



2017 VCHC Spring Conference

# *Adventures in Honors*

April 7-8, 2017

Old Dominion University

Norfolk, VA







## **TABLE OF CONTENTS**

VCHC President's Letter .....	5
VCHC Officers .....	6
VCHC History .....	7
VCHC Constitution.....	9
VCHC Bylaws .....	12
2017 Conference Program Schedule.....	13
2017 Conference Guest Presenters .....	15
2017 Emerging and Honors Scholar of the Year Award Nominees .....	17
2017 Conference Presentations .....	21
Index of Presenters.....	61
Roll Call .....	64
Acknowledgements .....	65

## **CONFERENCE PROGRAM SCHEDULE AT A GLANCE**

### **Friday, April 7, 2017:**

1:00 – 2:00 p.m.	Registration
2:00 – 2:45 p.m.	Opening Session
3:00 – 5:00 p.m.	Zoo Exploration & Service Learning Project
5:15 – 7:00 p.m.	Presentation Session
7:00 – 8:00 p.m.	Dinner & Keynote Speaker
8:30 – 10:00 p.m.	Evening Social

### **Saturday, April 8, 2017:**

8:00 – 8:30 a.m.	Morning Social
8:30 – 11:10 p.m.	Presentation Sessions
11:20 – 1:00 p.m.	Faculty / Student Meetings & Lunch
1:10 – 4:00 p.m.	Presentation Sessions
4:10 – 4:50 p.m.	Faculty Meeting / Student Forum
5:00 – 5:45 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 2017 Annual Conference of the Virginias Collegiate Honors Council (VCHC). On behalf of the Executive Committee, I would like to extend my best wishes for a highly successful and enjoyable conference! The theme of this year's conference is *Adventures in Honors*, which captures the excitement that I believe we all feel as part of the broader honors community. Honors is about trying new things, experiencing the wonders of the world, challenging old ideas and presenting new ones. Over the course of the next two days, you will have the opportunity to do all of this with more than 100 students from more than 20 VCHC institutions.

Our conference this year will be held on the grounds of the Virginia Zoo on Friday and on the campus of Old Dominion University on Saturday. Given the theme of our conference celebrating *Adventures in Honors* the zoo represents an ideal venue to begin our conference. It also provides a perfect setting for this year's VCHC student-led service project. The project will allow all conference participants to work collaboratively on Friday afternoon to build and create toys and play items for the animals of the zoo. This service project will make an important and lasting contribution to the Virginia Zoo.

This year's program includes traditional oral presentations, a large poster session, and artistic performances. It also includes two new categories of participation: flash talks and artistic exhibits. During the conference we will also celebrate the VCHC Honors Scholar of the Year, and for the first time the VCHC Emerging Honors Scholar of the Year! This will be an extremely rich and exciting conference for everyone! I strongly encourage you to attend all of the sessions and presentations, to ask questions, and to engage your fellow participants and to learn about their *Adventures in Honors*.

The opportunity to attend and participate in a conference is an exciting and important opportunity. Conferences represent venues where you can refine your thinking and to advance your research. They also represent invaluable opportunities to exchange ideas with fellow professionals. Conferences also offer the possibility to make and advance lifetime professional connections. I encourage everyone attending this year's VCHC conference to take full advantage of your participation and our time together!

In closing, 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, Old Dominion University (ODU). Deserving of specific recognition is Dr. David Metzger, the Dean of the ODU Honors College, his staff and students for working throughout the year to design, organize and create our very unique *Adventures in Honors* themed conference. And, finally, I would like to thank the VCHC Secretary and Treasurer, Dr. Joyce Easter, for her dedication to VCHC and her encouragement and support to me during my presidency.

Once again, on behalf of the VCHC Executive Committee, welcome! We are excited to have you with us for this exciting conference!

Sincerely,  
Daniel M. Roberts  
VCHC President, 2016-2017

## VCHC Executive Committee 2016-2017

### **President**

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

### **Faculty Vice President**

Dr. John Sound  
Northern Virginia Community College - Alexandria  
E-Mail: jsound@nvcc.edu

### **Student Vice President**

Mr. Sinan Duran  
Old Dominion University  
E-Mail: sdura007@odu.edu

### **Secretary-Treasurer**

Dr. Joyce B. Easter  
Virginia Wesleyan College  
E-Mail: jeaster@vwc.edu

### **Faculty, 4-yr. Private**

Dr. David Gammack  
Marymount University  
E-Mail: dgammack@marymount.edu

### **Student, 4-yr. Private**

Mr. William Browning  
Lynchburg College  
E-Mail: browning\_w@students.lynchburg.edu

### **Faculty, 4-yr. Public**

Dr. Jackie Smith-Mason  
Virginia Commonwealth University  
E-Mail: jsmithmason@vcu.edu

### **Student, 4-yr. Public**

Mr. Srikar Gangavarapu  
Virginia Commonwealth University  
E-Mail: gangavarapus@vcu.edu

### **Faculty, 2-yr**

Dr. Stephen Clarke  
Northern Virginia Community College - Loudoun  
E-Mail: sclarke@nvcc.edu

### **Student, 2-yr.**

Mr. Trevor Maco  
Northern Virginia Community College-Loudoun  
E-Mail: tam25946@email.vccs.edu

### **Immediate Past President**

Dr. Mary Ann Schmitt  
Northern Virginia Community College - Manassas  
E-Mail: mschmitt@nvcc.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**

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/>

2015-2017 VCHC President: Dr. Daniel Roberts  
Virginia State University  
1 Hayden Drive  
Petersburg, VA 23806  
Office Phone: 804-524-8989 ext. 5997  
[droberts@vsu.edu](mailto:droberts@vsu.edu)



## **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, and April 11, 2008)

- Article 1: The annual dues for the institutional members are \$35.00.
- 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.

# 2017 CONFERENCE PROGRAM SCHEDULE

**Friday, April 7**

**Virginia Zoological Park, Norfolk**

**1:00 pm – 2:00 pm**

**CHECK-IN  
REGISTRATION**

**Zoo Entrance  
Event Pavilion**

Registrants will receive their badge and conference materials.

**2:00 pm – 2:45 pm**

**OPENING SESSION**

**Event Pavilion**

Conference opens with welcome from Dr. David Metzger, ODU Honors College Dean; Mr. Sinan Duran, VCHC Student Vice President; and Dr. Brian Payne, ODU Vice Provost for Academic Affairs. VCHC Emerging Honors Scholar of the Year award presentation and address.

**3:00 pm – 4:50 pm**

**ZOO EXPLORATION**

Participants are free to explore the zoo exhibits until the park closes at 5 pm. All conference participants should be at Event Pavilion no later than 5 pm.

**3:00 pm – 5:00 pm**

**SERVICE LEARNING PROJECT**

**Outside Event Pavilion**

Drop by at 3:00, 3:30, 4:00, or 4:30 pm to create enrichment items for the animals and learn more about the growing body of research on animal engagement.

**5:15 pm – 5:45 pm**

**AWARD ADDRESS**

**Event Pavilion**

VCHC Honors Scholar of the Year award presentation and address.

**6:00 pm – 7:00 pm**

**PRESENTATION SESSION 1**

**Event Pavilion**

Flash Talk presentations

**7:00 pm – 8:00 pm**

**KEYNOTE & DINNER**

**Event Pavilion**

The keynote address will be presented by memoirist and travel writer Michael Pearson. Buffet dinner of mixed green salad, grilled barbeque chicken, pulled pork, grilled burgers, veggie burgers, jumbo hot dogs, cole slaw, red skin potato salad, baked beans, pasta salad, cookies and ice cream is being catered by the Virginia Zoo.

**8:30 pm – 10:00 pm**

**EVENING ACTIVITY**

**ODU Student Success Center**

ODU Society of Women Engineers will host a game night and informal social and study time for students. Students will have access to the computer lab (printing available) and ODU Librarian, Karen Vaughan, will be available in the computer lab to help students submit their work to the conference proceedings.

## **Saturday, April 8      Learning Commons & Mills Godwin Building**

**8:00 am – 8:30 am**

**MORNING SOCIAL & CONTINENTAL BREAKFAST**

**LC 1312**

**8:30 am – 10:00 am**

**PRESENTATION SESSION 2**

Art Exhibition

**LC East Foyer**

Poster Session

**LC West Foyer**

Presenters should set up their poster/artwork before 8:30 am and remain at their poster or exhibit until 10:00 to ensure that judges have the opportunity to review their work.

**9:30 am – 11:10 am**

**PRESENTATION SESSION 3**

**LC Rooms 1306, 1310, 1311, 1313**

Concurrent artistic and oral presentations

**11:20 am – 11:50 pm**

**STUDENT MEETING** (Election preparation)

**MGB 102**

**FACULTY BUSINESS MEETING**

**MGB 101**

**12:00 pm – 1:00 pm**

**LUNCH**

**Broderick Dining Commons**

The dining commons provides diverse and distinct restaurant-style options, including American, Brazilian, Italian, Asian, and Mexican.

**1:10 pm – 2:30 pm**

**PRESENTATION SESSION 4**

**LC Rooms 1306, 1307, 1310, 1311, 1313**

Concurrent oral presentations

**2:40 am – 4:00 pm**

**PRESENTATION SESSION 5**

**LC Rooms 1306, 1307, 1310, 1311, 1313**

Concurrent oral presentations

**4:10 pm – 4:50 pm**

**STUDENT FORUM**

**MGB 102**

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

**FACULTY MEETING**

**MGB 101**

Faculty judges will meet to finalize student awards

**5:00 pm – 5:45 pm**

**CLOSING SESSION**

**MGB 102**

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

## 2017 VCHC CONFERENCE GUEST SPEAKERS



**Brian K. Payne** is the vice provost for academic affairs at Old Dominion University, where he is tenured in the Department of Sociology and Criminal Justice. He is a former editor of the *American Journal of Criminal Justice* and past president of the Southern Criminal Justice Association and the Academy of Criminal Justice Sciences. Payne is the author or co-author of more than 160 journal articles and seven books including *White-Collar Crime: The Essentials* (Sage), *Family Violence and Criminal Justice* (Elsevier, with Randy Gainey), and *Crime and Elder Abuse: An Integrated Perspective* (Charles C Thomas). He is currently co-authoring (with Will Oliver and Nancy Marion) *Introduction to Criminal Justice: A Balanced Approach* (Sage).

**Michael Pearson** has written seven books – a novel re-imagining the story of the real-life Huck Finn, *Shohola Falls* (2003), and six books of nonfiction – *Imagined Places: Journeys into Literary America* (1991), *A Place That's Known: Essays* (1994), *John McPhee* (1997), and *Dreaming of Columbus: A Boyhood in the Bronx* (1999). His most recent book, published in 2008, is *Innocents Abroad Too: Journeys Around the World on Semester at Sea*. In it, he recounts two circumnavigations of the globe on ships with college students. His new book, *Reading Life: On Books, Memory, and Travel* came out in March 2015 from Mercer University Press. For ten years, from 1997-2006, he directed the graduate program in Creative Writing at Old Dominion University in Norfolk, Virginia. Now he is a professor in that program, teaching courses in travel writing, narrative nonfiction, and American literature. He has published articles, stories, and essays in many magazines, journals, and newspapers – The



Southern Quarterly, The Southern Literary Journal, The Literary Review, The New York Times, The Atlanta Journal and Constitution, Shenandoah, Chautauqua, The Morning News, The Washington Post, among many others. For Pearson, travel and writing have always been intimately connected, allowing experience and the imagination to nurture one other. In a sense, all true writing is travel writing, a stepping beyond the boundaries of the known into a jeopardy-filled, thrilling new world. All genuine writing is such an adventure, an attempt to find the ever-elusive place in the world we call home.





## 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.

### 2017 Nominees

**Sherry Ampuero**, Northern Virginia Community College

Major: Psychology

“Underneath the free-spirited, easygoing persona is a student who is fiercely intelligent. She is inquisitive, thoughtful, expressive, and creative in all of her Honors courses, and the unique, unconstrained, yet deeply insightful thinking that she brings to the classroom is always a welcome surprise to her professors.”

**Jacklyn Cheely**, Virginia Wesleyan College

Majors: Sociology & Philosophy

“Jacklyn clearly is a scholar-athlete who is not only enthusiastic about her own learning, but shares that joy and zeal as an orientation leader and peer advisor mentoring freshmen. She has buoyant energy, and that goes throughout her work. She simply enjoys her coursework. She engages the reading fully and comes to class ready to share and be an active part of the classroom.”

**Anne Marie Kluempfen**, University of Mary Washington

Major: Undeclared

“Anne Marie is an excellent Honors Scholar, an exemplary student of the liberal arts, and very active in campus life. Anne Marie is interested in sociology, linguistics, psychology and/or anthropology. In addition to her diverse interests in the humanities, she also plans to study abroad to expand her cultural and worldly views [and is] dedicated to social activism and issues of justice and diversity.”

**Mary Metzger**, Virginia Commonwealth University

Major: Communication Arts

“Mary is such an exceptionally motivated, self-driven, mature, and intelligent student. Mary is a creative and strong mentor. Mary is INVOLVED and makes a positive impact wherever she goes. Mary’s love of learning and her strong leadership abilities make her an asset to our Honors College and to the larger Honors community in Virginia.”

**Katherine Meyers**, Emory & Henry College

Major: Civic Innovation

“Katherine [is a] brilliant, self-confident, inspiring leader. If Honors education does anything worthwhile, it gives young people who already have all the talents they need the confidence to know that they can, and will, accomplish great things. Katherine certainly illustrates that principle, and I am well-prepared to be awed by what she will do in her personal and professional life.”

**Nina Schenk**, James Madison University

Major: Anthropology

“Nina has so much promise for a wonderful future. With the right experiences, her options are truly unlimited. She exhibits high personal and professional standards, and is a positive role model to others. Regarding her abilities in and out of the classroom, Nina is a cut above. She has a roving intellect, and is willing to engage thoughtfully in solving all sorts of problems.”

**Robyn Toran**, Radford University

Major: Athletic Training

“Robyn has talent and drive like few other students who have ever gone through our program. Her grades speak for themselves and her involvement on campus has been unparalleled for a sophomore. She has held leadership positions and has been invited to participate at the highest levels of university decision-making.”

## 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.

### 2017 Nominees

**Elizabeth Brannon**, James Madison University

Major: International Affairs

“[Lizzie] is an extraordinary student and a determined human being. Lizzie has expanded her understanding of the world and global citizenship through university courses and other travel opportunities. She is the founder of MADtalks, a regular speaker series in the Honors College. [She is an] extraordinary young woman who will contribute so much to the future of our republic.”

**Gopika Hari**, Virginia Commonwealth University

Major: Biology

“As you can see from this somewhat breathless (but by no means wholly inclusive) list, during most of her waking moments, Gopika dedicates herself to both scholarship and service. Gopika engages everything with a high level of grace, good humor, compassion, and focus. She is one of our finest students.”

**Hannah Kass**, University of Mary Washington

Major: Biochemistry

“In addition to her strong academic performance in the Honors Program, Hannah serves as the Chair of the UMW Honors Scholar Advisory Board and has attended VA Collegiate Honors Council meetings twice. Hannah has been actively engaged in undergraduate research, co-curricular events, and service learning. Hannah is academically strong and demonstrates commitment to community service and leadership.”

**Kelly Kramer**, Liberty University

Major: English

“Kelly is well prepared to attend a graduate school of her choice after she completes her undergraduate education at the conclusion of our spring semester in May. She has presented papers at national conferences for the Sigma Tau Delta English Honors Society, and serves [as] an officer in Liberty's chapter of Sigma Tau Delta.”

**Robert Alexander McComb**, Virginia Wesleyan College

Major: Political Science

“Alex is dedicated to service both locally and globally. He has been involved on campus from his first semester and earned leadership positions from very early on in his undergraduate career. In his classes, he reaches out to students who are feeling isolated and purposefully includes them in discussions and simulations. Alex is open-minded and thoughtful, a good communicator, logical, thoughtful and analytical, committed to learning, dedicated to service, and appreciative of differences.”

**Sieu Tran**, Virginia Tech

Majors: Mathematics & Microbiology

“Sieu embodies the challenge we put forth to student[s] in Honors. His interdisciplinary research has real world applications and connects to the health of individuals and society. Sieu is resilient and he is poised to flourish in his future graduate studies [...] As a Fulbright finalist to Hungary for mathematics, to a variety of graduate programs in math or biomedical studies here in the United States.”

**Annaliess Trommatter**, Northern Virginia Community College

Major: General Studies

“Overall, I think what stands out most with Annaliess is how “balanced” she is, for she excels both academically and as a campus and community leader. Annaliess values all of those responsibilities and experiences as important during her tenure at NOVA and in the Honors Program. Her commitment to Honors and the time she spends giving back to NOVA and her community is remarkable, considering her perfect GPA and the fact that she is a full-time Mom to two children.”

**Courtney Ward**, Radford University

Major: Marketing

“In many ways, Courtney is not the typical honors student, but her honors experience has been just as meaningful for her (if not more so). One would not instantly peg her as an honors student, which is one reason why I am so happy that she has been a part of our program. It often seems that the social requirements of Greek life and the academic responsibilities of honors life do not mix. But Courtney has defied those stereotypes, thus making both honors and her sorority better with her presence.”

# 2017 VCHC CONFERENCE PRESENTATIONS

Presentation Session 1

6:00 – 7:00 PM

Event Pavilion

**6:00 PM**

## **Augmented Intelligence**

Navya Dev, James Madison University

As the barriers between technology and society dissolve, many fear a “tech takeover” and worry that the autonomy of the individual will be threatened. My presentation seeks to address the cultural and ethical implications of artificial intelligence. I introduce the idea that by embracing augmented rather than artificial intelligence, and through thoughtful policy-making, we can expand the potential of human capability and offset implications for autonomy with the elimination of socioeconomic divisions, enhancing social mobility and individuals' ability to navigate the technological revolution.

**6:10 PM**

## **Pink Time - Education for the Future?**

Kendra Hale, Virginia Tech

Pink Time is a revolutionary educational advancement that allows students to miss class several times a semester to pursue their own passions and interests. Students are then given the opportunity to grade themselves based on what they did with their time. Inspired by Daniel Pink, this action is often critiqued by academic professionals who believe that unmotivated students will abuse the opportunity. While some students underutilize the chance to do whatever they want, many students that have engaged in Pink Time emphasize the importance of taking the time to focus on their passions. Whether it is simple or complex, students are often left to tap their creative abilities. When faced with multiple academic and professional pressures, students often lose touch with their motivations and passions. When given express time to focus on student desires, instead of classroom desires, individuals are able to redefine their time in higher education.

**6:20 PM**

## **Increasing Public Awareness of Zoos through Education, Animal Care and Conservation Efforts**

Evelyn Lewis, Old Dominion University

Live demonstrations of animal care increase public awareness and opinion of the purpose of zoos and their impact on the survival of animals worldwide. Public opinion is directly related to the amount of donations zoos receive that are used to care for their animals and support conservation efforts of endangered animals. Generations X and Y have the lowest opinion and the lowest donations due to the assumptions that zoos do not properly care for animals and that they are only kept for entertainment purposes. Low donations have caused many zoos to close and/or limit their conservation efforts. This presentation introduces the techniques that zoos use to increase public support—techniques that can also be applied to many other non-profit organizations.

**6:30 PM**

**That's Not My Story**

Madeline Mojallali, James Madison University

This presentation will focus on the importance of storytelling in theatre and the complicated nature of telling stories that are not our own. When creating theatre, there is a fine line between honoring someone else's history and offending a culture that we do not fully understand. Where is that line? What stories are we allowed to tell and what is the most appropriate and effective way to honor stories about cultures that are vastly different from our own?

**6:40 PM**

**Designers for the Movement**

Catherine Pierce, James Madison University

In this presentation I will discuss how designers can impact society and help social change. I will explore how an individual design can make something that stands for a part of society and how they use their skills to impact social change. I will show the power through diving into design choices. By exploring symbolism through color, shape, and composition I will show how design can be used to solve problems and give voices to those who need it and can make a lasting and meaningful impact through its relationship to our society.

**6:50 PM**

**A Critical History of Social Justice Photography**

Madison Schultz, James Madison University

My project examines a critical history of photojournalism as it relates specifically to the field of social justice photography. I will present an influential photograph from each decade and briefly summarize the impact, intention, and purpose of these photos. I will then address some larger questions and implications of these photographs and their relationship to social justice. This topic is important because it foster a contextual understanding of the term "social justice photography." The main questions that I will attempt to address are as follows: How has the creation, influence, and reception of social justice photography evolved over time, and what implications does this have for modern endeavors in the field?

**A1. Fire to Form: a collection of small cast talismans**

Coelina Edwards, Old Dominion University

I am presenting a collection of small cast talismans. My personal objectives were to create a body of work utilizing my wax sculpting skills. I wanted to create sculptural pieces that resembled ancient relics. To achieve this, various alloys were used for each statue: aluminum, brass (reclaimed), ancient, pink and white bronzes and shibuichi. The model for each piece was carved and molded from red foundry wax and a custom blend of various waxes. For these pieces I used the lost wax process with the pour method. I also experimented with sand casting. The models were ready made, and a few were carved and molded in Styrofoam. The Styrofoam sand molds resulted in a defined texture with tiny recesses. I learned how to map out sprue systems to increase my chances of success. I gained knowledge of casting temperatures for multiple types of metal. I discovered a new process-- sand casting--and strengthened my modeling skills. My results have encouraged my continued research in casting metal jewelry and sculptures.

**A2. Photography**

Victoria Garnett, Old Dominion University

This body of work examines a journey of houses that were once filled with life. The spaces where memories were made, are now quiet and still; an eerie reminder of life and death. While uncovering items that represent the families, I became concerned about what will become of my home someday. When we have reached our demise, our memories will be in the hands of the unknown.

**A3. Sculpture**

Betty Gowans, Old Dominion University

These works focus on relationships, introspection, isolation, and transformation. Each material acts in a specific role to each concept; in all the works, I strive to include the viewer in some way. Though derived from personal meditations, my work aims to beckon the viewer to focus on the pensive, the subconscious, and the under-considered aspects of life. Common methods of my practice are joinery of wood, glass, metal, and mixed materials, as well as wood carving, lathe turning, and hot sculpting glass. The results from my exploration of materials include a new understanding and interest in juxtaposition of space, body, and other. The processes, to me, are just important as the end result; working with each material presents a different experience, and the act of sculpting in its various forms is personally meditative. Artists that influence my work and practices include Yoko Ono, Martin Puryear, Jin Hongo, Dan Graham, Eva Hesse, Kiki Smith, and Kim Harty.

**A4.**

**Cassiopeia**

Jade Pangilinan, Old Dominion University

This work is part of a series that gives a contemporary point of view on classic mythologies. Cassiopeia was punished by the gods for her vanity. For me she is a woman who sought to protect her single source of power, her beauty. We'll never know what was going through her mind when she made her offensive boast; all we can do is watch her in her isolation, in her celestial solitude. This piece is a study on skewed perspective. I chose a perspective below the eye level of the figure, one used historically for royalty and anyone of importance. I also then decided to skew the image even more by placing the figure behind glass, a device old masters would use to exhibit technical skills. Using traditional layering techniques with oil paint, I chose to work from light to dark with the figure and dark to light with the background in order to emphasize luminance.

**A5.**

**Squad Goals**

Shakia Robertson, Old Dominion University

This mural painting is a representation of my family. As a "middle child," I often felt that I got the short end of the stick. I learned to keep to myself, and I assumed the posture of the "modest one." As I became older, my path seemed different and distinct from my family's. Predictably, my siblings kidded on me about being weird because I have a number of piercings and bright tattoos. They clowned on me about being a "geek," the "over-achiever," since I generally made the honor roll. However, as the years went on, my family began to trust in me. Through their eyes and through art, I began to see that I have the chance to go wherever and do whatever I want in life. I now feel as if my family has confidence in me to make it for everyone. When I make it, they won't need to stress over anything. When I make it, we ALL make it. Art has truly been a path for me to present to my family another identity--my identity--something that I couldn't express through words.

**A6.**

**Augustavia**

Carra Roots, Old Dominion University

African-American women have not always been showcased as beautiful. We have been seen as disproportionate, too dark, and animal-like forms. These depictions have caused insecurity and shame in the minds of African American women. To address this, I am photographing women's skin and bodies, choosing women who are secure in their skin but not always proud of it. I wanted to approach this discussion by photographing women in an intimate space, at an intimate angle, capturing the parts of body that are not flaunted. Influenced by the delicacy of Robert Mapplethorpe's work and also the rawness of John Coplan's, I explored the surface beauty each woman has, including the contours that we forget to embrace. By doing this, using abstraction, and photographing very closely I hope to bring about an awareness and a confidence of the exquisiteness that we were born with.



**A7.**

**Printmaking**

Daniel Smith, Old Dominion University

In our society it is so easy to focus on the negative. By doing so, we build walls, create stereotypes and point out superficial attributes that make us different from one another. When this happens we create and feed an atmosphere that fosters the development of fear. This fear blinds us from the beauty in our world. This fear prevents us from seeing the true potential in ourselves and those around us. Move past this fear. Let our lives be the sum of the choices we make or do not make every day. The art of letterpress is just like life. In letterpress and in life, we are given the materials to create. The type, the ink, the paper, the furniture, and the font. It is all there. From little pieces, we can create beauty that was not there before. By choosing to be intentional, we can make art that transcends its materials, media and life.

**A8.**

**Graphic Design: Book Making**

Mandi Vollmer, Old Dominion University

This collection of books encompasses an ongoing personal graphic design project. Each book typographically explores a different song by a different band, each a favorite. The intent is for each book to accompany its song, much like a lyric video would, stylistically drawing from the mood of the music. As one hears the song and interacts with the book, it becomes an experience for multiple senses. Music has been and continues to be a source of inspiration in many of my design and art projects. The idea was partially inspired by previous assignments encountered in the Graphic Design program at ODU, and partially by the songs themselves. Each book becomes a typographic and stylistic exercise as I experiment with new techniques. Some of these include making marks with pine needles in ink and spray paint, and photographing metallic pigments suspended in water. Each book was digitally composed using Adobe InDesign and Photoshop. The spreads were printed at home with an Epson Stylus R2000 on Inkpress Duo Matte 80 paper, and perfect bound. They were then assembled by hand with covers wrapped in inkjet canvas.

**A9.**

**Breaking the Silence**

Sarah McDaniel, Old Dominion University

The main goal for Breaking the Silence was to create a site-specific installation/performance addressing sexual assault. I wanted to express the violation of a victim's innocence in his or her own voice. My research for this project included therapy, psychology, as well as my own personal experiences. I was inspired by the work of Marina Abramović, especially her Rhythm series. In my research I focused on how she trained herself for each of her performances. My training included sitting still for a set amount of time each day. With the help of ODU's Women's Center, Breaking the Silence received input from a professional therapist, statistical information, publicity, and permission to perform the piece. While the performance received significant publicity, including local news coverage, for me, the success of this project was hearing about viewers who were able to get professional treatment afterwards.

**P1. Mass balance of *Scenedesmus sp.* Flash Hydrolysis Extraction Process**

Kimberly Bethea, Old Dominion University

Algae have been identified as a potential feedstock for biofuels production. Flash hydrolysis (FH) is a process that extracts proteins from algae while protecting algae's lipids (oils). FH of *Scenedesmus sp.* yields results that can inform the mass balance of Carbon, Nitrogen, and Phosphorus (C:N:P). The mass balance is used to characterize the extraction of C:N:P to the lipid (solids) and aqueous phases from biomass. A slurry mixture of *Scenedesmus sp.* is pumped through a continuous flow, subcritical water (280°C) reactor to extract nitrogen (proteins) and other nutrients (P) while protecting the lipids for biofuels production. Analyses used to construct the mass balance were: Total Nitrogen and Total Organic Carbon (TN/TOC) of collected supernatant, Elemental Analysis (EA) of freeze dried lipid solids and supernatant, and phosphorous analysis using APHAP Method 4500-P B.4, F. C:N:P mass balance was then constructed to determine extraction percentages.

**P2. A New Culture: Differing Views on Black Culture**

Brittany Byrd, Tytiana Christmas, and Briana Byrd, Virginia State University

This presentation will explore differing views on black culture before and after students attend a Historically Black College or University (HBCU). This study will explore the social effects that growing up in a predominantly black neighborhood have on cultural perceptions compared to growing up in a predominantly white neighborhood. It will emphasize how college students view themselves and their black background based on where they grew up and how it has either amplified by attending an HBCU or if it was dampened by being surrounded by peers of similar skin color.

**P3. Experiencing Collaboration**

Maria Downey, Radford University

The Creative Sprint is a cross-college collaborate project with daily prompts, for 30 days, which aim to stimulate the mind. The goal is to think of new, creative ways to complete the challenges. This presentation connects the outcomes of the Creative Sprint with themes of team-building, consultation, and problem-solving in an educational context. Conclusions derived from these connections highlight the beneficial skills that the Creative Sprint can provide for current and future educators to make the classroom more engaging.

#### **P4. Promoting *Scenedesmus sp.* Survival Against Zooplankton with Unionized Ammonia**

Laurence Egall, Old Dominion University

An experiment was conducted to limit *Scenedesmus sp.* grazers, as predation reduces biofuel yields. For the first treatment, 2.5 L cultures of *Scenedesmus sp.* with zooplankton present were inoculated in photobioreactors with 640 mg/L urea. A second treatment employed a 500 mg/L spike of  $\text{NH}_4\text{Cl}$  on day zero. The third treatment used 750 mg/L  $\text{NH}_4\text{Cl}$  without urea. Cell counts were performed with a hemocytometer and Gridded Sedgewick Rafter (1 mm<sup>2</sup>) and ammonia was measured using ion chromatography. Urea was observed to impact zooplankton by day eight, with a 24-48 hour lag time after accumulating free ammonia which was confirmed by the  $\text{NH}_4\text{Cl}$  spike. Cultures with 750 mg/L  $\text{NH}_4\text{Cl}$  (added in 250 mg/L increments on days zero, one and two) were ultimately adjusted to pH 8.6 in week two. This theoretically increased the free ammonia concentration sufficiently to potentially impact zooplankton by day eleven.

#### **P5. Is the Supraglottic Airway Laryngopharyngeal Tube (SALT) an Effective Tool in Pre-hospital Airway Management?**

Michaela Frost, Old Dominion University

Endotracheal intubation (ETI) is hailed as the “gold standard” for paramedics to achieve a patent airway. However, ETI using direct laryngoscopy (DL) may be complicated by trauma, blood, or emesis. Thus, supraglottic airways (SGA's) were developed for “blind intubation”. One such emerging airway is the supraglottic airway laryngopharyngeal tube (SALT). The SALT acts as an oropharyngeal airway with a curved shape that is designed to fit the anatomical airway. BLS-level providers may ventilate the patient through the SALT. Additionally, an ALS provider may blindly insert an endotracheal tube (ETT) through the SALT. Studies involving manikins and simulations have shown favorable results in terms of the SALT's efficacy and efficiency, but few have been undertaken involving human subjects. Thus, a thorough literature review was conducted to find all clinical studies involving the SALT. Results collected from the review will be used in comparison to data retrieved from Portsmouth Fire and Rescue.

#### **P6. Depression Intervention Programs in Low-Income High Schools**

Gopika Hari, Virginia Commonwealth University

Studies reveal that low income is a significant risk factor for depression and only roughly 25% of children with mental illnesses receive adequate help, the majority of which comes from schools. This study establishes guidelines for depression intervention programs in low-income high schools through a literature review of current practices. This study found that a multi-layered approach with screening, universal education, and high-risk intervention is most effective. Screening should be conducted with a modified PHQ-a test and timely clinical interviews by school psychologists. All students and teachers should receive universal depression education curriculum consisting of principles like depression literacy and asset theory. It is vital that students screened positively for depression or suicidality receive high-risk intervention, ranging from group therapy to referrals based on individual severity. By taking a multidimensional approach addressing all three aspects, school administrations can ensure that adequate resources are being directed to those most in need.

**P7. Improving the Efficiency of Drones**

Vrund Gosai, Old Dominion University

The research pertains to improving the efficiency of Unmanned Aerial Vehicles (UAV), or commonly referred to as Drones. In addition, the research aims to show the feasibility of smart materials in UAVs. The research is conducted to improve the efficiency, stability and control of a quadcopter using piezoelectric materials. A senior design team from the Mechanical and Aerospace Engineering Department is working on the design and implementation of smart materials to the propellers.

**P8. Computational Detection of Protein Structure Components from 3-dimensional Images Obtained from Cryo-Electron Microscopy**

Devin Haslam, Old Dominion University

Cryo-electron microscopy is an emerging biophysical technique for structural determination of large protein complexes. While more atomic structures are being determined using this technique, it is still challenging to derive atomic structures from density maps produced at medium resolution when no suitable templates are available. A critical step in structure determination is how a protein chain threads through the 3- dimensional density map. When the central axis of a helix is detectable in a cryo-EM density map, it is possible to quantify the agreement between this central axis and a central axis calculated from the atomic model or structure. We propose a novel arc-length association method to compare the two axes reliably. The results show that our proposed method sensitively distinguishes lateral and longitudinal discrepancies between the two axes, which makes the method particularly suitable for the systematic investigation of cryoEM map-model pairs.

**P9. Algal endosymbiont Diversity in the Common Reef-building Coral *Goniastrea retiformis* Ten Years after Experimental Bleaching**

Caroline Haymaker, Old Dominion University

Ofu Island in American Samoa hosts a diverse assemblage of corals in contrasting thermal regimes. In March 2006, twenty colonies of *Goniastrea retiformis* from a shallow, thermally variable back reef, and twenty from a deeper, more stable forereef were experimentally bleached and reciprocally transplanted to determine how the diversity of coral algal endosymbionts (Symbiodinium) recovered with time post-bleaching. These populations of *G. retiformis* host contrasting clades of Symbiodinium, with the forereef and back reef populations largely comprised of clade D and clade C phylotypes respectively. Over a decade later, in July of 2016, 95% of transplants were still surviving at the back reef site and 65% survival at the forereef site. Colonies were re-sampled, DNA was extracted, and PCR used to investigate the clade of Symbiodinium within each coral sample at the internal transcribed spacer (ITS2) region of nuclear ribosomal DNA. Sequence data and analysis will be presented.

**P10. Investigating the Role of Orexin in Cannabinoid Reward and Feeding Behaviors in Female Rats**

Emily Hilton, Radford University

Emerging evidence has established a role for orexin, a hunger neuropeptide, in modulating the reinforcing effects of drugs of abuse, especially cannabinoids. However, cannabinoid exposure in rodents leads to a loss in body weight due to decreased food intake. Thus, it is important to more clearly elucidate the role of orexin signaling in the behavioral effects of cannabinoids. To that end, adolescent female rats were divided into 3 treatment groups: synthetic cannabinoid agonist (CP-55,940) exposure (0.35 mg/kg; i.p.), food-yoked control, or saline control. Following a battery of behavioral tasks, rats were transcardially perfused and brains were collected for sectioning through the limbic cortices. Tissue sections will be stained for orexin immunoreactivity in the nucleus accumbens. It is expected that orexin levels will be higher in the CP 55,940-exposed group compared to the food-yoked and saline control group. These results could inform better treatment options for marijuana-related use and abuse.

**P11. New Life Substance Abuse and Behavioral Consultants**

Cheyenne James, Old Dominion University

My research question is: “How effective is New Life's Group Outpatient Substance Abuse Program by providing clients the tools they can utilize after they successfully complete the program to maintain their sobriety?” I used qualitative data collection methods through interviews with two counselors and a case manager, as well as observations of groups with graduating clients. Although, in my observations, it appeared that clients thought that they would be able to maintain sobriety, after speaking with the staff, it appeared that there was a possibility that the clients could relapse and reenter treatment.

**P12. The Effect of Kisspeptin 1 on Gonadotropin Releasing Hormone Neurons in Embryonic Medaka (*Oryzias latipes*)**

Hannah Kass, University of Mary Washington

In adult vertebrates, the neuropeptide kisspeptin1 stimulates the release of gonadotropin releasing hormone (GnRH) thereby regulating sexual maturation and reproduction. In the model teleost medaka, Kiss1 is expressed throughout embryonic development, where its function is unknown. We hypothesized that Kiss1 plays a role in the development of GnRH neural network in embryonic medaka. We exposed either GnRH-1promoter:GFP transgenic or wild-type medaka embryos to Kiss1 or a Kiss receptor blocker and examined the effects on GnRH. We quantified GFP-labeled neurons in the 4 dpf transgenic embryos. Neuron number varied from  $19 \pm 6.8$  (mean  $\pm$  SD) in controls, to  $22 \pm 6.9$  in Kiss1 embryos and  $16 \pm 4.6$  in blocker embryos (n=6). These differences were not significant, however, (ANOVA;  $p = 0.3$ ) indicating that Kiss1 signaling doesn't regulate GnRH-1 neuron proliferation or differentiation during embryogenesis. To examine the effects of Kiss1 on *gnrh-1* and *gnrh-3* expression, we collected treated wild-type embryos throughout embryogenesis and are quantifying expression with qPCR.

**P13.**

**FutureHAUS**

Trey King and Elyse Smith, Virginia Tech

Our research is a proof-of-concept for a building system of the future. We have developed a system of folding cartridges that integrate the technology, electrical and plumbing embedded in a typical house into a pre-fabricated, shippable component. Such a scheme condenses the volume of a room into a modular block, dramatically reducing on-site construction time and creating a space that is both efficient and customizable. A bedroom, study and interstitial moving closet were developed utilizing the proposed cartridge system, showcasing opportunities for flex living space and integrated technology. An actuated murphy bed/office desk, responsive, mood-sensitive lighting, and a smart mirror were linked to a consolidated wardrobe - forming part of a resident-sensitive Internet of Things. The student team was involved in every facet of this study, from research and prototyping to the ultimate construction and presentation of our work at KBIS, an industry show in Orlando.

**P14.**

**Testing Effectiveness of Aqueous Phases from Struvite and Hydroxyapatite Mineral Precipitation as Algal Nutrient Sources**

Aaron Lyons, Old Dominion University

As interest in algal biofuel grows, the need to explore diverse nutrient sources for growing algae becomes apparent. Struvite and Hydroxyapatite (HAP) were precipitated after flash hydrolysis. The leftover aqueous phase (AP) could serve as nutrients source for algae cultivation and the potential reuse of this waste stream is promising. To test this, 12 bottles of *Scenedemus sp.*, four of Struvite, four of HAP, and four control AM-14 synthetic media were cultivated. 10% of the Phosphorus in the synthetic media was replaced with phosphorous from the struvite AP, and 10% of the nitrogen in the synthetic media was replaced with HAP AP. The bottles with struvite AP replacement experienced higher algae growth compared to the control and HAP AP which experienced very slow growth. Based on the results, struvite AP appears to be a viable nutrient replacement for algae cultivation while HAP AP toxicity should be further investigated.

**P15. Latanoprost and Timolol in Hydrogel Soft Drug-Dispensing Contact Lenses:  
A Comparative Analysis**

Neha Potdar, Virginia Commonwealth University

Glaucoma patients only can instill glaucoma eye drops. This results in 1-7% absorption of the medication. Surveys show that patients forget to take their medication and have difficulty inserting their eye drops. Researchers at the Massachusetts Eye and Ear Infirmary have developed latanoprost drug-dispensing hydrogel soft contact lenses that dispense the drug to help facilitate the process. However, some glaucoma patients do not respond to latanoprost because they have uveitic glaucoma or do not want to experience latanoprost's ocular side effects. Patients need an alternative which can be inserted into these contact lenses. Another commonly used glaucoma drug is timolol which can be an option. Timolol has fewer ocular side effects, is less expensive to buy, and has extended drug release rates like latanoprost. This alternative would let patients who do not respond well to latanoprost a choice to try timolol-dispensing contact lenses once they become available to consumers.

**P16. Tick Diversity and Abundance in the Foothills of Upper Carmel Valley, California**

Christopher Russo and Andrew Evans, Old Dominion University

Hastings Natural History Reservation (HNHR), located in the northern portion of the Santa Lucia mountain range in Central California, serves as a diverse biological fieldwork site. Through ongoing conservation efforts, Hastings offers an excellent sample of species representation for the region. This research presents an ecological survey of tick species from 2012 to 2016, as well as an exploration of the relationships between weather, phenology, and numbers collected. *Dermacentor occidentalis* was found to be the most prevalent species at Hastings, with *Ixodes pacificus* the second most prevalent. Tick sampling was done by flagging and human collection. These data will allow HNHR and the neighboring communities to begin to better understand the ecology of tick populations, which in turn will provide insights into the potential risk for tick-borne diseases in the region.

**P17. Food for Thought**

Aiyannah Terry, Hampton University

Growing up, older generations would tell the younger generations, “You are what you eat”. In saying this the adults were describing actual tangible food. What if they were actually talking about something intangible such as music? Music is an art that is known to feed people’s minds and even the soul. The sound of music literally feeds the mind that controls every single action a person’s body can do. The purpose of this research is to analyze how music feeds the brain which transpires in so many forms causing simultaneous reactions within the human body.

**P18. Electrochemical Synthesis and Optimization of Magnetic Nanoparticles to Induce Cell-Specific Apoptosis in Metastatic Glioblastoma**

Matthew Tovar, University of Mary Washington

Superparamagnetic Iron Oxide Nanoparticles (SPIONS) have been at the forefront of novel theranostic oncology research for the last two decades. Though intracellular SPION-induced magnetic hyperthermia is more cell-specific and has a greater biocompatibility than chemotherapy, one of the most significant problems with this method is the impossibility to control SPION distribution throughout the cell. As the initial portion of a 2-step solution, this paper proposes a simple redox reaction that regulates SPION size by controlling the  $[H_2O]$  in solution. The reaction allows a maximal particle size (MPS) to be formed while maintaining a single domain magnetic state. This MPS will release a significant amount of energy when exposed to an external alternating magnetic field; enough to denature targeted intracellular structures. Transmission electron microscopy studies determined that a 100%  $H_2O$  solution produced SPION’s with an average diameter of  $58.0 \pm 6.74$  nm. As the  $[H_2O]$  decreased, so did the diameters of the SPION’s, down to  $4.40 \pm 1.40$  nm in the 3%  $H_2O$  solution. A novel form of Rayleigh’s equation was also derived that predicted, with great accuracy ( $\%ee=6.60\%$ ) but limited application, SPION diameter through utilization of light scattering data.

**P19. Phenotypic Characterization of Allelic Variation within the HEAT Repeats of the Mechanistic Target of Rapamycin (mTOR)**

Amanda Sciorillo, Marymount University

The mammalian target of rapamycin (mTOR) is a kinase responsible for cell growth and metabolism and has been linked to tumor growth. An allelic variant (R628C) found in the HEAT repeats of mTOR, found in Balb/c mice, contributes to tumor susceptibility. HEAT repeats are known to be sites of protein-protein interactions, dimerization, and allow for proper localization. The goal of this study is to further elucidate the functional significance of HEAT repeats in TOR biology and show how allelic variation in the HEAT repeats may contribute to tumor susceptibility. Our results have shown differential binding of mTORC1/2 partners to mTOR in cells expressing the allelic variant. Studies are ongoing to assess binding to other mTORC1/2 complex partners, dimerization, and localization of the allelic variant. Our findings will model activation of mTOR signaling.

**P20. Patterns of Activation and Repression for a Single Transcription Factor with Multiple Binding Sites**

Sieu Tran, Virginia Tech

The molecular complexity of eukaryotic gene regulation has made it difficult to study gene products, which are processed from DNA sequences. We built mathematical models of gene expression based on the established linear framework. In this project, we study how complicated the gene expression profile can be when a single type of transcription factor binds to multiple sites. The lambda phage repressor is a classical example of an actual gene that has both “activation” and “repression.” We investigate the parameters of the gene regulation functions (GRFs), such as higher-order affinity binding and cooperativity of TFs and polymerase. We gained insights to the GRFs’ behavior through (1) random exploration, (2) clustering parameters based on the characteristics of the GRFs, and (3) modular exploration.

**P21. Real-time Simultaneous Recurrent Neural Network Implementation for Robot-mediated intervention in Autism Spectrum Disorders**

Megan Witherow, Old Dominion University

Children with Autism Spectrum Disorder (ASD) face challenges in social communication and interaction that may be helped through computer-based intervention. Earlier studies report oddity as lack of natural traits in facial expressions of affected individuals. This project develops a novel hardware-software platform intended for use in future intervention paradigms targeting facial oddity biomarkers. Real-time recognition of the basic facial expressions—happy, sad, anger, fear, surprise, and disgust—plus neutral is achieved using a deep artificial neural network modeled using the Tensorflow machine intelligence library. The network is trained and tested on the Extended Cohn-Kanade (CK+) facial expression dataset, then deployed in a real-time software application that processes and labels facial expressions frame-by-frame from live video feed. The application is written and interfaced with the NAO robot using the Python programming language. The resulting hardware-software platform is planned for future studies of the efficacy of robot-mediated intervention in children with ASD.



**9:30 AM****Finding Freedom: Poetry as a Tool for Liberation**

Alexis Mayfield, Hampton University

As an extension of my research focused on healing, expression, and identity formation within African-American Literature I have founded the organization Freedom School. My research utilizes trauma theory and narrative theory as a critical framework applied to *Their Eyes Were Watching God* by Zora Neale Hurston and *The Color Purple* by Alice Walker. Trauma theory emphasizes the importance of sharing one's story to overcome the neurosis caused by trauma. Freedom School is an organization that serves Black middle school students by increasing literacy while empowering students to use creative writing as a tool for healing. I have used my work with Freedom School to study the theoretical framework that I have applied to literature in practical ways with students from historically underserved communities. As I have worked with the students I have written and performed poetry to implement the healing elements of storytelling and explore the community building potential of intentional vulnerability.

**9:50 AM****Family Matters**

Marcus Jamison, Old Dominion University

Much of my poetry in the last few years has been a reflection on family members. My father's death in 2009 and my mother's ongoing bouts with illness have made me focus on the ways that families deal with sickness, death, and grief. I've also become interested in the dynamics among family members, such as those with my siblings and close friends. Two poems, "Night" and "Hunger", both of which are either published or forthcoming, focus on these subjects directly. I'd also like to read from recent works that offer new approaches to the issue of coping with illness. I think using craft in interesting and engaging ways can present a unique offering to universal topics.

**10:10 AM****Text to Film to Graphic Novel:****The Multifaceted Approach to the Young Adult Novel**

Hanna Dorn, Marymount University

Massively successful young adult novels are developing a multifaceted approach to marketing and distributing their work across digital platforms and audiences. This is a continuing trend that is exemplified by a multitude of works. Presented in the following is a demonstration of how the novel is transformed into other forms of media as a marketing technique both to publishers and audiences.

**10:30 AM**

**A Tree Uprooted**

Indya Hairston, Hampton University

A Tree Uprooted is about Hip-Hop music. It will cover from the start of hip hop in the Bronx. It will move into the disco era and why hip hop music was being used. The mainstream evolution of hip hop and the political outspoken artist who unified the people in the nations. The movement of Hip hop and gangsta rap 3,000 miles away from its origins. The consciousness of rhymes to the soul to enforce the tree to grow. But, the uprooting which has become a part of the 21st century with more rappers saying nothing but underground artist saying messages. How the message of hip hop is being uprooted and we are left with leaves on a dying tree.

**10:50 AM**

**Filmmaking at ODU**

Jacob Brinn, Old Dominion University

Student filmmaker and president of the ODU Film Club, Jake Brinn, presents three short films. Glass Animals is a hip doc about custom surfboard making in Virginia Beach; Carmelita Trailer is a teaser for the upcoming short drama produced by the Spring 2016 Advanced Filmmaking class; and Flushed is a short comedy about a blind date gone horribly wrong. ODU's exciting new Film Program is one of the only film schools in the country making feature films for worldwide distribution. Enjoy these shorts and if you have any questions about filmmaking, ODU Film, just ask Jake!

**9:30 AM****The Applications of Drones**

Sumayyah Ishaq, Northern Virginia Community College

Drones are a technology with a large and growing number of applications. You may already be familiar with the recreational and military uses of drones, however, looking deeper you will discover that drones are being applied in many unexpected fields. These fields range from agriculture, film production, wildlife conservation, firefighting, cargo transportation, and law enforcement to search and rescue. This presentation will explore the new and unexpected applications of drones.

**9:50 AM****Amazon Go: The Next Big Job Killer**

Paul Marron, Northern Virginia Community College

Since the invention of the self-checkout lane in 1992, retailers everywhere have been trying to find ways to speed up the checkout line. Now Amazon, an online retail giant that brings in almost half of the nation's annual e-commerce revenue in retail, is opening brick-n-mortar grocery stores that will cut out the checkout line entirely. Amazon Go stores are allowing users to enter with an app, take what they need, then leave with no checkout. The stores are said to house at most ten employees, gaining it the title of a job killer. If done well, however, Amazon stores could boost the economy by advancing technology and human capital, promoting competition, and even lowering unemployment.

**10:10 AM****Insufficient Funds:****A View of the U.S. Education System from an Economic Standpoint**

Adriana Hazou, Virginia State University

Developing children statistically learn more from their schools and social surroundings than their own families. If this is the case, then why not spend more on the public education system where 90% of kids attend? My presentation will focus on the economic aspects of the public education system as well as the implications that not having enough funding can cause these students and their surrounding communities. The purpose of this research is to shed light on the lack of resources in many communities and the consequences that stem from this. Similarly how children in these communities, being made up of primarily minorities, continue on to the school-to-prison pipeline. As well as some of the changes that must take effect in order to fix the system for generations to come.

**10:30 AM**

**The Importance of Social Media**

Tahmina Gafurova, Northern Virginia Community College

The Internet has brought about innovations about how we communicate and is shaping the very culture of not only our country, but the entire world. It has become so easy to acquire information for anything you may want to do or information that we seek to keep private. Internet and social media are the fastest developing innovations of the 21st century. It is an innovation that has only been available for the last twenty years. Its advancements are still rising, but with advancements come different issues. Being a YouTuber and a social media influencer, the Internet would be an important asset in my life. I would rely on it for the aspects of different clothing companies and communication, including platforms such as Instagram, YouTube, and Facebook. As the Internet evolves, its success will be reliant on our awareness of how to properly market ourselves, as well as of how our personal information can be used. This presentation will discuss how social media can affect our lives and raise awareness of the risks that are associated with it as well as how to take precautions against these risks.

**10:50 AM**

**Banking for the poor: The Grameen Bank model**

Furqan Bin Amjad, Northern Virginia Community College

This presentation is based on a case study I did that talks about the Nobel Peace Prize winning Grameen Bank and the incentive micro finance model by Dr. Muhammad Yunus. Grameen Bank's micro finance model has proven to be an incredibly effective tool in combatting poverty and empowering the underprivileged. The case study talks about the Bank's organizational structure, products, hierarchy, economics model, and social and cultural ties that make micro credit successful. It continues to assess the bank's performance and contributions in eradicating poverty and its social impact on the Bangladeshi population. It ends with a SWOT analysis and a short comparison of the system implemented in Bangladesh vs its implementation in other countries.

**9:30 AM            Predicting Potential Legionnaires' Outbreaks Using GIS**

Stephen Grassia, Old Dominion University

Legionnaires' disease is a severe form of pneumonia that is caused by the bacteria *Legionella*. It is not contagious by touch but is from breathing in the bacteria. The disease grows in moist climates and in the city, air conditioning serves as the petri dish. The elderly is at the most risk for contracting the disease with frequent usages of air conditioning and cooling towers. This study uses geographic information systems (GIS) to assess the hotspots of cooling towers and community pools in relation to nursing homes and high-elderly population areas. The results show that census tracts with high-elderly citizens and nursing homes are within range of community pools, and cooling towers, increasing their risk of contracting the illness.

**9:50 AM            The Effects of Blue Light On Ocular Health**

NinaJoy Magpayo, Northern Virginia Community College

Ocular health is part of everyday life in society. Having healthy eyes is vital in order to perform daily routines. Having poor eyesight can affect one's capability of completing tasks quickly and efficiently. Often the public neglect ocular health and are unaware of the various eye diseases that may develop. Ocular health of elders is notoriously known for its susceptibility to ocular diseases and poor distance/near vision. However, the human eye is susceptible to many diseases in lieu of exposure to waves of the electromagnetic spectrum, specifically blue light. Additionally to diseases, blue wavelengths and purple wavelengths affect daily activities. Eyestrain and fatigue are the drivers of distraction when trying to accomplish work and are solely caused by the wavelengths emitted into the retina. The public needs to be educated toward preventive strategies of maintaining ocular health. This apprehension can easily be resolved and prevented with initial actions of protection.

**10:10 AM   Injury Prevention for Equestrian Athletes through Targeted Exercise Programs**

Philip Argentieri, Averett University

Equestrian sports are made up of several different disciplines that require a horse and rider combination to act in unison. To achieve this state of unity requires precise and accurate communication between two species, without the use of verbal language. This means countless hours of training to perfect the rider's aids, which leaves little time for conditioning and strength training that would help prevent muscle imbalances and soreness. However, the use of training programs to induce specific adaptations toward the improvement of an athlete's performance, and prevent injuries is not present in today's equestrian community. The goal of this project was to create a link between muscle specific fitness programs and the reduced number of injuries experienced by equestrian athletes that can be demonstrated through quantifiable data. A group of twenty-three individuals were used to collect data and create specific and individualized exercise programs, regardless of their age or discipline.

**10:30 AM**

**Please, Don't Take Your Seats**

Alexandra Maryanopolis, Northern Virginia Community College

Public and university-level education systems require their students to live primarily sedentary lifestyles up until the end of their studies and then graduate millions of young adults each year, prone to continuing these habits and thus, living unhealthy lives. I want to give a brief background on how these habits are instilled at young age, talk about the negative effects of prolonged sitting, and provide my audience, (of both professors and students), with tips on how to reverse this “programmed lifestyle”.

**10:50 AM**

**Motivation and Stress in Collegiate Life**

Aleta Carter, Hampton University

The purpose of this paper is to explain the connection between motivation and stress, while relating it to the lives of college students. The paper will discuss different aspects of stress such as wishful thinking and the different types of coping. This paper will also give examples on how to effectively deal with college level stress. Research conducted on this topic is done in hopes to further explain and conclude if stress is more of a hindrance, or help to motivation in the lives of college students, as well as to aid students in dealing with stress.

**9:30 AM****Negro Musicians and Their Music:  
“Musicians of Color” in the 18th and 19th Centuries**

Andreas Dodson, Norfolk State University

Many would be quite puzzled if asked to name musicians of color who were both talented in their own right and capable of standing out musically in a time when the world was seemingly dominated by a singular race. However, the olden days have seen many champions of the musical arts and these individuals were of color and their music was of the highest quality. To even further the surprise, these individuals were not only male, but also joined by female artists who were just as capable as any other creator of music: Luranah Ira Aldridge, Montegue Ring, Brindis De Sala, Samuel Coleridge-Taylor and lastly, Le Chevalier De Saint Georges. Each one of these individuals of color, ranging from the eighteenth century to the nineteenth, all have something in common: they proved that individuals of African descent were just as talented as any other individual when it came to music.

**9:50 AM****The Triadic Relationship among the Black Lives Matter,  
All Lives Matter, and Blue Lives Matter Movements**

Shaylyn Lanier, Norfolk State University

Organizations such as the National Urban League, Black Panther Party, NAACP, ColorofChange.org, Southern Coalition for Social Justice, and many others strive to promote social, political, and economic justice. A very current movement named "Black Lives Matter" has stirred up a lot of controversy, giving rise to a backlash of people who assumed that Black Lives Matter was about being Anti-white. In return, the All Lives Matter Movement came about and attracted some white supremacists. Around the time that BLM and ALM were created, there continued to be mayhem, not only between minority and majority groups, but also violence between law enforcement and minority groups. The street war between law enforcement and minority groups inspired others to cleverly create Blue Lives Matter, in vocal support of the lives of law enforcement officers. This created a triadic relationship among these movements to be explored in this presentation.

**10:10 AM****Cannibalism**

Ashly Barrenechea, Northern Virginia Community College

Throughout history, humans would consume each other, whether it was for religion, survival, or personal pleasure. In the ancient Aztec community, they would sacrifice a person in order for the sun to come up the next day. Jeffery Dahmer, the Milwaukee Cannibal, had a ritual of his own. He wouldn't kill for survival, but for personal pleasure. He would see males as personal game, his own deer to hunt. Cannibalism is still practiced in tribes around New Guinea, the Amazon Basin, and in the mountains of Northern Brazil to Southern Venezuela. There are different terms for cannibalism, there is endocannibalism and exocannibalism. Endocannibalism is performed when a member of the tribe community is dead, and or less commonly sacrificed. Exocannibalism is eating the flesh of a human being of the outside community tribe.

**10:30 AM**

**Social Awareness Campaigns:**

**Raising Awareness on Human Trafficking in India**

Neha Pondicherry, Virginia Commonwealth University

Human trafficking is a persistent international problem that results in the subjugation of over 1 million people annually. The mass exploitation and abuse of humans for personal gain has taken many different forms over the span of history, including slavery, domestic servitude, labor bondage, etc. Many social media campaigns are not successful in India because they do not take into account the lack of education and minimal access to technology and other methods of communication. Rural villages actually respond most effectively to media use. In my research, I devised an entirely new social awareness campaign to be executed in India that includes televised soap operas, talk shows on the radio by actual victims of human trafficking, social media notifications, and informational videos/alerts on communication apps such as WhatsApp. The campaign will also utilize various aspects of successful Australian social campaigns, including their content and methods of information dissemination.

**10:50 AM**

**The Disuniting of America:**

**The Rise and Fall of the Melting Pot as a Primary Metaphor for America**

Kendra Bachelor, Norfolk State University

The melting pot theory is a metaphor describing the assimilation of immigrants integrating into American culture. The melting pot metaphor emerged during the twentieth century in 1908, used by a British playwright named Israel Zangwill who wrote the play, entitled “The Melting Pot” which propagated the metaphor. However, before Zangwill, the American revolutionary era welcomed people from different nations, races, and religions, all hoping to discover freedom, new opportunities, and a better life. In 1782, a French immigrant wrote, “individuals of all nations are melted into a new race of men, whose labors and posterity will one day cause great changes in the world” (Thornton, 2012). Throughout the Great Wave of Immigrants, conflicts resulting from forced assimilation contradicted American values resulting in the multiculturalism theory of the 1960s. Rather than assimilating, different ethnic groups would now exist in their separate identities.



**1:10 PM****Sound is Existence, Enunciation is Intelligence:****A look into “The Great Silence” by Ted Chiang**

Abrar Majidi Idrissi, Northern Virginia Community College

In “The Great Silence”, the theme of sound is prevalent. Through the eyes of a parrot, the author addresses the importance of sound and how enunciation and vocalization should determine our value and intelligence. The narrator (parrot) talks about the different things parrots went through as a species and criticizing humans’ behavior towards other species in general. He also mentioned that the value of intelligence is measured by vocalization yet humans fail to categorize parrots as an intelligent species. In my presentation, I will introduce the short story and discuss the importance of sound throughout history and in different domains of science. In addition to that, I will discuss the differences in determining intelligence in other species per the differences in opinion. And specifically focus on the arguments about enunciation, for and against.

**1:30 PM****Processing the Suppressed:****A Look into Productive Relationships in Jane Eyre and Vilette**

Sierra Carney, Davis &amp; Elkins College

In order to become a truly aware, authentic self, individuals must process their suppressed experiences and desires. This act is most effectively done when the individual is able to accept their experiences through seeing their suppressed self reflected in or approved by another individual. In Charlotte Brontë’s novels Jane Eyre and Vilette, Brontë describes the journey to an authentic self through the female protagonist’s relationship with her male counterparts. Within both novels, the protagonist has a choice between two men: an ideal, marriage-plot husband and an unlikely brute. The men that are ultimately chosen allow a pathway for the protagonist to process their suppressed desires because the man understands the woman as a being-in-creation, rather than a finished product. By entering into these relationships that encourage self-growth, the women are engaging in relationships that rely on a substance deeper than what is found in traditional marriage-plot novels.

**1:50 PM     Illuminating Complex PTSD with Tennyson’s The Lady of Shalott**

Annaliess Trommutter, Northern Virginia Community College

Superficially, a Victorian poem appears to have little in common with a disorder that has plagued war veterans for centuries and only recently gained a designation and acceptance. Post-Traumatic Stress Disorder has become normalized and those who live with the symptoms are no longer ostracized, although their experiences can be enigmatic and difficult to understand. Art and poetry can be used to distill and express concepts with a clarity that is lacked by typical conversation. The imagery within the poem “The Lady of Shalott” and the behaviors displayed by the eponymous character illustrate the complex coping mechanisms and rich inner world that characterizes someone struggling with PTSD with comorbid dissociative symptoms.

## **2:10 PM            The Figure of the Vampyre: From Folklore to Modern Day**

Jasmine Dunbar, Norfolk State University

Throughout history, the myth of the vampyre has always captured the attention and imagination of humans worldwide. Vampyres pervade our fears; they exemplify superhuman and metahuman origins, knowledge, and abilities; they appeal to our secret desires; yet, in some versions, they look just like us. The fascination lies in our craving of the power, beauty, and immortality they possess; indeed, we all share dark impulses to be something more than what we are. Overtime, the image of the vampyre has gone through three distinct phases: the monster, the horror, and the romantic. Examining John Polidori's "The Vampyre" (1819), Bram Stoker's "Dracula," (1897) various lore from around the world, and pop culture's current opinion of the vampyre, I plan to analyze the characteristics of the vampyre from each era and compare them from one another while also analyzing how humans' opinions of the vampyre have changed.

**1:10 PM                    It's All the Phage: Phage Discovery & Genomics**

Nicole Haynes and Brighton Payne, University of Mary Washington

With the development of antibiotic resistance, research for alternative treatment methods has increased. Particularly, the study of bacteriophages, viruses that infect bacteria, has received much attention. The concept of bacteriophage therapy is the usage of specific phages to infect bacterial pathogens and to effectively destroy the harmful bacteria. The increased demand for phage research has prompted the creation of various programs to expand the collection of analyzed phages, which can potentially be used to treat bacterial infections that are resistant to antimicrobial therapies. One such program is Phage Hunters, an introductory honors biology course at the University of Mary Washington. This course covers similar lecture material as other introductory biology courses; however, the lab component emphasizes real-world research experience. The main objective of the laboratory aspect is to collect, isolate, purify, and analyze a phage. We review the laboratory procedures and results of UMW Phage Hunters students' novel phage discoveries.

**1:30 PM                    The Isolation and Elucidation of Antimicrobial Compounds  
from Native Southwest Virginia Plants**

Adrianna Wilson, Virginia Tech

Each year in the United States, at least 2 million people become infected with bacteria that are resistant to antibiotics and at least 23,000 people die each year as a direct result of these infections.<sup>1</sup> Medication resistant microbes are not restricted to bacteria, the incidence of antifungal resistance is also increasing. Antifungal resistant *Candida albicans* is of particular threat to public health because *Candida* is the most common cause of healthcare-associated bloodstream infections in the United States.<sup>2</sup> After analyzing Native American ethnobotanical records, several plants were selected because of their history of use in treating *Candida albicans* infections. These plants were collected from Southwest Virginia and processed. Ethanolic extracts of these plants were screened for *Candidacidal* activity, as well as activity against other microbes. Out of the 19 plants collected, 6 were found to be active against *Candida*, and the activity of the extracts is currently being explored.

### **1:50 PM    The Effect of Light on Symbiosis of the Temperate Coral *Astrangia poculata***

Tyler Harmon, Old Dominion University

Corals have a mutualistic relationship with symbiotic dinoflagellates (Symbiodinium) called symbiosis, where each organism receives benefits. Many corals display this mutualistic relationship, which are termed symbiotic. However, there are some that do not, which are termed aposymbiotic. This study researches the effect of light on symbiosis in the Northern Star coral (*Astrangia poculata*) over an 8-week period. A total of 28 nubbins, 14 symbiotic and 14 aposymbiotic, are evenly separated into a high light treatment ( $200 \mu\text{mol m}^{-2} \text{s}^{-1}$ ) and a low light treatment ( $40 \mu\text{mol m}^{-2} \text{s}^{-1}$ ). The methods used in this study are the photo Symbiodinium quantification method (Symbiodinium density) from Winters et al. 2009, as well as the buoyant weight technique (skeletal growth rates) from Davies 1989.

### **2:10 PM    Like a Gecko: Usefulness of Organic Light Responsive Materials**

Ashleigh Rawls, Hampton University

Recently Kiel University in Germany has invented technology that mimics the selective adhesive nature of a gecko's toes. Azo benzenes as well as other cyclic organic compounds are able to photo isomerize when exposed to UV light: undergoing a cis-trans conformational change that alters its' properties. This is detected using UV visible spectrometer to measure absorbance. In Germany this was used to create a system that when exposed to UV light would be adhesive and when exposed again would no longer have adhesive properties. Currently at Hampton University we are working to synthesis azo aryl compounds capable of both red shifting and photoisomerization. A red shift is shift in absorbance towards red or infrared light. Compounds that absorb in or near IR range are bio-compatible and have many uses in various fields. These photo switches have applications for drug delivery systems when conjugated with PEGs to form micelles.

**1:10 PM****The True Olympic Effect**

Erika Neal, Virginia State University

The motivations and mottos of events, such as the FIFA World Cup and the Olympic Games, consist of leveling the playing field worldwide, spreading world peace through tournaments and championships, and simply enjoying the “love for the games”. Each host country’s government overlooks the problems presented within their own country, and instead uses hard earned tax dollars from their citizens in order to construct such events and their accommodations. These funds could be used on rebuilding broken down communities and schools such as those found in Rio de Janeiro, Brazil. Hosting these events takes out billions of dollars from a country’s economy. Organizations such as FIFA and the International Olympic Committee (IOC) should provide the funds and the means for countries to be able to host these events, which will allow for the money in the respective countries to be used on the problems within their own lands.

**1:30 PM****Hyper Normalization:****How Campaign Funding is Affecting Our Democracy?**

Mohamed Mohamed, Northern Virginia Community College

The amount of money that makes a donor matter to a politician they are backing was \$5,200 in 2014. Out of the whole population of the United States, only 57,874 people were able to pay that amount. That is 0.02% of the population. Which means, 0.02% of the population nominates the candidates, and let the rest of the country choose between them. The corruption in Washington is generating a huge skepticism among voters throughout the country. Voters are interpreting some policy speeches as if politicians are just normalizing the issues, so their donors can get their agendas’ passed. My presentation will address the concept of hyper normalization and the effect it has made regarding the political process and campaign financing.

**1:50 PM****Funding Terror: An Overview of Financing Methods**

John Robert Flores, Liberty University

From a homemade bomb to a small army, each act of terrorism requires funding to turn hateful speech into an action. In the Middle East, funding for terrorism falls into three major categories: criminal, legal, and charity from like-minded individuals. Despite public disdain for global terror there are still some individuals, both foreign and domestic, who seek to fund terrorist attacks. Finding the sources of this funding is essential in order to stem terrorism, but doing so is not always easy. Those who fund terror do so through many mediums such as: black markets, offshore accounts, phony companies, and illegal shipments; which can make it very hard to track. By looking at past investigations on terrorism in the Middle East to see what patterns emerge, investigators can be pointed towards places where they can most effectively use their resources to stop future terrorist funding.

**2:10 PM      Factors Influencing Distribution of Prosthetic Devices in Iran:  
An Economic Analysis**

Sarah Tensen, Virginia Commonwealth University

An estimated 177,622 Iranians have suffered an injury resulting in amputation. Prosthetic devices in Iran are scarce due to wealth disparity, wars, and lack of vital resources. Without prosthetic devices, amputees face unemployment, homelessness, a lowered self-esteem and cannot fully participate in society. I examined economic factors influencing the distribution of prosthetic devices and reviewed articles that focus on healthcare costs, distributions and services, relationships between Iran and other countries, etiology of amputation to find a solution for the prosthetic distribution issues. I concluded issues resulted from high costs, unequal distributions of wealth and resources, unsafe conditions, and a deficit of trained physicians. Sponsoring an organization to supply Iran with three-dimensional printers would create low-cost, high-functioning prosthetics and better distribution throughout the country. This would permit a wider spectrum of amputees to have access to prosthetic devices, as well as create new jobs to aid economic growth within the country.

**1:10 PM The Use of Rhyme, Rhythm, and Melody as a Form of Repetition Priming to Aid in Encoding, Storage, and Retrieval of Semantic Memories in Alzheimer's Patients**

Faiz Plastikwala, Virginia Commonwealth University

Treating Alzheimer's disease, especially through non-pharmaceutical means, has become increasingly important over the past few decades. I examined the use of melody, rhyme, and rhythm as encoding mechanisms to aid in the retrieval of long term semantic information by juxtaposing previous experiments in the field. Melody, rhyme, and rhythm provide an organizational structure to facilitate the encoding of information. Specifically, chunking, the grouping of smaller units into larger 'chunks', helps facilitate long term encoding in patients, and is the byproduct of the organizational structure of a text. A major drawback of using these devices is the loss in the depth of encoding semantic information; however, it is important to recognize music still assists general content memory. Therefore, Alzheimer's patients would benefit from the use of melody as it would help with familiarity with their surroundings, although they would not benefit from instructional song.

**1:30 PM Granting Personhood for Sentient Non-Human Animals and Sentient Artificial Intelligences: A Demonstrative Argument**

Jeremiah Meadows, Reynolds Community College

While the subject of personhood has been exhaustively debated regarding the unborn, personhood for sentient animals and artificial intelligences is a concept that is rarely deliberated. Humanity has learned that there are multiple animal species which are very similar to humans in their self-awareness, emotional capacity, and free will. These traits have been partially developed for artificial intelligences as well, and those characteristics will evolve alongside human and technological development. As stratified societies emerged, there have been multiple occurrences where individuals were deemed lesser but then later acquired equal standing. Dr. Daniel Wilson, roboticist, wrote in his novel Robopocalypse, "It is not enough to live together in peace, with one race on its knees." Because groups have been and still are being marginalized, this paper proposes that personhood should be legally granted now for current and future sentient beings, as exemplified by animals' and artificial intelligences' sentience.

**1:50 PM**

**Characterization of GFAP as a Serum Biomarker for  
Blast Induced Traumatic Brain Injury**

Maria Contreras, Northern Virginia Community College

About 1.7 million people suffer mild traumatic brain injury (TBI) annually (Faul et al., 2010). TBI is a sudden hit to the head causing psychological, social, and physical complications. Inefficient diagnostics represents a significant clinical need addressed through the use of serum biomarkers. In this study, Western blotting and enzyme-linked immunosorbent assay (ELISA) were used to determine and validate biomarker detection. Both measured glial fibrillary acidic protein (GFAP), an intermediate filament found exclusively in astrocytes, levels in samples of injured and control animals. It has been shown that levels of GFAP within serum may be associated with TBI severity (Lei et al., 2015). Results were derived from animals exposed to various blasts. Later, we concluded to use ELISAs to validate these findings because of their higher sensitivity. We concluded that once optimized, GFAP as a serum biomarker could enable physicians to run blood tests and accurately identify severity of TBI.

**2:10 PM**

**Complementary and Alternative Therapy for Cancer**

Lindsey Birch, Radford University

The purpose of this research project was to determine whether complementary and alternative medicine (CAM) could improve cancer symptoms and to further research whether it is considered safe. Research in this area is relevant because it is becoming known that certain foods, specifically plants and herbs with pigments and phytochemicals, have curative properties for the ill. In addition, pharmaceuticals, chemotherapy, and radiation are complicated with many side effects. Review of the literature was completed by locating original research articles in professional journal databases. I developed and conducted a survey with the caregivers of cancer patients to determine their perceptions of CAM therapies. Results of this research found that many cancer survivors find CAM therapies to greatly improve quality of life and reduce stress. More research needs to be conducted to determine whether CAM can be effective at treating cancer and in what scenarios CAM therapies are considered to be safe.



**1:10 PM****For the Culture:****Changing the College Culture towards Violence Against Women**

Pearis Bellamy, Hampton University

For the Culture: Changing the College Culture towards Violence against Women explores violence against women prevention efforts at colleges and universities. Additionally, the attitudes and beliefs students hold about violence against women are identified. “For the Culture” is a slang phrase that refers to the reasoning that someone should do something because it is popular or a trend. Violence against women has become a “culture” that college students directly or indirectly support because they feel that is what everyone believes or does. This project challenges the “culture” and presents a new culture. Also, this project reviews the history between universities and violence against women as well as current challenges. Strategies to combat violence against women are explored. The presenter provides her results as a peer advocate for the Hampton University Violence Against Women Prevention Program and efforts to encourage a culture that respects women. These efforts are compared to known methods of prevention based on research. This project presents strategies that can be used within college campuses to change rape and abuse culture while encouraging healthy interactions for men and women.

**1:30 PM****Life after transfer: Evaluating psycho-social factors****influencing graduation rates for post-transfer community college students**

Daniela Villalobos-Vera, Northern Virginia Community College

College should be a time when curious minds can explore new areas of knowledge and life experiences with the goal of graduating and receiving their Bachelor's degree. Those who complete their education may have a stable life with access to a better job, social mobility, and the chance to continue their education through advanced degree programs. This scenario, however, seems unattainable for many students from community college; a significant percentage are not graduating upon transfer to a four-year institution (Bowen, Chingos & McPherson, 2009). This research attempts to explore the different factors that could affect the graduation rate outcomes for Northern Virginia Community College (NOVA) students who attend George Mason University (GMU) versus those who enter GMU as a freshmen. This research will provide a better understanding of the reasons that might affect NVCC students, suggesting new guidelines and strategies that could help them finally earn their academic degree.

**1:50 PM                    The Psychological Road to Identity in Young Adulthood.**

Maya Vines, Hampton University

In a human lifespan, identity formation is crucial in the adolescence developmental period. However, researchers are noticing how identity development has now extended to the early adulthood stage. In this researched scholarly essay, the theories of identity development are discussed and challenged by the cultural shift of the new generation of twentysomethings. Researchers note that “emerging adulthood” is a new identity developmental period characterized by three important areas: love, work, and worldviews. Additionally, the experiences of emerging adulthood are compared with the lifestyles of twentysomethings across generations. Overall, emerging adulthood, a growing psychological trend, is an important component of identity development that young adults can learn how to navigate.

**2:10 PM    How does what is important in life and outlook on life affect life satisfaction?**

Caitlyn Laux, Marymount University

Often people identify themselves as unhappy and unsatisfied with life. In order to make progress in improving life satisfaction, a detailed understanding of exactly how people view their lives must first be established. The purpose of this study was to address what people hold important and which variables influence individual differences for each participant. The research question of this convenience, cross-sectional study asks: how does what is important in life and outlook on life affect life satisfaction? Results of the survey suggested that people hold intangible ideals of higher importance, finding the five most important aspects of life to be family, freedom, mental health, having a purpose, and education. Among many other significant findings, the study found a positive correlation between levels of optimism and life satisfaction. Many different factors impact how people view their lives, therefore, future research must be done to further understand additional influences on life satisfaction.

**2:40 PM            Brave New Further-Divided World? Ectogenesis in Context**

Nykema Mpama, Norfolk State University

The process of ectogenesis is seen to be a scientific interruption to the natural birthing process for the mother. With ectogenesis comes much controversy because it suggests that a woman will not have to endure the natural processes of gestation. A. Huxley has written an abundance of controversial facts about ectogenesis in *A Brave New World*. Can the future of ectogenesis bring together the divisiveness of conservatives and feminists? According to an article written on Reproductive Rights about ectogenesis, Samantha Allen quotes that feminists believe that the separation of gestation from a woman's body will have earth-shattering consequences for the contemporary feminist movement. The development of artificial wombs may rein havoc on women being that it debases women by replacing one of their most unique natural abilities with man-made technology. Conclusively, by removing gestation from a woman through the future of ectogenesis, conflicts between politics, evolutionary science, and cultural traditions will inevitably cause a modern culture war.

**3:00 PM                                    Gifts of the Holy Ghost**

Erin Ujueta, Northern Virginia Community College

This oral presentation is going to be regarding the authenticity of the Gifts of the Holy Ghost. They were a part of the beginning of Christianity, but some profess that they are still active today. In the book of Acts in the Bible, it is explained that the Holy Ghost is the spirit of God. It is written that it fell over 3,000 Christians after Jesus had resurrected and ascended to be on the right hand of the Father. Therefore, this topic was researched through literary analysis, experimentation, and survey interviews. In the literary analysis, we will be looking at different written pieces for historical evidence. In experimentation, I tested groups of people to see if these gifts will actually occur among them. Through survey interviews, I questioned people for a deeper understanding of what they experience.

**3:20 PM                                    You Are not the Woman I Want**

Aaron Farmbry, Hampton University

Feminist Perspective of Toni Morrison's *God Help the Child* through an Ovidian lens. In my essay I discuss the idea that male authors use abuse, rape, and in the case in Ovid's *Metamorphoses* transformation to silence the female character, however Toni Morrison as a female writer uses abuse, rape, and transformation to create the idea of the "New Women" a woman who is self aware. Much like the phoenix the woman is reborn.

**3:40 PM**

**Toe to Toe with G.I. Joe: Women in the Military 2017**

Kayla Gross, Norfolk State University

Double standards in the military were created because, when tested, women proved that they could not consistently achieve men's standards, but in January 2016, all military occupations and positions opened to women, without exception. There is a lot of controversy between men and women when it comes to jobs in the military. There are many situations where one gender is more efficient than the other in certain jobs in the military. According to CNN "Health care was the top field for female officers, at 39%. They made up nearly 28% of administrative officers, 19% of intelligence officers and 18% of supply officers.". Women are often limited to what they can do based on their physical ability. Women have been given more privileges recently, but still not as much as a man. There should be no discrimination and each person should be individually accessed based on his and her capabilities.

**2:40 PM      Survey of Tick-borne Pathogens in Carmel Valley, California**

Katherine Harris, Old Dominion University

*Ixodes pacificus* is a black-legged tick found primarily on the West coast of the United States. This study surveys populations of *I. pacificus* ticks collected in the Hastings Natural History Reserve (HNHR) in California for the prevalence of pathogens they carry and examines any possible correlations between the tick populations and pathogens. Black-legged ticks were collected from HNHR during the summers of 2012-2016. The collected ticks were tested for the three pathogens above using real time PCR. Tick DNA that tested positive for any of these pathogens were amplified using PCR and sequenced to confirm identification of the tick species and the respective pathogen. Local surveys in HNHR should be continued to monitor tick populations and prevalence of pathogens to ensure awareness to the public in this area and advise preventative measures against possible tick-borne diseases.

**3:00 PM      Searching for a Cure: Ingenol-B as a Potential Drug Therapy for HIV**

Kennedy Goldsborough, Hampton University

The enigma that is HIV infection revolves around the presence of a latent reservoir consisting of resting CD4 T cells harboring intact proviruses. The inactivity of the viruses hides them from the immune system and antiretroviral therapy. HAART controls HIV by targeting various steps of viral replication. In order to completely cure HIV-infected patients, a therapy needs to deplete the entire latent reservoir. One promising strategy for a cure is the “Shock and Kill” method, where Latency Reversing Agents “shock” proviruses out of latency without T cell activation. Findings have demonstrated that Bryostatin-1 simultaneously induces CD8+ T cell exhaustion. Since CD8 T cells are integral to the “kill” aspect of “Shock and Kill”, the aim of this project was to establish which LRA combinations effectively reverse latency without CD8 T cell exhaustion. We studied Ingenol-B, which has a high LR potency, yet reduced toxicity, relative to other PKC agonists. We used Elite Suppressors, HIV infected individuals with CD8 T cells capable of suppressing HIV without HAART.

**3:20 PM**

**Enigma: What Made The Cipher So Difficult to Break**

Rebecca Journigan, Radford University

The German Enigma machine was the most widely used mechanical field cipher during World War II, and one of the most famous historical ciphers. The Enigma combined various configurations that consisted of rotors, ring settings, reflectors, and plugboard connections. Combined, the theoretical number of potential initial configurations of the machine was astronomical, each resulting in a unique way in which the machine disguised messages. In this presentation, we will describe the components of the Enigma machine and how combinatorics can be used to determine the total number of theoretical configurations. This description will lead into a brief discussion of the challenges presented to the Alan Turing and Allied codebreaking effort at Bletchley Park in cryptanalyzing and breaking this cipher. In the description process, a computer simulator of the Enigma will be given.

**3:40 PM AC to DC Multi Outlet Design with Application to DC Motor Speed Control**

Serena Rudisel, Hampton University

To successfully establish a secure design and simulate a 3-port 120 V 60 Hz AC to DC converter supplying 6 V, 12V, and 18 V to each (3) corresponding outlets. Multisim will be used for analysis of this circuit design. After this research is concluded we will be design a PID controller DC motor speed control methods with application to a real system. We will also explore robust intelligent control methods for better performance. The objective is to develop different control algorithms for DC motor speed tracking control with application to a real system model, including PID Control Design where students will perform simulations using SIMULINK to test the design in real-time. The three term controller is able to manage the behavior of the system, and is used to decrease the steady state error and increase stability. An Intelligent Robust Control Development Simulation Test will be developed to control the speed of the motor using MATLAB.

**2:40 PM Portraits of Power: The Iconography of Truth in Images of Authority**

John Perkins, Northern Virginia Community College

Upton Sinclair once stated that all art is propaganda, describing it as “inescapably so.” Throughout history, the elite have used the arts as simply another method to project their power. Art is frequently politics by other means, warfare with the brush or the pen instead of the sword. Of these “weaponized” images, though, none is as powerful as the portrait. Self-commissioned portraits of historical figures can tell us much about the portrayed, their ambitions, and the world in which they lived. Through examples both ancient and recent, we can track the development of societal attitudes towards power and the elites who wield it, as well as the visual vocabularies of their times.

**3:00 PM****Women In Leadership**

Cheyenne Trammell, Hampton University

As the United States progresses towards gender equality, there is a steady increase of women joining the workforce and aspiring for leadership roles. For mothers coming into the business field this creates a work to family conflict because who will watch the kids and how will the mother balance long hours as well as giving adequate attention to her children? This situation is able to work out as long as employees and employers are willing to compromise and be flexible. More women should be put into leadership roles, in the banking industry, because they are already underrepresented and to give them the platform to show their leadership capabilities and independent qualities

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**3:20 PM Voter Apathy in America: The Current State of Voting in America**

Torme DeVeauxbray, Norfolk State University

Voting is a vital part of the culture and history of America, but it can be thwarted by voter apathy, which is a lack of caring or interest in an election. Historical and political events have shaped people’s view on voting and can definitely determine whether or not they vote. Some people are apathetic about voting because of their dislike for the candidates who are running for office. Every group of people has its own cultural reasoning behind voter apathy. Race is a big issue in this country and has been ever since its formation and definitely impacts the thinking of voters. There are many different theories about voting in this country. Some individuals think like Emma Goldman who said, “If voting changed anything, they’d make it illegal.” Then there are people like President Lyndon B. Johnson who believed that “a man without a vote is a man without protection.”

**3:40 PM**

**PC America**

Raven Knight, Northern Virginia Community College

America is known for being the land of the free, where we are able to speak our minds and express how we feel without any fear of backlash, at least that was the original theory. Over time, the first amendment of our Constitution, which grants us freedom of speech, press, religion, petition, and assembly, has been downsized considerably. What is causing the downsizing of freedom of speech and press: the ever-growing beast that is political correctness. Even though it has the word political in it, this aspect is more of a social construct that consistently constricts what is and is not appropriate to say in public. This presentation examines PC barriers over time and how comedy is used to combat and break through those barriers.



**2:40 PM****Genetic Engineering**

Sherry Ampuero, Northern Virginia Community College

The technological and scientific advances with Genetic Engineering has expanded to immense ranges that few people know of. With this capability, scientists will be able to fix genes that cause all sorts of genetic diseases. This is a huge breakthrough, and it can change a lot of lives for the better. But what about the other effects it may have? People will have the ability to choose how their baby may look. Not only does this concept bring into question the idea of ethics, but it also brings with it a lot of risks. Most people only seem to look at the positive side. If we practice this on humans however, and allow the public to make their own decision regarding whether to use this, we should focus on making sure the public is fully informed of all aspects of using this technology on human beings.

**3:00 PM****American Hospital Protocols for the Management  
of Intersex Infants with Congenital Adrenal Hyperplasia**

Divya Krishna, Virginia Commonwealth University

Congenital adrenal hyperplasia is a genetic mutation which causes 21-hydroxylase to overproduce androgens, typically in individuals with two X chromosomes. This can result in the formation of ambiguous genitalia, as typical vaginal development is replaced by the formation of genitalia which takes the appearance of a structure larger than a vagina, but smaller than a penis. As congenital adrenal hyperplasia accounts for about 90% of all cases of intersexuality, which occurs in about 1% of the general population, it is not as rare of a condition as many researchers make it out to be. Hospital protocols in the past allowed for doctors to secretly perform surgeries on intersex infants, without parental consent, in order to give a newborn “normalized” genitalia. In twenty-first century United States, doctors often tell parents that ambiguous genitalia is an emergent condition which must be operated on; while they get consent, it is not necessarily informed consent. Studies show that intersex adults have poor mental health outcomes, and often suffer from gender dysphoria as doctors may have assigned the wrong gender, or their medical records were hidden from them. Research has been conducted by comparing several journal articles which study patient outcomes of genital reconstruction surgeries, and other methods that doctors use to “fix” and infant’s ambiguous genitalia. Since the results of all of these studies show poor outcomes, there have been many proposals made to improve patient health. The most prevalent proposal is allowing children to make their own decision in terms of their gender identity, as well as encouraging the idea of gender fluidity and not conforming to the rigid binary.

**3:20 PM**

**CRISPR-Cas9: Science & Ethics**

Martha Gizaw, Northern Virginia Community College

The biggest breakthrough that has significantly influenced the scientific world in the mid-2010s is CRISPR-Cas9, a gene-editing system that changes the expression of genes at any location in the genome. More and more scientists depend on this technology for a wide range of purposes from disorder diagnosis to drug development to invasive species control. Decades of laboratory research prove that CRISPR-Cas9 is more effective than any other gene-editing equipment as long as it is being used responsibly. The presentation will briefly explain the origins and functions of CRISPR-Cas9, followed by its applications in psychopathology, biomedical neuroscience, and population biology. Controversy in practical usage will also be discussed.

**3:40 PM**

**Global Health Security**

Emily Montgomery, Marymount University

The broad purpose of global health security is to protect the health of large populations and lessen vulnerability to border-crossing threats such as infectious diseases. Because the modern world is so interconnected, the risk of infectious diseases spreading across borders is much greater than in the past. Additionally, while scientific advancements have improved the health of many, it has also resulted in the stockpiling and weaponization of deadly pathogens such as tularemia and anthrax. Bioterrorism is also a threat associated with the weaponization of deadly pathogens. In order to match these threats, there must be substantial global health policies and procedures in place to ensure the health of the general population. This presentation will provide an overview of global health security, why it is important, the current state of the threat of bioterrorism, and the global health security policies and procedures in the U.S. and abroad.

**2:40 PM                      Will PETA Take the Offense (on Environmentalism)  
or Just Become More Offensive?**

Kayla Forest, Norfolk State University

Environmental extremists ('tree-huggers') have been around since the 19th century but have grown in ferocity to combat 20th and 21st century destruction. Extremist groups have gone so far as throwing red paint on \$10,000 furs or tying themselves to trees with chains in protest. With President Trump in office, such tactics may get worse. Since Trump has appointed Mr. Scott Pruitt, an anti-EPA activist, to run the Environmental Protection Agency, many fear that Trump will overturn pro-environmental policies implemented during the Obama administration. The last few months before Trump's inauguration, the EPA, in fact, rushed through many regulations and finalized as many as possible. People for the Ethical Treatment of Animals, whose world headquarters is in Norfolk, is an organization formed to protect animal rights by almost any means necessary. PETA has had much notoriety and some success in influencing public opinion.

**3:00 PM    Deforestation and Residential Development in Loudoun County (1992-2011)**

Colin Flynn, Northern Virginia Community College

Deforestation is a major problem that the world faces today. However, we are mostly educated on the effects of deforestation in other parts of the world, like the Amazon Rainforest in Brazil. Deforestation is affecting us everywhere though, and people do not realize it. Deforestation is happening in our backyards. Looking at a local area like Loudoun County, how much deforestation is taking place and why. The cause of deforestation in the US is mainly for development. Taking into account population growth in Loudoun County, this presentation uses GIS (Geographic Information Systems) maps, created from the analyzation of land cover data from 1992 through 2011, to look at how the forestry levels in Loudoun County have changed over the years.

**3:20 PM                      The Link between Local Phenology and Climate Change**

Blake Steiner, Old Dominion University

The SouthEast Virginia Phenology Project was initiated as collaboration between Norfolk Botanical Garden and Old Dominion University in 2010 to document phenology of seven native plants and potential effects of the climate change on their life cycle. The air temperature in Norfolk has increased on average by 0.02°C per year since 1980. Four out of seven of taxonomically diverse plant species (Mayapple, Flowering Dogwood, Highbush Blueberry, and Common Buttonbush) exhibited significant sensitivity to warming temperatures. Of these four, only Common Buttonbush (*Cephalanthus occidentalis*) had shown significant phenophases shift. Specifically, first flowering and first fruiting dates had shifted 2.7 and 6.7 days later. The flowering period coincides with an average temperatures decrease of 0.3°C during the last six years of data collection. These data, collected over longer period of time, can have implications on agriculture, horticulture, native ecosystem management, and human health.

**3:40 PM**

**The Art of a Plant-Based Diet**

Brenda Lu, Marymount University

What a person eats is representative of their identity and reflects their society as a whole. Vegan/vegetarian diets are defined as abstaining from the consumption of meat, or of all animal products. On a personal level, studies have shown that being a vegetarian reduces the risk of chronic diseases like diabetes and different cancers. The choice affects more than one person- it impacts everyone. Consuming plant-based foods reduces famine, spares animals, and lowers the risk of food-borne illnesses in public health settings. On the other hand, the meat industry is disadvantageous in these areas, also devastating the environment through pollution and pesticide toxins. Processed meats in these unsanitary conditions end up on the next consumer's plate and further endanger the public's health. Vegan/vegetarian dietary practices can end the cycle of problems and provide long lasting benefits for not only the individual but also the world.

## PRESENTER INDEX

<b>Presenter name</b>	<b>Institution</b>	<b>Session</b>	<b>Time</b>	<b>Location</b>
Ampuero, Sherry	Northern Virginia Community College	5	2:40 PM	LC 1311
Argentieri, Philip	Averett University	3	10:10 AM	LC 1311
Bachelor, Kendra	Norfolk State University	3	10:50 AM	LC 1313
Barrenechea, Ashly	Northern Virginia Community College	3	10:10 AM	LC 1313
Bellamy, Pearis	Hampton University	4	1:10 PM	LC 1313
Bethea, Kimberly	Old Dominion University	2	8:30 AM	LC West Foyer
Bin Amjad, Furqan	Northern Virginia Community College	3	10:50 AM	LC 1310
Birch, Lindsey	Radford University	4	2:10 PM	LC 1311
Brinn, Jacob	Old Dominion University	3	10:50 AM	LC 1306
Byrd, Briana	Virginia State University	2	8:30 AM	LC West Foyer
Byrd, Brittany	Virginia State University	2	8:30 AM	LC West Foyer
Carney, Sierra	Davis & Elkins College	4	1:30 PM	LC 1306
Carter, Aleta	Hampton University	3	10:50 AM	LC 1311
Christmas, Tytiana	Virginia State University	2	8:30 AM	LC West Foyer
Contreras, Maria	Northern Virginia Community College	4	1:50 PM	LC 1311
Dev, Navya	James Madison University	1	6:00 PM	Pavilion
DeVeauxbray, Torme	Norfolk State University	5	3:20 PM	LC 1310
Dodson, Andreus	Norfolk State University	3	9:30 AM	LC 1313
Dorn, Hanna	Marymount University	3	10:10 AM	LC 1306
Downey, Maria	Radford University	2	8:30 AM	LC West Foyer
Dunbar, Jasmine	Norfolk State University	4	2:10 PM	LC 1306
Edwards, Coelina	Old Dominion University	2	8:30 AM	LC East Foyer
Egall, Laurence	Old Dominion University	2	8:30 AM	LC West Foyer
Evans, Andrew	Old Dominion University	2	8:30 AM	LC West Foyer
Farmbry, Aaron	Hampton University	5	3:20 PM	LC 1306
Flores, John Robert	Liberty University	4	1:50 PM	LC 1310
Flynn, Colin	Northern Virginia Community College	5	3:00 PM	LC 1313
Forest, Kayla	Norfolk State University	5	2:40 PM	LC 1313
Frost, Michaela	Old Dominion University	2	8:30 AM	LC West Foyer
Gafurova, Tahmina	Northern Virginia Community College	3	10:30 AM	LC 1310
Garnett, Victoria	Old Dominion University	2	8:30 AM	LC East Foyer
Gizaw, Martha	Northern Virginia Community College	5	3:20 PM	LC 1311
Goldsborough, Kennedy	Hampton University	5	3:00 PM	LC 1307

<b>Presenter name</b>	<b>Institution</b>	<b>Session</b>	<b>Time</b>	<b>Location</b>
Gosai, Vrund	Old Dominion University	2	8:30 AM	LC West Foyer
Gowans, Betty	Old Dominion University	2	8:30 AM	LC East Foyer
Grassia, Stephen	Old Dominion University	3	9:30 AM	LC 1311
Gross, Kayla	Norfolk State University	5	3:40 PM	LC 1306
Hairston, Indya	Hampton University	3	10:30 AM	LC 1306
Hale, Kendra	Virginia Tech	1	6:10 PM	Pavilion
Hari, Gopika	Virginia Commonwealth University	2	8:30 AM	LC West Foyer
Harmon, Tyler	Old Dominion University	4	1:50 PM	LC 1307
Harris, Katherine	Old Dominion University	5	2:40 PM	LC 1307
Haslam, Devin	Old Dominion University	2	8:30 AM	LC West Foyer
Haymaker, Caroline	Old Dominion University	2	8:30 AM	LC West Foyer
Haynes, Nicole	University of Mary Washington	4	1:10 PM	LC 1307
Hazou, Adriana	Virginia State University	3	10:10 AM	LC 1310
Hilton, Emily	Radford University	2	8:30 AM	LC West Foyer
Ishaq, Sumayyah	Northern Virginia Community College	3	9:30 AM	LC 1310
James, Cheyenne	Old Dominion University	2	8:30 AM	LC West Foyer
Jamison, Marcus	Old Dominion University	3	9:50 AM	LC 1306
Journigan, Rebecca	Radford University	5	3:20 PM	LC 1307
Kass, Hannah	University of Mary Washington	2	8:30 AM	LC West Foyer
King, Trey	Virginia Tech	2	8:30 AM	LC West Foyer
Knight, Raven	Northern Virginia Community College	5	3:40 PM	LC 1310
Krishna, Divya	Virginia Commonwealth University	5	3:00 PM	LC 1311
Lanier, Shaylyn	Norfolk State University	3	9:50 AM	LC 1313
Laux, Caitlyn	Marymount University	4	2:10 PM	LC 1313
Lewis, Evelyn	Old Dominion University	1	6:20 PM	Pavilion
Lu, Brenda	Marymount University	5	3:40 PM	LC 1313
Lyons, Aaron	Old Dominion University	2	8:30 AM	LC West Foyer
Magpayo, NinaJoy	Northern Virginia Community College	3	9:50 AM	LC 1311
Majidi Idrissi, Abrar	Northern Virginia Community College	4	1:10 PM	LC 1306
Marron, Paul	Northern Virginia Community College	3	9:50 AM	LC 1310
Maryanopolis, Alexandra	Northern Virginia Community College	3	10:30 AM	LC 1311
Mayfield, Alexis	Hampton University	3	9:30 AM	LC 1306
McDaniel, Sarah	Old Dominion University	2	8:30 AM	LC East Foyer
Meadows, Jeremiah	Reynolds Community College	4	1:30 PM	LC 1311

<b>Presenter name</b>	<b>Institution</b>	<b>Session</b>	<b>Time</b>	<b>Location</b>
Mohamed, Mohamed	Northern Virginia Community College	4	1:30 PM	LC 1310
Mojallali, Madeline	James Madison University	1	630 PM	Pavilion
Montgomery, Emily	Marymount University	5	3:40 PM	LC 1311
Mpama, Nykema	Norfolk State University	5	2:40 PM	LC 1306
Neal, Erika	Virginia State University	4	1:10 PM	LC 1310
Pangilinan, Jade	Old Dominion University	2	8:30 AM	LC East Foyer
Payne, Brighton	University of Mary Washington	4	1:10 PM	LC 1307
Perkins, John	Northern Virginia Community College	5	2:40 PM	LC 1310
Pierce, Catherine	James Madison University	1	6:40 PM	Pavilion
Plastikwala, Faiz	Virginia Commonwealth University	4	1:10 PM	LC 1311
Pondicherry, Neha	Virginia Commonwealth University	3	10:30 AM	LC 1313
Potdar, Neha	Virginia Commonwealth University	2	8:30 AM	LC West Foyer
Rawls, Ashleigh	Hampton University	4	2:10 PM	LC 1307
Robertson, Shakia	Old Dominion University	2	8:30 AM	LC East Foyer
Roots, Carra	Old Dominion University	2	8:30 AM	LC East Foyer
Rudisel, Serena	Hampton University	5	3:40 PM	LC 1307
Russo, Christopher	Old Dominion University	2	8:30 AM	LC West Foyer
Schultz, Madison	James Madison University	1	6:50 PM	Pavilion
Sciorillo, Amanda	Marymount University	2	8:30 AM	LC West Foyer
Smith, Daniel	Old Dominion University	2	8:30 AM	LC East Foyer
Smith, Elyse	Virginia Tech	2	8:30 AM	LC West Foyer
Steiner, Blake	Old Dominion University	5	3:20 PM	LC 1313
Tensen, Sarah	Virginia Commonwealth University	4	2:10 PM	LC 1310
Terry, Aiyannah	Hampton University	2	8:30 AM	LC West Foyer
Tovar, Matthew	University of Mary Washington	2	8:30 AM	LC West Foyer
Trammell, Cheyenne	Hampton University	5	3:00 PM	LC 1310
Tran, Sieu	Virginia Tech	2	8:30 AM	LC West Foyer
Trommatter, Annaliess	Northern Virginia Community College	4	1:50 PM	LC 1306
Ujueta, Erin	Northern Virginia Community College	5	3:00 PM	LC 1306
Villalobos-Vera, Daniela	Northern Virginia Community College	4	1:30 PM	LC 1313
Vines, Maya	Hampton University	4	1:50 PM	LC 1313
Vollmer, Mandi	Old Dominion University	2	8:30 AM	LC East Foyer
Wilson, Adrianna	Virginia Tech	4	1:30 PM	LC 1307
Witherow, Megan	Old Dominion University	2	8:30 AM	LC West Foyer

## **ROLL CALL**

Averett College  
Bluefield College  
Davis & Elkins College  
James Madison University  
Liberty University  
Marymount University  
Norfolk State University  
Northern Virginia Community College  
Old Dominion University  
Radford University  
Reynolds Community College  
State Council of Higher Education for Virginia  
University of Mary Washington  
Virginia Commonwealth University  
Virginia State University  
Virginia Polytechnic Institute & State University  
Virginia Wesleyan College



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Old Dominion University  
Dr. Austin Agho, Provost and Vice President for Academic Affairs, ODU  
Dr. Brian Payne, Vice Provost for Academic Affairs, ODU  
Dr. David Metzger, Dean, ODU Honors College  
University Libraries: Kathryn Boone, Karen Vaughan  
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Harbour Graphics, Cindy Lewis, Jay McCracken, and Mjylis Gibson  
Student Moderators & Faculty Judges  
All Student Presenters and Participants