



TRUMAN STATE UNIVERSITY
**STUDENT RESEARCH
CONFERENCE**

34th Annual Undergraduate
19th Annual Graduate

April 22, 2021

FOREWORD

Welcome to the 2021 Truman State University Student Research Conference, our university-wide celebration of student research, scholarship, and creative achievement. This year is the 34th Annual Undergraduate and 19th Annual Graduate Student Research Conference. After being a virtual event last year due to COVID-19, I am excited that the 2021 Student Research Conference is being held in a hybrid format for the first time.

Despite the ongoing pandemic, we received over 200 student presentation submissions mentored by over 100 faculty members. Asynchronous virtual oral, poster, performance art, and studio art presentations, as well as a limited number of face-to-face oral presentations are being facilitated. Information for viewing presentations can be found at the conference website - <https://osr.truman.edu/src2021/> Although the Student Research Conference will be a bit different this year, we still hope to facilitate an engaging and exciting day for students to highlight their projects.

In addition to providing an opportunity for Truman students to share their outstanding and diverse work, one of the highlights of the day will be the plenary speaker, Dr. Kalynda C. Smith, Assistant Professor of Psychology at North Carolina A&T State University. Dr. Smith is a Truman alumna who graduated with her BA in Psychology and English and participated in the McNair Program. Her plenary address, 'The Exploration of Identity Intersectionality of Black Female STEM Undergraduates attending a Historically Black College and University (HBCU)', will be held over Zoom. I am thrilled to have Dr. Kalynda Smith joining us to discuss her important work.

Jessica Colpoys, PhD
Director of the Office of Student Research

PROGRAM AT-A-GLANCE

Check out the conference website at
<https://osr.truman.edu/src2021/>

Asynchronous Virtual Presentations

<https://flipgrid.com/2021src>

8:30 - 10:00 am - **Face-to-Face Concurrent Sessions**

Student Union Building

101 Face-to-Face Presentations: SUB GEO

102 Face-to-Face Presentations: SUB Activities Room

10:30 - 11:30 am - **Face-to-Face Concurrent Sessions**

Student Union Building

201 Face-to-Face Presentations: SUB GEO

202 Face-to-Face Presentations: SUB Activities Room

12:00 - 1:00 pm - **Plenary Session - Dr. Kalynda C. Smith**

Zoom- <https://zoom.us/j/93884072639>

1:30 - 3:00 pm - **Face-to-Face Concurrent Sessions**

Student Union Building

301 Face-to-Face Presentations: SUB GEO

302 Face-to-Face Presentations: SUB Activities Room

3:30 - 5:00 pm - **Face-to-Face Concurrent Sessions**

Student Union Building

401 Face-to-Face Presentations: SUB GEO

402 Face-to-Face Presentations: SUB Activities Room

12:00 - 1:00 p.m. - **Plenary Session**

Dr. Kalynda C. Smith

Zoom- <https://zoom.us/j/93884072639>

The Exploration of Identity Intersectionality of Black Female STEM Undergraduates attending a Historically Black College and University (HBCU)

Moderator: Dr. Heather Cianciola

This study examined the intersectionality of racial, gender, and academic identity of Black female STEM undergraduates attending a historically black college and university (HBCU). Research has demonstrated that the intersection of race and gender are likely to subject Black women to prejudice and ostracism in STEM disciplines. Data revealed that Black women experienced racial and gender intersectionality, but that quantitative findings demonstrated a decrease in Black racial centrality and private regard over time. Qualitative reports suggested otherwise. Further research must be done to understand the differences between the quantitative and qualitative findings.



Dr. Kalynda C. Smith is currently an Assistant Professor of Psychology at North Carolina A&T State University. Her current teaching load is primarily social psychology and cultural psychology courses. She is also a Co-PI of several STEM education NSF-funded projects focused on the academic achievement of students of color, especially as it pertains to pursuing research and graduate training. These interdisciplinary projects include faculty from education, engineering, mathematics, political science, social work and sociology and are cross-institutional. Her duties include quantitative and qualitative

data collection, analyses, interpretation, and publication. Dr. Smith is primarily interested in how identity impacts the achievement outcomes of students of color, including, but not limited to racial identity, gender identity and academic identity.

PROGRAM

8:30-10:00 a.m. • SUB GEO SESSION 101 Face-to-Face Presentations

Moderator: **Ms. Ashleigh Harding**

8:30 a.m. • KIMBERLY R. RAMOS

Dr. Dereck Daschke, Faculty Mentor

“Long Forgotten Stories”: *Over the Garden Wall* as Spiritual Experience and the Hero’s Journey

8:45 a.m. • ELYSE ELLIS

Dr. Summer Pennell, Faculty Mentor

Playing Four Square: Quadruple Consciousness and Community Formation Habits of Black Queer Students at PWI’s

9:00 a.m. • MORGAN N. MILLER

Dr. Julie Lochbaum and Dr. Bridget Thomas, Faculty Mentors

Causes of Classroom Misbehavior Regarding Aspects Outside of the Classroom

9:15 a.m. • MEREDITH E. MURPHREE* and JUSTIN S. SWEENEY

Mr. Randy W. Bame, Faculty Mentor

Applied Strategies in Arts Leadership: an Analysis of the Truman Theatre Department

9:30 a.m. • ANNE E. HUBBLE

Dr. Michael Barnes, Faculty Mentor

Financial Literacy Among College Students

9:45 a.m. • TORI D. TYLER

Dr. Marc Rice and Dr. Heather Cianciola, Faculty Mentors

Quédateme Un Poco Más: An Analysis of *Forms of Separation* by Dr. Victor Marquez-Barrios

Primary Presenter: * Graduate Students: ♦

8:30-10:00 a.m. • SUB Activities Room
SESSION 102 Face-to-Face Presentations

Moderator: **Dr. Bill Miller**

8:30 a.m. • ROBERT D. CAMPBELL

Dr. Bill R. Miller, Faculty Mentor

Computational Drug Design for Novel Inhibitors of the Zika NS2B-NS3
Protease

8:45 a.m. • BROOKE L. DIEHL

Dr. Brent Buckner and Dr. Diane Janick-Buckner, Faculty Mentors

Expression of RNA Polymerase II Subunits During T-helper Cell Differentiation

**9:00 a.m. • ABBY R. ROE*, ALLISON M. GARRETT, GINNY A.
SCHRANCK, and MADELINE P. WILSON**

Dr. Nancy Daley Moore, Faculty Mentor

The Wellness Series

9:15 a.m. • SAMUEL J. MYERS

Dr. Ruthie Halma, Faculty Mentor

Using Deep Q-Learning to Predict Student Success

9:30 a.m. • PEYTON BELL

Dr. Scott Alberts and Dr. Jan Miyake (Oberlin College and Conservatory),
Faculty Mentors

A Data Visualization of the Music of Haydn

9:45 a.m. • ANGELINA PARTENHEIMER

Dr. Ian Lindevald, Faculty Mentor

Using Machine Learning to Improve Sensitivity in Top-Antitop Resonance
Searches with the ATLAS Experiment

10:30-11:30 a.m. • SUB GEO
SESSION 201 Face-to-Face Presentations

Moderator: **Dr. David Gillette**

10:30 a.m. • MARIA A. LEON

Dr. Brian Ott, Faculty Mentor

An Evaluation of Native American Representation in American Films

10:45 a.m. • JACOB A. TOURVILLE* and JESSICA N. ROOD

Dr. David Gillette, Faculty Mentor

Income Inequality and Economic Mobility

11:00 a.m. • NOAH B. ROGERS

Dr. Marc Rice and Dr. Adam Davis, Faculty Mentors

The Traditional German *Volksballade* and Its Romantic Revival: An (Abridged) Lecture Recital

11:15 a.m. • JAMES J. NICHOLSON

Dr. Jennifer G. Jesse, Faculty Mentor

The Prophet Behind the Prophet: The Intertextuality of Mark 11-13 and Jeremiah 7

10:30-11:30 a.m. • SUB Activities Room
SESSION 202 Face-to-Face Presentations

Moderator: **Dr. Brandy Schneider**

10:30 a.m. • BROOKE N. VUNCANNON♦

Dr. Brandy Schneider, Faculty Mentor

Effects of COVID-19 on Collegiate Athlete's Mental Health

10:45 a.m. • PEYTON M. HORNBERGER

Dr. Michael Rudy, Faculty Mentor

COVID-19 and Leadership: Why Some Countries Succeeded And Others Failed

11:00 a.m. • GRANT M. FREITAS

Dr. Bill R. Miller, Faculty Mentor

Inhibiting SARS-CoV-2: A Computational Approach

11:15 a.m. • CLAY D. THEBEAU♦

Dr. Brandy Schneider, Faculty Mentor

COVID-19: The Effect of the Pandemic on Athletic Trainers

1:30-3:00 p.m. • SUB GEO

SESSION 301 **Face-to-Face Presentations**

Moderator: **Dr. Cassidy Dobson**

1:30 p.m. • RYAN P. POLAND

Dr. Cassidy Dobson, Faculty Mentor

Determination of Re-Folding Effectiveness of DBF Through Lysozyme Activity Assays

1:45 p.m. • SARAH K. GAINER

Dr. Stephanie Fore and Dr. Dean DeCock, Faculty Mentors

Seasonality and Trends of *Amblyomma americanum* Nymph Lifestage Activity and its Correlation with Human Ehrlichiosis Seasonality in Missouri

2:00 p.m. • MAKENZIE A. CRAWFORD♦

Dr. Brandy Schneider, Faculty Mentor

The Presence of Natural Knee Hyperextension puts Athletes at Higher Risk for ACL Tears

2:15 p.m. • PATRICK L. QUIRK

Dr. Ian Lindevald, Faculty Mentor

The Three-Body Problem: Why Can't We Solve It?

2:30 p.m. • MOLLY S. VITTEGL* and ADAM VASKE

Dr. Tim Humphry, Faculty Mentor

Synthesis of Tertiary Isoprene Sulfate

1:30-3:00 p.m. • SUB Activities Room
SESSION 302 Face-to-Face Presentations

Moderator: **Dr. William Ashcraft**

1:30 p.m. • EMMA E. PALUMBO* and THEODORE D. GREER

Dr. Charles L. Gran, Faculty Mentor

Tubatronics: An Unconventional Venture into the Process of Creating and Performing a Piece for Tuba and Electronics

1:45 p.m. • SOPHIA J. JOHNSON

Dr. William Ashcraft, Faculty Mentor

Omnipotence and Liberation: The Theology of God's Power in Black Christianity

2:00 p.m. • LESLEY M. HAUCK

Dr. Brian Ott, Faculty Mentor

Oppositional Dialectics and Myths: Naturalizing Misogyny in the Incel Community on 4chan's /r9k/

2:15 p.m. • EMMA C. ROLLINGS*, BRYCE BEGGS, JESSICA N. ROOD, CODY BOYD, and ADALINE R. BRAY

Dr. David Gillette, Faculty Mentor

Agricultural Policy, Nutritional Welfare, and Public Choice Economics

2:30 p.m. • THOMAS R. SEBACHER

Dr. Dan Mandell, Faculty Mentor

Burning a Convent: The Riot at Mount Benedict and Early American Gender Relations

2:45 p.m. • KIMBERLY R. RAMOS

Dr. Chad Mohler and Dr. Heather Cianciola, Faculty Mentors

Don't Break Character: Defending and Revising Elisabeth Camp's Character Model of the Self

3:30-5:00 p.m. • SUB GEO
SESSION 401 Face-to-Face Presentations

Moderator: **Dr. Tim Wiser**

3:30 p.m. • KERSTIN E. PETERSON

Dr. Cassidy Dobson, Faculty Mentor

Disulfide Bond Forming Enzyme Activity via Lysozyme Assay

3:45 p.m. • ANDREW D. GENTRY

Dr. Tim Wiser, Faculty Mentor

Bayesian Inference and Cosmological Data Analysis

4:00 p.m. • BENJAMIN J. GRABNER

Dr. Stephanie Fore and Dr. Hyun-Joo Kim, Faculty Mentors

Relationship between variation in nymphal *Amblyomma americanum* activity in Kirksville, Missouri and the El Niño Southern Oscillation (ENSO)

4:15 p.m. • VALERIE S. WINKLER

Dr. Brittany Hagenhoff, Faculty Mentor

The Effect of Curcumin on the Fibril Formation of Amyloid- β Fragments 1-16, 1-28, and 1-40

4:30 p.m. • TREANDICE A. WILLIAMS

Dr. Heather Cianciola, Faculty Mentor

How does the Environment affect the levels of Serotonin and Dopamine on Norway Rats and Black Rats.

4:45 p.m. • CAROLINE G. VOGL

Dr. Christine Harker and Dr. Bridget Thomas, Faculty Mentors

Impacting Climate Change: Mitigation Strategies to Reduce Damage Done by Animal Agriculture

3:30-5:00 p.m. • SUB Activities Room
SESSION 402 Face-to-Face Presentations

Moderator: **Dr. John Jones**

3:30 p.m. • EMILY K. ZUBER♦

Dr. Julianna Moore, Faculty Mentor

O'o for Unaccompanied Flute: A Musical Depiction of the Final Days of the Moho Bird

3:45 p.m. • EMMA C. ROLLINGS

Dr. Terry Olson, Faculty Mentor

Who Cares? Daughters and Elder Family Member Nursing Home Use

4:00 p.m. • PATRICK M. MAY*, ERIC R. BRUCE, and BROCK M. MALONE

Prof. Charles Boughton, Faculty Mentor

Digitalization: The Future of Finance

4:15 p.m. • SHELBY T. FELTROP♦

Dr. Brandy Schneider and Dr. Greg Williams (University of Central Missouri), Faculty Mentors

Bullying: The Ugly Side of Athletic Training

4:30 p.m. • KAITLYN S. OWENS

Dr. Gregory C. Richter, Faculty Mentor

Une Comparaison Linguistique de *Le Petit Prince* par Antoine de Saint-Exupéry en Français et en Occitan: A Linguistic Comparison of *The Little Prince* by Antoine de Saint-Exupéry in French and Occitan

4:45 p.m. • THOMAS R. SEBACHER

Dr. Natalie Alexander, Faculty Mentor

Uneasy Identities: A New Model for Identity in Social Philosophy

Asynchronous Virtual Presentations

<https://flipgrid.com/2021src>

Agriculture & Environmental Studies

JORDAN E. HERBST*, MELINA C. MANSFIELD, and MOLLY L. MENNE

Dr. Jessica Colpoys, Faculty Mentor

Impact of Environmental Enrichment on Weaning Stress in Calves

MEGAN M. STANTON*, TABITHA A. DEACON, KIERAN E. GERMAN, BEN M. COLLINS, and EMMA N. FELLOWS

Dr. Bob Johnson and Dr. Kelly Walter, Faculty Mentors

Effects of Insects and Soil Microorganisms on Animal Carcass Decomposition

TREY A. MADDALENO

Dr. Barbara K. Kramer, Faculty Mentor

Microplastic Abundance in the Chariton River: A Research Proposal

WILLIAM M. CONNOLLY

Dr. Christine Harker and Dr. Bridget Thomas, Faculty Mentors

Thoughts for Food: Relevance of Food Analysis to the City of Kirksville

Anthropology

GIANNA N. JAMSKI

Dr. Amber Johnson, Dr. Brian Ott, and Dr. Anton Daughters, Faculty Mentors

Playful Conspiracies: Exploring Inside Jokes Among College Students

KAITLIN LEWIS

Dr. Brian Ott and Dr. Anton Daughters, Faculty Mentors

The Motivations Behind Immigration to Kirksville

RACHEL B. WISSLER

Dr. Brian Ott and Dr. Anton Daughters, Faculty Mentors

Relationships and Social Media: Can People Recognize Unhealthy Social Media Behaviors?

TABITHA F. WILKERSON

Dr. Brian Ott and Dr. Amber Johnson, Faculty Mentors

Evolution and Race: How Our Background Affects Our Abilities to Learn

RUTHIE A. NEISEN

Dr. Amber Johnson, Dr. Brian Ott, and Dr. Anton Daughters, Faculty Mentors

Gender, Race, and the Patient-Physician Relationship

Biochemistry & Molecular Biology

MARISSA D. PINA

Dr. Bill R. Miller, Faculty Mentor

Computational Drug Discovery for a Protease Inhibitor as a Treatment for the Coronavirus Disease

ALEXANDRA M. MARKO

Dr. Cassidy Dobson, Faculty Mentor

Gamma Crystallin Aggregation in the Presence of Disulfide Bond Forming (DBF) Enzyme

ADDISON M. LEABO

Dr. Cassidy Dobson, Faculty Mentor

Aggregation of Gamma Crystallin Proteins

DEREK M. EMPSON

Dr. Cassidy Dobson, Faculty Mentor

The Effect of Two Subsequent Purifications on DBF Using Immobilized Metal Affinity Column Chromatography

COLLIN J. HANSEN

Dr. Bill R. Miller, Faculty Mentor

Novel drug design to inhibit the ZIKV NS2B-NS3 protease

CORBIN A. ESTES

Dr. Cassidy Dobson, Faculty Mentor

Expression and Purification of DBF

AVERY T. EVANS

Dr. Bill R. Miller, Faculty Mentor

Investigation Into Potential Inhibitors for Alpha-Synuclein

BROCK BOYSAN

Dr. Bill R. Miller, Faculty Mentor

Computational Investigation of Potential Inhibitors for HIV Viral Infectivity Factor

JACKSON DYROFF

Dr. Bill R. Miller, Faculty Mentor

Molecular Dynamics Investigation of Amyloid β Polyphenol Inhibitors in Alzheimer's Disease

ALEXANDRA P. PLATT

Dr. Bill R. Miller, Faculty Mentor

Computational Investigation of Polyphenols as Inhibitors to the Aggregation of Amyloid β in Alzheimer's Disease

ELIZABETH E. CREMER

Dr. Bill R. Miller, Faculty Mentor

Computational Drug Design to Inhibit the Zika NS2B/NS3 Protease

SAUL ARMENDARIZ LOBERA

Dr. Bill R. Miller, Faculty Mentor

Inhibition of DNA Deaminase APOBEC3B Using Computational Methods

GUTHRIE L. STROH

Dr. Cassidy Dobson, Faculty Mentor

Qualitative Study of the Chaperone Activity of DBF Enzyme on Protein Aggregates

JAKE A. COLLINS

Dr. Bill R. Miller, Faculty Mentor

Investigating Deprotonation of DNA Base Pairs by DNA Polymerase I in *G. stearothermophilus* Using QM/MM

REUBEN KERN

Dr. Cassidy Dobson, Faculty Mentor

Mutagenesis of Disulfide Bond Forming Enzyme

JONATHAN C. BRADFIELD

Dr. Bill R. Miller, Faculty Mentor

Computational Investigation of the Role of Polyphenol Drugs in the Disaggregation of Amyloid-Beta Plaques Associated with Alzheimer's Disease

ALLISON B. ESSELMAN

Dr. Bill R. Miller, Faculty Mentor

Optimization of Bisintercalator Drug Modifications as a Treatment for Breast Cancer Utilizing Common Structural Drug Design Techniques and Molecular Dynamics

CADE K. ROHLER

Dr. Cassidy Dobson, Faculty Mentor

Optimization of the Aggregation of Gamma D Crystallin Protein

MARGO C. MOTES

Dr. Tim Humphry, Faculty Mentor

Synthesis of 1,1-methyl-sulfate-2-gamma-lactone-ol

MOLLY M. HUEBNER

Dr. Bill R. Miller, Faculty Mentor

Computational Drug Discovery of APOBEC3B Inhibitors as a Treatment for Epithelial Cancers

MADISON E. WALKER

Dr. Bill R. Miller, Faculty Mentor

Modeling the Inhibition of Flavonoid Derivatives on Aromatase Using Molecular Dynamics

MAHAN J. HADJIAN

Dr. Brittany Hagenhoff, Faculty Mentor

IN VITRO EFFECTS OF SALINITY AND NORDIHYDROGUAIARETIC ACID ON $A\beta$ 1-28 Aggregation

RICHARD W. PARKS

Dr. Bill R. Miller, Faculty Mentor

Computational Chemistry Exploration of Inhibitors for APOBEC3B as a Potential Cancer Treatment

Biology

ANN M. MANTIA

Dr. Stephanie Fore and

Dr. Hyun-Joo Kim, Faculty Mentors

Determining Cohorts of Nymphal *Amblyomma americanum* Through Heme Content Analysis

CAROL A. KOOB*, MARIO FONG, CHANG LI, ASPEN UNERSTALL, and EVAN CLARK

Dr. Brett A. Berke, Faculty Mentor

Cyp1 EXPRESSION IN NEURONS AND GLIA IS NECESSARY FOR NORMAL CRAWLING BEHAVIOR OF *DROSOPHILA* LARVAE

KATHLEEN S. MCNEARY

Dr. Diane Janick-Buckner, Faculty Mentor

Investigation of Root Zone Phytoene Synthase (PSY) and Alfin (ALF) Gene Expression in Salt Stressed Zea mays Inbred Lines Mo17 & B73

KALLISTA M. STUBBLEFIELD

Dr. Joanna Hubbard, Faculty Mentor

Does mercury exposure in an insectivorous bird affect the development of a colorful plumage trait?

MADELINE E. HANNAY

Dr. Elisabeth Hooper, Faculty Mentor

Inventory Of Native Flora In Dancing Rabbit EcoVillage

ZANE M. SIEBENECK

Dr. Stephanie Fore, Faculty Mentor

Exploring Mammal Diversity
Through Camera Trapping at Union
Ridge Conservation Area

MANSI TRIVEDI

Dr. Tim D. Ostrowski (A.T. Still
University) and Dr. Brent Buckner,
Faculty Mentors

Role of Amyloid Beta in Breathing
Dysfunction Associated With
Alzheimer's Disease

ZAC A. DWYER*, MADISON R.
WILLIARD, CHRIS J. ROBERTS,
and CALVIN H. SCHAEFER

Dr. Drew R. Sieg, Faculty Mentor

Microenvironmental stressors
among herbaceous *Plantago* in
Kirksville, MO

MAGGIE J. WHITE* and DAKOTA
HALL

Dr. Stephanie L. Maiden, Faculty
Mentor

Determining the Cause of the *tbcd-1*
(RNAi) Phenotype in Embryonic *C.*
elegans Epidermal Tissue

CALVIN H. SCHAEFER

Dr. Chad E. Montgomery, Faculty
Mentor

Habitat Use, Home Range Size, and
Movement Rates in Two Sympatric
Pitvipers (Crotalinae) in Far West
Texas

NICHOLAS M. PRITCHETT*,
MARY K. RENKEMEYER, and THI
TRAN

Dr. Brett A. Berke, Faculty Mentor

Investigating A Role For The
Numb Adaptor Protein In Synapse
Development At The *Drosophila*
Neuromuscular Junction

EMILY J. UBBELOHDE

Dr. William Alexander, Faculty Mentor

Exploring Fungal Diversity of
Northeast Missouri

SYDNEY E. MORIN*, MORGAN

D. PAYNE, and HUNTER J.

MADISON

Dr. Brett A. Berke, Faculty Mentor

Understanding motoneuron cell
death in ALS using the fruit fly
Drosophila melanogaster

SYDNEY S. WIEBERG

Dr. Stephanie L. Maiden, Faculty
Mentor

The Interaction of *hmp-2* and *sma-1*
in the Embryonic Epidermis of
Caenorhabditis elegans

Business Administration

JESSICA A. RIEGEL

Prof. Charles Boughton, Faculty Mentor
Retirement Planning

ELISABETH R. NELSON

Prof. Charles Boughton, Faculty Mentor
Ethics and Incentives

YOGINI K. PATEL

Prof. Charles Boughton, Faculty Mentor
Can Car Sales Reliably Predict
Economic Activity?

NEER PATEL

Prof. Charles Boughton, Faculty Mentor
Implications of Behaviorism on
Financial Decision Making

GIOVANNI GRADELLINI

Prof. Charles Boughton, Faculty Mentor
An Analysis of the Adequacy
and Efficacy of Executive
Compensation

DANIEL R. TRENTMAN
Prof. Charles Boughton, Faculty Mentor
A Deeper Look at Stock Market
Volatility

ADAM T. LEDBETTER
Prof. Charles Boughton, Faculty Mentor
Cryptocurrency: The Future of
Finance?

JOHANNA C. WALLSTAB
Prof. Charles Boughton, Faculty Mentor
Are Hydrogen Fuel Cell Stocks
Currently Overvalued? - an
Analysis of Five Promising Fuel Cell
Companies and the Future of the
Hydrogen Market

SHYAM KANNAN
Prof. Charles Boughton, Faculty Mentor
The Effect of the Ex-Dividend Date
on the Stock Price

FAHMID ISLAM*, MICHAEL R.
WILLIAMS, PATRICK M. MAY,
GRACIE TROKEY, EMMA OLDANI,
CONRAD TIBESAR, and GABRIEL
FISH
Prof. Charles Boughton, Faculty Mentor
Enbridge Inc. Pitch

DYLAN J. VALLEROY
Prof. Charles Boughton, Faculty Mentor
Microfinance: Empowering or
Impoverishing?

FELIPE B. CAMPOS
Prof. Charles Boughton, Faculty
Mentor
The Impact of the Energy Sector
on the Financial Markets of BRICS
Countries.

MICHAEL R. WILLIAMS
Prof. Charles Boughton, Faculty Mentor
SaaS (Software as a Service)
Stock Investing Method vs. Slow
Moderate Growth in the Long Run

KYLE H. HIDALGO*, ANDREW
HASENBECK, GIOVANNI
GRADELLINI, LUCAS MAY,
JOE CLAY, THEO PARDEE, and
ZACH NAY
Prof. Charles Boughton, Faculty Mentor
Stock Pitch for Vistra Corporation
(VST)

ZACHARY S. LAYTON
Prof. Charles Boughton, Faculty Mentor
Impact of Covid on Pension Plans

NHU T. NGUYEN
Prof. Charles Boughton, Faculty Mentor
How Mergers and Acquisitions
Affect Stock Price

GRACIE TROKEY* and TOM
BINDBEUTEL
Prof. Charles Boughton, Faculty Mentor
IARFC National Financial Plan
Competition

SHYAM KANNAN *, DANNY
D'NAGY, KYLE H. HIDALGO,
FAHMID ISLAM, JACK M. HORN,
and GRACIE TROKEY
Prof. Charles Boughton, Faculty Mentor
BSIF Portfolio Management

JACK M. HORN*, NGUYEN DO,
PHILIPP HOLZ, ANNA MILLER,
TOM BINDBEUTEL, JOSH
WILLIAMS, FRANK LINDWEDEL,
and DAVID BRADSHAW
Prof. Charles Boughton, Faculty Mentor
Ternium Pitch

FAHMID ISLAM
Prof. Charles Boughton, Faculty Mentor
Enbridge Inc. Pitch

KRISTINA KRASHOVATS
Prof. Charles Boughton, Faculty Mentor
Chronological development of major financial ideas with respect to political, socioeconomic, legal, and international environment.

KYLE H. HIDALGO
Prof. Charles Boughton, Faculty Mentor
The Effect of the Covid-19 Pandemic and American Elections on Trends in the Energy Sector in the United States

Chemistry

BRUCE J. DOLENZ
Dr. Tim Humphry, Faculty Mentor
Synthesizing Compounds You've Never Heard of From Alpha-Angelica Lactone

ANDREW M. EGAN
Dr. Tim Humphry, Faculty Mentor
Cubane: A Synthesis outside of the box.

CALEB H. DEWITT* and
CONNOR NEILS
Dr. Tim Humphry, Faculty Mentor
Synthesis of Potassium Glycolacetal Sulfate

JESSICA UBBELOHDE* and
WELTON VOSMITH
Dr. Tim Humphry, Faculty Mentor
Tertiary Isoprene Sulfate Synthesis

ALLISON B. ESSELMAN* and
ELISE D. STUERTZ
Dr. Brittany Hagenhoff, Faculty Mentor
Method Development of Iron Analysis Using Graphite Furnace Atomic Absorption Spectroscopy for Filtered Rain Water

SAMUEL J. BALDWIN
Dr. Stuart G. Winikoff, Faculty Mentor
A Computational Study of Evans Magnesium Catalyzed Aldol Reaction

ALEX P. STRICKLIN
Dr. Dawood Afzal, Faculty Mentor
Graphene, Graphene Oxide, and Nanocellulose as Nanomaterials

LAURA E. SMITH
Dr. Brittany Hagenhoff, Faculty Mentor
The Effects of Rosmarinic Acid on the Aggregation of the Amyloid Beta Peptide

MARIAN HANDAL* and CALEB H. DEWITT
Dr. Brittany Hagenhoff, Faculty Mentor
Method Development for Heavy Metal Analysis using Atomic Absorbance Spectroscopy in Drinking Water for a Sustainable Community

TREY A. MADDALENO
Dr. Stuart G. Winikoff, Faculty Mentor
Mechanistic Determination of Isomerization for Carbamoyl Derivatives of Tröger's Base

KAYLA WHEELEHAN
Dr. Brittany Hagenhoff, Faculty Mentor
Alzheimer's Prevention Using the Antioxidative Power of Polyphenolic Compounds

Computer Science

AUSTIN D. DAVIS
Dr. Ruthie Halma, Faculty Mentor
An Exploration of Digital Advertising Optimization Using Thompson Sampling

SON VU

Dr. Kafi Rahman, Faculty Mentor

Design and Development of a Novel and Easy to Use Password Manager that Transforms User Drawings into Complex High-quality Passwords

COLBY M. BRATTON

Dr. Kafi Rahman, Faculty Mentor

Towards Proximity and Mobile Device Centric Intuitive Interaction Schemes to Control Physical Door Ways in a Smart Environment.

Education

CHIARA K. DEGENHARDT♦

Dr. Christopher J. Maglio, Faculty Mentor

The Effect of Self-Evaluation on Oral Reading Fluency

LYDIA N. HARMS

Dr. Bridget Thomas, Faculty Mentor

The Accuracy of Gordon Korman's Portrayals of Gifted Students' Socioemotional and Cognitive Development in *Ungifted* and *Supergifted*

BREANNE E. NORTON♦

Dr. Christopher J. Maglio, Faculty Mentor

The Impact of Note Taking Styles in a High School Biology Classroom on Learning Outcomes

COLIN D. DROWN♦

Dr. Christopher J. Maglio, Faculty Mentor

The Impact of Discussion Boards on Student Participation and Engagement in Virtual Learning

English, MAE

CAROLYN R. WALLACE♦

Dr. Barbara Price, Dr. Rebecca Dierking, and Dr. Sarah Mohler, Faculty Mentors

Going Virtual: Online Supplements for Literature Circles

EMILY B. SCHAEFFLER♦

Dr. Rebecca Dierking, Dr. Barbara Price, and Dr. Paul Yoder, Faculty Mentors

The Impact of Empathetic Language in ELA Classrooms

MORGAN KEMP♦

Dr. Rebecca Dierking, Faculty Mentor

The Effects of Lesson Structure on Virtual Learning

SAMUEL D. ANDRZEJEWSKI♦

Dr. Barbara Price, Dr. Rebecca Dierking, and Dr. James D'Agostino, Faculty Mentors

Multimodal Literacy and Student Learner Identity Formation

MARGARET L. MITCHELL♦

Dr. Barbara Price, Dr. Summer Pennell, and Dr. Adam Davis, Faculty Mentors

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These faculty were nominated by their students for recognition as an outstanding research mentor. The selection committee is made of students and the award is jointly sponsored by Student Senate and the Office of Student Research.

Recipient: Dr. Brett Berke, Biology

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