### SOUTH CAROLINA JUNIOR ACADEMY OF SCIENCE
### SCHEDULE OF EVENTS

<table>
<thead>
<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>7:30 AM - 11:00 AM</td>
<td>SCJAS Registration</td>
<td>DiGiorgio Student Center</td>
</tr>
<tr>
<td>7:30 AM – 9:00 AM</td>
<td>Continental Breakfast</td>
<td>served in Atrium</td>
</tr>
<tr>
<td>8:30 AM – 10:15 PM</td>
<td>SCJAS Oral Session I</td>
<td>Owens Hall</td>
</tr>
<tr>
<td></td>
<td>See SCJAS oral session listing for details &amp; room numbers</td>
<td>Judges Conference Room, Kinard Hall Room 015</td>
</tr>
<tr>
<td>10:15 AM – 10:30 PM</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td>10:30 AM – 12:30 PM</td>
<td>SCJAS Oral Session II</td>
<td>Owens Hall</td>
</tr>
<tr>
<td></td>
<td>See SCJAS oral session listing for details &amp; room numbers</td>
<td></td>
</tr>
<tr>
<td>[10:30 AM – 12:30 PM]</td>
<td>SCAS Poster Session</td>
<td>Richardson Ballroom; DiGiorgio Student Center</td>
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<td></td>
<td>Junior Academy members are encouraged to visit SCAS posters</td>
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<tr>
<td>12:00 PM – 1:15 PM</td>
<td>Lunch</td>
<td>Thompson Dining Hall</td>
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<td></td>
<td>Ticket is in your badge holder</td>
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<tr>
<td>1:30 PM – 2:15 PM</td>
<td>Plenary Session</td>
<td>Richardson Ballroom; DiGiorgio Student Center</td>
</tr>
<tr>
<td>2:30 PM – 3:30 PM</td>
<td>Afternoon SCJAS Activities &amp; Workshops</td>
<td>Meet WU student Science Ambassadors in atrium of DIGS)</td>
</tr>
<tr>
<td>Owens G01</td>
<td>Investigating Hidden Biodiversity: Anuran acoustics as a case study</td>
<td>Melissa Pilgrim, PhD (USC Upstate)</td>
</tr>
<tr>
<td>Owens G02</td>
<td>Interactive visual neuroscience: how neurons in the brain generate perception</td>
<td>Phillip O'Herron PhD (MUSC)</td>
</tr>
<tr>
<td>Owens 102</td>
<td>Journey to the center of the Atom</td>
<td>Bill Wabbersen and Jon Guy (Savannah River Site)</td>
</tr>
<tr>
<td>3:45 PM</td>
<td>SCJAS Awards Ceremony</td>
<td>Richardson Ballroom; DiGiorgio Student Center</td>
</tr>
</tbody>
</table>
Afternoon Workshops  2:30-3:30PM
Please meet Science Ambassadors in Atrium of DIGS

Owens G01  Melissa Pilgrim, PhD (USC Upstate):

Investigating Hidden Biodiversity: Anuran acoustics as a case study

Owens G02  Phillip O’Herron PhD (MUSC):
[Note: Dr O’Herron works with Dr Kara our Plenary Speaker]

Interactive visual neuroscience: How neurons in the brain generate perception

Owens 102  Bill Wabbersen (Savannah River Site):

Journey to the center of the Atom
SCJAS 2016 ANNUAL MEETING ORAL PRESENTATIONS
WINTHROP UNIVERSITY, APRIL 16, 2016

Biochemistry / Mentored
Owens 203

9:00AM Selen Berkman, Governor's School for Science and Math
THERMODYNAMIC MODELING OF PHASE EQUILIBRIA IN TERNARY
PSM/POPC/CHOLESTEROL MIXTURES

9:15AM Matthew Berry, Governor's School for Science and Math
THE DEVELOPMENT AND ANALYSIS OF CORE-SHELL BIO-NANOPARTICLES
USING P4V4 AND TRANSFERRIN FOR DRUG DELIVERY

9:30AM Kaileigh Collins, Governor's School for Science and Math
DETERMINING THE ROLE OF MTM1 IN GLUTATHIONE METABOLISM

9:45AM Frances Davenport, Governor's School for Science and Math
DESIGN AND SYNTHESIS OF A NOVEL LSD-1 INHIBITOR AS A POTENTIAL ANTI-
TUMOR AGENT

10:00AM Valerie Hinsch, Governor's School for Science and Math
INFLUENCE OF PYRUVATE AND SODIUM BICARBONATE ON THE INDUCTION
OF PIGMENTATION IN ARISING RETINAL PIGMENTED EPITHELIAL-19 CELLS
(ARPE-19)

10:30AM Zachary Klein, Governor's School for Science and Math
CREATING A MATHEMATICAL MODEL OF THREE-COMPONENT
DPPC/DOPC/CHOLESTEROL MODEL LIPID BILAYERS

10:45AM Emily Milz, Governor's School for Science and Math
IN VITRO EFFICACY OF DOXORUBICIN ENCAPSULATED IN THERMOSENSITIVE
LIPOSOMES (TSL)

11:00AM Hannah Mitchum, Governor's School for Science and Math
TARGETING RGD-INTEGRINS IN U87 CELLS TO ENHANCE THE DELIVERY OF
MICELLE-ENCAPSULATED TEMOZOLOMIDE

11:15AM John Robert Peterson, Governor's School for Science and Math
DETERMINING THE 3-DIMENSIONAL FOLDING STRUCTURE OF A CITRUS
CANKAR CAUSING PROTEIN PRODUCED BY THE XANTHOMONAS AXONOPODIS
BACTERIA

11:30AM Catherine Powell, Governor's School for Science and Math
THE EFFECT OF GANODERIC ACID DM ON INDUCING CELL DEATH IN DIFFUSE
LARGE B-CELL LYMPHOMA

11:45AM Jacqueline Tobin, Governor's School for Science and Math
THEORETICALLY REPRODUCING EXPERIMENTALLY DRAWN PHASE
DIAGRAMS OF DOPC-PSM-CHOLESTEROL
Biochemistry / Non-Mentored
Owens 204

8:30AM Dillon Harper, Center for Advanced Technical Studies
FINDING AN OPTIMAL BIO-PETROL DIESEL BLEND

8:45AM Josh Ranta and Richard Zhao, Dutch Fork High School
THE EFFECT OF DI(2-ETHYLHEXYL) ADIPATE (DEHA) ON THE AVERAGE FERTILITY OF SUBSEQUENT GENERATIONS OF DANIO RERIO /

9:00AM Leila Barwick, Heathwood Hall Episcopal School
THE EFFECT OF HYDROGEN-PEROXIDE ON ENZYME ACTIVITY IN SWINE BLOOD MEASURED BY THE AMOUNT OF OXYGEN PRESENT

9:15AM Nina Valenti, Dutch Fork High School
THE EFFECTS OF VITAMIN E AND VITAMIN B (THIAMINE) ON THE GROWTH RATE AND FINAL WEIGHT OF TENEBRIO MOLITOR LARVAE

9:30AM Jaylen Davis, Heathwood Hall Episcopal School
THE EFFECT OF CHLORINE AND BLEACH ON THE COLOR INTENSITY OF PIG SKIN

9:45AM Noah Mervak, Chapin High School
THE LC50'S FOR NITRATE AND SULFATE

10:00AM Josh Holmstrom and Austin Cox, Heathwood Hall Episcopal School
THE EFFECT OF ENZYME CONCENTRATION, PRESENCE OR ABSENCE OF AN ENZYME, PH LEVEL, AND THE PRESENCE AND ABSENCE OF SUBSTRATES ON ENZYME REACTION RATE AND THE DETERMINATION OF WHAT LEVELS EACH VARIABLE MUST BE TO HAVE AN OPTIMAL REACTION RATE FOR ALGAE-BASED

Botany / Mentored
Kinard 115

8:30AM John Collins, Governor's School for Science and Math
CLONING AND FUNCTIONAL CHARACTERIZATION OF A NEW POTASSIUM TRANSPORTER GENE FROM CREEPING BENTGRASS

8:45AM Clare DuVal, Governor's School for Science and Math
EFFECT OF SOIL NITROGEN AVAILABILITY ON THE PHENOLIC PROFILE OF SOILS INVADED BY JAPANESE KNOTWEED (FALLOPIA JAPONICA)

9:00AM Anna Kulangara, Governor's School for Science and Math
RENEWABLE ENERGY SOURCES; LOCATING THE NM2448 MUTANT GENE FOR SENESCENCE IN MAIZE (ZEA MAYS L.) CELLS TO LENGTHEN THE LIFESPAN OF THE CROP FOR USE IN BIOFUELS

9:15AM Marlin McKnight, Governor's School for Science and Math
THE EFFECTS OF NITROGEN ON THE PHENOLIC COMPOSITION OF JAPANESE KNOTWEED
9:30AM Alec Popichak, Governor's School for Science and Math  
MAPPING OF GENES CONTROLLING SENESCENCE IN MAIZE (ZEA MAYS L.)

9:45AM Savannah Ruano, Governor's School for Science and Math  
RESPONSES TO MULTIPLE STIMULI IN TOMATO AND ARABIDOPSIS PLANTS

10:00AM Kenneth Yarborough, Governor's School for Science and Math  
DEVELOPMENT OF MOLECULAR MARKERS IN REDBAY

**Botany / Non-Mentored**  
Kinard 115

10:30AM Matt Watford, Heathwood Hall Episcopal School  
THE EFFECT OF CARBARYL, PERMETHRIN, AND BIFENTHRIN ON THE GROWTH OF BRASSICA RAPA

10:45AM Emma Shealy and Alyce Petit, Heathwood Hall Episcopal School  
THE EFFECT OF VARIOUS HYDROPONIC FERTILIZERS ON THE EMISSION OF GAS IN BRASSICA RAPA NIPPOSINICA PLANTS

11:00AM Isaac Lee, Spring Valley High School  
THE EFFECT OF CITRIC ACID ON REDUCTION OF ALUMINUM STRESS ON LEMNA MINOR

11:15AM Pippa Richter, Heathwood Hall Episcopal School  
THE EFFECT OF POLLUTANTS ON THE HEALTH AND GROWTH OF DISTICHLIS SPICATA

11:30AM Kate Nassab and Lawson Leidinger, Heathwood Hall Episcopal School  
THE EFFECT OF PROCESSING BEANS ON THE AMOUNT OF PROTEIN

11:45AM Meghan Murphy, Dutch Fork High School  
THE EFFECT OF SOIL ADDITIVES ON THE LEVEL OF VITAMIN A IN PIPER BETEL

12:00PM Julia Faulds, Heathwood Hall Episcopal School  
THE EFFECT DIFFERENT COLORED LIGHT WAVELENGHTS HAVE ON WISCONSIN FAST PLANTS

12:15PM Caroline Bunch, Heathwood Hall Episcopal School  
CAN AN ANTACID TABLET LIKE TUMS OR ALKA-SELTZER BE USED TO NEUTRALIZE ACIDIC SOIL, AND DOES ONE WORK MORE EFFICIENTLY THAN THE OTHER?

**Cell and Molecular Biology / Mentored (Session I)**  
Owens 201

8:30AM Eric Chen, Dutch Fork High School  
THE EFFECTS OF STROMAL CELLS ON TUMOR CELL GROWTH UNDER LOW OXYGENIC CONDITIONS
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<thead>
<tr>
<th>Time</th>
<th>Presenter</th>
<th>Title</th>
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<tbody>
<tr>
<td>8:45AM</td>
<td>Hannah Addis, Governor's School</td>
<td>THE ESTABLISHMENT OF GREEN FLUORESCENT CLONES OF A549 HUMAN</td>
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<tr>
<td></td>
<td>for Science and Math</td>
<td>LUNG CARCINOMA CELLS</td>
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<tr>
<td>9:00AM</td>
<td>Savannah Bradley, Governor's</td>
<td>EFFECTS OF THROMBIN AND BRADYKININ ON ASTROCYTE REACTIVITY</td>
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<td>School for Science and Math</td>
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</tr>
<tr>
<td>9:15AM</td>
<td>Crystal Carpenter, Governor's</td>
<td>DELIVERY OF O6-BENZYLGUANINE AND CAFFEINE VIA PH-RESPONSIVE,</td>
</tr>
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<td></td>
<td>School for Science and Math</td>
<td>FUSOGENIC LIPOSOMES INTO BRAIN TUMOR CELL LINES</td>
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<tr>
<td>9:30AM</td>
<td>Elizabeth Carpenter, Governor's</td>
<td>BIOCHEMICAL CHARACTERIZATION OF ALPHA-SYNUCLEIN CONTAINING PROTEIN</td>
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<td></td>
<td>School for Science and Math</td>
<td>AGGREGATES IN A YEAST MODEL FOR PARKINSON'S DISEASE</td>
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<tr>
<td>9:45AM</td>
<td>Savanah Dale, Governor's School</td>
<td>AMPLIFYING CALCIUM/CALMODULIN DEPENDENT PROTEIN KINASE II DELTA</td>
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<td>for Science and Math</td>
<td>VARIANT 9 IN HEALTHY AND DILATED CARDIOMYOPATHY HUMAN CARDIAC</td>
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<td>FIBROBLASTS</td>
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<td>10:00AM</td>
<td>Harper English, Governor's School</td>
<td>EXPRESSION OF ST2 SOLUBLE RECEPTOR IN MC38 AND CT26 COLON CANCER</td>
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<td>for Science and Math</td>
<td>CELLS</td>
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<tr>
<td>10:30AM</td>
<td>Kylie Fletcher, Governor's School</td>
<td>EFFECT OF MICROTUBULE DISASSEMBLY ON P0071 PROTEIN DISTRIBUTION</td>
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<td></td>
<td>for Science and Math</td>
<td>IN CACO-2 CELL LINES</td>
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<tr>
<td>10:45AM</td>
<td>Austin Moore, Governor's School</td>
<td>PROTEIN-PEPTIDE INTERACTION PATTERNS OF M-10 AND INHIBITORY EFFECTS</td>
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<td></td>
<td>for Science and Math</td>
<td>ON COLLAGEN EXPRESSION BY M-10 PEPTIDE IN SSC LUNG FIBROBLASTS</td>
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<tr>
<td>11:00AM</td>
<td>Cayla Odom, Governor's School</td>
<td>MAPPING TRANSPOSITION REQUIRES NUCLEOTIDE SPECIFIC INTERACTIONS</td>
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<td></td>
<td>for Science and Math</td>
<td>WITH THE TERMINAL INVERTED REPEATS</td>
</tr>
<tr>
<td>11:15AM</td>
<td>Asia Paguntalan, Governor's</td>
<td>TRANSPOSABLE ELEMENTS CONTAINING BINDING SITES FOR PLURIPOTENCY</td>
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<td>School for Science and Math</td>
<td>TRANSCRIPTION FACTORS FUNCTION AS ENHANCERS IN MOUSE EMBRYONIC</td>
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<td>STEMS CELLS</td>
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<tr>
<td>11:30AM</td>
<td>Tammy Ray, Governor's School</td>
<td>THE EFFECT OF TRANSPOSABLE ELEMENTS AND TRANSCRIPTION FACTOR BINDING</td>
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<td></td>
<td>for Science and Math</td>
<td>SITES ON GENE EXPRESSION</td>
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<tr>
<td>11:45AM</td>
<td>Erin Scott, Governor's School</td>
<td>THE EFFECT OF A SMALL MOLECULE INHIBITOR IN COMBINATION WITH EVE</td>
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<td></td>
<td>for Science and Math</td>
<td>ON GROWTH OF CANCER CELLS</td>
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### Cell and Molecular Biology / Mentored (Session II)

**Owens 202**

<table>
<thead>
<tr>
<th>Time</th>
<th>Presenter</th>
<th>Institution</th>
<th>Title</th>
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<tbody>
<tr>
<td>8:30AM</td>
<td>Julia Sequerth, Governor's School for Science and Math</td>
<td>EFFECTS OF ETHANOL ON LIGHT-ACTIVATED CURRENT FLOW IN HEK293 CELLS EXPRESSING CHANNELRHODOPSIN-2</td>
<td></td>
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<tr>
<td>8:45AM</td>
<td>Shreya Shankar, Governor's School for Science and Math</td>
<td>EXPRESSION AND LOCALIZATION OF ERBB RECEPTOR BIOMARKERS IN BREAST CANCER CELL LINES</td>
<td></td>
</tr>
<tr>
<td>9:00AM</td>
<td>Brittany Shook, Governor's School for Science and Math</td>
<td>INTERLEUKIN-2 AND INTERLEUKIN-15 DIFFERENTIALLY IMPACT THE TRANSITION OF EFFECTOR CD8+ T CELLS INTO EFFECTOR- AND CENTRAL-MEMORY PHENOTYPE CELLS</td>
<td></td>
</tr>
<tr>
<td>9:15AM</td>
<td>Amanda Steel, Governor's School for Science and Math</td>
<td>THE EFFECT OF SIGNALING FACTORS ON THE DIFFERENTIATION OF PROGENITOR CELLS</td>
<td></td>
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<tr>
<td>9:30AM</td>
<td>Rebecca Wang, Governor's School for Science and Math</td>
<td>CTLA-4'S ROLE IN THE DYSREGULATION OF T-CELL FUNCTION IN SARCOIDOSIS</td>
<td></td>
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<tr>
<td>9:45AM</td>
<td>Nicole Wyman, Governor's School for Science and Math</td>
<td>THE EFFECT OF IN VITRO SILICA TREATMENT ON LUNG FIBROBLASTS</td>
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<tr>
<td>10:00AM</td>
<td>Wenxin Fan, Spring Valley High School</td>
<td>THE EFFECTS OF EMODIN ON MACROPHAGE-CANCER CELL INTERACTION</td>
<td></td>
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<tr>
<td>10:30AM</td>
<td>Shakthika Saravanan, Spring Valley High School</td>
<td>THE EFFECT OF TIME TREATMENT OF PANAX QUINQUEFOLIUS ON NRF2 AND NQO1 LEVELS IN ANA-1 CELLS</td>
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### Cell and Molecular Biology / Non-Mentored

**Owens 202**

<table>
<thead>
<tr>
<th>Time</th>
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<tbody>
<tr>
<td>10:45AM</td>
<td>Matthew Heron, Center for Advanced Technical Studies</td>
<td>QUANTIFYING ERYTHROCYTE CARBOHYDRATE SURFACE ANTIGEN CONCENTRATION IN LIPID RAFTS</td>
<td></td>
</tr>
<tr>
<td>11:00AM</td>
<td>Tyler Carnes, Dutch Fork High School</td>
<td>THE EFFECT OF TARTRAZINE AND ALLURA RED ON SACCHAROMYCES CEREVISIAE METABOLISM</td>
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### Chemistry / Mentored

**Owens 101**

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<th>Time</th>
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<th>Title</th>
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<tbody>
<tr>
<td>8:45AM</td>
<td>Hailey Areheart, Governor's School for Science and Math</td>
<td>LIGHT HARVESTING AND ENERGY TRANSFER IN METAL-ORGANIC FRAMEWORKS</td>
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<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>Title</th>
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<tbody>
<tr>
<td>9:00AM</td>
<td>Albert Wang, Dutch Fork HS</td>
<td>MOLECULAR DYNAMICS ON Oligopeptides to Associate Vibrational Density of States with Raman Spectra</td>
</tr>
<tr>
<td>9:15AM</td>
<td>Leland Hartzog, Governor's HS</td>
<td>Analyzing the Effects of Supercritical and Liquid Carbon Dioxide on Collagen Fibers</td>
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<tr>
<td>9:30AM</td>
<td>Lydia Henderson, Governor's HS</td>
<td>Polymer Structured Electrodes for Solar Water Splitting</td>
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<tr>
<td>9:45AM</td>
<td>Katherine Kilgore, Governor's HS</td>
<td>An Experimental Study of the Forensic Luminol Test for Detection of Bloodstains</td>
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<tr>
<td>10:00AM</td>
<td>Allison McLane, Governor's HS</td>
<td>Design and Synthesis of a 3,5-Diamino-1,2,4-Triazole as a Lysine Specific Demethylase-1 Inhibitor for Therapeutic Use in Cancer</td>
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**Chemistry / Non-Mentored**

Owens 101

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<tr>
<th>Time</th>
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<tr>
<td>10:30AM</td>
<td>Julia Lauterbach and Beverly Hennig, Heathwood HS</td>
<td>By Burning Different Biomass Substances, Which Material Creates the Largest Amount of Electricity for Lighting a Light Bulb?</td>
</tr>
<tr>
<td>10:45AM</td>
<td>Christopher Kong, Spring Valley HS</td>
<td>The Effect of Zeolite-Gravel Mixtures on the Concentration of Leachate /</td>
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<tr>
<td>11:00AM</td>
<td>Jake Sawyer, Heathwood HS</td>
<td>The Effect of Neutralization on Heat Change and Entropy</td>
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**Consumer Science / Mentored**

Owens 102

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<tr>
<th>Time</th>
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<th>Title</th>
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<tbody>
<tr>
<td>8:30AM</td>
<td>Alexander Adams, Governor's HS</td>
<td>RMT Analysis of China's Shanghai Stock Exchange</td>
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<tr>
<td>8:45AM</td>
<td>Hamza Ahmed, Governor's HS</td>
<td>RMT Analysis of China's Shanghai Stock Exchange</td>
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<tr>
<td>9:00AM</td>
<td>Tristan Cromer, Governor's HS</td>
<td>Differences Between National and State Level Small Business Programs</td>
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<tr>
<td>9:15AM</td>
<td>Collin Edwards, Governor's HS</td>
<td>The Link Between a Region's Entrepreneurial Dynamism and Poverty</td>
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</tbody>
</table>
9:30AM  Benjamin Epstein, Governor's School for Science and Math  
DEVELOPING ECONOMIC EDUCATION RESOURCES

9:45AM  Thomas-Roy Holt, Governor's School for Science and Math  
ANALYSIS OF OLYMPIC GAMES PARTICIPATION AND SUCCESS USING STATISTICAL METHODS

10:00AM  Lotta Keller, Governor's School for Science and Math  
COMPETITIVENESS OF SOUTH CAROLINIAN AEROSPACE EDUCATION

10:30AM  Zachary Laprise, Governor's School for Science and Math  
ENTREPRENEURSHIP “ECOSYSTEM” INPUTS NEEDED IN THE GREENVILLE AREA TO FOSTER MORE ENTREPRENEURIAL ACTIVITY AND SUCCESS.

10:45AM  Quannadon Moses, Governor's School for Science and Math  
CONSUMER ANALYSIS AND MARKETING STRATEGY: CULMINATING METHODS TO PROCURE THE MAXIMUM EXTENT OF CLIENTS AT NORTH DARGAN INNOVATION CENTER

11:00AM  Ryan Moughan, Governor's School for Science and Math  
QUANTITATIVE ANALYSIS ON CHARLESTON'S ENTREPRENEURIAL SECTOR

11:15AM  Samuel Sisney, Governor's School for Science and Math  
DETERMINATION OF TARGET GEOGRAPHIC AREAS FOR MARKETING KIDS CAN GIVE TOO

11:30AM  Jeffrey Sizemore, Governor's School for Science and Math  
AFRICAN AMERICAN TOURISM PATTERNS AND MARKETING ETHNICALLY FOCUSED TOURISM IN SOUTH CAROLINA

11:45AM  Joshua Trill, Governor's School for Science and Math  
AN ANALYSIS OF THE ECONOMIC IMPACTS OF ACCESS MANAGEMENT STRATEGIES ALONG SELECT CORRIDORS

Consumer Science / Non-Mentored  
Owens 103

8:30AM  Alex Cox and Mitesh Das, Heathwood Hall Episcopal School  
THE EFFECT OF STORAGE METHOD ON VITAMIN C LEVELS IN ORANGE JUICE OVER TIME

8:45AM  Paris Tomlin and Sonali Patel, Heathwood Hall Episcopal School  
THE EFFECTS AND CHEMISTRY OF NATURAL REPELLENTS VERSUS CHEMICALLY FORMULATED REPELLENTS ON MELITTOBIA DIGITATA

9:00AM  Melina Manos, Heathwood Hall Episcopal School  
THE EFFECT OF CHLORINE ON THE DURABILITY OF SWIMSUIT MATERIAL

9:15AM  Hunter Stalker, Center for Advanced Technical Studies  
THE REDESIGN OF AN ADHESIVE BANDAGE FOR THE PALM

9:30AM  Emmye Mullins and Amelia Robinson Brown, Heathwood Hall Episcopal School  
THE EFFECT OF VARIOUS SUNSCREENS ON UV SENSITIVE YEAST
9:45AM  Moji Awe, Spring Valley High School
THE EFFECTS OF VARIOUS PROMOTIONAL METHODS ON RECYCLING BEHAVIORS

10:00AM  Hailey Nicks and Kathleen Powers, Heathwood Hall Episcopal School
EFFECT OF TIME IN A MICROWAVE ON MICROCOCCUS LUTEUS

**Engineering / Mentored**

**Owens G07**

8:30AM  Elaine Patterson, Spring Valley High School
OPTIMAL POINT DENSITY FOR ACCELEROMETER CALIBRATION AND CONSIDERATIONS FOR CONTINUED USE OF ACCELEROMETER SYSTEMS TO LOCATE AND CLASSIFY EVENTS BY MONITORING STRUCTURAL VIBRATIONS

8:45AM  Risden Altman, Governor's School for Science and Math
FLOW RESISTANCES AT INTENSE BED SHEAR STRESSES

9:00AM  Garrett Buchmann, Governor's School for Science and Math
DEVELOPING A LOW-COST TEMPERATURE CONTROLLER USING A RASPBERRY PI MICROCONTROLLER

9:15AM  Noah Dammers, Governor's School for Science and Math
STUDY ON THE DISTILLATION OF WATER VIA THE USE OF SEMI-PERMEABLE MEMBRANES

9:30AM  Mikayla Drost, Governor's School for Science and Math
ADDITIVE MANUFACTURING ON A BUDGET: BUILDING A 3D PRINTER

9:45AM  Nathan Dubrouillet, Governor's School for Science and Math
SYNTHESIS, PROCESSING AND CHARACTERIZATION OF BIOPOLYMER DERIVED CERAMICS

10:00AM  Ross Ferguson, Governor's School for Science and Math
CAPACITY DEGRADATION IN LITHIUM-ION BATTERIES

10:30AM  Henry Hardin, Governor's School for Science and Math
NONDESTRUCTIVE EVALUATION USING PIEZOELECTRIC WAFER ACTIVE SENSORS

10:45AM  Tsung-Wei Hsu, Governor's School for Science and Math
ROBOTICS MATERIAL HANDLING: METHODS IN WHICH ROBOTS CAN PACKAGE ZIPPER STORAGE BAGS INTO RETAIL BOXES

11:00AM  James Kahng, Governor's School for Science and Math
EFFICIENCY CHARACTERIZATION IN LITHIUM-ION BATTERIES

11:15AM  Mario Krussig, Governor's School for Science and Math
MECHANICAL AND THERMAL PROPERTIES OF EPOXIDIZED PINE OIL AND ACRYLATED EPOXIDIZED SOYBEAN OIL BLENDs
11:30AM  Grant Kuczler, Governor's School for Science and Math
ADVANCING HUMAN FALL DETECTION BY SIMULATING FALLS WITH A BALLISTICS GELATIN TORSO

11:45AM  Ali Maclay, Governor's School for Science and Math
THE TRANSFORMATION AND MODIFICATION OF INKJET PRINTERS INTO LOW-COST BIOPRINTERS FOR THE CHARACTERIZATION OF PRECISE CELL PATTERNING

12:00PM  Christopher Chaplin, Academic Magnet High School
HIGH SPEED 3D IMAGING WITH TWO-PHOTON LIGHT SHEET MICROSCOPY

1:30PM  Michael Ott, Governor's School for Science and Math
DESIGN AND IMPLEMENTATION OF HUMAN-TO-Swarm ROBOTICS SIMULATOR AND INTERFACE

1:45PM  Madeline Pope, Governor's School for Science and Math
CO2 PERMEATION FLUX OF SILVER CARBONATE DUAL PHASE MEMBRANES MODIFIED BY ATOMIC LAYER DEPOSITION

2:00PM  Karan Sah, Governor's School for Science and Math
ATOMIC FORCE MICROSCOPY STUDY OF 4-HEXAGONAL SILICON CARBIDE

2:15PM  Jack Tabb, Governor's School for Science and Math
POLYMER DERIVED SIOC CERAMIC VIA THERMOLYSIS OF PHOTOCROSSLINKED POLYMETHYLDHROSILOXANE (PMHS)

2:30PM  Kiara Tompkins, Governor's School for Science and Math
SUPER RESOLUTION NANOSCOPY FOR BIO-IMAGING BASED ON CW LASER STED MICROSCOPY

2:45PM  Ariel Moore, Governor's School for Science and Math
TRANSFORMATION AND CHARACTERIZATION OF DESKJET PRINTERS INTO LOW-COST BIOPRINTERS FOR DRUG SCREENING AND CELL PRINTING

**Engineering / Non-Mentored**
Owens G08

8:30AM  Kayla Blankenship and Paul Keeler, Center for Advanced Technical Studies
EASY STEP SHOES: SHOES THAT PUT THEMSELVES ON

8:45AM  Jacob Cooney, Spring Valley High School
THE EFFECT OF THE INTERNAL DESIGN OF AN ABSORPTIVE MUFFLER ON CAR EXHAUST SOUND LEVELS /

9:00AM  Cookie Desai, Center for Advanced Technical Studies
CREATING A SAFER SURGERY: A CHAIR FOR SURGEONS

9:15AM  Frederick Drescher, Spring Valley High School
THE EFFECT OF A DESICCANT-BASED DEHUMIDIFYING AIR INTAKE SYSTEM ON THE POWER OUTPUT OF A GASOLINE INTERNAL COMBUSTION ENGINE
9:30AM Lee Sightler, Center for Advanced Technical Studies
EFFECT OF BATTERY MEMORY ON DIFFERENT TYPES OF ELECTRIC VEHICLE BATTERIES

9:45AM Cody Foster, Spring Valley High School
THE EFFECT OF STRENuous ACTIVITY ON THE ELECTRICAL OUTPUT OF A THERMOELECTRIC WRISTBAND

10:00AM Robert Gradel, Chapin High School
THE EFFECT OF CURRENT LEVEL ON ANGLE OF ANKLE EXTENSION IN EUTHENIZED FROGS TREATED WITH HIGH VOLTAGE PULSED CURRENT

10:30AM Evan Johnson, Spring Valley High School
THE EFFECT OF AN ANION REPELLING VIBRATING CATHODE ON THE AMOUNT OF HYDROGEN GAS PRODUCED IN WATER ELECTROLYSIS

10:45AM Davis Buchanan and Jim Blair, Heathwood Hall Episcopal School
PH NEUTRALIZATION AS A MODEL FOR AN ELECTROMECHANICAL PANCREAS

11:00AM Breanna Murrin, Spring Valley High School
A COMPARISON OF GASOLINE AND HYDROGEN USAGE IN AN R/C ENGINE FOR THE RETURN ON INVESTMENT

11:15AM Sofia StMarie, Center for Advanced Technical Studies
INCREASING INDEPENDENCE FOR THE VISUALLY IMPAIRED: DEVELOPMENT OF A SONAR EQUIPPED CANE

11:30AM Edoardo Tremolada, Spring Valley High School
THE EFFECT OF IMPLEMENTING HONEYCOMB STRUCTURES IN A PHONE CASE AND ANALYZING THEIR INTEGRITY /

11:45AM Lamar Dawkins, III, Heathwood Hall Episcopal School
THE EFFECT THAT "CORKING" A BASEBALL BAT HAS ON THE DISTANCE TRAVELED IN THE AIR BY A STRUCK BALL WITH A CONSTANT VELOCITY

12:00PM Thomas Wigley, Spring Valley High School
THE EFFECT OF DIFFERENT CONFIGURATIONS OF NEODYMIUM MAGNETS ON THE AMOUNT OF MILLIVOLTS(MV) PRODUCED IN A KINETIC GENERATOR. /

1:30PM Ishita Kapoor, Spring Valley High School
EXPLORING DESIGN POSSIBILITIES FOR ENHANCING DELIVERY EFFICIENCY OF A NEBULIZER

1:45PM Ben Mathews, Heathwood Hall Episcopal School
THE EFFECT OF DIFFERENT WAVE HEIGHTS ON VOLTAGE PRODUCED

2:00PM Tyler Wrenn, Center for Advanced Technical Studies
OPTIMIZING UNDERWATER TURBINE BLADES TO IMPROVE THE EFFICIENCY OF OCEAN ENERGY GENERATION
Environmental Science / Mentored
Owens 208

8:30AM  Ashley Boone, Governor's School for Science and Math
CONTAMINANT LOADS IN BLACK AND TURKEY VULTURES OF THE SOUTHEASTERN UNITED STATES

8:45AM  Christina Byun, Dutch Fork High School
THE EFFECT OF COLORED LIGHT EXPOSED TO RHODOMONAS SALINA ON ITS GROWTH /

9:00AM  Nicole Johnson, Governor's School for Science and Math
BATCH SCALE-UP SYNTHESIS OF PVP COATED IRON OXIDE NANO PARTICLES FOR OIL REMEDIATION

9:15AM  Sally Cannon, Seneca High School
THE EFFECT OF WEATHERING BULLETS ON THE CONCENTRATION OF LEAD IN RUNOFF BY TYPE

9:30AM  Lauren Yam, Governor's School for Science and Math
ESTROGENICITY OF PERSONAL CARE PRODUCTS AS MEASURED IN A YEAST ESTROGEN SCREEN

9:45AM  Hosam Arammash, Spring Valley High School
EVALUATING THE EFFICIENCY OF BANANA PEELS AS A SOURCE OF REMOVING METHYLENE BLUE DYE FROM WATER.

10:00AM  Jasmine Marie Flora, Spring Valley High School
THE EFFECT OF THE DURATION OF SONICATION ON THE ADSORPTION CAPACITY OF FOOD WASTE HYDROCHAR FOR ATRAZINE

Environmental Science / Non-Mentored (Session I)
Owens 208

10:30AM  Roscoe Burk-Moody, Heathwood Hall Episcopal School
THE EFFECT OF RADIO WAVE EXPOSURE ON THE RATE OF GROWTH OF VEGETATION

10:45AM  Rachel Rorie and Amelia Wilks, Dutch Fork High School
THE EFFECT OF NITRATE ON THE GROWTH AND DEVELOPMENT OF THE DANIO RERIO

11:00AM  Sarayu Das, Spring Valley High School
THE EFFECT OF TRISPRINTEC AND METFORMIN AND THEIR DOSES ON THE MORTALITY AND REPRODUCTION OF AMPULLARIIDAE, DAPHNIA MAGNA, AND LEMNIOIDEAE & THE HEART RATE OF DAPHNIA MAGNA IN AQUATIC ECOSYSTEMS

11:15AM  Treveon Myers, Spring Valley High School
THE EFFECT OF COOKING OIL ON PM2.5 PRODUCTION
<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker(s)</th>
<th>Title</th>
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<tbody>
<tr>
<td>11:30AM</td>
<td>Catie Johnson and Landon Louthian</td>
<td>THE EFFECT OF THE HISTORIC FLOOD OF 2015 ON MERCURY, DISSOLVED OXYGEN, AND PH LEVELS OF THE GILLS CREEK WATERSHED</td>
</tr>
<tr>
<td>11:45AM</td>
<td>Sarayu Parise</td>
<td>THE EFFECT OF BRASSICA JUNCEA PHYTOREMEDIATION USING SOIL DOPED WITH CONCENTRATIONS OF COPPER (II) SULFATE SOLUTION ON SOIL NITRATE CONTENT</td>
</tr>
<tr>
<td>12:00PM</td>
<td>Camille Bryant, Center For Advanced Technical Studies</td>
<td>MITIGATION OF LANDFILL GAS BY DONATING EDIBLE FOOD WASTE TO CHARITY</td>
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**Environmental Science / Non-Mentored (Session II)**

Owens 210

<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker(s)</th>
<th>Title</th>
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<tbody>
<tr>
<td>8:30AM</td>
<td>Zahida Ashroff</td>
<td>THE EFFECT OF DIFFERENT LEVELS OF FERTILIZING NUTRIENTS ON THE OIL BIOREMEDIATION PROPERTIES OF PLANKTONIC MARINE BACTERIA</td>
</tr>
<tr>
<td>8:45AM</td>
<td>Kate Willhide, Heathwood Hall Episcopal School</td>
<td>A COMPARISON OF PHOSPHATE AND TOTAL DISSOLVED SOLID LEVELS IN CITY WATER AND WELL WATER IN SOUTH CAROLINA</td>
</tr>
<tr>
<td>9:00AM</td>
<td>Allen Wilbur, Dutch Fork High School</td>
<td>THE EFFECT OF PHOTOVOLTAIC CELLS ON ELECTRICITY COSTS</td>
</tr>
<tr>
<td>9:15AM</td>
<td>Victoria Hopkins</td>
<td>THE CORRELATION BETWEEN TIME AND THE AMOUNT OF PARTICULATE MATTER PRODUCED BY CEILING TILES</td>
</tr>
<tr>
<td>9:30AM</td>
<td>Carter Smith, Heathwood Hall Episcopal School</td>
<td>THE EFFECT OF THE THICKNESS OF A LAYERED COMPOST ON THE RATE OF DECOMPOSITION AND TEMPERATURE CHANGE</td>
</tr>
<tr>
<td>9:45AM</td>
<td>Nerielle Legaspi</td>
<td>THE INHIBITORY EFFECT OF ACESULFAME POTASSIUM ON THE GROWTH OF RHODOSPIRILLUM RUBRUM</td>
</tr>
<tr>
<td>10:00AM</td>
<td>Saad Iftikhar</td>
<td>EFFECT OF FLOW RATE ON UVLED INDUCED BACTERIA ANNIHILATION IN WATER SAMPLES</td>
</tr>
<tr>
<td>10:30AM</td>
<td>Spencer O'Connor</td>
<td>D-LIMONENE DERIVED FROM ORANGE PEELS AND ITS EFFECTS ON ETHANOL PRODUCTION</td>
</tr>
<tr>
<td>10:45AM</td>
<td>Hayden Spencer, Center for Advanced Technical Studies</td>
<td>GEOTHERMAL HEATING AND COOLING IN K-12 SCHOOLS</td>
</tr>
<tr>
<td>11:00AM</td>
<td>Spencer Hann, Heathwood Hall Episcopal School</td>
<td>THE EFFECT OF DIFFERENT TYPES OF OIL REMEDIATION ON THE AMOUNT OF OIL REMOVED FROM SALTWATER</td>
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<tr>
<td>Time</td>
<td>Speaker</td>
<td>Institution</td>
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<tr>
<td>11:15 AM</td>
<td>Rakib Siddique, Spring Valley High School</td>
<td>REMOVAL OF HAZARDOUS WASTES FROM AQUEOUS SOLUTIONS VIA ADSORPTION USING THE COMMON DANDELION /</td>
</tr>
<tr>
<td>11:30 AM</td>
<td>Sreeja Varanasi, Spring Valley High School</td>
<td>THE EFFECT OF COPPER AND SILVER NANOPARTICLES ON ESCHERICHIA COLI K-12</td>
</tr>
<tr>
<td>11:45 AM</td>
<td>Jasdeep Singh, Spring Valley High School</td>
<td>THE EFFECTS OF TEMPERATURE ON THE BIODEGRADATION OF POLYSTYRENE FOAM BY WOOD ROTTING FUNGI</td>
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**Math and Computer Science / Mentored**

**Owens 207**

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<tr>
<th>Time</th>
<th>Speaker</th>
<th>Institution</th>
<th>Title</th>
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<tbody>
<tr>
<td>8:30 AM</td>
<td>Emily Babb, Governor's School for Science and Math</td>
<td>DEVELOPING A DOCUMENT CLASSIFIER USING A PART OF SPEECH TAGGER</td>
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<tr>
<td>8:45 AM</td>
<td>Blaine Billings, Governor's School for Science and Math</td>
<td>GDD(N1+N2, 3; Λ1, Λ2) WITH EQUAL NUMBER OF BLOCKS OF TWO CONFIGURATIONS</td>
<td></td>
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<tr>
<td>9:00 AM</td>
<td>Grace Brueggman, Governor's School for Science and Math</td>
<td>K-12 ROBOTICS PROGRAMMING CURRICULUM DEVELOPMENT AND ASSESSMENT</td>
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<tr>
<td>9:15 AM</td>
<td>Eleanor Burch, Governor's School for Science and Math</td>
<td>ANALYSIS OF HISTORICAL DOCUMENTS THROUGH THE USE OF OPTICAL CHARACTER RECOGNITION</td>
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<tr>
<td>9:30 AM</td>
<td>Kaitlyn Campbell, Governor's School for Science and Math</td>
<td>CLUSTERING GENE CELLS USING HIERARCHICAL CLUSTERING</td>
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<tr>
<td>9:45 AM</td>
<td>Frances Dickson-Vandervelde, Governor's School for Science and Math</td>
<td>GENOME 3D VIEWER: A 3D MODEL OF THE HUMAN GENOME USING UNITY 3D</td>
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<tr>
<td>10:00 AM</td>
<td>Vinita Cheepurupalli, Spring Valley High School</td>
<td>COMPARISON OF SVD AND FFT IN IMAGE COMPRESSION</td>
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<tr>
<td>10:30 AM</td>
<td>Tiger Mou, Governor's School for Science and Math</td>
<td>CONCEPT AND IMPLEMENTATION OF A CRUISE CONTROL APPLICATION AND TEST ENVIRONMENT FOR A SAFETY CRITICAL EMBEDDED DYNAMIC APP-DOWNLOAD PLATFORM</td>
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</tr>
<tr>
<td>10:45 AM</td>
<td>Dhaval Patel, Governor's School for Science and Math</td>
<td>DESTINATION BASED ROUTING IN LINUX SYSTEMS TO ACCESS LOCAL SERVICES REMOTELY</td>
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<tr>
<td>11:00 AM</td>
<td>Shane Ragusa, Governor's School for Science and Math</td>
<td>USER EXPERIENCE TESTING THROUGH THE DEVELOPMENT OF AN APPLE WATCH APP</td>
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<tr>
<td>Time</td>
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<td>School</td>
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<tr>
<td>11:15AM</td>
<td>Thomas McLean</td>
<td>Spring Valley High School</td>
<td>The Effect of Image Overlap on Accuracy of Photogrammetry Using UAVs</td>
</tr>
<tr>
<td>11:30AM</td>
<td>Elaina Stuckey</td>
<td>Governor's School for Science and Math</td>
<td>The Use and Redesign of Data Acquisition Software in Python</td>
</tr>
<tr>
<td>11:45AM</td>
<td>Justin Smith</td>
<td>Governor's School for Science and Math</td>
<td>The Storyteller's Aide: An Index of Compositional Properties in Cinema</td>
</tr>
<tr>
<td>12:00PM</td>
<td>Xiang Li</td>
<td>Governor's School for Science and Math</td>
<td>Clustering of Single Cell Using Locality Preserving Projection</td>
</tr>
<tr>
<td>8:45AM</td>
<td>Preston Carlton</td>
<td>Spring Valley High School</td>
<td>The Effect of a User's First Programming Language on Their Ability to Program Overall</td>
</tr>
<tr>
<td>9:00AM</td>
<td>Tanner Senn and William Scouten</td>
<td>Heathwood Hall Episcopal School</td>
<td>The Effect of Different Objects on WiFi Strength</td>
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<tr>
<td>9:15AM</td>
<td>Rishi Suresh</td>
<td>Spring Valley High School</td>
<td>The Effect of Decreased Chaos in Melody Generation on Its Conformity to Common Chord Progessions</td>
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<tr>
<td>9:30AM</td>
<td>Hannah Stewart</td>
<td>Chapin High School</td>
<td>Analysis of Tennis Winning Shots</td>
</tr>
<tr>
<td>9:45AM</td>
<td>Athreya Murali</td>
<td>Heathwood Hall Episcopal School</td>
<td>The Effect of R-Factor on the Summation of Cantor's Dust in the Cantor Fractal</td>
</tr>
<tr>
<td>10:00AM</td>
<td>Vijay Tripathi</td>
<td>Spring Valley High School</td>
<td>The Effects of a Thunderbolt 3 Based LAN on the Jain's Fairness Index of the Network</td>
</tr>
<tr>
<td>8:30AM</td>
<td>Aman Pitalia</td>
<td>Spring Valley High School</td>
<td>The Effect of Phenolic Compounds (Benzoic Acid and Gallic Acid) on the Susceptibility of S. Aureus to Trimethoprim-Sulfamethoxazole.</td>
</tr>
<tr>
<td>8:45AM</td>
<td>Daniel Arega</td>
<td>Governor's School for Science and Math</td>
<td>The Ceramidase Inhibitor, Carmofur, Significantly Disrupts Reproduction in Daphnia Magna</td>
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<tr>
<td>Time</td>
<td>Presenter</td>
<td>School</td>
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<tr>
<td>9:00AM</td>
<td>Max Land</td>
<td>Dutch Fork High School</td>
<td>MICROBIAL DIVERSITY TRENDS IN THE FECAL MATTER OF H. CAROLINENSIS AND R. RABIDA</td>
</tr>
<tr>
<td>9:15AM</td>
<td>Lisa Qu</td>
<td>Spring Valley High School</td>
<td>THE EFFECT OF NUTMEG ESSENTIAL OIL, LAVENDER ESSENTIAL OIL, ONION ESSENTIAL OIL, AND CLOVE ESSENTIAL OIL ON THE QUORUM SENSING ABILITY AND ANTIBIOTIC RESISTANCE OF CHROMOBACTERIUM VIOLACEUM</td>
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<tr>
<td>9:30AM</td>
<td>Olivia Walkowiak</td>
<td>Governor's School for Science and Math</td>
<td>CONNECTIONS BETWEEN INHIBITION OF ATP PRODUCTION AND FATTY ACID UPTAKE IN PROCYCLIC TRYPSANOSOMA BRUCEI BRUCEI</td>
</tr>
<tr>
<td>9:45AM</td>
<td>Walker McDonald</td>
<td>Dutch Fork High School</td>
<td>THE TRANSFER OF ENDOSPORES ON U.S. CURRENCY</td>
</tr>
<tr>
<td>10:00AM</td>
<td>Johnny Wood</td>
<td>Governor's School for Science and Math</td>
<td>MTF-1 AS AN ACTIVATOR OF HEAVY METAL HOMEOSTASIS IN SCHISTOSOMA MANSONI</td>
</tr>
<tr>
<td>10:00AM</td>
<td>Olivia Moran</td>
<td>Heathwood Hall Episcopal School</td>
<td>THE EFFECT OF CIPROFLOXACIN ON ESCHERICHIA COLI, AQUASPIRILLUM SERPENS, AND STAPHYLOCOCCUS EPIDERMIDIS</td>
</tr>
<tr>
<td>10:45AM</td>
<td>Vinay Penmetsa</td>
<td>Spring Valley High School</td>
<td>THE EFFECT OF THE INHIBITORY EFFECTS OF BENFOTIAMINE, L ASCORBIC ACID, AND A LIPOIC ACID ON THE PRODUCTION OF ADVANCED GLYCACTION END PRODUCTS IN CAENORHABDITIS ELEGANS /</td>
</tr>
<tr>
<td>11:00AM</td>
<td>Julia Tenhover</td>
<td>Heathwood Hall Episcopal School</td>
<td>THE EFFECT OF THE NUMBER OF HOURS HORSES ARE KEPT STALLED PER DAY ON THE NUMBER OF STRONGYLE TYPE EGGS AND LARVAE PRESENT IN MANURE</td>
</tr>
<tr>
<td>11:15AM</td>
<td>Madeline Kirton</td>
<td>Dutch Fork High School</td>
<td>EFFECTS OF BROMATE AND CHLORITE ON ESCHERICHIA COLI RESISTANCE TO GENTAMICIN</td>
</tr>
<tr>
<td>11:30AM</td>
<td>Flinn Christian</td>
<td>Heathwood Hall Episcopal School</td>
<td>THE EFFECTS OF BACTERIAL GROWTH IN LIQUID MAKEUP FOUNDATION VS THE BACTERIAL GROWTH FROM THE FOUNDATION BRUSH APPLICATOR ON PIG SKIN</td>
</tr>
<tr>
<td>11:45AM</td>
<td>Roann Abdeladl</td>
<td>Greenville Technical Charter High School</td>
<td>DETERMINING THE ABILITY OF PSEUDOMONAS FLUORESCENS TO DEVELOP INTO BACTERIAL BIOFILM ON VARIOUS MEDIUMS</td>
</tr>
<tr>
<td>1:30PM</td>
<td>Riley Branham</td>
<td>Chapin High School</td>
<td>THE EFFECT OF HEAVY METALS ON BACTERIA GROWTH</td>
</tr>
</tbody>
</table>

**Microbiology / Non-Mentored**

Owens 110
1:45PM Benjamin Wuori, Spring Valley High School
THE EFFECT OF PARAMECIUM MULTIMICRONUCLEATUM ON ENTEROBACTER AEROGENES POPULATIONS

2:00PM Marie Charlotte Demetriades, Heathwood Hall Episcopal School
THE EFFECT OF SANITIZERS ON BACTERIA

**Physics / Mentored**
Owens 104

9:00AM Narae Lee, Governor's School for Science and Math
THE EFFECTS OF CATIONS ON THE DYNAMICS OF SINGLE STRANDED DNA

9:15AM Wesley Williams, Governor's School for Science and Math
PLANAR HALL EFFECT IN THIN FERROMAGNETIC FILM'S DEPENDENCE UPON EXTERNAL MAGNETIC FIELD ANGLES

9:30AM Marlena Kolesinska, Governor's School for Science and Math
NON-UNIFORM MAGNETIC FIELD-INDUCED INSTABILITIES BETWEEN FERROFLUID AND DEIONIZED WATER THROUGH A T-SHAPED MICROCHANNEL

9:45AM Jeffrey Chen, Governor's School for Science and Math
EVALUATING CP-VIOLATION IN THE B-MESON DECAY MODE

10:00AM Zachary Johnson, Governor's School for Science and Math
THE ROLE OF CONDUCTIVITY ON INSTABILITIES OF FERROFLUIDS IN MICROCHANNELS

**Physics / Non-Mentored**
Owens 104

10:30AM Jim Xue, Heathwood Hall Episcopal School
THE EFFECT OF HYDROGEN CONSUMED AS FUEL ON THE ENERGY OUTPUT FROM A MODEL HYDROGEN FUEL CELL CAR

10:45AM Krishna Gorrepati, Spring Valley High School
THE EFFECT OF A NOVEL P-N TiO2/Cu2O/ITO COMPOSITE JUNCTION VERSUS A Cu2O/ITO JUNCTION CREATED USING ELECTRON BEAM EVAPORATION ON A SHEWANELLA ONEIDENSIS MR-1 POWERED MICROBIAL COUPLED PHOTOELECTROCHEMICAL FUEL CELL

11:00AM Mika McAnally, Spring Valley High School
THE EFFECT OF SOCCER BALL VELOCITIES ON A MODEL HEAD AS VIDEOED BY A CELL PHONE CAMERA

11:15AM Dylan McCormick, Spring Valley High School
THE EFFECT OF MUSICAL INSTRUMENT ON THE ABILITY TO HEAR DIFFERENCES IN INTONATION
11:30AM  Dandavikranth Reddy, Spring Valley High School
THE EFFECT OF WEIGHTS ON THE VIBRATION REDUCTION OF A RADIO-CONTROLLED HELICOPTER

11:45AM  Caitlin Kunchur, Dutch Fork Middle School
A PERFECT PICTURE: EFFECT OF CAMERA SETTINGS ON EXPOSURE

**Physiology and Health / Mentored**
*Owens 107*

8:30AM  Emilia Ballou, Governor's School for Science and Math
THE EFFECT OF OVARIECTOMY ON SKELETAL MUSCLE AUTOPHAGY SIGNALING IN THE FEMALE APCMIN/+ MOUSE

8:45AM  Gabriella Barry, Governor's School for Science and Math
ROLE OF PRIMARY CILIA ON EPICARDIAL CELLS LOCATED IN THE ATRIOVENTRICULAR JUNCTION

9:00AM  Ashton Lancaster, Governor's School for Science and Math
FIBROMODULIN (FOMD) AND LUMICAN (LUM) IN ADULT MOUSE CARDIAC VALVE DEVELOPMENT

9:15AM  Tanvi Mehta, Spring Valley High School
THE IMPACT AND SUSTAINABILITY OF INFECTIOUS DISEASE PHARMACIST INTERVENTIONS ON REDUCING ANTIRETROVIRAL ERRORS AND ERROR DURATION IN A CRITICALLY ILL HIV-INFECTED POPULATION OVER A FIVE-YEAR INTERVENTION PERIOD /

9:30AM  Dhruw Maisuria, Governor's School for Science and Math
CELL-CELL INTERACTIONS OF HUMAN UMBILICAL VEIN ENDOTHELIAL CELLS (HUVEC) AND AORTIC SMOOTH MUSCLE CELLS ON CULTISPHER BEAD SCAFFOLDING

9:45AM  Konnor McDowell, Governor's School for Science and Math
DIFFERENTIAL EFFECTS OF MPEP+JNJ-16259685 MICROINJECTIONS INTO THE VTA ON COCAINE-INDUCED LOCOMOTOR SENSITIZATION IN SALINE-EXPOSED RATS AND RATS WITH REPEATED TRAUMATIC PREDATOR ODOR EXPOSURE (TMT)

10:00AM  Veronica McLeod, Governor's School for Science and Math
ALDA-1 ATTENUATES HEPATIC ISCHEMIA/REPERFUSION INJURY

10:30AM  Sarah Mott, Spring Valley High School
AN ANIMAL MODEL OF PTSD FOLLOWING SOCIAL STRESS

10:45AM  Joshua Nguyen, Governor's School for Science and Math
THE EFFECT OF CILIA ON CARDIAC VALVE DISEASES
11:00AM Hemani Patel, Governor's School for Science and Math
GLYCOPROTEIN (GP130) PROTEIN EXPRESSION DURING MOUSE SKELETAL MUSCLE DISUSE ATROPHY

11:15AM Jacob Rabinovitch, Governor's School for Science and Math
THE EFFECT OF POLY(I:C) AND 5-FUOROURACIL ON HSC AND ENDOTHELIAL CELL CYCLE ACTIVATION FOLLOWING AN 8-DAY RECOVERY PERIOD

11:30AM Grace Rhodes, Governor's School for Science and Math
DIFFERENCES IN LIPID DISTRIBUTION IN LIVERS BETWEEN SPECIFIC PATHOGEN FREE AND GNOTOBIOTIC MICE

11:45AM Isabelle Schroeder, Governor's School for Science and Math
EFFECTIVENESS OF BEHAVIORAL VOICE THERAPY IN PATIENTS WITH DYSPHONIA

12:00PM Madison Williamson, Governor's School for Science and Math
G418 TREATMENT OF PATIENTS WITH A NONSENSE MUTATION IN THE X-LINKED CUL4B GENE

**Physiology and Health / Non-Mentored (Session I)**
Owens G01

8:30AM Jaelen King, Heathwood Hall Episcopal School
THE EFFECT OF AEROBIC EXERCISE ON SHORT TERM MEMORY

8:45AM Steven Andreen, Spring Valley High School
THE EFFECT OF BODY MASS INDEX ON SWEAT PRODUCTION IN 15-18 YEAR OLD MALE HIGH SCHOOL PHYSICAL EDUCATION STUDENTS /

9:00AM Kenny Kim, Spring Valley High School
THE EFFECT OF FERMENTATION ON THE PRODUCTION OF LACTIC ACID

9:15AM Karisha Desai, Center for Advanced Technical Studies
THE CORRELATION BETWEEN CORTICOSTERONE LEVELS AND TELOMERE LENGTH IN RATS

9:30AM Savannah Hillmeyer, Heathwood Hall Episcopal School
THE EFFECT OF A SWIMMER'S ORIENTATION ON VELOCITY IN UNDERWATER KICKING

9:45AM Joanna Dyches, Chapin High School
DOCTORS AND PHARMACISTS PERSPECTIVES ON PRESCRIPTION DRUG ABUSE

10:00AM Cherilyn Heintz, Chapin High School
EFFECTS OF ASHTANGA YOGA ON ADOLESCENT FLEXIBILITY

10:30AM Hillary Melton, Center for Advanced Technical Studies
DESIGNING A STRETCHING DEVICE TO IMPROVE EFFICIENCY OF CONGENITAL MUSCULAR TORTICOLLIS TREATMENT
10:45AM  Ipsita Pradhan, Center for Advanced Technical Studies
DEVELOPMENT OF A PREGNANCY ASSISTANCE KIT TO HELP REDUCE
MATERNAL MORTALITY RATES

11:00AM  Jamie Milliff, Chapin High School
GEMINI: A STUDY OF THE DUALITY IN BEHAVIOR ANALYSES ASSESSMENTS

11:15AM  Shreya Sidhu, Center for Advanced Technical Studies
INCREASING THE LIFE SPAN OF DONOR ORGANS

11:30AM  Bianca Huet, Chapin High School
THE CORRELATION BETWEEN PATTERN RECOGNITION AND STANDARDIZED
TEST SCORES

11:45AM  Kinsey Meggett, Center for Advanced Technical Studies
A DANGEROUS CURVE: THE EFFECTS OF TECHNOLOGY ON THE CERVICAL
VERTEBRAE /

12:00PM  Kelsey Krusen, Chapin Middle School
BE ALARMED: CAN PEOPLE AGES 60 AND OLDER HEAR SMOKE DETECTORS?

Physiology and Health / Non-Mentored (Session II)
Owens G02

8:30AM  Royce Frye, Spring Valley High School
THE EFFECT OF ELECTRODE PLACEMENT ON THE DETECTION OF MUSCLE
ELECTRIC POTENTIAL

8:45AM  Andrew Huang, Spring Valley High School
THE EFFECTS OF PHYSICAL EXERCISE ON THE SHORT TERM MEMORY OF
ADOLESCENTS

9:00AM  Priyanka Rao, Spring Valley High School
THE EFFECT OF VARIOUS ANTIDEPRESSANTS ON ACTION POTENTIAL
CHARACTERISTICS IN LUMBRICUS TERRESTRIS

9:15AM  Philip Brewer, Heathwood Hall Episcopal School
CAFFEINE'S EFFECT ON LONG TERM MEMORY

9:30AM  Matthew Reupke, Spring Valley High School
THE EFFECT OF INAUDIBLE HIGH-FREQUENCY SOUNDS RANGING FROM 20-
100 KILOHERTZ ON THE VISUAL ACCURACY OF TEENAGE HOMO SAPIENS.

9:45AM  Andrew Martin, Dutch Fork High School
ACL INJURY RISKS OF FEMALE DANCERS VERSUS NON-DANCERS BASED ON A
BIOMECHANICAL LANDING /

10:00AM  Aniruth Sivakumar, Spring Valley High School
THE EFFECT OF THE DURATION OF LAVENDER AROMATHERAPY ON LEVEL OF
STRESS  /
10:30AM  Coleman Couick, Heathwood Hall Episcopal School
COMPARING THE EFFECTS OF NO LIQUID INTAKE VS. WATER INTAKE VS.
GATORADE INTAKE ON RUNNERS DURING A WORKOUT

10:45AM  Allison Stanek, Spring Valley High School
THE EFFECT OF MACULAR PIGMENT ON COLOR DIFFERENTIATION IN
HEALTHY ADOLESCENTS

11:00AM  Alexa Eyring and Kayla Shine, Center for Advanced Technical Studies
DESIGNING AN ADAPTIVE UNIVERSAL HAND CUFF FOR CEREBRAL PALSY

11:15AM  Katie Miller, Chapin High School
EFFECT OF CONCUSSION KNOWLEDGE ON HIGH SCHOOL ATHLETES
LIKELINESS TO REPORT CONCUSSIONS

11:30AM  Megan Johnson, Center for Advanced Technical Studies
THE PROPULSION POW!: REDUCING ENERGY EXPENDITURE AMONG
WHEELCHAIR USERS

11:45AM  Angelica Walker and Stephanie Hals, Chapin High School
RELATIONSHIP BETWEEN GROWTH PLATE DEVELOPMENT AND POINTE
RELATED INJURIES

**Psychology and Sociology / Mentored**
Owens 108

8:45AM  Jacob Bhoi, Governor's School for Science and Math
A STUDY ON THE EFFECT OF MESSAGE SENSATION VALUE ON THE MEMORY
OF ANTI-DRUG MEDIA MESSAGES USING EYETRACKING SOFTWARE

9:00AM  Emma Harris, Governor's School for Science and Math
ASSOCIATIONS BETWEEN RATE OF SPEECH AND CARDIAC AROUSAL WITHIN
FEMALES THAT EXPRESS THE FMR1 PREMUTATION

9:15AM  Rebecca Kerr, Governor's School for Science and Math
EFFECTS THAT INFLUENCE CHILDREN'S TRUST WHEN NONVERBAL DISPLAYS
OF DOMINANCE ARE A FACTOR.

9:30AM  Mariana Obando Velez, Governor's School for Science and Math
AN EVIDENCE-BASED EDUCATION INTERVENTION PROGRAM FOR
DISPARITIES IN CLINICAL RESEARCH

9:45AM  Samuel Seigler, Governor's School for Science and Math
THE EFFECTIVENESS OF ELECTRODE PLACEMENT DURING PAIRED
ASSOCIATIVE STIMULATION

10:00AM  Taylor Widener, Governor's School for Science and Math
THE EFFECT OF SOCIALIZATION AND ISOLATION ON BINGE DRINKING IN C57
MICE
<table>
<thead>
<tr>
<th>Time</th>
<th>Speaker</th>
<th>School</th>
<th>Title</th>
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<tbody>
<tr>
<td>8:30AM</td>
<td>Adam Abdulrahman, Chapin High</td>
<td>Owens 109</td>
<td>ASSOCIATION OF GRAPHEME-COLOR SYNESTHESIA TO SAT SCORES</td>
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<td>8:45AM</td>
<td>Jake Breland, Chapin High School</td>
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<td>THE OPTIMAL LENGTH AND FREQUENCY OF PRACTICE IN MASTERING THE GUITAR</td>
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<tr>
<td>9:00AM</td>
<td>Raegan Brizek, Chapin High School</td>
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<td>SECONDARY TEACHERS’ PERCEPTION ON THE EDUCATIONAL USE OF SOCIAL MEDIA: A QUALITATIVE STUDY</td>
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<td>9:15AM</td>
<td>Gabriel Corn, Spring Valley High</td>
<td>School</td>
<td>THE APPLICATION OF THE PRISONER’S DILEMMA IN AN ONLINE SCENARIO TO TEST ONE’S ABILITY TO TRUST OTHERS /</td>
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<tr>
<td>9:30AM</td>
<td>Jessica Cole, Chapin High School</td>
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<td>THE EFFECTS PSYCHOLOGICAL PRIMING ON HIGH SCHOOL STUDENTS’ COGNITIVE FUNCTIONS</td>
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<td>9:45AM</td>
<td>Emily Franklin, Chapin High School</td>
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<td>ASSOCIATION BETWEEN PRIVATE LESSONS AND SUCCESS IN MUSIC</td>
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<td>10:00AM</td>
<td>Rachel Janis, Chapin High School</td>
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<td>EFFECT OF GRADE LEVEL ON THE TYPE OF HELP REQUESTED IN A WRITING LAB</td>
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<td>10:30AM</td>
<td>Taylor Ferguson, Spring Valley High School</td>
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<td>A CORRELATIONAL ANALYSIS ON THE RELIGIOUS KNOWLEDGE AND RELIGION BASED DISCRIMINATORY TENDENCIES OF ADULTS AFFILIATED WITH VARIOUS FAITHS</td>
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<td>10:45AM</td>
<td>Wesley Hankinson, Spring Valley High School</td>
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<td>THE CORRELATION BETWEEN ADOLESCENTS’ PHONE ADDICTION LEVEL AND ATTACHMENT TO THEIR PHONE</td>
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<td>11:00AM</td>
<td>Amy Loy, Chapin High School</td>
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<td>THE EFFECT OF COLORING MANDALAS FOR TWENTY MINUTES ON TEEN STUDENT’S ANXIETY LEVELS</td>
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<td>11:30AM</td>
<td>Catherine O'Leary, Chapin High School</td>
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<td>EFFECT OF DATING VIOLENCE PRESENTATION ON THE ATTITUDES OF 8TH GRADE GIRLS</td>
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<td>11:45AM</td>
<td>Christopher Juhn, Spring Valley High School</td>
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<td>THE EFFECT OF VARIOUS FREQUENCIES OF NOTES ON THE PERCEPTION OF PITCH OF BOTH MUSICALLY AND NON-MUSICALLY TRAINED STUDENTS</td>
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<tr>
<td>12:00PM</td>
<td>Michael Spicer, Spring Valley High School</td>
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<td>THE DIFFERENCE BETWEEN RUSSIAN &amp; AMERICAN MEDIA FRAMING TECHNIQUES ON THE RUSSIAN CRIMEAN ANNEXATION</td>
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Psychology and Sociology / Non-Mentored (Session II)
Owens 108

10:30PM  Gloria Kim, Spring Valley High School
THE EFFECT OF INDUCED POSITIVE, NEGATIVE, AND NEUTRAL EMOTIONS ON SUSCEPTIBILITY OF ACCEPTING MISLEADING INFORMATION ABOUT AN IMAGE DEPICTING A NEGATIVE EVENT

10:45PM  Zachary Young, Spring Valley High School
THE EFFECT OF VARIOUS VIDEO GAME GENRES ON THE AGGRESSION LEVELS OF ADOLESCENTS

11:00PM  Madison Owen, Chapin High School
ELEMENTARY SCHOOL MUSIC STUDENTS AND THE EFFECTS OF INCORPORATING LEARNING STYLES IN THE CLASSROOM

11:15PM  Krystal Pasciak, Chapin High School
EFFECT OF GENRE ON THE LIKELIHOOD OF STUDENTS READING ASSIGNED MATERIALS

11:30PM  Caleb Taylor and Cooper Woodham, Chapin High School
THE PSYCHOLOGICAL EFFECTS OF ELIMINATING SOCIAL MEDIA ON EVERYDAY LIFE

11:45PM  Allison Wilson and Sarah Hudson, Heathwood Hall Episcopal School
HEARING COLOR AND SEEING SOUNDS: TO WHAT EXTENT DOES COLOR REPETITION OCCUR IN SONG SELECTION INVOLVING MALES AND FEMALES

12:00PM  Dev Ramesh, Spring Valley High School
THE CORRELATION BETWEEN TWITTER SENTIMENTS AND POLLING RESULTS FOR THE 2016 PRESIDENTIAL RACE

Zoology / Mentored
Kinard 119

10:30AM  Morgan Jones, Governor's School for Science and Math
A BIOLOGICAL STUDY ON THE DIFFERENCES BETWEEN MOSQUITO AND BLACK FLY PHYSIOLOGY VIA THE TRANSPLANTATION OF TRICHOMYCETES

10:45AM  Tanner Maharrey, Governor's School for Science and Math
A SURVEY OF THE INSECT POPULATIONS OF THREE DIFFERENT BEACHES ALONG THE SOUTH CAROLINA COAST

11:00AM  Joshua Dunford, Governor's School for Science and Math
THE ATTRACTIVENESS OF LIGHT WITHIN THE VISIBLE SPECTRUM TO THE BEETLE GENERA PHYLLOPHAGA, PHANAEUS, AND THE FAMILY CARABIDAE

11:15AM  Ashley McVicker, Governor's School for Science and Math
THE ECOLOGY AND REPRODUCTIVE HABITS OF THE DIAMONDBACK TERRAPIN IN AND AROUND THE CHARLESTON HARBOR

11:30AM  Claire Bernardo, Governor's School for Science and Math
A BIOLOGICAL STUDY ON THE MIDGUTS OF BLACK FLIES AND MOSQUITOS
11:45AM  Bailey Fallon, Governor’s School for Science and Math
LETHAL AND SUBLETHAL EFFECTS OF ELEVATED SALINITY ON THE LARVAE
OF ANAXYRUS TERRESTRIS, HYLĂ SQUIRELLA, AND GASTROPHRYNE
CAROLINENSIS

12:00PM  Neelie Heath, Governor’s School for Science and Math
THE BIODIVERSITY OF DRAGONFLIES AND DAMSELFLYES: THE SPECIES AND
BEHAVIORS OF ODONATA INHABITING THE COOPER LIBRARY POND

ZooLogy / Non-Mentored
Kinard 119

9:15AM  Noah Wells, Spring Valley High School
THE EFFECT OF MAGNETISM ON THE REGENERATION RATE OF DUGESIA
TIGRINA

9:30AM  Isha Desai, Center for Advanced Technical Studies
CANINE PROSTHETIC

9:45AM  Sean Denis and Coleman Upton, Chapin High School
LEARNING CURVE COMPARED TO AGE IN BORDER COLLIE BREEDS

10:00AM Matthew Payne, Spring Valley High School
THE EFFECT OF BISPHENOL-A CONCENTRATIONS ON THE HEART RATE OF
DAPHNIA MAGNA