

The Honors School Spring Research Conference 2010

Annual Honors School Research Conference

Magill Commons

Saturday, April 24th, 9:00 a.m.— 3:00 p.m.

It is with great pleasure that The Honors School presents its
Annual Research Conference

Student presenters include research in the fields of:

Business Accounting
Business Management
Communication
Foreign Language Studies

Biology
Computer Science
History

Business Finance
Chemistry
Criminal Justice
Political Science

Order of Events

**9:00 a.m. Welcoming Remarks— Dr. William Mitchell
Dean of The Honors School**

Jordan Apgar (CS)
Mary Grace Baker (FS)
Lindsey Cadmus (CO)
Brian Glicos (BUBM)
Caitlyn Guzzi BUBA)
Alyssa Hayek (CO)
Devon Hodge (BY)
Sarah Keppel (CJ)
Joseph Long (BUBM)
Chris Lukas (CO)

Dana Marzano (BUBM/BF)
Lindsey Melody (PS)
Amir Mohamed (HS)
Felicia Norott (HS)
Jennifer Oprysko (CJ)
Jansen Orfan (CS)
Abhisha Parikh (BUBF)
Frank Presutti (CJ)
Cody Pitts (CE)
Michael Rhodes (HS)
Shannon Rogers (CJ)

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PRESENTERS

Jordan Apgar
Creating Confidence in File Sharing

Chief Advisor: Dr. Richard Clayton
Second Reader: Dr. David Marshall

The Confidant Sharing System (CSS) is designed to provide secure file transfers and authentication for users and servers. Influenced by David Mazieres's Self-certifying File System CSS is implemented in user space to put as few restrictions on the user as possible while still providing security. CSS's security protocol comprises client-side user verification server authentication known as the Distributor Confidence property and secure file transfer known as the File Confidence property. The CSS architecture comprises a client-side and server-side programs each with a User Interface Layer and Communication Layer. The User Interface Layer verifies files after transfer and provides the user with a means of communication with each program. The Communication Layer provides all communication between a client and server. CSS makes it easy to use alternate cryptography and key management mechanisms allowing users to improve CSS's security for their specific needs. Currently CSS uses a TFTP-like file transfer protocol, the AES block cypher for communication encryption, the SHA256 cryptographic hash function to verify a file's contents and the RSA public-key crypto-system to provide Distributor Confidence and user authentication. Although implemented in the Python scripting language, CSS clients reliably and securely transfer files at 330 KB/s using a 1 KB packet size over a local-area-network.

Mary Grace Baker
**The Hispanic American Experience of Cancer/
El cáncer en la población hispana en los Estados Unidos**

Chief Advisor: Dr. Priscilla Gac-Artigas
Second Reader: Dr. Dorothy Hutter-Lobo

Given the growth of the Hispanic population in the United States and the emphasis on providing patients with more individualized care, it is becoming increasingly important to understand the personal and cultural background of Hispanic patients. Hispanic American unique lifestyle and circumstances affect their susceptibility to and experience of cancer, an understanding of which is essential to advancing our knowledge of this disease and effectively treating the Hispanic population. Our understanding is further enhanced through a discussion of the relationship between cultural values and healthcare as well as a review of how the Hispanic reaction to cancer is expressed through literature music and art.

Lindsey Cadmus
**The Swing Vote: Historical Trends and Justification behind the 2008 Presidential
Election Youth Voter Turnout.**

Chief Advisor: Dr. Michael Phillips
Second Reader: Dr. Joseph Patten

Since July of 1971 youth voters as young as 18 have been able to participate in the electoral process and thereby impact United States Government policy. Unfortunately the number of youth voters has been staggeringly low. Only 52 percent of eligible voters aged 18 to 24 voted in the 1972 Presidential Election and the number of these voters only dropped in subsequent elections. Despite some recent rises in the percentage, it was not until 2008 that the percentage of youth voters finally exceeded that of the 1972 Election. The 2008 Presidential Election was epic for many reasons and the turnout of youth voters was especially significant. Through an analysis of data on youth voter turnout in every United States Presidential Election since 1972 this thesis answers the perplexing question as to what factors impact youth voter turnout. Special emphasis is given to understanding high youth turnout in the 2008 Presidential Election and the likelihood of such high numbers in future elections. The results of this research demonstrate that a myriad of factors impacted the number of youth voters in the 2008 Presidential Election: political social and cultural circumstances, voter mobilization initiatives, and specific campaign techniques and candidates and the use of social networking sites. Nonetheless, the number of overall voters has dropped in subsequent gubernatorial and senatorial elections.



PRESENTERS (cont.)

Brian Glicos
The Relationship Between Coaching and Managing & Taking A Closer Look
At Motivation

Chief Advisor: Dr. Joseph Mosca
Second Reader: Dr. John Buzza

Significant parallels exist between coaching an athletic team and managing a company; especially important is the role of the supervisor. The effectiveness of a supervisor lies in his/her ability to motivate and improve the team to perform at the highest level of productivity. Evidence of an athletic team's productivity is measured by its record of victories as opposed to losses. A company's productivity is most often measured in terms of dollars such as profit made per unit. A highly productive organization creates revenue streams that reflect its efficiency and effectiveness. This project examines these issues through interviews with coaches, managers, players, and other employees.

Caitlin Guzzi
Fraud: Searching for a Clear Line

Chief Advisor: Prof. Douglas Stives
Second Reader: Prof. Pasquale Diflavio

In these unusual economic times, when fraud is becoming so prevalent, it is important to identify both its nature and cause. Determining the difference between fraud and unintentional disasters is important to prevent future incidents and to learn how to deal with them. This case study of several major fraudulent acts (mostly accounting improprieties such as Enron, WorldCom, and Bernard Madoff) is contrasted with the economic disaster that left people scrambling to point fingers of blame but incorrectly labeled it as fraud. The examination includes explanations of the frauds, how they impacted society, and how they were legally handled. This analysis provides a better understanding of fraud and its relationship to the laws enacted to control it.

Alyssa Hayek
Shock Jocks: Radio at its Finest

Chief Advisor: Prof. Chris Cavallaro
Second Reader: Dr. Sherry Wien

Howard Stern once said "It is pretty shocking that governmental interference into our rights and free speech takes place in the U.S.,... It's hard to reconcile this with the 'land of the free' and the 'home of the brave.'" In the United States we take pride in freedom of speech yet we restrict what we can and can't hear on FM radio. We still can't hear those seven dirty words George Carlin once talked about but we can watch people getting killed on CSI every day. Nevertheless, within the next few years, internet radio will make FM radio out dated, thereby by passing FCC regulations and raising the issue if the standards that block jocks like Stern from cursing are still relevant.

***PRESENTERS (cont.)***

Devon Hodge
Coral Growth and Decline

Chief Advisor: Dr. Donald Dorfman
Second Reader: Prof. John Tiedemann

This study examines the current coral reef decline crisis, focusing on its numerous causes and global importance. The primary reasons for coral reef decline are anthropogenic; as such they will be ameliorated only by immediate internationally concerted human effort. In spite of some government action in response to this devastation, little progress has been made toward preventing the loss of coral reefs. In response to these concerns, I conducted my own research on the normal growth rates of six different species of coral. This research exemplifies the type of data that needs to be acquired in order to halt the rapid decline of coral reef species. Determination of baseline rates of coral growth is essential for an accurate assessment of these animals in their natural environment. Because, coral reefs are of extreme ecological importance, their disappearance will result in rapid and widespread decline in marine biodiversity.

Sarah A. Keppel
Motivational Reasons and Parental Enthusiasm of Extracurricular
Activities in Relation to Juvenile Delinquency with a Focus On the Association between Organized Sports and Substance Use

Chief Advisor: Prof. Charity Hendricks
Second Reader: Dr. Marie Mele Thomas

My thesis project researches the association between extracurricular activities and juvenile delinquency. Most people, especially parents, strongly believe that children will avoid deviancy and delinquency if they are somewhat involved in after-school sports or other activities. However, should parents blindly assume that sole involvement in extracurricular activities is a sufficient deterrent to their children's delinquency? There is a pressing need for this popular notion to be substantiated or repudiated by research, even if conducted by a college senior. As an adolescent, I participated in several after-school sports and clubs; one of which, field hockey, continued through my college years, providing additional motivation to examine this topic. As there are only a handful of studies that focus on motivational reasons and parental support of adolescents' involvement in extracurricular activities, my research results will contribute to the current body of research.

Joseph Long
Sole Searching: Influences & Characteristics of the Sneakerhead Community

Chief Advisor: Prof Robert Scott
Second Reader: Dr. Daniel Ball

Sneakers represent a global multibillion dollar industry that has transcended their utility. As a cultural symbol sneakers blur the distinction between function and fashion and as iconography to express one's individualism. As a result a growing number of people buy many more sneakers than average consumers. Called "sneakerheads," these people purchase shoes for various purposes, including wearing, collecting, and reselling. This paper examines the factors that led to the creation of this sneaker subculture that is becoming a mainstream phenomenon. In addition, a survey of sneakerheads was administered to investigate their characteristics in order to determine how their level of consumption affects their degree of emersion in the sneakerhead subculture.

PRESENTERS (cont.)**Christopher Lukas****Lacrosse: The History and Evolution and Its Ties to Society****Chief Advisor: Dr. Richard Veit****Second Reader: Dr. Stan Green**

Since first played by Native Americans, Lacrosse evolved in tandem with society, as a game, a ritual and a judiciary body. Today, the popularity of lacrosse is at an all-time high, but it is important to remember its history evolution into the contemporary sport.

Dana Marzano**The Housing and Financial Crisis****Chief Advisor: Dr. Joe Mosca****Second Reader: Dr. John Buzza**

The collapse of the US housing market and financial market has become a defining historic event, which will likely become one of the most studied economic events in history. The subprime mortgage crisis was triggered by a turn in the real estate market, in particular declining prices in the residential real estate market, followed by mortgage delinquencies and eventual foreclosures. The real estate market is a crucial sector in the world of banking; the largest banks hold vast quantities of both residential and commercial property mortgages on their balance sheets. The crisis has seriously damaged both the financial system and the real economy not only in the United States but in the world. Families all over the US are defaulting on their mortgages and losing their homes to foreclosures. The combination of higher leverage and lower quality has proven to be toxic and the majority of lenders and market participants, particularly those who came in during the late stages, suffered losses. The housing market bubble also has affected global credit markets substantially, including the collapse of Lehman Brothers in September 2008.

Lindsey Melody**Students' Rights or Wrongs? Consequences of Supreme Court Decisions in Students' Free Speech and Search Rights in Public Education".****Chief Advisor: Dr. Katherine Kloby****Second Reader: Dr. Joseph Patten**

This project examines impact on education policymaking and implementation of several landmark Supreme Court decisions in students' free speech and search rights cases. A great deal of research exists on the cases themselves, as well as on the interpretations of the court opinions, but considerably less information is available on the effects—negative or positive—that these cases have had on school administration. This project aims to emphasize what happens once changes to education policies have been formulated and are implemented rather than what they theoretically aim to accomplish. Students' rights is an important and delicate arena; the long term effects of litigation require analysis. In addition to examining the cases themselves, this research interviewed experts on whether changes to free speech and search policies have had an effect on school discipline. The results suggest that education policy is a reactive field; it is only when an incident occurs that a policy is re-examined. This suggests that there may be significant challenges associated with detecting whether characteristics of the school environment are caused by these policy changes or if they are due to other factors.



PRESENTERS (cont.)

Amir Mohamed
The Miskitu Nation-Stateless

Chief Advisor: Dr. Brian Greenberg
Second Reader: Dr. Aaron Ansell

This thesis considers ethnicity and nationalism as they relate to the political and militant mobilization of the Miskitu during the Nicaraguan civil war (1979-1990). Miskitu ethnic identity is traced from its formation in the late 16th century to the reconciliation process between the Miskitu and the Nicaraguan government during the recent civil war. The underlying roots of a contemporary Miskitu separatist movement are explored in order to better represent the cultural, political, and economic realities facing the Miskitu in Nicaragua.

Felicia Norott
The Transition from Female Midwives to Male Physicians in America from the Seventeenth Century through the Twentieth Century.

Chief Advisor: Dr. Katherine Parkin
Second Reader: Dr. Laura Kelly

This paper examines American birthing culture during the past four centuries. Birthing culture changed because it moved from woman-assisted home births to the present day when most women give birth with doctors in hospitals. This change from female midwives to male physicians happened gradually and for many complex reasons. One of the central reasons for this change was the conscious effort of male physicians to take over the role of midwife because they wanted the power and the profit that came from assisting women giving birth. In addition to these primary motivations, the following factors also influenced this transformation: the importance of God in the society, the development of new technologies and science forbidding women from entering medical school, the changing view of birth from a natural to a disease process, the change from a female to a male-controlled experience, and the view of women as delicate and modest. This change from female midwives to male physicians happened gradually but purposefully.

Jennifer Oprysko
The Relationship Between Education, Juvenile Delinquency, and Health Risk Behaviors

Chief Advisor: Dr. Marie Mele
Second Reader: Prof. Charity Hendricks

The importance of education is undeniable, especially in the prevention of deviant behavior. Schools can play a major role in the development and behavior of juveniles. In general, completed schooling significantly reduces the likelihood of juvenile incarceration and arrest. This study was undertaken to investigate and determine if the common conception that private schooling results in students who are less likely to engage in deviant behavior is supported. To do so I examined the differences in deviant and "health risk" behaviors between students who attended public or private school, focusing entirely on high school students within the Philadelphia school district, an urban area characterized by elevated levels of crime.

***PRESENTERS (cont.)***

Jansen Orfan
A Machine Readable Dictionary in OWL.

Chief Advisor: Dr. Richard Scherl
Second Reader: Dr. Stuart Dalton

This paper proposes a formal structure for representing a natural language dictionary in a way that can take advantage of the vast amount of natural language definitions found on the Web, particularly human readable dictionaries. A machine readable dictionary based on this structure can be used in enhancing online search, the creation of a versatile human readable dictionary, and the task of lexical substitution. A prototype successfully represents definitions found in human readable dictionaries; however, it was found that these sources do not provide sufficient information about the relationship of word context to its meaning. This leads to incorrect word usage but this problem can be remedied with the addition of information about a definition's context.

Abhisha Parikh
Impact of the Lehman Brothers Holdings INC. Bankruptcy on the Financial Health of Asian Countries

Chief Advisor: Dr. Benedicte Reyes
Second Reader: Dr. Barrie Bailey

This thesis studies the Lehman Brothers Holdings Inc. bankruptcy and the events that led up to the historical filing. The thesis will also study the immediate impact that the bankruptcy filing had on the economic health of India, China, and Japan.

Frank Presutti
Influential Factors on Citizen Crime Reporting

Chief Advisor: Dr. Marie Mele Thomas
Second Reader: Dr. Peter Liu

This study examines the impact of the following variables on the likelihood that crimes are reported to the police: confidence in the police, crime severity, the victim-offender relationship, and several demographic variables. Convenience sampling was used to gather a sample of 103 students from Monmouth University. Data collection involved the use of a survey questionnaire; responses were analyzed using multiple regression, several t-tests, and their measures. Confidence in the police was found to be statistically significant except when a person was reporting as a witness or bystander. Crime severity and victim-offender relationship were also found to be statistically significant. Gender, age, race, and neighborhood were not found to be statistically significant except for the reporting of felonies and several specific offenses.

Cody Pitts
Microwave-assisted Synthesis of Esters via the PS-Mukaiyama Reagent

Chief Advisor: Dr. Massimiliano Lamberto
Second Reader: Dr. Theresa Julia Zielinski

The carboxylic ester is one of the most fundamental functional groups used in organic synthesis. Ester moieties can be found in a variety of natural products and synthetic compounds; thus, several esterification methods are available in the literature. Of these, the Mukaiyama esterification allows a one pot preparation of esters under mild reaction conditions, accomplishing the reaction safely and effectively. Nevertheless, the synthetic method can still be improved to facilitate purification and decrease reaction times. The use of polymer-supported reagents (solid-phase synthesis) limits the purification step to simple filtration and evaporation of the solvent. Another technique, microwave flash heating, has been shown to improve product yields and decrease reaction times. This research combines the concepts of polymer support and microwave technology in order to further optimize the esterification reaction. Reaction times and yields are reported for the synthesis of three carboxylic esters under room temperature conditions and microwave flash heating. For comparison of reaction methods, a Fischer esterification procedure was also carried out for the synthesis of methyl benzoate (a standard procedure in the Organic Laboratory course at undergraduate institutions). The microwave-assisted esterification procedure using the polymer-supported Mukaiyama reagent gave the best yields and shortest reaction times for each product.

***PRESENTERS (cont.)***

Michael Rhodes
Complex Loyalties

Chief Advisor: Dr. Christopher De Rosa
Second Reader: Prof. Maureen Dorment

It is easy to fall into the erroneous and simplistic thought that men who were from Northern states would stay loyal to the Union and men from Southern states would join the rebellion. In the time before and during the Civil War, however, many attributes and beliefs of a person influenced the decision. Because the decision that they were being forced to make would affect their lives forever, it was a time of thought and evaluation. Some of the beliefs that their decisions were based on included: State's vs. Federal Rights, slavery, religion, status, money, family, friends, power, glory, political gain, and heritage.

Shannon Rogers
The Relationship between Parental Bonding and Juvenile Delinquency.

Chief Advisor: Dr. Marie Mele Thomas
Second Reader: Dr. Peter Liu

The present study investigated the relationship between parental absence and juvenile delinquency in order to determine if a link exists between the two variables. The study examined whether a child living in a non-intact household is more susceptible to becoming a delinquent youth. The study hypothesized that disrupted families can be characterized by greater conflict and unhappiness than their intact counterparts and reasoned that these factors would undermine affective relationships within the family and interfere with intimate communication networks. Using previous research on Hirschi's social control theory, the study sought to explain how broken homes tend to cause weak bonds and weak parental attachment. This study went one step further to explain how weak family bonds and parental attachment impact the nature of peer association and moral values, eventually leading to juvenile delinquency. The study also investigated the extent to which adolescents' perceptions of parental bonding and parental discipline were related to their levels of self-reported delinquency and general emotional adjustment. The impact of race and mentoring was also examined. Convenience sampling was used to gather a 200 respondent sample from a Monmouth University student population. The study was retrospective in nature so students were asked about relationships and behaviors that existed in their youth between the ages of 12-17. The data were gathered using a survey questionnaire.