Members of the Senior Class

Syed Mazin Ahmad*
Maira Ashraf
Daniel Francis Brown**
Timothy Edwards Burnette**
Lauren Nicole Calvert**
Cole Parker Campbell
Mikayla Noel Carlton*
Katherine Ann Carrington*
Thomas Miles Cavanaugh*
Chelsea Nevins Cereghino**
Rebekah Hah-Earnn Chun**
Victoria Celeste Davidjohn*
Alexa Nicole Dray*
Erika Nicole Esterline
Glenn Thomas Field**
Sierra Riley Foster*
Nicholas James Frady*
Trevor Joseph Gannicott
Danielle Lawson Garrett**
Averie Paulette Good
Kayla Noel Goumas*
Kathryn McKenzie Grachan*
Tristan Ciara Harrison
Krista Lauren Hartmann*
Matthew Bryant Hazelwood*
Samuel Peter Howard*
Olivia Lian Hsu**
Hamza Ilyas*
Meagan Elena Kenney**
Luke Gregory Kreeger
Shannon Kathleen Laughlin*

Chan Sam Lee
Lucas Kenneth Longo
Lisa MacKenzie Lotz**
Mikayla Adrienne Marraccini
Ravdeep Kaur Mathone**
Jamie Elizabeth May**
Caeley Ellis McMillan*
Rachel Jean Nagley*
William Marshall Norvelle*
James Preston Ogden
Daniel Lawrence Oliver*
Joshua Paragas*
Cailean MacKenzie Parker*
Lauren Nicole Poletti*
Caymen Nicole Rexrode**
Jennifer Yoo-Nah Roach
Haley Victoria Roeser**
Laura Meredith Saunders
Galen Isabella Shen**
Zhi Zeke Shen
Dakota Jonathan Shepherd
Alexandra Noelle Singy
Clare Therese Skorcz
Carrington Amanda Smith*
Jacob Nathaniel Spano
Annmarie Catherine Taheny*
William Payne Tarkenton*
Elizabeth Frances Terry*
Brandon Joh Walker
David Tyler Williams**
Anna Paige Wingfield*

* Earned all A's at least one grading period this year
** Earned all A's every grading period this year

Central Virginia Governor's School
Recognition Ceremony
April 27, 2015
7 p.m.
Boards and Advocates

GOVERNING BOARD
Greg Smith, Appomattox County Schools
John Hicks, Bedford County Schools; Chairperson
Roger Akers, Campbell County Schools; Vice Chair
Tom Webb, Lynchburg City Schools
Alan Wood, Amherst County Schools
Doug Schuch, Bedford County Schools; Superintendent-in-Charge

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Jared Anderson* Cheryl Gerlich**
Lewis Hartless* Ross Meyer
Jim Morgan**
Scott Nagley**

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Patsy Adams** Ashley Carrington Crawford*
Pam Bradford** Peter Dorman*
Pete Goumas
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Annette Bennett Jason Jamerson
April Bruce Eileen Nealy
Lesley Clark Elizabeth Newby
Susan Dalton Janet Reynolds
Traci Daniels James Rinella
Denver Drennen Alicia Valladao
Judy Hanson

Members of the Junior Class
Wynn Bailey Bryan Hogg
Marron Baker Collin Hooper
Robert Bartnett Isaac Howard
Jacob Boone* Trey Hyler III
Kendall Branham John Jaminet
Jason Brown** Ben Kelley*
Isabel Caprise** Zak Kraje
Bobby Carlson* Savhanna Long*
Holly Carrington* Zach Martin*
Becca Cate** Katy McKenzie
Zack Cavanaugh Jeanine Minnick*
Jandrito Cedillo Jordan Moore
Andrew Creel Amanda Naylor
Devin Creger* Dan Nguyen**
Geoffrey DiI** Jessica Pascadlo*
Tate Dorman Sarah Phillips*
Maggie Doyle* Tristan Polk**
Whitley Drinkard* Miranda Quel*
Marshall Driskill* Holden Ramsey*
Elizabeth Driskill** Meg Ritchie
Chris Drumheller* Cameron Roberts*
Annie Eick*
Matthew Forbus*
Kyle Galindo*
Camryn Garrett
Christopher Geier*
Zachary Geier**
Charles Hall
Daniel Hanson*
Dez Heal**
Natalie Hendrickson
Cassidy Hilton*

* Earned all A’s at least one grading period this year
** Earned all A’s every grading period this year

*CVGS Graduate **CVGS Parent
Research Support

SUPPORT MENTORS
Chris Bryan, Oak Ridge National Lab
Geoff Deichert, Oak Ridge National Lab
Craig Gramlich, NovaTech
Larry Hatch, AMTI
Jay Hirsch, University of Virginia
Robert Lane, Hurt & Proffitt
Joseph Mahanes, NovaTech
Dom Pesce, University of Virginia
Brad Ralston, West Virginia University CAFEE Center
Bryson Reynolds, University of Virginia
David Sheffler, University of Virginia Wind Tunnel
Michael Solontoi, Lynchburg College, Physics and Astronomy
Jake Turner, University of Virginia
Mike Trepanitis, NovaTech
Larry Wetzel, Babcock & Wilcox

OTHER RESEARCH SUPPORT
Ellen Campbell, NECi (Nitrate Elimination Co. Inc)
Bryan Carter, Play It Again Sports,
Jonathan Chambers, Laura’s Soybeans,
Mike Gratopp & Mike Kulwicki, Humanetics,
Peter Lord, SYNLawn,
Mark Sisson, Nanotouch,
Boxley Brick, and Riverside Runners

CVGS INSTITUTIONAL REVIEW BOARD
Randolph College Lynchburg College
Dennis Goff Nicki Favero
Beth Schwartz Alisha Marciano
Holly Tatum Bianca Sumutka

CVGS RESEARCH STAFF
Michele Coghill, Lead Research Instructor and Mentor
Michelle Douglass, Research Instructor and Mentor
Stephen C. Smith, Statistics Instructor

Program for the Evening

WELCOME

RECOGNITION OF SPECIAL GUESTS
Superintendents
Principals
Governing Board Members
Division and School Advocates
Industrial Advisory Board
Foundation Board

RECOGNITION OF CVGS AMBASSADORS

RECOGNITION OF CVGS STAFF

RECOGNITION OF INTERNSHIP SPONSORS AND MENTORS

RECOGNITION OF STUDENT ACHIEVEMENT
Science Fair and Research Awards
Senior Bridge Project
"Straight A" Awards
Course and Special Awards
Brandi Nichols Leadership Award
Larbie Mensah Scholarship
Faculty Award of Excellence
Foundation Scholarships

PROGRAM COMPLETION CERTIFICATES

RECEPTION
**Student Leadership**

**CVGS AMBASSADORS**

Tim Burnette  Liberty High School  
Cole Campbell  Rustburg High School  
Rebekah Chun  Heritage High School  
Danielle Garrett  Jefferson Forest High School  
Meagan Kenney  E.C. Glass High School  
Shannon Laughlin  Jefferson Forest High School  
Ravdeep Mathone  Heritage High School  
Jamie May  Brookville High School  
Caeley McMillan  Brookville High School  
Rachel Nagley  Jefferson Forest High School  
Haley Roeser  E.C. Glass High School  
Cassie Smith  Heritage High School  
Beth Terry  Amherst County High School

**2015 Internship Sponsors**

Abbott Laboratories (25 year sponsor)  
AECOM  
Amazement Square  
Appomattox Animal Hospital (new sponsor)  
AREVA (30 year sponsor)  
California Sidecar (new sponsor)  
Centra (30 year sponsor)  
Central Virginia Neurosurgery  
Lynchburg General Hospital  
Cardiac Testing  
Catheterization Lab  
Emergency Departments  
Operating Room

**Research Awards**

**VIRGINIA STATE SCIENCE FAIR AWARDS**

Mathematical Sciences, Third Place - Bobby Carlson

**CENTRAL VIRGINIA REGIONAL SCIENCE FAIR GRAND AWARDS**

Physical Sciences, Grand Award  Bobby Carlson*  
Physical Sciences, Grand Alternate  Chris Drumheller  
Biological Sciences, Grand Alternate  Sarah Phillips  

**CENTRAL VIRGINIA REGIONAL SCIENCE FAIR FIRST PLACE AWARDS**

Behavioral and Social Sciences  Whitley Drinkard  
Chemistry and Biochemistry  Savhanna Long  
Computer Science  Wynn Bailey  
Engineering  Chris Drumheller  
Environmental Sciences  Katie Selmer  
Mathematical Sciences  Bobby Carlson  
Medicine and Health  Sarah Phillips  
Physics and Astronomy  Michael Xu

Please refer to the "Junior Research Projects" section for additional notations of Regional Science Fair award winners.

**VIRGINIA JUNIOR SCIENCE AND HUMANITIES SYMPOSIUM AWARDS**

Excellence in Research for Life Sciences - Sarah Phillips  
Excellence in Oral Presentation - Alanna Van Valkenburgh
Junior Research Projects

Amanda Naylor*  The effect of starvation on *Drosophila melanogaster* over a two day period
Dan Nguyen*  The effect of high temperatures on the yield strength of Chlorinated Polyvinyl Chloride Pipes
Jessica Pascadlo  A systematic study of the accretion disks of megamaser hosting active galactic nuclei across multiple galaxies
Sarah Phillips*¥@ʘ  The toxicological effects of silver nanoparticles (AgNPs) on the cardiovascular system of *Daphnia magna* and their offspring
Tristan Polk  The effect of varying amounts of holes on the structural integrity of traditional spur gears
Miranda Quet*  The effect of the oil spill on the James River sediment
Holden Ramsey*  The effect of heat on the longevity of rechargeable batteries
Meg Ritchie*  Comparing the effects of *Melaleuca alternifolia* and benzoyl peroxide on *Propionibacterium* acnes
Cameron Roberts*  The effects of gamma radiation on the mechanical properties of polyethylene at different densities
Katie Selmer*¥@  The degradation of types 1-7 plastics in response to sulfuric acid (H₂SO₄) or water exposure
Mansi Shah*  The effect of active ingredients in toothpaste on the growth of dental plaque-inducing bacteria, *Streptococcus mutans*
Jake Smith  Utilizing photometry to establish a light curve and better determine physical parameters of exoplanet WASP-24b
Eric Taylor*  The effects of varying arsenic levels on *Daphnia magna*’s heart rate
Andrew Van Eaton  A study on CoRoT-12b and the light curve and planetary parameters derived from it
Alanna Van Valkenburgh*¥@  The effect of trypsin inhibitors on the digestive efficiency of *Drosophila melanogaster*
Amanda Wagner  The effects of various essential oils on the stress levels in high school students
Eric Wiger @  The effect of water droplet dispersion on drag
Michael Xu*¥  Using water megamasers to trace the temporal evolution of accretion disk structure in active galactic nuclei: the case of NGC 5765b, UGC 3789 and Mrk 1419

RESEARCH PROJECTS AWARDS KEY
* Received an award at the Regional Science Fair
¥ Presented at the Virginia State Science Fair
¥¥ Received an award at the Virginia State Science Fair
@ Presented at VA Junior Science and Humanities Symposium
ʘ Received an award at VA Junior Science & Humanities Symposium

2015 Internship Sponsors

Centra (30 year sponsor continued)
Lynchburg General (continued)
Orthopedic Unit
Pharmacy
Physical & Occupational Therapy
Radiology
Stroobants Cardiovascular Center
Virginia Baptist Hospital
Adult Psychiatry
Genetic Counseling/Specialty Clinic
Pathology
Central Virginia Oral and Facial Surgery
Ceramic Tubular
City of Lynchburg
Delta Star (new sponsor)
Edmunds & Williams (5 year sponsor)
Fleet Laboratories (20 year sponsor)
Flowserve (new sponsor)
Glad Manufacturing
Harris Corp., RF Communication Division (15 year sponsor)
Lynchburg City Schools
Lynchburg College (5 year sponsor)
NovaTech (15 year sponsor)
Old Dominion Athletic Conference (new sponsor)
Orthopaedic Center of Central VA
Peaks View Animal Hospital
RidgeView Dermatology (new sponsor)
Seven Hills Veterinary Hospital
Southern Memorial Association
Virginia Department of Environmental Quality (5 year sponsor)
Virginia Department of Transportation
Wiley|Wilson (15 year sponsor)
## Junior Research Projects

<table>
<thead>
<tr>
<th>Student</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wynn Bailey*₮</td>
<td>A statistical analysis of the accuracy of Intel’s Eigenfaces and Fisherfaces face recognition algorithms measured by the Euclidean distance a microcomputer</td>
</tr>
<tr>
<td>Marron Baker*</td>
<td>The effects of water deprivation on the growth of Poa pratensis</td>
</tr>
<tr>
<td>Robert Barnett</td>
<td>The effects of location on the amount of energy harvested from radio frequency waves</td>
</tr>
<tr>
<td>Jacob Boone*</td>
<td>The effect of varying concentrations of a diluted lead acetate solution on the hypocotyl growth of Arabidopsis thaliana</td>
</tr>
<tr>
<td>Kendall Branham</td>
<td>The effects of prednisolone solution on the stem cell regeneration of Dugesia dorotocephala</td>
</tr>
<tr>
<td>Jason Brown</td>
<td>The effects of varying magnet wire gauge on the rotations per minute of a small reed switch direct current electric motor</td>
</tr>
<tr>
<td>Isabel Caprise*</td>
<td>The effects of conformity on eighth grade students</td>
</tr>
<tr>
<td>Bobby Carlson*₮</td>
<td>A mathematical analysis of the transmission and parameterization of Ebola hemorrhagic fever in Western Africa using intuitive graphical representations and a stochastic epidemiological SEIR model</td>
</tr>
<tr>
<td>Holly Carrington</td>
<td>The effect of parenting styles on children’s happiness</td>
</tr>
<tr>
<td>Becca Cate*</td>
<td>Constraining the planetary parameters of exoplanet XO-3b using ground-based photometry</td>
</tr>
<tr>
<td>Zack Cavanaugh*</td>
<td>The effect of third-hand smoke on the survival of Drosophila melanogaster</td>
</tr>
<tr>
<td>Jadrito Cedillo*</td>
<td>The effect of various antiseptic disinfectants on the number of bacterial colonies that grow on doormats</td>
</tr>
<tr>
<td>Andrew Creel*₮</td>
<td>The effect of Game Theory and “The Prisoner’s Dilemma” on conflict resolution within teenagers</td>
</tr>
<tr>
<td>Devin Creger</td>
<td>The effect of grape seed extract and bromelain on the regeneration of Dugesia dorotocephala</td>
</tr>
<tr>
<td>Geoffrey Dill</td>
<td>The effect of varying concentrations of Lysol product on the growth of Staphylococcus epidermidis</td>
</tr>
<tr>
<td>Tate Dorman</td>
<td>Examining the variability and hit frequency in both male and female lacrosse players</td>
</tr>
<tr>
<td>Maggie Doyle</td>
<td>Comparing the bacterial content in organic and non-organic beef jerky</td>
</tr>
<tr>
<td>Whitley Drinkard*₮</td>
<td>The effects of first impressions on judgment</td>
</tr>
<tr>
<td>Elizabeth Driskill</td>
<td>The effect of creatine anhydrous on the regeneration of Dugesia dorotocephala</td>
</tr>
<tr>
<td>Marshall Driskill</td>
<td>The effects of music on productivity of high school students</td>
</tr>
<tr>
<td>Chris Drumheller*₮</td>
<td>An analysis of friction of aluminum on iron when lubricated with oil</td>
</tr>
<tr>
<td>Annie Eick*</td>
<td>The effect of gender stereotype on students’ performance in mathematics</td>
</tr>
</tbody>
</table>

### Additional Projects

<table>
<thead>
<tr>
<th>Student</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matthew Forbus</td>
<td>The effect of varying pH on the regeneration speed of planaria</td>
</tr>
<tr>
<td>Kyle Galindo*</td>
<td>Examining the relationship between energy efficiency for a hydrogen fuel cell and the load resistance connected to the fuel cell in an external circuit</td>
</tr>
<tr>
<td>Camryn Garrett*</td>
<td>The effect of various sock brands on tensile strength</td>
</tr>
<tr>
<td>Christopher Geier</td>
<td>The effect of Dihydroxybenzoic acid on the growth of Escherichia coli</td>
</tr>
<tr>
<td>Zachary Geier*</td>
<td>The effects of phased array strategy on the accuracy of an ultrasonic transducer array</td>
</tr>
<tr>
<td>Charles Hall</td>
<td>The effect of the number of wire coils to the amount of loss in an electric transformer</td>
</tr>
<tr>
<td>Daniel Hanson*₮</td>
<td>The effect of gas-phase α-pinene on the pH of water</td>
</tr>
<tr>
<td>Dez Heal</td>
<td>The effectiveness of various antibiotics on Escherichia coli cultures</td>
</tr>
<tr>
<td>Natalie Hendrickson</td>
<td>The effect of calf compression sleeves on athletic performance and cardiovascular function</td>
</tr>
<tr>
<td>Cassidy Hilton</td>
<td>The effect of Ethanol and Taurine on the cardiovascular system of Daphnia magna</td>
</tr>
<tr>
<td>Bryan Hogg</td>
<td>The effect of caffeine on the number of colonies produced of Escherichia coli</td>
</tr>
<tr>
<td>Collin Hooper</td>
<td>The effect of temperature on the efficiency of electric motors</td>
</tr>
<tr>
<td>Issac Howard</td>
<td>The effect of felt thicknesses on the damping of piano strings modeled on tuning forks</td>
</tr>
<tr>
<td>Trey Hyler</td>
<td>The effect of varying materials on the strength of brick</td>
</tr>
<tr>
<td>John Jaminet</td>
<td>The effect of extended trailing edges on airfoils on lift, drag, and pitch</td>
</tr>
<tr>
<td>Ben Kelley</td>
<td>The effect of breakfast consumption on the short term memory of high school students</td>
</tr>
<tr>
<td>Zak Kraje</td>
<td>The study of Balmer Lines of Emission and their use for identifying B-E stars</td>
</tr>
<tr>
<td>Sam LeFew</td>
<td>The effect of protective headgear on impact forces in soccer</td>
</tr>
<tr>
<td>James Lim*</td>
<td>The effect of fuel type on gas emission</td>
</tr>
<tr>
<td>Savhanna Long*₮</td>
<td>The inhibition effect of Gaultheria procumbens on the corrosion of steel in Hydrochloric acid</td>
</tr>
<tr>
<td>Zach Martin</td>
<td>The effect of impact forces on different lacrosse helmets</td>
</tr>
<tr>
<td>Katy Mckenzie*</td>
<td>The effect of the Appalachian Mountains on rainfall averages of surrounding locations</td>
</tr>
<tr>
<td>Jeanine Minnick*</td>
<td>Determining the relationship between taking more pitches per at bat and batting average</td>
</tr>
<tr>
<td>Jordan Moore</td>
<td>The effect of Ibuprofen and alcohol on the regeneration of Dugesia dorotocephala</td>
</tr>
</tbody>
</table>

* The key for research awards is at the bottom of the third page of Research Titles.