

ACADEMIC EXCELLENCE SHOWCASE 2023

Looking TO THE Future



Western Oregon UNIVERSITY
Program for Undergraduate Research Experiences

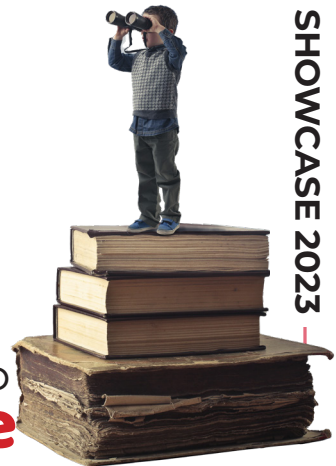
MESSAGE FROM THE PRESIDENT

Welcome to Western Oregon University's 2023 Academic Excellence Showcase. This is a special year, one that marks the return to an in-person event. It is also my first year as president of Western, and I am excited to celebrate all of the students' academic accomplishments. After all, one of the primary goals of a university is to support the success of our students and facilitate their scholarly achievements. This event is a moment when the community comes together and engages with the amazing work and ideas presented by Western students.

The theme this year is "Looking to the Future," and based on the work displayed here, we indeed see a bright future. Innovation, entrepreneurship, collaboration, leadership, kindness, reflection, hope, and cooperation are just some of the positive attributes I see in the WOU community every day, and it is quite evident in this student showcase. At Western, we are educating the future leaders and citizens, and I know that they are prepared to make a positive difference in the world, for themselves, for their families, and for their communities. It truly is a joy to watch.

To the students, keep learning, keep thinking, keep leading. We will follow you.

Jesse Peters
President, Western Oregon University
May 25, 2023



WELCOME FROM THE PROVOST •

I am so pleased that the 2023 Academic Excellence Showcase is being held in person, where we can learn and celebrate scholarly work together, in person. This year's theme of "Looking to the Future" seems both appropriate and inspiring, given the pace of change in society, science, literature and the arts. The content of this year's showcase provides compelling snapshots of the academic discoveries and creative pursuits that take place every day at WOU—on stage, in the lab, at the library or in the field.

WOU is a place where faculty encourage students to view learning as a dynamic process that extends beyond the traditional classroom, where students are urged to pursue their interests and commit to a quest of creativity and inquiry. Today's showcase is vibrant evidence of that intellectual and personal growth, illustrating the rich diversity of scholarly activities that take place at WOU.

It is a pleasure to learn from and acknowledge students' effort and accomplishments as they present their work today. I also want to convey my heart-felt appreciation to our faculty for their support of our students. I strongly encourage those students participating today as observers to become involved and to take advantage of your time at WOU, where professors are eager to mentor and collaborate with students in pursuit of knowledge, scholarship and creativity.

Rob Winningham
Provost, Western Oregon University
May 25, 2023

PRESIDENTIAL PLENARY • SESSION 1

9 - 10 a.m. • Werner University Center • Pacific Room

Cheyenne Heidt

Cheyenne Heidt is the Curriculum Specialist for The Confederated Tribes of Grand Ronde and a Grand Ronde Tribal Member. She grew up in Willamina, Oregon - just ten minutes from the Grand Ronde Reservation where she still lives with her husband, Tyler, and their 3-year-old daughter, Palmer.

Heidt completed her undergraduate and teaching license in 2018 from Oregon State University where she discovered her passion for Culturally Responsive Teaching and Native American Education. This carried into her graduate degree in Education from Western Oregon University where she focused on Culturally Responsive Teaching in the K-5 classroom. She fills her days developing curriculum, working with educators, and chasing her toddler around as they explore the Pacific Northwest.

This keynote speech will discuss the importance of planning for the next seven generations and how this concept has driven me to make a positive difference in my Native American community. I will discuss the history of the Tribe, our current struggles, and how we can work together to create a better future. I will also share my personal journey of finding my role in making a difference, and how we can all take steps towards creating a better future for generations to come.



PRESIDENTIAL PLENARY • SESSION 2

9 - 10 a.m. • Werner University Center • Pacific Room

Dominique Vargas

Dominique Vargas (she/her) is the inaugural Executive Director of Diversity, Equity, and Inclusion at Western Oregon University. Dominique started at WOU on June 1, 2022. She was most recently at University of Wisconsin-Stout Menomonie, Wisconsin where she was the inaugural Executive Director and Associate Dean of Equity, Diversity and Inclusion.

Vargas has worked in higher education for more than 13 years. She was a first generation, low income, Puerto Rican student when she first started her college career back at a small regional university in 2002. She has made it her priority to increase access to higher education opportunities for historically excluded and exploited communities. Vargas is a lifelong learner who attempts to utilize an equity lens in every aspect of her work. She is a runner and loves hiking.

"All Roads Lead to Bacalaítos"

Self-reflection and growth are journeys without specific destinations. I believe the more grounded we are in our self-identity the more we can positively impact our community. It is hard to maintain mental health and it is hard to fight for social justice, when we are not grounded in who we are. I will reflect on my experiences that led me to WOU and I will invite you to reflect on who you are and how that impacts you as a member of yours and our communities.



PRESIDENTIAL PLENARY • SESSION 3

9 - 10 a.m. • Werner University Center • Pacific Room

Dr. Chung-Fan Ni

Dr. Chung-Fan Ni is a Certified Rehabilitation Counselor, a Licensed Professional Counselor in Oregon, and an Associate Professor of Rehabilitation and Mental Health Counseling at Western Oregon University. She holds a Bachelor's degree in Nursing, a Master's degree in Creative Arts Therapy, and a Ph.D. in Counselor Education.

As a professor, Dr. Ni is passionate about helping students develop the skills and knowledge they need to make a difference in the world. She is a strong advocate for social justice and equity and is committed to using her teaching and research to promote positive change. Dr. Ni serves on the Oregon License and Professional Counselor and Therapists Board. Before that, she served two full terms on the Oregon State Rehabilitation Council to monitor the effectiveness of its policies, programs, and services in meeting the needs of Oregonians with disabilities.

Dr. Ni is an accomplished scholar. Her research has been published in leading counseling, rehabilitation, and mental health journals. In her spare time, she enjoys traveling, hiking, and cross-country skiing with her family, including a white shepherd pup named Bolt.



As we look back over the past three years, it's clear that we've all experienced significant loss and trauma, both individually and collectively. From the COVID-19 pandemic to armed conflicts and social injustice, the instability and vulnerability we've faced have impacted all aspects of our lives, including physical health, psychological well-being, relationships, education, housing, economics, and safety. Moving forward, it's critical that we focus on harnessing resilience and hope. To do so, we need to be present in the moment, recognizing what we can control and taking steps to address it. We can prioritize physical and mental health, building resilience through healthy habits, mindfulness, and self-care. We can also strengthen our social connections, which are crucial to our psychological well-being.

AWARDS

ENGLISH STUDIES

English Studies: Recognition and Readings

The English Studies session features presentations by award-winning first-year writers, advanced scholars in literature and linguistics, and creative writers.

10:15 a.m. - 12:15 p.m.

Willamette Room

Writing Awards

Presenter: Leigh Graziano

Linguistics Award

Presenter: Rob Troyer

Literature Award

Presenter: Ryan Topper

Richard and Lotte Meyer Prize for Excellence in Literature

Presenter: Gavin Keulks

Writing Award

Presenter: Katherine Schmidt

Peter Sears Prize for Poetry

Presenter: Henry Hughes

HEALTH AND EXERCISE SCIENCE AWARDS

Student Recognition

3 - 7 p.m.

Woodcock Education Center 101

Mentor: Gay Timken

MAURICE UNDERGRADUATE INITIATIVE AWARD

3:15 - 4:15 p.m.

Santiam Room

Presenter: Stephen Scheck

BIOLOGY, CHEMISTRY, EARTH AND ENVIRONMENTAL SCIENCE, AND MATHEMATICS

Natural Science and Math Student Recognition

5:45 - 6:45 p.m.

Willamette Room

Mentor: Kristin Latham-Scott

PERFORMANCES

MODEL UNITED NATIONS

Mock Session

Session chair: Mary Pettenger

Members of the Model United Nations club will host a mock session to demonstrate a MUN debate on a current event topic, audience members will be invited to participate.

THEATRE/DANCE

Dancing Our Future

11 a.m. - Noon

Maple Hall

Session chairs: Cynthia Garner, Corrie Cowart

The WOU Dance Program presents a collection of creative research from our 2022-2023 season, by selected student choreographers and esteemed guest artists.

PRESENTATIONS •

ART & DESIGN

Portfolio Presentations

10:15 a.m. - 12:45 p.m.

Woodcock Education Center 101

Session chairs: Jennifer Bracy, Jodie Garrison

Nine graduating seniors have been selected to give portfolio presentations.

Heather Green

Mentor: Jodie Garrison

Lillian Roth

Mentor: Jodie Garrison

Emelie Shay

Mentor: Jodie Garrison

Mnemosyne McKay

Mentor: Jodie Garrison

Morgan Amerson Horton

Mentor: Jodie Garrison

Carrie Halladey

Mentor: Jennifer Bracy

Maria Ortega Osorno

Mentor: Jennifer Bracy

Aisia Carrillo

Mentor: Jennifer Bracy

Julianna Tinker

Mentor: Jennifer Bracy

ASL STUDIES

10:15 - 11:15 a.m.

Woodcock Education Center 107

Session chair: Kara Gournaris

The Cure For Asthma Informercial: The Menthol Smoothie

Aubree Reese, Aidan Hare

Students will show a video recorded in ASL focused on an ASL infomercial about lungs and asthma. The purpose is to demonstrate advanced ASL skills.

BEHAVIORAL SCIENCES

10:15 - 11:15 a.m.

Santiam Room

Session chair: Brooke Nott

Keynote talk from Psychology faculty, Dr. Kathy Espino Perez. Psychology and Gerontology student-faculty presentations to follow.

We Are Ready To Talk About Grandpas; Pilot Study on Grandfather-Young Adult Grandchildren Relationships

CJ Johnson

Mentor: Margaret Manoogian

Informal Caregiving Experiences: Challenges and Opportunities for WOU as an Age-Friendly University

Emily Winters, CJ Johnson

Mentor: Melissa Cannon

Generations Over Dinner: A Pilot Program on Facilitating Intergenerational Discussions

Sarah Schultz, Natalie Blakley, Titus Schulz

Mentor: Margaret Manoogian

CHEMISTRY

Chemistry at the Forefront:

Undergraduates Discussing

Emerging Trends and Innovations

10:15 a.m. - 4 p.m.

Natural Science Building 101

Session chair: Patricia Flatt

Inspired by Nature: Snake Venom's Effects on Cardiovascular Disease

Sabrina Sam

Mentor: Patricia Flatt

The Green Synthesis of MOF Materials and the Photoluminescent Properties of CuI-based Materials

Kelsie Younce

Mentors: Feier Hou, Patricia Flatt

Proteomic Methods in Forensic Science

Cal Farris

Mentor: Patricia Flatt

"The Inner Workings of the Butterfly-Shaped Gland: A Step Into the Autoimmune Thyroid"

Mickayla Timberlake

Mentor: Patricia Flatt

Creatine Supplementation for the General Population

Tony Lopez Vazquez

Mentor: Patricia Flatt

Vitreous Humor Analysis: How Your Eyes Can Reveal Your Time of Death

Hailey Freeman

Mentor: Patricia Flatt

ENGLISH STUDIES

Recognition and Readings

Session chair: Henry Hughes

The Correlation of Anxiety and Motivation in Foreign Language Acquisition

Britany Stagnoli

Mentor: Robert Troyer

EARTH AND ENVIRONMENTAL SCIENCE

Fire & Geomorphology

12:45 - 2:45 p.m.

Health & Wellness Center 301

Session chair: David Szpakowski

Fire and Debris Flows

Joseph Brooks

Mentor: David Szpakowski

Fire & Weathering

Jake Flury

Mentor: David Szpakowski

Fire and Hydrology

Sean Finney

Mentor: David Szpakowski

Labor Day Fires/Overview

Davis Mackintosh

Mentor: David Szpakowski

Fire and Soils

Elden Meeuwssen

Mentor: David Szpakowski

HISTORY

Senior Seminar Presentations

Session chair: David Doellinger

10:15 a.m. - 12:15 p.m.

Health & Wellness Center 105

The Women's War of 1929:

Nationalism and Women in Nigeria

Amanda Larios

Mentor: Patricia Goldsworthy-Bishop

Yellow Fever and American

Expansionism: The Influence of

Sanitation Campaigns on Nationalism in Cuba and Panama

Joseph O'Neill

Mentor: Ricardo Pelegrin Taboada

An Icelandic Saga Analysis: Thorstein the Staff-Struck

Daniel Mayorga

Mentor: Elizabeth Swedo

Policing Gender Through Clothing:

A Comparative Case Study for

Maintaining a Heteronormative Society.

Logan Barr

Mentor: Kimberly Jensen

Aurora Colony Woodworking: An Internship Experience

Dawn McNamee

Mentor: David Doellinger

Consent and Divorce in Icelandic Law Codes and Sagas

Maddie Lehrer

Mentor: Elizabeth Swedo

MATHEMATICS

10:15 a.m. - 12:15 p.m.

12:45 - 1:45 p.m.

Health & Wellness Center 204

Session chair: Cheryl Beaver

Advanced Encryption Standard

Jose Alaniz-Benitez

Mentor: Cheryl Beaver

Analysis on the Solitaire Encryption Algorithm

**Presenters: Rayme McCallan,
Hunter Alan Hall**

Mentor: Cheryl Beaver

Kryptos, The Art of Encryption

Avery Hiebert

Mentor: Cheryl Beaver

The Enigma Machine

**Samuel Herford, Kayla Miller,
Marsted Hall**

Mentor: Cheryl Beaver

MATHEMATICS AND MATHEMATICS EDUCATION

*Maximally-Voided American-Style
Crossword Puzzles*

Tj Rabosky

Mentor: Leanne Merrill

COMPUTER SCIENCE

Students from Computer Science
and Information Systems present
their senior capstone projects.

1 - 4 p.m.

Instructional Technology Center 211

Session chairs: Scot Morse, Ted
Beers

*Campaign Creator: AI Generated
Materials for Tabletop Role Playing
Games*

Jade Lee McMichael, Jazz

Parayaoan, Aster Kubo, Oneil

Magno

Mentor: Scot Morse

*Live Demo of SIN (Steam Information
Nexus)*

**Cole Woodard, Seth Kirchgastner,
Carlos Cortes Escobar, Justin Davis**
Mentor: Scot Morse

*Music Collaboration Manager:
Streamline and Find Your Music*

**Wyatt Haak, Blake Finnie, Michael
Larios, Jasper Smith**
Mentor: Scot Morse

*Events for Change - A Way To Help
People Find Necessities*

**Justin Cope, Cooper Bodman,
Antonia Morales, Jacob Limas**
Mentor: Scot Morse

*WatchParty: A Social Media Platform
for Sharing Movies and TV Shows with
Friends*

**Natalie Malone, Emily West, Nygel
Ian Melchor, Armando Yanez**
Mentor: Scot Morse

*Project UGH: Level up your gaming
experience with the Ultimate Gaming
Hub*

**Quinton Roan, Cole Krieske,
Nathaniel Kuga, Eithan Martinez**
Mentor: Scot Morse

THEATRE/DANCE

A design concept presentation of the
play *Big Love*. Students will introduce
the work and explain their approach
to the design of the play.

12:45 - 1:45 p.m.

Calapooia Room

Session chair: Sandy Hedgepeth

*Design Concept Presentation: Big Love
by Charles Mee*
Paige Murphy, Maggie Brach

POSTER SESSIONS

ASL STUDIES

The Benefits of Exposure to the DeafBlind Ecosystem for Student & Novice Interpreters

Ayla Adkins

Mentor: Elisa Maroney

POLITICAL SCIENCE RESEARCH

10:15 - 11:15 a.m.

Columbia Room

Session chair: Mary Pettenger

Preventing the Spread of COVID-19

Claire Bruggers

Mentor: Mary Pettenger

The Gender Pay Gap and COVID-19

Jasmine Conley

Mentor: Mary Pettenger

POLITICS AND POLICY ENVIRONMENTAL AWARENESS PROJECTS

10:15 - 11:15 a.m.

Columbia Room

Session chair: Mary Pettenger

Building A Sustainable Recycling Industry

Josef Kavadas

Mentor: Mary Pettenger

Fast Fashion to Slow Fashion

Jasmin Ramos

Mentor: Mary Pettenger

The Decline Of Pacific Salmon

Sam Briggs

Mentor: Mary Pettenger

Discouraging Littering

Kourtney Sandidge

Mentor: Mary Pettenger

Batteries Bring Life; Batteries Can Destroy

Jorge Ruiz Ruiz

Mentor: Mary Pettenger

Mitigating energy usage

Alejandro Ortiz Villanueva

Mentor: Mary Pettenger

Improve the Industry Behind Recycling

Jayson Johnson

Mentor: Mary Pettenger

Overconsumption

Daila Marroquin Salazar

Mentor: Mary Pettenger

Reimagining the Environment

Oliver Meyr

Mentor: Mary Pettenger

Rent-A-Gown

Brenda Martinez

Mentor: Mary Pettenger

Patching climate change

Jared Rodriguez

Mentor: Mary Pettenger

Toxicity Levels in Our Bodies

Anna Rose Deardorff

Mentor: Mary Pettenger

Benefits of a Plant Based Diet

Jacy Buckmaster

Mentor: Mary Pettenger

Proper Battery Disposal

Donovan Faucher

Mentor: Mary Pettenger

GLOBALIZATION ISSUES

10:15 a.m. - 12:15 p.m.

Columbia Room

Session chairs: Eliot Dickinson, Isabelle Brehm, Daila Marroquin Salazar, Marcos Martinez Chiquillo, McKinzie McBride, Wyatt Smith, Darian Traynor

Seeking Solutions to Climate Change

Daila Marroquin Salazar

Mentor: Eliot Dickinson

BIOLOGY

12:45 - 1:45 p.m.

Calapooia Room

Session chair: Gareth Hopkins

The Relationship Between Fin Length and Speed in Different Varieties of Captive Bred Betta splendens

Claire Smith

Mentor: Gareth Hopkins

Testing the Efficacy of a New Turtle Basking Platform Incorporating a Planted Blind

Emil Ricci

Mentor: Gareth Hopkins

Variation in Terrestrial Invertebrate Communities Within an Endangered Oak Ecosystem

Jessica Chong

Mentor: Gareth Hopkins

Relationship between Water Stress and Garry Oak Health & Growth

John Cochrane

Mentor: Ava Howard

Factors Influencing the Leaf Morphology of Garry Oak Trees

Angela Bartlett

Mentor: Ava Howard

BEHAVIORAL SCIENCES

2 - 3 p.m.

Columbia Room

Session chair: Brooke Nott

How Social Support Influences Well-Being and Performance

Eva Shumate

Mentor: Brooke Nott

Coexistence of Individualistic/Collectivistic Values in Latinx Student's College Motivations

Elizabeth Doty, Blanca Jimenez

Mentors: Alicia Ibaraki, Kathy Espino Perez

Whites' Overperception of Discrimination & Motives Underlying Overperception

Blanca Jimenez, Dawn San Nicolas

Mentors: Kathy Espino Perez, Alicia Ibaraki

Human Perceptions of Emotional Intensity Affected By The Pitch of Animal Calls

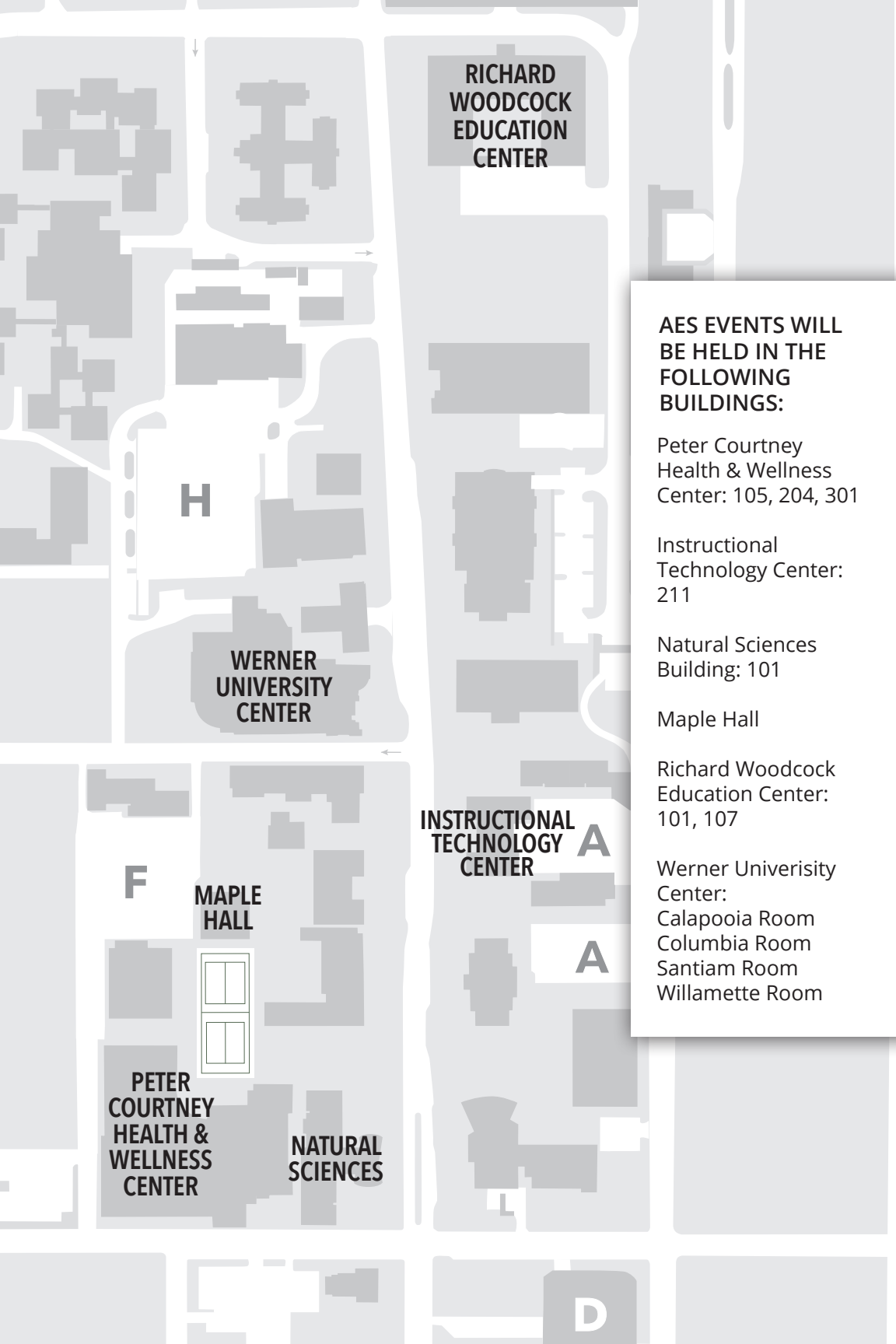
Alex Reece, Kayleigh Pierson

Mentor: Jay Schwartz

Does the World Wide Web Increase Deindividuation Through Online Anonymity?

Shelbie Reddick

Mentor: Brooke Nott



**RICHARD
WOODCOCK
EDUCATION
CENTER**

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**WERNER
UNIVERSITY
CENTER**

**INSTRUCTIONAL
TECHNOLOGY
CENTER**

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**MAPLE
HALL**

**PETER
COURTNEY
HEALTH &
WELLNESS
CENTER**

**NATURAL
SCIENCES**

D

**AES EVENTS WILL
BE HELD IN THE
FOLLOWING
BUILDINGS:**

Peter Courtney
Health & Wellness
Center: 105, 204, 301

Instructional
Technology Center:
211

Natural Sciences
Building: 101

Maple Hall

Richard Woodcock
Education Center:
101, 107

Werner University
Center:
Calapooia Room
Columbia Room
Santiam Room
Willamette Room