

# ISCAP

INDEPENDENT SCHOLARSHIP  
& CREATIVE ACTIVITIES PRESENTATIONS



MAY 3, 2017

# ISCAP Day

Wednesday, May 3, 2017

Sweigart Hall

10:15 AM – 3:15 PM

## Schedule At-A-Glance:

<b>10:15-12:00</b>	<b>Undergraduate Research Scholar Awards Session</b>	<b>Sweigart 115</b>
<b>12:00-1:00</b>	<b>Poster Session &amp; Lunch</b>	<b>Sweigart Lobby</b>
<b>1:00-2:00</b>	<b>Panel Session 1:</b> Analyzing Behaviors: Historical, Economic, and Psychological Approaches	<b>Sweigart 117</b>
<b>2:15-3:15</b>	<b>Panel Session 2:</b> The Voice of Science and the Science of Voice	<b>Sweigart 117</b>

### Planned by the URSA Committee:

Gabriela Smalley (chair)  
Jason Chiu  
Hope Corman  
Catrinel Haught-Tromp  
Brea Heidelberg  
Jamie Ludwig  
Kenneth Kauffman  
Judith Stegmaier-Nappi  
Allison Weidhaas



# RIDER UNIVERSITY

Office of the President  
2083 Lawrenceville Road  
Lawrenceville, New Jersey 08648  
609-896-5001  
[www.rider.edu](http://www.rider.edu)  
[gdellomo@rider.edu](mailto:gdellomo@rider.edu)

May 3, 2017

Dear Students, Scholars, Faculty and Families,

Today the Rider University community will hear about the remarkable scholarship, research, and creative endeavors of our students as they apply their college education in innovative ways. To those students who are presenting their work today, I extend congratulations on your achievements. To all those who supported these students in their academic adventures, I offer appreciation and thanks. These activities exemplify the many valuable opportunities and resources students enjoy at Rider to enrich their learning experience. Frankly, our students could not have done their work without you.

Special congratulations to this year's Undergraduate Research and Scholarship Award winners. These students proposed detailed independent projects to be carried out in the following academic year and will each receive a \$5,000 tuition scholarship. You will hear about the wide variety of projects they will be undertaking in the awards session later this afternoon.

Whether you conducted research or helped to make it happen, your efforts send a strong message about the academic excellence students can achieve at Rider. Congratulations to everyone involved!

Sincerely,

Gregory G. Dell'Omo, Ph.D.  
President



Office of Provost and  
Vice President for Academic Affairs  
2083 Lawrenceville Road  
Lawrenceville, New Jersey 08648  
T 609-896-5010  
F 609-896-5242  
dfredeen@rider.edu  
www.rider.edu

May 3, 2017

Dear Students, Faculty, and Family Members,

Today is a full day dedicated to honoring and showcasing the creative works and research of Rider University students in collaboration with their faculty mentors. Each year, the Undergraduate Research Scholar Awards (URSA) Committee hosts ISCAP (Independent Scholarship & Creative Activities Presentation) Day in an effort to display student originality and contributions to their fields of interest. ISCAP Day is also meant as a forum for members of the Rider community—both faculty and students—to come together in an interdisciplinary dialogue focused on students' creative projects.

Another very important purpose for ISCAP Day is to announce the new URSA scholarship recipients, as well as to hear about the progress made among last year's URSA award winners on their year-long projects. This portion of the day is particularly important as we honor some of the most gifted undergraduates at Rider. We congratulate you on your outstanding accomplishment.

Please join us as we celebrate these student achievements and honor their creative works.

Congratulations on a job well done!

Sincerely,

DonnaJean A. Fredeen  
Provost and Vice President for Academic Affairs

## Undergraduate Research Scholar Awards Session

Sweigart Auditorium (SWE 115)

10:15 AM – 12:00 PM

Chair: Gabriela Smalley (Geological, Environmental, and Marine Sciences)

10:15	<b>Welcome by Provost DonnaJean Fredeen</b>
	<b>Presentations by 2016-17 URSA Recipients</b>
10:30- 10:45	<b>Johnathan Jackson</b> (Health Care Management & Human Resource Management) <i>Impact of Population Characteristics on the Sustainability of Medicare</i> (Advisor: <b>Anne Carroll</b> )
10:45- 11:00	<b>Elissa Lomakova</b> (Biochemistry) <i>Activation of T Cells Within the Tumor Microenvironment</i> (Advisor: <b>James Riggs</b> )
11:00- 11:15	<b>John Modica</b> (English Literature) <i>Setting the Watchman: White Liberalism and the Legacy of Harper Lee</i> (Advisor: <b>Matthew Goldie</b> )
11:15- 11:30	<b>Mallory Murphy</b> (Music Education) <i>Finding a Home in Music: Culturally Responsive Teaching for Homeless Youth</i> (Advisor: <b>Sharon Morrow</b> )
11:30- 11:45	<b>Natalie Strucinski</b> (Psychology) <i>Walk the Talk: Developing and Assessing Health Programming Designed to Change Both Attitudes and Behaviors in At-Risk Youth</i> (Advisor: <b>Stephanie Golski</b> )
	<b>Announcement of 2017-18 URSA Recipients</b>
11:45- 12:00	<b>Micaela Bottari</b> (Voice Performance) <i>La Chanson d'Eve: Two Old Men, une femme, and a Semblance of Paradise</i> (Advisor: <b>Eric Hung</b> )
	<b>Gianluca D'Elia</b> (Journalism) <i>Slavery in Our State: Investigating New Jersey's Role in Cross-Country Human Trafficking</i> (Advisor: <b>Jackie Incollingo</b> )
	<b>Eric Monticello</b> (Management & Leadership, Entrepreneurial Studies, Marketing) <i>Small Business Institute (SBI) Program Analysis</i> (Advisor: <b>Ronald Cook</b> )
	<b>Samantha Ottavi</b> (Biochemistry) <i>The Synthesis and Antibacterial Effects of N-(2-(pyridin-2-yl)ethyl)sulfonamide Derivatives</i> (Advisor: <b>Danielle Jacobs &amp; Kelly Bidle</b> )
	<b>Alexandra Santora</b> (Biology) <i>The Effects of Salt-Stress on Haloferax volcanii</i> (Advisor: <b>Kelly Bidle</b> )

## Poster Session

Sweigart Lobby, 12:00 PM – 1:00 PM

1. **Jessica Angerstein** (Psychology); Advisor: **Michael Carlin**  
*Traditional Self-Efficacy Testing Versus Computer-Based Self-Efficacy Testing*
2. **Mickey Bagnato** (Political Science); Advisor: **Kathy Browne**  
*Age and Condition of Largemouth Bass in Lake Centennial*
3. **Sidney Bentz** (Biochemistry); Advisor: **John Bochanski**  
*Using the Gaia Data Set to Examine the Luminosity of Red Dwarfs*
4. **Kelly Catino** (Environmental Sciences); Advisor: **Gabi Smalley**  
*Effect of Meteorological Conditions on Behavior of Captive Bison at Six Flags Wild Safari Park*
5. **Alanna D'Avanzo** (Psychology); Advisor: **Nadia Ansary**  
*Muslim-American Youth: Navigating Harassment, Intimidation and Bullying Associated With a Bicultural Identity*
6. **Ambria Dell'Oro** (Geosciences); Advisor: **Reed Schwimmer**  
*Geochemical Identification of Erosional Pathways of Garnets from the Wissahickon Formation, PA*
7. **Nicole Donato** (Geosciences), **Maria Chaves** (Environmental Sciences and Biology); Advisor: **Hongbing Sun**  
*Variations of Lead Concentrations in Soil Profiles Near an Interstate Highway in New Jersey*
8. **Ian Flynn** (Geosciences, Marine Sciences); Advisor: **Reed Schwimmer**  
*Past and Future Rates of Stream Erosion Along Crosswicks Creek, Mercer County, NJ*
9. **Tim Forrest\*** (Environmental Sciences), **Maria Chaves\*** (Environmental Sciences and Biology), **Imani Guest** (Geosciences); Advisor: **Dan Druckenbrod**  
*Tree Growth Correlations and Spatial Distributions in an Acid Deposition Treatment Watershed at Fernow Experimental Forest, WV (\*presenting authors)*
10. **Imani Guest** (Geosciences); Advisor: **Dan Druckenbrod**  
*Strengthening a Historical Climate Record in South-Central Pennsylvania with Tree Rings Dating Back 600 Years*
11. **Imani Guest** (Geosciences); Advisor: **Reed Schwimmer**  
*The Provenance of New Jersey Barrier Island Garnets*

- 12. Elissa Lomakova** (Biochemistry); Advisor: **James Riggs**  
*Activation of T Cells Within the Tumor Microenvironment*
- 13. Jennifer Londregan** (Behavioral Neuroscience); Advisor: **James Riggs**  
*B Cell Maturation Defect Promotes Resistance to Ovarian Cancer*
- 14. Jamie Misegades** (Health Sciences), **Jennifer Cabrera** (Biology), **Melissa Rasimowicz** (Behavioral Neuroscience); Advisors: **Drue Stapleton & Kimberly Vaccaro**  
*Functional Movement Assessment in Performing Arts*
- 15. David Pastuna** (Biology); Advisor: **James Riggs**  
*Microbiome Impact Upon Humoral Immunity in Ovarian Cancer*
- 16. Rachel Pereira** (Biology); Advisor: **Kathy Browne**  
*Biodiversity Study of Macroorganisms Within Algae Communities in Centennial Lake at Rider University*
- 17. Michael Phillips** (Music Education); Advisor: **Frank Abrahams**  
*Bach Box*
- 18. Miranda Rosen** (Marine Sciences); Advisor: **Paul Jivoff**  
*Examining the Effects of Coastal Zone Management Techniques on Population Characteristics of Mole Crabs (*Emerita talpoida*) Along the New Jersey Shore*
- 19. Miranda Rosen** (Marine Sciences); Advisor: **Gabi Smalley**  
*Examining Music as a Type of Environmental Enrichment on Two California Sea Lions (*Zalophus californianus*) at Six Flags Great Adventure*
- 20. Connor Szwetkowski** (Chemistry); Advisor: **Jamie Ludwig**  
*Development of Isotope Labeling Strategies for the Discovery of New Biocatalyzed Reactions*
- 21. Gretel Torres** (Biology); Advisor: **James Riggs**  
*Loss of Humoral Immunity in a Mouse Model of Ovarian Cancer*
- 22. Allison Williams** (Psychology); Advisor: **Cara DiYanni**  
*Sexualized Media and Gender Stereotyping*

**Panel Session 1:  
Analyzing Behaviors: Historical, Economic,  
and Psychological Approaches**

**Sweigart 117**

**1:00 PM – 2:00 PM**

**Chair: Brea Heidelberg (Fine Arts)**

1:00- 1:15	<p><b>Magdalena Arsov</b> (International Business, Management &amp; Leadership)  <b>David Gaynor</b> (Finance, Healthcare Management)  <b>Sarah Haigh</b> (Psychology)  <b>Johnathan Jackson</b> (Human Resource Management, Health Care Management)  <b>Salman Khalid</b> (Political Science, Economics)  <b>Benjamin Kraml</b> (Finance, Business Economics)  <b>Omar Lopez</b> (Business Economics, Business Administration, International Business)  <b>Melissa Roth</b> (Business Economics, Finance)  <b>Sarah Schneid</b> (Accounting, Finance)  <i>Effects of Copayments on Utilization and Costs in the NJ CHIP Program 2015-2016</i>  Advisor: <b>Hope Corman</b></p>
1:15- 1:30	<p><b>Bethany-May Howard</b> (History)  <i>From the Almshouse to the Middle Class: An English Family's Journey 1754-2017</i>  Advisor: <b>Thomas Callahan</b></p>
1:30- 1:45	<p><b>Aliyah Veltz</b> (Psychology)  <i>RU Political: Political Ideology and Voting Behavior Among Undergraduates</i>  Advisor: <b>Tami Musumeci-Szabó</b></p>
1:45- 2:00	<p><b>Matthew Caruso</b> (Psychology)  <i>Expectations, Experiences, and Perceptions of the Resident Assistant/House Manager Position at Rider University</i>  Advisor: <b>Tami Musumeci-Szabó</b></p>



**Panel Session 2:  
The Voice of Science and the Science of Voice**

**Sweigart 117**

**2:15 AM – 3:15 PM**

**Chair:** Judith Stegmaier-Nappi (Graduate Education, Leadership, and Counseling)

2:15- 2:30	<b>Katie Lipow</b> (Voice Performance & Pedagogy) <i>The Effect of Vibrato Rate and Extent on Ease of Straight-Tone Singing</i> Advisor: <b>Kathy Price</b>
2:30- 2:45	<b>Gretchen Erlichman</b> (Graduate Voice Performance & Pedagogy) <i>Singing With Asthma: Albuterol Sulfate Inhalers and the Professional Voice</i> Advisor: <b>Kathy Price</b>
2:45- 3:00	<b>Heather Newman</b> (Mathematics) <i>Simplicial Error Correcting Codes</i> Advisor: <b>Jason McCullough</b>
3:00- 3:15	<b>Adriana Bellomo</b> (Behavioral Neuroscience) <i>Promoting the Fundamental Concepts of Cellular and Molecular Biology Through an Animated Video</i> Advisor: <b>Phil Lowrey</b>

# PROJECT ABSTRACTS

**PSTR**= Poster Session  
**PNL**= Panel Session  
**URSA**=URSA Session

## **Angerstein, Jessica**

### *Traditional Self-Efficacy Testing Versus Computer-Based Self-Efficacy Testing*

The goal was to determine whether test format (paper- vs. computer-based) would alter outcomes on the College Academic Self-Efficacy Scale (CASES; Owen & Froman, 1988) and a test of general knowledge. Thirty-two undergraduate students from Rider University participated. A 2 (Type of Test: general knowledge, CASES) x 2 (Test Medium: paper, computer) within-subjects factorial design was used. Results showed that the CASES assessment transferred well from its paper version to an online version. The majority of participants reported a preference for paper-based tests, but no significant differences in score or administration time were found across test mediums. There were negative correlations between CASES completion times and CASES scores,  $r = -0.39$ , and CASES completion times and General Knowledge scores,  $r = -.36$ . These results suggest those with high CASES scores had a faster completion time and the quicker the CASES completion time, the lower the General Knowledge score. Future studies will focus on psychometric properties of the computerized version of the CASES. (Michael Carlin) **PSTR**

## **Arsov, Magdalena; Gaynor, David; Haigh, Sarah; Jackson, Johnathan; Khalid, Salman; Kraml, Benjamin; Lopez, Omar; Roth, Melissa; Schneid, Sarah**

### *Effects of Copayments on Utilization and Costs in the NJ CHIP Program 2015-2016*

The CHIP (Child Health Insurance Program) was established in 1997 through the Balanced Budget Act of 1997, with the goal of making health insurance affordable for all children. It is a joint state-federal partnership that provides federal matching funds to states to provide health coverage to children in families with incomes too high to qualify for Medicaid. The coverage offers families below 355 percent of the federal poverty level a more affordable option to provide health care for their children. In the CHIP program, “states can choose to impose limited enrollment fees, premiums, deductibles, coinsurance, and copayments for children and pregnant women enrolled” in the program. (Medicaid, Para. 1, 2017) This project uses data from the New Jersey Department of Human Services combined with academic literature research on utilization and cost behavior among healthcare consumers. Our goal is to answer the research question: what are the effects of copayments on utilization and costs in the New Jersey CHIP program from 2015-2016? (Hope Corman) **PNL**

## **Bagnato, Mickey**

### *Age and Condition of Largemouth Bass in Lake Centennial*

Since September I have been fishing for Largemouth Bass in Rider’s Lake Centennial as a monitoring project on the condition of the species. Humane catch and release methods were used so that length and weight could be measured, and scales could be collected from each fish, after which, each fish was released back into the lake. The scales have rings, which form bands called annuli, and can be used to determine the age of the fish. To help determine the age of the fish from subtle difference in scale rings, we enlisted the help of Chris Smith of the NJDEP Division of Fish and Wildlife. Several methods were used to assess the health of the fish population. Relative Weight and length of the aged specimens were compared to published standards of fish of the same age from the Delaware River. Preliminary results indicate that the fish are undersized in both length and weight to fish of the same age. (Kathy Browne) **PSTR**

## **Bellomo, Adriana**

### *Promoting the Fundamental Concepts of Cellular and Molecular Biology Through an Animated Video*

Building a strong foundation for the introductory concepts in biology is crucial for understanding more complex biological processes. Published research suggests that the Central Dogma of Molecular Biology, which includes DNA replication, is a challenging subject to teach middle school and high school students. Current research suggests that this foundation could be made stronger at a younger age with the aid of supplementary visual tools. I addressed this issue by creating a short 5-minute animated video explaining the steps of DNA Replication. The video is intended to help freshman high school biology students understand the complex process of DNA replication while also being entertaining, creative, and unique. To test the effectiveness of the video I will show it to classes of freshman high school students at Princeton High School and Monmouth Regional High School who are currently studying DNA replication. Following the video, I will assess student understanding by administering a quiz and questionnaire. The data obtained from the assessment will then be used to modify and improve the quality of the video. **(Phil Lowrey) PNL**

## **Bentz, Sidney**

### *Using the Gaia Data Set to Examine the Luminosity of Red Dwarfs*

The Gaia satellite, launched by the European Space Agency in 2013, has been creating a three dimensional map of the sky for the past 4 years. With its precise measurement techniques, the satellite can chart the positions, distances, motions, and brightness of stars with the highest degree of accuracy. The data obtained by the satellite allow us to explore the relation between a star's color and its intrinsic brightness. Most stars emit a characteristic luminosity that is related to its physical properties, like size and temperature. In general, cooler stars emit less light, but we are using the Gaia data set to explore this behavior in detail. Specifically, we will examine how the chemical composition of stars can change the color and intrinsic brightness of stars of the same mass. We hope that our findings will result in more precise distance estimates of red dwarf stars, the most common star in our Galaxy. **(John Bochanski) PSTR**

## **Bottari, Micaela**

### *La Chanson d'Eve: Two Old Men, une femme, and a Semblance of Paradise*

The existing scholarship on Gabriel Fauré consists mainly of traditional musicological methodologies, which include score analysis and biographical work. The following proposal will explore how more recent approaches to musicology, such as gender and disability studies, can be used to give Fauré's late period a fresh perspective. Through analyzing one of his late period song cycles, *La Chanson d'Eve*, a work written after he lost most of his hearing, I hope to expand the existing narrative on Fauré's writing during his last years. The project will culminate with a performance exploration of this cycle and an academic paper. **(Eric Hung) URSA 2017-2018**

## **Caruso, Matthew**

### *Expectations, Experiences, and Perceptions of the Resident Assistant/House Manager Position at Rider University*

This study measured expectations of Resident Advisors (RAs) at Rider University in the areas of applying, hiring, job training, and performance. Online surveys consisting of quantitative and qualitative questions were developed for use with the RA population. The RA sample included 44 of 74 possible respondents (15 men and 29 women). RAs expected to spend most of their time on interactions with their residents and interactions with their staff. While men and women expected to

distribute their time in role differently, they generally reported applying to the RA position for similar reasons. Relative to women, men estimated they would spend more time on crisis management, formal interactions with residents, incident report writing, informal interactions with residents, roommate mediations, staff meetings, and programming. RAs with less than one year of experience typically expected to spend more time on work-related tasks than RAs with at least one year of experience. When asked “How satisfied are you in the RA role?” where 1 = *Not at all satisfied* and 5 = *Very satisfied*, RAs reported feeling moderately to very satisfied ( $M = 4.10$ ,  $SD = .98$ ). Important factors which contribute to RAs’ satisfaction include a strong relationship with building supervisor and staff. **(Tami Musumeci-Szabó) PNL**

## **Catino, Kelly**

### *Effect of Meteorological Conditions on Behavior of Captive Bison at Six Flags Wild Safari Park*

Bison play an important ecological role that can be affected by their behavior. It is unknown if changes in climate and weather patterns affect bison behavior and thus their ecological role. Research was conducted to investigate how the behavior of bison was affected by various meteorological conditions, such as temperature, rain or snow. The bison in this research were captive bison located at Six Flags Wild Safari in Jackson, New Jersey. The bison were observed with little human interaction twice a week for two hours. Every ten minutes, the location of the bison in their enclosure was recorded, along with the specific behavior that was exhibited. Weather-related factors, including ground and air temperature, and feeding times of the bison were also recorded. The most common bison behavior was eating from food troughs or lying down on the grass. The overall behavior and location of the bison were significantly affected by feeding time, while the temperature had only a slight effect on behavior. Thus, feeding can be used to influence captive bison’s behavior and movement to some degree. The effects on meteorological conditions on bison behavior were less clear. **(Gabi Smalley) PSTR**

## **D’Avanzo, Alanna**

### *Muslim-American Youth: Navigating Harassment, Intimidation and Bullying Associated With a Bicultural Identity*

Muslim-American youth are developing in a complex climate that must necessarily negatively impact self-esteem and peer relationships. In a study conducted by Dr. Nadia Ansary in 2010, the qualitative data revealed hostility in a school setting to be a significant stressor for Muslim youth. However, very little research has been done in this area though it is needed to inform educational policies and best practices. The current study used survey data from participants collected in 2014 (Ansary, 2017) and examined the role of protective factors—namely religiosity, as well as parent and peer relationships—for harassment intimidation and bullying (HIB). Also under investigation was the influence of demographic variables and perceived discrimination on HIB. Regression analyses revealed that as perceived discrimination increases, there is an increase with all bullying outcomes. Furthermore, significant interaction effects exploring gender differences were also found. **(Nadia Ansary) PSTR**

## **D’Elia, Gianluca**

### *Slavery in Our State: Investigating New Jersey’s Role in Cross-Country Human Trafficking*

A series of in-depth data articles, features and multimedia components will investigate New Jersey’s reputation as a hub for human trafficking and research how multiple disciplines — primarily social work, health and law enforcement — tackle this issue statewide. This project will involve the use of public records and interviews from authorities on this issue around the state, such as law

enforcement, mental health professionals and leaders of nonprofit organizations. Looking at issues surrounding human trafficking through the context of investigative reporting may also provide an understanding of what role journalists can play in exposing and battling it. **(Jackie Incollingo) URSA 2017-2018**

### **Dell'Oro, Ambria**

#### *Geochemical Identification of Erosional Pathways of Garnets from the Wissahickon Formation, PA*

Provenance studies determine the source and potential pathways of transported sediment. This study evaluated garnet provenance along the Delaware River. Sediment samples were collected from three sites for this project: Titusville, NJ (northern site), Wissahickon Creek, PA (central site), and Battery Park, DE (southern site). Sand from Titusville did not contain garnet grains. In contrast, Wissahickon Creek sediment contained numerous garnet grains. Battery Park contained only sparse garnet fragments. The chemical composition of the Wissahickon Creek garnets match those collected directly from the Wissahickon Formation. Therefore, the source of these garnet grains is local – from the surrounding metamorphic formation. Preliminarily the southern sample was compositional similar to the Wissahickon garnets; however, due to the small number of grains, this relationship is somewhat suspect. In contrast to the few garnet grains in the southern sample, glauconite grains were abundant and unique to this site. The likely source area for these grains is the Hornerstown Formation, NJ known for its extreme abundance of glauconite. Consequently, the likely pathway for glauconite was westward through either the Raccoon Creek or Old Man Creek, then southward along the Delaware River. **(Reed Schwimmer) PSTR**

### **Donato, Nicole; Chaves, Maria**

#### *Variations of Lead Concentrations in Soil Profiles Near an Interstate Highway in New Jersey*

Lead concentrations were determined for multiple soil profiles collected along approximately 10-meter transects oriented perpendicular to I-95 in Lawrenceville, New Jersey. Samples were prepared for analysis by a lithium metaborate fusion and nitric acid dissolution method of the pulverized soil samples. Elemental concentrations in the resulting solutions were determined utilizing a Spectra Arcos Inductively Coupled Plasma Emission Spectrometer (ICP). Preliminary results indicate that there is a decreasing lead (Pb) concentration gradient as distance increases away from the highway, as well as a decreasing lead concentration gradient with depth at any individual profile site. In addition, the modal abundance of minerals in soil samples from multiple transects, determined by quantitative X-ray powder diffraction, indicates that there is a lack of indigenous lead bearing minerals in the soil samples. The dominant minerals in the soil samples are quartz (>40% at the surface), feldspar (5%), and smectite and kaolinite clay minerals with small percentages of hematite and goethite. The lack of lead bearing minerals in the soil samples and the relatively high Pb concentrations near the soil surface indicate that the main source of Pb is likely dust remnants from leaded gasoline in use prior to 1995. Lead concentrations in an adjacent creek near the soil transects are found to correlate with chloride concentrations, which indicates winter deicing salt might affect the mobilization of lead transport through chloride complexation. Relatively high concentration of Pb near the soil surface adjacent to the highway indicates that lead-containing dust may still be a health issue for motorists or nearby residents during dry times. **(Hongbing Sun) PSTR**

### **Erlichman, Gretchen**

#### *Singing With Asthma: Albuterol Sulfate Inhalers and the Professional Voice*

Professional singers are affected by any change in the breathing or vocal apparatus. For asthmatic singers, the use of an Albuterol Sulfate HFA inhaler for the control of asthma is not without effect on

the voice. In order to study the prevalence and severity of these effects, three singers, who were all diagnosed with asthma and were studying voice professionally, were assessed. Data for the mean SPL rates, mean expiratory airflow, maximum sustained phonation time, and total expiratory volume was collected for each participant using a Phonatory Aerodynamic System during a maximum sustained phonation test. Data for the vibrato rate and extent of each participant was also collected using the VoceVista vocal assessment program. Results were identified by comparing pre and post-test data collected during phonation before and after the use of an Albuterol Sulfate HFA inhaler. Some differences were found, suggesting a considerable effect of Albuterol Sulfate HFA inhalers on the singing voice. **(Kathy Price) PNL**

## **Flynn, Ian**

### *Past and Future Rates of Stream Erosion Along Crosswicks Creek, Mercer County, NJ*

Crosswicks Creek is a tributary to the Delaware River just south of Trenton, NJ. The creek and surrounding freshwater tidal marshes have been extensively disturbed over the past 50 years by major road and rail construction, and commercial and residential development. Google Earth and ArcGIS are used to evaluate a series of aerial photographs to establish positional changes of Crosswicks Creek and changes in the areal extent of the tidal marshes. Preliminary data suggest that the rate of the creek's positional change varies depending on whether the creek is flowing within the marsh or adjacent to a upland hillside of unconsolidated Holocene and pre-Holocene sediment that marks the eastern side of the study area. Erosion of this hillside is potentially significant because residential structures are located along the top of the ridge. **(Reed Schwimmer) PSTR**

## **Forrest, Tim; Chaves, Maria; Guest, Imani**

### *Tree Growth Correlations and Spatial Distributions in an Acid Deposition Treatment Watershed at Fernow Experimental Forest, WV*

By examining water use efficiency (WUE) through the discrimination of carbon isotopes in mid-Atlantic tree species, we can deduce changes in forest productivity, and transpiration, which may impact the amount of carbon stored in these forests. This poster considers initial analyses on the locations and growth rates of the species cored in the control and acid deposition treatment watersheds at Fernow Experimental Forest, WV in 2016. Cores were collected from four dominant species in Fernow that are resistant to being cored: Tulip Poplar, Northern Red Oak, Black Cherry, and Red Maple. 78 intact cores (one from each tree) were then crossdated and correlated using growth rates with the COFECHA program. Tulip poplars were sometimes absent in the south facing treatment watershed but always present in the north-facing watershed. Red maples were occasionally absent in both watersheds at lower elevations near the main channel. Across all species, correlations were lower in the treatment watershed (0.435) than the control watershed (0.503), but correlations at the species level varied between watersheds. After correlating, cores were chopped into 5 year increments and shredded into ~1mm segments using razor blades. These samples are being sent to IUPUI for isotopic analysis of their WUE. **(Dan Druckenbrod) PSTR**

## **Guest, Imani**

### *The Provenance of New Jersey Barrier Island Garnets*

An integral part of mineral provenance studies is chemical analysis, as chemical data provides precise information on the chemical composition of sediment source rocks. Of all detrital heavy mineral species, garnets are very useful to determine provenance because: (1) garnets show a wide variation in composition, and (2) their chemical and physical characteristics do not vary over time. Consequently garnets can be used to identify potential source regions. Garnets are plentiful along the

entire New Jersey coastline, from Sandy Hook (north) to Cape May (south), making this mineral a logical choice for provenance studies of New Jersey barrier island beach sands. Before chemical analysis took place, there was a noticeable difference in grain size between all three locations. The garnets found at these locations varied in chemical composition, with minerals from Sandy Hook being the most almandine-rich and minerals from Absecon being the only to contain andradite. This suggests that the garnets found at each location may have different source regions such as the Adirondack Mountains of northern New York, the Piedmont of northern Delaware and southeastern Pennsylvania (Delaware River watershed), or other various metamorphic regions of New England. (Reed Schwimmer) PSTR

## **Guest, Imani**

### *Strengthening a Historical Climate Record in South-Central Pennsylvania with Tree Rings Dating Back 600 Years*

Tree rings, like fossilized plankton or ice cores, are important proxies of past climates that are able to record different climate signals. These climate signals can then be used by scientists to decipher climate changes. Although much of eastern North America has been well sampled through dendrochronology, few samples exist from the Cumberland Valley in south-central Pennsylvania. This study analyses a new set of tree rings from historical beams in a colonial-era structure in the Cumberland Valley in order to augment the tree-ring database in this region. Knowing the pattern of wide and narrow rings allows dendrochronologists to match the underlying climate pattern from one tree to another in a process termed crossdating. The widths of the rings are first correlated to each other through the program COFECHA, and then correlated to a reference chronology of the region provided by Dr. Edward Cook as a part of NOAA's National Climatic Data Center. The oldest sample alone, which dated back to 1372, provided 391 years of continuous data. Through this process of both dendrochronology and dendroclimatology, more data will be added to this continuous record of past climate to the colonial era and will strengthen the historical climate record in south-central Pennsylvania. (Dan Druckenbrod) PSTR

## **Howard, Bethany-May**

### *From the Almshouse to the Middle Class: An English Family's Journey 1754-2017*

Humans have long strived to better comprehend where they came from. Although historical research of one's family history cannot offer a complete answer to this question, it can help people to better understand themselves and their heritage. The key theme linking the different generations of my family is poverty and a consequential lack of education, which has, depending on the varying historical periods in which my ancestors lived, manifested itself in a variety of different ways. Previous generations of my family have lived in church-funded almshouses as well as the infamous Victorian workhouse. They have also fought overseas in the Napoleonic Wars and the First World War. They worked in protected industries during the Second World War as women also found employment. Finally, my parents' generation brought our family into the middle class. Beyond official records and statistics, this paper uncovers the more personal stories and the lives of my ancestors. Ultimately, the inclusion of wider historical contexts highlights how these larger events and themes of a time period closely impact the lives of ordinary individuals. (Thomas Callahan) PNL

## **Jackson, Johnathan**

### *Examining the Effects of Population Characteristics on Medicare Sustainability*

The United States Medicare program provides health insurance to American citizens aged 65 and older through government funding, primarily payroll tax revenues. As the field of medicine advances,

the life expectancy of those aged 65 and older continues to increase. Subsequently, there are questions about whether or not the younger, working population will be able to continue subsidizing the Medicaid program. This research project aims to examine the effect of changing population characteristics on the sustainability of the Medicare program. I use multi-variable regression analysis and vector autoregression to examine: the historical impact of the aging population, chronic disease, political party majority, and other economic variables on the ratio of Medicare income to Medicare expenditures. Using this information I aim make inferences on the sustainability of Medicare in the upcoming 20-30 years. **(Anne Carroll) URSA 2016-2017**

## **Lipow, Katie**

### *The Effect of Vibrato Rate and Extent on Ease of Straight-Tone Singing*

The purpose of this study is to examine the possible relationship between rate and extent of a singer's measured vibrato and that singer's ease of "straight-tone" singing using N=9 participants who are all sopranos at Westminster Choir College. Participants were asked to submit a questionnaire ranking their self-perceived vibrato rates and extents as well as their comfort levels singing straight-tone and with vibrato. Using VoceVista, participants' vibrato rates and extents were measured, and spectrograms were taken of them singing straight-tone on three different pitches. Most participants' measured vibrato rates and extents did not match self-perceived rankings, nor did it match the singers' comfort levels singing straight-tone. 89% of participants claimed to prefer vibrato singing to straight-tone singing. It was found that participants have more difficulty singing straight-tone at higher pitches based on the presence of greater excess noise in phonation at higher pitches. In addition, slight vibration was seen for many participants during onset and offset, especially at higher pitches, when the participant was asked to sing with straight-tone. **(Kathy Price) PNL**

## **Lomakova, Elissa**

### *Activation of T Cells Within the Tumor Microenvironment*

As America's elderly population increases, and as aging is the main risk factor for cancer, development of novel cancer therapies will be essential. Activation of killer T cells to eliminate cancer cells within the immune-suppressive tumor microenvironment (TME) is a challenge in current cancer research. Phytohemagglutinin (PHA), a protein found in red kidney beans, can trigger T lymphocyte division. The primary objective of this research was to study which cells bind PHA using a PHA-fluorescein isothiocyanate (FITC) conjugate. PHA binding to naïve and effector/memory (E/M) T cells, macrophages and B cells was studied. Cells were isolated from the peritoneal cavity (PerC), stained, and analyzed by flow cytometry. PHA binds E/M T cells better than naïve T cells. If PHA can bind and activate E/M T cells in the TME, then that can serve as a powerful strategy to stimulate and modulate the immune system to fight cancer. PHA also binds macrophages, B-1 B and B-2 B cells. This shows PHA binding to these cells, which serve as antigen-presenting cells for T cells, may assist T cell activation within the tumor microenvironment. **(James Riggs) URSA 2016-2017, PSTR**

## **Londregan, Jennifer**

### *B Cell Maturation Defect Promotes Resistance to Ovarian Cancer*

B-1 B cells are known to exhibit anti-inflammatory effects by their production of the cytokine IL-10. X chromosome-linked immune-deficient (XID) mice possess a defect in Bruton's tyrosine kinase, a key molecule in the signaling cascade involved with B cell maturation. BALB.xid mice have been shown to have a depletion of IL-10-producing B-1 B cells. Our murine ovarian cancer model, ID8 epithelial carcinoma, requires C57BL/6J (H-2<sup>b</sup>) recipients. We therefore crossed BALB.xid (H-2<sup>d</sup>) with C57BL/6J



to generate F1 offspring, which were crossed again to generate both wild-type (WT) and XID mice on the H-2<sup>d/b</sup> background. Serum IgM levels were quantified via ELISA to identify mice carrying the XID defect. Weekly weights were taken in order to detect progression of the disease over a 20-week period, and necropsies were performed to confirm presence or absence of disease. Most WT mice developed ascites within six to eight weeks, while XID mice were found to resist or avoid disease all together. These results suggest that the inhibitory effects of B-1 B cells may play a key role in the development of cancer. Supported by NIH grants R15 AI 060356-01, R15 CA 136901-01. **(James Riggs) PSTR**

## **Misegades, Jamie; Cabrera, Jennifer; Rasimowicz, Melissa**

### *Functional Movement Assessment in Performing Arts*

Ballet is both physically and mentally demanding, contributing to the development of musculoskeletal injuries. The Functional Movement Screen (FMS)<sup>®</sup> is a screening tool used to identify dysfunctional movement patterns which may contribute to injury. Combined assessment of dynamic balance and functional movement have been recommended to improve predictive injury ability, but their use within the performing arts population is limited. The purposes of this investigation were to identify the relationship between functional movement and dynamic balance (Y-Balance Test (YBT-LQ)) and examine the effect of 8 weeks of ballet on functional movement and balance. Sixteen (16) female ballet dancers participated (19.06 years old  $\pm$  1.18), with 15 completing all measures. FMS composite scores increased as a result of participation in the class, trending toward, but not reaching significance (P=0.07). YBT-LQ composite score and asymmetry improved, but were not statistically significant. FMS composite and YBT-LQ composite score correlations were not significant (Right  $\tau_b$ = 0.32. P=0.12 right; Left  $\tau_b$  = 0.19, P=0.41) in this sample. Correcting dysfunctional movement patterns and enhancing dynamic balance remain pertinent concepts in dance training and injury prevention, however, this study was unable to show statistically significant improvements as a result of training. **(Drue Stapleton, Kimberly Vaccaro) PSTR**

## **Modica, John**

### *Setting the Watchman: White Liberalism and the Legacy of Harper Lee*

This essay addresses the reception of Harper Lee's *Go Set a Watchman* in the context of its predecessor, *To Kill a Mockingbird*. Scholars analyzing the negative response to *Watchman* have made arguments tangent to previous legal criticism that challenged Atticus Finch's paternalistic heroism. My argument reconciles past and present scholarship by examining the inflation of *Mockingbird's* narrative as an accommodation of white liberal identity. I consider denial of Atticus' participation in racial injustice as the consequence of narrative manipulation by scholars and educators who have constructed Atticus beyond Lee's original material to appease the liberal construction of the lawyer-hero. The exhibition of these falsehoods through *Watchman's* truth offers a valuable opportunity to revisit Lee's Maycomb as a space illustrating the failures of liberalism in America then and today. **(Matthew Goldie) URSA 2016-2017**

## **Monticello, Eric**

### *Small Business Institute (SBI) Program Analysis*

In this research study, I will be analyzing client outcomes from implementing student team consulting recommendations from projects done between 2000 and 2016. Through personal interviews and surveys, I hope to learn what recommendations have been implemented, or are being implemented as well as the outcomes of these recommendations. This information can demonstrate the effectiveness of the student team consulting projects and show other businesses how the SBI program can help them start, grow and/or maintain economic success in their competitive

environments. In addition, I can compare different types of consulting projects to see if certain types make more sense for student team consulting. **(Ronald Cook) URSA 2017-2018**

## **Murphy, Mallory**

### *Finding a Home in Music: Culturally Responsive Teaching for Homeless Youth*

Culturally responsive teachers embrace the experiences and backgrounds of their students to provide more meaningful learning experiences for them. This research project consisted of qualitative interviews with homeless children and their families about culture, schooling and musical tastes. The research led to the development and implementation of a culturally responsive music curriculum for Mercer County's underserved students at HomeFront in Ewing, NJ. This presentation will include the resultant curricular planning methods, sample lesson plans, and reflections, in addition to how and why the researcher's teaching approach and philosophy have changed as a result of working on this project. Implications for education students wishing to become more culturally relevant in their teaching and interaction with students and families are presented. **(Sharon Marrow) URSA 2016-2017**

## **Newman, Heather**

### *Simplicial Error Correcting Codes*

Error correcting codes are efficient mathematical schemes that add redundancy to data transmission and/or storage so that transmission errors can be detected or corrected. They are heavily used in any situation in which data is transmitted but may become corrupted in transmission, such as wireless signals, space probes or computer hard drives. By drawing upon mathematical tools from fields of study such as algebra, topology and combinatorics, it is possible to define efficient error-correcting codes. In particular, this project focuses on constructing codes from geometric objects called simplicial complexes; higher dimensional analogs of graphs and triangles (e.g. the edges of a cube). From each simplicial complex, we can construct a family of error-correcting codes and determine their dimension (which measures data throughput) and minimum distance (which measures the number of errors that can be corrected). Good codes have high dimension and minimum distance that allow for more information to be sent with fewer errors. We present several results on the minimum distance and dimension of error-correcting codes constructed from simplicial complexes. **(Jason McCullough) PNL**

## **Ottavi, Samantha**

### *The Synthesis and Antibacterial Effects of N-(2-(pyridin-2-yl)ethyl)sulfonamide Derivatives*

*N*-(2-(pyridin-2-yl)ethyl)sulfonamides, or pyridine sulfonamides, are small molecules containing both pyridine and sulfonamide functional groups. Each of these functional groups are widely used in the pharmaceutical industry and putting them both on the same small molecule can create new ones with a wide variety of capabilities, notably the potential to inhibit the growth and prevent the survival of some bacteria. In this independent project I will be synthesizing *N*-(2-(pyridin-2-yl)ethyl)sulfonamide derivatives and testing their antibiotic potency on commonly encountered bacteria, such as *Escherichia coli* and *Staphylococcus aureus*. **(Danielle Jacobs, Kelly Bidle) URSA 2017-2018**

## **Pastuna, David**

### *Microbiome Impact Upon Humoral Immunity in Ovarian Cancer*

Although ovarian cancer has a low incidence rate, the mortality rate is high. Our laboratory studies the immune response to ovarian cancer in a C57BL/6J mouse model. Research by another group revealed a role for the gut microbiome in the immune response to cancer (Sivan *et al.*, 2015). They found that mice from the Jackson Laboratory vendor had better tumor-specific CD8<sup>+</sup> T cell responses compared with mice from the Taconic Farms vendor. This difference was due to gut microbiome differences (Sivan *et al.*, 2015). While they focused on T cell biology, my aim was to study the antibody/humoral response in Jackson versus Taconic C57BL/6 mice. I challenged both Jackson and Taconic mice with the ID8 ovarian cancer cell line and analyzed their sera over time. My data shows that Jackson mice have better sustained IgG<sub>2c</sub> and IgG<sub>3</sub> antibody responses as their carcinoma progresses. My hypothesis is that interferon-gamma (IFN- $\gamma$ ), essential for the immune response to combat cancer, polarizes the IgG<sub>2c</sub> and IgG<sub>3</sub> antibody response. The results from this research may inform strategies to detect and treat ovarian cancer at an earlier, more manageable stage. This work was supported by grants R15 AI 060356-01, R15 CA 136901-01. **(James Riggs) PSTR**

## **Pereira, Rachel**

### *Biodiversity Study of Macroorganisms Within Algae Communities in Centennial Lake at Rider University*

This study investigated the occurrence of different species of algae and their development during spring months in Rider University's Centennial Lake. The presence of algae in each of three selected locations was quantified by two methods: a rough visual estimate and an experimental block method. The block method consisted of about 18, 2.50 cm x 3.80 cm cement blocks velcroed to one cinder block submerged about five to eight centimeters underwater. The blocks provided algae a new surface to begin growing and enabled better measurement of relative proportions of species present. Three different species of algae found were, *Tetraspora*, *Spirogyra*, and *Microspora*. *Microspora* was present in only small amounts from February through mid-April. From late January to mid-March, *Tetraspora* was more abundant than *Spirogyra*. Longer, warmer days of spring showed a dramatic shift in the abundance, with *Spirogyra* dominating samples. Abundance of the *Tetraspora* and *Spirogyra* seemed to be influenced by either temperature and sunlight. The amount of algae on experimental blocks remained the same but different locations showed to have different amounts of diatoms. Dominant species or combination of species of algae could tell us something about water quality and changes in water quality over time. **(Kathy Browne) PSTR**

## **Phillips, Michael**

### *Bach Box*

Bach Box is a collection of new music, musical materials, and other stuff, curated by both budding musicians and established educators at Westminster Choir College in Princeton, New Jersey. Bach Box is an innovative, quarterly subscription service for classical musicians and classical music hobbyists. Each seasonal Box is unique and will contain brand new material that has not been featured in a Box before. There are 2 Editions of each Box, per season: Bach Box: Personal, and Bach Box: Classroom. Each will contain the same primary materials and music, but the Classroom edition will feature specific notes for rehearsal, additional copies of the music, redistribution rights, and access to online educational materials and resources via the Bach Box website, [www.bachbox.org](http://www.bachbox.org). **(Frank Abrahams) PSTR**

## **Rosen, Miranda**

### *Examining Music as a Type of Environmental Enrichment on Two California Sea Lions (*Zalophus californianus*) at Six Flags Great Adventure*

Environmental enrichment is a widely used concept referring to any improvements, including social, physical, and sensory changes, made in a captive animals' environment (Newberry, 1995). The goal of environmental enrichment is to widen an animal's behavioral repertoire, increase positive use of its environment, and encourage species-typical patterns of behavior (Wells, 2009). One marine mammal in particular that has not been the focus of many enrichment studies is the California sea lion (*Zalophus californianus*). The purpose of this experiment was to determine the effectiveness of music as a type of environmental enrichment by studying the effects of pre-show music (familiar), classical music (unfamiliar music) and no music on the behaviors of two California sea lions at Six Flags Great Adventure Park. Sea lions were observed for 15 minutes before, during and after playing each type of music. Sea lion behavior and location within their environment were recorded every minute of this observation period. Preliminary testing has shown that there may be differences in the overall behavior shown among the two sea lions, but the music does not seem to have any effect. Therefore, the type of music chosen may not be an effective method of environmental enrichment. (Gabi Smalley) PSTR

## **Rosen, Miranda**

### *Examining the Effects of Coastal Zone Management Techniques on Population Characteristics of Mole Crabs (*Emerita talpoida*) Along the New Jersey Shore*

Global warming, through its effects on sea level rise and the frequency and strength of storms, represents a major threat to many coastal ecosystems, including sandy beaches. Coastal zone management techniques, including sediment stabilization and beach nourishment, are increasingly important responses to the threats posed to sandy beaches, yet little work has examined their impact. The mole crab maintains its position in the sand by burying and is an ecologically important member of beach fauna. Therefore, it represents an excellent indicator for negative impacts of coastal zone management techniques. The purpose of this study is to analyze the effects of sediment stabilization and beach nourishment on population characteristics and burial ability of mole crabs at two locations, Belmar (recently nourished) and Island Beach (unnourished). It was found that sediment from Belmar contained a greater percentage of large grains than Island Beach. Mole crabs were able to bury most efficiently in the finest sediment grains. The abundance of mole crabs was similar between the two beaches, but Belmar lacked larger sized crabs. This could be due to greater mortality of larger sized mole crabs at Belmar as a result of impaired burial ability because of the lack of fine sediment. (Paul Jivoff) PSTR

## **Santora, Alexandra**

### *The Effects of Salt-Stress on *Haloferax volcanii**

Cysteine-aspartate specific proteases, or caspases, are enzymes that function to catalyze programmed cell-death in multi-cellular organisms. The Bidle lab examines caspase-like activity in the Archaea, a single-celled domain of life. This is of great interest, as it indicates an early evolutionary advantage for this activity in primitive life. Our on-going research indicates that *Haloferax volcanii*, a salt-loving archaeon that thrives in environments like the Dead Sea, exhibits high levels of caspase-specific activity and that this activity is enhanced by salt stress. Given the involvement of caspases in the cellular stress response in higher life, we plan to further examine how a variety of abiotic stressors in growing cultures of *H. volcanii* affect caspase activity. (Kelly Bidle) URSA 2017-2018

## Strucinski, Natalie

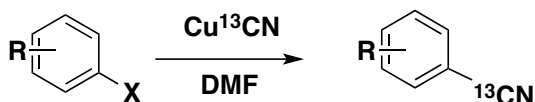
### *Walk the Talk: Developing and Assessing Health Programming Designed to Change Both Attitudes and Behaviors in At-Risk Youth*

Previously, assessing the impact of health programming has been complicated by a dichotomy between health knowledge and beliefs versus actual health behaviors. For my current research project, I adapted and combined existing health programming curricula with role playing techniques in order to efficiently deliver content to local at-risk youth. In terms of role play, I have followed the principles and ideals behind the "Keepin' it REAL" program, which has shown to be effective in steering kids away from drugs and alcohol. Topics were critically related to the period of adolescence in youth: nutrition, exercise, stress, safety, and substance use. To evaluate efficacy, a step often skipped in health programming, I developed and implemented tools to separately assess changes, if any, in knowledge and behavior. **(Stephanie Golski) URSA 2016-2017**

## Szwetkowski, Connor

### *Development of Isotope Labeling Strategies for the Discovery of New Biocatalyzed Reactions*

New reaction discovery is often at the forefront of research in organic chemistry. As we pursue the creation of increasingly complex molecules for the treatment of disease, use in materials, and more, we need new ways of building these complex molecules. Biocatalysis is an important method in both the pharmaceutical industry and in academic labs to introduce new functionality in a stereo- and regioselective manner. Currently biocatalysis is limited in the scope of reactions that are available to chemists. Our research seeks to identify new biocatalytic transformations that can be utilized for organic synthesis. Simple isotope-labeled substrates are synthesized to be easily tracked via  $^{13}\text{C}$  NMR. Through previous research conducted, successful label attempts have been done to incorporate a nitrile label on to aromatic compounds as seen in **Scheme 1**. This nitrile attachment can be applied to the synthesis of new aromatic compounds to construct a library of isotope-labeled organic substrates. The labeled substrates are then used as "feed stock" for bacteria, and reactivity is monitored over the course of several days. The results of this study will be presented. **(Jamie Ludwig) PSTR**



Scheme 1: Nitrile attachment

## Torres, Gretel

### *Loss of Humoral Immunity in a Mouse Model of Ovarian Cancer*

Although a low incidence cancer, ovarian carcinoma (OvCa) has a high mortality rate due to late detection. To study the humoral immune response to OvCa we transplant ID8 cells (mouse epithelial carcinoma) in the murine peritoneal cavity (PerC). We found that the OvCa depletes PerC B cells, particularly B-1 B cells. To determine the systemic impact of this we assessed humoral immunity. Following immunization, we found loss of the TI-2 response (FITC-dextran, FITC-Ficoll); the TI-1 (FITC-LPS) and TD (FITC-OVA) responses were intact until late stage disease. Since B-1 cells also serve a housekeeping role in apoptotic corpse clearance, we developed a FACS assay and a cell-based ELISA to monitor anti-apoptotic cell antibody production. Sera from mice without OvCa bound apoptotic ID8 cells more than normal ID8 cells and these antibodies were reduced in mice with OvCa. Collectively these data validate systemic loss of B-1 B cell function in mice with OvCa. These results might inform strategies for early detection of OvCa. Supported by NIH grants R15 AI 060356-01, R15 CA 136901-01. **(James Riggs) PSTR**

## **Veltz, Aliyah**

### *RU Political: Political Ideology and Voting Behavior Among Undergraduates*

Utilizing the Theory of Planned Behavior (TPB), this study's goal was to understand undergraduate voting behavior. I implemented two self-designed surveys about the 2016 election by reviewing the top five Presidential candidates' (i.e., Clinton, Cruz, Kasich, Sanders, Trump) platforms. Attitudes toward voting, the candidates, and regarding seven specific areas (i.e., Economics, Social/Domestic Policy, Foreign Policy, Environment, Education, Immigration, and HealthCare), perceived behavioral control (e.g. how confident participants felt about voting), subjective norms, (e.g., whether their families/friends were politically engaged), and voting intentions were assessed. The follow-up survey included items regarding behavior (e.g., voting/election night). A convenience sample of 237 Rider University undergraduates participated at Time One (prior to 11/8/2016) and 97 participated at follow-up (after 11/8/2016). Results indicated while 44 participants did not intend to vote, overwhelmingly, participants supported Hillary Clinton (n=121) over Donald Trump (n=44). Qualitative analysis revealed that reasons for endorsing a particular candidate were complex and diverse. Frequently occurring themes included: policy, being qualified, third party, scandal, gender, "Because I'm a Democrat/Republican", "lose-lose scenario", "My vote won't matter", "I don't know who to vote for", and finding the "lesser of two evils." (Tami Musumeci-Szabó) PNL

## **Williams, Allison**

### *Sexualized Media and Gender Stereotyping*

This study is on the effect sexualized characters seen on TV shows and movies have on girls' perceptions of future career opportunities. Participants will be 4 to 7-year-old girls. Half of the participants will take a pretest of the career opportunities they believe they will have in the future. The other half will not take the pretest. Then all girls will watch a 3-minute video either of a sexualized character (Disney's *Mulan* as a woman) or non-sexualized character (Disney's *Mulan* as a man). The study will conclude with the girls retaking the future careers test. This research will advance knowledge readily regarding the influence of sexualized characters on girls' thoughts of themselves and their futures. (Cara DiYanni) PSTR