



CONCORD UNIVERSITY

The 13th Annual
CU Research Festival

April 21 - 22, 2022

Jean and Jerry L. Beasley Student Center
Ballroom

13th CU Research Festival

Schedule of Events

Concord University
Jean and Jerry L. Beasley Student Center
Ballroom

Thursday, April 21

12:00 pm Welcoming and Opening Remarks
(coffee and refreshments available in ABC Conference Room)

12:15 - 1:45 pm Student Paper Session

1:50 - 2:00 pm Remarks from Concord University President, Dr. Kendra Boggess

2:00 pm Introduction of the Keynote speaker : Dr. Rodney Klein

Keynote Address:

**“How Video Games, M&Ms, and Magnets
Might Improve Your Health!”**

Dr. Robert Astur

Associate Professor of Psychology

University of Connecticut

3:00 pm Closing Remarks

“How Video Games, M&Ms, and Magnets Might Improve Your Health!”



Dr. Robert Astur

Associate Professor of Psychology
University of Connecticut

Dr. Robert Astur is an Associate Professor of Psychology at the University of Connecticut. He received his PhD in Behavioral Neuroscience at the University of New Mexico in Albuquerque and he completed his postdoctoral training at Caltech and at Yale. His research focuses on memory, addiction, and anxiety disorders, and throughout the years in his research, he has worked with many different species including monkeys, chimpanzees, orangutans, elephants, dogs, rodents, and humans. He is an international leader on using virtual reality to examine complex behaviors, and he is an author of 200+ papers and presentations and has received millions of dollars of grants to fund his research. Recently, he has been conducting research to examine how destroying addictive stimuli in virtual reality might result in decreases in addictive behaviors in real life.

12:15 pm

The Underrepresentation of Gender, Racial, and Sexual Minorities in Video Games

AJ Wilson and Dr. Katherine Nutter-Pridgen

Video Games are often looked at differently than similar forms of media, such as music, film, and television. As such, we tend to ignore the fact that representation in video games is being ignored by developers. In order to combat this, a study was conducted with a variety of games that have either a large amount of positive or negative minority representation, focusing specifically on female, race, and LGBTQ minority representation in the games. Additionally, the question of protagonists falling into these categories was also considered. After conducting this study on each individual group to arrive at conclusions for each data set, the reason behind the current circumstances for each group was examined through a sociological lens.

12:30 pm

Microplastics in Rivers and Streams
in West Virginia

Cedric Drennen and Dr. Thomas Ford

In the environment, there are plenty of obstacles that arise against it. Pollution in the atmosphere is seen everywhere in the world, but sometimes it is not seen. Microplastics determine as primary (tiny particles such as cosmetics) and secondary (larger plastics that are broken down by abrasion and

other factors) plastics that are 5mm or less. Microplastics disperse in the environment depending on the density will determine its role in-depth it will settle in the water. Many microplastics are found in one sample of a bottle and often found in invertebrates feeding on the bottom for food. Microplastics vary in location from 1 million pieces per cubic centimeter to 1 piece per 100 centimeters. Stream and rivers are not often studied, and most marine studies have been researching microplastics. More reviews of microplastics in-stream/rivers can help researchers understand if this is a potential threat.

12:45 pm

Take a break—relax—have a snack

1:00 pm

D.H. Lawrence: Ahead of his Time

Holly Graham and Dr. Michelle Gompf

Main characters with physical disabilities did not **start to show up frequently and “normally”** in mainstream literature until around the 1940s (Beauchamp et al.). D.H. Lawrence's book **Lady Chatterley's Lover, published in 1928, includes a** main character who became physically disabled after World War I. This paper examines how Lawrence displayed progressive ideas for his time in regard to individuals with disabilities by analyzing the characters and their actions and the contemporary ideas they represent. Ultimately, the paper discusses how D.H. Lawrence was ahead of his time in the way he represented a character with a physical disability.

1:15 pm

1:30 pm

Perfectionism, Academic Performance, and
Mental Health in Undergraduate Students

Brittany Rowe and Dr. Rodney Klein

Perfectionism is a personality trait characterized by striving for flawlessness and having high standards for the self and others that may become excessive. In the last 10 years, rates of perfectionism have continuously increased. Additionally, elevated perfectionism is related to poor mental health, which has a negative effect on learning and overall academic performance in undergraduates. This study is being conducted to examine the relationship between academic performance, mental-health, and perfectionism among undergraduate students. Participants will complete the Hewitt and Flett Multidimensional Perfectionism Scale, Mental Health Index-5, and provide their GPA. The hypothesis is that there will be a nonlinear relationship between perfectionism and mental health, a nonlinear relationship between perfectionism and academic performance, and a positive linear relationship between mental health and academic performance. These results will supplement evidence that could help universities provide resources that will support students in achieving better mental health and reach full academic potential.

Determining the correlation between financial
stability and cutting varsity athletic programs in a
NCAA Division I and II setting

Alex Watty and Dr. Angie Edwards

Recently, Universities such as Stanford have been cutting athletic programs. Although most universities stated the cause of these were the pandemic and finances, this project will determine the correlation of financially stable schools cutting varsity athletics. My hypothesis is the correlation between financial stability of the school and the number of programs cut is higher than .5. I will be conducting a survey with NCAA Division 1 athletic directors whose campuses cut at least one varsity athletic program. I anticipate the correlation is higher than .5, showing more financial stable schools are cutting programs to potentially save money, etc.

Friday, April 22

10:00 - 1:00 Graduate & Professional School Fair in Ballroom
(coffee and refreshments available in ABC Conference Room)

10:00 am Welcome and Opening Remarks from Concord University Provost & Vice
President for Academic Affairs, Dr. Edward W. Huffstetler

10:00 - 11:00 am Poster Session I

11:00 - 12:00 pm Poster Transition from Session I to Session II
(light snacks available in ABC Conference Room)

12:00 - 1:00 pm Poster Session II

1:00 pm Academic Tik Tok Party

Notes:



Poster Session I 10:00 - 11:00 am

1	TBI and Concussions in Sports	Christopher Adams and Dr. Jill Nolan
2	Electron Microprobe Chemical Analysis: Sawatch Conglomerate , No Name Canyon CO	Micah Bates and Dr. Stephen Kuehn
3	CTE amongst Athletes and retired Athletes	Chris Harvey and Dr. Jill Nolan
4	Cold-induced stress on macrophage cytokine production in mice during chlamydia genital infection	Ashlei Kelly and Dr. Tesfaye Belay
5	Does playing youth sports help prevent injury at the high school level?	Joshua Ramos and Dr. Jill Nolan
6	Microanalysis of Megacrystic Granite from No Name, Colorado	Alexis Bolen and Dr. Stephen Kuehn
7	Cold-induced stress modulates cytokine production of dendritic cells in mice during chlamydia genital infection	Danielle Baker and Dr. Tesfaye Belay
8	Counterfactual Possibility	Taylor Brown and Dr. Rodney Klein
9	Examining Marijuana Effects on COPD Patients	Tyler Bubb and Dr. Jill Nolan
10	Electron Microprobe Analysis on Colorado Rock	Madison Cook and Dr. Stephen Kuehn
11	Abstract Project	Phillip Jones and Dr. Jill Nolan
12	Profile of CD8+ T-cells in a Stressed beta2- Adrenergic Receptor Knockout Mouse Model during Chlamydia muridarum Genital Infection	Alexis Ray and Dr. Tesfaye Belay
13	Color Psychology	Olivia Mills, Emily Tucker and Dr. Rodney Klein
14	Analysis of Franklin New Jersey Mineral	Haidyn DePinho and Dr. Stephen Kuehn
15	Investigation of Glioblastoma Multiforme Treatment via Tissue-restricted PLK-1 knockout utilizing spCas9-HF1 and miRNA Repressible Anti-CRISPR	Jonathan Bennett and Dr. Jill Nolan
16	The Power of Positivity	Destiny Endicott and Dr. Rodney Klein

Poster Session I 10:00 - 11:00 am

17	Examination of Minerals Contained in a Sulfide Ore from Leadville, CO	Andrew Trump and Dr. Stephen Kuehn
18	Stress and Its Effect on Acne	Jenna Cooper and Dr. Jill Nolan
19	Mental Wellness Between Different College Majors	Malia Legg and Dr. Rodney Klein
20	Parkinson's Disease	Shauna Harless and Dr. Jill Nolan
21	Electron Microscope Analysis of Possible Metal Ore	Devin Mckown and Dr. Stephen Kuehn
22	Stress and strain in both blue-collar and white-collar jobs within the Amazon Inc.	Raheem Williams and Dr. Jill Nolan
23	The Effects of Memorizing Unrelated and Related Knowledge on Short-Term Memory of Words	Katy Franklin and Dr. Rodney Klein
24	The Relationship Between Nutrition and Mental Health in Appalachian College Students After Introducing the Mediterranean Diet	Logan Ward and Dr. Jill Nolan
25	Blood Flow Restriction Therapy	Chandler Cooper and Dr. Jill Nolan
26	Ex Post Facto: Musical Instrument Choice	Katelyn Fitzwater and Dr. Rodney Klein
27	Neuromuscular Electrical Stimulation with Rheumatoid Arthritis	Jasmine Blankenship and Dr. Jill Nolan
28	Fallacies in pegmatite	Hunter White and Dr. Stephen Kuehn
29	Breakfast Importance for College Students	Madison Dye and Dr. Rodney Klein
30	Effect of Walking on Geriatric Depression and Anxiety	Yasmin Mosby and Dr. Jill Nolan
31	Premature Birth Defects on Autism	Chloe Widdoes and Dr. Jill Nolan
32	Energy Dispersive X-ray Spectroscopy (EDS) in the Multi-spectral Microanalysis of Gabbro	Dewey Ball and Dr. Stephen Kuehn
33	Do the Effects of Weightlifting Improve Performance in Adolescent Soccer Players	Daniel Culverwell and Dr. Jill Nolan

Poster Session II 12:00 - 1:00 pm

1	Reviving Connord's Ground Penetrating Radar	Courtney Edwards and Dr. Joseph Allen
2	Levels of microplastics in water impaired and unimpaired by fecal coliforms	Jasmine Daily and Dr. Douglas Creer
3	Building a Tower Defense Game in Unity	Jonathan O'Dell and Mr. Lonnie Bowe
4	The Antimicrobial Properties of Six Essential Oils on Four Different Types of Bacteria	Abby Wishon and Dr. Darla Wise
5	Comparison of Total Lung Capacity in Collegiate Athletes Who Have and Have Not Suffered from COVID-19 in the Past Six Months	Abby Wishon And Dr. Douglas Creer
6	The Power of Parallel Computing	Jacob Wickline and Mr. Lonnie Bowe
7	Multiscale Analysis of Dilapidated Structures in McDowell County WV	Jocelyn Scott and Dr. Thomas Saladyga
8	Wood ice Habitual Preferences and the Effects of Food Accessibility on this Preference	Raheem Williams and Dr. Douglas Creer
9	Correlation between Moderate Running in the Performance of Cognitive Brain Function.	Brittany Vaught and Dr. Douglas Creer
10	Concord University Room Reservation System	Baleigh Meadows and Mr. Lonnie Bowe
11	Analysis of Arabidopsis thaliana growth with the addition of a rhizobium inoculant vs. the addition of standard fertilizer	Charles Hawley and Dr. Douglas Creer
12	Isolation of Shogaol from Organic and Processed Ginger for use in Cancer Research	Hunter Bouldin and Dr. Young Kim
13	The Short-Term and Long-Term Effects of Concussions on Athletes at Concord University	Leah Foster and Dr. Douglas Creer
14	Topography and Rainfall Predict Regional River Output	Melinda Goda and Mr. Lonnie Bowe
15	Data Management and Manipulation	Melinda Goda and Mr. Lonnie Bowe
16	The role of Cxcl12b and axon projection in the zebrafish habenula	Alicia Horn and Dr. Sara Roberson
17	The Disinfectant Properties of Various Essential Oils on Various Metals Depicted by US Currency and Solid Surfaces at Concord University	Madison Maynard and Dr. Douglas Creer

Poster Session II 12:00 - 1:00 pm

18	Using a zebrafish PCR array to study the transcriptome response of genes mitigating reactive oxygen species in zebrafish (<i>Danio rerio</i>) larvae during dietary lipid absorption	Tom Schmieta and Dr. James Walters
19	Determining a Correlation Between The Usage of Antidepressants and Grade Point Average in College Students	Haley Lawrence and Dr. Douglas Creer
20	Impact of clinoptilolite zeolite on potassium levels in <i>Brassica rapa</i> in low pH soil	Robert Snidow and Dr. Douglas Creer
21	The role of TGF β /SMAD signaling pathway in mediating partial EMT in basal subtype breast cancer	Linh Nguyen and Mr. Lonnie Bowe
22	Respirometry Outcomes in a 7 Days Post-Fertilization <i>Danio Rerio</i> Fed Different Dietary Conditions	Paula Saez-Raez and Dr. James Walters
23	Fecal Coliform Analysis in Freshwater Rural and Urban Streams in Southern West Virginia and Western Virginia	Katherine Curran and Dr. Douglas Creer
24	Visualizing Ezrin Through GFP Tagging within the Central Alpha-helical Linker Region	Jonathan Bennett and Mr. Lonnie Bowe
25	Fecal source tracking in urban vs. rural streams sources in southern West Virginia and western Virginia	Oran Trimble and Dr. Douglas Creer
26	Microwave Synthesis of Lanthanide(III)-Polybenzimidazole Coordination Compounds	Ciersten Rose and Dr. Rodney Tigaa
27	Quality of Life and Physical Activity	Nathan Lease and Dr. Douglas Creer
28	Triclosan-Induced Antibiotic Resistance in Various Human Pathogens	Kaylin Shelton and Dr. Darla Wise
29	Short Term Effects of Social Media on Memory	Briana Parsons and Dr. Douglas Creer
30	Characterizing Peristalsis during a High-Fat Meal compared to a Low-Fat Meal in Zebrafish larvae (<i>Danio rerio</i>).	Dakota Parnell and Dr. James Walters
31	Comparing the Vital Capacity of Lungs in Covid and non-Covid Patients	Daniel Baldwin and Dr. Douglas Creer
32	An Analysis of Fecal Coliform Levels in Southern WV Waterways When Water Treatment Plants are Present vs. Not Present	Broderick McDonald and Dr. Douglas Creer
33	Understanding alcohol use among college students and how it is affecting student life	Micah Hawks and Dr. Douglas Creer
34	Validation of a Novel Microfluidic Platform by Imaging Diet Uptake in Zebrafish (<i>Danio rerio</i>) Larvae	Jesse Orell and Dr. James Walters
35	Bacterial Growth comparison in separate water sources	Austin Taylor and Dr. Douglas Creer

Academic Tik Tok Party 1:00 pm

Notes and Autographs



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