

Welcome: It is my pleasure to welcome you to the 5th Winter Creative Activities & Research Days at Radford University. It is with excitement we now celebrate the end of every semester with displays of students presenting the new knowledge they created while working closely with faculty and other students to answer questions relevant to society.

We want to thank the faculty who provide these distinctive opportunities for our students to gain work-based learning experiences. We know the experience students get in tackling ambiguous processes and solutions, transforms them well beyond learning skills in their disciplines, to include being more engaged in their workplace even a decade later, developing critical thinking and communication skills which are the most desired Career Readiness skills by employers, and even helping get that first job as 86% of employers indicate they are more likely to hire students who have conducted a research project with faculty.

We hope you find the students presenting this week as inspirational as we do in OURS and look forward to seeing the results of that inspiration in the years to come!

-With Highlander Pride, Dr. Joe Wirgau, Director of the Office of Undergraduate Research & Scholarship

Winter CARD Coordinators in OURS

Joe Wirgau, Director
Jennifer McDonel, Associate Director
Grace Bryant, Administrative Assistant
Kate Mullins, Graduate Assistant
Anna Ruff, Graduate Assistant
Cora Burt, Executive Student Assistant
Abbi Green, Executive Student Assistant
Lily McConkey, Executive Student Assistant

The Following Individuals are Acknowledged for Their Contributions:

Jeff Aspelmeier, Chair, Department of Psychology
Beth Johnson, Director of Library Operations
Jonathan Mayer, Manager for Printing and Postal Services
Hunter Woods, Graduate Assistant, Center for Gender Studies

About the Cover Art: The cover art is a creation of Cora Burt, a second year Art major at Radford University.

I am truly honored to contribute to this program through my artwork. I aimed to evoke a sense of familial warmth and playfulness, mirroring the joy I associate with decorating gingerbread and the holiday season.

Engaging in undergraduate research at Radford University has truly been transformative for me. OURS, coupled with the guidance of my mentor, Dr. Joe Wirgau, has not only opened doors to valuable research experiences but has also led to friendships that have given me a second family. I can't imagine my Radford University journey without the research, OURS, and Dr. Wirgau, who has been both a guide and a source of joy and confidence.

Winter CARD was what I consider to be my introduction into the realm of research, offering a unique platform for students like myself to share knowledge, express creativity, and grow as (gingerbread) people. The event's inclusive nature, drawing participants from diverse majors, results in an eclectic mix of ideas and interests—something I aimed to convey through my artwork.



5th Annual Winter CARD

Winter CARD Schedule at a Glance:

OURS is pleased to announce the schedule for the 5th Annual Winter CARD. For the detailed listing of presentations please go to www.radford.edu/wintercard

Tuesday November 28th:

11th Annual Psychology and Gender Studies Research Symposium

Oral Presentations	Heth 022	4:00 pm – 5:30 pm
Poster Presentations	Heth 043	5:00 pm – 7:00 pm

Thursday November 30th:

Travel and Tourism Oral Session	McConnell Library Ross Gallery	9:30 am – 12:15 pm
Interdisciplinary Poster Session 1	Center for the Sciences Lobby	11:00 am – 12:15 pm
Interdisciplinary Poster Session 2	Center for the Sciences Lobby	12:30 pm – 1:45 pm
Interdisciplinary Poster Session 3	Center for the Sciences Lobby	2:00 pm – 3:15 pm
Interdisciplinary Poster Session 3	Reed-Curie Atrium	2:00 pm – 3:15 pm
Interdisciplinary Poster Session 4	Reed-Curie Atrium	3:30 pm – 4:45 pm
Interdisciplinary Poster Session 5	Reed-Curie Atrium	5:00 pm – 6:15 pm

Expectations for Participating in Winter CARD:

The Honor Pledge at Radford University not only applies to classes, it encompasses all events including Winter CARD. Each student at Radford University has made a commitment to support and uphold the Honor Pledge without compromise or exception.

Radford University (University) is committed to fostering an environment that is safe and brave, pluralistic and inclusive; and conducive to academic inquiry, free expression, student engagement, and student success. An academic community exists on the basis of shared values and principles. At the University, student members of the community are expected to uphold and abide by these values and principles that form the basis of the Standards of Student Conduct (Standards). These Standards are embodied within a set of core values that include integrity, fairness, respect, trust, freedom, community, and responsibility.

When it comes to complex academic and public problems, informed people can often hold differing views, and a diversity of perspectives can lead to individual and collective growth. Disagreement should be thoughtful and respectful, and criticism of another's view should be coupled with evident and empathetic care for the person who holds it. Please think of all of our various learning environments as opportunities for building community, including the presentations that are a part of Winter CARD, and consider your actions and words appropriately.



Psychology & Gender Research Symposium

Tuesday, November 28th

Poster Presentations: 5:00 - 7:00 Heth 043

Oral Presentations: 4:00-5:30 Heth 022

The Department of Psychology's Eleventh Annual Psychology and Gender Research Symposium will be held Tuesday, Nov. 28th. All graduate and undergraduate psychology student research and class projects are welcome, as well as projects from students involved in gender-related scholarship/research in any discipline.



Travel and Tourism Oral Session McConnell Library Ross Gallery, 9:30 am – 12:15 pm

Travel and Tourism in Greece

Megan Reed

Faculty Mentor(s): Anita Zatori

Travel and Tourism in London (UK)

Erica McMahan Faculty Mentor(s): Anita Zatori

Travel and Tourism in Germany

Carson Murff Faculty Mentor(s): Anita Zatori

Travel and Tourism in Jamaica

Hannah Pedersen Faculty Mentor(s): Anita Zatori

Travel and Tourism in Finland

Mayu Tsukamoto Faculty Mentor(s): Anita Zatori

Travel and Tourism in Bora Bora

Ta'Nia Fields Faculty Mentor(s): Anita Zatori

Travel and Tourism in Korea

Mana Ichise Faculty Mentor(s): Anita Zatori

Travel and Tourism in the Netherlands

Jennings Felt Faculty Mentor(s): Anita Zatori

Travel and Tourism in British Virgin Islands

Alexis Taylor
Faculty Mentor(s): Anita Zatori

Travel and Tourism in Colombia

Gabriella Stinson Faculty Mentor(s): Anita Zatori

Travel and Tourism in Spain

Clara Regan Faculty Mentor(s): Anita Zatori

Travel and Tourism in El Salvador

Paige McNair

Faculty Mentor(s): Anita Zatori



'5th Annual Winter CARD •

Interdisciplinary Poster Session 1 Center for the Sciences Lobby, 11:00 am – 12:15 pm

Student Veterans and Post Traumatic Stress Disorder: The Impact of Peer-Led, Incentivized Case Management Program

Sam Cerva, Faith Parrish, Delaney Burris, Alexis Walton

Faculty Mentor(s): David Brock

Suffering in Silence: The Impact of a Novel Mental Health Treatment Program on Compliance and Depression in High-Risk Men.

Ashton Richardon, Grace Bradshaw, Emily Coe, Melanie (Becca) Goff

Faculty Mentor(s): David Brock

Athletic Trainer Burnout: When Exhaustion Effects Performance and Medical Error Rate

Luke Grinnell, Akire Wadkins, Ashley Pandelides, Michael Penn

Faculty Mentor(s): David Brock

The Student Debt Crisis: The Impact of Early Exposure to a Curated Financial Planning Course on Total Debt Load

Kolton Sutphin, Tyler Smith, Kaitlyn Wickham, Zach Johnson

Faculty Mentor(s): David Brock

The Impact of Contingency Management on the Prevalence of Vaping in Radford University Students

Lauren Wigginton, Vivica Jones, Lily Frost, Abigail Harrigan

Faculty Mentor(s): David Brock

Where Can Radford Cook?

Olivia Houck

Faculty Mentor(s): Allison Wisecup

RU Feeling the Food Pantry?

Abby Hairfield, Serenity Mitchell, Katie Bellomo, Audae Dudley

Faculty Mentor(s): Allison Wisecup

Effectiveness of the Highlander Pantry

Kara Harvey, Olivia Houck, Abby Austin, Jodi Allen

Faculty Mentor(s): Allison Wisecup

R U Hungry?

Aiyana Lopez, Cara Moff, Hailey Whorley, Chloe Dowell

Faculty Mentor(s): Allison Wisecup

Got Food?

Jacob O'Brien, LaShawnda Barnes, Kaya Myers, Layne Landes, Anthony Burnette

Faculty Mentor(s): Allison Wisecup

A 19th Century Courtship: Letters from Carrie Matteson to John Greene (1878)

Briana Hopson

Faculty Mentor(s): Sharon Roger Hepburn



* ˙5th Annual Winter CARD ˙•.

Interdisciplinary Poster Session 1 Center for the Sciences Lobby, 11:00 am – 12:15 pm

Courtship Letters from Carrie Matteson: 1876-1879

Robin Carleton, Marinna Hurst, Glenn Bost Faculty Mentor(s): Sharon Roger Hepburn

Elliott Collection-February, 1944

Charles Garland

Faculty Mentor(s): Sharon Roger Hepburn

The Greene Essays: Brown University Materials circa 1875-1879

Lane Chrepta

Faculty Mentor(s): Sharon Roger Hepburn

Letters from the Greene Family (1859-1888)

Sadie Stebbins

Faculty Mentor(s): Sharon Roger Hepburn

June and December 1944 - Frank Elliott

Brady Hunt, Luke Gross

Faculty Mentor(s): Sharon Roger Hepburn

Letters From Home, October 1944, From The Elliott Collection

Catherine Schleife

Faculty Mentor(s): Sharon Roger Hepburn

Analysis of the Elliot Collection

Grace Osborne

Faculty Mentor(s): Sharon Roger Hepburn

Elliott Collection: August 1944

Kayla Ferrell

Faculty Mentor(s): Sharon Roger Hepburn

Greene Family Deed History

Taylor Nguyen

Faculty Mentor(s): Sharon Roger Hepburn

The Sager Civil War Letter Collection

Elizabeth Webb

Faculty Mentor(s): Sharon Roger Hepburn

Should You Float the New River? Runoff and River Water Analysis

Emma Hendrix, Gillian Linkous, Jenna Blanchette, Logan Dovidio

Faculty Mentor(s): Kristina Stefaniak

Mysterious Runoff Pipe Polluting the New River?

Alexander Wheatley, Lucas Messer, Kim Reuwer, Hassan Al-qattan

Faculty Mentor(s): Kristina Stefaniak



• ^{*}5th Annual Winter CARD

Interdisciplinary Poster Session 1 Center for the Sciences Lobby, 11:00 am – 12:15 pm

Synthesis of Unique Transition Metal Clusters

Logan Dovidio

Faculty Mentor(s): George Harakas

New Data from Selu Observatory

Em Stipes, Garrett O'Hara, Quentin Shivnen, Danielle Smith, Ethan Montana Faculty Mentor(s): Sandra Liss

Interdisciplinary Poster Session 2 Center for the Sciences Lobby, 12:30 pm – 1:45 pm

The Use of Cannabis as an Alternative for Pain Management in Southwest Virginia

S'Zahria Jones, Aditya Balsekar, Allen Franklin, Keiyanna Patterson, Kineret Turkovich Faculty Mentor(s): David Brock

The Impact of Alternative Methods on Total Mood Disturbance in Adolescents Diagnosed with Attention-Deficit Hyperactivity Disorder

Safiya Ansari, Meredith Lucy, Adrieana Kirby, Jada Freeman, Asia Dewer Faculty Mentor(s): David Brock

Increasing Access to Mental Health Services on College Campuses

Charlene Turkovich, Ashlynn Wallace, Jo Shufelt, Mackenzie Pauley, Vanessa Bouley Faculty Mentor(s): David Brock

Trends in Opposition of the Death Penalty

Brionna Anderson, Breanna Turner, Kristen Peters, Camden McGookin Faculty Mentor(s): Allison Wisecup

Trends of Those in Favor of or Opposed to Sex Education in Public Schools

Olivia DiLauro, Chase Mcelveen, Ryan Hubbard, Al-ameen Umaru Faculty Mentor(s): Allison Wisecup

Trends in People Living Together Before Marriage

Korrin Stover, Gracie Gallimore, Kelsey McCauley, Chloe Leavitt Faculty Mentor(s): Allison Wisecup

Trends in Attitudes of Sex and Sexuality

Shaylee Surface, Emily Lamb, Keriann Kleinhenz, Shaniyah Pullen Faculty Mentor(s): Allison Wisecup

Trends that Support Abortion as a Result of Rape

Isabella Miller, Ariana Charlton, Julianne Danner, Kelsea Bethea Faculty Mentor(s): Allison Wisecup

Trends Opposed to Law Against Interracial Marriage

Kaia Larrison, Emma Dooley, Jordyn Johnson, Elena Fog Faculty Mentor(s): Alison Wisecup



• ˙5th Annual Winter CARD ˙

Interdisciplinary Poster Session 2 Center for the Sciences Lobby, 12:30 pm – 1:45 pm

Trends in Disagreeing that Men are Better Suited for Politics

Chase Brown, Lucas Birdlebough, Sophie Persinger Faculty Mentor(s): Allison Wisecup

Trends in Support of Marijuana Legalization

Gregory Accoo, Sofia Macias, Brooke Norman, Aylina Woodard Faculty Mentor(s): Allison Wisecup

Trends in Attitudes About Racial Differences in Relation to Discrimination

Janea Boyce, Josh Vannoorbeeck, Ashton Elander, Nya Roberts Faculty Mentor(s): Allison Wisecup

Analysis of Run-Off Water Into the New River

Brynn Wilhide, River Rupert, Alexander Gutzwiller Faculty Mentor(s): Kristina Stefaniak

Oh Sh!t: Quantification of Neural Metabolites in Avian Feces

Hunter Rogers

Faculty Mentor(s): Kristina Stefaniak

Why the Long Phase? The Effects of Power Distribution on Biodiversity Loss

Anna Beeson, Lily Backus

Faculty Mentor(s): Joe Wirgau, Jean Mistele

The Myth of Iphis and lanthe and the Effect it had on Later Literature and Art

Kaitlyn O'Shaughnessy, Alana Williams

Faculty Mentor(s): Peter Laws

Analyzing the Correlation and Quality Between Serve Location, Reception and Pass Ratings on Volleyball Data

Lauren Craddock

Faculty Mentor(s): Caleb Adams

Is There an "Empathy Gap" in Interracial Contexts?

Natalie Heusinger

Faculty Mentor(s): Daniel Berry

Individual Difference Factors That Reduce The Intergroup "Empathy Gap"

Sophie Crawford

Faculty Mentor(s): Daniel Berry

Interdisciplinary Poster Session 3
Center for the Sciences Lobby, 2:00 pm – 3:15 pm

How Prison Health Care Standards Negatively Impact Incarcerated Women's Health

Hayden Gulsby, Iyonah Cartwright, Deon Cooper Faculty Mentor(s): Kyshawn Smith



5th Annual Winter CARD

Interdisciplinary Poster Session 3 Center for the Sciences Lobby, 2:00 pm – 3:15 pm

Problems With Solitary Confinement

Jasper Cheers, Lucas Walker, Elijah Akabar, Samuel Morgan

Faculty Mentor(s): Lori Elis

Lack of Mental Health Care in Prison Systems

Haley Thornhill, Alex Neagle, Rusel Steele, Julia Miller

Faculty Mentor(s): Lori Elis

The Effects of Media on Crime

Emma Snead, Abbie Lane, Abigail Lee, Hayden Thomson

Faculty Mentor(s): Lori Elis

Mentally III in Prison

Grace Cleary, Mia Benavides, Haleigh Tadlock

Faculty Mentor(s): Riane Bolin

Mass Incarceration in the United States

Hannah Foster, Ashton Elander, J'Lynn Miller

Faculty Mentor(s): Riane Bolin

Staffing Shortages in Prison Facilities

Stacey Brandenburg, Raniya Bright, Madison Drees, Jailan Edmonds

Faculty Mentor(s): Riane Bolin

Healthcare in Prisons

Matthew Gary, Beau Whitteker, Danny Aguilar, Cabot Call

Faculty Mentor(s): Riane Bolin

Geriatric Inmates

Shelby Peace, Tim Lennon, Morgan Kelly, Camden Carlton

Faculty Mentor(s): Riane Bolin

Crime on College Campuses

Sophie Paspal, Aniyah Stovall, Audrey Cowden, Michael Kautzmann

Faculty Mentor(s): Stacey Clifton

Unethical Interrogations Issues

Shelby Valade, Chloe Wellings, Jade White, Rachel Hicks, Kyle Blanchard

Faculty Mentor(s): Stacey Clifton

How Working in Corrections Impacts the Mental Health of Officers

Ayla Douglas, Calista Orr, Colby Gusler, Nicole Pendergast, Rijad Cengic

Faculty Mentor(s): Stacey Clifton

How Does the Mental Health of Police Officers Affect Their Personal Relationships?

Mallory Rhodes, Jayla Mcmillan, Ezra L. Jewell, Abigail Eckstein, Benjamin Moore

Faculty Mentor(s): Stacey Clifton



* 5th Annual Winter CARD •

Interdisciplinary Poster Session 3 Center for the Sciences Lobby, 2:00 pm – 3:15 pm

The COVID-19 Pandemic and Its Impact on Domestic Violence Occurances

Miles LeVere, Madison Keaton, Yana Duggan, Faith Sprinkle Faculty Mentor(s): Stacey Clifton

How Does Sexual Assault Victimization of Children Affect Their Relationships Later in Life with the Intersection of Race and Gender?

Danni Moore, Madeline Kemp, Caitlyn Pennington, Carson Jernigan Faculty Mentor(s): Stacey Clifton

Rehabilitation in Prison

Riley Murphy, Tamiyah Gates, Camari Sheppard, Kallie Grow Faculty Mentor(s): Riane Bolin

Does the Use of Third-Party Transaction Apps Increase the Chances of Identity Theft?

William Wilkinson

Faculty Mentor(s): Stacey Clifton

Different Ethnicities Experiences with Police Use of Force

Hayley Sanders, Bailey Bramlet, Connor Houston, Abby Rice Faculty Mentor(s): Lori Elis

Solitary Confinement Produces Irreversible Detrimental Outcomes on an Inmate's Health

Amanda Bishop, Madison Keaton, Crystal Parrish, Jesse James Faculty Mentor(s): Kyshawn Smith

The Effect of Parental Incarceration on Children's Mental Health

Dayle McGraw

Faculty Mentor(s): Stacy Clifton

What Lobbying Tactics Can the Asthma and Allergy Foundation of America Learn from the American Diabetes Association and the Endocrine Society?

Olivia Hunter

Faculty Mentor(s): Daniel Reed

Germany

Rebecca Allen

Faculty Mentor(s): Mark Munzinger

College Students Perspectives on Speech-Language Pathology

Maegan Burnette Faculty Mentor(s): Diane Millar

Developing Career Readiness Through Undergraduate Research: A Qualitative Analysis

Cora Burt

Faculty Mentor(s): Joe Wirgau

RU Comfortable: A Study on Radford Students' Perspective on Emotional Expression

Chloe Dowell, Queen Frink, TJ Muller

Eaculty Mentor(s): Jean Mistele



5th Annual Winter CARD •

Interdisciplinary Poster Session 3 Reed-Curie Atrium, 2:00 pm – 3:15 pm

Learning Languages Using Linguistic Landscapes

Audrey Allen

Faculty Mentor(s): Megan Elder-Taylor

Don't be so Bitter: Dialect Changes Between High and Low German

Brooke Bailey

Faculty Mentor(s): Megan Elder-Taylor

Taboo Language and Cursing Culture: Similarities, Differences, and Discourse Across Different Languages

Kylee Walling

Faculty Mentor(s): Megan Elder-Taylor

Exploring Thai Cultural Identity Through Language

Abigail Stuckey

Faculty Mentor(s): Megan Elder-Taylor

Sociolinguistic Variables in Appalachian Dialects

Elliott Horton

Faculty Mentor(s): Megan Elder-Taylor

Exploring Sociolinguistics Through the Art of Songwriting

Jodi Allen

Faculty Mentor(s): Megan Elder-Taylor

The Evolution of the Miami Accent: How Immigration Affects Language

Aidan Velasco-Zimmerman

Faculty Mentor(s): Megan Elder-Taylor

Phonetic Deletion in New Zealand Communities

Bo Croson

Faculty Mentor(s): Megan Elder-Taylor

Spanish Integration in Southwestern Dialects

Amir Watts

Faculty Mentor(s): Megan Elder-Taylor

Overview of Swabian Dialects

Alessia Hood

Faculty Mentor(s): Megan Elder-Taylor

The Effects of Policy on the Occurrence of Intimate Partner Violence

Cade Fisher

Faculty Mentor(s): Stacey Clifton

The Impact of Life Satisfaction with Drug Usage

Laura Thompson

Faculty Mentor(s): Stacey Clifton

* ˙5th Annuål Winter CARD ˙•.

Interdisciplinary Poster Session 4 Reed-Curie Atrium, 3:30 pm – 4:45 pm

Demographics of Serial Killers

Bradley St.Clair, Trena Garland, Nathan Swisher, Noah Zullo Faculty Mentor(s): Kyshawn Smith

The Lost Colony of Roanoke

Juliana Corrales

Faculty Mentor(s): Christine Mitchell

Unearthing Solidarity: Organized Labor's Struggle and The Battle of Blair Mountain

James Underwood

Faculty Mentor(s): Christine Mitchell

The Settlers Museum

Rachel Musser

Faculty Mentor(s): Christine Mitchell

The Whiskey Rebellion

Logan Taylor

Faculty Mentor(s): Christine Mitchell

The Upper Big Branch Mining Disaster

Haileigh Osborne

Faculty Mentor(s): Christine Mitchell

What's in a Genome? A Look at Invasive Plant Species

Cassandra Hash

Faculty Mentor(s): Tara Pelletier

Why the Long Phase? The Effects of Power Distribution on Biodiversity Loss

Lily Backus, Anna Beeson

Faculty Mentor(s): Joe Wirgau

Logudorese

Riley Coburn

Faculty Mentor(s): Megan-Dawn Elder-Taylor

Interdisciplinary Poster Session 5 Reed-Curie Atrium, 5:00 pm - 6:15 pm

Environmental Analysis of The New River

Hayat Khan, Blair Claure-soliz, Reagan Patterson, Sam Williams Faculty Mentor(s): Kristina Stefaniak

Molecular Modeling of a Bacterial Beta-Glucuronidase Inhibitor

Matt Hineline

aculty Mentor(s): Kimberly Lane, Christopher Monceaux

* ˙5th Annual Winter CARD ˙•

Interdisciplinary Poster Session 5 Reed-Curie Atrium, 5:00 pm - 6:15 pm

Effects of Illegal Harvesting of Medicinal Plants on Appalachia

Hunter Greer

Faculty Mentor(s): Christine Mitchell

The Effects of Various Passive Range of Motion Stretching on Muscle Activation

Jordan Rozell

Faculty Mentor(s): David Sallee

Case Study of Muscle Activation and Movement Mechanics in a College Student with Scoliosis

Faith Parrish

Faculty Mentor(s): David Sallee

Case Study of Muscle Activation in Overhand Pitching

Tyler Horton

Faculty Mentor(s): David Sallee

Muscle Activation and ACL Rupture

Sarah Kellogg

Faculty Mentor(s): David Sallee

The Impact of Pelvic Tilt on Postural Control

Devon Vogeley

Faculty Mentor(s): David Sallee

The Impact of Book Bags on Arch Mechanics, Pelvic Tilt, and Spinal Erector Activity

Abby Harrigan

Faculty Mentor(s): David Sallee

Impact of Mobility Exercise on Arch Mechanics

Ashley Pandelides

Faculty Mentor(s): David Sallee

The Impact of Lower Leg Training on Measures of Athletic Performance

William Frias

Faculty Mentor(s): David Sallee

Inhibition of Streptococcus mutans via Oral Prebiotic

Andrea Williams

Faculty Mentor(s): Sarah Kennedy, Karen Powers

Greek Mythology and its Influence on Ancient and Modern Art

Jennah DiMaggio, Madison Lloyd

Faculty Mentor(s): Peter Laws

The Influence of One Person on the Youth of Radford

Dominika Butler, Riley Petroski

Faculty Mentor(s): Jean Mistele



NOTES:





See You Next Year!

