



Winter Creative Activities and Research Days

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RADFORD UNIVERSITY

Office of Undergraduate Research and Scholarship

Dec. 4, 2019
Noon to 6 p.m.
Kyle Hall 340

Winter CARD Coordinators in OURS

Joe Wirgau, Director

Maggie Pate, Associate Director

Alyssa Thompson, Administrative Assistant

Zoe Millard, Graduate Assistant

Sam Doncaster, Executive Student Assistant

Jillian Rauch, Executive Student Assistant

The following individuals and officers are acknowledged for their contributions:

Jeff Aspelmeier, Chair of Psychology

Roann Barris, Professor of Art

Ann Elliott, Director of The Center for Gender Studies

David Horton, Assistant to the Dean of Artis College

Jonathan Mayer, Assistant Manager Printing Services

Hannah Moses, Media Designer University Relations

Meghan Spraker, Dir Digital Communications, University Relations

Ellen Taylor, Assistant Director Career and Talent Development

Jeff Willner, Professor of Psychology

Josh Wimmer, Graphic Production Tech Printing Services

Welcome:

It is my pleasure to welcome you to the Inaugural Winter Creative Activities and Research Days at Radford University. Building on the tradition of successful events such as the Student Engagement Forum in the spring and seven years of the Psychology and Gender Research Symposium, Winter CARD represents multiple events for students to disseminate their knowledge during the last week of the Fall semester. In total across three days and four buildings over 500 students will be presenting their original work. As much as the students working on these projects are changed from the experiences, their numbers and the need to create events to present their hard won accomplishments represents the transformative changes that continue at Radford University. We believe that these events truly reflect “Embracing the Tradition and Envisioning the Future” and couldn’t agree more with President Hemphill that “there is no limit to what the future holds and what we can achieve together as one Radford family.” –With Highlander Pride, Dr. Joe Wirgau, Director of the Office of Undergraduate Research & Scholarship

Winter CARD Events

December 3rd Psychology and Gender Research Symposium

Session 1 Oral Presentations	Heth 022	4:00 – 6:00 pm
Session 2 Poster Presentations	Heth 014	4:00 – 5:00 pm
Session 3 Poster Presentations	Heth 014	5:30 – 6:30 pm

African Art Exhibit Mentored by Dr. Roann Barris, Professor of Art History
2:00 pm December 3rd Reception with music and light refreshments in Porterfield 205

Haitian Vodou Drapo Flag - Damballah

Presenters: Savannah Penven

Les Vrai Femmes D'Algers: Baya Mahieddine and her Works

Presenters: Sidney Ripley

Haitian Altar in Reverence to Ayida Weddo and Damballah

Presenters: McKenna Bevins

Basotho Painted Houses

Presenters: Lanie Boyd

Haitian Sequin Bottle

Presenters: Robert Milby

Haitian Vodou Bottle

Presenters: Hannah ODell

December 4th Kyle Hall 340 Schedule of Events:

Session I	12:00 – 12:50 pm	pages 2-4
Session II	1:00 – 1:50 pm	pages 5-6
Session III	2:00 – 2:50 pm	pages 7-9
Session IV	3:00 – 3:50 pm	pages 10-12
Session V	4:00 – 4:50 pm	pages 13-14
Session VI	5:00 – 5:50 pm	pages 15-17

December 5th Artis College Showcase

3:00 – 6:00 pm Various Locations in the Center for the Sciences

Dirty Mouth: Assaying the Effects of Differential Environments on Orally Collected Bacteria

Presenters: Jordanne Rolan Lucy Smith Jordan Reddy
Bridget Ward
Faculty Mentor: Jason Davis Biology

Clean Mouth: Testing Bacterial Growth on a Toothbrush

Presenters: Courtney Streeby Makenzie Lewis Maddie Yancey
Gage Rippel
Faculty Mentor: Jason Davis Biology

Your Feet are Gross: The Effects of Sugar, Salt and Heat on Foot Bacterial Growth

Presenters: Kate Sundie Trinity Haynes Destiny Austin
Kirbie Conner
Faculty Mentor: Jason Davis Biology

Bacterial Growth on Hand: The Effects of Temperature, Salt, and Sugar

Presenters: Alayna Johnson Kate Mullins Bobbi Ferguson
Wakilah Turner
Faculty Mentor: Jason Davis Biology

Effects of Heat, Salt, and Sugar on Growth of Bacteria Isolated from a Laptop

Presenters: Emily Cha Hannah Hylton Grace Brady
Sarah Lambert
Faculty Mentor: Jason Davis Biology

A Tree-Ring Analysis of *Pseudotsuga menziesii* Growing in Wyoming

Presenters: Olivia Ligon
Faculty Mentor: Stockton Maxwell Geospatial Science

Racial Differences and the Causes of Wrongful Convictions

Presenters: Valente Perez III Olive Wimmer Quentasia Johnson
Andrew Dillon
Faculty Mentor: Margaret Pate Criminal Justice

How Campus Size Affects the Perception of Policing

Presenters: Austin White Hunter Hill Edward Weaver
Faculty Mentor: Margaret Pate Criminal Justice

Social Attitudes Towards Mass Shootings

Presenters: Megan Wright Phoebe Markwood Eric Dorsey
Faculty Mentor: Margaret Pate Criminal Justice

Influence Of Overcrowding And Safety Of Prisoners/ Guards

Presenters: Ian O'Connor Mack Delgadillo Zhabre Price
Faculty Mentor: Margaret Pate Criminal Justice

The Effects Of pH On Probiotic Bacteria

Presenters: Janee Knight Kayla Snyder Autumn Brown
Faculty Mentor: Tara Pelletier Biology

Liquid Probiotic vs. Capsule Probiotic

Presenters: Emma Roberts Alexis Williamson Jaelyn Harris
Faculty Mentor: Tara Pelletier Biology

Probiotics: CFUs in Capsules vs. Liquids

Presenters: Austin Schneider Alan Le Mariana Herrera
Faculty Mentor: Tara Pelletier Biology

A Gutty Feeling

Presenters: Quintin Goodman Naudia Gunn Sierra McShaw
Faculty Mentor: Tara Pelletier Biology

Finding a Dilution Solution

Presenters: Kameron Hughes Kyeem Dicks
Faculty Mentor: Tara Pelletier Biology

Who Did It Better? Kombucha vs. Capsule

Presenters: Nora Okes Madisyn McCoole
Faculty Mentor: Tara Pelletier Biology

The Effect Of A High Acidity Environment On The Growth Of A Bacteria Culture

Presenters: Rachel Pham Meghan McNulty
Faculty Mentor: Tara Pelletier Biology

Oxyclean Presumptive Blood Test

Presenters: Eric Vaughn Benjamin Manente Stephanie Vigil
Kayla Condron Dena Belanger
Faculty Mentor: Eric Snow Criminal Justice

Women's Equality in Developing Nations

Presenters: Emily Jenkins
Faculty Mentor: Stephanie Bradley Sociology

Leadership of Followership? Which One Does Team Sport Teach?

Presenters: Jared Layman Khiana Johnson
Faculty Mentor: Kevin Ayers Health and Human Performance

Should College Athletes be Compensated? California and its Impact on College Athletics

Presenters: Connor Buswell

Alyssa Snow

Faculty Mentor: Kevin Ayers

Health and Human Performance

The Three Signs of a Miserable Job: What They are and How Managers Can Avoid Them

Presenters: Tyler Malamisura

Faculty Mentor: Kevin Ayers

Health and Human Performance

Transformational vs. Transactional Leadership Styles for College Coaches

Presenters: Will Holladay

Kyle Altizer

Faculty Mentor: Kevin Ayers

Health and Human Performance

Good Bacteria

Presenters: Grace Akoto

Anisa Hughes

Kendra Sloane

Faculty Mentor: Tara Pelletier

Biology

Bioassessment of Radford's Stormwater Remediation Wetland

Presenters: Biol 131 students

Faculty Mentor: Ariel Firebaugh Biology

Cultural Genocide of the Uyghur Minority in Xinjiang, China

Presenters: Jonathan Nester

Faculty Mentor: Iuliia Hoban Political Science

China's Social Credit System as a Violation of Human Rights

Presenters: Haley Nunez

Faculty Mentor: Iuliia Hoban Political Science

Searching Darkness: A Theoretical Approach to International Collaboration

Presenters: Sebrena Williamson

Faculty Mentor: Ji-Eun Lee Dance

Computational Assessment of the Ecological Niche of *Ursus maritimus* Using Future Climate Models

Presenters: Sir Nottingham

Faculty Mentor: Tara Pelletier Biology

My Favorite Protein Project

Presenters: Biol 231 students

Faculty Mentor: Tara Phelps-Durr Biology

West Nile Virus

Presenters: Ethan Peggins

Faculty Mentor: Kathleen Poole Steven Lane Alan Cuoto
Health and Human Performance**Nipah Virus**

Presenters: Brooke Johnson Ashawntia Richardson

Faculty Mentor: Kathleen Poole Health and Human Performance

What is Power When it Comes to Leadership and Motivation of Workers?

Presenters: Caleb Brown

Faculty Mentor: Kevin Ayers Health and Human Performance

Indoor Professional Volleyball: Opinions for Americans to Play Overseas

Presenters: Morgan Goodman

Faculty Mentor: Kevin Ayers Health and Human Performance

Ebola

Presenters: Colton Miles

Faculty Mentor: Kathleen Poole John Zilk Austin Wolfe
Health and Human Performance

Lyme Disease

Presenters: Mary Beth Saunders
Faculty Mentor: Kathleen Poole

Michell Hernandez-Garcia
Health and Human Performance

Elise Jarema

Cholera

Presenters: Dilara Beg
Faculty Mentor: Kathleen Poole

Donovan Pittman
Health and Human Performance

Jordan Spence

Dengue Fever

Presenters: Bobbi Black
Faculty Mentor: Kathleen Poole

Cole Houchins
Health and Human Performance

Kelly Bryant

Chagas

Presenters: Patricia Schaal
Faculty Mentor: Kathleen Poole

Brett Ronyces
Health and Human Performance

Sandra Brackett

Zika

Presenters: Musavyimana Marietta
Faculty Mentor: Kathleen Poole

Jamison Cook
Health and Human Performance

Trya Sharpe

Plague

Presenters: Kayla Bishop
Faculty Mentor: Kathleen Poole

Brennen Richardson
Health and Human Performance

Selective Growth Of Lactobacillus Present In Probiotic Supplements

Presenters: Katie Price Taylor Smoot Taquon Thaniel
 Tehya Fuqua Thomas Lyttle
 Faculty Mentor: Sarah Foltz Biology

Probiotics in the Digestive System

Presenter: Emma Bradley
 Faculty Mentor: Sarah Foltz Biology

Probiotics Lab

Presenters: Virginia Ozolins Georgia Hardy Alexis Ritter
 Jadon Williams Jared Miller
 Faculty Mentor: Sarah Foltz

The Effect of Sugar Levels on Probiotic Colonies

Presenters: Alison Gebhard Marion Nanney Allison Lowie
 Kaitlyn Einreinhof
 Faculty Mentor: Sarah Foltz Biology

The Influence of Climate on Tree Stomata Density

Presenters: Bryan White Lauren Rodgers Victoria Raulerson
 Amanda Bowman John Rasnick
 Faculty Mentor: Christine Small Biology

Our Campus Trees and Their Stomata

Presenters: Gigi Burns Arvin Nguyen Affiba Beke
 Ashanti Turner
 Faculty Mentor: Christine Small Biology

Quantifying Stomata Based on Leaf Size

Presenters: Abi Naughton Lyndsie Cruz Sean Villedrouin
 Isaiah Copeland
 Faculty Mentor: Christine Small Biology

Differences in Leaf Stomata Density between Evergreen and Deciduous Trees

Presenters: Chasity Tompkins Alexa Price Loren Albergottie
 Mikayla Jones
 Faculty Mentor: Christine Small Biology

The Effect of Region of Origin on Stomata Density in Radford University Campus Trees

Presenters: Parker Edmonds Will Cecil Mia Bialobreski
 Olivia Ramsey
 Faculty Mentor: Christine Small Biology

Does Leaf Size Affect Stomata Density?

Presenters: Monica Genova Nii Abraham Olivia Tyson-Price
Wellington Dressler
Faculty Mentor: Christine Small Biology

Observed Stigma Around Speech and Intelligence

Presenters: Kati Poole Anna Wheelles Audra Jessee
Faculty Mentor: Joe Wirgau OURS

Effects of a Students' Sense of Belonging

Presenters: Noa Powell Elizabeth Dudley Evan Wood
Faculty Mentor: Joe Wirgau OURS

Cognitive Benefits of Early Childhood Music Education

Presenters: Grant McDonel Jared Williams Nashaly Sasso
Faculty Mentor: Joe Wirgau OURS

The Detrimental Effects of Shark Finning

Presenters: Elise Simmons Sierra Felty William Carpender
Faculty Mentor: Joe Wirgau OURS

Calculating Time of Death Using Forensic Entomology

Presenters: Kaitlyn Sisk Gracie Osborne
Faculty Mentor: Joe Wirgau OURS

Exo Suit Technology: Out of the Movies and into Society

Presenters: Coleen Maloney Spencer Phillips
Faculty Mentor: Joe Wirgau OURS

Not Just Coping, Thriving!

Presenters: Markel Wiggins Brooke Baumgarten Andrew Hill
Faculty Mentor: Joe Wirgau OURS

Meme Toursim Now Trending

Presenters: Benjamin Owen
Faculty Mentor: Anita Zatori Recreation, Parks and Tourism

Festival Experience Design: The Case of the Radford Highlanders Festival

Presenters: Emily Suiter
Faculty Mentor: Anita Zatori Recreation, Parks and Tourism

Bacteria And Stomach Acid

Presenters: Torri Queen
Quest Curtis

Faculty Mentor: Sarah Foltz

Daja Haynes
Phoenix Norris
Biology

Wayne Henry

Teacher Work Sample

Presenters: DaVonte Christmas
 Faculty Mentor: Stephen Shelton Health and Human Performance

Teacher Work Sample

Presenters: Courtney Coster
 Faculty Mentor: Stephen Shelton Health and Human Performance

Teacher Work Sample

Presenters: William Noe
 Faculty Mentor: Steve Shelton Health and Human Performance

Vaughan-Bassett Furniture Company: Galax, Virginia's Industrial Savior

Presenters: Danielle Walls
 Faculty Mentor: Mary Ferrari History

Effects of pH on Plant Density and Insect Abundance

Presenters: Noah Buchan Angie Holmes
 Katie Allen Sara North
 Faculty Mentor: Jamie Lau Biology

Determining Whether Proximity to Roads Affects Pollutant Concentrations, Moss Volume, and Macro-Invertebrate Abundance in Wildwood Park

Presenters: April Hiatt Miranda Flack Logan Platt
 Tony Torres
 Faculty Mentor: Jamie Lau Biology

Quiver Surf and Skateboards

Presenters: Colby Higgerson
 Faculty Mentors: Bruce Parsons & Holly Cline Interior Design and Fashion

The Origins Of Juvenile Delinquency: Perceptions From The Public

Presenters: Tawanna Hodge Sydney Venable Adriene De Lilly
 Faculty Mentor: Margaret Pate Criminal Justice

The Effect Of Alcohol On Blood Stains

Presenters: Stephan Ignjatic Ian O'Connor Devin Johnston
 Austin White Anton Jones
 Faculty Mentor: Eric Snow Criminal Justice

The Analysis of Hydrogen Peroxide on a Presumptive Blood Test

Presenters: Sarai Maguire-Hernandez Rayshell Torres-Santana Taylor Sharpe
 Destiny Freeman Lyric Woodward Elise Beahm
 Faculty Mentor: Eric Snow Criminal Justice

Effects of Exercise on the Quality of Life

Presenters: Hannah Zeigler Mary-Beth Worley
Faculty Mentor: Chris Myers Health and Human Performance

Effectiveness of Pre-Exercise Flexibility

Presenters: Logan Edwards Shantia Johns Kyle Taggart
Faculty Mentor: Chris Myers Health and Human Performance

The Psychological and Physiological Effects of Tactical Training

Presenters: Elaine Morris Mikayla Bryant
Faculty Mentor: Chris Myers Health and Human Performance

Endurance Running and Its Effect on the Development of Osteoarthritis

Presenters: James Clatterbuck Jacob Fridley
Faculty Mentor: Chris Myers Health and Human Performance

Mutual Effects of Strength and Flexibility Training

Presenters: Zack Grogan Will Hardy
Faculty Mentor: Chris Myers Health and Human Performance

Effects of Static Stretching on Leg Power and Athletic Performance

Presenters: Jessica McPeak Malinda Cooper
Faculty Mentor: Chris Myers Health and Human Performance

Flexibility Training Impacts on Strength Training

Presenters: Jesse Lynn Kareem Selwach
Faculty Mentor: Chris Myers Health and Human Performance

Impacts of Flexibility on Olympic Lifting

Presenters: Matt LaRue Chris Rivera
Faculty Mentor: Chris Myers Health and Human Performance

The Impact of Strength Training on Asymmetrical Loading Conditions: A Review

Presenters: Brian Howell Andrew Scott, Tyler Jump
Faculty Mentor: Chris Myers Health and Human Performance

Effectiveness of Flexibility Methodology

Presenters: Troy Allison Jesse Draper
Faculty Mentor: Chris Myers Health and Human Performance

pH and Nitrogen Content of Connelly's Run

Presenters: Dorian Custer

Faculty Mentor: Kristina Stefaniak Chemistry

A Literature Review of Laccase: a Multi-Copper Oxidase Used to Reduce Water Pollution

Presenters: April Hiett

Faculty Mentor: Sarah Kennedy Chemistry

Scavengers of Bird Carcasses and their Effects on Bird-Window Collision Research

Presenters: Bradley Jones Lauren Burroughs

Faculty Mentor: Karen Powers Biology

Digitizing Family History

Presenters: Chase Pilcher Angie Juodagalvis

Faculty Mentor: Sharon Roger Hepburn History

Determination of Chloride Ion Concentration and Water Hardness in Connelly's Run

Presenters: William Nape Darin Rose

Faculty Mentor: Kristina Stefaniak Chemistry

Determining Trace Metals and Chloride Concentrations in Soil

Presenters: Branham James Joe Peton

Faculty Mentor: Kristina Stefaniak Chemistry

Quantitative Analysis of Iron and Chloride in Soil Samples From Connelly's Run

Presenters: Patrick Cahoon Julian Wolz

Faculty Mentor: Kristina Stefaniak Chemistry

Quantification of Iron and Trace Metals in Connelly's Run River Water

Presenters: Joseph Ratliff Kori Brown

Faculty Mentor: Kristina Stefaniak Chemistry

Determining Water Chemistry of Water Samples from Connelly's Run

Presenters: Haley Pflanzner

Faculty Mentor: Kristina Stefaniak Chemistry

Relating the Garlic Mustard (*Alliaria petiolata*) Abundance to the Native Plants Abundance and Soil pHPresenters: Brian Ditch Amanda Whitlock Madison Paterniti
Angie Leon

Faculty Mentor: Jaime Lau Biology

Effects of Time of Day on Bird-Window Collisions at Radford University: Focusing on Hardest-Hit Buildings

Presenters: Claudia Paniagua-Ugarte Miranda Flack Taylor Brown
Faculty Mentor: Karen Powers Biology

The Effect of Iron and Chloride Concentration in Soil

Presenters: Jonathan Gibson-Cromer Kat Schoettinger
Faculty Mentor: Kristina Stefaniak Chemistry

Quantifying Observer Variability In Bird-window Collision Carcass Detection Using Bird Decoys

Presenters: Jonathan Gibson-Cromer
Faculty Mentor: Karen Powers Biology

Starry Night Recreation

Presenters: Jasmine Dudding
Faculty Mentor: Roann Barris Art

Dorris Lee, Thanksgiving

Presenters: Bryan Jewell
Faculty Mentor: Roann Barris Art

Portraits

Presenters: Tannis McKay
Faculty Mentor: Roann Barris Art

Jasper John's Numbers

Presenters: Joel Vasquez
Faculty Mentor: Roann Barris Art

Demographical Influence on the Perception of Police Misconduct and Body Cameras

Presenters: Samantha Fernandez Lance Singleton Eric VanBurger
Faculty Mentor: Margaret Pate Criminal Justice

Gender Differences in Death Penalty Support

Presenters: Kathleen Stiltner Allen Minnick Kaitlyn Copenhaver
Dustin Sage
Faculty Mentor: Maggie Pate Criminal Justice

Trace Metal Levels Describing Connelly's Run Soil in Wildwood Park, Radford, Va

Presenters: Ahyana Calloway Austin Dean Charles Dotson
Faculty Mentor: Kristina Stefaniak Chemistry

Analysis of Trace Metals, pH, Nitrate and Ammonium in Soil From Connelly's Run

Presenters: Alexandra Mekus Deanna Perales
Faculty Mentor: Kristina Stefaniak Chemistry

Chemical Analysis of Iron and Calcium Carbonate in Connelly's Run

Presenters: Samantha Powell Jake Morris
Faculty Mentor: Kristina Stefaniak Chemistry

Analysis of pH and the Concentration of Chlorides, Ammonium, and Nitrates in Connelly's Run

Presenters: Rayshell Torres-Santana Sirmion Jenerette
Faculty Mentor: Kristina Stefaniak Chemistry

Analysis of Soil Chemistry of Connelly's Run in Wildwood Park

Presenters: Sydney Fisher
Faculty Mentor: Kristina Stefaniak Chemistry

Examining The Alkalinity, pH, and Ammonium and Nitrate Concentrations in Soil Surrounding Connelly's Run in Radford, Virginia

Presenters: Mary Elizabeth Demmin Mary-Elizabeth Luttrell
Faculty Mentor: Kristina Stefaniak Chemistry

Comparing the Golden Crownbeard Density and Soil Moisture Content Between the East- and West-facing Slopes of Wildwood Park

Presenters: Chantel Cook Keasia Clark Olivia Ramsey
MarkBrianna Mathis
Faculty Mentor: Jamie Lau Biology

Comparing the Noise Levels in Four Wildwood Park Locations

Presenters: Justin McLaughlin Camryn Williford Alayna Carter
Faculty Mentor: Jamie Lau Biology

Comparing the Crayfish Abundance Between Connelly's Run and the New River

Presenters: Drew Reavis Gabriel Hessler Laken Waugh
Faculty Mentor: Jamie Lau Biology

Relating Air Temperature and Light Levels to Soil Surface and Sub-surface Temperatures in Wildwood Park

Presenters: Tyra Jackson

Ashanti Turner

Faculty Mentor: Jamie Lau

Biology

The Impact of Iron and Calcium Carbonate on the Soil Chemistry Along Connelly's Run

Presenters: Jordan Dameron

Chemistry

See you next year!

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