

# SLAMM



Your Day to Shine

Wednesday  
April 14, 2010

## LOGISTICS for

# SLAM

### *Please Read Carefully!*

*Remove your SLAM Passport from the program.  
Add your name and signature to the back of the Passport.  
Your Passport is your personal ticket into SLAM activities.  
It will be stamped at the door of each session you attend.*

### **DO NOT LOSE IT!**

*Many professors will ask to see your Passport as proof of attendance.*

- During Oral Presentations (Sessions I, III, and IV), thematically arranged groups of presentations will be happening **SIMULTANEOUSLY** in **MULTIPLE PLACES** on campus. Check your program carefully and decide which you want to attend. You will only be able to attend one group of presentations in each session. Please remain in that session for all presentations.
  - ✓ To be eligible for one of the Fabulous SLAM Door Prizes, you must be present at the Closing Celebration in **MOORE AUDITORIUM** AT 4:30 P.M., and
  - ✓ your passport must have **FOUR STAMPS** that show you have attended **all** of today's Sessions
- **What next?** Select one of the exciting presentation groups from Session I. Hurry on over to its location. Some may be Standing Room Only, so get there quick to get a seat!

**HAVE FUN and GET SLAMMED!**

#### **CREDITS:**

Cover Design:

Kimberly Lewis

Slam Stage Banner Design:

Claudia Cala, Kristin Kilpatrick, Katie Ledford, Jessica Lowman, Hannah McGinnis, Elizabeth Ravel, Cody Webb

# Student Liberal Arts Mosaic

. . . of Research, Performance, and Creativity

## ORDER OF CEREMONIES

*In the One Hundred Fifty-third Year of Mars Hill College  
April 14, 2010  
Moore Auditorium*

### **THE FANFARE: Mars Hill College Percussion Ensemble**

**8:45 A.M.**

*Pléïades: Peaux* (1978)

Iannis Xenakis (1922-2001)

Performers: Justin Mabry, Emory Hensley, Corey Denham,

Dr. Brian Tinkel, Christopher Powell, Phillip Bronson

*Dr. Brian Tinkel, Director*

### **OPENING CELEBRATION**

**9:00 – 9:20 A.M.**

The Invocation

Kaitlyn Allen  
*Psychology Major*

The President's Welcome

Dr. Dan Lunsford  
*President of Mars Hill College*

Welcome from the SLAM committee

Mr. Kit Powell  
*Music Performance Major*

Charge to the Students, Faculty, and Friends

Ms. Joy Clifton  
*Instructor of Physical Education*

# Student Liberal Arts Mosaic

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## SESSION I: ORAL PRESENTATIONS

9:30 – 10:45 A.M.

### Session I–A: *Ensembles*

Location: **Owen Theater**

*Minimalism in Reich’s Drumming*

Justin Mabry  
*Music Education and Music Performance Major*

*“It wasn’t me”: A Look at Multiple Personality Disorder in Respect to Moral and Legal Responsibility*

Nadine Hayes  
*Psychology Major*

*Cadenza 2010 Presentation*

Alicia Andrzejewski  
Emory Hensley  
Megan Weaver  
Wes Skidmore  
Kristina Blackford

### Session I–B: *Overlooked Contributions*

Location: **Broyhill Chapel**

*Sickle Cell Trait and Heat Illness in Collegiate Athletes*

Mary Jackaway  
Chelsea Daugherty  
Patricia LaRovere  
*Athletic Training Majors*

*An Archival Investigation into the Farmers Federation*

Amanda McMahan  
*History Major*

*Clustered Beauty: Cluster Chords, New Notation, and Henry Cowell’s Exploration of New Performance and Composition*

Sonja Guthrie  
*Music Performance Major*

### Session I–C: *By the Numbers*

Location: **212 Nash**

*Water Quality Trends in Madison County*

Ashley Angell  
Nicholas Sigona  
*Chemistry Majors*

*Answer in Two Decimal Places Accuracy:  
How “Well” are You Prepared for a Test?*

Yi Lu  
*Mathematics and History Major*

*Sound and Silence: Maki Ishii’s Thirteen Drums*

Kit Powell  
*Music Performance Major*

**Session I–D: Corporations, Campaigns, and Free Speech?**

**Location: 200 Wren College Union  
(Belk Auditorium)**

*Citizens United v. Federal Election Commission*

Igor Catran  
Joseph Hoilman  
Alessandro du Bessé  
*Political Science Majors*

*Citizens United v. Federal Election Commission: The Opinion of the Court*

Daniel Klink  
*Political Science Major*  
Byron Stallworth  
*Sociology Major*  
Aaron Thomas  
*Business and Political Science Major*

*Citizens United v. Federal Election Commission: The Reaction  
to the Decision, its Effect on Elections, and its Effect on You*

Calvin Brien  
*Political Science and Mathematics Major*  
Brandon Johnson  
*Political Science and English Major*  
Stephanie McGrath  
Zarkeed Reeves  
*Political Science Majors*

***INTER-SESSION Snack Break***

***10:45 – 11:00 A.M.***  
***Location: Near Oral Session Venues***

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## **SESSION II: PLENARY SESSION**

**11:00 A.M. – 12:00 P.M.**  
**Location: Moore Auditorium**

Introduction of the Speaker

Mr. Kit Powell

*SLAM Committee Representative*

**Dr. John Wells**

**Vice President for Academic and Student Affairs**  
**Mars Hill College**

**Test Tube Politics: Science and  
American Democracy in the 21<sup>st</sup> Century**

## **LUNCH BREAK**

**12:15 – 1:15 P.M.**  
**Location: Pittman Dining Hall**  
**or on your own**

## **SESSION III: ORAL PRESENTATIONS**

**1:30 – 2:45 P.M.**

### **Session III–A: *Being Scene/Seen and Heard***

**Location: Owen Theater**

*From Sketches to the Stage: Costume Design in Musical Theatre*

Anna Thrift  
*Theatre Arts Major*

*The Use of Fungi and Bacteria in Waste Management Techniques*

Caitlin Ferrill  
*Biology Major*

*Music as Life: Out of Balance and in Transformation*

Rachel Dudley  
*Music Education Major*

### **Session III–B: *Know Thyself***

**Location: Broyhill Chapel**

*Fragile X Syndrome: Improving Current Testing and Detection Methods*

Bryan Moore  
*Biology Major*

*The Dying Art of Improvisation*

Benjamin Gray Little  
*Music Performance Major*

*“Ephemeral as a Rainbow”: Taoism in Virginia Woolf’s To the Lighthouse*

Alicia Andrzejewski  
*English Major*

### **Session III –C: *New Approaches to Old Questions***

**Location: 212 Nash**

*Plantain (*Plantago major*) and its Health Benefits*

Ashley McCarthy  
*Biology Major*

*Mars Hill College Environmental Sustainability – An Investigation and Comparison*

Amy Miller  
*Fashion & Interior Merchandising Major*  
Stacy Christ  
*Recreation and Sports Management*

*The Power of Antioxidants: The Development of Curcumin Derivatives and their Antioxidant Properties*

Jarred Robert Edward Pickering  
*Chemistry Major*

# Student Liberal Arts Mosaic

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## Session III – D: *Say No to the Status Quo*

**Location: 200 Wren College Union  
(Belk Auditorium)**

*“All in all is all we are”: Nihilism in the Music of Nirvana*

Kimberlee Williams  
*Music Major*

*The Yellow Fever Epidemic of 1793 and the Christiana Riot of 1851:  
A Juxtaposition of Two Illuminating Events on Race Relations in Pennsylvania*

William “Wes” Skidmore II  
*History Major*

*The Power of His Word: How Religious Language Promotes  
Gender Inequality*

Kasey Boston  
*Psychology and Religion Major*

## ***INTER-SESSION Snack Break***

***2:45 – 3:00 P.M.***

***Location: Near Oral Session Venues***

## **SESSION IV: ORAL PRESENTATIONS**

**3:00 – 4:15 P.M.**

### **Session IV–A: *Transformations***

**Location: Broyhill Chapel**

*Possible Future Molecular Approaches for Cancer Therapy*

Joshua Corbin  
*Biology Major*

*Heterodox Christianities: Why “Gnosticism” No Longer Works as a Category  
and a Proposed Alternative*

Seth Clark  
*Religion Major*

*“Gay Asheville: How Asheville’s Gay Culture Influenced Economic and  
Social Change in an Appalachian Community”*

Christopher Phillips  
*History Major*



**Session IV–B: *Diagnosing the Problem***

**Location: 212 Nash**

*Who are the Sodomites? Morality, Sex, and Destruction in the Story of Sodom and Gomorrah*

Kacie Cardwell  
*Religion and Philosophy Major*

*The Relationship Between Child Soldiers and Antisocial Personality Disorder*

Ana Chocarro  
*Psychology Major*

*A Convenient Truth? The Science Behind Climate Change and Climategate*

Brandon Johnson  
*English and Political Science Major*  
Alicia Andrzejewski  
*English and Psychology Major*

**Session IV–C: *Is It Safe to Drink the Water?***

**Location: 200 Wren College Union  
(Belk Auditorium)**

*What's In Your Water?*

Melissa Holloway  
*Biology Major*

*We Belize: The Knowledge and Experience We Gained Through our Travels*

Patrick Cash  
*History Major*  
Brittany Downs  
*Religion and Philosophy Major*  
Aki Masunaga  
*Biology Major*  
Ashley McCarthy  
*Biology Major*  
Savannah Garrison  
*Biology Major*  
Breanna Mason  
*Zoology Major*  
Keshia Thompson  
*Biology Major*  
Kayla McCurry  
*Religion and Philosophy Major*  
Samantha Rybicki  
*Zoology Major*

**CLOSING CELEBRATION**

**4:30 P.M.**  
**Location: Moore Auditorium**

**Mars Hill College**

# Student Liberal Arts Mosaic

. . . of Research, Performance, and Creativity

## *The MHC Student Liberal Arts Mosaic . . . of Research, Performance, and Creativity*

### *Mission Statement*

The Mars Hill College Spring SLAM:

- showcases student research, performance, and creativity.
- provides an opportunity for the Mars Hill College community to celebrate, recognize, and promote student accomplishment across a range of academic pursuits.
- fosters and encourages a campus culture that honors and rewards the hard work, dedication, and discipline that lead to success and achievement in liberal education, in professional life, and in the world.

The Spring SLAM provides an opportunity for Mars Hill College students to exhibit their creativity and energy to an audience that includes not only the entire campus community (students, faculty and staff), but also the wider college family (trustees, alumni, and friends of the college). During the sessions, panels, and exhibits of the Spring SLAM, students present the best of their work in a wide variety of subject areas and formats, sharing it in a spirit of intellectual competition and cooperation.

### **Presentation Abstracts**

**Alicia Andrzejewski**, *“Ephemeral as a Rainbow”*: *Taoism in Virginia Woolf’s To the Lighthouse*

The modernist period in British literature was a time in which traditional answers to the questions of larger meaning were openly challenged. Old certainties of life vanished, leaving only fragmentation and disillusionment for many people. These shifts led people, especially artists, to search more desperately for meaning. Virginia Woolf may have been wary of organized religion, but despite this aversion to Western religious traditions, Eastern religious philosophical concepts can be found in her body of work. Certain central principles of Taoism, in particular, are evident in her 1927 novel *To the Lighthouse*. In *To the Lighthouse*, Virginia Woolf, and consequently, her characters, make numerous attempts to describe, explore, and determine “what it all means.” The answer to this larger question can be illuminated and better understood through the study and application of Taoist principles.

**Alicia Andrzejewski, Brandon Johnson, A Convenient Truth? The Science Behind Climate Change and Climategate**

The United Nations' Intergovernmental Panel on Climate Change (UNIPCC) and Al Gore's widely distributed video, "An Inconvenient Truth" have persuaded governments, nonprofits, the media, and individuals around the world that a rise in global temperatures would kill polar bears, unleash devastating natural disasters, and change the way humans live across the globe. Recently, the CLIMATEGATE affair has called anthropogenic global warming theory (AGWT) into question. AGWT forms the basis of proposed legislation (Cap and Trade), or regulation by governments which would seriously impact national security, economies, families, and individuals worldwide. This presentation showcases the immense complexity of the climate change debate. It highlights the problem of discerning natural climate variability which operates on numerous and overlapping spatial and temporal scales from human-caused climate change. By focusing on some of the under-reported evidence that challenges AGWT, we hope to both inform and to bring a measure of balance to the debate.

**Ashley Angell, Nicholas Sigona, Water Quality Trends of Madison County**

Clean water is something that most people take for granted, but how clean are the waterways that run through Madison County? We have been working with the Volunteer Water Information Network (VWIN) to analyze the water quality of nine waterways in Madison County that feed into the city of Weaverville's main water supply and support native aquatic life. In order to do this, we measured six different parameters: pH, dissolved oxygen, turbidity, total suspended solids, nitrate concentration, and phosphate concentration, monthly from September 2009 to January 2010. The collected data has been compared to rainfall, river flow rate, and land use in order to evaluate the impact of these factors on the quality of the water in Madison County.

**Kasey Boston, The Power of His Word: How Religious Language Promotes Gender Inequality**

The presentation discusses the role that religious language plays in perpetuating gender inequality, particularly how a masculine image of God may lead to a diminished view of women. It explores the idea that encouraging a gender neutral understanding of God might lead to more equality between the genders. The research includes an original experiment done at Mars Hill College which showed that student participants who were primed with religious language displayed a stronger unconscious association of males with "career" and females with "family."

**Calvin Brien, Brandon Johnson, Stephanie McGrath, Zarkeed Reeves, Citizens United v. Federal Election Commission: The Reaction to the Decision, its Effect on Elections, and its Effect on You**

The recent U.S. Supreme Court decision in *Citizens United v. Federal Election Commission (FEC)* overturned significant aspects of campaign finance reform legislation that dealt with federal elections. Major corporations are now allowed to use independent expenditures on behalf of political candidates. This is significant because the 2010 elections are going to be vital for both parties. Historically, the sitting president's party has lost seats in Congress during midterm elections. Who is going to benefit from the *Citizens United* case in the 2010 congressional elections? What are the Democrats' and Republicans' views on the ruling? What does the decision mean for individual members of Congress and citizens of the United States?

**Cadenza, Cadenza 2010 Presentation**

In this session, Mars Hill College's literary and art magazine --*Cadenza*--will spotlight some of the excellent submissions from the upcoming spring publication. Come hear your peers share their creative talents as they read their short stories and poems, and show their art work.

# Student Liberal Arts Mosaic

## . . . of Research, Performance, and Creativity

**Kacie Cardwell**, *Who are the Sodomites? Morality, Sex, and Destruction in the Story of Sodom and Gomorrah*

The Genesis story of Sodom and Gomorrah is a narrative of violence, sexual assault, destruction, and male dominance. It has been used persistently by Christians as a depiction of God's wrath against homosexuality. In fact, many Christian institutions today offer no other interpretation of the text, much less discussions on other issues and themes in the story. As a result, many Christians passively accept or avoid the text, while others find themselves struggling to balance the story with their own sense of God's justice and love. This presentation therefore uses historical and textual context to examine the story and related texts, such as the parallel story of the Levite's Concubine in Judges 19 -20, especially in reference to gender and hospitality. By struggling with the tensions of the text, we can better understand its complexity, which is impossible when the interpretational focus is solely the judgment of homosexuality.

**Patrick Cash, Brittany Downs, Aki Masunaga, Ashley McCarthy, Savannah Garrison, Breanna Mason, Kesha Thompson, Kayla McCurry, Samantha Rybicki**, *We Belize: The Knowledge and Experience We Gained Through our Travels*

In the summer of 2009, ten MHC students and five faculty members spent 11 days in the country of Belize. This presentation summarizes our trip, analyzes our experiences, and showcases highlights of the adventure. We found the small nation of Belize to be a fascinating place in terms of its biological environment, history, and contemporary society. Belize contains ancient Mayan ruins, a protected rainforest that is home to exotic animals and plants, and great diversity in culture, ethnicity, religion, and traditions. Our travel and home-stay experiences in Belize changed our perspectives on life. Seeing citizens of a different nation live and prosper with much less than most people in the U.S. take for granted led us to the realization that this trip was as much about discovering ourselves as it was learning about Belize.

**Igor Catran, Joseph Hoilman, Alessandro du Bessé**, *Citizens United v. Federal Election Commission*

Our group will provide an introduction to the case *Citizens United v. Federal Election Commission*. The presentation will provide the Mars Hill community an opportunity to understand the historical context and political background of a groundbreaking judicial case. For the first time in over a century, corporations will be allowed to spend money in support of, or opposition to, candidates in elections. We will analyze previous Supreme Court decisions that are now overruled and will help provide insight on this case. With this restriction removed, corporations can now play a more significant role in the electoral process. Understanding this decision is crucial for American citizens to be more informed and engaged in civic life.

**Ana Chocarro**, *The Relationship Between Child Soldiers and Antisocial Personality Disorder*

The experience of "child soldiers" (children recruited for military service) is a traumatic one. My research explores whether the psychological symptoms that these children show during and after wartime experience could make them qualify for a diagnosis of Antisocial Personality Disorder (ASPD). ASPD is a disorder in which the "Diagnostic and Statistical Manual" (DSM) uses a behavioral-based criteria. This fact has led to scholarly disagreement, with some scholars arguing that the DSM criteria are "over-inclusive" and do not diagnose the real etiology or cause of the disorder. This makes the diagnosis of child soldiers challenging.

**Seth Clark**, *Heterodox Christianities: Why "Gnosticism" No Longer Works as a Category and a Proposed Alternative*

People commonly assume that Christianity in its full form was first handed down to the disciples of Jesus, then revealed to the Apostle Paul, and finally passed on to today's Church. History, however, reveals a different story, portraying various power struggles among many different Christianities in the first few centuries after Jesus. It is now known that the proto-orthodox sect that became the official religion of the Roman Empire (later to divide into Roman Catholicism, Protestantism, Greek Orthodox and the other major Christian churches) was the one that succeeded in the power struggle and rewrote history to make Christianity seem unified in its beginnings. Biblical scholars have discovered a diversity of texts that were produced by other early Christianities. This presentation discusses how these texts of the early heterodox Christianities should be classified, and demonstrates the problem with using the term "Gnosticism" to describe these various Christianities.

**Joshua Corbin**, *Possible Future Molecular Approaches for Cancer Therapy*

Cancer is initiated by genetic mutations that lead to uncontrollable cell division. Oncogenes are genes that, when mutated, can lead to the development of cancer. "Ras" is a potential oncogenic molecule that is mutated in a little over thirty percent of cancers. Although Ras mutation alone is not enough to transform cells into cancerous cells, Ras can, in the presence of other oncogenic mutations, induce cell transformation and tumor development (tumorigenesis). There are a few different cellular signaling pathways in which Ras is involved and the cell can be signaled to divide. This presentation will display certain cellular signaling pathways involved in cancer cells, and show how recent research suggests that certain molecular inhibitors could be useful in future cancer therapies.

**Chelsea Daugherty, Mary Jackaway, Patricia LaRovere**, *Sickle Cell Trait and Heat Illness in Collegiate Athletes*

In 2006, the NCAA recommended testing all athletes for sickle cell trait because recent research showed a strong connection between the disease and heat illness, and possibly other severe injuries as well. One of the most preventable illnesses in athletics is heat illness. In recent years, a severe underlying cause of heat illness has been identified for specific populations in athletics. This presentation will present research connecting sickle cell trait and the occurrence of heat illness in athletes. We will discuss the current NCAA recommendations, controversy surrounding testing of athletes, and how an athlete's participation would be affected if sickle cell trait is found. Specific cases of athletes and their connection with sickle cell trait will also be presented.

**Rachel Dudley**, *Music as Life: Out of Balance and in Transformation*

This presentation crosses the disciplines of Film, Music History, Music Theory, and Philosophy by examining the "Qatsi Trilogy." The *Qatsi* Trilogy is comprised of three films (*Koyaanisqatsi*, *Powaqqatsi*, and *Naqoyqatsi*) by director Godfrey Reggio, with a soundtrack by Philip Glass. This trilogy is a true cinematic event, a powerful fusion of image and sound. Aurally and visually, the *Qatsi* trilogy films reflect both continuity and change in our worldviews. Reggio himself remarked that "each film reverses the saying 'a picture is worth a thousand words,' by offering a thousand images to convey the power of one word. In effect, *Koyaanisqatsi*, *Powaqqatsi*, *Naqoyqatsi* are an effort to re-name the world in which we live—questioning what we consider the norms of daily living."

# Student Liberal Arts Mosaic

## . . . OF RESEARCH, PERFORMANCE, AND CREATIVITY

### **Caitlin Ferrill**, *The Use of Fungi and Bacteria in Waste Management Techniques*

Chemical waste management and control is important in many fields of biology and industry, with dyes being among the most difficult substances to treat. The “azo” aromatic dyes, in particular, are not easily broken down by aerobic bacteria. In fact, if azo dyes are degraded with anaerobic or microaerobic reductive bacteria, toxic and/or mutagenic compounds can form. An alternative to bacterial degradation is to use species of fungi such as white rot fungi (*Trametes versicolor*) or a bacterium (*Pseudomonas aeruginosa*). This talk will present the results of an experiment that compared the effects of the fungus *Trametes versicolor* with *Pseudomonas aeruginosa* on dye decolorization. We will conclude by demonstrating what methods would be better suited for waste management of dyes such as methylene green and toluidine blue O.

### **Sonja I. Guthrie**, *Clustered Beauty: Cluster Chords, New Notation, and Henry Cowell's Exploration of New Performance and Composition*

Twentieth-century music is often disregarded by major audiences and dismissed as “rubbish my five year-old could play,” particularly when confronted by techniques like cluster chords and “stringed piano.” The effects attained by these techniques emit a beauty that composer Henry Cowell sought in all elements of man and nature—but that some audiences find tasteless and uncultured. This talk will present research that illustrates the importance, influence, and creativity of a work of art that is otherwise overlooked. My work expands on the musical and historical importance of Cowell and his music, focusing on his methods, notation, and compositional techniques. I will also give a more in-depth background on Cowell’s influences, early education, and musical training.

### **Nadine Sharise Hayes**, *“It wasn’t me”: A Look at Multiple Personality Disorder in Respect to Moral and Legal Responsibility*

Recently in the United States, there has been an increase in the prevalence of Dissociative Identity Disorder (DID) cases. DID, formerly known as Multiple Personality Disorder, is one of the more controversial disorders due to difficulty in diagnosing it. Many psychologists believe that DID may not even exist; others strongly believe it does. This presentation looks at the controversy surrounding the stigma of mental illness with special focus on DID and how it affects the people who have it. I will also examine the controversy surrounding Dissociative Identity Disorder and attempt to discuss the importance of whether or not people with DID should be held morally and legally responsible for their actions (due to the interference of recurrent symptoms that accompany the diagnosis).

### **Melissa Holloway**, *What's in Your Water?*

Over the past few decades, plastics have been used progressively in many materials because of their light weight and durability. However, recent knowledge of the leaching of certain chemicals from plastics has led to serious environmental and health concerns. In particular, the chemicals Bisphenol A (BPA) and styrene are human carcinogens and have many other negative health effects, especially for fetal growth and development. In this study, four different types of water bottles—soft plastic, aluminum, hard plastic, and glass--were tested under various conditions to see whether/how much of each chemical is leached into distilled water. The specific environmental factors tested include a decrease in pH to mimic orange juice or Gatorade and an increase in temperature to 90° C to simulate a bottle being left in a hot car. Scientific instruments were used to identify the peaks that represent BPA and styrene, and full spectrum scans were used to identify other potentially unknown compounds that may have leached into the water.

**Daniel Klink, Byron Stallworth, Aaron Thomas, *Citizens United v. FEC: The Opinion of the Court***

In the recent Supreme Court case, *Citizens United v Federal Election Committee* (FEC), the court ruled that corporations are permitted to make independent expenditures in support of, or opposition to, candidates in elections. While these expenditures cannot be coordinated with candidates or parties, this ruling has overturned a significant portion of campaign finance laws that have been in place for more than 100 years. In considering money as speech, the Court has used the First Amendment as its primary vehicle in crafting this decision. It is important for the American people to understand how the Court came to this conclusion. To do this, we will explore the various interpretative methods that were employed in the majority opinion. While the opinion is very complex, our presentation will show the reasoning behind the Court's conclusion.

**Benjamin Gray Little, *The Dying Art of Improvisation***

Music can be composed and performed in one of two ways: It can be composed by an individual other than the performer; or a performer can compose on the spot (improvise). The technique of improvising was originally one of the only ways that music was performed. Even in the Renaissance period, where printed music became increasingly common, improvisatory style was still a much enjoyed component of performed music. These days, however, the art of improvisation is often overlooked, as most performances are almost exclusively dedicated to pre-composed music. This presentation will examine the art of improvisation, which takes more than just talented playing and good performance skills. It also takes substantial knowledge of music theory, quick decision-making skills, an ear for proper dissonances, and a passion to create music.

**Yi Lu, *Answer in Two Decimal Places Accuracy: How "Well" are you Prepared for a Test?***

When you say that "I am well prepared" for a test, how "well" do you really mean? If you answer "90% prepared," are you just taking a guess? In this presentation I will investigate a history test model, which asks you to answer a certain number of questions out of a larger number of questions. Then I will generalize the case and present the development of a program that will calculate how many questions you are likely to know, based on how many questions you have studied. During the process, basic probability and programming knowledge will be introduced. I will further talk about some applications of mathematics in our daily life and show that many random facts are in fact not that "random."

**Justin Mabry, *Minimalism in Reich's Drumming***

Steve Reich, American composer, is a principal exponent of minimalism, a style of music that emerged in New York City during the mid-1960s. Reich's *Drumming* includes several characteristics of minimalism such as restricted pitch and rhythmic material, use of repetition, and steady pulse. Most importantly, Reich pioneered a new technique called "phase shifting." Reich created many compositional techniques that contributed to minimalism and influenced several contemporary composers. Reich's compositional techniques are difficult and demand new levels of proficiency. This presentation will explore Reich's *Drumming*, a monumental landmark in the evolution of percussion literature, and an excellent example of minimalistic music.

# Student Liberal Arts Mosaic

## . . . of Research, Performance, and Creativity

### **Ashley McCarthy**, *Plantain (Plantago major) and its Health Benefits*

Could a plant as simple as Plantain (*Plantago major*), a common weed, be one solution for the problems of chronic skin sores experienced by diabetic and immune-compromised patients? Reviews of the scientific and herbal folklore literature indicate that Plantain may have some efficacy in treatment; and yet, carefully designed experiments seem lacking. This presentation will present findings from experiments in which extracts from Plantain were tested for antibacterial activity against *Pseudomonas aeruginosa*, *Staphylococcus aureus*, and *Escherichia coli*—three common bacterial species that often contribute to biofilm infections. Because scientific evidence suggests that plants alter their chemistry at different developmental stages, we collected leaves at different stages in Plantain's life span, and dried them for use in these experiments. Our experiments indicate that bactericidal chemicals in Plantain leaves do vary in concentration and activity with the age of the plant, and that different species of bacteria have varying inhibition of growth when treated with Plantain extracts.

### **Amanda McMahan**, *An Archival Investigation into the Farmers Federation*

In 1920, Illinois native James McClure and four farmers met to form a co-operative—the Farmers Federation—as a way to help struggling farmers of Western North Carolina. McClure's Farmers Federation provided the public with much information on new farming techniques and methods. Through education, the Federation was able to influence the buying and selling power of farmers, thus helping them survive tough economic times. McClure also helped build up the farmers' spirituality by establishing the Lord's Acre Program, designed to support the country church by having farmers donate a portion of their crops. The Federation's services helped the farmers develop a more advanced style of farming and a stronger community. This presentation will explain McClure's material and spiritual effect on Western North Carolina farmers, using photographs and publications from the Ramsey Center's Southern Appalachian Archives.

### **Amy Miller and Stacy Christ**, *Mars Hill College Environmental Sustainability-An Investigation and Comparison*

College age students are becoming increasingly aware of the importance of sustainability and ecological problems that will affect our futures. Many institutions of higher education across the United States have taken notice and adapted their programs to meet this growing student interest. Amid this increasing awareness, students at Mars Hill College are expressing interest in environmental sustainability. This presentation will explain how—through site visits and survey research—we were able to learn about the ways in which other small liberal arts colleges are implementing sustainable practices. We will also assess Mars Hill College students' interest, and identify practical ways that Mars Hill College could apply our findings on environmental sustainability to curriculum, campus culture, and campus operations.

### **Bryan Moore**, *Fragile X Syndrome: Improving Current Testing and Detection Methods*

Fragile X syndrome (FXS), a leading cause of some forms mental retardation and autism, is caused by a mutation on the X chromosome. For people suffering from FXS, accurate diagnosis and testing is essential in getting the right counseling and treatment. For years the standard form of testing for FXS has been the "Southern Blot." This test, though reliable, is also complex, expensive, and relatively dangerous (due to the use of radioactive chemicals). An easier, safer, and more accurate alternative known as the "polymerase chain reaction" (PCR) could potentially eliminate the need for the Southern Blot and provide more accurate testing and diagnoses for patients. This presentation focuses on research that aims to improve a current PCR, as to detect more severe mutations in patients suffering from FXS and better identify carriers of the FXS gene.



**Christopher Phillips**, *Gay Asheville: How Asheville's Gay Culture Influenced Economic and Social Change in an Appalachian Community*

The city of Asheville in the Southern Appalachian Mountains has become a “gay” city, boasting the 16<sup>th</sup>-highest percentage of same-sex households among more than 300 metropolitan areas. In Asheville, homosexuals feel free enough to express themselves without fear of reprisals, and gay business owners make up a substantial percentage of the city's economic revenue. How and why did this happen? Was it because of the activities of a local gay movement, or simply the byproduct of being the largest city in Western North Carolina? Using oral histories, newspaper articles, and secondary sources from local authors, I will explore how local gay culture influenced the economic and social revitalization of Asheville from the 1980s through the 1990s, and how a small town in WNC managed to become an accepting community for gay people.

**Jarred Robert Edward Pickering**, *The Power of Antioxidants: The Development of Curcumin Derivatives and their Antioxidant Properties*

Curcumin is most commonly seen as a yellow pigment present in the spice “turmeric” of the herb *Curcuma longa*. Curcumin has been demonstrated to exhibit many health-promoting properties, including its ability to act as an anti-inflammatory, antioxidant, antimicrobial and anticarcinogen. Several derivatives of curcumin, both natural (existing in the environment) and synthesized (man-made), are currently under study. This study examines the antioxidant activity of these derivatives. One key test used to estimate the antioxidant activity of a substance is to use the stable free radical diphenylpicrylhydrazyl (DPPH) with the synthesized derivative, and to measure the resultant wavelength. DPPH is a dark violet color that, when neutralized, is reduced in intensity. In this manner, a comparison of the antioxidant activity of each analogue can be determined.

**Kit Powell**, *Sound and Silence: Maki Ishii's "Thirteen Drums"*

Two mallets versus thirteen drums. Who will win? A virtuosic masterpiece, Maki Ishii's “Thirteen Drums” pushes the performer to both physical and musical extremes. In keeping with the Japanese tradition, the juxtaposition of force and subtlety, sound and silence, and the overarching form of the piece make it accessible and rewarding for both the performer and the audience. How did Ishii go about composing such an epic work? What influenced his decision to use graphical notation on the score? Is there a larger mathematical scheme at the heart of the composition? In what ways does “Thirteen Drums” represent a fusion of the Eastern and Western musical traditions? Come find the answers to these questions, or at least, come watch a guy hit thirteen drums really fast.

**William (Wes) Skidmore II**, *The Yellow Fever Epidemic of 1793 and the Christiana Riot of 1851: A Juxtaposition of Two Illuminating Events on Race Relations in Pennsylvania*

This paper sheds light on the context and evolution of racial attitudes and ideologies—white and black—over a period of sixty years in Pennsylvania's history of race relations through two case studies: the Yellow Fever Epidemic of 1793 and the Christiana Riot of 1851. At the time of Yellow Fever Epidemic, blacks attempted to be of assistance by aiding the sick. In the aftermath of the plague, however, numerous white Philadelphians accused them of criminal activity and condemned them as members of a degraded “inferior” race. Black leaders, in turn, responded by defending themselves as upright, respectable people. In this way, they hoped to reassure whites that their racial fears were baseless, that blacks were truly not a threat to them, and that all respectable people, black and white, should be equal. By contrast, during the Christiana Riot of 1851, black activists showed no interest at all in attempting to persuade or reassure whites with arguments about respectability. Instead, they condemned the 1850 Fugitive Slave Law (the legislation that had precipitated the Christiana Riot), demanded violent resistance if necessary, and scorned white supremacists as degraded bigots.

# Student Liberal Arts Mosaic

## . . . of Research, Performance, and Creativity

### **Anna Thrift, *From Sketches to the Stage: Costume Design in Musical Theatre***

Do you ever wonder how live, theatrical productions come together, or how much work goes into the technical aspects of a show to give the audience the finished product? In this presentation, you will be able to see how costumes are brought to life from the point of researching the script, to designer's concepts, to the realized costumes onstage. You will also have a chance to see how costumes in musical theatre are created, learn about the issues and challenges found in costume design for musical theatre, and see actual costumes in performance. The costumes featured in this presentation are from the Mars Hill College Theatre Arts' production of *A Funny Thing Happened on the Way to the Forum*.

### **Kimberlee Williams, "All in all is all we are": Nihilism in the Music of Nirvana**

The rock band NIRVANA took mainstream popular music by storm with the 1991 release of its first major-label album, *Nevermind*. Kurt Cobain—the group's primary songwriter—unwittingly provided a voice for the younger generation of the early 1990's with his conflicted, anxiety-laden lyrics, simple melodies, down-tuned guitars, and a general attitude of apathetic disdain for the status quo. Cobain's blatantly nihilistic attitude toward humankind's potential for progress embodies the zeitgeist of American young adults who were mired in self-loathing and meaninglessness, screaming their anger and outrage at the world. This presentation examines ways in which Cobain's nihilistic worldview is reflected in the lyrics, musical style, and compositional techniques of three selections from Nirvana's final studio album: *In Utero*.

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Student Liberal Arts Mosaic

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## About Our Speaker



**John W. Wells, Ph.D.**, is the newest senior administrator at Mars Hill College, having come to campus in August 2009. A political scientist by training, Dr. Wells began his career at his *alma mater*, Carson-Newman College in Tennessee. He was on the faculty there from 1993 to 2005, serving also as Director of the Honors Program from 1997 to 2000 and Dean of the School of Social Sciences from 2003 to 2005. Following his time at Carson-Newman, Dr. Wells spent four years as Provost and Vice President of Academic

Affairs at Young Harris College in Georgia, serving for a year as Interim President, and helping shepherd the institution through the substantive change process, during which it transformed from a two-year associate's college to a four-year baccalaureate college. Since joining Mars Hill College this academic year he has overseen the development of the college's new strategic plan, helped spearhead a renewed focus on retention issues, and served as a liaison in the college's reaccreditation process.

## *The SLAM Organizing Committee*

Dr. Greg Clemons, Division of Humanities  
Ms. Joy Clifton, Division of Education, Committee Co-Chair  
Ms. Murphie Culpepper, Director of Student Activities  
Dr. Eva Lacy, Division of Natural Sciences, Committee Co-Chair  
Mr. Kit Powell, At-Large Student Representative  
Dr. Teresa Sumpter, Division of Fine Arts  
Mr. Mike Thornhill, Director of Communications  
Ms. Beth Vogler, Division of Business and Social Sciences

## *Special Thanks to*

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James Neadstine  
Nina T. Pollard  
Richard Seagle  
Brian Tinkel & MHC Percussion Ensemble  
John Wells

The dedicated Students, Staff, Faculty, and Friends of Mars Hill College

