



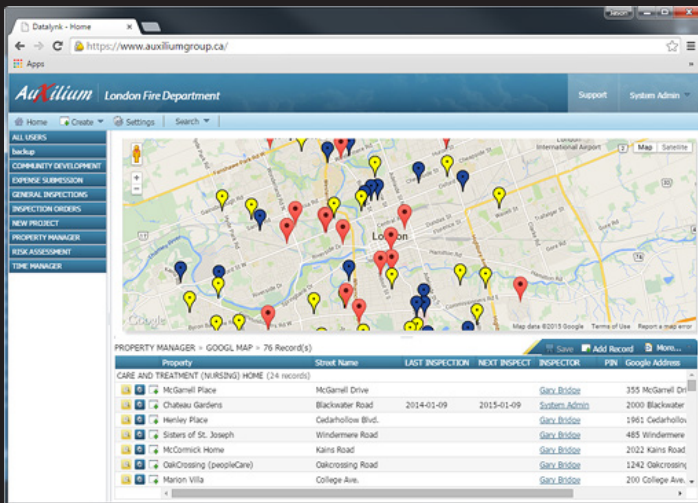
MADONNA UNIVERSITY CENTER FOR RESEARCH PRESENTS
**SYMPOSIUM FOR RESEARCH,
SCHOLARSHIP AND CREATIVITY**

Wednesday, April 8, 2015 • 1–6 p.m.
Kresge Hall and the Franciscan Center

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DIRECTOR'S WELCOME MESSAGE



Celebrating our Research Endeavors!

Welcome to the inaugural Symposium for Research, Scholarship and Creativity. The Symposium provides undergraduate students, graduate students and faculty an opportunity to share their research, creative endeavors and scholastic activities with the University and greater community.

The Symposium facilitates the promotion of scholastic achievements of inquiring minds, for a lifetime pursuit of knowledge enabled by University-wide collaboration and scholarship.

We proudly open our doors to our Industry collaborators and local community, to share new ideas, explore innovative concepts and showcase our scholastic and creative endeavors.

Madonna University has become a beacon for community focused research. It is well known as a place to inspire creativity and collaboration, as well as to nurture the curious minds. The future of Research, Scholarship and Creativity at Madonna University is bright, we are embarking on exciting new territories such as Forensic Sciences, Health Informatics, Film production and Entrepreneurship.

Phenomenal things are happening at Madonna University, and from my vantage point, the view is invigorating!

I am proud to be associated with the staff, students and community collaborators, and I look forward to the continued success of our diverse and inspiring research, scholastic and creative endeavors.

Phillip Olla, Ph.D.
Director, Center for Research
Madonna University

SCHEDULE OF EVENTS

1 p.m.	Welcome Address	Kresge Hall
1:10 p.m.	Musical Performance	Linette Popoff-Parks
1:20 p.m.	President Address	Sr. Rose Marie Kujawa
	Recognition Ceremony Address	Phillip Olla
	Award Presentations	
	College of Arts and Humanities	Kathleen Edelmayer
	School of Business	Betty Jean Hebel
	College of Education	Karen Obsniuk
	College of Nursing and Health	Deborah Vargo
	College of Science and Math	Ted Biermann
	College of Social Sciences	Karen Ross
	The Graduate School	Deborah Dunn
2:30–3 p.m.	Art and Design Exhibition	Madonna Exhibit Gallery
2:30–4 p.m.	Poster Presentations, Displays and Demonstrations	Gathering Space
	3D Printing Workshop	Room S200
	Interactive Forensic Science Demo	Room S105
4–5 p.m.	Breakout Sessions	See page 16
5:15–6 p.m.	Refreshments and Networking	Gathering Space
	Poster Award Ceremony and Prize Draw Commences	

POSTER PRESENTATIONS

Undergraduate

Poster Number: 1

Our Moon

Randa Abdallah

Advisor: Dr. Asaad Istephan

The purpose of this research paper was to see the relation between our Earth and its Moon. The research includes how our Moon was formed and history of the relation between it and the Earth. You will understand the phases of the Moon and what causes them. Furthermore, you will see how tides are formed from the gravitational pull of the Moon to the Earth. The paper will give a further understand of the types of eclipses that we see and when and why we see them.

Poster Number: 2

The Compilation and Interpretation of Proteinaceous Impression Evidence

Jodi Campo, Andrea Plewa, and Jessika Williams

Advisor: Jessica Zarate

This project is currently in progress and involves the compilation and interpretation of impression and aged proteinaceous fingerprint evidence enhanced in six months of research trials. The impression trials were conducted by depositing thumbprints on 15 substrates of varying color, texture, and porosity using five biological fluids: blood, semen, saliva, non-human oil, and eccrine/sebaceous sweat, and enhanced with six enhancement methods, resulting in a total of 450 impressions. The aged impression trials were deposited on three substrates using the five biological fluids mentioned above and conducted in triplicates with five enhancement methods at one week, one month, three month and six month intervals, resulting in a total of 900 impressions. In all the trails the impressions were rated separately by two analysts for impression quality and fluorescence prior to enhancement, and at the one day, two day, and one week interval using both normal and alternate lighting. The vast amount of data recovered in this project will be used to assess the effectiveness of each of the enhancement methods utilized in the research trials to determine suitability for use in the field of forensic science.

Poster Number: 3

Efficient Eradication of Ebola (and a look at COMAP's Mathematical Modeling Contest)

Catherine Crombez and Stephen Lisius

Advisor: Dr. Susan Toma

The 2014 Ebola virus epidemic is the largest recorded outbreak of any Ebola strain. The consequences for the West African countries (mainly, Guinea, Liberia, and Sierra Leone) affected have been severe and fatal. However, without any appropriate drug or vaccine treatment, the spread of Ebola has continued over the past year. This research models and outlines a plan of action in anticipation of a treatment. A variation of the SIR model was used to organize the populations of these three countries into six subpopulations. Data supplied by the model output a predicted amount of patients over the next two months of disease spread. Ideally, the calculations would include the effects from the introduction of the new drug aimed towards the total eradication of Ebola. After model analysis, the estimated affected populations could be used to gather enough medication and supplies in an efficient and cost-effective manner. In modeling the estimated population that would need to be cured, the minimum amount of medication, supplies, and health care workers could be gathered to potentially prevent any misuse of resources and money. In conclusion, this study aims to outline an effective model and plan in pursuit of eradication of the Ebola virus if a drug for treatment is introduced. The model published here still needs adjustments to offer the most appropriate prediction of the afflicted population; therefore the outlined plan would be applicable after a small amount of additional time and research into the plans methods of eradication.

Poster Number: 4

Internet Usage: The Correlation of Internet Use and Loneliness in the Elderly

Morgan Dalrymple

Advisor: Dr. Michelle Proctor

As the population ages, it is important to help the elderly maximize their independence as well as their social support systems. Lack of social contact and isolation in the aged may contribute to higher levels of loneliness, particularly for those who are less mobile, have spouses who are deceased, or who do not live close to any immediate family. This research explores the effect that the internet may have in mitigating loneliness among the aged. Additional variables examined are the level of expertise, experience with training and comfort levels of the aged with internet use. The goal of the research is to determine if loneliness can be alleviated when the aged participate in internet use. A self-administered questionnaire will be utilized to examine the relationship between

levels of loneliness and internet use among individuals 65+ at a senior center in Novi, Michigan. The survey design consists of twenty questions designed to indicate internet use, level of loneliness or depression suffered, and how respondents feel after internet use. Questions will at the nominal and ordinal level and will be analyzed utilizing cross tabulations to determine if a correlation exists between internet use and loneliness. It is hoped that the results of this research may be beneficial to organizations that provide services to seniors in the community as a means of program evaluation or planning for activities and adult educational purposes for this population.

Poster Number: 6
**The Recovery of DNA Evidence from Zar-Pro™
Fluorescent Blood Lifters**

Alexander Hulscher
Advisor: Dr. Jodi Lynn Barta

Zar-Pro™ Fluorescent Blood Lifters are used for the enhancement of bloody impression evidence at crime scenes. Previously, it had not been determined whether DNA evidence is preserved in the bloody impression fixed on the lifter, and if that DNA is subject to degradation over time. In addition, it was important to determine whether enough DNA evidence for profiling can be recovered from a small portion of the lifter so that the integrity of the impression itself and its evidentiary value is maintained. To explore these possibilities, bloody impressions were deposited on glass slides and lifted using Zar-Pro™ Fluorescent Blood Lifters. DNA extraction was performed on a small piece of the lifter that was cut from an area of the impression with little detail. This was repeated across three time intervals to assess potential degradation over time. To reduce the possibility of human contamination, pGLO plasmid DNA was used as the template for extraction and amplification. This study determined that DNA can be extracted from Zar-Pro™ Fluorescent Blood Lifters and subsequently amplified, but further research is needed to assess the reliability of extraction and amplification protocols before this method can be implemented for DNA evidence recovery.

Poster Number: 7
**Fresh Pasta Firmness and Structure as Affected by the
Enrichment of Ratios of Non-Starch Polysaccharides:
Bamboo Flour and Sweet Potato Flour**

Lisa Hursin
Advisor: Dr. Karen Schmitz

Because many Americans are not getting enough fiber in their diet, increased interest has arisen to incorporate adding fiber to food products. Adding fiber components, such as non-starch polysaccharides (NSP), has been utilized by food scientists in effort to maximize fiber intake. Adding NSP in pasta dough to examine textural and cooking characteristics has been inspected. In this experiment two different NSP's, bamboo flour and sweet potato flour, were incorporated at differing ratios to all-purpose flour to make pasta. The objective of the study was to determine firmness and strand height of pasta made with 5% bamboo flour to 15% sweet potato flour ratio, 10% bamboo flour to 10%

sweet potato ratio, and 15% bamboo flour to 5% sweet potato flour ratio. Likewise, assessment of average pasta strand length was performed on the three different pasta formulas. A sensory panel was used to determine pasta firmness of the three samples, while millimeter measurements of pasta strands were calculated to determine average pasta strand length. Results showed that 78% of participants preferred the pasta with the highest ratio of sweet potato flour to bamboo flour in the sensory evaluation. In correlation to the sensory results, objective analysis determined the pasta formula that also had the highest firmness rating was also the lowest in pasta strand height, measuring an average of 0.29 mm. The results from the study reflect that characteristics of pasta are altered when adding NSP products at various ratios to pasta. Further research is needed to analyze nutritional content to create pasta that is attractable to consumers.

Poster Number: 8
Mars Missions
Danielle Owen
Advisor: Dr. Asaad Istephan

There have been many missions set to explore the planet Mars: some have succeeded but even more have failed, yet all exemplify the complexity of the exploration. The first up close image ever taken of the planet was by the Mariner 4 that launched in 1964. The first ever artificial satellite to orbit another planet was the Mariner 9. It orbited the planet for about one year, giving the world new and useful information about the surface and atmosphere of the planet. The Mars Express was launched by the ESA in 2003 and is still orbiting the planet, because of its success the length of the mission has been extended multiple times. The Spirit Rover and Opportunity Rovers were twin rovers sent to explore more of the geology of the planet. In the duration of their stay the rovers traveled about four kilometers. The Phoenix arrived on the Red Planet in 2008. The significance of this exploration is that it was built with an arm used to dig on the surface, proving the theory that there is, in fact, ice on Mars. There are future explorations planned for the planet, ultimately, the goal is to have humans be able to sustain life. One of the missions is called Mars One and is being funded by a private organization. The Plan is to have humans explore the planet by 2023. Another future mission is by NASA in 2020 to send up the newest technology for exploration.

Poster Number: 9
The Venus Express
James Routhier
Advisor: Dr. Asaad Istephan

Venus Express was the first European (ESA) mission to the planet Venus. Its mission objective was the completion of an orbital global survey of the atmosphere and surface of the planet. In April 2006, after a transit time of 155 Earth days, Venus Express was inserted into an elliptical polar orbit around Venus. With an orbital period of 24 hours, the orbit ranged from 250 km at the southern pole to 66000 km at the northern pole. The nominal mission, projected to be 500 Earth days in duration, lasted for a total of 485 Earth days. The complete mission lasted a total of 3324 Earth days before being declared complete in December 2014. Long-

term observation over this period of time had never been done in previous missions to Venus. The mission beamed back the clearest yet images of Venus and provided new insight into its atmosphere. This paper presents an overview of seven atmospheric and surface accomplishments of the Venue Express mission. The atmospheric accomplishments will include shape-shifting vortices at the southern pole, the detection of molecular ozone, the existence of a cold region in the Venusian atmosphere, and an observed increase in the wind speed in the super-rotating Venusian cloud top. Surface accomplishments will include indirect evidence of both recent volcanism, as well as a potential slowdown in the speed of Venus' rotation. This overview is based on a series of papers published in *The Cosmic Perspective*, *Physics Today*, *Science*, *Solar System Research*, and the *Journal of Atmospheric Sciences*.

Poster Number: 10
**Fluorogenic Enhancement of Latent Blood Impressions:
Making Blood Glow**

Christine Siress

Advisor: Dr. Wilson Muse

Our ongoing research involves the fluorogenic enhancement of latent blood and proteinaceous body secretions left at crime scenes. To this end, we have explored the mechanism of action of the Zar-Pro™ bloody impression lifting strip to understand and improve its functionality. Blood is normally not fluorescent. We have discovered that the post-lift fluorescence gained by the blood in the lifted impressions is due to multiple mechanisms. The primary mechanism is the catalyzation of the non-fluorescent blood fixative into a fluorescent compound. The catalyst is present in the cytoplasm of red blood cells and does not appear to be enzymatic in nature. A secondary mechanism is due to the interaction of detergents, nonionic surfactants along with certain nonpolar solvents and blood that leads to a partitioning of a fluorescent molecule normally quenched in the blood. We have shown that this molecule is a porphyrin released from hemoglobin and is converted into a fluorescent molecule by our chemical treatment to fix the impression and SDNA. We have also applied similar treatment to a heme related molecule, chlorophyll, and see that it behaves similarly under our treatments. The technology here has wide applications for forensic analysis of blood and plant material.

Poster Number: 11
**Replacing Sucrose with Coconut Palm Sugar and Sucralose
in Banana Muffins: Comparison of Physical and Sensory
Parameters**

Sarah Stempin

Advisor: Dr. Karen Schmitz

Sugar alternatives, both natural and artificial, have garnered the interests of researchers for their potential health benefits, relative ease of substitution in food products, and ability to mimic the characteristics of their sucrose counterparts. Relatively new on American supermarket shelves with little peer reviewed research conducted to further enhance understanding of its properties, coconut palm sugar contains significantly more vitamins and minerals than white sugar and offers a caramel flavor with a

subtle sweetness. In this experiment, the researcher evaluated the effect of substituting coconut palm sugar and sucralose for sucrose in banana muffins. Three muffin varieties were generated: 100% sucrose, 100% coconut palm sugar, and 50/50 blend of coconut palm sugar and sucralose. Sensory panelists evaluated the moistness, sweetness, overall likeness, and ability to identify the sucrose-containing control after sampling through use of rating tests, difference tests, and a 5-point acceptance assessment. A seed displacement test and height measurements were used to gauge overall volume and height. Results indicated that 78% of the panelists were able to distinguish the control from the other sugar alternatives and 67% of panelists ranked this sample as the sweetest amongst the three. Similarly, the sucrose-containing control received the highest ratings in moistness (4.1) and overall likeness (4.5). The product containing the 50/50 blend of coconut palm sugar and sucralose received slightly lower ratings in moistness (3.8) and overall likeness (3.8). The results showed that a 50/50 blend of sucrose and coconut palm sugar may be a suitable and accepted alternative amongst consumers.

Poster Number: 12
**What's Your Status? An Examination of How Daily
Social Networking Affects Well-Being**
Kelsey Taylor and Kayla Vogel
Advisor: Dr. Kenneth Thiel

Facebook boasts over one billion users, with additional services such as Twitter, Instagram, Tumblr, and LinkedIn further inflating the overall social networking population (Smith, 2015). Despite the global reaches of social networking opportunities, little research exists concerning the psychological and psychosocial impacts of this fast-paced, instantaneous connection with the world. The purpose of the current research study is twofold: 1) To examine college student reliance on social media usage and 2) To explore the influence that daily social networking has on self-reported well-being. Students recruited from introductory psychology classes reported frequent use of at least one type of social media account (e.g., Facebook, Twitter, and Instagram). Participants were randomly assigned to one of two groups based on the following instructions: 1. Try to discontinue social media usage for one week or 2. Engage in monitoring typical usage for one week. All participants received a packet of questionnaires that they were instructed to fill out every day for one week. These questionnaires assessed social media usage (frequency and purpose for use), self-perception of well-being, and mood. In addition, all participants filled out a survey that assessed their self-perceived reliance on social networking sites prior to the seven-day monitoring phase, and then again at the conclusion of the study. Data collection is still currently underway and will be completed by April 30th, 2015. Statistical analyses will be conducted to examine the relationship between social media usage and daily fluctuations in well-being and mood. Furthermore, we will examine how self-monitoring of social media usage affects self-report of social-media dependency.

Graduate

Poster Number: 14
The Role of the APRN on the Impact of Delirium Management
Roxanne Buterakos
Advisor: Dr. Gail Lis

This continuous quality improvement (CQI) project evaluates the impact of the APRN on the management of delirium in vented geriatric patients admitted to the ICU, with the diagnosis of sepsis, from the Emergency Department. The clinical practice guidelines for the management of pain, agitation and delirium in adult patients in the intensive care unit recommend using the CAM-ICU tool to identify delirium in the ICU with a vented patient, to avoid benzodiazepines for sedation of vented patients, and prompt treatment of delirium to ensure the most optimal outcome for the patient (Barr et al., 2013). Delirium can affect up to 80% of ventilated patients, it is associated with prolonged ICU LOS and increased mortality. Using a retrospective chart review, twenty to one hundred patient records that include a diagnosis of sepsis with ventilator support will be evaluated for three process indicators. These include: assessment of delirium using the CAM ICU tool while the patient is intubated, documentation of delirium diagnosis if the CAM ICU was noted to be positive, and treatment and plan of care for the delirium. Outcomes examined will include: ICU length of stay, number of ventilation days and time to ICU from time of admission. Data will be analyzed using descriptive statistics.

Poster Number: 15
Is a Primary Care clinic in an Underserved Area Administering the Influenza Vaccine to its Patient Population as recommended by the Centers for Disease Control and Prevention?
Luis Carrera
Advisor: Jennifer Rohrborn

This project evaluated the administration of the influenza vaccine to eligible patients at a primary care clinic in an underserved area using the guidelines set forth by the Centers for Disease Control and Prevention (CDC). According to the CDC's website, everyone 6 months and older should receive the annual flu vaccination. Influenza is a contagious respiratory illness caused by influenza viruses. According to Centers for Medicare and Medicaid Services (CMS), there are over 200,000 hospitalizations from influenza on an average year. In an average year, 36,000 Americans die due to influenza and its complications and most are people 65 years of age and over. To measure the effectiveness of the practice in implementing these practice standards a retrospective chart review was conducted. The inclusion criteria for this practice were: 1) Patients that were seen between October 1st through December 31st, 2014; 2) Only patients from assigned clinic and not satellite clinics; 3) males and females; and 4) ages 18- 100. Forty charts of clinic patients were chosen at random. A standard data collection

tool was constructed and the following data were collected: 1) age; 2) gender; 3) vaccination administered? Y/N; 4) If not, was reason documented? and 5) Returned to clinic for flu or flu-like symptoms? The outcome goal was set at eighty five percent.

Poster Number: 16
The Use of Moderate Dose Statin Therapy in the Type II Diabetic Population
Natalie Crook
Advisor: Dr. Patricia Hanson

This poster will present findings of a continuous quality improvement project that examined adherence to best practice guidelines for moderate dose statin therapy in patients with type II diabetes. The project setting was a suburban primary care practice in the Midwest, serving a population of two thousand patients. The American College of Cardiology and the American Heart Association (2013) have established guidelines for use in primary care practice for moderate dose statin therapy to reduce the risk of atherosclerotic cardiovascular disease in patients with type II diabetes. These guidelines include that all patients age 40-75 with type II diabetes should be treated with moderate dose statin therapy regardless of their LDL or total cholesterol. To measure the effectiveness of implementing these practice standards, a retrospective chart review was conducted. The inclusion criteria for this project were: established patients in the practice, males and females, ages 40-75, and an established diagnosis of type II diabetes for at least one year. Using those criteria, forty charts were chosen at random from two hundred and fifty qualifying patients. A standard data collection tool was constructed and the following data were collected: is the patient prescribed a statin, name of statin prescribed, dosage of the statin prescribed, whether the statin therapy was considered moderate or greater according to the ACC/AHA guidelines. The data will be analyzed using descriptive statistics. Findings will be examined for adherence to national guidelines and implications for practice will be presented.

Poster Number: 18
Inpatient Iatrogenic Hypoglycemia and Appropriate Timely Treatment
Amber Crowe
Advisor: Dr. Sue Sirianni

Hypoglycemia is a common complication that diabetic patients experience during a hospitalization. Often hypoglycemia can reoccur due to ineffective treatment or failure to determine the cause thus leading to cerebral glucose deprivation and cell death. Often the cause of hypoglycemia is the treatment which includes insulin administration and glucose lowering medications. The most powerful risk factors for hypoglycemia were unexpected nutritional interruption, prior hypoglycemia during the hospital stay and asynchrony of nutrition delivery and insulin administration. Adherence to hypoglycemia management and documentation standards was poor (Maynard, Huynh, Renvall,

2008). A retrospective chart review of twenty patients will evaluate the incidence of hypoglycemia in hospitalized patients admitted to an internal medicine group and the time to treatment. It will also evaluate the time to repeat point of care glucose testing. The process indicators reviewed was the documentation of treatment of hypoglycemia within fifteen minutes of point of care testing (POC) and the method of repeating the POC testing every 15 minutes after treatment of hypoglycemia until blood glucose is greater than 80 mg/dl. The findings will be evaluated for compliance with the hospital management of hypoglycemia in adults with diabetes mellitus a clinical guideline from the United Kingdom and with the Endocrine Society Clinical Practice Guidelines. Data will be analyzed using descriptive statistics. Implications for advanced practice nurses will be discussed.

Poster Number: 19
Pollution and Health Problems in Michigan's Most Toxic Zip Codes
Hussein Diab
Advisor: Dr. William Kasperski

A recent research done by researchers from the University of Michigan examined pollution in Michigan zip codes; it found that zip code 48217 was the most toxic zip code in Michigan. This research examines the toxic release inventory (TRI) data of the top 5 most toxic zip codes in Michigan from 1988 to 2013 and cancer statistics from Michigan Department of Community Health website. The focus of this research is on the relation between specific chemicals being emitted and the health problems (mainly different types of cancer such as breast, colorectal, lung, and prostate) that the people living in that area suffer from.

Poster Number: 20
Building a Bridge: Connecting Home and School Through the Use of Literacy Bags
Melissa Elsey
Advisor: Dr. Mary Tomczyk

Teachers know that a child being read to each day can provide valuable learning opportunities. A delightful read, with the main character in your lap, and your mom or dad sets the stage for an enjoyable learning experience. The use of literacy bags were a strategy implemented in a preschool classroom with twelve students. The purpose was to create a strong home to school connection. In addition to the classroom instruction on letter recognition literacy bags were sent home with the students. The bags contained activities, such as letter games, the student could compete at home with their families and supported the learning that was taking place in the classroom. Triangulation of data was collected using pre- and post-assessments, assessing how many letters of the alphabet they can identify, as well as parent inventories, and teacher journaling of results and feedback. The results showed that the students showed an increase in the number of letters they were able to identify.

Poster Number: 21
Can't Walk, Can't See: Screen with Me
Saba Ghaleb
Advisor: Tracey Chan

This poster presents findings of a continuous quality improvement project that examined adherence to best practice guidelines for retinopathy and diabetic foot exam screenings. The project setting was a private endocrinology practice serving a population of more than 2000 patients of whom 65% are diabetic. The American Diabetes Association has established guidelines for providers to screen patients that are at risk for developing vision and foot problems. The guidelines recommend that annual retinal examination should be performed by an ophthalmologist or optometrist; which includes a comprehensive dilated eye examination. The guidelines also recommend that peripheral neuropathy screening should be done annually. The screening can include any of the following: vibration, pressure, superficial pain or temperature sensation. To measure the effectiveness of the practice's implementation of these standards, a retrospective chart review was conducted on 40 randomly selected patients. The inclusion criteria were: 1) established patient for at least one year; 2) males and females; 3) ages 18 and older; 4) Type 2 diabetes mellitus; and 5) Type 1 diabetes mellitus 5 years or longer. The exclusion criteria were: 1) younger than 18 years; 2) bilateral foot amputations; 3) Type 1 diabetes mellitus diagnoses of less than 5 years; and 4) legally blind. A standard data collection tool was constructed to collect the following data: 1) age; 2) gender; 3) type of diabetes mellitus; 4) screening documentation; and 5) results of screening. Data will be analyzed using descriptive statistics. Findings will be examined for adherence to American Diabetes Association guidelines and implications for practice will be presented.

Poster Number: 22
Peer to Near Peer Mentoring: A Lecture Series from Recent Grads for Nearly Grads
Robin Ward
Advisor: Anne Morris

University graphic design students often feel unclear about what lies ahead for them as they near graduation. Many become nervous, losing focus and confidence as they begin the transition from being a student to being a graduate and embracing the benefits and challenges of becoming a professional. A lecture series, given by employed recent graduates from the same graphic design program, is intended to create a peer to near peer interaction. A pre-survey determined that many students had only vague projections regarding the future and few ideas about their imagined professional selves after graduation. Throughout the series and after the post-survey interview, the encouragement and example provided to current students by former students, along with learning more about graphic design in general, helped to strengthen confidence and sharpen the focus of current students. Post-survey results showed more thoughtful projections and ideas about post-graduation career paths.

Poster Number: 23
Action Research Project for Reducing Students' Zero Grades
Jeremy Salo
Advisor: Anne Morris

Getting college students to submit their assignments when they haven't mastered the material can be a challenge. This study investigates the addition of an analytical rubric to confirm the benefit of submitting homework that demonstrates various levels of skill attainment. The goal was to decrease the number of missing assignments by increasing students' understanding of what was expected of them. The research also assessed the impact a rubric has on the student's ability to conduct peer assessments in the classroom. Three different sources of data collection were used to measure the efficacy of the additional rubrics. Pre- and post-surveys for the students, existing grades with attendance compared to grades and attendance during the study, and a journal completed by the instructor were used. The results indicate a reduction of students receiving zeros on assignments. The change may have also improved the educational process in another interesting way.

Poster Number: 24
Implementation of Math Workshop into the Elementary Classroom
Robin Kihn
Advisor: Dr. Mary Tomczyk

The researcher outlines the implementation of math workshop during the 2014-2015 school year into a fourth grade classroom containing twenty-eight students. The purpose of the implementation is to increase student achievement in math. After a review of relevant research, the author outlines the change from direct instruction to math workshop. The triangulation of data is documented through pre-assessment data from the district curriculum, a student perception survey, norm referenced assessment NWEA MAP in Math, as well as through journaling, photographs, and the teacher's math instruction plans. The implemented math workshop block is 50-60 minutes long and includes math with teacher, math by myself, math writing, math with a partner, and math with technology. The results showed that students did increase in proficiency in the Common Core Math standards that were targeted.

Poster Number: 25
A Phenomenological Study of Leadership Styles and How They Affect Employee Satisfaction
Emily Kostin and Sengmany Phanharangsy
Advisor: Dr. Patricia Pelavin

Employee satisfaction can lead to overall success and efficiency of a business by lowering labor costs, creating committed and loyal employees and increasing productivity. While many factors can lead to employee satisfaction, those same factors can also lead to employee dissatisfaction. One main factor that leads to employee satisfaction is manager leadership style, and an unfavorable style can have a negative impact on any business by lowering employee satisfaction. The purpose of this study was to determine how a

manager's leadership style affects employee job satisfaction. It also aimed to determine what leadership styles managers, in any business, can utilize to increase employee satisfaction. Ninety-seven people in Michigan ages 18 and older with job experience were sent an invitation to be part of a convenience sample. Participants were asked to respond to an online survey that consisted of seven qualitative questions and ten quantitative questions. Of the 97 participants that the survey was sent to, 68 began the survey and 54 completed the entire survey- a response rate of 79%. Quantitative responses were analyzed using correlation, ANOVA and t-testing and qualitative responses were analyzed using coding and analysis. Results of the study indicate that leadership style can positively affect employee satisfaction and that the characteristics of support, recognition, communication and growth/learning opportunities were the most influential characteristics. Little evidence was found to support the theory that leadership style has a negative impact on employee satisfaction.

Poster Number: 32
Fluid Status Measures in Acute Decompensated Heart Failure Patients Receiving Diuretic Therapy
Nicole Goguen
Advisor: Dr. Sue Sirianni

This project evaluated the impact of fluid status measures on patients with acute decompensated heart failure (ADHF) receiving diuretic therapy. The American College of Cardiology Foundation/American Heart Association (ACCF/AHA) (2013) practice guidelines for the management of heart failure recommend the use of fluid status measures, such as daily weights and measurement of fluid intake and output, to evaluate the effectiveness of diuretic therapy. A retrospective chart review of 20 patients admitted with ADHF was performed. The following process indicators were reviewed: ordering of daily weights and intake and output measurement and compliance with performing these measures. These findings were evaluated for adherence to the ACCF/AHA heart failure guidelines and to identify potential practice implications. Descriptive statistics were used to analyze the data obtained. Implications for advanced practice nurses will be discussed. Future areas of research should include identifying barriers to obtaining fluid status measures such as order reconciliation, noncompliance of staff, and methods to overcome barriers.

Poster Number: 33
Are Men and Women Aged 65 or Older Receiving the Proper Vaccinations According to CDC Guidelines?
Beth Kalis
Advisor: Tracey Chan

This poster will present findings of a continuous quality improvement project that examined adherences to recommendations for vaccinations for patients aged 65 or older. The project setting was a primary care family practice office in the Midwest United States. The recommended vaccination guidelines are from the Centers for Disease Control. To measure how the selected primary care family practice office responded to these

guidelines, a retrospective chart review was conducted. Forty charts were chosen at random for review. The inclusion criteria for this project were: 1) men and women; and 2) aged 65 years or older. Exclusion criteria for this project was an allergy to a component of the vaccine. A standard collection tool was constructed and the following data collected: 1) age; 2) gender; 3) type of insurance coverage; 4) vaccination for 2014-15 influenza season; 5) Zostavax vaccine administered; 6) Pneumovax vaccine administered; 7) Pevnar-14 vaccination administered; and 8) Tdap or Td booster given within the last 10 years. The data will be examined for adherence to national guidelines, and implications for practice will be presented.

Poster Number: 34
The Use of Hyaluronic Acid in the Treatment of Osteoarthritis of the Knee; Benefit or Not?

Eric Kalis

Advisor: Tracey Chan

The poster will present findings of a continuous quality improvement project that examined adherence to best practices for quality management of using hyaluronic acid injections for pain relief in patients diagnosed with osteoarthritis of the knee(s). The project setting was an orthopedic surgeon's office serving a large population of patients, young and old. The American Academy of Orthopedic Surgeons (AAOS) 2013 states "We cannot recommend using hyaluronic acid for patients with symptomatic osteoarthritis of the knee." The strength of this recommendation was based on lack of efficacy, not potential harm. To measure how the selected orthopedic office responded to this recommendation, a retrospective chart review was conducted. The inclusion criteria for this project were: 1) established patients in the practice; 2) males and females; 3) ages 40 – 70; and an established diagnosis of osteoarthritis of the knee. Forty charts of patients with the diagnosis of osteoarthritis of the knee were chosen at random. A standard data collection tool was constructed and the following data collected: 1) age; 2) gender; 3) insurance; 4) previous treatment with NSAIDs; 5) previous treatment with cortisone injection; 6) patients who did not receive cortisone injections; 7) patients who received more than one hyaluronic acid injection; and 8) patients who received x-ray to confirm osteoarthritis diagnosis. The data will be examined for adherence to national guidelines and implications for practice will be presented.

Poster Number: 35
Evaluation of Ophthalmology Referrals for Adults with Type II Diabetes Mellitus in the Primary Care Setting

Lauren Lakin

Advisor: Tracey Chan

This poster will present findings of a continuous quality improvement project that examined adherence to best practice guidelines for retinopathy screening and referral in adults with Type II Diabetes Mellitus. The project setting was a primary care practice serving a population of 4,000 patients. The American Diabetes Association (2015) and the World Health Organization (2006) have established guidelines for use in primary care

practice to reduce the risk and prevent progression of diabetic retinopathy by providing referral to ophthalmology for annual screening which entails comprehensive and dilated eye exam. To measure the effectiveness of the practice in implementing these practice standards a retrospective chart review was conducted. The inclusion criteria for this project were: 1) established patients in the practice; 2) males and females; 3) ages 18 and older; and 4) established diagnosis of Type II Diabetes Mellitus for at least one year. Forty charts of Type II Diabetes Mellitus patients between December 2013 and December 2014 were chosen at random. A standard data collection tool was constructed and the following data were collected: 1) Age; 2) Gender; 3) Referral to ophthalmology provided; 4) Comprehensive/dilated eye exam completed; 5) Date of last eye exam; 6) Diagnosis of retinopathy; and 7) Eye exam report/recommendation in electronic record. Data will be analyzed using descriptive statistics. Findings will be examined for adherence to national guidelines and implications for practice will be presented.

Poster Number: 36
Evaluation of the Endoscopic and Medical Management of Ulcer Bleeding: Comparing Provider Interventions with Interventions Recommended by American College of Gastroenterology

Marie Leginza

Advisor: Dr. Gail Lis

Upper GI bleeding (UGIB) is a commonly occurring condition, accounting for 400,000 hospitalizations annually (Wilkins, et al., 2012). UGIB can cause acute hemorrhage, or hypotension, leading to acute myocardial infarction or multisystem organ failure. The mortality rate for UGIB is high, at 13% (Wilkins, et al., 2012). The American College of Gastroenterology's (ACG) have developed comprehensive guidelines that address the entire spectrum related to ulcer bleeding management including: initial assessment/risk stratification; pharmacologic and endoscopic treatment; and long-term prevention of recurrent bleeding ulcers (Laine, L., & Jensen, D.M. 2012). The purpose of this Continuous Quality Improvement project (CQI) is to identify if the providers are complying with the ACG guidelines. Although this guideline contains 30 recommendations, only 3 recommendations will be evaluated: classification and documentation of ulcer presence during endoscopy; appropriate treatment with intravenous (IV) proton-pump inhibitor (PPI) therapy for 72 hours post-endoscopy for patients with a classification of severe (active bleeding, non-bleeding visible vessel, & adherent clot); and treatment with oral PPI daily for those classified as mild (flat pigmented spots or clean base). Since ulcers have a 15% rebleeding rate, it is imperative to classify the ulcer severity during endoscopy, in order to select the appropriate treatment regimen and reduce the risk of rebleeding (Wilkins, et al., 2012). A retrospective chart review of 20 charts will be completed. The data will be analyzed using descriptive statistics. Implications for the role of the APN will be discussed.

Poster Number: 37
Stroke Prevention: Using the CHA2DS2 VASc Score to Evaluate Patients at Risk
Maria Lizza Magbanua
Advisor: Dr. Gail Lis

Atrial fibrillation is described by the Heart Rhythm Society as the most common arrhythmia affecting more than 2.5 million American adults and accounts for about one third of hospitalizations for cardiac rhythm disorders. This condition can instigate symptoms that can have a significant impact on one's quality of life (Heart Rhythm Society) and is a known risk factor for stroke. The American College of Cardiology and Heart Rhythm Society have established guidelines in the management of patients with atrial fibrillation that includes prevention of thromboembolic event using the CHA2DS2-VASc score for assessment of stroke risk, and prescribing appropriate anticoagulation therapy. This quality improvement project will evaluate the appropriate documentation of CHA2DS2 VASc score and implementation of anticoagulation therapy using a retrospective chart review. The impact of these interventions will be assessed in relation to stroke 30 day readmission from time of diagnosis of new onset atrial fibrillation. Descriptive statistics will be used to interpret the data. The role of advance practice nurses will also be discussed.

Poster Number: 38
The Effect of Education about High-Dose Influenza Vaccine versus the Standard Dose Vaccine in the Elderly Patient
Regina Mailey
Advisor: Mary Jane Favot

Seasonal influenza is a major cause of morbidity and mortality for the high risk group during the winter months. The elderly are deemed to be a part of this high risk group. The MMWR found that 90% of the influenza associated deaths were in people 65 years and older. Researchers compared a high-dose (HDV) to the standard dose (SDV) influenza vaccine and found HDV to be 24.2% more effective in preventing influenza than the SDV. Studies suggest that influenza would drop by 25% in the elderly if they received the HDV. The objective of this retrospective chart review is to determine, if given the choice, will elderly patients select HDV after being educated about the benefits verses the SDV. Approximately 40 patients will be randomly selected during a 3-month period between January to March, 2015. Consent from the clinic was obtained. Patient data will be de-identified and kept confidential. Analysis and interpretation of the data are in progress. Preliminary findings are that more men than women refused the SDV. All patients who refused the SDV, refused the HDV education. Those patients who received the SDV, accepted the HDV education.

Poster Number: 39
Tobacco Screening and the 5 A's of Smoking Cessation
Angela Malone
Advisor: Tracey Chan

This poster will present the findings of a continuous quality improvement project conducted at an inner city health center servicing approximately 2,000 uninsured adult patients. The project will examine the adherence of evidence-based guidelines established to assist in smoking cessation for the management of tobacco use. Tobacco use is the leading cause of preventable mortality in the world. The Centers for Disease Control and Prevention estimates that 20% of adults smoke cigarettes in the United States. The Healthy People 2020 initiative has established a goal of reducing smoking in adults to 12%. The U.S. Preventative Services Task Force, the Agency for Healthcare Research and Quality, and the National Committee for Quality Assurance established guidelines recommending clinicians ask all adults about tobacco use and provide tobacco cessation interventions for those who use tobacco products. This project will analyze how primary care providers advise and assist patients with smoking cessation, as this is important to patient outcomes. To measure the effectiveness of the guideline in primary care practice, a retrospective chart review was conducted. Forty charts were randomly selected for review using a standard data tool. The inclusion criteria for this project were: 1) males and females; 2) ages 18 – 64; and 3) the diagnosis of tobacco use disorder. Data will be analyzed using descriptive statistics. Findings will be examined for adherence to national guidelines and implications for practice will be presented.

Poster Number: 40
Evaluation of the Compliance of Venous Thromboembolism Prophylaxis in the Critically Ill Patient with Traumatic Brain Injury
Melissa Markoc
Advisor: Dr. Sue Sirianni

This continuous quality improvement project evaluated compliance with the ordering and initiation of venous thromboembolism (VTE) prophylaxis of patients admitted to the neurosurgical intensive care unit (ICU) with traumatic brain injury (TBI). The Brain Trauma Foundation (TBF) practice guideline recommended the placement of mechanical prophylaxis or sequential compression devices (SCDs) until mobile in combination with pharmaceutical prophylaxis for the prevention of VTE (BTF, 2007). Through a retrospective chart review, twenty patients admitted with TBI were evaluated. Three process indicators were reviewed and included: presence of mechanical VTE prophylaxis order, presence of pharmaceutical VTE prophylaxis order and appropriate application of SCDs by nursing staff. Data was analyzed using descriptive statistics. Findings were examined for adherence to the BTF practice guidelines. Implications for the Advanced Practice Nurse (APN) were presented.

Poster Number: 41
Evaluation of Blood Pressure in Subarachnoid Hemorrhage Patients Prior to Surgical/Endovascular Intervention
Lauren Moyer
Advisor: Dr. Melanie Keiffer

This continuous quality improvement project evaluates the blood pressure control of spontaneous aneurysmal subarachnoid hemorrhage (SAH) patients in the first six hours or up to surgical/endovascular treatment if completed within then. One of the major complications after SAH that causes a high mortality and poor prognosis is rebleeding. Blood pressure control may decrease the risk of rebleeding prior to the surgical/endovascular intervention (Connolly Jr., et al., 2012). While exact blood pressure guidelines have not been well defined with current evidence, the American Heart Association/American Stroke Association (AHA/ASA) guidelines state that until the aneurysm has been obliterated, a reasonable goal is a decrease in systolic blood pressure to less than 160mmhg (Connolly Jr., et al., 2012). Twenty patients with the diagnosis of spontaneous SAH were evaluated through retrospective chart review. Two process indicators were reviewed; blood pressure parameters ordered with PRN treatments or call provider if out of range and documentation of administration of IV nicardipine, labetalol or hydralazine for blood pressure greater than 160mmhg. The findings were evaluated for adherence to the AHA/ASA evidence based guidelines suggested blood pressure control parameters. Data will be analyzed using descriptive statistics. Analysis and interpretations are in progress. Implications for practice in the care of unsecured SAH patients will be addressed.

Poster Number: 42
Evaluation of Adherence to Standard Guidelines for Diabetic Management
Linda Nhambu
Advisor: Tracey Chan

This continuous quality improvement project evaluated the adherence to national guidelines for the management of Diabetes Mellitus (Type 1 and 2). The project setting was an Internal Medicine Primary Care office serving patients 18 years and older. The National Committee for Quality Assurance (NCQA) and the American Diabetic Association (ADA) established guidelines for use in primary care practice to effectively manage diabetes. To measure the effectiveness in implementing these practice standards, a retrospective chart review was conducted. An inclusion and exclusion patient criteria was established and thirty charts were chosen at random. A standard data collection tool was constructed and the following data was collected 1) age 2) gender, 3) Previous A1C, 4) Most recent A1C, 5) Eye exam, 6) Foot exam 7) Nephropathy exam and 8) Nephropathy management (ACE or ARB) if indicated. Findings on adherence to national guidelines and implications for practice will be discussed in this paper.

Poster Number: 43
Colorectal Cancer Screening in African American Patients
Chinwe Ohaka
Advisor: Tracey Chan

This poster will present findings of a continuous quality improvement project that examined adherence to best practice guidelines for colorectal cancer screening. The project setting was an inner city urban primary care clinic in Metropolitan Detroit area, serving a population of adult patients. The American College of Gastroenterology and the U.S. Preventive Services Task Force (USPSTF) have established guidelines for Colorectal Cancer Screening. The guidelines recommend screening in average risk adults 50 years and older using one of the following; Colonoscopy every 10 years, flexible Sigmoidoscopy every 5years, double-contrast barium enema every 5 years, computed tomography colonography every 5 years, annual fecal occult blood testing or fecal immunochemical test. There is also the option of DNA testing with an uncertain interval. To measure the effectiveness of the practice in implementing these standards, a randomized retrospective chart review of 42 patients between the ages of 50-75 was conducted. Established patients for at least one year, between the dates of January 2013 - January 2014. African American male and female, average risk for CRC. A standard data collection is constructed to collect the following data; age, gender, CRC ordered type, insurance status, and results in chart. Data will be analyzed using descriptive statistics. Findings will be evaluated for adherence to national guidelines. Implication for practice will be presented.

Poster Number: 44
Evaluating Anticoagulant Therapy in the Atrial Fibrillation Population to Prevent Stroke
Anne Silva
Advisor: Dr. Gail Lis

Atrial fibrillation is the most common sustained arrhythmia affecting millions of adults in the United States. Thromboembolism is the crucial cause of ischemic strokes in patients with persistent atrial fibrillation (AF). The incidence of AF increases with age and raises the risk of stroke five-fold. The clinical features that predict higher risk of stroke in AF are prior stroke, hypertension, advancing age, diabetes, and congestive heart failure (Han, Cheng, and Mathuria, 2012). Many patients with AF have risk profiles for stroke that, according to current clinical guidelines, place them in a risk group where chronic anticoagulation is recommended. Over the last decade, new anticoagulants have been developed to prevent strokes in patients with nonvalvular AF. Improving the rate of anticoagulation in patients with AF by determining which anticoagulant to use are necessary to decrease complications and mortality rates. The ACC/AHA guidelines indicate that proper assessment, anticoagulation therapy, and education are key to stroke prevention. The focus of this project is to examine if appropriate anticoagulation treatment is ordered for patients diagnosed with established atrial fibrillation and assess if there was education provided to patients with atrial fibrillation discharged on an anticoagulant. The incidence of stroke within 30 days of discharge will also be assessed. A

retrospective chart review will be completed and include the type of anticoagulation therapy, education documentation, and 30 day readmission rates for stroke symptoms. Data was analyzed using descriptive statistics. The role of the APRN will be discussed in managing patients with atrial fibrillation.

Poster Number: 45
Universal Precautions While Prescribing Opioids
Jacqueline Tribelhorn
Advisor: Tracey Chan

This poster will present findings of a continuous quality improvement project that examined adherence to best practice guidelines for pain management in patients with chronic low back pain. The project setting was a private pain management practice serving a population of approximately 4,800 patients. The American Academy of Pain Medicine (2013) and American Society of Anesthesia Task Force on Chronic Pain Management (2010) have established guidelines for use in primary care and pain management practice to reduce opioid risk for misuse, abuse, and diversion in patients. These guidelines suggest that opioids are not the first line treatment for chronic low back pain. To measure the effectiveness of the practice in implementing these practice standards a retrospective chart review was conducted. The inclusion criteria for this project were: 1) established patients in the practice with chronic low back pain 2) males and females, 3) ages 18-80, and 4) established diagnosis of low back pain for at least one year, and 5) taking opioid medication. Thirty charts of patients who met inclusion criteria were chosen at random. A standard data collection tool was constructed and the following data were collected: 1) age, 2) gender, 3) insurance, 4) diagnosis, 5) pain level, 6) pain medications, 7) opioid pain contract, 8) urine drug screen 9) MAPS, 10)depression screening, 11) and other treatment modalities offered other than opioids. Data will be analyzed using descriptive statistics. Findings will be examined for adherence to national guidelines and implications for practice will be presented.

Poster Number: 46
Mammogram Screening Among African American Women
Tashanta Webb
Advisor: Tracey Chan

This poster will present findings of a continuous quality improvement project that examined adherence to best practice guidelines for mammogram screening in African American patients ages 40 to 74. The project setting was a primary care practice serving a population of low-income adult patients. The US Preventive Services Task Force (USPSTF) (2015) and The American Cancer Society have established guidelines for mammogram screening. The US Preventive Services Task Force (USPSTF) recommends screening mammography for women 50-74 years to be performed every two years. The USPSTF found insufficient data to support the benefits of performing mammography on women under 50. The USPSTF also suggests every two year mammography before the age of 50 years should be based on the individual patient and include the risks, benefits and family history. The American Cancer Society recommends annual mammography screening for women 40 years and older. To measure the effectiveness of the practice in implementing this practice a retrospective chart review was conducted. The inclusion criteria for this project were: 1) African American women ages 40 to 74 and 2) mammogram screening within a one year time frame. The exclusion criteria for this project were: men, women under 40 and over 74, women with a previous diagnosis of breast cancer, women with a previous diagnosis of breast cancer within six months. Fifty charts were chosen randomly and reviewed. A standard data collection tool was constructed to collect the following data: (1) age; (2) insurance coverage; (3) mammogram screening date; (4) mammogram results in the chart; and (5) mammogram results reported to the patient.

Faculty Poster Presentations

Poster Number: 27
Marketing Research Report: Thai Restaurant Project
Dr. Patricia Pelavin in collaboration with students: Katherine
Allessio, George Arredondo, Brianna Crampton, Charles Kee,
Gavin Kelly, Stacy Noll and Jaclyn Sawasky
School of Business

This marketing research project was a collaboration between the newly formed Center for Business Development and Community Vitality in the School of Business, the students in QS 4230 Marketing Research course and their instructor. The project consisted of a literature review, secondary data, and marketing research conducted for a Thai restaurant in Dearborn, MI, which is considering franchising. The business had grown from \$150,000 in revenues to \$3.5million a year which also included the frozen food market. The design of the market research consisted of a four-

part consumer survey about dining. This survey included questions and statements about dining-in, as well as, take-out, restaurant attributes and attitudes toward Thai food. The convenience sample consisted of 212 participants. Both descriptive and inferential analysis were conducted. Graphics, ranking results, and significant findings were presented. Significant differences were found among: gender for distances one is will to travel to dine out; educational levels on the importance for eating healthy, the number of times dining out and whether one liked Thai food; and age groups for the amount of take-out ordered each month and number of times having Thai food. A factor analysis on the attributes individuals consider important in dining out was also presented. Conclusions were based on the significant findings and limitations focused on the type of sample constructed. The report was presented to the "Client" in written format and in an oral presentation on February 25, 2015.

Poster Number: 28
The Frugal Biologist: Molecular Biology on a Budget
Dr. Wilson Muse
Biological and Health Sciences

Molecular biology is the part of life sciences that deals with DNA and its translation into protein. Although it is an integral part of understanding life science and these methods have infiltrated every aspect of biological research, the topic remains abstract to students because you cannot see DNA with the naked eye. Furthermore, exercises that examine, visualize and manipulate DNA are hampered by the need for specialized equipment that is costly and out of the budget ranges of high schools and small colleges. Because molecular techniques are ubiquitously used in research, students from small schools or financially strapped school districts find themselves limited in the ability to provide concrete exercises involving molecular techniques to assist in understanding concepts. In developing the laboratory component for our own molecular biology course, I have developed many cost saving methods to reduce the cost of reagents and substitute inexpensive alternatives to the equipment needed to study DNA science. Commercial kits for plasmid DNA extraction and enzymatic manipulation of DNA are costly, but can be emulated at a fraction of the cost by implementing knowledge of the principles of their performance. This poster presents cost effective methodologies that require very little technology to carry out a bacterial plasmid extraction, transformation, recombinant protein overexpression and purification of green fluorescent protein.

Poster Number: 29
Utilization of Neuroscience Clinical Practice Guidelines:
Barriers and Facilitators
Dr. Melanie Keiffer
College of Nursing and Health

Clinical practice guidelines exist as tools to augment clinician decision making yet several barriers to implementation have been identified in the literature. Researchers cite a lack of knowledge of guideline existence, complexity of guidelines, staff attitude, lack of training, time and resource constraints as reasons for non-adherence to clinical practice guidelines. The purpose of

this project was to seek understanding of what factors promote or prevent the implementation of evidence based clinical practice guidelines at the point of care delivery using a population of neuroscience advanced practice providers. Understanding internal and external factors that impact the use of evidence based recommendations by advanced practice providers for this high acuity population was unknown. From the respondents' perspective, clinical practice guidelines were viewed as valid tools necessary to standardize patient care. Respondents exhibited proficiency in synthesis and integration of a complex set of guidelines to guide clinical decisions and treatment plans in challenging patient scenarios. Efficient and effective guidelines impact patient safety and quality by increasing the consistency of behavior and replacing idiosyncratic behaviors with best practices. Advanced practice providers possess the expertise required to bring clinical practice guidelines to the bedside more quickly to improve the health, quality and safety of neuroscience patients.

Poster Number: 30
Incorporating Academic Service Learning into
First Year Nursing
Janice Marchildon
College of Nursing and Health

This research investigated nursing experiences gained via an Academic Service Learning (ASL) project, conducted at a South East Detroit Elementary School. Following 15 hours of various on-site ASL activities, students completed a post survey and a reflection paper. This research will describe the outcomes from the ASL activities as it relates to the course outcome themes: Communication, Social Issues, Engagement, Culture, Professional Roles and Madonna Values. The results revealed that the student nurse experienced growth across the identified outcomes themes, particularly in identifying professional role development. Majority of students reported that the ASL experience was a valuable learning experience.

Interactive Display

Location: Lab Room S105
Techniques for Use in Forensic Science Analyses
Dr. Jodi Lynn Barta, Dr. Wilson Muse, and Jessica Zarate
Biological and Health Sciences

We will provide the instrumentation and technology to demonstrate common techniques used in forensic science analyses and allow participants to take part in analyzing mock evidence.

Informational Displays

Station Number: 5

Community Action Field Research: The Artists of Port-au-Prince and the Need for an Artists' Cooperative in Haiti
Dr. Michelle Proctor, Dr. Gerald Charbonneau, and Ginger Schmandt (alumnus)

College of Social Sciences – Sociology Department

In November of 2014, faculty visited Port-au-Prince during which time field research was conducted in the Haitian Artists' Community with the goal of collecting preliminary data for an upcoming grant for the creation of an Artists' Cooperative in Port-au-Prince. Artists were interviewed, the results of which indicated that there was a lack of opportunity for artists to sell their art beyond the confines of Haiti, and that there is a need for assistance getting their art to market. Preliminary research indicates that there is a need for the artists to establish democratic mechanisms that Cooperatives offer. The artist members of such a cooperative would own the cooperative and have more control over their destiny. This informational display will provide a visual representation of Haitian artists and their work as well as providing viewers information on the value that this cooperative can bring to the Haitian people as a means toward economic empowerment and a stronger, more stable position in the world community.

Station Number: 13

A Breath of Fresh Air for Detroit 48217

Jenna Sheena

Advisor: Dr. Phillip Olla

This research investigated the impact of pollution on the health of residents of Detroit zip code 48217. This research created infographics and an animated video that revealed that there are significant health problems being seen in residents of 48217. Although Asthma is the primary concern for residents, emission from the plants and surrounding freeways leave those who have been exposed for years with a number of illnesses and complications affecting children such as high infant mortality, respiratory infections, allergies, and reduced lung function. The impact on children's health is extremely concerning with the number of absenteeism significantly higher than other areas in Detroit. The poor health has an adverse impact on job seekers who find it difficult to balance the work commitments and hospital visits. Parents are also experiencing challenges managing the health of the children and work.

Demonstrations

Station Number: 17

Film Score Presentation

Matthew Bleggi

Advisor: Linette Popoff-Parks

For my presentation, I will demonstrate key compositional techniques used by a film score composer and discuss the importance of interpreting a scene accurately. The common techniques used in composing music for specific types of scenes will also be discussed. These will be presented by using clips from the movie genres of action, heroic, sad, and romantic scenes. I will choose a movie clip, discuss the appropriate compositional techniques in an informational speech/poster board form, and then present my own composition with the scene. However, for one of the scenes, I will include a second example contrasting the first composition with an alternate style. This will show the power music has to change the tone of a scene.

Station Number: 26

The Auxilium Group Demonstration

Thomas Lynk

The Auxilium Group will demonstrate a cloud based data management solution for medium and large scale business. We specialize in developing or redefining business processes to streamline the collection and distribution of data. The

main services are focused on real time or near real time data management, by leveraging the power of the web combined with mobile and portable devices.

Station Number: 31

Three-Dimensional (3D) Printing

Randy Madej

The purpose of this session is to provide attendees with a valuable networking opportunity to discuss educational focused three-dimensional (3D) printing initiatives on campus. 3D printing is the practice of creating a physical object from a digital model. This is achieved by using an additive process of laying down successive thin layers of a material.

In conjunction with this demonstration, a 3D printing workshop will be held:

Location: Room S200

3D Printing Workshop

Mike Mocerì – Founder of Manulith and MakerOS

The workshop will demonstrate MakerOS. MakerOS is the 3D printing standalone web application. It increases collaboration, efficiency, and scalability of 3D printing service providers by managing front and back end business activities in the cloud.

Breakout Sessions

Session 1: Nursing Across the Curriculum

Location: Academic Building – Room 2100

Session Type: Joint Presentations

Session Coordinators:

Susan M. Hasenau, PhD, RN, NNP, CTN-A

Gail Lis, DNP, RN, ACNP-BC

Diane Burgermeister, PhD, RN, CS

Session Description: Presentation of research endeavors to support evidence-based care from BSN, MSN and DNP students

Session 2: Psychological Reflections on the Creativity of Steve Jobs

Location: Academic Building – Room 2103

Session Type: Joint Presentation

Dorella Bond, Ph.D.

Associate Professor of Psychology

Chairperson

Psychology Department

Madonna University

Robert Cohen, Ph.D.

Professor of Psychology

Masters of Science in Clinical Psychology Program

Director of Supervision and Training

Psychology Services Clinic

Madonna University

Session Description: Steve Jobs believed that technology was not enough for success at Apple, insisting, when he introduced the iPad 2, that, "...technology must be married with liberal arts, married with the humanities to make our hearts sing." Dorella Bond, Ph.D. will present a portion of her paper entitled, "Psychological Reflection: The Creativity of Steve Jobs." The paper was originally given at the Conference on Madness and Creativity in Santa Fe in 2013. In the paper Dr. Bond applies a psychological theory of the creative process to the biography of Steve Jobs and discusses aspects of Mr. Jobs' personality that allowed him to live a life devoted to creativity in spite of tendencies toward destruction. Robert Cohen, Ph.D. who has also studied creativity, will discuss the paper, explaining the usefulness of a psychobiographical understanding of creativity and highlight important issues about the creative process raised by the life of Mr. Jobs

Session 3: Determinants of Small Business Success in MI

Location: Academic Building – Room 2403

Session Type: Joint Presentation

Patricia Pelavin, Ph.D. and John Critchett, Ph.D.

School of Business

Madonna University

Session Description: The session is Part I of a two-year research project that is being conducted to determine the factors of small business success in the State of Michigan. This state has been identified due to the diversity of industry and the nature of its economy. While many small businesses have failed over time, others have survived and thrived. What are the factors contributing to their success? The economic background, theoretical underpinnings, and methodology of the research will be discussed. The developed survey will be presented.

Session 4: Second Language Pedagogy and Research

Location: Academic Building – Room 2405

Session Type: Individual Presentations

Andrew Domzalski, Ph.D.

Professor of English as a Second Language

Director, ESL & MATESOL

Language, Literature, Communication and Writing Department

Madonna University

Marian Woyciehowicz Gonsior, MA TESOL

Adjunct Associate Professor

Director, Interdisciplinary Studies

Language, Literature, Communication and Writing Department

Madonna University

Fatima Salemassi, EdD. Candidate

Assistant Professor

Director, World Languages

Language, Literature, Communication and Writing Department

Madonna University

Dan McDougall, PhD Student, Gallaudet University

Chair and Associate Professor

Sign Language Studies

Madonna University

Session Description: Complexity Theory and Second Language Acquisition (Domzalski & Gonsior): The application of complexity theory (CT) to Second Language Acquisition (SLA) and language teaching. CT explains the phenomenon of complex systems, which exhibit some of the same characteristics found in languages, including dynamism, self-organization, and openness. Thus, viewing SLA through the lens of complexity theory may prove helpful to language teachers.

Students of Spanish and the Latino Community: "Cultures of Latinos in the U.S." (Salemassi): The results of an analysis of the reflections of students of Spanish on their experiences conducting a community-based research project involving narratives of individual

Latinos' experiences living in the Detroit area. The results of this analysis suggest, from a multiculturalism perspective, an ideological shift toward the acquisition of Spanish as a "second" language and toward the Latino community. The Spanish course curriculum, including its alignment with ACTFL Standards, will be also discussed.

Moral Decision Making By Second Language Learners of American Sign Language (McDougall): In research currently being conducted on campus, the "Foreign Language Effect" is tested for the first time among second language learners of American Sign Language. This effect predicts that individuals make decisions differently in their first language than they do in their second language. This session will preview the research being conducted on campus, and will highlight the complication of embodied cognition on studies involving visual language.

Session 5: Supporting Entrepreneurship in Detroit: Pop Ups, Technical Assistance and Funding **Location: Academic Building – Executive Classroom 2213** **Session Type: Panel**

Rita Fields, DM
Assistant Professor of Management
School of Business

Panel Participants:

Bonnie Fahoome, SWOT City Portfolio Manager, TechTown Detroit
Pete Benedeto, KIVA Detroit / Michigan Corps
Anthony Farris, Business Growth Manager, CEED Detroit
Quinn Hamilton, Firebrand Candle
Janice / Mike Fox, Hometown Custom Clothing

Session Description: Detroit was the largest major city in the country to declare bankruptcy in June of 2013. Despite what the various media outlets portray to be true, the city is experiencing a wave of economic revitalization. Specifically, the entrepreneurship sector of business has been growing leaps and bounds for several years now. This panel will offer an overview of the 'pop up' phenomenon within Detroit, the perspective of three strategic insiders who have 'boots on the ground' and the perspectives of two Detroit-based entrepreneurs.

Session 6: Assessing and Analyzing K-12 Student Learning **Location: Academic Building – Room 2223** **Session Type: Joint Presentation**

Laura Rea, Student in College of Education
Kristen Drabek, Student in College of Education
Stewart Wood, Ph.D., Faculty and Associate Dean for University Assessment
Christine Seguin, Ed.D., Faculty and Chair of Teacher Education

Session Description: What questions do educational researchers address? What do they care about? After more than a century of research in education and educational psychology, we have many good answers about how learning can be increased, how one kind of teaching compares to another, and how abilities, motivational orientation and developmental considerations relate to classroom performance. Many questions remain while other questions have yet to be formulated. In this session, we examine the scope of educational research — how we know "what works" and why that phrase is treated with great caution by researchers in this field. The session includes a description of an example of research in action: how Madonna University student teachers demonstrate the direct effects of their teaching on student learning during their final student teaching experience.

Session 7: Health Café: Exploring Social-Technological Solutions for Connecting Seniors, Caregivers and Healthcare Providers **Location: Franciscan Center – Room S102** **Session Type: Panel**

Deborah Dunn, EdD, MSN, GNP-BC, and Sue Anne Sweeney, MPH, MA, LLP, Madonna University
Thomas Lynk, The Auxilium Group

When the health care needs of older adults result in hospitalization followed by long term care placement, both they and their families experience significant stress and lifestyle disruption. Mobile Health (mHealth) innovations have the potential to address many of the health-focused problems that older adults experience. The focus of this session is to explore the intersection of communication, care needs and potential mHealth solutions in long-term care. Persons interested in exploring how innovative mHealth strategies might be applied in the care of older adults are encouraged to attend.

SYMPOSIUM FOR RESEARCH, SCHOLARSHIP AND CREATIVITY AWARDS



College of Arts and Humanities

Film Awards

For creating Madonna University's first full-length film,
Gangster Report

Dean Olivas – Director/Editor

Darryn Montgomery – Producer/Writer

Kyle McGrath – Director of Photography

Trevor Hamilton – Associate Director

Kenneth Hobbs – Gaffer

Paul Levinsky – Sound

Josh Yuchasz – DIT/Editor

Matt McIntosh – Line Producer

Allen Jankowics – Editor

Music Awards

Matthew Bleggi – Film scoring for *Gangster Report*

Carrick Secorski – Song writer for *Gangster Report*

Anna Dreslinski – Lead actress *Gangster Report*

Nancy Boyd – Actress and singer *Gangster Report*

Morgan Lorkowski – Winner of Classical Singer

District Competition

School of Business

Michael F. McManus Jr. Award for Leadership and Scholarship

Katherine Allessio – Undergraduate recipient

Emily Kostin – Graduate recipient

College of Education

Candice Abro – Teacher Effects Research Award

Alicia Armstrong – Teacher Effects Research Award

Kristen Drabek – Teacher Effects Research Award

Hannah Faber – Teacher Effects Research Award

Laura Rea – Teacher Effects Research Award

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