



The CHROME Chronicle

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EARLY SPRING 2010

"27 years of showing students the building blocks to a successful future"

Cooperating Hampton Roads Organizations
for Minorities in Engineering, Inc.

CHROME STATE of the Organization 2009-2010

...Engineering Imaginations

Over The Next Year...

- CHROME will recognize Sponsors, Students, Alumni, and Club Activities
- CHROME will also focus on students through competitions designed to stimulate students interests in engineering
- CHROME will conduct a symposium where students from different clubs interact.

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Dear CHROME Sponsors, Students, Alumni, and Friends,

It is our pleasure to take a few moments to comment regarding the past, present, and future of this great organization! This year has been one of Renewal... Renewal of our dedication to CHROME's mission to increase opportunities for underrepresented minority and female students to enter math, science, engineering, and related technical fields.

This renewal has taken place through activities like the 25th Anniversary STARS Banquet, the Board of Directors Retreat last summer and the Sponsor Launch in the fall. These events allowed us to reflect on the organization's 27 years of history. And, this review of the past has enabled us to develop a road map for the future.

This year was also characterized by a focus on Re-engineering. We have also partnered with the

Peninsula school divisions, business organizations, and colleges in an effort to establish a Governor's Academy for Innovation, Technology, and Engineering. This project is in its initial planning stages, but we hope to be awarded additional funding to proceed with the implementation phase.

The continued support from Northrop Grumman, the Norfolk Southern Foundation, NASA, Virginia Space Grant Consortium, Jefferson Lab, ODU and our school districts just to mention a few supporters have helped to advance us closer to our vision.

CHROME Clubs like The Susie Keele Community Club have demonstrated ingenuity through cooperative relationships with supporting area businesses like the Norfolk Naval Shipyard. In addition, the Board of Directors has continued to develop relationships with organizations that are aligned with our

mission and goals, and has labored to reinforce our infrastructure in order to support another 25 years of growth.

You may wonder what else is left after an organization has gone through this process of renewal and reengineering. But, in the year ahead, you will find CHROME dedicating a significant amount of time to Recognition.

CHROME's role in increasing the presence of underrepresented minority and female students in Engineering, Science, Technology, and Mathematics remains at the forefront as we continue to renew the Past, Reengineer the Present, and Recognize the Future.

Sincerely,
Board of Directors and the
CHROME Staff

Jefferson Lab Celebrates 25 Years; Prepares for the Future

For 25 years, Thomas Jefferson National Accelerator has been engaged in cutting-edge scientific research that has attracted nuclear physicists from around the world to the Hampton Roads area. And now the lab is poised to enter a new phase as it begins construction under a \$310 million program to upgrade its facilities.

CHROME, along with JLab, have joined together to teach kids the possibilities of expanding their universe. Both CHROME and JLab are reaching out to kids through educational programs, teaching them that there is more to the universe than what the eye can

see. The experiments that take place are to expand the knowledge of the universe by studying the sub-atomic particles known as quarks and gluons, and are far from what can be seen by the eye.

These are the building blocks of matter, but we still do not know how these build our universe. In order to see into an atom, great power and electron beams are needed. Jefferson Lab's Continuous Electron Beam Accelerator Facility allows scientists to look into the smallest particles, such as the quarks and gluons that are in atoms. The CEBAF does this in a

race track method. The electron beam races around the mile long track, about 25 feet beneath the surface in about 465 degrees F below zero. The beam takes about five millionths of a second to complete one lap, and the more times around the track, the more energy the beam gains. Right now, the beam travels at about 6 billion electron volts, or 6 GeV.

By the end of construction, the beam will travel at about twice the speed at 12 GeV, which will allow JLab to employ new methods for studying the building blocks of our universe.



2009-2010 Sponsor Launch Big Success

The 2009-2010 Sponsor Launch was a great way to start off another successful year. Without these sponsors, CHROME would not be the organization it is today. During this kick-off for the school year, sponsors were enlightened by excellent presentations

Jeremy Wheeler, Meteorologist on WAVY-TV Channel 10, covered techniques and tips on teaching some of the tougher concepts of meteorology.

Nauticus, along with the Floor Program Manager, Peter Leighton, were able to demonstrate the R.O.V, or Remotely Operated Vehicle, which is geared to the middle and high school aged kids. Nauticus is providing materials for all clubs interested in constructing R.O.V's.

ODU Professor, Steve Walk and the Institute of Electrical and Electronics Engineers (IEEE), lead hands-on activities for grades 6-12. Mr. Walk has obtained grants from both private sources and ODU. With these grants, the purchase of 15 new premium learning electronic lab kits were possible.

The Virginia Aquarium & Marine Science Center made a splash with their after school program. As presenters Courtney Sovo and Cari Paulenich explain how they focused their program amongst middle and high school students.

Sponsors Motivating Sponsors

was a huge hit that gave some of the sponsors who were presenting, the floor to motivate other sponsors. Elementary school sponsor Margaret Dugger of Mack Benn Junior Elementary, also CHROME Elementary Teacher of the Year, led a successful session of motivating Elementary Sponsors.

Middle school Motivating Sponsor, and also CHROME Middle School Teacher of the Year, Louis Garland of Yeates Middle, also inspired many other CHROME sponsors to get more active.

Last but not least, High School Motivators Gwen Porter, PhD, of Gloucester High School CHROME Sponsor, and CHROME Teacher of the Year, Stephanie Harry of Keoughtan High, stepped up and engaged their audience and gave pointers on how to better their CHROME Clubs.

CHROME's own Kara Olson presented Modeling/Simulation, which introduced what it is, and how it's useful. This presentation was targeted for all ages k-12.

Arthur Bowman, Ph.D. of Norfolk State University presented his session called "Every Teacher and All Students are Fully Prepared for Science." His hands on activities showed how teachers are prepared to teach the subject of science and also demonstrated that students are fully capable of

learning the material. Dr. Andre' Peltier, STEM Teacher Specialist of Portsmouth Public Schools demonstrated "Robotics- The Virginia Demonstration Project Implementation Plan" in his session.

Presenter Bill Lee, Education Program Manager of Science explained "Space Math".

Our friends over at Jefferson Lab, Paul Powers, David Abbott, and Richard Williams presented "Electrical Engineering", which received high praise amongst those who attended their presentation.

ODU Professor Gregory Selby PhD, presented Lego Robotics, aimed at Elementary School students.

Nick Koltun of Virginia Space Grant Consortium, and also GAITE (Governor's Academy Innovation Technology and Engineering) talked about Geographic Information Systems (GIS) and Geographic Positioning Systems (GPS).

Ken Flick ERC Manager for LaRC and Bonnie Murray, NASA Educator at in Residence at Virginia Space Grant Consortium, explained what resources and tools were available at Virginia Air and Space Center.

"Sponsor Launch 2009-2010 has set the pace for a successful year. CHROME would not be where it is today without the help from their members and sponsors."

The Craney Island Connection

Jodie Love, new Community Relations Coordinator for The Port of Virginia, along with Western Branch Middle School's CHROME Club learned about the difficulties of keeping our environment clean. Mrs. Love and the CHROME club members participated in a activity that simulated a industrial pollution incident. They used vegetable oil as oil, feathers, sand, and water to mimic a river. Mrs. Love showed the kids how hard it was to pick up pollution of this matter, let alone picking up pollution on a large scale. The maritime industry is a major producer of jobs, and will continue to show elementary, middle, and high school the importance of keeping a clean environment.

The Virginia Maritimer

Within *The Virginia Maritimer*, Jodie Love and the Virginia Port Authority let Western Branch Middle School's CHROME Club lead activities concerning the displacement of ships. They were given clay, marbles, and a bucket of water for the experiment. They had to find out how much water the clay displaced in order to find out how many marbles they could carry in the clay ships they were making. The winning team was able to carry 31 marbles without their clay ship sinking.

Partnerships That Work Include...



Northrop Grumman Corporation is a leading business in global securities, and has a wide range of specialties. Northrop Grumman specializes in innovative systems, shipbuilding, products for both commercial and government, aerospace technology, and highly sophisticated electronics for all kinds of war fighting planes and commercial users.

Its aerospace systems include both manned and unmanned aircrafts. Aircrafts such as the B-2 Bomber, and the Global Hawk are some of the better known crafts.

Northrop Grumman's reputation for electronics is a legacy in it's own. They specialize in radar for both aviations, and for ships. They also produce electronic radar systems for weapon systems. Electronics such as automated postal sorting equipment make our live that much easier, thanks to Northrop Grumman.

Northrop Grumman is also the nations leading shipbuilder, and is one out of the only two companies to produce nuclear powered submarines.



Norfolk Southern Corporation (NYSE: NSC) is one of the nation's premier transportation companies. Its Norfolk Southern Railway subsidiary operates approximately 21,000 route miles in 22 states and the District of Columbia serving every major container port in the eastern United States and providing superior connections to western rail carriers. Norfolk Southern operates the most extensive intermodal network in the East and is North America's largest rail carrier of metals and automotive products.



The Virginia Aquarium and Marine Science Museum has been a long time friend of CHROME. The Virginia Aquarium and Marine Science Museum has just recently received a grant from The Gifford Foundation, which donated \$5,000 to cover 50 Aquarium outreach visits to the Hampton Roads CHROME clubs for 2009-2010. The focus is to fill the "Marine Scientist for a Day" program with middle and high school students, and then what the program leaves open will allow elementary schools to fill the void.



The **Governor's Academy Innovation, Technology and Engineering**, or **GAITE** for short, is a program that gets the middle school students more involved in Science, Technology, Engineering, and Math, otherwise abbreviated as STEM. GAITE also teaches the students the jobs and opportunities that go along with STEM.

Contributing School Systems, Associations, Non-Profit Organizations and Community Affiliates

- Old Dominion University
- Norfolk State University
- Hampton University
- Virginia Tech
- George Washington University
- Sandy Bottom Nature Park

Public School Systems

- Chesapeake
- Franklin
- Gloucester
- Hampton
- Isle of Wight
- Newport News
- Norfolk
- Portsmouth
- Suffolk
- Virginia Beach
- Williamsburg
- York County



Thank You For Your Involvement With The Community

Club Highlights, Awards, and Alumni

Club Highlights

St. Helena Elementary CHROME Club would like to recognize **Kiahara Jenkins**, a fourth grade student who scored a score of 600 on each one of her Reading, Math, Social Science, and Science SOL tests.

St. Helena Elementary CHROME Club would also like to congratulate **Nazirah Ahmad**, also a fourth grade student who scored a score of 600 on her Reading, Social Science, and Science SOL tests, as well as scoring a 550 on her Math portion.

CHROME Club Sponsor **Jennifer Stratton** of **Hermitage Elementary** took 42 fourth and fifth grade students to the CHROME 2010 ODU Open House. The kids thoroughly enjoyed the hands on activities, and placed 1st and second in most of the events they participated in.

Key Note Speaker at Sponsor Launch '09 **Sherri M. Mitchell** is in her fourth year of working with Langley Aerospace Research Summer Scholars (LARSS) Program at NASA Langley Research Center. It's her goal to inspire the next generation of engineers, scientists and researchers.

Ms. Deborah Wyld of the Norfolk Southern Foundation is retiring this summer. CHROME will miss her and her support.

Awards

Elementary Sponsor of the Year
Margaret Dugger of Mack Benn Elementary
Suffolk, VA

Middle School Sponsor of the Year
Louis Garland of Yeates Middle School
Suffolk, VA

High School Sponsor of the Year
Stephanie Harry of Kecoughtan High School
Hampton, VA

Congratulations

Bill Lee, Volunteer of the Year
Randy and Denize Daniel, Parents of the Year

Vivian Boykins, Community Sponsor of the Year

Congratulations to the fourth and fifth grade students who won 1st and 2nd place in the Egg Drop, Impromptu, and Team Olympics at the CHROME 2010 ODU Open House on February 13, at Kaufman Hall at Old Dominion University. **Virine Streater's** Hampton High CHROME Club also won awards within the event. Campostella Elementary was also there to participate in the fun.

Congratulations to Dr. Sharnnia Artis for her completion of her book, *Moving from Ordinary to Extraordinary*. Dr Sharnnia Artis has three degrees in Engineering and is also a CHROME Alumna, and CHROME is proud to call Dr. Artis one of our own.

Alumni

Gloucester High School's CHROME chapter hosted a reunion of its current and past CHROME members.

Tamara Davenport, GHS class of 2001, served as the mistress of ceremony. Mrs. Davenport received her Bachelors in education from Florida A&M University in Tallahassee. She currently teaches in Gloucester County.

George Blacken, class of 1997, received his Bachelors of Science degree in Industrial Engineering from Florida A&M University in 2001, and his Masters of Engineering degree in 2003 from Old Dominion University. He is currently working in Washington D.C. as a Senior engineer and Lead in the Test and Evaluation Support Project For Computer Science Corp.

Derrick Taylor, one of the speakers of the evening, graduated from Gloucester in 2002 and obtained his Bachelor of Science degree in Business Management from Hampton University in 2006. He is currently a financial consultant for Grant Thornton, LLP in the D.C. metro area.

There will be more highlights of our many proud alumni in future issues.



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