THURSDAY, APRIL 14
8:30-10:15 a.m. Poster Session
Learning Commons, Stewart Memorial Library
10:30-11:30 a.m. Plenary Talk
Cherry Auditorium
11:35-noon Recognition Awards Ceremony
Cherry Auditorium
Noon-1 p.m. Presenter Lunch (by invitation only)
Clark Alumni House Dining Room
1:15-4 p.m. Oral Presentations - Stuart Hall, Marquis Hall, Kesler Lecture Hall, Peterson Hall

STUDENT ART EXHIBITS
April 1-8 Opening Reception: Fri., April 1, 5-7 p.m.
Laura Kochuyt ’16, Painting
James Yarbrough ’16, Works on Paper
Christina Bailey-Murray ’16, Drawing
Niles George ’16, Photography
April 15-22 Opening Reception: Fri., April 15, 5-7 p.m.
Anna Carpenter ’16, Photography
Kelan Chang ’16, Ceramics
Gordon Rey ’16, Ceramics
Graham Houselog ’16, Drawing
April 23 Student Art Sale: 10 a.m.-2 p.m.

MUSIC EVENTS
April 9 Festival of Bands: Gala Concert
8 p.m. Sinclair Auditorium
April 10 Festival of Bands: Coe College Honor Band and Jazz Band
4 p.m. Sinclair Auditorium
April 15 Student Recital: Amanda Huesmann & Kailey Braff
7:30 p.m. Daehler-Kitchin Auditorium
April 16 Student Recital: Sarah Jackson & Eric Carson
4 p.m. Daehler-Kitchin Auditorium
April 17 Coe College Concert Choir Concert
2 p.m. Sinclair Auditorium
April 23 Student Recital: Jeff Stobb
2 p.m. Daehler-Kitchin Auditorium
April 23 Coe College Symphony Orchestra Concert
7 p.m. Sinclair Auditorium
April 24 Coe College Chorale and Handbell Concert
2 p.m. Daehler-Kitchin Auditorium
April 24 Senior Recital: Sam Vaske
4 p.m. Daehler-Kitchin Auditorium
To the Coe College Community:

Coe College's 16th annual Student Research Symposium celebrates the outstanding achievements of our undergraduate scholars. The work showcased in this program is the product of honors and independent study projects and collaborative student and faculty research. In each case, the students included here have embraced the mission of the liberal arts and have accepted the challenge of testing and demonstrating their personal and intellectual abilities.

One of the hallmarks of a liberal arts education is engaging in the learning process: asking good questions, seeking answers, and presenting convincing conclusions. The students who are sharing their work today exemplify this learning process. Their work represents the highest level of achievement by Coe students and is deserving of recognition by the entire Coe community.

At this year’s plenary session Brianna (Wright) Kim class of 2010, will give a talk titled “Preserving the Past: Lessons from Coe That Shaped My Future.”

The students were guided by faculty mentors, who, thanks to their dedication and commitment to the students, helped make this event possible. We would also like to extend our thanks to Chris Upah, Jenni Archibald, and Christina Kroemer for their help in organizing the Symposium.

Marie Baehr                       Dan Lehn
Dean of the Faculty                Associate Dean of the Faculty
# 2016 Student Symposium Schedule

**April 14**

## Poster Session

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<th>Time</th>
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<td>8:30–10:15 AM</td>
<td>Posters Session</td>
<td>Learning Commons, Stewart Memorial Library</td>
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## Plenary Talk

**Brianna (Wright) Kim '10**

Brianna (Wright) Kim graduated from Coe College with a major in history in 2010. As a participant herself in the Student Research Symposium, she gave an oral presentation of her senior thesis, “Henry R. Luce: Bias, Ideals, and the Promotion of China.” She was also a member of Phi Beta Kappa, the Voorhees Residence Hall Board of Directors, History Club, Concert Band, and Women's Chorale. After graduating from Coe, she attended The George Washington University in Washington, D.C., where she earned an M.A. in Museum Studies. She worked for a year in our nation's capital as a contract collections manager at the Smithsonian Institution’s National Museum of African American History and Culture. In 2013 she returned to Iowa and assumed her current position as the curator at the African American Museum of Iowa (where she had interned as a Coe student!). Her latest project, “Products of a Creative Mind,” is currently on exhibit at the museum until the end of July.

## Awards Ceremony

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<td>11:35–12 PM</td>
<td>Awards Ceremony</td>
<td>Cherry Auditorium</td>
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## Lunch for Participants (by invitation only)

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<td>12 – 1 PM</td>
<td>Lunch for Participants</td>
<td>Clark Alumni House Dining Room</td>
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## Oral Presentation Sessions

**Session 1: Peterson Hall 119**

- **1:15–1:30** Fields of Difference: Division, Misconception, and Myth in Agriculture
  - Annabeth Hampton

- **1:35–1:50** Reading from Honors Thesis in Creative Writing “Baby Conundrum”
  - Paulina Harrison

- **1:55–2:10** Language as Divine: Writings of an Offbeat Philosopher
  - Sara Sweeney

**Session 2: Marquis Hall 201**

- **1:15–1:30** “So I Will Die, True and Loyal to the Family”: Deceptive Voices and Political Anxieties in Castle Rackrent
  - Angela Kettle

- **1:35–1:50** Moral Sympathy in Mary Shelley’s Frankenstein
  - Tristan Draper

- **1:55–2:10** Bridging the Gap Between Rock and Rap
  - cruz Martinez

- **2:15–2:30** A Spiritual Bildungsroman: Mapping the Embodiment of the Metaphysical in Flannery O’Connor’s The Violent Bear It Away
  - Mariah Reeves

**Session 3: Kesler Lecture Hall**

- **1:15–1:30** Burn, Burning, Burnt: Theology, Gender, and Heresy in Late Medieval France
  - Meredith Iven

- **1:35–1:50** The Childless Mother: Michal’s Role in Legitimizing David’s Kingship in 1 Samuel 19
  - Allison DeArcangelis

- **1:55–2:10** St. Photios in the Wake of Iconoclasm, the Photian Schism, and its Effects on Orthodox Identity
  - Samantha Burt

**Session 4: Stuart Hall 405**

- **1:15–1:30** Leadership Beyond the Scope: An Action Research Project
  - Shannon Zelek

- **1:35–1:50** Issues in Environmental Ethics: A Brief Introduction
  - Dane Shade Brusuelas Hannum

- **1:55–2:10** Gaps in Assistance for Refugees in the Cedar Rapids Area
  - Sonia Elossais
Session 1: 201 Marquis Hall

- 2:40-2:55 *Rwanda's Untold Story*: Revealed
  Kristen Scott
- 3:00-3:15 Exploring the Suppressed Territory of the Third Reich Art World: Judith in the Twentieth Century
  Savannah Dearhamer
- 3:20-3:35 Probation and Residential Officers and the Criminal Justice System
  Ayo Jones, Mark Kroll, Ashley Marsh, Yuridia Tilapa
- 3:40-3:55 Black at Coe - a documentary looking into black students’ lives in college
  Cinnamon Moore

Session 2: Kesler Lecture Hall

- 2:40-2:55 Degrees of Faith in Paradise Lost
  Allison Rogers
- 3:00-3:15 A Midsummer Night’s Dramatogy
  Clark Cunningham-White
- 3:20-3:35 The Cosmopolitan “Thinking American”: Margaret Fuller’s Dispatches from Europe and Reforming U.S. Values
  Leeann Oelrich

Session 3: Stuart Hall 405

- 2:40-2:55 No Place Like Home for the Holidays? The Effectiveness of Mindfulness Meditation on Reducing Affective Forecasting Errors
  Angela Kettle
- 3:00-3:15 Luminescence in Phosphate Glasses
  Makena Dettmann, Victor Herrig
- 3:20-3:35 Roommate Matching by Design
  Emily Roberts
- 3:40-3:55 The Blue-Spotted Salamander, *Ambystoma laterale*, at Behrens Ponds and Woodlands State Preserve in Linn County, Iowa: Population Changes and Breeding Habitat Analysis
  Kendra Miner

Cover art provided by Graham Houselog.
Ossama Abu-Halawa 2017

Faculty Sponsor: Dr. Maria Dean

Positive feedback between PI3Kδ and glucocorticoids sensitizes resistant B-cell Precursor Acute Lymphoblastic Leukemia cells to treatment

We are interested in how the glucocorticoid receptor (GR), a steroid-activated transcription factor, integrates signals to direct B-Cell Precursor Acute Lymphoblastic Leukemia (BCP-ALL) cell death. This is of particular importance to resistant patients, some 10%-20% of children with BCP-ALL, whose treatment failure is closely linked to response to one component of their chemotherapy: glucocorticoids (GCs). To this day, survival is accurately predicted by response of leukemic blasts to GCs.

Our initial focus is on PI3Kδ, a component of the growth and survival B cell receptor pathway. We recently showed superadditivity between PI3Kδ inhibition by a small molecule inhibitor, CAL-101, and the GC dexamethasone (dex) in inducing cell death. We hypothesize that CAL-101 potentiates GC-induced cell death by enhancing dex induced gene regulation of key genes.

We assayed the regulation of key genes in three BCP-ALL cell lines, NALM-6, RCH-ACV, and SUP-B15, each of which has a different degree of GC and PI3Kδ sensitivity. To do this, we used quantitative real-time PCR (qPCR) to measure the effect of CAL-101 on GC-driven expression of key genes involved in GC-induced cell death, which we term causative genes.

Strikingly, we found that inhibition of PI3Kδ enhanced dex regulation of most genes. In some cases, this appeared to be working directly through GR, in others by co-regulating the genes. We also discovered that regulation of all causative genes is not required for cell death, suggesting a cell-type specific program exists in different genetic backgrounds.

Kathryn Appler 2017

Sarah Berns 2017

Faculty Sponsor: Dr. Michael Leonardo

Impact of Extracted ScrABC on Vibrio parahaemolyticus and Shewanella strains’ Biofilm Architecture

Five strains of Vibrio parahaemolyticus (LLM4476, LLM5312, LLM5674, FDA, and RIMD) and eight strains of Shewanella (ANG-SQ1, Bry, BryOP, BryTR, CN-32, MR-1, S20, and MS-32) were used to discern the variability in biofilm architecture. Biofilms of each individual strain were grown along with co-culture biofilms to determine the impact of the co-cultures on biofilm architecture. The overall structure of the biofilms were collected via confocal microscopy. These results were used to determine the impact of the extracted S-signal pheromone on individual culture growth on swarming plates.

Alexandra Bahl 2016
Sophie Belter 2016
Victoria Betz 2016
Sharon Mutwiwa 2016
Freddy Reyes 2016
Jamie Wolfe 2016

Faculty Sponsor: Dr. Joyce Janca-Aji

Masculinities at Coe

In this collaborative research project, the senior Gender Studies majors examine the role of masculinity on campus in order to answer one key question: How have experiences being a student at Coe informed or changed the ways in which you perceive and/or express your understanding of masculinities as a gendered identity or gendered qualities? Here we define masculinity as socially and culturally defined attributes, behaviors, and roles that are traditionally associated with men, but don't exclusively belong to men. We also recognize that there isn't one, but multiple forms of masculinity that continue to evolve and intersect with all other aspects of identity.
External Inhibition of Methamphetamine CPP-mediated Drug-Seeking Behavior in Male Chicks

Previously, we demonstrated external inhibition of approach behavior toward a cocaine-paired cue in male chicks. This study was designed to investigate the same phenomenon in chicks administered methamphetamine (MA). Chicks receiving MA with a visual cue spent more time near the drug-paired cue (CS+) versus the non-paired cue (CS-), but the effect was not statistically significant. The extraneous stimulus (ES) eliminated the preference for the CS+ and produced a weak preference for the CS-, suggesting the ES might have been aversive. The outcome may have been confounded by illness in our sample of chicks and we plan to replicate this study.

Conduction of Urea through UreI channel

The carcinogenic bacterium Helicobacter Pylori is found within the stomach of over 75% of the human population, and directly contributes to ailments such as gastritis, stomach ulcers, and stomach cancer. This neutrophile relies on the cytoplasmic hydrolysis of gastric urea into ammonia, which buffers the bacteria from the acidic environment. Urea uptake is a crucial mechanism of survival, and the membrane transport protein HpUreI regulates and enhances this process. The buffering action of the converted urea into ammonia and carbon dioxide boosts the local pH to 5.5 near the membrane. This study reports preliminary results from various Molecular Dynamics simulations.
Anna Carpenter 2016
Tina Bailey-Murray 2016

*Faculty Sponsors: Ms. Lucy Goodson, Ms. Jennifer Rogers, and Dr. Ranelle Knight-Lueth*

**Project Phoenix**
The Phoenix Project will be a display of student artwork presented in the Student Gallery in cooperation with Waypoint Services of Cedar Rapids with the aim of giving voices to the women and children of domestic abuse.

Samantha Jankowski 2018

*Faculty Sponsor: Ms. Karla Steffens-Moran*

**Yes Means Yes**
The Dismantling Rape Culture Gender Symposium spent many hours learning, teaching, and presenting information on the definition of rape culture, the Yes Means Yes policy, bystander intervention, and how to speak to someone who has been sexually assaulted. Here they have helped spread word across campus about these issues. They worked extremely hard this semester and have many pieces of informative info for you to learn.

Grant Cooling 2016
Ashley Rackow 2016
Marissa Franke 2017
Kaylee Johnson 2017

*Faculty Sponsor: Dr. Maria Dean*

**A Study of Amino Acid Modifications in Phragmatopoma lapidosa and Pectinaria gouldii Biocement**
Previously constructed cDNA libraries from two sea worms, P. lapidosa and P. gouldii, were sequenced in search of biocement proteins. Thirty-four sequences were published, including a new cement protein containing an “RRRS” repeated amino acid motif. Repetitive amino acid sequences were found in all of the discovered biocement proteins, such as “SSS”, “GYG”, and “SR”, where serine (S) is phosphorylated and tyrosine (Y) is converted to DOPA. Extracted biocement proteins were separated by SDS-PAGE (Polyacrylamide gel electrophoresis) and stained to confirm the presence of DOPA and phosphoserine. Analysis by Energy Dispersive Spectroscopy (EDS) showed high levels of phosphorous and oxygen to support the premise that biocement proteins are highly phosphorylated.

Tucker Dangremond 2017
Kelsey Kornacker 2017
Myranda Anderson 2017

*Faculty Sponsor: Dr. David Lo*

**Establishing a Cell Culture Model to Investigate Central Nervous System Inflammatory Mechanisms**
The goal of our research was to establish a cell culture model to investigate central nervous system mechanisms, focusing on understanding brain inflammation. Brain inflammatory mechanisms were elucidated through co-culture and conditioned-media experiments and through various inflammatory and anti-inflammatory manipulations. Our results demonstrate that were able to mimic both inflammation and neurodegeneration that occur within the brain in a cell culture model, which establishes a new, relevant central nervous system model that will provide a better understanding of normal nervous system function and the mechanisms that lead to nervous system dysfunction and disease.

Bailey Dixon 2017
Claire Tupper 2018

*Faculty Sponsor: Dr. Daniel Lehn*

**Reducing Dissonance from Violent Video Games by Physical Means: Hand Cleansing**
The purpose of this study was to investigate the effects that hand cleansing has on reducing dissonance, caused by violent video gameplay. Possessing an innate need to reduce this dissonance, we predict that those who are not exposed to a cleansing product will change their attitude to become more tolerant of deviant behavior in an attempt to reduce cognitive dissonance. We predict that those who are given the opportunity to cleanse their hands after playing the violent game, will experience subconscious dissonance reduction and will not change their attitude towards deviant behavior.
Effects of an Extraneous Stimulus on Methamphetamine-mediated Drug-Seeking Behavior in Male Chicks

In a previous methamphetamine (MA) study of external inhibition of drug-seeking behavior, confounding factors produced unreliable data. This study replicated those procedures. Briefly, MA was paired with a visual cue (CS+). During a preference test, chicks were placed in a chamber with a CS- (non-paired cue) and CS+ on opposite sides. An extraneous (ES) stimulus was placed with the CS+ for half the chicks. Time spent near the cues was recorded. Chicks are expected to spend more time near the CS+ versus near the CS-. The ES should eliminate the preference for the CS+. Data collection is in progress.

Organizational Development: Providing Data for Decision Making

This poster will outline the steps in a two-stage project in which student researchers (1) compiled curriculum, staffing, and enrollment information about how a particular (unnamed) academic program is offered at the 33 schools in Coe’s Comparison Group, and (2) conducted a survey of several thousand high school juniors and seniors about how they think about this program of study as part of their own college plans. The results of these investigations will be shared with the faculty in Coe’s program to use in making decisions about how to adjust Coe’s curriculum and options for students.

Drug-Seeking Behavior is Disrupted by an Extraneous Stimulus for Cocaine CPP in Male Chicks.

This study investigated external inhibition by an extraneous for approach behavior toward a cocaine-paired cue resulting from conditioned place preference (CPP) in male chicks. Chicks receiving cocaine with a visual cue spent more time near the drug-paired cue (CS+) versus the non-paired cue (CS-). The extraneous stimulus eliminated the preference for the CS+. These data suggest that an extraneous stimulus might be used in the presence of previously drug-associated cues to prevent drug-seeking via Pavlovian external inhibition. Because drug-seeking precedes drug-taking behavior and external inhibition might help prevent relapse for those abstaining from previous drug use.
Shawna Hoover 2016
Tyler Smith 2016

Faculty Sponsors: Drs. Nancy Hayes, Martin St. Clair, and Ms. Sarah Kress

Diving Deep: An Interdisciplinary Instructional Unit on the Indian Creek Watershed

Despite water being essential to life, the right to have fresh, safe, and consumable water has been argued internationally for many, many years. Millions of people live without sufficient amounts of fresh water. A major cause of water shortage comes from pollution. Pesticides, fertilizers, sewage, etc. can all runoff, or in some cases are purposefully dumped, into local water sources. These pollutants can render water unsafe to use or drink, leading to dangerous water shortages. This curriculum is designed to educate future generations about how their actions and uses of water affect water sources around them, as well as, challenge them to innovate solutions for local water pollution problems.

Emily Laing 2017
Ema Kuhlmann 2016

Faculty Sponsor: Dr. Benjamin Tallman

Relaxation Techniques for Patients Completing an Elective Orthopedic Procedure

Many individuals experience osteoarthritis resulting in impaired mobility and decreased health-related quality of life (HRQL). In recent years, orthopedic procedures have become increasingly popular among older populations. There is strong research support that joint replacement surgeries have a positive impact on HRQL, although factors such as pain and anxiety can adversely impact treatment outcomes. The current study will examine non-pharmacological interventions (e.g., relaxation techniques; massage) for pain management to enhance recovery for total knee and hip replacement surgery. It is hypothesized that patients receiving non-pharmacological interventions will experience less pain, require less pain medications, and experience greater HRQL.

Berlin Mendez 2017

Faculty Sponsors: Drs. Randolph Christensen and Paul Storer

Effects of TNFα, 17β-Estradiol, and T3 Treatment on GLT-1 and GLAST Expression in Astrocytes

After CNS injury, the release of cytokines induces high levels of glutamate release and down regulation of glutamate transporters resulting in excitotoxicity. The main glutamate transporters in astrocytes are GLAST and GLT-1. This study used TNFα, a cytokine that has shown to downregulate GLT-1 and GLAST expression, steroid sex hormone 17β-estradiol and thyroid hormone T3 which have shown to possess neuroprotective properties by elevating the concentration of GLAST and GLT-1. After treating astrocytes with the different compounds and analyzing the Glu transporter RNA concentrations, the results of this study suggest a synergetic interaction between 17β-estradiol and T3 that increases expression of GLT-1 which can potentially increase absorption of glutamate and prevent excitotoxicity.

Alexandria Muldrew 2017
Ashley Rackow 2016

Faculty Sponsor: Dr. Benjamin Tallman

The Influence of Specific Respiratory Rates on Heart Rate Variability

Heart Rate Variability (HRV) is defined as the inter-beat variation between heart beats. This study is part of a larger research study examining demographic variables and psychosocial variables in relation to peak respiratory sinus arrhythmia (RSA) amplitude. The current research study examined several respiration rates among undergraduate students to enhance their peak RSA amplitude. Participants consisted of 24 students who participated in breathing exercises with electrocardiogram (ECG) monitoring. Results of the study are consistent with previous research findings: breathing at low breathing rates (e.g., 5 breaths per minute) enhances HRV and stimulates the baroreflex.

Alexandria Muldrew 2017
Ashley Rackow 2016

Faculty Sponsor: Dr. Benjamin Tallman

Psychosocial Influences on Heart Rate Variability

The current research study examined respiration rates among undergraduate students to enhance their peak respiratory sinus arrhythmia (RSA) amplitude. While there is strong evidence supporting the relationship between specific respiratory rates and resonant frequency, less is known about differences among psychosocial variables and their impact on heart rate variability. The current study examined mean differences between psychosocial variables and heart rate variability. Results of repeated measures ANOVA revealed significant main effects for breathing rate and significant interaction between self-efficacy and HRV. Results have implications for HRV biofeedback training and will enhance understanding regarding how psychosocial variables may impact cardiovascular activity.
Carolina Rivas 2016  
*Faculty Sponsor: Dr. Lisa Barnett*

**College majors and the expectation of a breadwinner.**  
My research question is: "Do college majors effect the expectation in a heterosexual relationship that a man needs to be the breadwinner?" I will be exploring if the major of students correlates to the ideal that the man has to be the breadwinner in the family, meaning that the women want a man to earn more than them and the man wants to earn more than the women. That is what they expect or believe in.

Casey Rohret 2016  
*Faculty Sponsor: Dr. Drew Westberg*

**Examination of the Political Business Cycle: The 2010 U.S. Mid-Term Election**  
The American Recovery and Reinvestment Act (ARRA) of 2009 was the government stimulus program designed to stimulate the economy at the onset of the Great Recession. The following 2010 mid-term elections saw a drastic change in the U.S. House of Representatives with the Republican Party gaining majority control. This research focused on tracking the amount of ARRA funds each congressional district received and the resulting political impacts. Specifically, did spending impact incumbent congressmen and parties battle for re-election?

Laura Schlesinger 2018  
Margaret Parkhurst 2017  
Bethany Curley 2019  
Abigale Mikolitis 2017  
Sophie Belter 2016  
Michael Crecco 2019  
Parker Krall 2018  
*Faculty Sponsor: Ms. Karla Steffens-Moran*

**LGBTQIA+ Safezones: Student-driven Action**  
The LGBTQIA+ Safezones class has been working this semester to find tangible ways to make Coe a more inclusive and welcoming campus for the queer community. Collaborating with many faculty, staff, and community members, the initiatives that have come from this group of students include increasing visibility of queer voices in campus publications, compiling research on other comparable schools with already-established inclusive programming, designing a program to educate campus leaders on safezones and queer issues, and establishing true gender-neutral living spaces.

Chelsea Smith 2016  
Michael Jones 2017  
William Keslin 2017  
*Faculty Sponsor: Dr. Daniel Lehn*

**Justifying Video Game Violence: Dissonance as a Mediator Between Video Game Play and Deviant Behavior**  
Past research indicates that repeated exposure to violent videogames can lead to an increase in aggression, desensitization to violence, and tolerance of deviant behaviors. The current study investigated whether those effects, especially tolerance of deviant behaviors, might be mediated by cognitive dissonance and disgust desensitization. The experiment used a 2X2 between-subjects design, with choice (perceived vs. none) and videogame (violent vs. non-violent) as the independent variables. We hypothesized that participants in the choice-violent videogame condition would be less intolerant of deviant behaviors (based on a survey) than those in the other three conditions. The data were combined with that from another college.

Whitni Smith 2016  
*Faculty Sponsor: Dr. Joan Copper*

**Integrating Technology Into the Classroom: Quality Improvement in Coe’s Nursing Pharmacology Curriculum**  
The teaching approach of Coe’s Nursing Program facilitates critical thinking, active problem solving and collaborative decision making. However, students’ perceptions and exam data have shown students lack self-confidence and have difficulty learning complex content such as pharmacology, even with this teaching style. Therefore, a web-based pharmacological resource tool was created. A comparative descriptive model was undertaken to study the effectiveness of the resource tool. A pretest and posttest measuring students’ self-perceived confidence toward pharmacology content was administered and will be examined alongside past and current senior exam results to measure effectiveness of the intervention during the student’s time in Coe’s nursing program.
Rachel Tollefsrud 2018  
Allison Davis 2016  
Brittany Appleton 2016  
Emily Lefrancois 2018

Faculty Sponsors: Drs. Thomas Moye and Nükhet Yarbrough

Paranormal belief, magical ideation, scientific thinking, and creativity.  
Participants completed the Paranormal Belief Scale (PBS) and the Magical Ideation Scale (MIS), two measures of the acceptance of unempirical phenomena such as witchcraft and ESP. We correlated these scales with scores on the Endorsement of Science Scale (ESS) and the Abbreviated Torrance Test for Adults (ATTA), which measures creative thinking. This study explores the relationships between the different styles of thinking that are assessed by these scales.

Hannah Torry 2016

Faculty Sponsor: Dr. Pamela Carstens

Corporate Social Responsibility and its Effect on the Consumer Purchase Behavior of Millennial Students

My research works to gather information on the purchase intentions of Coe students in regard to ethical consumption of food products. Through online surveys and an experiment performed in the Pub, I will study the relationship between students’ intentions and their final purchases while manipulating factors of ethicality.

ABSTRACTS – ORAL PRESENTATIONS

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<td>Maria Angulo</td>
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Faculty Sponsor: Dr. Kathleen Rodgers

Probation and Residential Officers and the Criminal Justice System

In this collaborative research project, the senior Sociology majors at Coe College examine the role of probation and residential officers in the criminal justice system. We are interested in how probation and residential officers navigate their own positions in the larger criminal justice system, as well as the perceptions that they have of this system and the populations that they work with. We are interested in both the frustrations and triumphs that probation and residential officers experience in dealing with people returning from incarceration, the criminal justice system more broadly, and the laws and policies that shape their careers.

Dane Shade Brusuelas Hannum 2016

Faculty Sponsor: Dr. Drew Westberg

Issues in Environmental Ethics: A Brief Introduction

The purpose of this project is to provide a short, accessible, book (or thematized series of essays) that provide a basic outline of some of the most important issues being addressed in environmental ethics today. This book examines several practical environmental issues and outlines the kinds of questions we must ask in these situations when analyzing them from an environmental ethics perspective. In addition to providing a general outline of the analytical approach each chapter also explores a few theories in more detail and exemplifies how these can be applied and understood.

Samantha Burt 2016

Faculty Sponsor: Dr. Meira Kensky

St. Photios in the Wake of Iconoclasm, the Photian Schism, and its Effects on Orthodox Identity

I will provide a historical analysis of the condition of the Eastern Church in the Eighth and Ninth centuries by contextualizing the implications of Iconoclasm, its eventual condemnation, and the prominent Christian figures that lived in the century following, particularly Photios of Constantinople. By analyzing the political dynamics between Byzantium and the Church, including Rome, as well as the larger doctrinal concerns that occupied Christendom during this time, I claim the effects produced by the actions and works of Photios and his contemporaries were consequential to developing East Orthodox identity and its eventual break with the Roman Church in 1054.
Cruz Martinez 2016  
*Faculty Sponsor: Dr. Patrick Naick*

**Bridging the Gap Between Rock and Rap**
With a passion for history and music I have decided to ask myself the question. Does Rock and Rap have influence on social and political themes throughout the past twenty years? If so does each genre talk about different issues or do they talk about the same issues just in different way? I have conducted research on four Bands ranging from the mid 1990's all the way up to now. I have created a playlist that mixes these bands together to show the common themes they share and the different musical styles these artists convey their message.

Clark Cunningham-White 2016  
*Faculty Sponsor: Dr. Gina Hausknecht*

**A Midsummer Night’s Dramaturgy**
In this project, I examine the dramaturg’s purpose in a theatre production and served as one for Coe’s performances of A Midsummer Night’s Dream. I consider how the literary and performance history of Shakespeare’s play influences our own interpretation. My goal as dramaturg is to explore the possibilities with the cast and crew through research I compiled into a sourcebook. I then reflect on how the sourcebook contributed to the rehearsal process and subsequent performances.

Allison DeArcangelis 2016  
*Faculty Sponsor: Dr. Meira Kensky*

**The Childless Mother: Michal’s Role in Legitimizing David’s Kingship in 1 Samuel 19**
In the episode of 1 Samuel 19, David flees from the murderous Saul with the help of his wife and Saul’s daughter, Michal. This episode does more than just ensure David’s life, it legitimizes his kingship. Using a paradigm created by Susan Ackerman in Warrior, Dancer, Seductress, Queen. I will argue that Michal’s rescuing of David is integral to the establishment of David as a hero figure. By paralleling the role of Michal and other women in earlier tales of heroes in the Hebrew Bible I will establish that because David’s narrative lacks a childhood the biblical author had to place the hero narrative in his adulthood and Michal plays his rescuing mother figure. However, Michal is not a mother—not to David and not to anyone else.

Savannah Dearhamer 2016  
*Faculty Sponsor: Dr. Ranelle Knight-Lueth*

**Exploring the Suppressed Territory of the Third Reich Art World: Judith in the Twentieth Century**
Although there is a rich amount of scholarly research about Judith, ties between the story of Judith and Holofernes and the art of Nazi Germany remain unclear. Artistically, Judith begins resurfacing within Western culture’s fascinations as early as the fourteenth century. Since then, Judith’s journey as a woman, victor, virtue, and Jewish figure has been examined through various lenses. As a subject of manipulation, Judith’s reputation is adapted from a virtuous widow to justified murderer to sexualized protagonist. The conversions that Judith’s character underwent during the Italian Renaissance and throughout the nineteenth century ultimately set the stage for her transformation in the twentieth. Artists re-interpreted Judith for her religious heritage, daunting eroticism, and racial purity, all of which became more complex when exposed to Nazi ideology.

Makena Dettmann 2017  
Victor Herrig 2017  
*Faculty Sponsor: Dr. Ugur Akgun*

**Luminescence in Phosphate Glasses**
Four series of dense scintillating glasses were commissioned by and produced for Luiz Jacobsohn and Matthew Kielty of the Clemson University Material Sciences and Engineering department. Addition of Tungsten, Barium, Bismuth and Lead oxides were varied between series; molar content was varied between Silica, Phosphorus (V) oxide and the heavy metal oxide within series. The optical and fluorescent properties were studied.

Tristan Draper 2018  
*Faculty Sponsor: Dr. Melissa Sodeman*

**Moral Sympathy in Mary Shelley’s Frankenstein**
In the mid-1800s there was a debate in moral philosophy about what sympathy was and how it was felt. Adam Smith’s Theory of Moral Sentiments dealt extensively with this question. Mary Shelley, who may have been exposed to Adam Smith’s ideas through William Godwin, her father, also dealt with the importance of sympathy in relation to morality in her novel, Frankenstein. While Victor Frankenstein can perceive the emotions of others, he cannot participate in them, making him immoral. The creature is initially able to participate in the feelings of others, but loses that ability as he is continually rejected. Through these characters Shelley supported Smith’s views on sympathy.
Sonia Elossais 2018
Faculty Sponsor: Dr. Drew Westberg

Gaps in Assistance for Refugees in the Cedar Rapids Area
Refugees are given three months to adjust to life in the United States. They are directed by a resettlement agency, get help with finding a job, enrolling their kids in school and receiving benefits from the government. They attend a few classes on American culture, then after the three months is up, they must sustain themselves. It is readily obvious that three months is not enough time to adjust to a new country. After the three months of help runs out, what is still missing or what challenge are they still facing? What can be done to alleviate this challenge? These are the questions I seek to answer through my research. My research goal is two-pronged, the first part is to identify a common issue or obstacle facing refugees in the Cedar Rapids area after their first three months of help from the government are over; the second part is to record the stories of refugees who are willing to speak about their experiences as refugees. In order to provide a better understanding of the refugee experience, I will ask refugees to elaborate on their experience from leaving their country, all the way up to the transition and what life is like for them today. I will do this through interviews and other methods of data collection.

Annabeth Hampton 2016
Faculty Sponsors: Drs. Allison Carr and Jane Nesmith

Fields of Difference: Division, Misconception, and Myth in Agriculture
Though it is a billion dollar business with a complex net of players and policies, most people know little about the world of agriculture. My writing major capstone is a thesis length writing project that examines the history, technology, policies, stereotypes, and misconceptions surrounding agriculture filtered through my personal experiences visiting my grandparents farm, volunteering on an organic farm in Ireland, and interning for an agriculture lobby firm in Washington, DC.

Paulina Harrison 2016
Faculty Sponsor: Ms. Ngwah-Mbo Nkweti

Reading from Honors Thesis in Creative Writing "Baby Conundrum"
Paulina Harrison will read a selection from her Honors Thesis, "Baby Conundrum." A novella about identity, race, age, sexism, and family, the story is told from the point of view of Beatrice Gutierrez. A high school senior with a quiet sarcastic humor, Beatrice attempts to navigate two different worlds: one in the barrio with her mother, three sisters, and three nieces, the other in her private school with her rich white boyfriend. This reading is dedicated to Martha Contreras for her birthday.

Meredith Iven 2016
Faculty Sponsor: Dr. Meira Kensky

Burn, Burning, Burnt: Theology, Gender, and Heresy in Late Medieval France
In late medieval France, there was a shift in the way in which religious women were prosecuted; these changes occurred in how the Church viewed mystic traditions, and came about for a variety of reasons, including both demographic and doctrinal shifts. Mysticism, very briefly defined, is a direct relationship to the godhead. The authority to discuss mystic experiences come directly from the divine, thus the authority to speak to them is not reliant on the speaker. Because of this displacement of authority, mysticism creates potential spaces for subversion, and it allowed medieval women to cross some of rigid boundaries between “male” and “female” religion. While this offered up many opportunities for the growth of the feminine intellectual world, it also opened women up to a new way of being convicted of heresy. Prior to the 14th century, women were convicted in a feminine way—forced out of a public stage, rather than the masculine punishment of execution. In the 14th and 15th century, however, the way female mystics were convicted as heretics fundamentally shifted to punishments that were suddenly being applied to men and women. Women who were engaging in mystic practice could suddenly be death for the crime of heresy, just as select men were. Towards the end of the 15th century, another shift occurred, and the punishment enacted against women engaging directly with the godhead became an increasingly a female focused witch hunt. The late medieval period saw both the rise and the disappearance of the female heretic, and the rise of women committed instead for witchcraft. While there are records of other women from this period, two case studies fall at the beginning and end of this era of female heresy. Marguerite Porete was the first woman to be put to death for the crime of heresy. She marks the shift towards a masculinized female heretic. Joan of Arc was one of the last women to receive the charge of heresy, rather than the charge of witchcraft. Her trial narrative provides valuable insight into the changes occurring as the crime of malificarum was supposedly on the rise.
'So I Will Die, True and Loyal to the Family': Deceptive Voices and Political Anxieties in Castle Rackrent
On its face, Maria Edgeworth’s Castle Rackrent (1800) reads as a didactic tale: a story of frivolous Anglo-Irish landowners and their decline over several generations. In this presentation, I will explore how Edgeworth orchestrates the voices of Irish narrator Thady Quirk and an unnamed Anglo-Irish editor to covertly express complex political anxieties surrounding the perceived threat of native Irish ascendancy in the years following the Irish Rebellion. I will further discuss how this reading changes perceptions of Edgeworth, who was a writer of much than mere children's books and morality stories.

No Place Like Home for the Holidays? The Effectiveness of Mindfulness Meditation on Reducing Affective Forecasting Errors
Past psychological research has demonstrated that people overestimate the intensity and duration of their emotions regarding future events, known as the "affective forecasting error" (Wilson & Gilbert, 2005). This thesis empirically tested the effectiveness of mindfulness meditation on reducing affective forecasting errors. Participants underwent mindfulness meditation, relaxation, or a control exercise. Prior to Thanksgiving, participants were asked to predict how they would feel on Thanksgiving. Following Thanksgiving, they were asked to record how they actually felt. Mindfulness meditation was hypothesized to reduce affective forecasting errors by making participants more observant of how contextual factors might influence their emotions.

The Blue-Spotted Salamander, Amybstoma laterale, at Behrens Ponds and Woodlands State Preserve in Linn County, Iowa: Population Changes and Breeding Habitat Analysis
The population of endangered blue-spotted salamanders at Behrens Ponds and Woodland State Preserve has been studied extensively by Dr. Hadow and Coe students since 1990. A population study was conducted during the spring of 2015 using the submerged screen trapping method. Population estimates were then compared to previous estimates, showing a significant decrease in the blue-spotted salamander population in the last twelve years. Habitat loss and water quality of the salamanders' breeding ponds are of great concern. Weekly water testing took place at the preserve during the summers of 2014 and 2015 in order to better understand the breeding habitat.

Black at Coe - a documentary looking into black students' lives in college
Not much is known about the college's history of admission of black students or about their time or experiences while students at Coe. Being that Coe College is centered in an urban area and has recently begun to emphasis admissions of multicultural students from diverse backgrounds, this project seeks to understand the experience and history of African-American students at Coe. Additionally, this project seeks to present information about the history of Coe pertaining to black students, incidents of racial discrimination or veneration, and relate those experiences to the narratives of current Coe students identifying as African-Americans.

The Cosmopolitan "Thinking American": Margaret Fuller's Dispatches from Europe and Reforming U.S. Values
Based on my senior English thesis, this presentation explores expressions of U.S. American identity in Margaret Fuller’s Dispatches from Europe. Fuller was a 19th-century transcendentalist and feminist, and traveled to Europe from 1846-1850 as the New-York Daily Tribune’s first female foreign correspondent. These Dispatches back to the Tribune feature reports on a range of current events, but focus heavily on the Italian Risorgimento. Her writings on the Italian revolution intensify Fuller’s awareness of U.S. identity and values, leading to a positing of U.S. identity as a nation inextricably tied to the support of radical social reform movements.
Mariah Reeves 2016
Faculty Sponsor: Dr. Patrick Naick

A Spiritual Bildungsroman: Mapping the Embodiment of the Metaphysical in Flannery O’Connor’s The Violent Bear It Away
The project maps the spiritual maturation of Francis Marion Tarwater, the protagonist of Flannery O’Connor’s novel The Violent Bear It Away, with an emphasis on the embodiment of physical and metaphysical forms of nourishment. The overarching claim of the project is centered on the attainment of the holistic being: holism achieved through the embodiment of the secular and sacred ideologies as coexisting entities within the psyche employed simultaneously as one navigates the world.

Emily Roberts 2016
Faculty Sponsor: Dr. Jonathan White

Roommate Matching by Design
Having a “good” or “bad” roommate situation the first year of college can have a large impact on the success of a student. However, it can be difficult to understand and create good roommate matches. The Actual-to-Ideal program was implemented for the 2012-2013 school year to match first-year roommates. Since its creation, data based on predicted compatibility and satisfaction can be analyzed to determine its success in creating successful roommate matches.

Allison Rogers 2016
Faculty Sponsors: Drs. Gina Hausknecht and Amber Shaw

Degrees of Faith in Paradise Lost
In Paradise Lost Milton’s God creates two unfallen, essentially perfect human beings who remain unfallen and essentially perfect until both separately choose to defy his single command. Adam and Eve have different experiences of God, they react to him in different ways and they even interpret his calling differently, yet they both remain sinless until the moment they eat the apple. This suggests that there are multiple acceptable ways of worshiping God even in the prelapsarian world and Eve’s continual rejection of God in the face of Adam’s devout worship suggests that a lesser degree of faith is acceptable.

Kristen Scott 2016
Faculty Sponsor: Dr. Audrey Golden

“Rwanda’s Untold Story”: Revealed
In October 2014, the BBC released a controversial documentary film entitled “Rwanda’s Untold Story.” From general opinions on the government and media in Rwanda to specific questions on topics addressed in the documentary, this presentation seeks to discover a Rwandan perspective on controversial human rights violations in their own history, as well as the role of the universal human rights in Rwanda today.

Sara Sweeney 2016
Faculty Sponsor: Mr. Geoff Chaplin

Language as Divine: Writings of an Offbeat Philosopher
Johann Georg Hamann presents a bold response to Enlightenment thinker Immanuel Kant’s Critique on the Purism of Reason. Whereas the Kantian approach is to treat reason as something that can function on its own accord, Hamann argues that language is the basis of reason. In my paper I present Hamann’s argument through three key points: what Hamann finds is the problem with Kant’s transcendental philosophy, which makes language dependent upon reason; what Hamann finds to be the relationship between reason and language and finally, how Hamann’s own use of language attributes divine revelation as the source of language and reason.

Shannon Zelek 2017
Faculty Sponsor: Dr. Drew Westberg

Leadership Beyond the Scope: An Action Research Project
Cedar Rapids is home to a large population of high school students. Each student has their own experiences, but all of them will learn to grow as individuals. One large portion of personal growth is leadership development. The research hopes to find an answer to what gaps exist within the current leadership development programs available to today’s youth. Through the identification of the programs lacking in the Cedar Rapids area, researchers may begin to recommend educational programs to improve the lives of youth. This study will be conducted through a survey of up to 25 individuals and post-survey interview with five of those subjects.