



LEARNING AT LUTHER

# Showcase

MAY 3, 2024



To the Luther Community:

Welcome to the Learning at Luther Showcase at Luther College, a highlight of our academic year! At Luther, we value learning in community so we set aside a day, canceling our regularly scheduled classes so the entire community can learn from and with our students as they share the results of their discoveries, reflections, and creativity from this academic year.

The day's events feature the outstanding work of many of our talented, curious, and accomplished students. Within the Showcase schedule, you will find sessions of talks by Luther students representing majors across the college. You'll notice both disciplinary and interdisciplinary sessions, each providing an exciting opportunity to engage in dialogue about significant issues in our world. There are sessions featuring research papers from our common first year course, Paideia 112 and other sessions featuring capstone senior projects.

Following the first session, the entire community is invited to gather in the center of campus at Preus Library to continue conversations and celebrate being in community. The program features two poster sessions, which will showcase a wide range of impressive work and complex learning done by Luther students under the skillful guidance of our faculty. We highlight student curated exhibits and performances that can be experienced as part of this year's Showcase.

Session topics and project titles can be found within this program. You can explore presentation details including abstracts and presentation previews in our [virtual program](#).

On behalf of Luther College, we offer our sincere congratulations to all the scholars presenting at this year's Showcase. What you will see and hear is the culmination of long hours of thought, experimentation, practice, and vision. We lift-up and appreciate this hard work and each students' willingness to share their results and reflections with our community. Each is an important part of the Luther story.

We are delighted that you have joined us to see and celebrate our students' achievements and hope this day inspires you, as we are always learning.

Sincerely,



Molly Wilker  
*Director of  
Undergraduate Research*



Robin Currey  
*Associate Provost  
Dean of Academic Affairs*



Brad Chamberlain  
*Provost*

## 2024 LEARNING AT LUTHER SHOWCASE DAY-AT-A-GLANCE

SESSION I: 9:00 A.M. -10:15 A.M.				
<i>CFL Recital Hall</i>	<i>Olin 102</i>	<i>Mott-Borlaug</i>	<i>Jenson Choir Room</i>	<i>Valders 349</i>
Paideia 112: Representation and Misrepresentation	Considering Consumer Experiences	Iowa Wildlife Populations	Stress, Spirituality and Medicine	Lightning Roundtable A

COMMUNITY GATHERING: 10:15 A.M.- 10:45 A.M.

*Preus Library front entrance* with refreshments and an interactive display for sharing and celebrating student projects.

SESSION II: 10:45 A.M. - NOON					
<i>CFL Recital Hall</i>	<i>Mott-Borlaug</i>	<i>Valders 206</i>	<i>Jenson Choir Room</i>	<i>Valders 349</i>	<i>Preus Library, main floor</i>
Paideia 112: The 1960s	Influencing Surroundings	Paideia 112: The Struggle for Rights	Reflecting Cultures in Music	Lightning Roundtable B	POSTER SESSION A

LUNCH BREAK: NOON-1:00 P.M.

SESSION III: 1:00 P.M. – 2:15 P.M.						
<i>CFL Recital Hall</i>	<i>Olin 102</i>	<i>Hovde Room</i>	<i>Mott-Borlaug</i>	<i>Valders 206</i>	<i>Jenson Choir Room</i>	<i>Valders 349</i>
Words that Inspire	Organization and Optimization	Connecting with Natural Resources	Altering Animal Behavior and Development	Paideia 112: Just and Unjust Policy	Exploring Musical Structures and Traditions	Lightning Roundtable C

SESSION IV: 2:30 P.M. – 3:45 P.M.

<i>CFL Recital Hall</i>	<i>Olin 102</i>	<i>Hovde Room</i>	<i>Sampson Hoffland Laboratories Carlson Atrium/Valders Hall of Science Concourse</i>
Paideia 112: Humanity, Technology, and Nature	Lightning Roundtable D	Healthcare and Human Rights	POSTER SESSION B

### EXHIBITS AND EVENTS:

*The Art of the Kohler Foundation, Union Art Gallery*

*Soul of Soil: CFA Jewel Theatre, 7:30 PM*

*Spring Opera Performance: Cendrillon (Cinderella), CFL, 7:30 PM*

***A special thank you to those who assisted with organizing this year's event including:***

Emily Mineart, Michelle Einck, Liz Clement, Olivia Gustafson, Jesse Winter, Eddy Atwell, Julie Strom, Stephanie Travers, Alexandra White, Elizabeth Steding, LaDonna McGohan, and Bethany Shroyer

SESSION I: 9:00 -10:15 A.M.

Center for Faith and Life Recital Hall  
**Paideia 112: Representation and Misrepresentation**  
Moderator: Jonathan Struve

**1.Dolchstoß**

*Alexandra Tiernan*

Mentor: Jonathon Struve

**2.The Lingering Echoes of Anti-Japanese Propaganda in Post-Pearl Harbor America**

*Grace Ibs*

Mentor: Mike Garcia

**3.A History Found Again: The Poetry of Angel Island**

*Lilly Riedel*

Mentor: Kathy Reed

**4.Antón: An Anomaly in "También la Lluvia"**

*Eleanor Brown*

Mentor: Andrew Hageman

Olin 102

**Considering Consumer Experiences**

Moderator: Alexandra White

**1.Luther College ID Mobile Application**

*Samuel Vue, Reece Flynn, Phat Tu*

Mentor: Paul Mattson

**2.Using Machine Learning to Predict the Cost of Custom Zinc Parts Based on Limited Information.**

*Malachi Thompson*

Mentor: Thuy Do

**3.VR technology and Marketing**

*Taylan Emre, Jibran Khan*

Mentor: Hongxiao Yu

Jenson Choir Room  
**Stress, Spirituality and Medicine**  
Moderator: Brian Hiester

**1.Humanistic Healthcare: Perspective from Tzu Chi Hospitals**

*Duong Truong*

Mentor: Gereon Kopf

**2."Do I wake or sleep?" - Mourning, Ministry, and Remembrance Across the AIDS Crisis**

*Marshall Laidlaw*

Mentor: Gereon Kopf

**3.Investigation of the effects of oxidative stress on MMP and TIMP expression in *Caenorhabditis elegans***

*Avery Wrage*

Mentor: Brian Hiester

**4.An Internship in General Dentistry**

*Mike Benoit*

Mentor: Jodi Enos-Berlage

Mott-Borlaug  
**Iowa Wildlife Populations**  
Moderator: Kirk Larsen

**1.Pollinator use of two native prairie flowers and their nativars in Northeastern Iowa.**

*Rory Wisgerhof*

Mentor: Kirk Larsen

**2.Seasonality may affect wild turkey offspring sex-ratios in Iowa**

*Ellie Shuros*

Mentor: Dr. Dawn Reding

**3.Bees of Planted Prairies and Landscaped Flower Beds on the Luther College Campus**

*Emmelyn Cullen*

Mentor: Kirk Larsen

**4.Using 2bRAD sequencing to study fine-scale population structure in Gray Fox**

*Adam Koller*

Mentor: Dawn Reding

Valders 349  
**Lightning Roundtable A**  
Moderator: Thomas Johnson

**1. *Color of Change*: Phillis Wheatley, bell hooks, Ibram X. Kendi**

*Ryan Malecha*

Mentor: Novian Whitsitt

**2. *The Imposition and Effects of US Sanctions on South Africa***

*Zach Cummer*

Mentor: Martin Klammer

**3. *The Liberal Ideological Shifts of the Warren Court Landmark Cases***

*Sydney Obaseki*

Mentor: Novian Whitsitt

**4. *Woza Albert!*: an Ode to the Soul of the Black South African Anti-Apartheid Movement**

*Karlton Anderson*

Mentor: Martin Klammer

**5. *A History of Defamation in American Law***

*Micah Anderson*

Mentor: Amy Weldon

**COMMUNITY GATHERING: 10:15 A.M.- 10:45 A.M.**  
*Preus Library front entrance* with refreshments and an interactive display

**SESSION II: 10:45 A.M. - 12:00 P.M.**

Center for Faith and Life Recital Hall

**Paideia 112: The 1960s**

Moderator: Marie Drews

**1. *Memorials, Movies, and Music: How We Remember the Vietnam War***

*Mira Melander*

Mentor: Mark Guerci

**2. *Breaking and Defining Barriers: Mapping the Seafloor During the Cold War Era***

*Rachel Borchardt*

Mentor: Todd Pedlar

**3. *Life Magazine and the Vietnam War: Before and After the Tet Offensive***

*Le Thi Thanh Binh*

Mentor: Marie Drews

**4. *Divergent Black Perspectives on the Birth Control Pill in the 1960s.***

*Rejoice Mzumara*

Mentor: Novian Whitsitt

Mott-Borlaug  
**Influencing Surroundings**  
Moderator: Michelle Boike

**1.Reclaiming Student Voice**

*Jasmine Elliott*

Mentor: Char Kunkel

**2.The Intersections and Interconnectedness of Grief, Soil, and the Body**

*Sloan Clemens*

Mentor: Jane Hawley and Char Kunkel

**3.The Impact of Racial Identity on Student Life at Luther College**

*Nia Whitsitt*

Mentor: Char Kunkel

**4.Exploratory Investigation of the Role & Presence of Queerness in Urban Planning & Development**

*Matilda Koeller*

Mentor: Char Kunkel

Valders 206  
**Paideia 112: The Struggle for Rights**  
Moderator: Martin Klammer

**1.Crossing the Street: How Beyers Naudé Challenged the Power of His Former Community**

*Wil Quinn*

Mentor: Martin Klammer

**2.Gender Bias in Health: When Asian Females' Voices Become Inaudible**

*Hazel Tran*

Mentor: David Thompson

**3.Changes of Women in the Weimar Republic**

*Emily Ostermann*

Mentor: Jonathon Struve

**4.A Solitary Stand: Helen Suzman's Lifelong Crusade for Human Rights**

*Julianne Lundvall*

Mentor: Martin Klammer

Jenson Choir Room  
**Reflecting Cultures in Music**  
Moderator: Alex Meszler

**1.Looking to the Future: The Social Responsibility of Professional Symphony Orchestras to Engage with New and Diverse Audiences**

*Malachi Rettmann*

Mentor: Brooke Joyce

**2.Musical Exoticism, an Exploration of the Gustav Holst and Louis Moreau Gottschalk**

*Hannah Kerchner*

Mentor: Melanie Batoff

Valders 349  
**Lightning Roundtable B**  
Moderator: Jon Jensen

**1.The Glorious Intersection of Music and Climate!**

*Ombeni Goss*

Mentor: Richard Mtisi

**2.Revolutionizing Wardrobes: Bloomers and Their Impact on Inequality in the 19th Century**

*Haylie Strum*

Mentor: Kathy Reed

**3.How were the accomplishments of women composers influenced by their male relatives?**

*Abby Carroll*

Mentor: Mark Guerci

**4.The Capitalist and White Supremacist History of the Ivory Piano**

*Jamie Anderson*

Mentor: Richard Mtisi

**5.Bringing Joy and Belonging to the People of Yesterday and Tomorrow: Polka Music**

*Abigail Panka*

Mentor: Kathy Reed



POSTER SESSION A: 10:45 A.M. – 12:00 P.M.

*Preus Library, Main Floor*

**1. Predicting the Probability of Faults in Steel Plates using Machine Learning**

*Erik Radke*

Mentor: Thuy Do

**2. Monitoring Livestock Movement with Deep Learning**

*Adam Koller, Nick Drew, Luc Vuong, Emma Tran*

Mentor: Thuy Do

**3. Exploring an Explorer: W. E. Rudolph's Photograph's of Indigenous Peoples in the Atacama Desert of Northern Chile.**

*Javiera Caro*

Mentor: Anita Carrasco

**4. The Social and Academic Experiences of DACA Luther Alumni**

*Evelyn Montoya*

Mentor: Anita Carrasco

**5. Developing methods for biological assessment of diverse agricultural soils.**

*Olivia Gustafson, Junita Sangare*

Mentor: Gwen Strand and Jodi Enos-Berlage

**6. Comparison of transformation of consciousness in the 7 Mansions of St. Teresa of Avila and Mandukya Upanishad.**

*Dickyi Lhamo, L'Engle Charis-Carlson*

Mentor: Gereon Kopf

**11. Investigating Epiclassic and Early Postclassic Archaeological Ceramic Pastes in Tula. Hidalgo**

*Alana Newell, Lauren Conner-Dieter*

Mentor: Destiny Crider

**12. Effect of Co-Inoculation on the Evolution of Antibiotic Production in *P. chlororaphis***

*Avery Wrage, Gwen Coleman, Layken McGuire*

Mentor: Eric Baack

**13. Effect of Competition on Antibiotic Production Between *Pseudomonas chlororaphis* and *Bacillus subtilis***

*Maxwell Chin, Emmelyn Cullen, Lilly Spade*

Mentor: Eric Baack

**14. *Pseudomonas chlororaphis* Antibiotic Production in Competitive Presence of *Bacillus subtilis***

*Mallory Fynaardt, Cole Pollock, Brady Burkheimer, Rachel Heinrich*

Mentor: Eric Baack

**15. Working Towards an Inclusive World: A Study on Medical and Educational Resources for Disabled Youth in India**

*Sarah Olson*

Mentor: Maryna Nading

**16.From Home to Hospital to Home Again: A Historical and Experiential Review on Childbirth and Midwifery Practice in the US.**

*Lydia Gruenwald*

Mentor: Anna Peterson

**17.Inclusion, creativity, and critical media skills: Hip Hop and its value in the music classroom**

*Rachel Tully*

Mentor: Jill Wilson

**19.Effects of acute alcohol exposure on dopamine and serotonin dependent behaviors in adult C.elegans**

*Alfred Cobbinah, Erin McGrath*

Mentor: Stephanie Fretham

**20.Influence of Acute Ethanol Exposure on Glutamate-Mediated Osmotic Avoidance Behavior in *Caenorhabditis elegans***

*Vicky Davis, Danika Brasic*

Mentor: Stephanie Fretham

**21.Hungover Worms: Withdrawal from acute alcohol exposure in *C. elegans*.**

*Arnold Mutasingwa, Montserrat Ramirez Mainou*

Mentor: Stephanie Fretham

**22.How Acute Exposure to Commonly Co-abused Psychoactive Substances Affects Locomotion in *C. elegans***

*Bronwyn Harvey, Nour El Kassem*

Mentor: Stephanie Fretham

**23.Drunk on Dopamine - Role of Dopamine in *C.elegan*'s Alcohol Response**

*Deepa Gayadin, McKenna Prunty*

Mentor: Stephanie Fretham

**24.Investigating the Effects of Chronic Ethanol Exposure on Osmotic Avoidance and Mechanosensation in *C. elegans***

*Riley O'Donnell, Redempta Iratunganye*

Mentor: Stephanie Fretham

**25.The Effects of Glutamate in Tolerance Development to Ethanol Inhibited Locomotion in *C. elegans***

*Braydon Saltou*

Mentor: Stephanie Fretham

**27.Healthcare Professional Observational Internship With WinnMed Hospital**

*Karson Trujillo*

Mentor: Jodi Enos-Berlage

**28.Gundersen Health Jterm Immersion**

*Ricardo Portilla Ruiz*

Mentor: Jodi Enos-Berlage

**29.The Non-Justice System: A Prolific Study Proposal**

*Kendall Clausen*

Mentor: Loren Toussaint

**30.Prejudice and Political Stigma: The Role of Availability in Political Judgments and Base-Rate Evaluation**

*Noah Howe*

Mentor: David Njus

**31.Identity in Context: Exploring How Race and Gender Impact Interracial Climate Perceptions and Social Identity on College Campuses**

*Jack Fritz, Victor Oluwa, Esther Bitijula*

Mentor: David Njus

**32.Gender Differences in Threat Perception**

*Kjerstin Halverson, Anna Beaverson, Abby Zeeh*

Mentor: David Njus

**33.Depression and the Better than Average effect**

*Kelly Ristau, Lily Chen*

Mentor: David Njus

**34.Framing effects and politics?**

*Jacob Walz, Aidan Schultheis, Jacob Wenger*

Mentor: David Njus

**35.Framing Heuristic and Gender Stereotypes**

*Connor Fletcher, Jerrienne Dannenmueller, Tristan Day*

Mentor: David Njus

**36.Political Stance, Confirmation Bias, and the Fundamental Attribution Error**

*Kai Haroldson, Tobias Snow, Abigail Ostrum*

Mentor: David Njus

LUNCH BREAK: NOON-1:00 P.M.

SESSION III: 1:00-2:15 P.M.

Center for Faith and Life Recital Hall

**Words that Inspire**

Moderator: Andy Hageman

**1. Evaluating Strategies for Teaching Grammar in a Second Language Classroom: A Case Study of Intermediate Norwegian**

*Nicholas Rogness*

Mentor: Maren Johnson

**2. Beyond the Label: How Turkish-German Hip-Hop Shaped Germany**

*Amy Webb*

Mentor: Orcun Selcuk and Elizabeth Steding

**3. To Die Full of Days: Historical Fiction from 1903 Fayette County, Iowa**

*Ethan Kober*

Mentor: Amy Weldon

**4. Girl: an Original Horror-Comedy Screenplay**

*Mia Irving*

Mentor: Andy Hageman

Mott-Borlaug

**Altering Animal Behavior and Development**

Moderator: Kirk Larsen

**1. Camera trap analysis of effects of firearm hunting on white-tailed deer population movement in hunted and non-hunted areas**

*Janet Borchardt*

Mentor: Dawn Reding and Kirk Larsen

**2. Floral resource use by native and non-native bees on Luther College campus**

*Gwenyth Coleman*

Mentor: Kirk Larsen

**3. Bat Behavior & Abundance Around Luther's Wind Turbine**

*Kaitlyn Bebensee*

Mentor: Dawn Reding

**4. Loss of Zinc-dependant Matrix Metalloproteinase Gene *zmp-2* Causes Developmental Arrest in *Caenorhabditis elegans***

*Maggie Haller*

Mentor: Brian Hiester

Olin 102  
**Organization and Optimization**  
Moderator: Brittany Cord

**1. Classification of Major League Baseball Home Runs**

*Kirby Masso*

Mentor: Thuy Do

**2. LifeList - A Personal Inventory Management Web Application**

*Cody Pierce, Luc Vuong, Wolfgang Baldus*

Mentor: Paul Mattson

**3. AI-DRIVEN BUSINESS LOCATION RECOMMENDATIONS**

*Huy Nguyen, Jibran Khan, Diep Le*

Mentor: Thuy Do

Preus Library Hovde Room  
**Connecting with Natural Resources**  
Moderator: Rachel Brummel

**1. An Assessment of Water Quality Improvement Efforts in the Driftless Area: Recommendations For a Regenerative Agricultural Transition**

*Ike Taylor*

Mentor: Jon Jensen

**2. Harmonizing Science and Art: The Transformative Power of Sound in 'Soul of Soil'**

*Willem Hawley*

Mentor: Jane Hawley

**3. 12 Years of a Prairie Restoration in Northeast Iowa: Plant Community Shifts, Burn Regimes, and Management Recommendations**

*Josie Meyer*

Mentor: Molly McNicoll

Valders 206  
**Paideia 112: Just and Unjust Policy**  
Moderator: Kate Narveson

**1. The Internment Period and its Effects on Japanese American College Students**

*Ingrid Roeske*

Mentor: Brian Caton

**2. Queen Anne and the Court Masque: overcoming constraints**

*Katherine Strum*

Mentor: Kate Narveson

**3. Abuse Towards Women With Disabilities as a Consequence of Ableism**

*Violet Mowrey*

Mentor: Lindsey Row-Heyveld

Jenson Choir Room  
**Exploring Musical Structures and Traditions**  
Moderator: Melanie Batoff

**1.Mixed Signals: How Caroline Shaw Accepts and Declines Classical Musical Traditions in Her String Quartet Writing**

*Lani Himegarner*

Mentor: Kacy Clopton

**2.The Fiddling Cello: Exploring and Building Vocabulary for Navigating Distinct Musical Languages**

*Mattie Snyder*

Mentor: Andi Beckendorf

Valders 349

**Lightning Roundtable C**  
Moderator: Stephanie Travers

**1.The Trump White House's Politicization of the Coronavirus Pandemic**

*Mansur Kasali*

Mentor: Stephanie Travers

**2.The impact of international food trade on health outcomes**

*Christ-Berly Derival*

Mentor: Stephanie Travers

**3."The Great Society" and the Policing of Black Urban America**

*Folabomi Longe*

Mentor: Novian Whitsitt

**4.Artificial Intelligence in Art**

*Serenity Bownik*

Mentor: Gereon Kopf

**5.Creating the "Ideal Worker": Vocational Education as a Uniting Force in Early Twentieth-Century Educational Reform**

*Olivia Moore*

Mentor: Mark Guerri

SESSION IV: 2:30-3:30 P.M.

Center for Faith and Life Recital Hall  
**Paideia 112: Humanity, Technology, and Nature**  
Moderator: Gereon Kopf

**1.How the Black Death prompted 14th-century Italians to engage in secular exploration and intellectual escapism, both of which were foundational to the Renaissance.**

*Meredith Dady*

Mentor: Richard Mtisi

**2.Is The Technology in Today's Era Prometheus's Fire?**

*Shan Ghimire*

Mentor: Amy Weldon

**3.Distance's Exerted Influence On Love**

*Ava Henningsen*

Mentor: Christy Vrtis

**4.Using Artificial Intelligence for Human Enhancement**

*Omotola Akingba*

Mentor: Gereon Kopf

Olin 102

**Lighting Roundtable D**

Moderator: Stephanie Travers

**1.Determining the Sequence of the EPSP Synthase gene in Wild Parsnip**

*Maxwell Chin*

Mentor: Brian Heister

**2.Gender Bias in Cardiovascular Care: Ethical Considerations**

*Eirine Salman*

Mentor: Stephanie Travers

**3.Remembering the Impact of World War II Nurses**

*Chloe Moeller*

Mentor: Mark Guerci

**4.Leaving the underworld: Meaning and the escape from anarchy in *Pulp Fiction***

*Douglas Johansson*

Mentor: Andy Hageman

**5.Simple Yet Powerful: The Musical Compositions of Queen Liliuokalani**

*Katie Jiran*

Mentor: Kathy Reed

Preus Library Hovde Room  
**Healthcare and Human Rights**  
Moderator: Maryna Nading

**1. Invisible Battles of “Ordinary” Mothers: Stories of Disability Advocacy in Iowa.**

*Grace McIlrath*

Mentor: Anita Carrasco

**2. Water Crisis in Yemen: Death, Disease, and Human Rights Violations**

*Lydia Swarney, Alex Meeter*

Mentor: Orcun Selcuk

**3. Walking With the With-Woman: Insights from Two Semesters with Midwives**

*Linnea Johnson Nordqvist*

Mentor: Maryna Nading

POSTER SESSION B: 2:30 P.M.- 3:45 P.M.  
*Sampson Hoffland Labs Carlson Atrium/Valders Concourse*

**39. Effect of Parasite Infections on the Gray Fox Microbiome**

*Ellie Gardner, Kirby Masso, Blake Anderson*

Mentor: Dawn Reding

**40. Effect of anthropogenic diet on grey fox microbiome.**

*Deepa Gayadin, Adam Koller, Jessica Droessler*

Mentor: Dawn Reding

**41. Effect of sex on the gray fox gut microbiome**

*Sofia Sackett, Julia Veit, Amenla Forjoe*

Mentor: Dawn Reding

**42. Effect of Age on the Gray Fox Gut Microbiome**

*Lauren Gray, Alyssa Gray, Abby Spore*

Mentor: Dawn Reding

**43. Effect of Canine Distemper Virus on the Gray Fox Gut Microbiome**

*Jens Bjorge, Sam Maston, Emma Tran*

Mentor: Dawn Reding

**44. Effect of Seasonality on Gray Fox Gut Microbiome**

*Avihe Kalipondoka, Daniel Pfeffer-Kleemann, Alana Newell*

Mentor: Dawn Reding

**45. Proposed restoration of oak forest: The role of white-tailed deer as an ecosystem engineer**

*Cole Pollock, Dylan Holven, Júlia Moreno*

Mentor: Molly McNicoll



**46.Bio 250: Restoration and Conservation Biology Proposed Savanna Restoration in Lionberger Preserve in Spring 2024**

*Elise Wilson, Stian Krogstad, Joseph Gorman*

Mentor: Molly McNicoll

**47.Restoration Proposal of Wet Prairie at Lionberger Environmental Preserve**

*Olivia Gustafson, Ella Marti, Iris Roddy*

Mentor: Molly McNicoll

**48.Proposed oak forest restoration: Countering the trend of mesophication**

*Owen Matzek, Mallory Fynaardt, Noah Arndt*

Mentor: Molly McNicoll

**49.Proposal for native prairie restoration and Pollinator habitat at Lionberger Preserve**

*Britt Fulton, Jane Addams, Amenla Forjoe*

Mentor: Molly McNicoll

**50.Proposal for restoration of sedge meadow at Lionberger Preserve**

*Clayton Nowak, Caleb Christiansen, Milan Bartelt*

Mentor: Molly McNicoll

**51.Nocturne's Awakening - Senior Honor's Project**

*Ren Shedinger*

Mentor: Ben Moore

**52.Analyzing Solar Radio Emission Using a Wave Horn Antenna**

*Cirdan Klindworth, Will Ode, Thane Larson*

Mentor: Jeff Wilkerson

**53.Design and Implementation of a Horn Antenna For Solar Emission Analysis at 11GHz and Surrounding Frequencies**

*Thane Larson, Cirdan Klindworth, William Ode*

Mentor: Jeff Wilkerson

**54.Measuring X-Band Solar Emissions with a Pyramidal Wave Horn**

*William Ode, Thane Larsen, Cirdan Klindworth*

Mentor: Jeff Wilkerson

**56.Studying Cosmic Ray Muons**

*Ryan Holt, Jack Moriarty, Duy Nguyen*

Mentor: Jeff Wilkerson

**57.Cosmic Ray Muon Detection**

*Austin Efflandt, Cirdan Klindworth, Ian De Wall, Minh Nguyen*

Mentor: Jeff Wilkerson

**58.Alternative Processes in Printmaking**

*Christina Rolf*

Mentor: Ben Moore

**59.Medical Grade Honey as Wound Therapy: Pilot Study of Pressure Ulcer Regeneration in The ICU**

*Duong Truong*

Mentor: Angela Kueny

**60.The Use of Aromatherapy in Symptom Management for Cancer Patients**

*Amelia Solum*

Mentor: Amy Schlachtenhaufen

**61.The Impact of Non-Pharmacological Interventions for Dementia Patients**

*Megan Frutiger*

Mentor: Amy Schlachtenhaufen

**62.Breaking Stigma: Targeted Interventions on Nurse Perception of Intellectually and Developmentally Delayed Patients**

*Samuel Zegler-Evans*

Mentor: Amy Schlachtenhaufen

**63.The Use of Cognitive Behavioral Therapy in Reducing Nurse Burnout**

*Charlotte Ravenscroft*

Mentor: Amy Schlachtenhaufen

**64.The Use of Visual Information on Patient's Preprocedural Anxiety**

*Victoria Brown*

Mentor: Amy Schlachtenhaufen

**65.Incivility and Unprofessional Behavior in the Hospital Setting**

*Aliyah Arkley*

Mentor: Amy Schlachtenhaufen

**66.The Impacts of Interprofessional Collaboration in Acute Care Setting**

*Nora Baer*

Mentor: Amy Schlachtenhaufen

**68.The Impact of Virtual Reality Simulations in Nursing Education on Learning Outcomes of Undergraduate Students**

*Chayla Velandar*

Mentor: Amy Schlachtenhaufen

**69.Pursuit of End-of-Life Care in Critically Ill Patients**

*Benjamin Bridges*

Mentor: Amy Schlachtenhaufen

**70.Preventing Burnout in Critical Care Nurses**

*Kimberly Church*

Mentor: La Donna McGohan

**71.Nurse Knowledge, Attitude, and Practice on the Prevalence of Oral Care in Intubated Critical Care Patients**

*Anna Kjeldahl*

Mentor: Amy Schlachtenhaufen

**72.The Use of Virtual Reality with Burn Patients**

*Sophie Selenke*

Mentor: Amy Schlachtenhaufen

**73.Music Therapy for Patients with an Autism Spectrum Disorder**

*Emma Amundson*

Mentor: Amy Schlachtenhaufen

**74.The Potential of Intervention-Based Programming on the Incidence of Burnout in Critical Care Nursing.**

*Katherine Syers*

Mentor: Amy Schlachtenhaufen

**75.The Impact of Education on Youth Mental Health**

*Brooke Lidberg*

Mentor: La Donna McGohan

**76.Effects of Napping During the Night-Shift on Nurses' Fatigue and Performance**

*Johanna Muenkel*

Mentor: La Donna McGohan

**77.The Impact of Family Presence During Cardiopulmonary Resuscitation**

*Fiona Garrity*

Mentor: La Donna McGohan

**78.Impact on Eye masks and earplugs on sleep in hospitalization patients**

*Madelynn Liston*

Mentor: Amy Schlachtenhaufen

**79.The Impact of Mindfulness-Based Interventions on Nurses Working in Inpatient Settings**

*Claudia Poedsta*

Mentor: Amy Schachtenhaufen

**80.Enhancing Emergency Department Outcomes Through Trauma-Informed Care**

*Abigail Ostrum*

Mentor: Amy Schlachtenhaufen

**81.Enhancing Nursing Practice: Specialized Training In Electroconvulsive Therapy**

*Samantha Reesman*

Mentor: Amy Schlachtenhaufen

**EXHIBITS AND EVENTS:**

***The Art of the Kohler Foundation, Union Art Gallery***

*Madeleine Way*

Mentor: Destiny Crider

***Soul of Soil: CFA Jewel Theatre, 7:30 PM***

*Soul of Soil* is a dance and field experiment elevating soil as the life source and the world's largest water purifier and agent for climate reform. For billions of years, the world beneath naturally modeled a collaborative, interactive, and interdependent community. Today, the state of the world's soil is dire, especially in areas that are responsible for a majority of agricultural output. We are investigating this problem as *Soul of Soil* examines the regenerative microbial tapestry through layers of the choreographic, sound, and production elements showcasing the reciprocal relationship of how the life below makes the life above possible. Tickets at [tickets.luther.edu](https://tickets.luther.edu).

***Spring Opera Performance: Cendrillon (Cinderella), CFL, 7:30 PM***

*Cendrillon (Cinderella)*, by Pauline Viardot. A timeless tale of role reversal, magical intervention, and the triumph of love. Sung in English. Tickets available at [tickets.luther.edu](https://tickets.luther.edu).