Following Dr. Fullerton's keynote address, there will be a reception for all graduate students sponsored by Alumni Affairs and the Graduate Student Council. Please join us for hors d’œuvres and refreshments in the Multipurpose Room of Dana Commons.
Schedule

9:00–9:30 Refreshments · Abraham’s Gallery

9:30–9:45 Opening Remarks · Grace Conference Room
Dr. Nancy Budwig, Dean of Graduate Studies

9:45–10:30 Session I · Grace Conference Room
Social Issues in Developing Countries

Session II · Lurie Conference Room
Discussions on Gender

10:40–11:40 Session III · Grace Conference Room
Changing Needs in Education and Scholarship

Session IV · Lurie Conference Room
Rethinking Norms

11:45–1:00 Lunch for presenters and associated faculty/staff · Rosenblatt Conference Room
Poster Session · Abraham’s Gallery
1:00–1:45  Session V  ·  Grace Conference Room
       A Taste of New England

Session VI  ·  Lurie Conference Room
       At Clark and Beyond

1:55–2:55  Session VII  ·  Grace Conference Room
       Perspectives on Religion

Session VIII  ·  Lurie Conference Room
       Measurement and Detection

3:00–4:00  Keynote Address  ·  Grace Conference Room
Dr. David Fullerton
       Sustainability and the Specialty Coffee Revolution

Travel Awards Presentation
Graduate Student Council Travel Awards
Committee

4:00–6:00  Reception  ·  Dana Commons Multipurpose
       Room  /  Sponsored by the Alumni Association
       and Graduate Student Council
Dr. David Fullerton

Keynote Speaker – Sustainability and the Specialty Coffee Revolution

David Fullerton owns and manages Acoustic Java, a coffeeshop at 932 Main Street. He got his B.A. in Interdisciplinary Humanities from the University of San Diego and his Ph.D. in English Literature from Brown University. He has taught English as an adjunct faculty member at Holy Cross and Assumption Colleges. David began his coffee career at the Coffee Exchange in Providence, RI, and has been roasting beans for more than four years now. He bought Acoustic Java in June 2007 and may often be found working behind the counter. When he isn’t managing Acoustic Java, David enjoys running and playing soccer, playing pool, reading all forms of fiction and the newspaper, and spending time with family and friends.
SESSION I
Grace Conference Room
9:45–10:30

Social Issues in Developing Countries

Ashley Cataldo
acataldo@clarku.edu
History · Advisor: Janette Greenwood

_Hosea Ballou, Universalism, and the Promise of the Revolution, 1805–1820_

Hosea Ballou (1771–1852), itinerant preacher of radical universalism in early nineteenth-century America, and a number of other preachers from New England, all took part in writing and publishing sermons and pamphlets in heated debates from 1805 to 1820. This series of arguments reveals how preachers, struggling for power and survival in an era of increasing denominational instability, understood the consequences of eternal damnation and Puritan theology for a new nation.
The World Social Forum: Space, Movement or Process?

The World Social Forum (WSF), a gathering of activists from around the globe as the antithesis to the World Economic Forum, is a relatively recent phenomenon. So recent, in fact, that scholars and activists from a number of disciplines and ideological persuasions continue to struggle in their attempts at theorizing and contextualizing what it actually “is.” Given its amorphous framework, the most contentious debates surrounding the WSF are seemingly simple questions: what is the World Social Forum, and what should it be? I will attempt to review the debates over these questions from both people deeply involved in the WSF process, and also those who critique and offer ideas from the sidelines. In reviewing the literature, it appears evident that there are essentially three central debates that endeavor to answer the basic questions posed above, and they can be categorized as: World Social Forum: Existential, World Social Forum: Political, and the World Social Forum’s relation to the global “social justice” (or “anti-globalization”) movement. I begin with a brief history of the WSF, and then focus largely on examining the arguments about what the world social forum is (and/or what it could be), followed by framing its relation to wider anti- or alternative globalization movements (with the explicitly political nature of the WSF falling ambiguously in-between). I then briefly discuss the WSF’s implications for the development field, particularly development theory and social movements.
The United States Peace Corps as a Tool for Development?

The United States Peace Corps will reach its 50th year of continuous operation in 2011. During this time period, over 195,000 Americans have served as Peace Corps volunteers (PCVs) in 139 countries (Peace Corps 2008). Today approximately 7,900 PCVs are serving in 76 countries. Considering its broad reach, it is not surprising that there has been much debate over the role and success of the Peace Corps (PC) throughout its long history. Recently there has been a notable exchange between two leaders in the agency about the efficacy of Peace Corps’ structure and its historical achievements. Robert Strauss, former PC county director in Cameroon, argues that Peace Corps has “never lived up to its purpose or principles” (2008b:1), while Ronald Tschetter, PC director from 2006–2009, contends that “our dedicated, passionate volunteers represent America at its best and brightest, and their work is needed now more than ever” (2008b:1). I will examine this debate using historical and contemporary accounts of PCV’s experiences and accomplishments, views of local people on PCVs in their communities, and my experience as a PCV in Morocco from 2005–2007. The dearth of literature and research on the impacts of PCVs in the communities where they serve leaves unanswered the question of whether volunteers are an important tool for international development or if Peace Corps service provides more benefits to the volunteers and US government. I will describe areas of research that will provide insight into this debate, including my own research plans for the summer.
Session 1
In the wake of D.W. Griffith’s 1915 blockbuster *The Birth of a Nation*, American filmmakers were inspired to explore the medium’s potential as a means of bringing history to life. The following years saw a proliferation of historical epics, among which Cecil B. De Mille’s *Joan the Woman* is a particularly ambitious example. Released in 1916 (at the height of World War I and midway between Joan’s beatification and canonization), the film offered a romantic interpretation of the life of Joan of Arc, using a conventionally feminine heroine to elicit American sympathy for the plight of contemporary France. *Joan the Woman* adds up to a piece of nationalist propaganda every bit as impassioned as Griffith’s saga of the Reconstruction South, but despite its popularity in the United States, the film failed to resonate with French audiences until its re-release in a radically edited version. This disparity of reception, rooted in
the film’s uniquely “American” approach, invites comparison of the ways nations interpret – and reinterpret – their identifying symbols. By juxtaposing De Mille’s earthy portrayal of France’s national heroine – so accessible to American moviegoers – with her established position as an icon whose divine guidance and terrible death represented France’s importance in the eyes of God, this paper addresses the ways Joan of Arc’s inexhaustible adaptability ensured that both American and French audiences ultimately got the cinematic Joan that suited the differing – yet highly specific – purposes of their respective nations.

Asha Singh
assingh@clarku.edu
IDCE · Advisor: Halina Brown

*Gender Analysis of Biogas as Potential Renewable energy in Rural Nepal*

Two billion people of sixteen countries in South and South-East Asia, rely on biomass fuel for cooking, space-heating and agro-processing. Traditionally, women of these regions are responsible for supplying the household energy, and fuel wood is the major source for it. Efficient and renewable form of energy use came into practice with the changes in the gender focused energy policies, international discourses about climate change and pressing needs of reduction of greenhouse gases, technological advancements. Renewable energy is expected not only to bring environmental change, but also drive social and economic change. Improved biomass energy technology is expected to contribute in four out of seven MDGs: reducing hunger, reducing child mortality, ensuring environmental sustainability and increasing gender equality and empowerment. Taking example of Nepal, with a focus on biogas as potential
form of biomass energy, the paper identifies significant gap in gender based approach to renewable energy promotion thus underlining the gender inequality.

Allison Petrozziello
apetrozziello@clarku.edu

Feminized Financial Flows: Gender Dimensions of Remittance Management in Honduran-US Transnational Families

Remittances – the earnings immigrants send home to their families – now total approximately $318 billion worldwide. This financial flow is twice as large as official development aid and nearly two-thirds of all foreign direct investment to developing countries – and most of it is sent directly to women living in poverty. It does not surprise then, that many development policymakers and practitioners now hail remittances as the next “silver bullet” solution to poverty and women’s empowerment – if only they can “leverage” these funds to stimulate economic development in migrants’ countries of origin. Remittances are not public funds to be allocated, however. Rather, remittances constitute private transfers within families who are stretched across two or more nations. Women figure prominently in these transnational families, as both remittance senders/migrants and remittance managers/caretakers of those left behind. Drawing on Patricia Pessar and Sarah Mahler’s “gendered geographies of power” framework, my research seeks to understand the shifting gendered aspects of family life that govern the sending and spending of economic remittances. Through multi-sited interviews with Honduran immigrants in Alexandria, Virginia and their family members in Nacaome, Valle, Honduras, this study traces the transfers in twenty
Session II

transnational families in order to reveal the many gender dimensions of remittance management that may help or hinder families’ ability to achieve their economic goals. By identifying how gender shapes family responsibilities, economic opportunities, mobility, and decision-making power, this study aims to contextualize remittances within the Honduran-US families who migrate to stay afloat in a global economy in flux.
Session III
Grace Conference Room
10:40–11:40

Changing Needs in Education and Scholarship

Rahul Rakshit
rahulbabaji@gmail.com
Geography · Advisor: Robert Pontius
Additional Authors: Yelena Ogneva-Himmelberger

Application of virtual globes in education

The advent of virtual globes and online mapping has generated interest in spatial representations of data among many non-geographic communities, including educators and researchers who have very little to no expertise in geospatial technologies. In this article, we give a state-of-the-art survey of existing virtual globes and review the existing teaching applications related to them. We focus on the four most popular virtual globes (Google Earth; NASA World Wind; Microsoft Virtual Earth Earth; and Skyline Globe), illustrating their various applications and comparing their capabilities, with a particular emphasis on educational aspects. We also explain the distinction between the virtual globes and various online mapping applications, such as Google Maps mash-ups.
Session III

Diane Boucher
dboucher@clarku.edu
History · Advisor: Janette Greenwood

The Howard Industrial School for Colored Women and Children: Examining the Freedmen's Bureau Migration Experiment in Cambridgeport, Massachusetts

Following the Civil War, thousands of destitute freed people flocked to Washington, DC depleting the limited resources of the Freedman's Bureau. Women and children were among the most desperate arrivals. In response to requests for assistance from General Charles H. Howard, Anna C. Lowell and her friends actively organized the Howard Industrial School Association for Colored Women and Children in Cambridgeport, Mass., in 1866.

The Freedmen’s Bureau agreed to pay transportation costs to the school located just outside Boston if it provided viable alternatives for freed persons’ education and employment. The Howard Industrial School originally intended to teach domestic skills to adult women for employment in urban homes. The founders modified their goals and expectations once the freed women and children came north with their own goals and expectations.
Kevin Keenan & Danielle Fontaine
kkeenan@clarku.edu, dfontaine@clarku.edu
Geography · Advisor: David DiBiasio (wpi)

Research Methods in Geography at Clark University: A Grounded Theory Exploration

The ways in which undergraduate students learn research methods in geography has not been studied, despite the centrality of field research to the discipline and the growing focus in higher education on student-centered learning. The few pedagogical articles that exist on research methods focus on course description as informed by the instructor’s perspective. Our research employs a grounded theory framework, allowing the students’ voices and ideas to shape a theory of how they themselves learn research methods. In collaboration with the students, we develop a theory that helps us understand student experiences of learning research methods and their educational needs in this core geography course. Two focus groups, a survey, and semi-structured interviews with Clark University undergraduate students taking a research methods class reveal three points about research methods in geography: 1) Research methods need to be taught in conjunction with geographic theories; students struggle with understanding the role of theory in research design; 2) Student experiences suggest that research methods are best learned in small-group discussion sessions; and 3) using a social science approach to facilitate student learning in the various sub-disciplines (e.g., GIS, critical geographies) may be problematic.
Session III

Joshua Flaccavento
jflaccavento@clarku.edu
English  · Advisor: Betsy Huang

Hypertext Fiction as Interactive Literature

As print publishing declines, new forms of electronic narrative are springing into being for computers, mobile phones and gaming systems. Most are created for purely commercial purposes and display an alarming lack of critical depth. Literature in English risks obsolescence if it does not adapt to these new media with new ways of thinking about the construction and function of narrative.

Hypertext fiction is at the vanguard of this exciting convergence. My thesis research has led me to a more systematic understanding of its principles and I have begun to apply these to the creation of a hyperfiction of my own, entitled, “The Patterns of Night.” My presentation will demonstrate one of the fundamental concepts I have investigated during this research – interactivity – and attempt to apply it by allowing audience members to explore the text on their own…and to contribute to its future forms.
In the early years of the Third Reich, German-Jewish veterans were largely exempt from the initial wave of Nazi racial laws such as the Arierparagraph of 1934. Of Germany’s half million Jewish citizens, 100,000 served in the armed forces during the First World War – of these, 12,000 were killed and an estimated 35,000 decorated for bravery or exemplary service. WWI had been viewed as an opportunity for Germany’s Jewish community to demonstrate its allegiance and solidarity with the fatherland, a chance to prove to their fellow countrymen that they were, in fact, first and foremost Germans. Despite cautious optimism amongst Jewish veterans that their wartime service provided refuge from Nazi persecution, their protected status was short-lived. Jewish war veterans who remained in Germany were eventually deported to ghettos or concentration camps, apparently with little more than token protests from the military or veterans’ leagues.
My paper focuses on the experience of German-Jewish WWI veterans prior to and during the Third Reich. Specifically, I will explore the relationship between the German military establishment, to include the veterans’ leagues, and former soldiers of Jewish descent. Based on archival research, I will be answering the following questions: To what extent was German identity a shared trait for Jewish veterans – did they regard themselves as ordinary German soldiers? Were German Jews accepted as Kameraden in the eyes of their peers, specifically by the greater veterans’ community and the German military establishment? How were these men seen through the rubric of Germany military culture – did perceptions change in the immediate post-war era or only later under Hitler? What were the reasons behind Hitler’s ambivalence towards Jewish veterans during the initial phases of Nazi persecution? Finally, why did these veterans believe they were “safe” under the Nazis? In addition, this paper will try to establish whether the treatment of Jewish vets by the SS, given their status as ex-soldiers, was different from that of ordinary Jews at Nazi concentration camps.

Jaclyn Penny
jpenny@clarku.edu
English · Advisor: James Elliott

American past made strange: historicizing literature through the lens of archive

Throughout the life of modern historic fiction, novelists have been using and including the archive in their work. American writers from the early republic to the present have recreated events using found fragments and frequently excerpting it in
their texts. Inspired by period newspaper articles, both Hannah Foster’s *The Coquette* (1797) and Nancy Horan’s *Loving Frank* (2007) access lost lives by remaking them fictively. My presentation will largely be informed by my thesis, teasing out the intersection of history, fiction, and the archive, where the distinctions are and how they stay in place throughout the creative process. The route to and preservation of truth remains one of the most contentious areas of the academy and one addressed by library science, literary studies and historical research. My study considers their placement in alternative histories, imagined histories, entangled histories and fictive histories. Subsequently, this paper will draw from my second chapter which considers contemporary novelist’s construction of the past.

In his *Rethinking American History in a Global Age*, Thomas Bender calls for American history to be made strange. Following the trajectory of the three overlapping disciplines, what literature brings to this proverbial history/archive table could potentially answer Bender’s challenge; the creative process itself can reintroduce this sense of unfamiliarity. My purpose is to show, however, this strangeness is extracted not from historical discourse but emerges from literary engagement with the archive. The resulting contradictions of imaginative renderings significantly reliant on the historic record therefore mediate between history and its primary sources.
Alexander Marriott
amarriott@clarku.edu
History · Advisor: Amy Richter

*Comfortable and Incurious Men: Contours of the American Popular Reaction to Darwin, 1860–1893*

The American popular response to Darwin’s theory of evolution through natural selection was largely muted initially due to the Civil War. After that conflict ended the response to Darwin was characterized by two not unrelated veins of thought. The first related to whether Darwin’s ideas were compatible with Christian metaphysics, and the second dealt with the implications of his ideas for human evolution, specifically the presence of different races among men. Ultimately, much of the popular response indicated a level of comfort with the reconciliation of natural selection to a mystical metaphysics and an all too willing disposition to graft a new science-laden language onto pre-existing racist prejudices.

Jody Russell Manning
jmanning@clarku.edu
History · hgs · Advisor: Thomas Kühne

*The Legacy of Utopian Visions on Oświęcim*

Most visitors to the Auschwitz-Birkenau State Museum neglect to acknowledge the surrounding city of Oświęcim. In fact, “Auschwitz” seemingly and symbolically overshadows the town of Oświęcim entirely. Historically, several geographic and ideologically structured utopian visions of how to reconstruct and “improve” the city have played out, each having left their distinctive and lasting mark. This presentation elucidates these utopian visions attempted in the city of Oświęcim, from Nazi
Germanic to Communist, with special focus on their legacy and influence. Whilst “Auschwitz” is the central symbol, it is important to remember the living space of Oświęcim, as its residents continue to deal with the legacy of imposed utopian visions.
Session iv
Michael Lindgren  
mlindgren@clarku.edu  
gisde  ·  Advisors: Dominik Kulakowski & Ron Eastman

Mountain Pine Beetle Range Expansion and Climate Teleconnections

This study is designed to examine possible teleconnections between climate phenomena and range expansion of the Mountain Pine Beetle (MPB). This species is a quick responder to changes in climate trends and will quickly take advantage of newly suitable habitats. These expansions are a function of climate trends in western North America becoming warmer and drier. These conditions are favorable to MPB and cause stress to their primary host species, lodgepole pine. Once a tree is stressed, its defenses are lowered and infestation is more likely to occur. Looking into how climate anomalies or patterns are affecting these two species, insight into the relationships between ecological parameters and these phenomena can be achieved.

The quantification of possible teleconnections is achieved through various statistical means. Principal components analysis (Eastman and Fulk, 1993) will be used to identify seasonal variability, climate oscillations and in theory, other large-scale
phenomena that have an affect on the data set being used. Multiple regression analysis between Normalized Difference Vegetation Index time series and various known climate oscillation indices will show to what degree they co-vary. The use of empirical orthogonal teleconnections as posited by van den Dool (2000) will be used to find to what degree the time series’ co-vary in both all space and in all time.

It is the goal to find how, if at all, climate teleconnections can explain the recent rapid expansions of the MPB in the western United States. This will be achieved through teleconnections between climate and susceptible stands of lodgepole pine.

**Lena Alazawi**
lalazawi@clarku.edu

IDSC · Advisor: David Bell

*Iraqis in Egypt*

The 2003 war on Iraq has created a mass influx of refugees escaping the violence and terrorism in their country. They are leaving for multiple reasons, but chiefly because of the violence, which the UN estimates claimed more than 34,000 lives last year, and the rational fear that the new Iraq will be run by religious demagogues intent on turning back the clock on issues of religious equality, their daughters’ access to education and professional lives, and freedom of thought and expression. After a lifetime of living under dictatorship and fear, and now living in fear due to the lack of security, Iraqi youth are struggling with their families to find, not only basic needs abroad as refugees, but searching for their identities and roles abroad. Their family and friendship networks have been strained, their attendance
in schools declined, and their socialization with other youth is extremely limited. How this affects them and the future of Iraq are discussed in this paper.

Angela de Dios
adedios@clarku.edu
Psychology  Advisor: Jeffrey Arnett

Exploring ethnic identity in Asian American emerging adults

Emerging adulthood is a period in the life cycle between the ages 18 to around 25 that is characterized as the age of possibilities, the age of feeling in between, the age of instability, the self focused age, and the age of identity explorations. These identity explorations take place in work, romance, and worldviews. However, immigrants must also establish their ethnic identity. This is difficult because American values often conflict with the values of the immigrants’ culture of origin, and these differences are difficult to reconcile. In order to explore how Asian American emerging adults construct their ethnic identities, qualitative interviews were conducted with 30 Asian American emerging adults and quantitative questionnaires were given as well. When asked whether they felt more American, more Asian, or both, there was a wide range in responses. Some emerging adults felt more American, others felt more Asian, and some felt like they were a good mix of both. There were some emerging adults that didn’t identify with either category and felt out of place in either setting. There were also many cases where there was a change over time; in childhood they felt ashamed of their Asian heritage, but as they explored their identity in emerging adulthood they were better able to combine the two cultures. This study highlights the difficulty
Poster Session

of establishing an ethnic identity and draws attention to the differing experiences of immigrant emerging adults.

Katherine Lacasse
klacasse@clarku.edu
Psychology · Advisor: Joseph de Rivera

*Using Commonality of Death to Expand the Circle of Care*

My research examines a way to overcome in-group favoritism and out-group derogation by reframing the way people think about death. Terror Management Theory research has shown that mortality salience (awareness of one’s own eventual death) leads people to strongly uphold their own cultural worldview, appreciating and helping people who support it and looking down upon those who believe differently. In contrast, I hypothesize that when people are asked to consider the commonality of death, they will be more compassionate rather than more prejudiced and may spread their pro-social behaviors to a wider range of people, expanding their in-group circle. My participants are 60 Clark undergraduates, with 20 in each condition. Each receives $3.00 as payment for participating. Participants are randomly assigned to one of three mortality salience conditions and asked to either write about their own death, about the death of all people, or about watching television (neutral). They then fill out series of questionnaires to check the effects of the writing prompts. Finally, participants read summaries of two literacy charities, one strictly American and one international. They are then given the opportunity to donate some of their $3.00 payment to these charities. Both the total amount donated and how the donation is split will be analyzed. I hypothesize that participants in the common
mortality condition will donate more to the international charity and those in the individual mortality condition will donate more to the American charity.

Xi Liu
xiliu1008@gmail.com
IDCE · Advisors: Timothy Downs & Robert Goble

Prospects for Improving Urban Water Service Provision in China

My research focuses on the current privatization situation of urban water services in China, including the privatization models presently used and the analysis of several problems associated with the process. Furthermore, my research includes a detail description of the first city in China experiencing privatization and based on that, explores how these problems could be addressed from the government, consumers, industry and water corporations’ perspectives.

This paper is divided into four parts. The first part briefly describes the general situation in China, including a brief introduction of the size and range of the urban water service and the current problems. The second part focuses on the introduction of the urban water service in France and briefly describes the construction and advantages of the French model and other countries. The third part analyzes the present mainstream models of the urban water service, including ВОТ, Joint Venture, and Combination & Purchase and also their basic characteristics and one particular case—Shenzhen Water Industry Corporation. (Ke, 2006) Based on the analysis, the
final part of the paper concludes that there are many advantages in the reformation of the urban water service, including enough funds to renew current waterworks construction, lowering operating costs and increasing economic efficiency. On the other hand, there are also some significant problems with the government, corporations, and industry. Finally, the paper puts forwards that several recommendations could be taken by government, corporations, industry and customers to improve the privatization of urban water services in China.

Prajna Regmi
pregmi@clarku.edu
IDCE · Advisor: Ronald J. Eastman

*Indian Ocean Dipole: Relationship with El Niño-Southern Oscillation and Teleconnections in South Asia*

Teleconnections are recurring and persistent large-scale patterns observed in our climate system that spans over a wide range of spatial and temporal scales. They are responsible for generating abnormal weather patterns such as droughts and floods that can severely disrupt human life. Over the past few decades, availability of remotely sensed data has facilitated the discovery and understanding of various teleconnections. Among many identified teleconnection patterns, recently the Indian Ocean Dipole (IOD) has received much attention from the scientific community concerning its existence independent from El Niño-Southern Oscillation (ENSO). It is characterized by anomalous cooling of sea surface temperature (SST) in the south eastern equatorial Indian Ocean and anomalous warming of SST in the western equatorial Indian Ocean. Various studies claim that the IOD is responsible for causing droughts.
and flooding in the Indo-Pacific region. This study aims to examine the independence of IOD from ENSO and investigate the important teleconnection signals particularly over the South Asian domain. Linear Modeling and Empirical Orthogonal Teleconnections techniques are employed on monthly SST, atmospheric pressure and precipitation image series over a period of 26 years from 1982 to 2007. The study enhances our understanding of Indian Ocean dynamics and reveals the regional climate variability in South Asia.
Poster Session
SESSION V
Grace Conference Room
1:00–1:45
A Taste of New England

Katherine Doiron
kdoiron@clarku.edu
IDCE · Advisor: Gil Pontius

Vulnerability to Sea Level Rise of Habitats in the Kennebec Estuary, Maine

This study examines macrophyte habitat in the upper Kennebec Estuary in mid-coast Maine, the largest freshwater tidal estuary in the state. The estuary and adjoining rivers support 17 rare, threatened or endangered aquatic tidal plants and one exemplary freshwater tidal natural community. While this area has been recognized as a conservation focus area of ecological importance and was delineated by five state departments, two private non-profit organizations and the US Fish and Wildlife Service (USFWS) in 2007, no prior studies had been conducted which modeled both the potential suitable habitat of the rare plants within the estuary and the impacts sea level rise will have on this habitat. This study incorporates GIS methods for modeling sea level rise and habitat suitability for two rare plants in the Kennebec Estuary, Sagittaria rigida and Sagittaria calycina. In order to assess vulnerability of these habitats and to make
Session V

Recommendations for data needed to improve the accuracy of the models, a series of maps were produced to highlight at risk areas within the estuary for a 0.8 meter sea level rise scenario.

Quinton Sankofa
qrobinson@clarku.edu
IDCE · Advisor: Miriam Chion

Linked by our Past. Bound Together by our Future: An analysis of the social tensions between Africans and Black Americans in Worcester, Massachusetts

African Immigration to the United States has dramatically increased since 1970. At that time there were about 61,500 Africans living in the US. Current estimates suggest there are now over 1 million. As is the case with other immigrant groups, Africans tend to settle in large cities like Houston, Atlanta, or New York. The cities in which African immigrants choose to settle also have high concentrations of African-Americans (Washington DC and Atlanta, for example). This phenomenon creates an unprecedented level of social interaction between African-Americans and Africans. Indeed, this is the first time such large numbers of Africans have voluntarily entered the country.

Since the Trans-Atlantic Slave Trade Africans in America, as well as their descendants, have debated their connection and relationship with Africa and her people. The current increase in African immigration to the US has thrust this debate into a new context. As Africans interact with African-Americans in cities throughout the country, interesting and complex social tensions are arising between the two groups. The relationship between these two groups has been neglected as a topic of importance for community developers. If those of us working
in the realm of community development are to remain true to the task of creating communities that enhance the quality of life for all people, especially those who have been and currently are oppressed, then examining the social tensions between Africans and African-Americans is extremely important. Using Worcester as a case study this paper seeks to enrich our understanding of this topic.

Kristina Marie Gonzalez
kgonzalez@clarku.edu
Biology · Advisor: Linda M. Kennedy

Experience-induced changes in sugar receptor cell firing in response to fructose and glucose in Drosophila melanogaster

A taste induction hypothesis i.e. that sensitivity for a stimulus increases with repeated exposure to it, or similar stimuli, has been supported in taste and smell. A variety of data from rodent, insects and humans suggest a peripheral nervous system locus for experience induced changes in chemosensory sensitivity.

Here we show first, that experience induced changes in sugar taste sensitivities occur in Drosophila melanogaster. Second, the changes take place in or before the sugar taste receptor cell. D. melanogaster reared with a fructose based medium chose to eat more glucose or fructose at various concentrations than flies reared on a glucose based medium in both two choice and multi choice behavioral tests.

Third, in neurophysiological recordings of action potentials in sugar taste receptor cells reveal that fructose reared flies responded to fructose or glucose with significantly greater firing rates than the receptor cells of flies reared on glucose medium. Further, a significant positive correlation between the
Session v

behavioral and the neurophysiology data suggests that at least a portion of the changes in behavior results from the changes in the receptor cell firing. These are the first data to show that experience induced changes in sugar taste responses take place in the sugar taste cells and indicate a biological locus for the mechanism(s) in or before the taste receptor cells.
William A. Coniglio
wconiglio@clarku.edu
Physics · Advisor: Charles Agosta

Clark University Pulsed Field Laboratory: A Clarkie approach to science

Clark’s logo features the catchphrase, “Challenging Convention, Changing our World.” Putting aside the tagline feel, I like to interpret it terms of graduate research to mean that we should apply creative and ingenious solutions to solving very large problems. To illustrate one application of the tagline in the sciences, I will give a slideshow tour of the Clark University Pulsed Field Laboratory as it appears today, after 18 years of development by Prof. Agosta and a large number of graduate and undergraduate students. For this informal talk, please feel free to interrupt me for questions at any time.
Incoming Clark students are often posed with the dilemma of finding suitable or desirable off-campus housing for themselves.

The aim of this project is to create a dynamic off-campus housing database for Clark students in the form of a website. We propose to develop a user friendly interface with visual tools such as interactive maps and pictures which will allow the user to visually assess the available housing options. The website will be able to perform tasks such as measuring distance to school and other facilities such as laundromats, restaurants and grocery stores. The website will also provide information on the availability of Clark Escort Service to the selected housing.

With the use of Linux, Apache, MySQL, PHP, XML, HTML and Google API, we intend to create a database of all off-campus housing based on the listings advertised on the Clark website for the past two years. Based on the information available, such as description, address, contact information of the landlords and pictures, we will 1) geocode addresses of properties that have been available for rent for the last two years, 2) geocode addresses of nearby facilities, 3) make use of Google Routing Systems to retrieve the route information between housing and facilities, and 4) update the statuses on availability of housing.
Hamil Pearsall
cpearsall@clarku.edu
Geography · Advisor: Colin Polsky

*Linking the Stressors and Stressing the Linkages: Human Vulnerability and Brownfield Redevelopment in New York City*

This paper operationalizes models of vulnerability that show feedbacks and interactions among vulnerabilities to multiple hazards and vulnerability dimensions through a study of brownfield redevelopment in New York City. To examine how mitigating human exposure to one urban environmental hazard—soil contamination—affects the vulnerability of local residents to additional environmental hazards, this study develops a vulnerability scoping diagram (vSD) to identify components that contribute to a community’s vulnerability based on the thematic analysis of fifty-five interviews with residents from four neighborhoods with brownfield redevelopment activities in New York City. The resulting analysis demonstrates the complex interactions among vulnerability dimensions, since residents indicated environmental gentrification associated with brownfield redevelopment could a) increase exposures to environmental hazards like flooding and air pollution, b) increase sensitivities by increasing the cost of living and eliminating local job sources, and c) decrease adaptive capacities by weakening community networks, eliminating affordable housing opportunities, and straining local services. A causal model of vulnerability to the negative impacts of brownfield redevelopment is subsequently developed to further demonstrate the linkages among exposure, sensitivity, and adaptive capacity to multiple stressors. This research also provides measures that stakeholders can monitor and evaluate over time to track the socio-spatial and environmental implications of hazard mitigation.
Session vi
The aim of this paper is to discuss the theological dimension of the Holocaust by concentrating on individual stories to explore the dilemmas faced by hidden children, and the difficult religious and identity implications caused by the Holocaust. This paper focuses on two exceptional stories of resistance, faith, survival, and bridging of two religious traditions and identities. It is a story about how the Holocaust affected the choice of religion and the torn identity of two Jewish children who had been hidden by gentiles in Nazi-occupied Poland: Romuald Jakub Weksler-Waszkinel and Grzegorz Pawłowski (Jakub Hersz Griner), both of whom became Catholic priests in post-war Poland. The stories of these two hidden children provide an insight into the difficult theological aspects of post-Holocaust reality and the issues of choice, conviction, obligation, loyalty,
and memory. This paper also sheds light on the ways in which these two survivors coped and were able to reconcile with their legacy as hidden children.

Ryan C. Jones
rjones@clarku.edu
History · Advisor: Virginia M. Vaughan

*The Merchant of Venice and the Concern of Anti-Semitic Discourse*

Is William Shakespeare’s *The Merchant of Venice* a work of anti-Semitism? Critics and scholars of Shakespeare have addressed the issue. Many have tendered an opinion, others refuse to comment and thereby justify the debate. I employ a historian’s approach and offer a definitive interpretation of the supposed anti-Semitic content of *The Merchant of Venice*.

Nancy Goedhart
njgoedhart@gmail.com
1DCE · Advisor: William Fisher

*Beyond Thou Shall Not*

The road to the left is lined with religions, faith practices and faith-based institutions. Each one shouts to the traveler that they possess a way to believe, a way to act, a way to live. The road to the right is lined with many dimensions of the HIV/AIDS pandemic. Every few feet there is another dimension claiming to be the most important aspect of the disease ranging from prevention education to the most recent medical breakthroughs. Each dimension clamors for the passers-by attention. They scream out, “Focus on me and end HIV/AIDS!” These two roads don’t seem to share an overabundance of similarities. Yet,
there is a place of significance that they do share – the intersection. This research will provide a survey of the intersection where the road of faith and the road of HIV/AIDS meet.

This overview facilitates an examination of how faith-based organizations are currently responding to the HIV/AIDS crisis. A case will be made as to why the relationship between faith-based organizations and HIV/AIDS is both compelling and relevant to future dialogues about changing the course of the disease. More specifically, this essay will demonstrate that it is time to lay aside previously held assumptions about faith-based organizations’ motivations, strategies and techniques. These assumptions only restrict the debate and the analysis of their role. Simultaneously, this research will offer a critique of faith-based organizations assumptions about the proper way to facilitate their HIV/AIDS response as they engage issues of sexuality, stigma and faith.

Alexis Herr
aherr@clarku.edu
History – HGS · Advisor: Debórah Dwork

Religious Institutions and Memory after Genocide: The Rwandan and Armenian Genocides

In the wake of the Rwandan and the Armenian genocides, religious communities and churches continue to operate as important vehicles of memory. The mass murder that occurred in and around Rwandan churches, officiated the devastating force of genocide. Following the Rwandan genocide, churches became sites of memorialization, reconciliation, and prayer. They have managed to exist as important vessels of memory for a recovering society. However, in the Armenian case, Armenian
Session vii

churches in present-day Turkey have been abandoned, desecrated, and used as sites of political propaganda. In response to the state sponsored denial of the Armenian genocide, Armenian church communities around the world have taken it upon themselves do what cannot be done in Turkey – actively remember and memorialize murdered Armenians.

The central question framing my talk is: How have Rwandan and Armenian churches and/or church communities helped maintain and/or continue memory after genocide? This question is the aggregate to several others: How do the differing pretexts of the Rwandan and Armenian genocides attribute to the ways in which churches and church communities memorialize the genocide? How do memorialization efforts by Rwandan and Armenian church communities differ? How are they similar? What role, if any, did churches or church communities play during the genocides? What happened to churches during and after the genocides? What have churches and or church communities accomplished in regards to preserving memory after genocide?
Benoît Parmentier  
bpartmentier@clarku.edu  
Geography  ·  Advisor: Ron Eastman

_Detecting and categorizing changes using remotely sensed time series: Typology of land cover transitions in multivariable space at multiple temporal scale_

Land cover transitions constitute an important component of study in global environmental change as it can alter Earth system functioning. In this context, detection and understanding of broad land cover changes is important in scientific agenda. This research studies land use and land cover transitions using time series of remotely sensed variables such as _NDVI_ and Land surface temperature. The annual temporal signatures of land cover are used to detect land transition. Most change studies have focused on temporal differencing and critical points of the annual signatures. We propose to focus on the changes in the shape of the annual curves. In the first stage, we decompose annual remotely sensed signals using the Fourier transform and examine to what extent we are able to detect changes in the properties of land cover by using Fourier amplitudes and
phases. In the second stage, we create a typology of transitions for sample sites located around the world. These sites provide further insight in land transitions and their associated remotely sensed signals. Early results suggest that this technique can be useful for detecting and understanding land transitions. In particular, agricultural intensification and disintensification were detected in some sites. Future work will provide better understanding of the potential of this technique in studying and understanding land use and land cover changes.

William A. Coniglio
wconiglio@clarku.edu
Physics · Advisor: Charles Agosta
Additional Authors: Laurel E. Winter, Kyuil Cho, Braunen E. Smith, C.C. Agosta

*Upper Critical Field and Phase Diagram Studies for $\lambda$-(BETS)$_2$GaCl$_4$*

Superconductivity, despite its discovery in 1911 and intense ongoing research, remains an unsolved mystery of physics. I will discuss superconductivity in layered materials, provide an overview of our measurement technique, and present results from recent experiments at the Clark University Pulsed Field Laboratory. We used a tunnel diode oscillator (TDO) operating at 390 MHz to measure the in-plane penetration depth of a single crystal of $\lambda$-(BETS)$_2$GaCl$_4$ in pulsed fields oriented both parallel and perpendicular to the conducting planes. We used temperatures down to 400 mK and measured three different samples. I will show a phase diagram in temperature and magnetic field using a false-color plot in which the upper critical field splits below 0.35 $T_c$ into two transitions and present
evidence arguing for the presence of a Fulde-Ferrell-Larkin-Ovchinikov (FFLO) state. I will also point out the existence of a surprising set of transition lines lower than $H_{c2}$ in $\lambda$-(BETS)$_2$GaCl$_4$ and compare them to the same experiment on $\beta''$-(BEDT-TTF)$_2$SF$_5$CH$_2$CF$_2$SO$_3$, where we observed the FFLO state similarly, but with no lower transitions. The very lowest transition is identical in all samples, and each transition gives a signature in zero-field temperature sweeps.

Scott Broo
sbroo@clarku.edu
IDCE · Advisors: John Rogan & Amy Ickowitz

*Mapping presence and absence of an invasive plant species in southern Cameroon with satellite imagery*

Monitoring invasive species is of particular interest to many land management and conservation agencies around the world. Chromolaena odorata, native to tropical America, now has a wide range throughout much of global tropics, including West and Central Africa. Qualitative research has identified C. odorata as a potential driver of afforestation in southern Cameroon. The objective of this study is to model the presence and absence of C. odorata in a pilot study region using Landsat Enhanced Thematic Mapper Plus (ETM+) imagery. A simple Boolean overlay method of classification yielded a more accurate prediction of species presence than conventional classification algorithms. The results of this study will contribute to a greater knowledge of the distribution of C. odorata, and how Landsat imagery can be effectively used to model presence and absence of invasive species.
Inferential monitoring of global change impact on biodiversity

One of the fundamental aspects of assessing the impact of climate change on biodiversity is the monitoring of biodiversity and ecosystems. With current trends in global changes, there is a need for a rapid assessment of biodiversity status for conservation and management purposes.

Current approaches to monitoring biodiversity rely mainly on long term observations of predetermined sites and resampling of previously surveyed regions, with the disadvantage that they require large amounts of time, money and personnel to be executed. The use of remotely sensed data has high potential for the inference of ecological status, because with satellite images it is possible to monitor large areas in short periods of time. Despite this known advantage and the large amount of remotely sensed data publicly available, just a few datasets (mostly related to land cover and elevation) have been used for this purpose.

In this work I present a method that combines per-species measures of sensitivity, marginality and range restriction, together with changes in climate conditions to generate maps of the impact of environmental change on biodiversity. The method was applied to 6362 species of mammals, amphibians and birds of South America, identifying the Andes, Patagonia and Atlantic forest as areas most impacted by environmental change.
Acknowledgements

Putting a conference together requires the cooperation of many people and groups. The Graduate Student Council Conference Planning Committee is thankful for the help and encouragement of the Clark community. We would especially like to recognize a number of individuals, without whom this conference would not have been possible:

- Special thanks to Nancy Budwig, Dean of Graduate Studies and Research, for her continuing support and advocacy for graduate students and research.
- Denise Robertson, the Graduate Student Coordinator, and her student assistants for their help in making this conference possible, and helping gsc with its day to day operations; we could not complete half of what we do without her help.
- Dr. David Fullerton, for sharing his time and insight with us and enriching Main South with some of the best coffee in New England.
- The faculty and staff of all the graduate programs at Clark, for providing a constructive and intellectually stimulating academic environment, without which we could not do our research.
- The Alumni Office and Garrett Abrahamson, for their continued support through yearly sponsorship of the reception following this conference.
- Past conference planning committees, who have created goodwill toward this event and a basis for our planning.
Graduate Student Council
http://clarku.edu/~gsc/

This year’s conference planning committee included Andy Coniglio, Kevin Keenan, Scott Broo, Kate Doiron, Kringle Daly, Carly Edwards, and all the session chairs. Scott Broo chaired the Travel Awards Committee. Andy Coniglio set the type for the book with editorial assistance from Kevin Keenan and Carly Edwards. Kringle Daly drew the cover art.

The Graduate Student Council at Clark University holds open meetings every two weeks at a time convenient for its membership. (Currently Mondays at noon.) We plan events, appropriate money from our budget of student activity fees, sit on University committees, and provide graduate student input to administrators making decisions. In addition to the officers, each department is allowed two representatives. If there is an opening in your department, there is no formal process to become a council member. Simply start coming to the meetings and voice your opinion. Agenda items frequently include event planning, appropriation requests, health insurance and stipends, University policy, and campus services. Pizza and beverages accompany each meeting.

Officers of the Council include Co-presidents Scott Broo and Andy Coniglio, Treasurer Diane Boucher, and Administrator Kate Doiron. Active department representatives include Kringle Daly, Physics / Nicole Dewberry, English / Jill DiMe-dio, idce / Carly Edwards, idce / Roberta Hawkins, Geography / Ryan Jones, History / and Kevin Keenan, Geography and cetl. Wei Li serves as gsom liason.

See the gsc website http://clarku.edu/~gsc/ for information on our next meeting.
Index of Presenters and Sessions

Alazawi, Lena, poster
Berg, Dianne, ii
Boucher, Diane, iii
Broo, Scott, viii
Cataldo, Ashley, i
Coniglio, William A., vi, viii
de Dios, Angela, poster
Doiron, Katherine, v
Edwards, Carly, i
Flaccavento, Joshua, iii
Fontaine, Danielle, iii
Geheran, Michael, iv
Goedhart, Nancy, vii
Gonzalez, Kristina Marie, v
Herr, Alexis, vii
Jones, Ryan C., vii
Keenan, Kevin, iii

Lacasse, Katherine, poster
Lindgren, Michael, poster
Liu, Xi, poster
Manning, Jody Russell, iv
Marriott, Alexander, iv
Oladeinde, Adepero, vi
Parmentier, Benoît, viii
Pearsall, Hamil, vi
Penny, Jaclyn, iv
Petrozziello, Allison, ii
Rakshit, Rahul, iii
Regmi, Prajna, poster
Sangermano, Florencia, viii
Sankofa, Quinton, v
Singh, Asha, ii
Sliwa, Joanna, viii
Surprise, Kevin, i