

ODU UNDERGRADUATE RESEARCH SYMPOSIUM SPRING 09

Sessions at a Glance & Abstracts

SESSIONS AT A GLANCE

8:30-9:00am: Registration

9:00am: Welcome and Opening Remarks from Provost Carol Simpson, Chandler Recital Hall

9:15-10:15 (Sessions A1-A2): “Engineering and the Environment” and “Preparing Music: The Work that Leads to Great Performances”

10:30-11:30 (Sessions B1-B3): “Ritual Practice in Asian Religions in America: A Functional Analysis” and “Supply Chain Management in a Global Economy,” “Undergraduate Research in the Sciences I (poster session)

11:30am-1pm Lunch, North Cafeteria

1-2pm (Sessions C1-C3): “Art History: Theory and Practice,” “Learning from Experience: Internship-Based Research in Health Sciences,” “Undergraduate Research in the Sciences II”

2:15-3:15 (Sessions D1-D3): “Social Consequences of Mobile Media Use,” “Biometric Technology for Human Identification,” “Tidewater Voices: an oral history and dialect project”

3:30-4:30 (Sessions E1-E3) “Geoinformatics,” “The Physical Eye and the Eye of Analysis: Explorations in the Philosophy and History of Science,” “Undergraduate Research in Sociology and Criminal Justice”

4:30-5:30 Reception and Closing Remarks from Dr. Mohammed Karim, Vice President of Research, Diehn Composers Room

ABSTRACTS

SESSION A (9:15-10:15)

Session A1 (Diehn 107): Engineering and the Environment

Chair: Dr. Osman Akan (Associate Dean, Batten College of Engineering and Technology)

A Quantitative Analysis of Greywater Treatment by Evapotranspiration/Infiltration

By John Whitelaw (Advisor: Dr. M. Erten-Unal)

Abstract: Separation of domestic sewage into so-called 'blackwater' (waste containing human urine and faeces) and 'greywater' (all other wastewaters) offers significant potential benefits. Blackwater can be treated in composting toilets, allowing complete recovery of nutrients while reducing the material and energy demands of treatment. Greywater is typically relatively innocuous, and could be used to irrigate plantings, reducing treated water demand. However, the practice of treating greywater by infiltration and evapotranspiration, while widespread in areas with low rainfall (e.g. the American Southwest), has been little studied in terms of effectiveness at protecting human health and controlling watershed pollution. A small-scale system of treatment beds was constructed outdoors, with subsurface irrigation chambers to deliver the water for treatment. Lysimeter pans were buried at three different depths to collect treated water for sampling. The collected greywater and control tap water were sampled prior to infiltration, and then compared with the effluent samples to evaluate effectiveness of treatment. Analysis was performed in the laboratory, measuring coliform count, total nitrogen, total phosphorous, and biochemical oxygen demand in all samples.

Biodiesel Production Using Wasted Vegetable Oil by Stephen Midkiff, Jacob Shingledecker, Michael Nichols, Otto Weis (Advisor: Dr. H. Bao)

Abstract: With the increasing availability concerns associated with petroleum based fuel, global focus is shifting towards the use of alternative fuels. Biodiesel is quickly becoming the fuel source of choice for the near future, given the relatively low production and conversion costs. The task given to this group is to produce a more efficient way of creating biodiesel. The goals of this group are to test the biodiesel transesterification process, apply process advances to the mobile production unit, produce a more effective method for the large scale production of biodiesel, and test the created biodiesel in a generator. One of the objectives of this project is to use the created biodiesel to power vehicles and various diesel powered equipment around the university.

Characterization of Estuarine Dispersion Coefficients in the Eastern Branch of the Elizabeth River by Michael A. Lynn (Advisor Dr. J. Yoon)

Abstract: Considering present and future urban developments of the Elizabeth River, it is important to understand the characteristics that govern this particular waterway. The main concern for the river today, in terms of pollution sources, comes from runoff of storm water. To understand how these pollutants are transported into and mixed in the river, various numerical water quality models can be used to represent their complex physical processes such as advection, diffusion and dispersion. Among these processes, dispersion is the most critical transport phenomenon in estuarine environments, particularly in the Elizabeth River. However, spatial distribution of dispersion coefficients in the Elizabeth is mostly unavailable in the current literature. Consequently, water quality modeling efforts become difficult to perform due to lack of such information.

This research project attempted to perform a small-scale characterization study of estuarine dispersion coefficients in the Eastern Branch of the Elizabeth River. The study included a 1 km longitudinal segment of the Eastern Branch of the Elizabeth River between the Norfolk Southern railway crossing and the Campostella Bridge. Estuarine dispersion coefficients were calculated based on salinity gradient over tidal cycles between the two boundary transects of this particular segment measured by a multi-water quality probe to measure salinity, a GPS unit for location, along with depth and velocity-flow meter. Slack-tide sampling technique was used to determine the dispersion coefficients. All the data obtained was organized and then an inverse slope graphical method was used to estimate dispersive slope values and these, in turn, were used in Gaussian equations from literature to calculate final dispersion coefficients.

Session A2 (Chandler Recital Hall): “Preparing Music: The Work that Leads to Great Performances”

Co-Chairs and Faculty Advisors: Mike Hall (Dept of Music, ODU Brass Choir), Lucy Manning (Dept of Music, Diehn String Quartet)

“Three Brisk Creatures” by Eric North (ODU Brass Choir: Justin Kohmetscher, Kathryn Mickelson, Luke Walter)

Abstract: “Three Brisk Creature”’s is a brand new composition by Canadian composer Eric North. It requires three brass players, trumpet, horn and trombone to negotiate tricky rhythms at a fast speed. Played properly the music sounds frenetic and truly reflects its title. Preparation begins with each player meticulously learning their individual part with a metronome. Then the group comes together to assemble the three parts in rehearsal which begins slowly and accurately, then builds speed through repetitions. The great challenge follows: once the piece starts there is no stopping, no time to consider how one’s part fits. The players must DO it in real time.

“String Quartet No. 1, Op. 50 (Movements 1 & 2)” by Serge Prokofieff (ODU String Quartet: Anna Dobrzyn, Mary Dart, Shirley Luu, Kevin Jones)

Abstract: String quartet playing is the epitome of chamber music for anyone studying stringed instruments. Each member must prepare parts individually as a soloist would and then the real work begins. Rehearsing together, the members practice to blend sounds, and to match pitch, articulations, dynamics and tempi. Then the real music-making begins as each becomes familiar with the other parts noting similarities and differences. Sensitive musicianship is paramount for a successful performance; it requires knowing when to take an assertive solo role or playing supportively while maintaining all the techniques already mentioned. The Prokofieff is a three movement, challenging work with extreme contrasts in articulation that require great precision. The Diehn String Quartet will include the complete work in a full recital in May while performing on their recently awarded matching Italian instruments made by Alvaro Corrochano.

SESSION B (10:30-11:30)

Session B1 (Diehn 107): Ritual Practice in Asian Religions in America: A Functional Analysis”

Chair and Faculty Advisor: Amanda Bullard, Dr. Araceli Suzara (Dept of Sociology and Criminal Justice)

Panelists: Shane Armstrong, Paul Thomas, Rebecca Freeman, Priscilla Jones, Amanda Ostwald

Abstract: Immigrants bring their religion with them as they seek to establish families and homes in America adding to the diversity of religious expressions. Hampton Roads is one such place where the religious landscape has been enriched with various religions from Asia. Using participant observation, a panel of students will present findings of their research from visits with and participation in different religious rituals. They will seek to explain not only the diversity of religions from Asia but also the role that ritual plays in the settlement patterns of recent immigrants from Asia.

Session B2 (Chandler Recital Hall): “Supply Chain Management in a Global Economy”

Chair: Dr. Li Xu (Department of Information Technology and Decision Sciences); Dr. Lynn (Ling) Li (Advisor, Department of Information Technology and Decision Sciences)

Panelists: Renee Rose; Andrey Gulev; Jason Thacker.

Abstract: Supply Chain Management is a set of synchronized decisions and activities utilized to efficiently integrate suppliers, manufacturers, warehouses, transporters, retailers, and customers so that the right product or service is distributed at the right quantities, to the right locations, and at the right time. The objective of Supply Chain Management is to achieve sustainable competitive advantage. In this session, the application of supply chain management in chemical industry, auto industry and fresh produce industry is analyzed and discussed.

Session B3 (Poster, Diehn Foyer) Undergraduate Research in the College of Sciences I

Session Organizer: Craig Bayse (Department of Chemistry)

Cost-time Efficiency of Aging Menhaden (*Brevortia tyrannus*): Scales versus Otoliths by Billy Culver, Jason Shaffler, Cynthia Jones (Advisor)

Cytotoxic Effects of Exposure to Diesel Exhaust Particulates on Brain Tissue by Devina Mohan, Amanda Willoughby, Paula Mazzer (Advisor)

Modeling the Thyroid Enzyme Iodothyronine Eeiodinase by Erin Rafferty, Craig Bayse (Advisor)

A Practical Distance-based Method for Satisfying Torsional Information in Molecular Modeling by Terri Grant, Glenn Williams (Advisor)

Flow Cytometric Measurement of Microalgal Neutral Lipid Content by Albert Kamga, Thais Bittar, Aron Stubbins (Advisor), Chris Burbage (Advisor)

Validation and Improvement of Effective Monthly Recharge (Wem) Model for Simulating Wetland Hydrology by Brian Jolemore, John Smith, Tracey Thorton, George Whittcar (Advisor)

Constraining the Nitrogen Budget of Hoffler Creek by James Davies, Brian Jolemore, Kolleen McKenzie, Meredith McPherson, Nikki Paul, Joyce Strain, Richard Zimmerman (Advisor), Gregory Cutter (Advisor), George Whittcar (Advisor)

The Effects of Surface Canopy Properties on the Submarine Light Environment of a *Macrocystis* (giant kelp) Forest by Meredith McPherson, Richard Zimmerman (Advisor), V.J. Hill

Investigation of Frequency Doubling of 840 nm Laser Light in a Power Build-up Cavity by Lindsey Andrews, Charles Sukenik (Advisor)

Witnessing psychological aggression and experiencing childhood emotional abuse: effects on emotional abuse in undergraduate dating relationships by Robert Milletich, Michelle Kelley (Advisor)

Drinking to Cope with Anxiety: A Longitudinal Analysis of College Student Drinking by Bradley Wetzell, Matthew Pearson, James Henson (Advisor)

Experiences of Interparental Violence and Alcohol Abuse as Related to Female Undergraduates' Dating Violence and Alcohol Misuse by Susan Ocean, Michelle Kelley (Advisor)

Urgency as a Moderator of the Relationship between Mood and Drinking Behavior: A cross-sectional and longitudinal analysis of college student drinking by Lance Otis, Matthew Pearson, James Henson (Advisor)

LUNCH (11:30-1:00), North Cafeteria, Webb Center

SESSION C (1pm-2pm)

Session C1 (Diehn 107): "Art History: Theory and Practice"

Chair and Faculty Advisor: Dr. Anthony Lichi (Dept of Art)

Devotion in Life and Art: Savonarola and Fra Bartolommeo by Jodi DeBruyne

Abstract: This paper examines Fra Bartolommeo's *God the Father, Saint Mary Magdalene and Saint Catherine of Siena*, which was commissioned during the spring of 1508 by Prior Bartolomeo d'Alzano for the altar of Saint Catherine in the Dominican convent of S. Pietro Martire in Venice. While previous discussions of this work have focused mainly on the uniqueness of its imagery as primarily seen in the contrasting views of Ronald Steinberg and Peter Humphrey, questions regarding the work's commission and acceptance have also been presented by other scholars. In both cases, the influence of the Dominican monk Fra Girolamo Savonarola has failed to be adequately recognized. By examining Savonarola's influence through iconographical and social-historical analysis one can gain insight into the foundations of the image's uniqueness and the questions surrounding its reception.

Rafael Moneo's National Museum of Roman Art: An Anti-Typological Response to a City and Its History by Amber Brown

Abstract: José Rafael Moneo Vallés is an internationally recognized and active architect educated at the Escuela Técnica Superior de Arquitectura in Madrid. He has assumed teaching positions in numerous schools such as Harvard University. Moneo has also created a prolific body of writings on architecture, including essays on philosophy and criticism. Moneo's buildings can be recognized by their sensitivity to space and location, the strong interrelationship of purpose and form, their frequent use of brick, and their freshly interpreted classical elements. Many of his buildings exhibit a synthesis of historical and modern references. These design choices, along with Moneo's concern for the longevity and solidity of the structure, results in building designs that will last.

With the National Museum of Roman Art in Mérida, Spain, Rafael Moneo creates a highly contextual building that alludes to ancient Roman architecture and the study of archaeology within a modern, functionalist fabric. The dialogue created by these elements illustrates the function of the building as a living testament to the Romanization of Mérida. Instead of building a structure that attempts to replicate the architecture of the past, he creates an unobtrusive canvas for viewing Rome's influence on Mérida. This renders a structure built in scale like that of the surrounding Roman structures, but with elements that remind viewers that it is a working organism that continues to search for, and harbor, remnants of the past for research and education.

Behind the Frame: Reflections on Curating an Exhibition by Mary Ryan Massey

Abstract: Every year the Hermitage Museum & Gardens has a conservation exhibition at which the public can adopt artwork for restoration. This was the exhibition I was asked to co-curate as part of my internship at the Hermitage. Comprised of roughly thirty pieces of damaged art, the exhibition was highly successful. I worked closely with the Director, the Curator of Collections, and the Public Programs Manager. There are numerous tasks and procedures required in successfully executing such an exhibition. For the purposes of this presentation, I will discuss the most important aspects of designing, advertising, and completing an exhibition. I will also prepare a student guide for exhibition involvement.

Session C2 (Diehn 136): "Learning from Experience: Internship-Based Research in Health Sciences"

Chair: Anna Jeng (Dept of Community and Environmental Health), Dr. Kay Palmer (School of Nursing, Faculty Advisor)

Injury Prevention Booster Seat Challenge by Michelle Gallina, Natasha Singletary, Jane Kim, Habi Muhiddin, Aimee Maxfield, Dana Skillman, Erica Heesch, Amanda James

Injury Prevention Home Safety by Charles Kua, Katelyn Kerr, Shelly Washington, Katie Carman, Jingjing Sparrow, Shaughanasee Williams, Katharine Pairis, Renee Farmer

Monitoring Swimming Pools in Orange County, Florida by Faith M. Tucker

Session C3 (Diehn 142): Undergraduate Research in the Sciences II

Chair: Dr. Craig Bayse (Dept of Chemistry)

Correlation Between Female Size and Egg Quality in the Chesapeake Bay Population of Blue Crab, *Callinectes Sapidus* by Nathan Rycroft (Dr. John McConaughy, Advisor)

Abstract: The ecologically important Chesapeake Bay blue crab, *Callinectes sapidus*, has recently seen a decline in its population. Previous research has shown a breakdown of the allometric relationship between size and fecundity of mature females. Examination of the eggs from the 2005-2006 spawning seasons showed large inter-annual variations in both lipid and protein concentrations. The 2005 and 2006 data also showed a decrease in lipid and protein concentrations in the eggs as the season progressed. The intent of the study was to examine eggs from 2007 collections and compare the data to the 2005 and 2006 spawning seasons. We hoped to further explain the breakdown of allometry by relating the amount of lipids per egg to the size and weight of the female. Multiple extractions were used to quantify the amount of lipids per egg while a fluorescent plate reader was utilized to measure the protein concentrations. The data shows that average weight of lipids per egg does not have a significant relationship with the weight or size of the female. This does not support the hypothesis that larger crabs which produce less than expected eggs allocate more energy per egg in the form of lipids to help increase the fitness of the larvae.

Mutational Analysis of the Myosin-V Active Site by Falishia Sloan, Suzanne Cartwright, Betty Belknap, Howard White (Dr. Eva Forgacs Advisor)

Abstract: The key question for the motor protein field in biology is to understand the mechanism of ATP hydrolysis and reveal how changes in the nucleotide binding pocket are transmitted into nanometer scale structural changes that result in movement. Using myosin-V, we produced mutations of several conserved residues in the myosin-V active site to study their role in the ATP hydrolysis mechanism and to generate long lived intermediates which will be amenable to structural analysis by methods such as cryo-electron microscopy (cryo-EM).

The Effect of Driver Improvement Clinics on Drivers' Attitudes by Tanesha Washington (Dr. Bryan E. Porter, Advisor)

Abstract: Driver improvement courses (DIC) serve many purposes, but are typically used to discourage the underlying risky attitudes that may influence driving behavior. The present study is concerned with the effect of driver improvement courses on drivers' attitudes. A sample of 200 will be sought to complete the study, though a power analysis ($1-\beta = .8$, $\alpha = .05$) suggested size of 84 to yield a medium effect size. Participants will complete a survey consisting of demographic questions, attitude scales, a sensation-seeking scale, and self-reported driving questions. Results will provide more information about the relationship between drivers' attitudes and behavior.

SESSION D (2:15-3:15)

Session D1 (Diehn 107): "Social Consequences of Mobile Media Use"

Chair and Faculty Advisor: Dr. Yi-Fan Chen (Dept of Communication and Theatre Arts)

Panel Abstract: Studies (e.g., Kopomaa, 2002; Ling, 2004) found that the mobile media embody many parallel and contradictory dimensions of meaning, such as private practice and public use, freedom and control, security and surveillance, and social cohesion with separation. This panel proposes consideration of how mobile media are creating new landscapes for interaction and new realities regarding how people give and exchange information. This panel covers four empirical results that focus particularly on attitudes, behavior and psychological

effects of mobile media. The data that is being reported in the panel are all quite recent, having been collected over the past six months.

Mobile Texting: Helping or Hindering Family Communication? by Brandi M. Aubuchon

Abstract: This study seeks to find answers as to why some members of the older generation versus the younger like or dislike text messaging on mobile phones. While the media tends to solely focus on teenagers and young adults' text message use, this paper aims to focus on the interpersonal use of text messaging between the generations- particularly within the family. The researcher has found that the media dependency theory can explain young people's frequent text use. The researcher has concluded that a larger, in depth study must be done to fully understand the ties between the generations and text messaging.

College Campus Mobile Alert Systems by Christa M. Clark

Abstract: Most students who go off to college come to class equipped with a cell phone. This convenient device has made it very easy for students to communicate with other students, friends, parents, professors, etc. With the recent tragic events at some colleges and universities in the United States, several have developed a mobile alert system. Not much research has been conducted on the social aspect of the mobile alert systems on college and university campuses. This research will be done to find out if students use and think that the mobile alert systems work at their school within a month.

Texting as a Privacy Tool by Coralie N. Draper

Abstract: This research explored the use of text messaging as a privacy tool and as a form of communication and the phenomena of text messaging in close proximity and other texting behaviors. The study included face to face interview questions with nineteen college students at a public university and posed a series of questions about their texting behaviors. Questions included their age, gender, text use and clarification of behaviors. The findings were that all students had sent texts and most had sent them in close proximity. Texting in front of others was not viewed negatively but sharing a text was unnecessary.

The Effect of Text Messaging on Writing Skills by Jessica E. Nix

Abstract: Technology is rapidly growing and people are taking full advantage of how high-speed communication is becoming. Instant message was once considered high speed but now text messaging has surpassed it as the newest type of quick response communication. However, with this development there are many concerns. People are now so accustomed to writing in shorthand that their writing development has diminished. In this research project, fifteen people will respond as to how their interpersonal skills have been affected by this new obsession.

Student Respondent, Jennifer L. Enriquez

Session D2 (Diehn 142): "Biometric Technology for Human Identification"

Chair and Faculty Advisor: Dr. Vijayan K. Asari (Dept of Electrical and Computer Engineering)

Robust Iris Recognition Technique for Person Identification by William Perry, Jeremy Glaze, Kharye Pope, Edwin Mintah, Cortland Tompkins

Abstract: A novel methodology for identification of people by comparing iris features is presented. Iris is an excellent signature for human identification. A near infra-red camera captures the images and an adaptive segmentation algorithm segments the iris regions in the image. The iris features are extracted using Discrete Cosine Transform technique. Iris images gathered from different people will be used to train the iris recognition program. The real time performance of the iris recognition system will be evaluated.

Identity Verification by Face Authentication by Mame Sane, Tiffany Sands, Fides Nzirubusa, Tiffanee Watkins, Jacob Foytik,

Abstract: A new technique for identity verification by facial feature extraction and classification is presented. The face regions in a video stream captured by a camera are segmented by Viola-Jones face detection algorithm. The facial features are extracted using a modular Principal Component Analysis technique and the features are compared with the database information corresponding to a PIN number provided by the individual. The biometric verification system will be trained with data captured with several people and tested for real time performance.

Pediatric Fingerprint Enhancement, Comparison, and Growth Projection by Thomas Mercier

Abstract: While the use of fingerprints as a biometric is widespread, there has been relatively little investigation into their use with small children. Research shows that the quality of juvenile fingerprints is significantly lower than that of adults which when coupled with the fact that fingers grow as a child ages, presents problems for their use in fingerprint comparison. Though the use of filters in the frequency domain for image enhancement, and with sample fingerprints provided by Eastern Virginia Medical School, it is hoped that successful pediatric fingerprinting will supplement or replace ID wrist bands in children's hospitals.

Session D3 (Diehn 136): Tidewater Voices: an oral history and dialect project

Chair and Faculty Advisor: Dr. Bridget Anderson (Department of English)

From Voice to Vision: Creating the Tidewater Voices Documentary by Tyler Yowell

Abstract: Tidewater Voices illustrates the important linguistic diversity of the Hampton Roads region. It explores the rich variations in the everyday speech of both Tidewater natives and others who have moved to the area. The Tidewater region also has deep historical language roots; some of the very earliest varieties of American English started here. Starting with the assumption that language constitutes identity, since it is one of the most important behaviors people use to situate themselves in social worlds, this documentary explores why and how language matters to cultural distinctiveness in Tidewater.

In Their Own Words: Producing the Amber Gruszczyk, *Tidewater Voices* Book and CD by Amber Gruszczyk

Abstract: This presentation charts the course of a service learning project which will result in a coauthored publication. The goal of the *Tidewater Voices* Book and CD. is to allow the people of the Tidewater region to tell their own stories, in their own words and in their own language, thus providing a living cultural and linguistic history that captures what makes this historical region distinctive from all of the other parts of Virginia and the rest of the nation. Excerpts from archival-quality recordings are combined with written transcripts to give a sample of the stories and personal narratives in the Tidewater Voices archive.

SESSION E (3:30-4:30)

Session E1 (Diehn 107): “Geoinformatics”

Chair and Faculty Advisor: Dr. Hua Liu (Dept of Political Science and Geography)

Mapping the Old Dominion University Main Campus in 3D by Paul B. Anderson

Abstract: The purpose of this study is to produce a 3D map of Old Dominion University (ODU) main campus and a 3D fly-by of campus by using Geographic Information Systems (GIS) and cartography technologies. The 3D map presents multiple features on campus including buildings, parking lots, vegetations, and lakes. The result may assist real estate management, facility maintenance, and public safety monitoring by providing a realistic digital map of ODU campus.

Warehouse Site Selection using GIS by Wendy Hill

Abstract: The objective of this project is to identify the most desirable locations for a warehouse in the Southside Hampton Roads area by using the technologies of GIS. Multiple factors are considered in the site selection such as purchase price, future expansion, and soil conditions. This project demonstrates the application of GIS in location selection. The methodology can be applied to any other commercial site selection.

The Management of River Rouge Sports Club with Global Information System Applications by Patrick Dale

Abstract: The purpose of this study is to organize and support the maintenance of River Rouge Hunting Club in the Northwest portion of Louisiana with the use of GIS and remote sensing technologies. Through the application, many acres of land are expected to have a clear boundary. All the parcels of land (2,000 acre) can be clearly identified on the map, thus, providing a framework for parcels maintained by members. The resulting map can be used as an important tool in the professional management of a large area.

Session E2 (Diehn 142): “The Physical Eye and The Eye of Analysis: Explorations in the Philosophy and History of Science”

Chair and Faculty Advisor: Dr. William Jones (Dept of Philosophy)

The Vindication of the Atomic Theory by Kester McCullough

Abstract: The simple theory that all matter is made up of small, indivisible units is not something that is outwardly apparent, totally intuitive, or directly verifiable. Atomic theory has its roots in the early Greek theory of “atoms,” the idea forwarded by Democritus and others that matter is made up of “atoms.” Although this philosophical idea was not based on hard research or empirical evidence, it did provide the cognitive groundwork for subsequent developments of atomic theory in later centuries. When the idea of the “atom” resurfaced it was certainly nothing new, and it lacked clear definite principles and distinct sets of rules based on research and evidence. However, things changed when John Dalton introduced his atomic theory. Dalton’s atomic theory, with five postulates that are still accepted today, was based on his own observations and the observations of other great chemists, such as Proust. How exactly Dalton arrived at his final atomic theory is still mysterious, and many biographers and scientific historians have debated the origin of his ideas. Regardless, the implications of Dalton’s theory

were eventually verified; the auxiliary assumptions were accepted, and his theory ultimately explained the natural and chemical world better than any previous theory of matter had.

The Discovery of Viruses by Aryles Hedjar

Abstract: The existence of viruses is not disputed today. With diseases such as AIDS, Ebola, avian bird flu, and the common cold, there is no doubt that the discovery of viruses took medicine a giant leap forward and has solidified its importance today. That discovery was in itself an arduous process. Viruses were confirmed through a series of hypotheses, theories, and experiments that used hypothetic-deductive reasoning to draw implications not only about the first virus discovered (the tobacco mosaic virus) but others as well. This presentation describes and analyses that process.

Continental Drift: A Tradition of Inquiry by Jessie Sheffield

Abstract: Although credible hypotheses lead to extremely precise, scientific research, these hypotheses often start as very simple yet ingenious ideas proposed by imaginative men and women. Alfred Wegener is a case in point: the German meteorologist and polar explorer who proposed the shocking theory of continental drift in 1912. Today we know that Wegener was on the right track with his theory of continental drift, which evolved into the study of plate tectonics. Wegener's hypothesis was confirmed after it was revised by later scientists who had the tools, new evidence, and understanding to explain the great geological processes that had occurred.

Session E3 (Poster Session, Diehn Foyer): "Undergraduate Research in Sociology and Criminal Justice"

Faculty Advisors: Dr. Garland White, Kyshawn Smith (Dept of Sociology and Criminal Justice)

Violence in Children's Films by Kristyn Birkeland, April Bunch, Rebecca Hubbard, Ann Wheeler

Abstract: The goal of our research was to find out if the violence in children's films has increased within the past five decades. In order to achieve this goal, we carefully analyzed twenty-two children's films. The violence in children's films has increased over the past five decades. The peak of this increase occurred in the 1990s. Shockingly, although the brutality in children's films has increased, the ratings have seemingly remained the same. In fact, fifteen of the children's movies were rated G, while only seven were rated PG. A number of these G-rated films contained inappropriate subject matters that were unsuitable for children. Interestingly, in the thirteen movies that contained one to five violent scenes, only four were rated PG. The two films that contained the highest number of violent scenes were rated G or PG. Threatening language, weapons, and extremely violent behavior are illustrated in most of these films.

Landscapes of Fear by Ciara Hammack, Sarah Gibson, Katherine Tucker, Sean Bell

Abstract: We investigated the relationship between landscape features on the ODU campus and fear. Our original plan was to take students on a predetermined path around the campus at night. However, due to circumstances beyond our control, we presented the photos of the landscape features to students and they rated their variation in fear in survey form rather than doing the actual walking. It was hypothesized that areas of concealment, entrapment and outskirts of campus produce more fear among students than other landscape features on the campus. We also investigated the relationship between gender and fear induced by these places. Physical characteristics of outdoor spaces can serve as warnings for bystanders and opportunity cues for

perpetrators. Places of concealment, suggest the possibility of someone hiding in wait while blocked prospect provide little time for an individual to plan ahead and avoid an attack. Areas of entrapment, such as alleyways tend to be avoided by potential victims and attackers because both parties want an ease of escape. In general, the data supported our hypotheses.

Group Foreign Charter by Eric Nolen, Nichole Giraldi, Aisha Wilson, Amanda Conroy, Adam DeLucenay

Abstract: In today's socio-political and economic environment the issue of outsourcing has ascended to the forefront of public debate. This has become especially relevant in light of recent global economic trends. Our research focused on the social costs of outsourcing and the impact of outsourcing on customer service. In order to focus our research on one particular customer service industry, we chose cellular telecommunications because of the prevalence of cell phones in the United States. We hypothesized that the perception of quality of customer service in telecommunications has decreased due to outsourcing. We chose to conduct a survey to test this hypothesis, and found that 31% of respondents identified "Inability to understand customer service representatives" (i.e., "Foreign Accents") as the leading cause of poor customer service in telecommunications. Additionally, the survey contained one open-ended question which asked how the respondents felt about poor customer service. This research is multidisciplinary, and is certainly worth further study. The social, political and economic costs and benefits must be carefully weighed in order to determine the ultimate effect of outsourcing jobs overseas.

RECEPTION & CLOSING REMARKS from Mohammed Karim, ODU Vice-President of Research (4:30-5:30, Diehn Composers Room)