 1st place in their respective categories before advancing to the overall level. Students shared their experiences via the Internet by providing daily logs of their experiences including pictures and journal entries describing the competition and their personal experiences. For more information on the students, the Olympics, or to read student blogs, visit <http://worldnetva.pwnet.org/russia2012/index.htm>.



Kayla Young (left) with Governor's School Instructor Jennifer Clarke.

VIRGINIA JUNIOR ACADEMY OF SCIENCE SYMPOSIUM



Four Governor's School students were selected to participate in the Virginia Junior Academy of Science Symposium at Virginia Tech May 21st - 23rd, 2013. The students submitted scientific papers of their research findings for consideration by the selection committee and will present oral slide presentations of their work.

Selected Participants: Pat Shorter of Gloucester (pictured left); Kayla Holston of Hampton (pictured right); Richard Kazmer of Newport News; and Monique Waldman of York.



THE VIRGINIA JUNIOR SCIENCE AND HUMANITIES SYMPOSIA



The following Governor's School students participated in the Virginia Junior Science and Humanities Symposia at James Madison University, on March 14th and 15th, 2013: Hannah Cagle of Gloucester; Abigayle Ceriani of Williamsburg; Maurice Hayward of Newport News; and Esther Cho, Sam Kim, Radha Venkatesan, and Monique Waldman of York. Abigayle, Maurice and Sam received Outstanding Research Awards while Maurice and Sam placed 1st in their respective categories. Sam also placed 4th overall in the competition and has been invited to the National Junior Science and Humanities Symposia to be held in Dayton, Ohio! The Junior Science and Humanities Symposia Program promotes original research and experimentation in the sciences, engineering, and mathematics at the high school level and publicly recognizes students for outstanding achievement. By connecting talented students, their teachers, and research professionals at affiliated symposia and by rewarding research excellence, the Junior Science and Humanities Symposia aims to widen the pool of trained talent prepared to conduct research and development vital to our nation.

CAPITOL DAY 2013



On Tuesday, February 19th, a group of enterprising young people from the Governor's School traveled to Richmond for the annual Capitol Day – a day set aside for Governor's School students across the state to meet with their state delegates and senators and to view congress in session. Students met with senators Mamie Locke, John Miller, and Thomas Norment, as well as delegates Mayme Bacote, Gordon Helsel, Keith Hodges, Brenda Pogge, Jeion Ward, Michael Watson, and David Yancey. During these visits, students were able to share their experiences at the Governor's School and emphasize the need to continue funding for Governor's Schools across the state. Senators and delegates alike were very impressed with the quality of our students and their ability to articulate the level of their educational experiences at the Governor's School. Students also were allowed to sit in the galleries of both the House of Delegates and the Senate and were able to witness the legislative process. All kinds of bills were debated and voted on, but students were especially entertained by

the debating of a bill proposing that Virginia design its own currency (students stayed long enough to see whether that one would actually pass – it didn't!). Students attending with sponsors Harold and Marcia Pinkerton were Sarah Kleinhample and Kayla Holston of Hampton; Matthew DiMarcantonio of Newport News; Lev Taylor of Poquoson; and Elaine Rose Santiago of York.



Governor's School Advanced Chemical Analysis students recently finished an exciting unit on Organic Chemistry. Students enjoyed completing laboratory activities involving the preparation of soap, synthesis of an ester, and extraction and isolation of caffeine from tea. The highlight for the students was tie-dyeing t-shirts!



Student Testimonial

Dr. Chandrasekhar,

I know you're very busy with school work and such, senior year was a blur. But I just thought you might like to know that I interviewed for and was granted a position as an undergraduate researcher in a lab at the Virginia Tech Corporate Research Center (CRC). I was apparently the first to apply and the first of four chosen out of 70 or so that applied. I'll be studying protein signal transduction next fall and will hopefully be a co-author on a paper published for the National Institutes of Health (NIH) next spring. Specifically the other four undergrads and I will be working collaboratively on studying the DEP domain of the Dishevelled-2 (dvl-2/dsh-2) protein that is a key part of the Wnt pathway.

I just wanted to thank you again for last year, the vast amount of lab experience we had last year elevated me above the rest of the applicants, or so says Dr. Capelluto (lab owner/project leader), and I couldn't have gotten this so early in my college career without your help and that of all the faculty at the Gov School.

Alec Hoke, Newport News



THE VIRGINIA REGIONAL SCIENCE BOWL

The following Governor's School students competed in the Virginia Regional Science Bowl at Thomas Jefferson National Accelerator Facility (JLab) on February 2nd, 2013: David Chasteen Boyd, Eesha Choudhari, Sam Kim, Andrew Luo, Abed Rizvi and Correy Xu of York; Matthew DiMarcantonio, Prash Fenn and Iain Gordon of Williamsburg; and John Michael McCormick of Hampton. In the Round Robin Competition, students finished with a perfect 5-0 record, winning their division. In the elimination round, they finished 5th overall in the state of Virginia. Launched in 1991, the National Science Bowl (NSB) is a highly competitive science education and academic event among teams of high school and middle school students who compete in a fast-paced verbal forum to solve technical problems and answer questions in all branches of science and math. Each team is composed of four students, one alternate student, and a coach. Regional and national events encourage student involvement in math and science activities of importance to the Department of Energy and the Nation.

COLLEGE DAY 2012

Several college and university representatives were in attendance at the Governor's School College Day 2012 on October 12th. Admissions officers spoke in panel discussions and alumnae representatives met with parents and students during breakout sessions. Universities in attendance included: University of Pennsylvania, MIT, Princeton, Brown, Georgia Tech, UVA, Virginia Tech, Olin College of Engineering, Rensselaer Polytechnic, The College of William and Mary, ODU, and the three major service academies - US Air Force, US Navy and West Point.

Instructor Highlight

FLIPPED CLASSROOM

Dr. Donna Poland, Gifted Specialist at the Virginia Department of Education, was so impressed with a presentation that Rhett Woo, Governor's School Physics Instructor, gave on his flipped classroom, that she invited him to present at the '2013 From Vision to Practice Institute' held July 9-11, 2013 at the Williamsburg Conference Center. The Institute has provided world-class professional development to school division personnel on the latest research and practices related to timely topics in education.

THE GREAT COMPUTER CHALLENGE

Six teams from the Governors School competed in the "Great Computer Challenge" contest that was held at Old Dominion University on March 9, 2013. Alex Flores and Dmitry Zamkov, of Williamsburg won First Place in the Scientific Programming category, with Andrew Luo of York winning Second! William Crawford of Hampton and Marcus Rakentine of Gloucester won Third Place In the Java Programming category, and Seare Farhat of Hampton won Second Place in Music Composition. The Great Computer Challenge, a joint project of WHRO, C.I.I. and ODU, is a competitive opportunity for students in grades K-12 to demonstrate their skills in various computer applications and computer programming, including Graphic Arts, Desktop Publishing, Music Composition, Desktop Presentations, Web Design, Internet Scavenger Hunt, Integrated Applications, Scientific/Non-Business Programming, Visual Basic, CAD, JAVA, and Video Editing.

TIDEWATER SCIENCE AND ENGINEERING FAIR

Governor's School juniors participated in the Tidewater Science & Engineering Fair, at Old Dominion University on March 16th, 2013. Students presented posters which represented their independent research projects conducted in correlation with the Research Methods & Ethics class at the Governor's School. All of the participants, listed below, performed admirably and many were awarded special recognitions.

PARTICIPANTS

Avery Bibeau of York
Megan Capriotti of Hampton
Edward Choi of Williamsburg
Brooke Ford of Hampton
Shelby Gandee of Isle of Wight County
Grant Gibson of Hampton
Stephen Haggard of York
Kayla Holston of Hampton
Cailynn Houlihan of York
Sophia Lin of York
Nick Livengood of Isle of Wight County
James Lyons of York
Andrew Luo of York
John Michael McCormick of Hampton
Nicole Pierce of York
Pat Shorter of Gloucester
Melissa Smith-George of Newport News
Lev Taylor of Poquoson
Marc Thibodeau of Poquoson
Radha Venkateson of York
Correy Xu of York
Kayla Young of Hampton

FIRST PLACE

Avery Bibeau, Computer Science
Radha Venkateson, Materials & Bioengineering
Grant Gibson, Physics

SECOND PLACE

Andrew Luo, Computer Science
James Lyons, Electrical & Mechanical Engineering

THIRD PLACE

Kayla Young/Brooke Ford, Chemistry
Nick Livengood, Electrical & Mechanical Engineering
Correy Xu, Energy & Transportation

HONORABLE MENTION

John Michael McCormick, Chemistry
Pat Shorter, Environmental Sciences
Melissa Smith-George, Behavioral & Social Sciences

SPECIAL AWARDS

Pat Shorter
Nick Livengood
Sophia Lin
Avery Bibeau
Correy Xu
Andrew Luo



Radha Venkateson



James Lyons

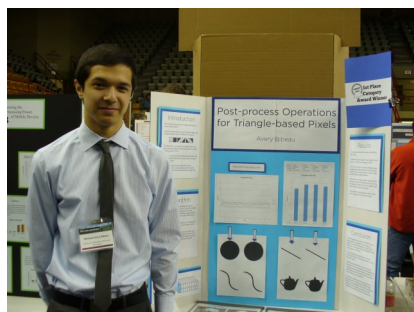
Since 1950, the regional Tidewater Science and Engineering Fair has encouraged students from Williamsburg to Virginia Beach to become involved in and get excited about learning the processes of research and the technical writing skills needed to clearly and effectively communicate the results of their experiments. Students have an opportunity to exhibit and discuss their projects with over 200 judges and evaluators from academia and industry.

VIRGINIA STATE SCIENCE & ENGINEERING FAIR

Governor's School student attended the Virginia State Science & Engineering Fair (VSSEF) hosted by the Virginia Military Institute in Lexington, on April 5th and 6th, 2013. Invitation to VSSEF is awarded only to those who place first or second in their category in Regional science and engineering fairs, such as the Tidewater Science and Engineering Fair.

VSSEF Presenters and Projects:

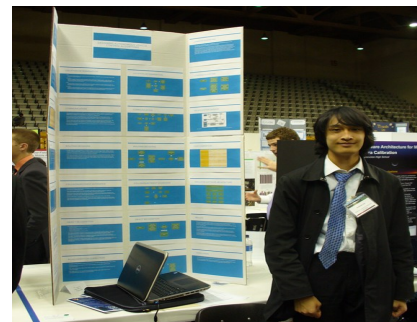
Avery Bibeau of York, - *Post-Process Operations for Triangle-Based Pixels*
Grant Gibson of Hampton - *The Effect of Different Football Stances of the Human Body on the Force Applied to a Training Sled*
James Lyons of York - *The Vibrational Characteristics of a Bassoon Reed*
Andrew Luo of York - *Designing Algorithms to Control Autonomous Vehicles*
Radha Venkateson of York—*Surface-Enhanced Raman Scattering of Quinine-linked Gold Nanoparticles*



Avery Bibeau



Grant Gibson



Andrew Luo