



2019 VCHC Spring Conference

Democracy in the Mirror

Reflecting on our Nation and Culture

April 5-6, 2019

James Madison University

Harrisonburg, VA





TABLE OF CONTENTS

| | |
|---|----|
| VCHC President's Letter | 5 |
| VCHC Officers | 6 |
| VCHC History | 7 |
| VCHC Constitution..... | 9 |
| VCHC Bylaws | 12 |
| 2019 Conference Program Schedule..... | 13 |
| 2019 Conference Guest Presenters | 15 |
| 2019 Emerging and Honors Scholar of the Year Award Nominees | 17 |
| 2019 Conference Presentations | 19 |
| Index of Presenters..... | 52 |
| Roll Call | 54 |
| Acknowledgements | 55 |

CONFERENCE PROGRAM SCHEDULE AT A GLANCE

Friday, April 5, 2019:

Hotel Madison

| | |
|-------------------|---|
| 12:00 – 3:00 p.m. | Registration & JMU Honors College Symposium |
| 3:00 – 3:50 p.m. | Opening Session |
| 4:00 – 6:10 p.m. | Presentation Sessions |
| 6:15 – 9:00 p.m. | Dinner & Keynote Speaker & Philanthropy Project |

Saturday, April 6, 2019:

Madison Union

| | |
|-------------------|------------------------------------|
| 8:00 – 8:50 a.m. | Morning Social & Poster set up |
| 9:00 – 11:10 a.m. | Presentation Sessions |
| 11:20 – 1:30 p.m. | Faculty / Student Meetings & Lunch |
| 1:30 – 4:00 p.m. | Presentation Sessions |
| 4:00 – 4:30 p.m. | Faculty Meeting / Student Forum |
| 4:30 – 5:30 p.m. | Closing Session and Award Ceremony |

CONFERENCE TIPS

Attendance at the conference is part of your overall honors education! As professionals in your chosen field, you will likely have future opportunities to share your expertise with colleagues at professional meetings. Learning and following the “unwritten rules” of conference etiquette is an important part of your professional development. Whether you are a first time attendee, or a veteran of many meetings, **please** review and adhere to the following guidelines. Your cooperation will help create a professional and enjoyable atmosphere for all attendees

1. Arrive on time and stay for the entire session.
2. If you must enter or leave during a session, please refrain from doing so while a speaker is presenting.
3. Silence all cell phones during sessions.
4. Give the speaker your full attention during each presentation.
5. Asking questions at the end of an oral presentation or during a poster presentation is expected and encouraged.
6. Attend as many sessions and activities as possible!

Thank you in advance for being polite and respectful during the VCHC conference.



Dear Honors Students, Faculty, and Administrators,

I am extremely pleased to welcome all of you to the 2019 Annual Spring Conference of the Virginias Collegiate Honors Council (VCHC).

The theme of this year's conference is "Democracy in the Mirror: Reflecting on Our Nation and Culture," which captures the honors community's commitment to developing scholars who are engaged with the world. Honors curricula across the Commonwealth encourage the exploration of thought and action—appreciating, from time to time, that it's good to stop sawing our logs, long enough at least, to sharpen our blades. Over the course of the next two days, you will have that opportunity with more than 100 students from 22 VCHC institutions. I encourage everyone to take full advantage of our time together! This year's program includes traditional oral presentations, a large poster session, flash talks, and artistic performances. During the conference we will also celebrate the accomplishments of our VCHC Honors Scholar of the Year and our VCHC Emerging Honors Scholar of the Year.

I would like to extend my thanks to everyone who has worked so diligently to make this conference possible. This list is lengthy and includes the members of the Executive Committee, the Student Leaders, and our host institution, James Madison University (JMU). Deserving of specific recognition are Dr. Bradley Newcomer, Dr. Philip Frana, Mrs. Tammy Steele, JMU Honors College staff, faculty and students for working throughout the year to design, organize and create our conference. I would also like to thank the VCHC Secretary and Treasurer, Dr. Joyce Easter, for her ongoing dedication to VCHC.

Finally, in concert with this year's conference theme, I want to acknowledge the contributions of one of VCHC's founders, Dr. Page Laws (Dean of the Nusbaum Honors College at NSU and past president of VCHC) who will be retiring at the end of this upcoming summer. Dr. Laws' devotion to students, her contributions to the humanities, and her insistence that the only mirrors worth looking into are those that can talk back in the name of justice and good will, have been and will continue to be an inspiration for VCHC students and faculty.

On behalf of the VCHC Executive Committee, I would like to extend my best wishes for a highly successful and enjoyable conference. We are excited to have you with us for this exciting conference!

Sincerely,
David Metzger
VCHC President, 2018-2019
Dean, Perry Honors College (ODU)

VCHC Executive Committee 2018-2019

President

Dr. David Metzger
Old Dominion University
E-Mail: dmetzger@odu.edu

Faculty Vice President

Dr. Philip Frana
James Madison University
E-Mail: franapl@jmu.edu

Student Vice President

Miss Catherine Zwemer
University of Mary Washington
E-Mail: cathzwemer@gmail.com

Secretary-Treasurer

Dr. Joyce B. Easter
Virginia Wesleyan University
E-Mail: jeaster@vwu.edu

Faculty, 4-yr. Private

Dr. Ed DeClair
University of Lynchburg
E-Mail: declair@lynchburg.edu

Student, 4-yr. Private

Mr. Quentin Montgomery
Ferrum College
E-Mail: qmontgomery@ferrum.edu

Faculty, 4-yr. Public

Dr. Dan Roberts
Virginia State University
E-Mail: droberts@vsu.edu

Student, 4-yr. Public

Mr. Justin Biam
Virginia State University
E-Mail: justinkbiam@gmail.com

Faculty, 2-yr

Dr. Celia Brockway
Richard Bland College
E-Mail: cbrockway@rbc.edu

Student, 2-yr.

Ms. Grace Swal
Reynolds Community College
E-Mail: gs27779@email.vccs.edu

Immediate Past President

Dr. Daniel Roberts
Virginia State University
E-Mail: droberts@vsu.edu



VIRGINIAS COLLEGIATE HONORS COUNCIL HISTORY

The Virginias Collegiate Honors Council (VCHC), now over twenty years old, joins Virginia universities, colleges, and community colleges throughout the commonwealth to support and enhance programs and activities to meet the needs of exceptionally talented and motivated students. Recently, schools from West Virginia have also been included.

VIRGINIAS COLLEGIATE HONORS COUNCIL MISSION

The mission of VCHC is to:

- provide a forum for sharing information about honor programs,
- provide students with greater opportunities for intercollegiate honor programs activities,
- collaborate with regional and national organizations which have similar goals,
- encourage articulation between two-and four-year honor programs, and
- increase public and private awareness of and fiscal commitment to honor programs and projects.

VCHC MEMBERSHIP INFORMATION

Membership in VCHC is available to institutions or individuals upon payment of annual dues. Annual dues for institutions are \$ 35.00 per calendar year, due in January. Annual dues for individual members are \$ 10.00 per calendar year. Individual membership dues must be paid before the Spring Conference each year. Both institutional and individual membership dues must be paid in order to vote on the business of VCHC.



VCHC PAST PRESIDENTS

| | |
|-----------|---|
| 2017-2018 | Dr. John Sound, Northern Virginia Community College - Alexandria |
| 2016-2017 | Dr. Daniel Roberts, Virginia State University |
| 2015-2016 | Dr. Daniel Roberts, Virginia State University |
| 2014-2015 | Dr. Mary Ann Schmitt, Northern Virginia Community College - Manassas |
| 2013-2014 | Dr. Paul Fitzgerald, Northern Virginia Community College - Annandale |
| 2012-2013 | Dr. Jack Trammell, Randolph-Macon College |
| 2011-2012 | Mr. David Anderson, George Mason University |
| 2010-2011 | Ms. Isabel Killough, Norfolk State University |
| 2009-2010 | Ms. Liona T. Burnham, Northern Virginia Community College - Annandale |
| 2008-2009 | Dr. Jarris L. Taylor, Hampton University |
| 2007-2008 | Ms. Stephanie G. Walker, Norfolk State University |
| 2006-2007 | Dr. Joyce Brotton, Northern Virginia Community College - Annandale |
| 2005-2006 | Dr. Mary Louise Schultz, West Virginia University |
| 2004-2005 | Dr. Lisa Grimes, College of William and Mary |
| 2003-2004 | Dr. Lisa Grimes, College of William and Mary |
| 2002-2003 | Dr. Orion Rogers, Radford University |
| 2001-2002 | Mr. Robert Watson, Hampton University |
| 2000-2001 | Dr. Page Laws, Norfolk State University |
| 1999-2000 | Dr. John Lambeth, Washington and Lee University |
| 1998-1999 | Dr. Joyce Wszalek, James Madison University |
| 1997-1998 | Dr. Richard Wilan, Northern Virginia Community College - Annandale |
| 1996-1997 | Dr. Freddy Davy, Hampton University |
| 1995-1996 | Dr. John Berglund, Virginia Commonwealth University |
| 1994-1995 | Dr. Louis Henry, Old Dominion University |
| 1993-1994 | Mr. Norman Caine, Southside Virginia Community College |
| 1992-1993 | Ms. Pegeen Albig |
| 1991-1992 | Ms. Pauline Donaldson |

VCHC CONTACT INFORMATION

Website: <http://www.vchc.net/>
Email: honors@vchc.net

CONSTITUTION OF THE VIRGINIAS COLLEGIATE HONORS COUNCIL

(As amended March 17, 1990, March 30, 2002, and March 29, 2003)

Article I: This organization shall be known as the Virginias Collegiate Honors Council, afterwards referred to as VCHC.

Article II: Mission

The mission of VCHC shall be:

1. To provide a forum for sharing information about Honors programs;
2. To provide students with greater opportunities for intercollegiate Honors programs activities, including the opportunity for students to present their own research publicly in an academic setting;
3. To collaborate with regional and national organizations which have similar goals;
4. To encourage articulation between two- and four-year Honors programs;
5. To increase public and private awareness of and fiscal commitment to Honors programs and projects.
6. To work closely with SCHEV to encourage excellence in undergraduate education and to encourage the development of honors programs/colleges in all state institutions of higher learning;
7. To work closely with the Virginia Foundation for the Humanities to encourage excellence in undergraduate education.

Article III: Membership

Membership in VCHC shall consist of institutional and individual members who have paid dues.

Section 1: Institutional members: Any post-secondary institution with accreditation or recognized candidacy may hold membership and be eligible to send one voting representative to annual meetings. Foundations and state and federal agencies are eligible for institutional membership.

Institutional memberships from multi-campus institutions shall be assigned in a manner determined by each institution. If each campus has a separate Honors

Program, each program may pay dues and have an institutional representative. It will be the responsibility of the institution to certify to the VCHC secretary-treasurer if it desires to be treated as a multi-campus institution.

Section 2: Individual members: Faculty, students, administrators and other interested persons are eligible for membership.

Article IV: Voting

Each individual member and each voting representative of a member institution shall be entitled to one vote in all transactions of VCHC, but no individual shall have more than one vote.

Section 1: Only those institutions whose dues are paid before the annual meeting are entitled to a vote in the business of VCHC.

Section 2: Only those individual members whose dues are paid before the annual meeting are entitled to vote in the business of VCHC. Failure to pay dues on time does not restrict individuals from participating in the other activities of the annual meeting.

Article V. Quorum

Twenty percent of the membership shall constitute a quorum for the transaction of business at any meeting announced 30 days in advance.

Article VI: Officers

The officers of VCHC shall be a President, a Faculty Vice-President, a Student Vice-President, a Secretary-Treasurer, and members at-large. At the first Executive Committee meeting after the election, officers will be informed of their duties.

Section 1: The President shall be elected at the annual meeting from all eligible faculty members. The term of office shall run from the conclusion of that annual meeting through the conclusion of the next annual meeting. The President shall call for and preside over the meetings of VCHC and the Executive Committee, shall appoint members to committees, and shall appoint the following individuals to serve as ex officio (non-voting) members of the VCHC Executive Committee: a liaison to NCHC, SRHC, and other honors organizations; and a webmaven. Other individuals will be appointed as deemed necessary.

Section 2: The Vice-Presidents shall be elected at the annual meeting. The term of office shall coincide with the term of the President. The Faculty Vice-President shall preside over VCHC in the absence of the President. The Faculty Vice-President shall co-chair the fall meeting of VCHC. The Student Vice-President shall co-chair the spring meeting of VCHC.

Section 3: The Secretary-Treasurer shall be elected at the annual meeting from all eligible faculty members. The term of office shall be three (3) years. The Secretary-Treasurer shall keep the minutes of the meeting of the VCHC, collect dues, maintain financial and membership records, and perform such other duties as may be incidental to the office.

Section 4: The Executive Committee members at-large shall be elected at the annual meeting. The term of office shall be as described in Article VII, Section 2.

Article VII: The Executive Committee

At the first Executive Committee meeting after the election, the Executive Committee members will be informed of their duties.

Section 1: The Executive Committee shall consist of the elected officers of VCHC and six at-large members. There shall be one faculty member and one student from two-year colleges, four-year private institutions, and four-year public institutions. The past president shall be an ex-officio (voting) member of the Executive Committee for one year.

Section 2: Student members at large will serve one-year terms; faculty members at large will serve rotating two-year terms.

- Section 3: No single institution shall hold more than one faculty and one student elected position on the Executive Committee.
- Section 4: All persons on the Executive Committee must be individual members of VCHC.
- Section 5: The duties of the Executive Committee shall be:
1. to advise the President of VCHC;
 2. to make policy decisions for VCHC except in those cases where that right has been given to the whole membership (constitution, by-laws, dues, and election);
 3. to create and supervise the work of all other committees;
 4. to conduct such business as is necessary between sessions of VCHC;
 5. to conduct any other activities which facilitate the mission of VCHC;
 6. to provide for a nominating process for election of officers;
 7. to fill vacancies in office until the next annual meeting.

Article VIII: Meetings

- Section 1: VCHC shall hold an annual conference in the spring at a time and place determined by the Executive Committee. Other meetings may be called by the President by majority agreement of the Executive Committee or if requested in writing by ten percent of the membership.
- Section 2: There shall be a fall meeting at a time and place determined by the Executive Committee for faculty involved in Honors programs in Virginia.

Article IX: Amendments

Any amendment to the Constitution shall be presented in writing to the membership at the beginning of the annual meeting and shall be voted on at that meeting. Two-thirds of those present and voting must approve any amendment to the Constitution. An amendment shall be effective immediately upon enactment.

Article X: Ratification

Ratification of the Constitution shall be by simple majority of those present and voting at the first annual business meeting of VCHC.

Article XI: Bylaws

- Section 1: Bylaws shall be established as necessary for the transaction of the business of VCHC.
- Section 2: Changes in the bylaws shall be approved at the annual meeting of VCHC. A majority of those present and voting is necessary to adopt a change. A change shall be effective immediately upon enactment.

BYLAWS OF VIRGINIAS COLLEGIATE HONORS COUNCIL

(As changed March 17, 1990, March 30, 2002, April 11, 2008, and April 8 2017)

- Article 1: The annual dues for the institutional members are \$70.00.
- Article 2: The annual dues for individual members are \$10.00.
- Article 3: All committees and elected officers shall represent to the greatest extent possible the diverse constituencies of VCHC, including students and faculty.
- Article 4: The standing committees of VCHC shall be (A) the Program Committee and (B) the Bylaws Committee. Other committees may be created by the Executive Committee.
- Article 5: Ad hoc committees may be created by the President. An ad hoc committee shall last twelve months from the date of its creation or until discharged from its duty by the President. The President will provide the appointed committee chair a specific charge for the committee.
- Article 6: The Program Committee shall work with the co-chairs to develop a series of activities for the meetings of VCHC that recognize the diverse nature and interests of its members.
- Article 7: The Bylaws Committee shall review the VCHC Constitution and Bylaws, and recommend changes to the Executive Committee for possible recommendation to the annual meeting.
- Article 8: The ad hoc Nominations Committee shall nominate at least one candidate for each office to be elected at the annual meeting. This committee shall be appointed annually by the President. The floor will be open for additional nominations.
- Article 9: The ad hoc Scholarship Committee shall be appointed annually by the President to judge the student presentations at the Spring Conference. The number, categories, and amounts of awards shall be determined by the Executive Committee upon recommendation from the Scholarship Committee.

2019 CONFERENCE PROGRAM SCHEDULE

Friday, April 5

Hotel Madison

12:00 pm – 3:00 pm CHECK-IN & REGISTRATION Foyer
JMU HONORS COLLEGE SYMPOSIUM Appalachian Ballroom

Registrants will receive their name badge and conference materials.

3:00 pm – 3:50 pm OPENING SESSION Shenandoah Grand Ballroom A
Conference opens with welcome from Dr. Bradley Newcomer JMU Honors College Dean; Miss Catherine Zwemer, VCHC Student Vice President; and Dr. David Metzger, VCHC President. VCHC Emerging Honors Scholar of the Year and VCHC Honors Scholar of the Year award presentations and addresses.

4:00 pm – 5:00 pm PRESENTATION SESSION 1 Allegheny A, B, C, Blue Ridge
Concurrent flash talks and oral presentations

5:10 pm – 6:10 pm PRESENTATION SESSION 2 Allegheny A, B, C, Blue Ridge
Concurrent artistic performances and oral presentations

6:15 pm – 7:30 pm KEYNOTE & DINNER Shenandoah Grand Ballroom a
The keynote address will be presented by Associate Professor of Political Science, Abe Goldberg. Plated dinner catered by Hotel Madison.

7:30 pm – 9:00 pm EVENING ACTIVITY Shenandoah Grand Ballroom A
Philanthropy project and The Reading Road Show presented by Assistant Director of Children and Youth Services, Jolynne Bartley. Performances by Low Key, JMU co-ed a cappella group; Unaccompanied, JMU all-female a cappella group; and Dancing Dukes, JMU dance club.

Saturday, April 6

Madison Union

8:00 am – 8:50 am

MORNING SOCIAL & CONTINENTAL BREAKFAST

Madison Union 256

9:00 am – 10:00 am

PRESENTATION SESSION 3

Poster Session

Madison Union 405

Presenters should set up their poster before 8:50 am and remain at their poster or exhibit until 10:00 am to ensure that judges have the opportunity to review their work.

10:10 am – 11:10 am

PRESENTATION SESSION 4

Madison Union 302, 304, 305, 309, 400

Concurrent oral presentations

11:20 am – 11:50 pm

STUDENT MEETING (Election preparation)

Madison Union 256

12:00 pm – 1:30 pm

STUDENT LUNCH

D-Hall

The dining hall provides diverse options, including vegan and vegetarian.

11:30 am – 1:30 pm

FACULTY BUSINESS MEETING & LUNCH

Madison Union 404

1:40 pm – 2:40 pm

PRESENTATION SESSION 4

Madison Union 302, 304, 305, 309

Concurrent oral presentations

2:50 am – 3:50 pm

PRESENTATION SESSION 5

Madison Union 302, 304, 305, 309

Concurrent oral presentations

4:00 pm – 4:30 pm

STUDENT FORUM

Madison Union 256

Student officers will facilitate elections and an open forum for discussion.

FACULTY MEETING

Madison Union 404

Faculty judges will meet to finalize student awards.

4:30 pm – 5:15 pm

CLOSING SESSION

Madison Union 256

During this time, announcements will be made, prizes will be awarded to top presenters, and new officers will be announced.

2019 VCHC CONFERENCE KEYNOTE SPEAKER



Abraham Goldberg is the Executive Director of the James Madison Center for Civic Engagement and an Associate Professor of Political Science at James Madison University. Prior to arriving at JMU in 2017, he was the Director of the Office of Service-Learning and Community Engagement at the University of South Carolina Upstate. Abe recently co-authored a forthcoming chapter in *Democracy, Civic Engagement, and Citizenship in Higher Education: Reclaiming Our Civic Purpose* with JMU President Jonathan Alger. He also published an article in the *eJournal of Public Affairs* arguing that colleges and universities can combat political inequality if civic education is prioritized, as well as the *South Carolina Civic Health Index*. Abe has also written about how the built environment of urban places and the accessibility of community amenities contributes to the social connectivity, health, and happiness of residents, as found in *Social Science and Medicine*, *Urban Design and Planning*, *Urban Affairs Review*, and *Journal of Urbanism*. He teaches undergraduate courses in civic engagement, urban planning and policy, and American politics. Abe is originally from Charleston, West Virginia and earned his doctorate from West Virginia University.

VCHC Emerging Honors Scholar of the Year

The Emerging Honors Scholar of the Year award serves to recognize a student from a member institution who has shown extraordinary potential as an *emerging* scholar, and who embodies the scholarship, character, and ambition associated historically with honors students and the VCHC.

2019 Nominees

| | |
|---|---|
| Ons Ameer , Northern Virginia Community | Major: International Studies |
| Elina Baltins , Ferrum College | Major: Pre-Professional Health Sciences |
| Kaylee Deardorff , University of Mary Washington | Major: Biochemistry |
| Samantha Doncaster , Radford University | Major: Special Education |
| Natasha Doshi , Virginia Tech | Major: Neuroscience |
| Makhaela French , Norfolk State University | Major: Political Science |
| Mallory Langford , Virginia Wesleyan University | Major: Psychology |

2019 Emerging Honors Scholar of the Year

Ons Ameer

Excerpt from Nomination Letter:

“Ons receives the grades she does by working very hard in her classes, and taking every opportunity to grow and develop as a person and as a student. She has learned through her travels and experiences that growth comes, quite frequently, from discomfort and struggle. Her professors regard her as being highly intelligent, but also describe her as persistent, and tenacious.”

VCHC Honors Scholar of the Year

The Honors Scholar of the Year will be awarded to a student nominated by a member institution that successfully embodies the scholarship, character, and ambition associated historically with honors students and the VCHC.

2019 Nominees

Deirdre Conroy, Virginia Tech Major: Wildlife Conservation

Leya Deickman, Ferrum College Major: Psychology

Lilliauna Hopkins, Norfolk State University Major: Political Science

Abigail Horgan, Virginia Wesleyan College Majors: Psychology & Theatre

Grace Swal, Reynolds Community College Majors: Business Administration & Social Science

Matthew Tovar, University of Mary Washington Major: Biochemistry

Jessica Wollmann, Radford University Major: Anthropology

2019 Honors Scholar of the Year

Jessica Wollmann

Excerpt from Nomination Letter:

“Jessi is a genuine talent that is rare in the world. She is really smart and really fast, which are the foundations of any potential scholar-athlete. She is also competitive, which drives her forward. But most of all, Jessi has the indefatigable curiosity of a true honors student. She wants to learn about bones. She wants to perfect her German. And she wants to share that joy of learning with other people.”

2019 VCHC CONFERENCE PRESENTATIONS

Presentation Session 1

4:00 – 5:00 PM

Allegheny A

4:00 PM

Dreaming of a Healthier Mouth: A Brief Look at How Sleep Habits Affect Oral Health

Justin Biam, Virginia State University

Despite its importance, sleep is one of the most neglected activities for millions of people around the world. It is usually traded for more time to complete tasks in order to either become or remain successful. However, this tradeoff presents numerous health risks that can, in turn, make being successful more difficult than it already is. A portion of those health risks are related to oral health as how you prepare for bed, how you sleep and how long you sleep are critical factors in determining oral health. Sleep affects teeth in ways including increasing acidity, influencing bruxism, and weakening enamel. In extreme cases, bad sleeping habits can even cause loss of teeth and gum diseases like gingivitis and periodontitis. Through this presentation, the importance of improving sleep habits for the sake of oral health and overall longevity is considered.

4:20 PM

Understanding POTS: Postural Orthostatic Tachycardia Syndrome

Allison Fleak, Bluefield College

This presentation will focus on POTS which stands for postural orthostatic tachycardia syndrome. This is a condition that affects blood flow. “POTS is a form of orthostatic intolerance, the development of symptoms that come on when standing up from a reclining position, and that may be relieved by sitting or lying back down.” There are different forms of POTS in which the body responds to the lack of blood flow differently. As such, treatments vary and can only be applicable once the form is determined. To know if one has POTS, the best test is the tilt-table test. More tests can follow to verify form and damage done by POTS. While the main symptoms are “lightheadedness, fainting, and a rapid increase in heartbeat,” many more are still encountered every day. Most patients are women aged 13-50, but this can affect anyone. This debilitating syndrome is common, but awareness is not.

4:40 PM

Neuronal Regulation by Luminopsins in Epilepsy Research and Seizure Suppression

MaryEllen Haas, Marymount University

Over 65 million individuals worldwide suffer from epilepsy, a condition of seizures: abrupt electrical discharges causing muscle spasms, loss of consciousness, and other symptoms. Current epilepsy treatments including seizure-suppressing medications are frequently ineffective or elicit negative side effects. A review of optogenetic neuronal modulation, luciferase optimization, and luminopsin (luminescent opsin) development elucidates the prospect of seizure treatment by luminopsins: chemically-activated luciferases expressed alongside opsins to enable neuronal control without external light hardware. In vitro, the luminopsin LMO3 combining Volvox channelrhodopsin 1 (VChR1) with slow-burn Gaussia luciferase (sbGluc) produced sufficient depolarizing currents to induce action potential firing upon coelenterazine (CTZ) substrate delivery. In rats, inhibitory luminopsin iLMO2 activated during seizure induction significantly decreased seizure on-set time and severity. Employing optogenetic, chemogenic, and bioluminescent mechanisms simultaneously through chemically-activated luminopsins offers the prospect of cell-type, spacial, directional, and temporal neuronal control for epilepsy treatment, without the limitations, ill-effects, or invasivity of previous treatments.

4:00 PM**Margulis Revisited: Once More on Program Notes and Audience Enjoyment**

Jocelyn Abrahamzon, James Madison University

In a 2010 study, Elizabeth Margulis finds that audiences enjoy classical music less when they read information about the piece before they hear it. This conclusion is surprising because conventional wisdom suggests that such pre-concert information would increase an audience member's enjoyment. To gain further perspective, I conducted a similar study on JMU's campus which differed from Margulis' in several ways. For example, participants attended a live concert rather than listening to excerpts of music through headphones. I created a survey that asked participants questions about their experience at a concert they attended at the Forbes Center, JMU's concert venue. These questions included: what kind of pre-concert information (i.e. program notes or speaker) they received; what type of information they received; and how their enjoyment was affected. During this presentation, I will discuss the results of this survey, which, in some cases, contradict the results of Margulis' study.

4:20 PM**Music's Influence on Empathy**

Keara Moore, Roanoke College

Music affects the emotions, feelings, and thoughts of a person but can it affect a person's skill of empathy? I define empathy as the ability to sense, share, and understand other people's emotions. I use 2 thoroughly tested survey instruments, the Toronto Empathy-Based Questionnaire (TEQ) to provide a baseline measurement of empathy, and the Goldsmith's Musical Sophistication Index (GMSI) to ascertain a base understanding of each participant's background in music and how important it is to them. Participants will also take a Beat Perception and Melody Memory task to test their abilities in music. I will also conduct semi-structured interviews with individual participants aimed at exploring respondents' appreciation of and investment in music. The research is not yet complete; however, the research methods indicate there are ways to determine if people's abilities in music influence their level of empathy.

4:40 PM**Music In Water: How the Sounds of Water Affect Us**

Anitra Howard, Virginia Wesleyan University

The Blue Mind Theory suggests that being in, near, or around water has a positive effect on not only our physical health, but our mental health. Part of this theory is that hearing water sounds has a calming effect on humans. This study sought to show how music with a water based theme affects people as compared to the sounds of water (rainfall, storm sounds, waves, etc.). As a control, participants recorded their current feelings (happy, calm, sad, etc.) on a 10 point scale before listening to anything. The participants then recorded their feelings after listening to the sounds of a body of water for 30 seconds as well as 30 seconds of music with a water theme. The music with a water theme showed to have a similar calming effect as that of actual sounds of water.

4:00 PM**Research to Results: Implementing a Food Pantry at a community college**

Stephaniel Cull, Reynolds Community College

Food insecurity is an issue that plagues college students across the country. Students experiencing food insecurity are less likely to perform well academically and less likely to complete their degree. The Honors Sociology class at Reynolds conducted research and found that food insecurity at Reynolds is consistent with national averages. After consideration, a food pantry implementation committee was formed and, on January 28, 2019, Reynolds' first food pantries opened on all three campuses. In the first three weeks of operation, we serviced about 100 students. We are in the process of expanding our services to include mobile distributions from Feed More, a program that will include proteins and fresh produce. The food pantry program at Reynolds is a direct result of work done by honors students and faculty and it is an extremely rewarding program. I would like to present on the journey of implementing the food pantry from the research that was done to our current data.

4:20 PM**Understanding Awareness and Completion of Advanced Care Directives Among College Students**

Katherine Topf and Katherine Chiu, James Madison University

College students are often a group that is overlooked when it comes to Advanced Care Planning and the completion of Advanced Care Directives (ACD). The completion of these documents is frequently neglected by individuals that are neither directly nor indirectly affected by chronic illness, disease, or trauma. In this two-part project, assessment of publicly available information and a survey utilizing three instruments with questions pertaining to death, religiosity, and personality questions, were assessed in order to better understand completion rates of ACD among college students. This is crucial to understanding the gap between rates of ACD completion between college students and adults. Death is often an uncomfortable topic, but it is absolutely crucial for preemptively determining end of life care wishes for oneself, or going through the process of helping loved ones determine their own end of life care wishes.

4:40 PM**The Effects of Adolescent Social Experiences on Adult Romantic Jealousy**

Jordan Gamache, James Madison University

Little research has examined the development of Pfeiffer and Wong's three dimensions of jealousy, more specifically their connection to experiences in adolescence. This study examines sociometric unpopularity, residential moves, and friend betrayal in early adolescence as predictors of emotional, cognitive, and behavioral jealousy. Factors of rejection sensitivity, generalized anxiety, and trust in friendships are also analyzed as potential mediators. Hypotheses will be tested using a 17-year study of 184 youth and their close peers.

Flash Talk

4:00 PM

The Effects of International Trade on Developing Countries

Connor Borkowski, James Madison University

The purpose of this research project is to study the changes in overall welfare for citizens of developing countries after trade agreements have been made. The study focuses on 3 periods: the pre-agreement, transition, and post-agreement phases. Over these periods we measure the changes in quality of life for the country in question through indicators such as median household income, primary education enrollment rates, gender equality, and freedom of speech. Our primary countries of interest include: Chile, Turkey, Morocco, and Tunisia. Although most of our work is qualitative in nature, creating a narrative is the foundation towards quantitative analysis. The goal is to connect specific events relating to legislation, elections, and entrance into economic unions in a causal manner, to see the effects these events have on the overall welfare of the country's citizens.

4:10 PM

The Effect of Servant Leadership on the Performance of Food Safety Practices

James Caldwell, James Madison University

In this study, I will examine five elements of servant leadership (SL) in order to expand our understanding of what SL requires of its practitioners. I will test the relationship of SL with the performance of food safety practices (FSP). If my hypothesis is supported that SL and FSPs are positively correlated, then restaurant managers will be advised to practice SL. Furthermore, I will test employee commitment as a mediator of the relationship between SL and FSPs. This will enhance our understanding of why SL and other management practices vary in their effectiveness in inducing the performance of FSPs.

4:20 PM

US Recycling Systems: Barriers to Success and Potential Solutions

Lauren Cutlip, James Madison University

This presentation is an assessment of the global variances of recycling and how this has impacted the city of Harrisonburg, VA. I will be addressing the roles that public awareness, contamination, and infrastructure play in this complex problem, and ask what we can do as individuals to address it. Why recycling should be a last resort, and what are the underlying systems that affect it?

4:30 PM

Supporting Mental Health on College Campuses and Honors Communities

Natasha Doshi, Virginia Tech

Throughout my college career I have gotten involved in Active Minds, a student organization promoting mental health. Last semester I was a coordinator for an event that involved 1100+ backpacks on a central field within campus. Each backpack symbolized the number of college students who die by suicide yearly and had a student's story attached to it. This semester I am coordinating a Masquerade Ball to Unmask Stigma; it involves an open mic where students unmask themselves prior to sharing spoken word, poetry, songs, etc. relating to mental health. Through my involvements with event planning and Active Minds I have coordinated and participated in many activities and service projects to normalize the conversation of mental health. I hope that people will see this flash talk feeling like they are able to learn something from it and bring a piece of the conversation back to their campuses.

4:40 PM

Gender Disparity in STEM

Alexis Schneider, James Madison University

This presentation describes the student-professor relationship and how it relates to gender disparity in STEM, as well as provides guidance for how to reduce this inequality within classroom and lab spaces. Using scholarly research in sociology, psychology, and biology to first understand the underlying causes of the issue, I will develop a research-based guide to enhance gender inclusivity in both STEM classroom and lab spaces at colleges and universities. This guide will incorporate research, feedback from faculty and staff, and guidance from best practices used in other academic departments.

4:50 PM

Biopsychosocial Approaches to Mental Health

Irene Song, James Madison University

Many systems used in current medical fields still emphasize the biomedical diagnostic model to treat patients rather than a more encompassing biopsychosocial approach in preventative practice. We must not only understand the neurobiological and behavioral basis and diagnoses of mental illness, but also understand the social, political, environmental and cultural influences that determine perception and accessibility to mental health resources. We need this in order to develop awareness and effective interventions across diverse populations. I will share information about the existence and perception mental health disparities, its impacts on individual and community mental health, and the key physiological and psychological explanations of mental illness. In the future we must design new programs for the upstream approach to mental health care access that encompass a more global perspective on mental illness.

5:10 PM**Comparison of RAW 264.7 Cells to Murine Bone Marrow Derived Macrophages**

Delia LoSapio, University of Lynchburg

Direct comparison of Bone Marrow Derived Macrophages (BMDM) to the murine derived RAW 264.7 cell line has not been done. Bone marrow from female Swiss mice is collected, and stem cells isolated for stimulation with M-CSF (PeproTech), to produce BMDM for direct comparison experiments. BMDM and RAW 264.7 cells are seeded at 4×10^5 cells per well in 500 μ L of complete DMEM. After acclimation overnight, cells are stimulated with 0, 1, 10, and 100ng/mL of LPS for 24 hours. A sample of supernatant is used in the Greiss reaction to determine nitric oxide production as a measure of inflammatory function. Initial experiments comparing BMDM saw RAW 264.7 cells with a 10-fold greater level of nitrite production. Trypsinization of treated wells, after sample collection, is used to count cells in each well to normalize the response and better compare the two cell types.

5:30 PM**My Love/Hate Relationship with Leishmaniasis; a "Flesh Eating Parasite"**

McKenzie Schrank, Radford University

On a recent study abroad trip to Peru taken by Radford University students, four individuals were infected by *Leishmania braziliensis*, a cutaneous parasitic disease. These individuals and their doctors had difficulty identifying the cause of infection and treating the consequential lesions. Critical time was lost identifying their medical problem because students were unable to self-identify and clinicians were unsuspecting of the disease. The neglected tropical disease leishmaniasis affects more travelers as the climate changes, and as people with no immunity to the disease travel to places where it is endemic. They should be aware of the risk of traveling to these places and educated on the disease to receive quick and adequate care. I created an informational video about leishmaniasis which will share my story with the disease and provide risk management information to the public and people who could possibly be infected with the disease, especially travelers.

5:50 PM**Synthesis of a Superparamagnetic Iron Oxide Based Nano-complex for Targeted Cell Death of Glioblastoma Cells**

Matthew Tovar, University of Mary Washington

In the last ten years, there has been little advancement in the treatment of Glioblastoma Multiforme (GBM). This research describes the synthesis of a superparamagnetic iron oxide (SPION)-based nanotherapeutic complex for use in targeting and killing aggressive GBM cells. The properties of the synthesized SPIONs were precisely tailored via a novel time-controlled approach utilizing a previously described electrochemical reaction. Through magnetic and thermogenic analysis, Through this synthetic method, the optimal particle size (OPS) where maximal thermal energy is released was determined to be 21 nm. The nano-complex was further modified to selectively target GBM cells by adding a heterobifunctional poly(ethylene) glycol polymer cross-linked to TWEAK (a GBM targeting ligand). Further investigation with FITC Annexin V/Propidium Iodide fluorescent probe revealed that cells treated with the synthesized nano-complex showed markers positive for cellular apoptosis. Thus, these nano-complexes hold promise as a potential treatment agent for an otherwise untreatable disease.

5:10 PM**Young Female Sexualization in the Media**

Nikki Lopez, Marymount University

Scholarship on the depiction of female adolescents in the media largely says that they are objectified, hyper-sexualized, and utilized as spectacles for the public; but, scholars have yet to consider the sexualization that girls do to themselves in forms of “body-positivity” and “self-love” movements. This research addresses this gap in the literature by analyzing the social media posts of a 19-year-old Instagram Model utilizing the feminist media scholar method. This research project will be employing the following questions to explore this female adolescent dichotomy is: 1.) Does the media encourage promiscuity of female adolescents or the protection of female adolescents' sexuality? and 2.) At which point does bodily acceptance become a form of self-sexualization rather than representation of self-confidence?” Despite the empowering nature of today’s culture, “body-positivity” becomes a form of self-objectification due to the misconstrued depictions of what should entail in body acceptance.

5:30 PM**Paradigms & Plasticity:****Life through your lenses, a curvy road to innovation**

Aicha Ndiaye, Northern Virginia Community College

This presentation focuses on the perception we have of the world and the influence of our life experience, our interests, and our social environment. Our paradigms are shaped by our environment, but in return we can change our environment. It is a challenge to realize when we are biased, even for scientists. Biases even influence the scientific method. As a member of the Honors Program at Northern Virginia Community College, I am exposed to a diverse community and different paradigms. Regularly being confronted with different paradigms is beneficial for scientific research and innovation. Advancements and discoveries in one field can come from information learned in another field. Our brain and nervous system can change and readapt with time, this is called plasticity, and we should take advantage of plasticity to maximize progress.

5:50 PM**Wilson versus Brustein:****A Debate on Political and Artistic Expression within American Culture**

Sandrea Citizen, Norfolk State University

This presentation will discuss the intransigent perspectives of August Wilson and Robert Brustein on the topic of color-blind casting in American theatre and the controversies that have followed their disagreement. The quarrel between Wilson and Brustein was positive in that it pinpointed many issues regarding race and the arts. Unfortunately it was also a vexatious conversation. Wilson believed that Black theatre in its essence serves the purpose of empowering African American culture and mitigating the obligation for cultural assimilation. Brustein, on the other hand, believed that is only through coexistence and mixing that cultures expand past their racial borders. Their conversations created considerable disarray in the governance of culture and the racial politics within American theatre.

5:10 PM**One Click Away: Effects of Social Media on Consumer Spending Behavior**

Olivia Lee, Northern Virginia Community College

In this digital age for both consumers and businesses, social media is not only used for socializing and networking, but also as a basis of supply and demand. When companies started utilizing social media as a selling platform and a way to push advertisements, consumer buying behavior became highly impacted in many ways including: the increase in impromptu purchases, relying on reviews and influencers, and buying for incentives.

5:30 PM**Should Feminine Products be Taxed as a Luxury?**

Kitana Finley, Tatiana Crawl and Marie Bazile, Virginia Wesleyan University

Feminine products are considered a luxury in America as they make life more convenient for women. Currently, only 10 states exempt feminine products from being taxed as a luxury. Nevada residents disagreed with the tampon tax and called for a ballot referendum in 2018. In our project, we will use game theory to model the decisions of the state government in Nevada on what they should consider concerning the tampon tax. Various game theory techniques were utilized to analyze the game trees and payoff matrices in order to compare our findings with the actual results. It is imperative to model and analyze the decisions of the state government to fully understand the underlying political and financial motivations. Game theory provided the basis of the decision to continue taxing feminine products as they are. However, Nevada defied our analysis as they eliminated the tampon tax.

5:50 PM**IDEA Software Case Study**

Michael Johnson, James Madison University

Our case study is designed for students to use IDEA Software, a prominent audit software used by large accounting firms to find fraudulent data by running different tests. These tests can vary from analyzing abnormally large transactions to looking for collusion between employees to using Benford's Law.

Artistic Performance**5:10 PM****United We Stand?**

Courtney Hawkins, Bridgewater College

"United We Stand?" is a documentary video showcasing the stories of international and first-generation immigrant students at Bridgewater College to contrast with the rising trends of nationalism in the United States. Using participants from Ghana, Kyrgyzstan, Gaza, Mexico, Spain, and Peru, a narrative is found between them about opportunity, stereotypes, and hope for the future while the disconcerting narratives of nationalistic voices from the media play amongst them. This video asks where Americans stand on the issue of immigration and whether we can come together on them because of the positive contributions of those from other countries, like the students featured in this short film.

5:30 PM**Sasha: Self-exploration and Storytelling Through Live Hip-Hop**

Willis Landon, James Madison University

Multi-instrumentalist and lyricist Sasha explores the intersection of thoughtful storytelling and music technology in their live hip-hop set. Through real-time beat-making and spoken-word-like verses, Sasha raises questions about masculinity, identity, and self-worth. They list among their influences Keifer, Mac Miller, and Black Thought of The Roots.

Poster

Rhesus Macaques Health and Natural Disasters: The Normal Range of Leukocytes

Mayd Al-Salman, Reynolds Community College

The larger study examines connections between genes and blood cells on the behavior of Rhesus Macaques, a social type of Old World monkeys. This research is adapted from an ongoing collaborative research project on zooniverse.org, and is being completed as part of Honors Biology coursework. The larger project aims to understand certain human behaviors related to Autism. In 2017, Hurricane Maria affected the Cayo Santiago Island, Puerto Rico, where a population of Rhesus Macaques was brought from India. Using online microscopic blood sample images provided by zooniverse.org, I am analyzing leukocyte (white blood cell) count in addition to the appearance of red blood cells in some individuals. This phase of the research focuses on setting the normal range of leukocyte count for the population and examining outliers. This helps to examine the blood cells and blood samples of individuals with significantly high leukocyte count or the presence of blood abnormalities.

Perceived risk can increase an individual's likeliness to own a firearm

Samantha Doncaster, Radford University

The study examines the effect of perceived risk of victimization on an individuals' likelihood of owning firearms. This study will examine the instance and pattern of fear in a large, nationally representative sample. Of particular interest, is whether or not fear is associated with higher levels of gun ownership. Research suggests many individuals experience fear and deal with that fear in numerous ways. For some individuals, they may not feel safe in their environment because of neighborhood, police, or a multitude of other reasons. Therefore, some individuals buy firearms to protect themselves. Americans may purchase firearms for their homes as a preventative measure.

Cadaver Brains: A Comparative Analysis to Aide in Post-Mortem Identification of Morphological and Pathological Structures Key to Alzheimer's Diagnosis

Claire Dundon, Radford University

Alzheimer's disease (AD), the most common form of dementia, can be clinically diagnosed in patients through identification of common symptoms, typically early episodic memory loss and progressive cognitive and functional impairments. However, it is not until post-mortem that a definitive diagnosis of AD can be made using the presence of pathological hallmarks: amyloid plaques and neurofibrillary tangles. Comparison of two cadaver brains will provide an in-depth look at the pathological differences between a "healthy" brain and one with AD. Overall size and weight differences as well as discrepancies in regions like the lateral ventricle, hippocampus, cerebral cortex and the temporal lobe (entorhinal cortex) will be examined. Preparation and analysis of microscopic slides for examination of cellular density and the presence of plaques and tangles can provide a definitive post-mortem diagnosis. Consideration will also be given to the vascularization of both brains, as those with AD also tend to incur vascular problems.

Diagnosed Mental Illness and Perceptions of Culpability: The Effects of Diagnosis on Perceptions of Violent Crime

Sara Francisco, Roanoke College

Violent crime is an ever-present issue in modern society. As such, a frequent concern is the conviction and sentencing of these criminals. In these trials, the mental competency of the defendant is likely to come into question regardless of the plea. A small proportion of defendants plead not guilty by reason of insanity thus it is more relevant to investigate the influence of diagnosis in other cases. To determine the potential effects of diagnosis, a survey using stories of violent crimes with a statement of no diagnosis, a diagnosis of Schizophrenia, or a diagnosis of Antisocial Personality Disorder was distributed. This survey asked participants where and for how long they believed a defendant should be sentenced. The results of this survey indicate that diagnosis does not have a significant effect on how long a person should be sentenced for, only where they should be sentenced to.

Why has the Democratic Republic of the Congo outsourced its responsibility to educate its people? A study on how the inefficiency of the civil service hinders the capacity of the state

Ibrahim Kante, Longwood University

The Congolese State has been struggling to achieve most of its Millennium Development Goals (MDGs) and failed to control many areas of public life. This has led to a disengagement of the state which has yielded its responsibility to educate its own people. We have seen several actors engaging in what can be coined as a “negotiated” or “hybrid” system. The first part of this research will try to uncover the failures of the civil service and its responsibility in the hindrance of the state capacity. Given the extractive and predatory nature of the Congolese bureaucracy uncovered in the literature on the topic, we will focus on how it has continuously contributed to the state’s inability to control its education system. The second part will deliberate of different approaches to solve this issue, namely their advantages and shortcomings, and assess the most feasible solution in the context of the DRC.

Does Social Media Engagement Affect National Basketball Association Game Attendance?

Shyron Macklin and Montrell Wynn, Virginia State University

This study investigates the relationship between social media engagement on Instagram, Facebook, and YouTube and attendance to home games during regular basketball seasons from 2013 to 2018. The number of posts made on each of the thirty National Basketball Association (NBA) teams’ respective social media accounts from April 15 to September 30 of the years before the upcoming basketball seasons were counted, reviewed, sorted into categories including team and player information, promotional posts, and miscellaneous posts, then compared to each teams’ home game attendance statistics for each season. Results indicated that social media engagement did not have a significant impact on basketball game attendance. The focus of this study is also to examine the effects of certain types of posts on game attendance. In summary, posts focusing on marketing had the largest impact on the National Basketball Association’s game attendance, though the impact is still not significant.

Controlled Study of Freshwater Pseudo Ecosystems

Suzanne Maines, Ferrum College

Aquariums serve as a point of research in regards to ecology, chemistry, biology and botany due to the fact that these fields can be studied in the controlled environment of the aquarium. Particularly, water parameters offer information which can be analyzed and manipulated to improve the quality of life for flora and fauna as well as the health of the ecosystem as a whole. The focus was on parameters such as pH, water hardness, and macro/micro nutrient levels. Observations in responses to these changes were measured in qualitative responses such as leaf growth. Measurements of the water parameters were taken at weekly intervals while routine maintenance was being performed in order to sustain and improve growth for the species of for a and fauna within the aquarium.

Manual Gross Dexterity Analysis of Four Popular Styles of Enable 3D Printed Prosthetic Hands Using The Box and Block Test

Eric Malani, Marymount University

eNABLE, a worldwide volunteer group, helps bring free prosthetics to people in need. However, the effectiveness of their prosthetic hands has never been tested. We tested the manual gross dexterity of the four most popular styles of eNABLE hands, the Unlimbited Phoenix, Phoenix V2, Raptor Reloaded, and Osprey hands using the Box and Block Test (BBT). We found that the Raptor Reloaded hand performed significantly worse when compared to the Phoenix V2 and Unlimbited Phoenix hands with $p < 0.05$. There was no statistically significant difference between the Raptor Reloaded and Osprey hands with $p=0.096$. The results show that eNABLE devices still need minor improvements in order to compare favorably with some of the lower performing commercially available prosthetic hands. This work, therefore, establishes a quantitative baseline of performance of current eNABLE designs and provides a clinically validated testing protocol for future assessment of 3D printed prosthetic devices.

Isotretinoin in the Body

Alexzondra Mattson, Ferrum College

Isotretinoin is the active compound in many generic brand retinoid drugs such as Myorisan. It was originally marketed as Accutane by the pharmaceutical company Hoffman-La Roche after receiving FDA approval in 1982. This drug is a an oral retinoid (vitamin A derivative) used to treat severe acne and occasionally some forms of head and neck cancer. This presentation will explore the discovery of isotretinoin as well as its pharmacokinetic and pharmacodynamic properties. Although the mechanism of reaction is unknown, the presenter attempts to deduce some possible interactions at the binding site by studying and comparing isotretinoin to vitamin A.

**How to Attract African American College Students to Study Spanish:
A Model for Virginia State University**

Erika Neal, Virginia State University

This study is designed to discover different teaching methods that are most successful for African American students who Virginia State University, a Historically Black College University. My hypothesis is that if teachers utilize connections to students' original culture in the learning process, then students will be able to learn and retain the information at a more efficient rate. In order to increase the number of African American college students willing to study Spanish, teaching methods have to be flexible and learning must occur in and out of the classroom. The inclusion of Afro-Latino professors and course materials to establish relevance and promote diversity. Also, Virginia State University should advertise in both career centers and recruitment fairs a plethora of opportunities for students who speak or wish to speak more than one language.

**An Examination of Factors Associated with Body Appreciation,
Sociocultural Attitudes of Appearance, and Ratings of Diverse Performing Artists**

Stephanie Rathjen, James Madison University

Multiple studies have found that performing artists have low body image which may be associated with the media's portrayal of performers. This study explores body attitudes among performing and non-performing arts students and the possible media influences on those attitudes. Undergraduate students ($n=522$) were asked to participate in an anonymous online survey and randomized to receive a video depicting either traditional performers (video A) or non-traditional size-varied performers (video B). While no significant difference was found between performing and non-performing arts students, overall body appreciation scores did significantly lower between the pre and post video surveys ($p=0.002$). Video B was found to be more diverse and empowering than video A, $p<0.001$. Results of a multiple linear regression indicated personal fitness, sociocultural, and body comparison thoughts were predictors of body appreciation scores, $R^2=0.465$. Body image perception affects all students and can be influenced by opinions, fears, comparisons, and the media.

Strangers in Their Imagined Motherland: North Korean Refugees Living in South Korea

Brittney Rowe, Roanoke College

As part of the ASIANetwork Freeman Student-Faculty Fellowship grant this summer, I traveled with five other students and two professors to study North Korean refugees living in South Korea. My primary research focus was on North Korean women's experiences in adapting to the capitalist culture of the South, as well as of South Korean media's portrayal of North Korean women through television programs labelled 'Defector TV,' including *Now on My Way to Meet You* and *Unification of Love: Northern Woman, Southern Man*. From information collected during the intensive three weeks of research including interviews with North Korean women, representatives from nongovernmental agencies including Teach North Korean Refugees and Liberty in North Korea, along with information from faculty members and students from prominent universities such as Ewha Womans University, and others, I hope to promote better understanding of North Korean refugees and of the people who help them.

Incorporation of Haptic and Visual Feedback with Myoelectric Prosthesis

Katherine Sanchez, Marymount University

Certain unavoidable issues that are related to limb-loss include the financial burden of medical bills, prosthetic-electronics maintenance, device design, training software, and emotional stress. With traditional prosthetics, issues can also arise with the connection and acceptance of the prosthetic as an extension of the user. Visually, the loss of an arm or hand can discourage the user and causes disconnection between them and the prosthetic. With a negative mental state, people are less likely to accept a prosthesis and make progress when undergoing rehabilitation. Incorporation of virtual reality games allows the user to see a virtual hand that responds to the myoelectric signal created from muscles in the residual arm. This project addresses one feature that requires particular improvement which is rehabilitatory training. Through proper training with a myoelectric prosthesis, the user can learn to accept the prosthesis as an extension of themselves instead of a tool. Overall the question I am addressing is: can open source technologies be used to create engaging training through virtual reality in a low-cost, 3D printed myoelectric arm? Using a combination of open source platforms like Unity and Oculus Go; alongside the cost-effective alternative of 3D printing can facilitate major improvements to the financial cost of prosthetics and training mechanisms. By combining sample codes for the myoelectric arm band and with Oculus go facilitating the visual feedback, the user can flex their residual limb and see a fist form on the screen. This type of training could shorten the total training time and make the experience fun for both adults and children while also providing haptic and visual feedback. The expenses would decrease significantly, and open source coding would be available to people all over the world.

The Regulation of DNA Methylation by the HOXA13 gene within Glioblastoma Cells

Amanda Sciorillo, Marymount University

Funded through a grant provided by the national Tri-Beta biology honors program, this project not only provides a potential way of controlling tumor progression, but it also delivers a possibility of how DNA methylation rates can be used to understand brain cancer. Using techniques such as human cell culture, western blotting, methylated DNA quantification, and CRISPR/CAS9, the project looks into the specific mechanism of hyper-methylation. Previously published literature linked homeobox genes to brain cancer (glioblastoma), but it was unclear why the two had a correlation. This project proposes that the missing link is the DNA methylation happening within the cells controlled by homeobox genes.

Recurrent Bilateral Chronic Exertional Compartment Syndrome: A Case Study

Robyn Toran, Radford University

Chronic exertional compartment syndrome is usually rare, but can indefinitely sideline an athlete if not treated properly. Recurrence in different compartments is particularly uncommon. Medical and allied health professionals seek to understand it better in hope of preventing and treating it most effectively. In this case, an 18 year old female collegiate basketball player presented with severe pain, numbness, and tingling bilaterally in the anterolateral lower legs during exercise. She also reported a feeling of tightness or pressure in the area. Ultimately, she was diagnosed with chronic exertional compartment syndrome of the lateral compartments. She made a successful return to play following surgical intervention. 3 years later, she presented with identical symptoms bilaterally in the posterior lower legs and underwent a second successful surgery for the posterior compartments.

Enzymatic Activity Assay Development for Pyruvate Kinase

Nhat Truong, Liberty University

Pyruvate kinase (PK) is an enzyme that catalyzes the last step in the process of glycolysis. PK transfers the phosphate group from phosphoenolpyruvate to ADP, thereby generating one molecule of ATP and pyruvate. Pyruvate kinase deficiency (PKD) may result in the premature destruction of red blood cells (hemolytic anemia). The physiological significance of pyruvate kinase necessitates methods to determine the rate of pyruvate kinase activity in cells. However, few accessible and affordable PK screening methods are available on the market. We attempt to develop an affordable and sensitive pyruvate kinase activity assay in this proposed study. We will generate recombinant tissue-specific pyruvate kinase, purify them using affinity chromatography, and examine activities using a coupled absorbance assay. The method proposed may provide insights into the activity of pyruvate kinase isoforms, facilitate medical implications such as PK screening for new-born babies, and offer an inexpensive tool for research and educational purposes.

Using Aruino Technology to Monitor the effect of pH and Temperature on Water Quality

Andrew Wisniewski, Reynolds Community College

Using engineering principles, computer-aided-design software, and three-dimensional printing technologies, a device containing a single Arduino, analog pH sensor, and digital temperature sensor will remotely collect data while left on a stream to analyze the water quality and health of a tributary to the Chesapeake Bay. Specifically, Arduino Uno, a microcontroller board designed to take an almost any input and give a simple output, will be programmed to read the pH data as the input and light a LED based on the pH received as the output. Both the pH and temperature data will then be stored onto the Arduino. After a week of collecting data, the Arduino will then be retrieved, and the data collected and analyzed. This process will be conducted monthly to monitor the long-term effects of pH and temperature on the health of the tributary.

A Pedagogical Project on the Masticatory Biomechanics *P. boisei*

Jessica Wollmann, Radford University

This project describes a new technique for making inexpensive, student-operated models of the hominin masticatory apparatus to allow students to investigate how changes in prognathism can affect bite force. The functional models mimic the temporomandibular joint (TMJ) and have adjustable 3D printed teeth that change the “prognathism” (load arm length) and therefore the bite force capability. Students adjusted the teeth to different specifications and measured the produced bite force. Following this they created a graph to illustrate how the load arm length affected bite force capability. The project was used in an undergraduate paleoanthropology class to help teach concepts regarding the differences in masticatory biomechanics of *Paranthropus boisei* and *Homo sapiens*. Following the use of the models, students were given a survey to gauge their reactions to the exercise. Exploring these techniques allows us to improve pedagogy in the field of anthropology while training the next generation of anthropologists.

The Temporal Dynamics of Caspase-3 Activation in the Extrinsic Process of Apoptosis

Catherine Zwemer, University of Mary Washington

Apoptosis is a process of cell death that occurs within the body. Caspases are a family of enzymes which activate each other to degrade cellular proteins leading to the death of the cell. The steps of apoptosis are well known, however the timing of caspase activity within the cell is not. The purpose of this research is to understand the temporal dynamics of the caspase-3 activation in the extrinsic pathway of apoptosis. Cells are examined by fluorescence microscopy using an affinity microfluidic device and a fluorogenic caspase probe derived from Rhodamine 110. Fluorescence is monitored over a period of 6 hours, indicating the level of caspase activity within the cell. This procedure is conducted for caspase-3 using a DEVD2R probe. Caspase-3 activity was shown to start 5.3 hours post-induction lasting 20-40 minutes. Understanding the timing of caspase activation could be helpful in designing apoptosis-targeted therapies.

**The Development of the Blitzkrieg:
How Germany failed to invade France in 1914 and how it succeeded in 1940**

Jonathan Zwemer, University of Mary Washington

During the 19th and 20th centuries, two major types of warfare were characterized by the World Wars fought between 1914-1918 and 1939-1945: static and mobile. The failure of the Wehrmacht to rapidly surround and systematically destroy the French army in 1914 resulted in the drawn-out trench warfare that remained static until the end of the war in 1918. The failure of the Wehrmacht to expedite troop movement to maneuver around the French troops resulted in the creation of a new plan that would enable the German troops to enact a style of warfare popularized by Carl von Clausewitz: limited and rapid. The improvements to armored vehicles, mechanized infantry, and aeronautics throughout the interwar years allowed the Third Reich government of Germany to create a highly mobile army along with an offensive style of combat known as Blitzkrieg. To enable this style of warfare, units of combined arms utilizing armor, artillery, infantry, and airplanes had to train specifically to advance as fast as possible through enemy territory. The Blitzkrieg tactic was extremely successful in the invasion of Poland in late 1939, which allowed the Wehrmacht to conquer the country in a matter of weeks; however, to enable the tactic to work against the French, the Wehrmacht needed a way to surpass the Maginot line which would hinder the rapid maneuvers of the army. To surpass the French border in 1914, the German army had attacked through Belgium and this strategy was once again used in addition to the Blitzkrieg to render the Maginot line obsolete, resulting in the fall of France within six weeks.

**10:10 AM The Acute Effects of Moderate Intensity Aerobic Exercise
on Short-Term Memory in College Students**

Megan Gonzalez, Liberty University

This study analyzed the acute effects that exercise has on memory. The subjects were Liberty University students ages 18-24 classified as low-risk by ACSM standards. Testing occurred over two days. The first day, subjects performed a 1.5-mile run, from which VO₂max was calculated. The second day, subjects ran on a treadmill for 10 minutes at 50% of their pre-determined VO₂max and took three versions of a memory test comprised of a modified Reys Auditory Verbal Learning Test (RAVLT) and the Sport Concussion Assessment Tool Version 5 (Scat5). Memory testing occurred before exercise, immediately following exercise, and 30 minutes following exercise. Prior to memory testing, blood oxygen, heart rate, and blood pressure were checked. Results showed insignificance between changes in blood oxygen, blood pressure, RAVLT test scores, and CONC test scores. Results showed a trend between changes in heart rate and changes in IMMED test scores, although this was statistically insignificant.

10:30 AM**Predictors of Suicidality in Individuals with Borderline Personality Disorder:
Overview of Literature, Mental Health, and the Research Process**

Taylor Bronson, Emory & Henry College

This presentation is geared toward individuals interested in psychology, mental health, or in conducting literature research in general. For those interested in psychology, clinical features of borderline personality disorder that may serve as risk predictors of suicidal behavior are assessed. An overview of the disorder includes the symptoms and prevalence. An overview of suicidality, including prevalence and risk factors among general and clinical populations, are provided and may apply to anyone, as mental health is a universal issue. Prevalence of suicidality among the BPD diagnosis is described. Research focuses on impulsivity, non-suicidal self-injury, affective instability and aggression, and comorbidity with substance use disorder, major depressive disorder, and other cluster-B disorders as risk indicators associated with BPD. For those interested in research, I will discuss the literature review process, including planning, challenges I faced, and what I learned from the research experience.

10:50 AM**Effectiveness of Military Amputee Care Programs**

Michaela Ramandanes, Marymount University

Military Amputee Care Programs (ACP's) are crucial to the rehabilitation of U.S. soldiers who have been wounded. This study aimed to evaluate the effectiveness of these programs. Through research of scholarly and military medical journals, the study explored the historical/scientific development of how amputations are not only treated, but prevented. Studies then further analyzed each step in military ACP's, from the exact moment of injury to the return to civilian life/duty.

Research found that the ACP's at Walter Reed and Brooke Army Medical Centers are the only two of their kind. These programs have very good success rates with returning patients to functional and fulfilling lives. Individual testimonials all reported an increased quality of life after completion of the programs. Due to the success of these programs, the United States Military should expand the rehabilitation centers. Civilian medical care would benefit greatly from replicating a similar program.

10:10 AM**Pieces of Us: Songwriting Stories in Harrisonburg, Virginia**

Davina Miaw, James Madison University

Storytelling is a way in which humans communicate their lives as narratives and understand the world around them. Storytelling through composing music allows students not only a means of personal expression, but also enhanced literacy skills, social skills, and understandings of basic musical concepts (e.g., Barrett & Stauffer, 2012; Kaschub & Smith, 2009). I will share a digital storybook of fifth grade students' original songs that documents their processes of turning ideas into final products and examines their thoughts and words about songwriting and identity development. I will also share autoethnographic reflections on ways in which my identity as a musician and teacher (e.g., Dingfelder, 2011) has changed and developed by working with these students. My research adds to the existing literature on songwriting and composition by focusing on a more ethnically diverse group of students and examining the facet of identity.

10:30 AM**The Hudson River School**

Jessica Street, Bluefield College

This presentation will focus on similarities and differences among the different American painters. Classified as members of The Hudson River School who worked between the years 1825 to 1870. Called the Hudson River School because the painters were all from the New York City, through which the Hudson River flows, this group is the first school of painting that was native to the United States of America. The founder of The Hudson River School of Art was Thomas Cole. Other main artists of the Hudson River School include, Asher Durand, Frederic Church, and Albert Bierstadt. Each of these artists had their own techniques and styles; however, they all shared one thing: a focus on American landscape.

10:50 AM**The Depiction of African American Females in Film Productions**

Malya Price, Norfolk State University

An evaluation of films such as Tyler Perry's *A Mad Black Woman* (2005), Theodore Melfi's, *Hidden Figures* (2016), Tate Taylor's *The Help* (2011), and Steve McQueen's *Widows* (2018), will reveal varying images of black women depicted in recent films. The presentation includes plot overviews and analysis of symbolic features. It also features a comparison and contrast that examines both the destructive and uplifting stereotypes black women face. An image or stereotype can be strong and cause someone to change everything about herself, even if it takes her out of her culture of origin. The image of black women today may not be as horrifying as it was during the 1600s; however, talented filmmakers (both Black and white, both male and female) struggle to depict Black women accurately and compassionately.

10:10 AM**An Analysis of the Sociocultural Perception of U.S. Higher Education and Possible Political Ramifications in State Legislatures**

Anthony D'Andrea, Marymount University

The value of higher education has increasingly been a subject of debate. In addition to questions of the economic value of committing to higher education, there is a growing rhetoric that argues that higher education has become an institution of indoctrination for the elite. When an institution of higher education's association with cosmopolitan is high, does the state legislature react by allocating the institution less money? It is hypothesized that states with a citizenry that is less liberal, the higher chance that state legislatures and governors will seek to reduce funding for institutions of higher education. After examining ten states and their state appropriations from 2012-2016, there are some indications of significance and support for the hypothesis, but the results also indicate that further research is needed to complete the analysis on this subject.

10:30 AM**The Standard of Testing**

Catherine Berry, Northern Virginia Community College

Standardized tests are any form of test that is scored in a “standard” or consistent manner, allowing it to compare the relative performance of individual or groups of students. This presentation will discuss the evolution of standardized testing and its impact on our education system. In the past, these tests focused on the ability of the student and how they are able to retain knowledge. As of now, these standards have shifted and established themselves in changing curriculum and intent, causing negative impacts on students (e.g., stress, loss of curiosity, boredom). In short, the standard of testing has taken the love of learning out of the students.

10:50 AM**Developing a Peer Assisted Learning Program**

Saleem Aboite, James Madison University

The Peer Assisted Learning (PAL) Program is an initiative to support peer to peer collaboration led by student facilitators in the Accounting Department at JMU. This Honors capstone project entails the creation of an organizational framework to support the need for assisted learning in the ACTG 241 Financial Accounting course. This presentation will provide a better understanding of the need for the PAL program and give an overview of how such a program can be sustained.

**10:10 AM Justice Antonin Scalia's Constitutional Originalism:
The Need for a Coherent Interpretive Theory and Judicial Restraint**

Taylor Jones, Radford University

As the Supreme Court legislates “new rights” into the Constitution from the bench, it decreases the right deemed most fundamental by our Founders: that of self-governance. Though the Founders envisioned a weak judiciary designed to protect our rights, it has vastly usurped its stated powers and is now encroaching on the rights of the people. Justice Antonin Scalia knew this to be true; through his powerful judicial opinions and dissents, as well as his extrajudicial speeches and works, he attempted to warn the public of the seizure of power being made by the Supreme Court under the guise of “evolving standards of decency” and the so-called Living Constitution. This presentation intends to show the necessity of Scalia’s “text and tradition” Originalist method of constitutional interpretation as this philosophy safeguards the right of the people to legislate for themselves and stays true to the principles of our Founding charter.

10:30 AM The Evolution of Women’s role During The Cuban Economic Crisis

Mariah Allen, Marymount University

At the surface, Cuba is the idealistic state. Cuba offers free education, free healthcare, and sets the precedent for gender and race equality in its legislation. These ideals were shattered during the special period of the 1990’s, when the economic weaknesses of the country were exposed. In order to retain economic stability, Cuba emphasized the tourist sector as a main part of their economy. By emphasizing tourism and creating a space for individualized capitalism, Cuba created social and economic contradictions. The country did this by creating legislation that promoted equality, but fell short in implementing these policies. More specifically, I examine the changing attitudes towards women’s roles in society before and after the economic crisis in order to show the contradictions and failed promises. I will also be connecting gender equality to the economy and racial dynamics within the country.

**10:50 AM From Peace to Rearmament:
Fitting Post-War Japan in an American System 1945-1952**

Caleb Mercer, Virginia Wesleyan University

After World War II, the United States occupied Japan under Douglas MacArthur, who oversaw its demilitarization and democratization from 1945-1952 (MacArthur removed in April of 1951). While under American guidance, Japan revised its constitution, revoked war, and made the emperor a symbol of the state with no political power. On July 8, 1950, shortly after the beginning of the Korean War, MacArthur mandated that Japan form a National Police Reserve [NPR]. This study considers scholarly debates surrounding the formation of the NPR. Additionally, it explores reasons for America’s breakaway from early occupation policy during the Korean War. It argues that the American occupation never abandoned democracy as a key emphasis, but used it as a guise to extend American imperial rule. Furthermore, it maintains that the NPR was a military force, even while some recent scholarship contests this idea.

10:10 AM**Nuclear Proliferation and Presidential Rhetoric During the Cold War**

Ethan Walton and Matthew Gillett, University of Lynchburg

Delivered on June 10, 1963, in the midst of the Cold War, President John F. Kennedy's speech at American University offered a new approach to the United States' relationship with the Soviet Union as well as with nuclear weapons. This speech represented a major shift in US foreign policy following the failed Bay of Pigs invasion and the Cuban Missile Crisis. Not only did this speech alter the 1960's, but it also laid the groundwork for future arms deals and inspired future generations to strive for peace. Our presentation will analyze the presidential rhetoric of the Cold War and its effects, and how it compares to the presidential rhetoric of today.

10:30 AM**Degenerates: Compulsory Sterilization in Virginia, 1880-1940**

Haley McAllister, James Madison University

Between 1880 and 1940, negative eugenics reigned in Virginia through the legally compulsory sterilizations of inmates. Those deemed to have low IQs, a lack of emotional intelligence, and criminal tendencies were labeled "degenerates" and "feebleminded" • and were considered for sterilization. Doctors forcibly prohibited these people from reproducing and spreading these "undesirable" qualities through procedures that removed reproductive organs. Following the 1924 Virginia Sterilization Act, the U.S. Supreme Court case of *Buck vs. Bell* (1927) affirmed the constitutionality of forced sterilization of inmates, ruling that it did not violate the Fourteenth Amendment, which protected an individual's rights from state intervention. Many justifications for negative eugenics, including race betterment and economics, allowed these procedures to continue legally for years. This paper uses state government documents and court cases to examine the arguments for the sterilization of approximately seven thousand Virginians.

10:50 AM**Friends and Killers: Decision Makers at the Wannsee Conference**

Jenna Walmer, Bridgewater College

The Wannsee Conference of January 1942 was a meeting of 15 high-ranking Nazi and governmental officials to discuss the implementation of what would be later known as the Holocaust. Given authority by Hermann Göring, Reinhard Heydrich strategically sent invitations to individuals for a meeting to organize a plan amongst the pertinent central agencies. Previous literature grapples with whether the implementation of this “Final Solution” started before the conference or if the conference was a turning point in the Holocaust. However, previous literature has little discussion of how the Wannsee Conference was an attempt by Reinhard Heydrich to get the other fourteen invitees on the same page. My presentation focuses on two main points: the interpersonal relations as they played out at the Wannsee Conference and the role of Reinhard Heydrich. I argue that together with ideology and pragmatics it has been individual relations that strongly influenced choices made at Wannsee.

1:40 PM**Exploration of Prostate Cancer Cells: The Significance of Active HERV**

Dakota Shepherd, University of Lynchburg

The second most common cancer in men is prostate cancer. Prostate cancer is traditionally diagnosed by a digital rectal exam. Blood tests can also be used to test for PSA (prostate-specific antigen). These two methods can be used together but can sometimes provide both false negative and false positive results. A new method of testing for prostate cancer could prove to be beneficial. Previous studies have shown that active HERV sequences have been identified in some cancers, including prostate cancer. We hypothesize that the presence of active HERV in prostate cancer lines is significant. In this study, rabbit polyclonal antibodies and Western blotting were used to assay for the presence of HERV protein products after 5-aza-2'-deoxycytidine was used to amplify transcripts of prostate cancer-specific genes. Positive results may suggest a new method to detect prostate cancer in patient samples.

2:00 PM**Rheometric and Thermal Properties of Nanocomposites**

Olivia Goodson, James Madison University

Polymers are not typically used for long-distance fiber optic applications due to high attenuation rates compared to other fiber optic material, such as glass. The purpose of this study is to analyze the thermal and rheological effects of the nanoparticles within the polymer matrix, polymer nanocomposites. The polymer nanocomposites display a decrease in the complex viscosity as compared to precipitated PMMA. Correspondingly, the loss and storage modulus of the polymer nanocomposites shifts compared to the precipitated PMMA.

2:20 PM**The Theories of Morality and Their Rejection of Human Exceptionalism**

Chyna Easterling, Marymount University

This scholarly essay aimed to discover and explore evidence of moral capabilities of animals, as well as use the theories of morality to reject human exceptionalism as moral. This research also focuses on the differences among three known moral theories, Carruther's contractionalism, Mill's utilitarianism, and Kant's Kantism, and their application to nonhuman animals. The topic of morality remains subjective and the discussed theories offer differing views of how to define right and wrong. These moral theories are explained and then applied to nonhuman animals, as well as the literature that supports moral status in animals. This research discovered that although very different in their approaches to defining morality, the theories of morality take a similar approach to human exceptionalism, implying that humans have moral obligations to uphold to nonhuman animals and humans alike.

1:40 PM**A Bridge Between Earth and Sky**

Sophia Cabana, James Madison University

The goal of this research project is to gain a deeper understanding of different cultures and peoples so as to reveal our common humanity, and to show that our differences are not the result of underlying differences in our nature, but rather of differences in perspective. I propose that cultural differences may be the result of our common human nature being adapted to different environments and situations. Culture is influenced by place, so I will investigate the ways in which the natural world has influenced the development of human cultures and societies. By studying cultures as they express themselves through art, material culture, religious texts, and traditional practices, the past and the present can be better understood, and diverse peoples can be appreciated on their own terms and in their own cultural context.

2:00 PM**With Great Power**

Julian Santos, Northern Virginia Community College

My topic revolves around journalism in the modern world. I will explore the history of journalism, its impact on society, and how it has evolved to the point where this power of media can now rest in anybody's pocket due to online social networks and other applications on the internet and on the phone. While I am not seeking to discredit properly trained and educated journalists, I feel as though it is important to acknowledge the fact that anyone can take part in this modern age of journalism and either use or abuse it. With that, I want to highlight the importance of using this influence effectively and responsibly.

2:20 PM**Merry Commercialism**

Olivia Madigan, Northern Virginia Community College

My presentation will focus on the commercialism of holidays, specifically Christmas. I will explore the history of some of these holidays and the evolution of these holidays through the entry of commercialism. I will focus on Christmas and the amount of time and effort it takes to celebrate it. My overall message will encourage people to reduce the expectations and expenses of commercialized holidays and look at the day that we are celebrating as it is.

1:40 PM**Equestrian Vaulting - What It Is and Why We Should Be More Involved**

Kristin Haes, Northern Virginia Community College

Equestrian vaulting, described as gymnastics and dance on horses, has very little presence in the United States. The presentation will elaborate on what equestrian vaulting is and how it came to be throughout history from Roman riders to present day vaulters. While equestrian vaulting is in the US, it is not widely heard of and that is a misfortune. There are many physical and mental benefits to the sport, and despite what many individuals may believe, it is very safe. With that said, more individuals should rise up to the challenge and immerse themselves into this astounding sport to raise awareness and participation.

2:00 PM**Refining Neuroscience Research Methods with Consideration for Animal Welfare**

Barbara Walas, Marymount University

Traditionally, non-human primates have been used as subjects in biomedical research, yet an increasing public awareness and criticism questions the necessity of this approach. A growing body of research implicates poor living conditions and treatment as contributing to disturbing psychological damage seen in these primates. While acknowledging that non-human primate research fueled the discovery of the hepatitis C virus and others, can it ethically be justified to continue to inflict harm on these animals when alternate methods of discovery are increasingly available? This presentation will examine some of the many newer methods used in neuroscience today and proposes that these methods have the potential to completely eliminate the need to use animals in biomedical research. Among the research methods discussed will be improved imagining, in vitro methods, organ chips, and engineering organoids.

2:20 PM**Rewriting the Curriculum for Honors Teaching Assistants**

Nina Schenk, James Madison University

This presentation describes the results of a project to redevelop the class for teaching assistants (TAs) in the JMU Honors College. TAs serve as teachers and mentors for the HON 100 "Honors Orientation Seminar" for first year students. In order to train and develop TAs, they enroll in a TA teaching seminar during the semester in which they are teaching the course. This project entailed revamping the teaching seminar in order to better prepare students to teach their own class, constructively discuss their experiences, and develop professionally as Honors students.

1:40 PM**Food Security and Human Rights: An Overview**

Maia Pappadakis, Marymount University

The United Nations has declared food security a human right, yet people around the world still struggle to put food on their plates. International and domestic policies alike are failing the 10.7% of people around the world who are experiencing food insecurity (World Hunger, 2016), because they are approaching feeding the world as a goal as opposed to an obligation. Food insecurity can have major repercussions, and disproportionately affects certain demographics. Factors such as climate change and poverty perpetuate food insecurity, yet very little is being done to combat these factors. This is why the global food insecurity epidemic must be addressed as a human rights problem, and the solution must go deeper than combating face-value food insecurity. The systematic reasons for food security must be undermined, and feeding humanity must be an obligation, not a goal.

2:00 PM**Islamic Law and Modernization:****The Harem, Waqf, and Western Perceptions of Women in Islam**

Lauren Palmieri, James Madison University

For many, simply the phrase “women under Islamic law” provokes thoughts of veiling, oppression and subjugation. These “Western” perceptions of Islam and Islamic law have often determined the West’s engagement with the Middle East, frequently perpetuating the narrative of “saving” “oppressed” Muslim women. But what is lost in these reductions of Islam is the capaciousness of Islamic law that, in many cases, contributed to a relatively high degree of female autonomy in the early modern Ottoman and Safavid Empires. Nevertheless, ideologies of Western “salvation” of these “barbaric” countries contributed to twentieth-century British imperialism in the broader Middle East. Utilizing Turkey’s perceptions of its Ottoman past and Iran’s perceptions of its Safavid past, this research aims to explore how western perceptions of and involvement in the Middle East had consequential effects on the lives and rights of women in Islamic law.

2:20 PM**Evaluation of the Ethical Nature of Forced Psychiatric Treatment: The Need-Want Gap**

Nicholas Munsey, University of Lynchburg

The social acceptance of psychiatric conditions has seen serious progression since the days of the Virginia State Colony for Epileptics and Feeble-minded. This progression came with the implementation of new standards of care, consideration, and respect for patient autonomy. Though, with this progression, the medical field is now faced with a serious dilemma: how does one use ethical consideration to balance the gap between pushing treatment that is needed but also unwanted? Using common procedures for bioethical evaluation, I present here a final standing on the ethical nature of forced treatment, as well as propose a remedy to the ethical gap in providing treatment that is needed but not wanted.

2:50 PM**JMU Campus Inclusivity Video Project**

Meredith Browder, James Madison University

After noticing a general lack of knowledge at JMU regarding inclusivity of students with varying abilities, I decided to create an informational video. I surveyed students served by the Office of Disability Services in order to assess their concerns and needs. Knowing the significant role played by videos and social media in shaping public opinion, I used the data I collected from the survey and created a video to promote sensitivity, inclusion, and education on the topic among the JMU population.

3:10 PM**NASA and You: How One Event can Shape your Career**

Ryan Lingo, Reynolds Community College

The National Aeronautics and Space Administration (NASA) is a government-funded space organization that accomplishes much more than space exploration. Through their public and educational initiatives, NASA provides students with a multitude of different opportunities tailored to a variety of different areas of study (science, engineering, journalism, communications, etc.). This presentation is a summary of the opportunities NASA has provided to me (specifically the Aerospace Day Conference) and how those opportunities have, in turn, earned me two different NASA internships and other items that have greatly prepared me for the professional world that I will encounter upon graduation.

3:30 PM**Global Citizenship: Service Learning, Scholarship, and Cross-Cultural Experience**

Sophia DeLucca, Kelly Johnson, Kaiya Gordon, Molly Bruce, Sydney Ralph, and Saidah Lerman, James Madison University

The focus of this presentation is to highlight the Global Studies Area of Emphasis Program within the JMU Honors College. This program prepares students with a better understanding of global, social, political, economic, and cultural dynamics. This presentation will illustrate the importance of service learning, scholarship, and cross-cultural experience in developing global citizenship. Students in this Global Studies course will share their first hand experiences both in the classroom and abroad, and the impact it has had on their worldview and identity.

2:50 PM**The Harmony of Religion, Nature, and Mathematics in Antoni Gaudí's Sagrada Familia**

Alex Powers, Virginia Wesleyan University

Of all of the works of Spanish architect and devout Catholic Antoni Gaudí, perhaps the Basilica of Sagrada Familia is the most impressive, despite remaining unfinished. Its rich history and the complex design make it one of the most fascinating architectural works of the last few centuries. At the heart of the work is the culmination of three major themes in Gaudí's projects: nature, religion, and mathematics. Sagrada Familia takes the traditional Christian cruciform blueprint and ornaments the structure with various designs showing the harmony between these three themes. The religious symbology of numbers pervades the entire work, making use of spatial geometries and simple arithmetic. The complicated mathematical designs of smooth surfaces and sharp polygons are harnessed to recreate a natural ambience and religious allusions alike. In total, Gaudí masterfully designs an iconic work of art, serving to pay homage to God and His creations through mathematical applications.

3:10 PM**Bringing the Norm to the 'Burgs:
Gender and Design at two Virginia Normal Schools 1908-1928**

Inga Gudmundsson, James Madison University

The purpose of this presentation is to compare James Madison University and the University of Mary Washington from their start with the passing of a 1908 General Assembly bill creating state normal schools for women in Harrisonburg and Fredericksburg, Virginia. The focus is on the two schools from their creation, with an emphasis on how gender contributed to the architectural styles of both campuses and how Southern cultural ideals and Progressive Era ideals of the early 20th century shaped the experiences of the women during the first two decades of the two institutions' histories.

3:30 PM**Anne Brontë the Universalist:
Religion and Patriarchal Subversion in *The Tenant of Wildfell Hall* and *Agnes Grey***

Ardyn Tennyson, James Madison University

Anne Brontë (1820-1849) was an English novelist and religious poet, the youngest of the literary Brontë siblings. Charlotte, Emily, and Anne Brontë wrote some of the most esteemed novels of the Victorian canon. Children of an Anglican minister, the Brontës were accustomed to clerical life and the conventions of nineteenth-century religious observance. Anne's faith, however, was unique and radical, an unorthodox form of Christianity called Universalism, which held that all human beings would be saved, not just those chosen by God. This thesis examines her two novels, *Agnes Grey* and *The Tenant of Wildfell Hall*, in the context of her belief in Universalism. Brontë's faith motivated and justified her rebellion against Victorian abuse of power: instead of obeying unjust cultural conventions, which implies submission to authority, she uses her faith to subvert traditional patriarchal structures in favor of supporting not only women's rights, but the rights of all living beings.

2:50 PM**The Effect of Adult Sexual Education on Sexual Health**

Grace Swal, Reynolds Community College

Sexual education is strongly correlated with sexual health-the lack of an accurate sexual education results in effects such as increased rates of sexually transmitted infections and decreased mental health. Sex plays a large role in the human experience, and comprehension and understanding of society and culture, therefore we should not allow cultural perceptions to dictate what is taught in sexual education. Through targeted adult education on sex, sexuality, and sexual health the overall health and wellbeing of our culture could be vastly improved. Inclusion of factual information on concepts such as intimacy, sexual connection, hyper sexualization, gender identities, and sexuality could dispel many misconceptions related to sexual health. Working to dispel these misconceptions will work to take steps toward eliminating a shame culture surrounding sexuality, addressing rape culture, and work to push culture toward a more positive approach regarding sexuality.

3:10 PM**Silence = Death: ACT UP and AIDS Activism in the United States, 1981-1996**

Spencer Law, James Madison University

On the heels of the sexual revolution, an unknown virus swept through the gay community in major cities across the United States. By 1989, more than 40,000 people had died from the virus, now known as HIV/AIDS, and President Reagan left office without ever addressing the issue. Despite the urgency of the epidemic, drug research and development stalled in the FDA's laboratories. People with AIDS knew they were running out of time. Gay men on the verge of losing everything, "their jobs, lifestyles, and even their lives," joined with thousands of others to form activist organizations. The AIDS Coalition to Unleash Power (ACT UP) and the Treatment Action Group (TAG) notably led the charge to end AIDS through demonstrations, protests, and policy development. While there remains no cure for the virus, the persistence of AIDS activists brought an end to the plague of a generation.

3:30 PM**Increasing Mental Health Literacy in the African American Community:
Collaborations Between Mental Health Professionals and the Black Church**

Brianna Simmons, Marymount University

African Americans tend to underutilize mental health services due to historical and present institutionalized racism, misdiagnoses, and misunderstandings, and to the lack of representation in the mental health field (Dempsey, Butler, and Gaither, 2016). African Americans thus turn to the Black Church for help. Clergy members of the Black Church use biblical counseling, which consists of seeking God's wisdom (Dempsey et al., 2016). This differs from traditional psychological counseling where formalized diagnostic criteria are followed, and medication is

often prescribed. Despite these differences between the Black Church and professional mental health agencies, there are a number of commonalities, such as using empathy and warmth and establishing strong counselor-client relationships (Dempsey et al., 2016). Through a careful comparison of the differences and similarities in the mental health approaches between Black Church leaders and psychologists, the current research proposes a collaborative system to help increase mental health in the African American community.

2:50 PM**Long-Term Effects of International Aid on Food Security in Developing Countries**

Katie McShea, Marymount University

Over the last half-century, food security has remained a prevalent issue in developing countries as governments struggle to provide their citizens with easy access to nutritious foods. International aid is a main component for reestablishing food security and is intended to provide short-term relief to struggling nations. However, developing countries that rely on international aid in order to achieve food security generally develop a long-term dependency on global assistance. Developing countries reliant on aid experience negative effects on their political, social, economic, and environmental aspects as a result of the flawed international aid policies that do not address the increasing urbanization of developing countries. Therefore, the current system of international aid needs to be improved in order to provide a long-term solution to food insecure nations and provide countries with lasting political stability.

3:10 PM**Leader In-group Bias and Intervention in Humanitarian Conflicts**

Madeleine Barrett, Virginia Military Institute

From Saint Augustine's criteria on Just War to the United Nations today through doctrine on the responsibility to protect, Just War Theory (JWT) remains of constant interest to humanity. It seems that certain tenets of Just War stand as universally accepted in the twenty-first century in an intellectual, philosophical way. But is Just War Theory merely a show, with no added value beyond philosophical musings among scholars and empty words making up emptier policy? What is the empirical footprint of Just War Theory, and how might we operationalize such a concept? My research question aims to explore the relationship between leadership style and its linkage to Just War conduct and outcomes: do psychological predispositions of leaders make them more or less likely to embrace tenants of Just War Theory? If so, which ones? My hypothesis is that, assuming individuals act according to rational choice theory, state leaders whose rhetoric indicates an ingroup bias are less likely to believe in the universal elements of JWT and are therefore less likely to engage in humanitarian intervention.

3:30 PM**Post-Civil War Peace Durability:
The Role of Domestic Infrastructure and Military**

Alexandra Wilson, James Madison University

Since 1945, approximately half of the world's states have been engaged in civil war at one time or another. The aim of my research is to understand why some post-civil war states fail to establish peace durability while others thrive. Through quantitative research and a qualitative analysis of Iraq, I argue for the necessity of post-civil war policy to focus on the renewal of domestic infrastructure rather than solely military investment which suppresses grievance-driven violence. A logistical regression model of all civil wars since 1945 shows that some variables are evidently

associated with more durable peace and others with less durable peace. Applying this research through a policy recommendation, it is clear that, despite foreign involvement and the influence of terrorism, favoring rebuilding domestic infrastructure rather than just military investment would be instrumental in establishing durable peace in states such as Iraq and many others.

PRESENTER INDEX

| Presenter name | Institution | Session | Time | Location |
|-----------------------|-------------------------------------|----------------|-------------|-----------------|
| Aboite, Saleem | James Madison University | 4 | 10:50 AM | Taylor 305 |
| Abrahamzon, Jocelyn | James Madison University | 1 | 4:00 PM | Allegheny B |
| Allen, Mariah | Marymount University | 4 | 10:30 AM | Taylor 309 |
| Al-Salman, Mayd | Reynolds Community College | 3 | 9:00 AM | Taylor 405 |
| Barrett, Madeleine | Virginia Military Institute | 6 | 3:10 PM | Taylor 309 |
| Berry, Catherine | Northern Virginia Community College | 4 | 10:30 AM | Taylor 305 |
| Biam, Justin | Virginia State University | 1 | 4:00 PM | Allegheny A |
| Borkowski, Connor | James Madison University | 1 | 4:00 PM | Blue Ridge |
| Bronson, Taylor | Emory & Henry College | 4 | 10:30 AM | Taylor 302 |
| Browder, Meredith | James Madison University | 6 | 2:50 PM | Taylor 302 |
| Bruce, Molly | James Madison University | 6 | 3:30 PM | Taylor 302 |
| Cabana, Sophia | James Madison University | 5 | 1:40 PM | Taylor 304 |
| Caldwell, James | James Madison University | 1 | 4:10 PM | Blue Ridge |
| Chiu, Katherine | James Madison University | 1 | 4:20 PM | Allegheny C |
| Citizen, Sandreca | Norfolk State University | 2 | 5:50 PM | Allegheny B |
| Crawl, Tatiana | Virginia Wesleyan University | 2 | 5:30 PM | Allegheny C |
| Cull, Stephaniel | Reynolds Community College | 1 | 4:00 PM | Allegheny C |
| Cutlip, Lauren | James Madison University | 1 | 4:20 PM | Blue Ridge |
| D'Andrea, Anthony | Marymount University | 4 | 10:10 AM | Taylor 305 |
| DeLucca, Sophia | James Madison University | 6 | 3:30 PM | Taylor 302 |
| Doncaster, Samantha | Radford University | 3 | 9:00 AM | Taylor 405 |
| Doshi, Natasha | Virginia Tech | 1 | 4:30 PM | Blue Ridge |
| Dundon, Claire | Radford University | 3 | 9:00 AM | Taylor 405 |
| Easterling, Chyna | Marymount University | 5 | 2:20 PM | Taylor 302 |
| Finley, Kitana | Virginia Wesleyan University | 2 | 5:30 PM | Allegheny C |
| Fleak, Allison | Bluefield College | 1 | 4:20 PM | Allegheny A |
| Francisco, Sara | Roanoke College | 3 | 9:00 AM | Taylor 405 |
| Gamache, Jordan | James Madison University | 1 | 4:40 PM | Allegheny C |
| Gillett, Matthew | University of Lynchburg | 4 | 10:10 AM | Taylor 400 |
| Gonzalez, Megan | Liberty University | 4 | 10:10 AM | Taylor 302 |
| Goodson, Olivia | James Madison University | 5 | 2:00 PM | Taylor 302 |
| Gordon, Kaiya | James Madison University | 6 | 3:30 PM | Taylor 302 |
| Gudmundsson, Inga | James Madison University | 6 | 3:10 PM | Taylor 304 |
| Haas, MaryEllen | Marymount University | 1 | 4:40 PM | Allegheny A |
| Haes, Kristin | Northern Virginia Community College | 5 | 1:40 PM | Taylor 305 |
| Hawkins, Courtney | Bridgewater College | 2 | 5:10 PM | Blue Ridge |
| Howard, Anitra | Virginia Wesleyan University | 1 | 4:40 PM | Allegheny B |
| Johnson, Kelly | James Madison University | 6 | 3:30 PM | Taylor 302 |
| Johnson, Michael | James Madison University | 2 | 5:50 PM | Allegheny C |
| Jones, Taylor | Radford University | 4 | 10:10 AM | Taylor 309 |
| Kante, Ibrahim | Longwood University | 3 | 9:00 AM | Taylor 405 |
| Landon, Willis | James Madison University | 2 | 5:30 PM | Blue Ridge |

| Presenter name | Institution | Session | Time | Location |
|-----------------------|-------------------------------------|----------------|-------------|-----------------|
| Law, Spencer | James Madison University | 6 | 3:10 PM | Taylor 305 |
| Lee, Olivia | Northern Virginia Community College | 2 | 5:10 PM | Allegheny C |
| Lerman, Saidah | James Madison University | 6 | 3:30 PM | Taylor 302 |
| Lingo, Ryan | Reynolds Community College | 6 | 3:10 PM | Taylor 302 |
| Lopez, Nikki | Marymount University | 2 | 5:10 PM | Allegheny B |
| LoSapio, Delia | University of Lynchburg | 2 | 5:10 PM | Allegheny A |
| Macklin, Shyron | Virginia State University | 3 | 9:00 AM | Taylor 405 |
| Madigan, Olivia | Northern Virginia Community College | 5 | 2:20 PM | Taylor 304 |
| Maines, Suzanne | Ferrum College | 3 | 9:00 AM | Taylor 405 |
| Malani, Eric | Marymount University | 3 | 9:00 AM | Taylor 405 |
| Mattson, Alexzondra | Ferrum College | 3 | 9:00 AM | Taylor 405 |
| McAllister, Haley | James Madison University | 4 | 10:30 AM | Taylor 400 |
| McShea, Katie | Marymount University | 6 | 2:50 PM | Taylor 309 |
| Mercer, Caleb | Virginia Wesleyan University | 4 | 10:50 AM | Taylor 309 |
| Miaw, Davina | James Madison University | 4 | 10:10 AM | Taylor 304 |
| Moore, Keara | Roanoke College | 1 | 4:20 PM | Allegheny B |
| Munsey, Nicholas | University of Lynchburg | 5 | 2:20 PM | Taylor 309 |
| Ndiaye, Aicha | Northern Virginia Community College | 2 | 5:30 PM | Allegheny B |
| Neal, Erika | Virginia State University | 3 | 9:00 AM | Taylor 405 |
| Palmieri, Lauren | James Madison University | 5 | 2:00 PM | Taylor 309 |
| Pappadakis, Maia | Marymount University | 5 | 1:40 PM | Taylor 309 |
| Powers, Alex | Virginia Wesleyan University | 6 | 2:50 PM | Taylor 304 |
| Price, Malya | Norfolk State University | 4 | 10:50 AM | Taylor 304 |
| Ralph, Sydney | James Madison University | 6 | 3:30 PM | Taylor 302 |
| Ramandanes, Michaela | Marymount University | 4 | 10:50 AM | Taylor 302 |
| Rathjen, Stephanie | James Madison University | 3 | 9:00 AM | Taylor 405 |
| Rowe, Brittney | Roanoke College | 3 | 9:00 AM | Taylor 405 |
| Sanchez, Katherine | Marymount University | 3 | 9:00 AM | Taylor 405 |
| Santos, Julian | Northern Virginia Community College | 5 | 2:00 PM | Taylor 304 |
| Schenk, Nina | James Madison University | 5 | 2:20 PM | Taylor 305 |
| Schneider, Alexis | James Madison University | 1 | 4:40 PM | Blue Ridge |
| Schrank, McKenzie | Radford University | 2 | 5:30 PM | Allegheny A |
| Sciorillo, Amanda | Marymount University | 3 | 9:00 AM | Taylor 405 |
| Shepherd, Dakota | University of Lynchburg | 5 | 1:40 PM | Taylor 302 |
| Simmons, Brianna | Marymount University | 6 | 3:30 PM | Taylor 305 |
| Song, Irene | James Madison University | 1 | 4:50 PM | Blue Ridge |
| Street, Jessica | Bluefield College | 4 | 10:30 AM | Taylor 304 |
| Swal, Grace | Reynolds Community College | 6 | 2:50 PM | Taylor 305 |
| Tennyson, Ardyn | James Madison University | 6 | 3:30 PM | Taylor 304 |
| Topf, Katherine | James Madison University | 1 | 4:20 PM | Allegheny C |
| Toran, Robyn | Radford University | 3 | 9:00 AM | Taylor 405 |
| Tovar, Matthew | University of Mary Washington | 2 | 5:50 PM | Allegheny A |
| Truong, Nhat | Liberty University | 3 | 9:00 AM | Taylor 405 |
| Walas, Barbara | Marymount University | 5 | 2:00 PM | Taylor 305 |

ROLL CALL

Bluefield College
Bridgewater College
Emory & Henry College
Ferrum College
James Madison University
Liberty University
Longwood University
Marymount University
Norfolk State University
Northern Virginia Community College
Old Dominion University
Radford University
Reynolds Community College
Richard Bland College
Roanoke College
Shenandoah University
University of Lynchburg
University of Mary Washington
Virginia Military Institute
Virginia State University
Virginia Polytechnic Institute & State University
Virginia Wesleyan University

ACKNOWLEDGEMENTS

The conference planning committee thanks the following for the success of the 2019 Spring Conference:

James Madison University
Hotel Madison & Shenandoah Conference Center
Madison Union
Dr. Heather Coltman, JMU Provost and Senior Vice President for Academic Affairs
Dr. Bradley Newcomer, Dean of the JMU Honors College
Dr. Philip Frana, Associate Dean of the JMU Honors College
Dr. Brandon Marsh, Director of the Flory Honors Program at Bridgewater College
Dr. Mark Sawin, Director of Honors Program, Eastern Mennonite University
Dr. Abraham Goldberg, Executive Director of the JMU Center for Civic Engagement
Ms. Tammy Steele, Executive Assistant to the JMU Honors Dean
Mr. Jared Diener, JMU Honors Academic Advisor
Ms. Tricey Splan (JMU English '19)
Madison Honors Leadership Council
Gus Bus – The Reading Road Show
JMU Graduate School
JMU Printing Services
JMU Student Moderators, Stewards and Volunteers
JMU Faculty Judges
All Student Presenters and Participants

Student Moderators, Stewards, and Volunteers

| | | |
|--------------------|------------------|--------------------|
| Jocelyn Abrahamzon | Olivia Goodson | Jocelyn Peter |
| Amanda Arrain | Nolan Harrington | Cassidy Sadonis |
| Jessica Besnier | Tyler Hughes | Kiera Schwarz |
| Rebecca Boelsche | Beryl Ignacio | Brittany Sheffield |
| Katie Brauckmann | Lillie Jacob | Lauren Spar |
| Meredith Browder | Kelly Johnson | Tricey Splan |
| Molly Bruce | Rebekah Jones | Katie Stankard |
| Sophia Cabana | Nicole Loan | Hannah Steinhauer |
| Katherine Chiu | Davina Miaw | Alex Stenseth |
| Amanda Christian | Rodrigo Morales | Alayna Stormer |
| Tiffany Corbin | Mason Moy | Sidney Thompson |
| Jacob Elso | Huy Nguyen | Katherine Topf |
| Reagan Flewelling | | Caroline Willhite |

Faculty Judges

| | | |
|--------------|------------------|--------------|
| Kathy Clarke | Heidi Pennington | Eric Stark |
| Betsy Herron | Danielle Price | Julie Strunk |
| Katya Koubek | Tomas Regalado | Felix Wang |
| Hakseon Lee | Mark Sawin | Carah Whaley |
| | Lisa Schick | |