2018 Mid-Atlantic Undergraduate Research Conference
West Virginia Wesleyan College
March 24th, 2018

10:00-10:30am: Welcome and Opening Remarks - Hyma Auditorium

10:30-11:45: Morning Sessions

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<th>Time</th>
<th>Room 1</th>
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<tbody>
<tr>
<td>10:30-10:45am</td>
<td>Collett</td>
<td>Norris</td>
<td>Guydish</td>
<td>Saporito</td>
<td>Paci</td>
<td>Kinkead</td>
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<td>10:50-11:05am</td>
<td>Schleiff</td>
<td>Mortenson</td>
<td>Naylor</td>
<td>Vilasuso</td>
<td>Pell</td>
<td>Bosley</td>
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<td>11:10-11:25am</td>
<td>Felton</td>
<td>Lipscomb</td>
<td>Goldman/Hess</td>
<td>Whitmoyer</td>
<td>Wasson</td>
<td>Robinson</td>
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<td>11:30-11:45am</td>
<td>Davis</td>
<td>Corathers</td>
<td>Acree</td>
<td>Lohmann</td>
<td>Birchfield</td>
<td>Leadingham</td>
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11:50-1:00pm: Lunch (On your own)

1:00-2:00pm: Afternoon Sessions

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<td>1:00pm-1:15pm</td>
<td>Wooten</td>
<td>Williams</td>
<td>Hull</td>
<td>Wassen</td>
<td>Borovcanin/Edgell/Withrow</td>
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<td>1:20pm-1:35pm</td>
<td>Rycroft</td>
<td>DeMarco</td>
<td>Johnston</td>
<td>Wassen</td>
<td>Winters</td>
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<tr>
<td>1:40pm-2:00pm</td>
<td>Leadingham</td>
<td>Bertocci/Adkins</td>
<td>Seabolt</td>
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2:00-3:00pm: Keynote Speaker, Dr. Mellissa Nixon - Hyma

3:00pm: Awards and Closing Remarks
Morning Session 10:30-10:45

CHS 305: Cayla Collett  The Al/CO2-O2 Electrochemical Cell: A Method to Capture and Convert CO2 into Electrical Energy

CHS 313: Jerrico Norris  Fission of Lithium-6

CHS 314: Melissa Guydish  Using Digitized Skeletal Remains to Conduct Osteological Analyses

RRC 330: Catherine Saporito  Cultural Colonization: Credit Where Credit is Due

RRC 331: Zachary Paci  The Evolution of Firearms Throughout History

RRC 339: Andrew Kinkead  Online vs. Traditional Assessment

Morning Session 10:50-11:05

CHS 305: Lennard Schleiff  Electrical Regenerating Brakes Applied to a Bicycle

CHS 313: Alexa Mortenson  The Affect of Turbulence on Aerodynamics

CHS 314: Annika Naylor  Differences Among Chestnut Hybrids and their Litter Fauna

RRC 330: Zoey Vilasuso  Moral Luck and the Law

RRC 331: Esha Pell  Islamic Economics vs. Western Capitalism

RRC 339: Josiah Bosley  Reduced Potassium Chloride Cotransporter 2 (KCC2) Expression in Subdivisions of Rat Hippocampus Induced by Five-Day Treatment of the Antidepressant Imipramine

Morning Session 11:10-11:25

CHS 305: Wes Felton  Modeling Fluid Flow

CHS 313: Alex Lipscomb  Nitrogen T.E.A. Laser

CHS 314: Tara Goldman  Body composition technique: An economical tool to determine body volume

RRC 330: David Whitmoyer  Social Interaction Effects on Self-esteem

RRC 331: William Wasson  Fathers of the Constitution

RRC 339: Kathryn Robinson  Secondary Screening and RT-qPCR Analysis of Community-Acquired Strains of MRSA Susceptible to Extracts of Tyrol Knapweed, Centaurea nigrescens
Morning Session 11:30-11:45

CHS 305: Rebecca Davis  
Imaging of Spinal Tissues using Optical Microscopy Techniques

CHS 313: Randy Corathers  
The Cat-Eye Laser and Rubidium’s Hyperfine Structure

CHS 314: Kelsey Acree  
Linking Flood Outcomes With Appalachian Ecosystems

RRC 330: Maggie Lohmann  
Broad Strokes: Painting a New Woman: Critical Responses to Jessie Fauset’s Plum Bun

RRC 331: Mareya Birchfield  
Assessing Global Governance of Water

RRC 339: Mark Leadingham  
Computing the Synchronizability Index of Strongly Regular Graphs

Afternoon Session 1:00-1:15

CHS 305: Eric Wooten  
Fluidization Beds and How They Create Efficient Separating and

CHS 314: Destiny Williams  
All About DVTs

RRC 330: Ethan Hull  
The complexities of the International Monetary Fund throughout the Twentieth and Twenty-First Century

RRC 331: William Wasson  
What’s In A Name?

RRC 339: Mario Borovcanin  
Privacy and security implications of online gaming

Martina Edgell  
Wesley Withrow

Afternoon Session 1:20-1:35

CHS 305: Olivia Rycroft  
Fluctuations of Earth’s Magnetic Field During a Sounding Rocket Flight

CHS 314: Jimmy DeMarco  
Tick Identification By Microscopic Photography

RRC 330: Joie Johnston  
The Supreme Court During the Civil War

RRC 331: William Wasson  
The Congressional Pull

RRC 339: Michael Winters  
Hypo-virulent Cryphonectria parasitica and distribution/infection factors in southern Appalachia

Afternoon Session 1:40-1:55

CHS 305: Mark Leadingham  
Modeling Systems of Differential Equations with an Analog Computer Burning Conditions

CHS 314: Chaise Bertocci  
Pilot Program for Tick Surveillance at WVWC

Wyatt Adkins

RRC 330: Melissa Seabolt  
The Effects of Curricular Diversity on Self-Segregation

2:00 pm: GO TO THE KEYNOTE ADDRESS in Hyma!!!!
Conference Abstracts

Presentation abstracts may be found using the following link: https://goo.gl/pwKR6o. You can also use the QR-code below:

Bio for Mellissa Nixon, PhD

Former WV-INBRE-supported summer research student, Mellissa Nixon, is currently a post-doctoral research fellow at Vanderbilt University Medical Center. She is working in the laboratory of Dr. Justin Balko. The current focus of the lab is understanding the role of cell signaling pathways in driving cancer progression and immune evasion. Dr. Nixon earned her Bachelor of Science degree from West Virginia Wesleyan College in 2010. There, she conducted research supported by WV-INBRE under the mentorship of Dr. Luke Huggins. Her work culminated in the publication of a paper in the European Journal of Scientific Research where she was first author (“Antibacterial and cytotoxic effects of red mangrove (Rhizophor mangle, L. Rhizophoraceae) fruit extract”. European Journal of Scientific Research:11/5/2011, Vol. 63 Issue 3, p439). Dr. Nixon then attended The Ohio State University to pursue her PhD. She was the first author of two basic science manuscripts investigating the role of therapy resistance in breast cancer, and one clinical manuscript conducting a meta-analysis examining the benefit of dual anti-HER2 therapy vs single agent combined with chemotherapy. After graduating in 2014, Dr. Nixon began her post-doctoral work at Vanderbilt University Medical Center. As a research fellow, she has won the American Association for Cancer Research Scholar-In-Training Award and has given a poster podium presentation at the San Antonio Breast Cancer Symposium, the largest single organ site meeting in the world. Most recently, Dr. Nixon, through a collaboration with cardio-oncologists, oncologists and bioinformaticians, published an article in the New England Journal of Medicine, the high impact scientific journal. This article, entitled “Fulminant Myocarditis with Combination Immune Checkpoint Blockade” (N Engl J Med. 2016 Nov 3;375(18):1749-1755), describes two cases of acute and unexpected fatal myocarditis that occurred in melanoma patients following treatment with the combination of ipilimumab and nivolumab. Similar clonal T cell populations were found in myocardium and in the tumor, suggesting these patients were having a rare T-cell-driven drug reaction. Dr. Nixon hopes to continue conducting translational research investigating tumor autonomous mechanisms for immune evasion with the hopes of gaining an independent tenure track faculty research position.

Thank You

On behalf of the West Virginia Wesleyan College Honors Program, thank you for attending this year’s conference. The Honors Program would also like to thank President Thierstein and Dean Moore for their opening remarks, and the many volunteer judges. This conference was made possible by the following students and faculty: Allison Hull, Will Wasson, Mark Leadingham II, Darren Gemoets and Jorde LaFantasie.