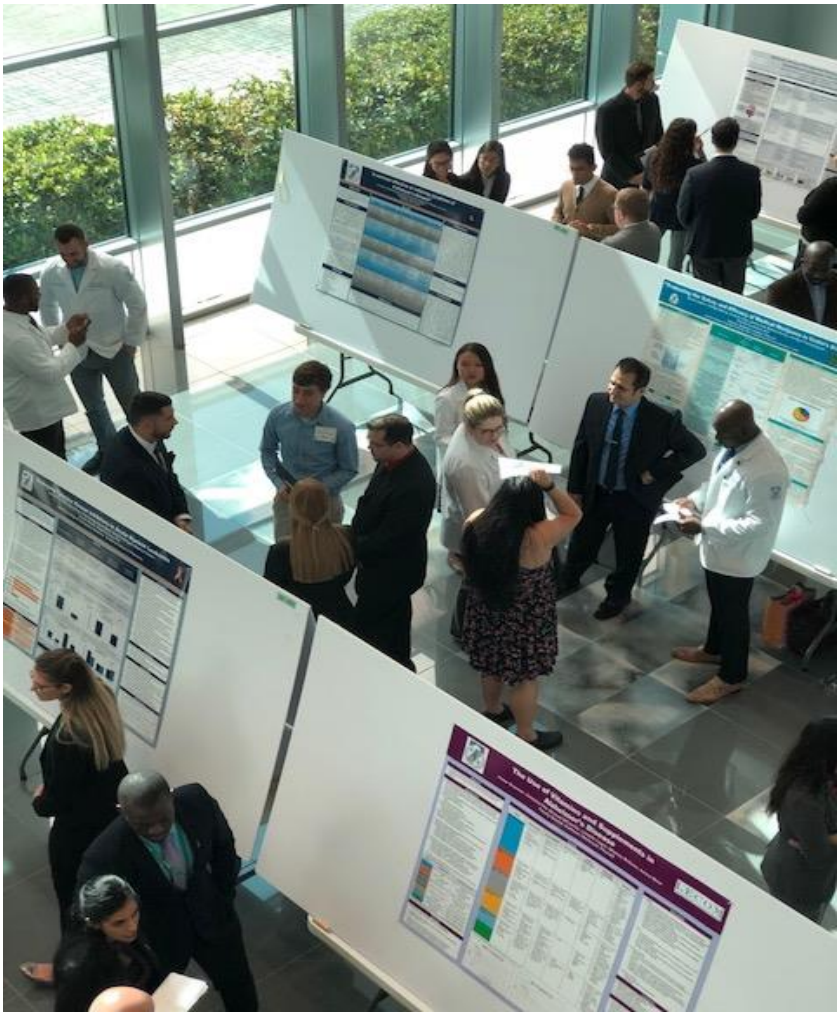
LECOM

LAKE ERIE COLLEGE OF OSTEOPATHIC MEDICINE

LECOM Interprofessional Research Day 2018
Thursday, April 19 2018



Research, A LECOM Journey of Discovery

LECOM
LAKE ERIE COLLEGE OF OSTEOPATHIC MEDICINE

LECOM Bradenton Interprofessional Research Day 2018

TABLE OF CONTENTS PAGE

Date: June 8, 2018
Ref: LECOM Bradenton Interprofessional Research Day 2018
After Action Report & Research Presented

Dear Dr. John Ferretti & Dr. Silvia Ferretti,

Our LECOM Bradenton Interprofessional Research Day 2018 event in Florida was held on Thursday, April 19, 2018. This campus-wide event show-cased LECOM's clear commitment to quality research. Our theme this year was **Research, A LECOM Journey of Discovery**. Our 4 core program research directors worked closely together to create a sense of collaboration and interprofessionalism representative of this important event. Dr. Thomas Yoon-Dental, Dr. James Gnarra-Medicine, Dr. Alejandro Vazquez-Pharmacy and Dr. Jonathan Coffman-Graduate Studies supported by their Deans, motivated and guided their students and faculty to fully engage in the joy of research discovery.

Based upon faculty and student input, it was suggested that a **Research Reference Course** be made available on the LECOM portal providing a "one-stop" location for references and support materials to facilitate research and poster presentations. **This pilot research reference course (WRK 9010) was designed, created and placed on the LECOM portal October 12, 2017 by our School of Graduate Studies design team** Teri Runo and Diana Hohman. As of today, there have been **1,260 unique visitors** with a total of 9,147 views averaging 7.26 views/visitors. The net impact of the pilot reference course, research director leadership and dean support was a record 104 research posters on display at the event with **311 LECOM students and 51 faculty researchers presenting their work**. This represents a 33% increase from our 2017 research day event. We also featured our first research posters presented virtually using *GoToMeeting©* for our Pharmacy students enrolled in LECOM's innovative distance education pathway, demonstrating our ability to fully engage our distance education students in research. Students completed over **1,250 research rubrics** to provide them experience in evaluating other's research. In honor of **National Osteopathic Recognition Week** the WEDU award winning documentary "*The Feminine Touch*" was played in both LECOM building cafes for students and faculty to enjoy during their lunch sessions.

The complete schedule of all Research Day events is included in the report packet. Highlights included 5 prominent key note speakers, Osteopathic Manipulation demonstrations, tours of the dental simulation lab and dental patient clinic and showcase of our Pharmacy compounding laboratory in action**.** The **dental clinic had 18 new patients** registered. **LECOM hosted an interprofessional panel discussion on the economic forecast of the health care industry** attended by 20 local, regional and nation health care industry leaders and facilitated by Andrew Bressler, CFA, MBA; one of the top healthcare economists in the nation. Many of our LECOM Deans participated in this discussion to better understand "*the business of healthcare*" and share an academic perspective of the issues. At the event we also raised $3,790 for our LECOM Student Scholarship Fund through table clinic sponsors and our door prize raffles. Our LECOM Board of Trustees were briefed on event outcomes at their April 24, 2018 meeting and it was decided to expand the research reference course to an all LECOM campuses, students and faculty for the academic year 1819 in keeping with our 1LECOM philosophy.

Thank you both for continuing to set a **clear vision for research excellence at LECOM** and fully incorporating both discovery and innovation into the core values of the organization. **Our research mission is being accomplished** and I would expect continued growth and success in the future.

Respectfully,
Tim Novak, DBA, MSA
Assistant Dean, LECOM School of Graduate Studies
LECOM Florida Research Day Coordinator

Research, a LECOM Journey of Discovery

LECOM Interprofessional Research Day 2018

Thursday, April 19 2018

Morning Session:	**7:00-8:00 am**	**Morning Groups Arrival on campus**
	8:00 – 9:45	Poster Presentations Session 1 Demonstrations Table Clinics
	9:45 – 10:00	Seating in all Lecture Halls
	10:00 – 11:00	Morning Research Day Lectures
Lunch Service	11:00 – 1:00	Cafes: *"The Feminine Touch"*
Afternoon Session:	**11:00 am – 12:00 pm**	**Afternoon Groups Arrival on campus**
	12:00 – 1:45 pm	Poster Presentations Session 2 Demonstrations Table Clinics
	1:45 – 2:00	Seating in all Lecture Halls
	2:00 – 3:00	Afternoon Research Day Lectures
Bradenton Joint Faculty Session: Andy Bressler, CFA, MBA Managing Director, Bank of America Merrill Lynch Global Research	3:00 – 3:15 3:15 - 4:15	Joint Faculty Session Seating Large Dental Lecture Hall The Financial State of U.S. Healthcare

Interprofessional Research Day 2018 Event Flow

1. All students are specifically assigned to arrive at either the Dental or Med/Pharm Building to participate in either a morning or afternoon session per the table on back of this schedule. Those students presenting research will be assigned a specific poster location in their program's building. Research posters will be mounted on the presentation boards provided no later than 6 pm April 18, 2018.
2. Upon arrival on research day, all students will pick-up a pre-printed grading rubric which will be used to organize and record their research day participation requirements to include: a) Completing one formal research poster evaluation b) attending at least one demonstration c) attending one Research Day Lecture.
3. The grading rubric with initials from each activity will be turned into their schools assigned box prior to leaving the building verifying credit is received for Research Day participation.
4. Students presenting research posters are not required to attend a demonstration or complete a poster evaluation, as they will be positioned at their posters for both the morning and afternoon poster sessions. Student research presenters are required to attend a lecture session to be verified on their grading rubric and turned-in. Research Presenters will also receive a $5 café lunch ticket to use that day only. All faculty members should plan to attend the joint faculty session in the large dental lecture hall at 3:15 pm.

Safety is always a principle priority at all LECOM campus events. Please be careful in the parking lots by driving slowly and defensively. If you see something, say something to a uniformed security officer.

Groups (School, YR, Last Name)	Morning or Afternoon	Building
D1 - last names A to L	Morning	Medical/Pharm
D2 - last names A to L	Morning	Dental
D3 – last names A to L	Morning	Dental
M1 – last names A to K	Morning	Dental
M2 – last names A to K	Morning	Medical/Pharm
P1 – last names A to K	Morning	Dental
P2 – last names A to K	Morning	Medical/Pharm
D1 – last names M to Z	Afternoon	Medical/Pharm
D2 - last names M to Z	Afternoon	Dental
D3 – last names M to Z	Afternoon	Dental
M1 – last names L to Z	Afternoon	Dental
M2 – last names L to Z	Afternoon	Medical/Pharm
P1 – last names L to Z	Afternoon	Dental
P2 – last names L to Z	Afternoon	Medical/Pharm

Interprofessional Lecture Series: Medical/Pharm Building
Morning 10:00-11:00 am and Afternoon 2:00-3:00 pm

Second Floor Lecture Hall 211 ***Personalized Medicine, Moffitt Cancer Center*** by Howard McLeod, PharmD

Second Floor Lecture Hall 212 **Musculoskeletal Disorder Reporting System (MSDR®) as an Opioid Addiction Deterrent** by Robert Bilkovski, MD, MBA

****

Interprofessional Lecture Series: Dental Building
Morning 10:00-11:00 am and Afternoon 2:00-3:00 pm

Second Floor Large Lecture Hall 2-2200 ***Understanding Physician Burnout in the Medical Training Pipeline: A Psycho-physiological Perspective*** by Marcos A. Sanchez-Gonzalez, MD, PhD

Second Floor Small Lecture Hall 2-2300 ***The Incorporation of Dental Research to Enhance Private Practice Clinical Outcomes*** by Michael Dorociak, DDS, MAGD

LECOM Bradenton Joint Faculty Session: 3:15-4:15 pm **Analysis of Trends, Forecasts, Legislative and Regulatory Impacts and Strategic Directions for the Healthcare Industry** by Andy Bressler, CFA, MBA Managing Director Bank of America Merrill Lynch Global Research

Tours, demonstrations and table clinics: Osteopathic manipulative medicine, dental simulation lab, pharmacy compounding lab, general research lab, 3rd Year dental clinics and table clinics.

Awards: Research Poster Cash Prize Winners will be announced, scheduled and presented by each program Dean over the next two weeks. **Congratulations to all our researchers and good luck!**

Andy Bressler, CFA
Managing Director
Bank of America Merrill Lynch Global Research

Mr. Bressler joined Bank of America in 1995. He provides analysis of trends, forecasts, legislative and regulatory impacts, and strategic directions for the healthcare industry. He works with both the fixed income and equity healthcare research teams, as well as the Bank's healthcare investment banking team.

Before joining Bank of America, Mr. Bressler was director for policy and research at the National Institute for Health Care Management, where he focused on healthcare legislation and healthcare market trends.

Prior to helping form the National Institute for Health Care Management, Mr. Bressler was an associate in the Strategy Practice of Mercer Management Consulting.

Mr. Bressler received an MBA, from the University of North Carolina–Chapel Hill. He received an M.S. and a B.S. in Engineering from the University of Michigan.

LECOM Bradenton
JOINT FACULTY SESSION:

Seating: 3:00 pm – 3:15 pm

Presentation 3:15pm – 4:15 pm

Large Dental Lecture Hall 2-2200

Dr. Howard McLeod Director of Personalized Medicine Institute at the Moffitt Cancer Center, University of South Florida

Presentation: *Precision or Personalized: let's call it medicine*

Dr. Howard McLeod is Medical Director of the DeBartolo Family Personalized Medicine Institute at the Moffitt Cancer Center. He is chair of the Department of Individualized Cancer Medicine and a State of Florida Endowed Chair in Cancer Research. He is also a Senior Member of the Division of Population Sciences and Professor at the University of South Florida. Dr. McLeod is chair of the NHGRI eMERGE network external scientific panel and a recent member of the FDA committee on Clinical Pharmacology and the NIH Human Genome Advisory Council. Since 2002, Dr. McLeod has been vice chair for Pharmacogenomics for the major NCI clinical trials group, overseeing the largest oncology pharmacogenomics portfolio in the world. Dr. McLeod is also a 1000 talent scholar of China and a Professor at Central South University in Changsha, China. Howard has published over 530 peer reviewed papers on pharmacogenomics, applied therapeutics, or clinical pharmacology and continues to work to advance individualized medicine.

Second Floor Lecture Hall 211

Morning Session

Seating: 9:45-10:00 am

Presentation: 10:00-11:00 am

Afternoon Session

Seating: 1:45-2:00 pm

Presentation: 2:00-3:00 pm

Marcos Sanchez-Gonzalez, MD, PhD

Understanding Physician Burnout in the Medical Training Pipeline: A Psycho-physiological Perspective

Dr. Sanchez-Gonzalez is currently a graduate medical education administrator as well as the Director of the Clinical Research and Continuing Medical Education programs at one of the largest teaching hospitals for Osteopathic Physicians in the nation. He has developed a program aimed at educating Medical Residents in research as part of their graduate medical education experience while mentoring over 300 residents in over 30 different specialties. He leads a group responsible of conceptualizing, designing, performing and publishing scholarly work with a yearly productivity of over 175 scientific abstracts, papers and presentations. He has also conducted research, in both Universities and Hospital settings, on areas revolving quality improvement, patients' outcomes, and physician burnout among others. In addition, he has trained Postdoctoral Fellows and graduate students in their research projects, theses and dissertations. As an Investigator Dr. Sanchez-Gonzalez is a Junior Investigator part of the National Institutes of Health (NIH) Minority Programs to Increase Diversity Among Individuals Engaged in Health-Related Research (PRIDE-CGE) and grant reviewer. He has interest in Behavioral Cardiovascular Medicine with the overarching goal of understanding how psychological status and effective/psychiatric risk factors influence cardiac autonomic and hemodynamic modulation.

Second Floor Large Dental Lecture Hall 2-2200

Morning Session

Seating: 9:45-10:00 am

Presentation: 10:00-11:00 am

Afternoon Session

Seating: 1:45-2:00 pm

Presentation: 2:00-3:00 pm

The Incorporation of Dental Research to Enhance Private Practice Clinical Outcomes

Michael Dorociak, DDS, MAG

Dr. Michael R. Dorociak is a Project Director, Evaluator, and Chairman of the Board for Gordon J. Christensen Clinicians Report, the prestigious non-profit dental product evaluation group. He mentors and instructs alongside Dr. Gordon Christensen in his courses in Provo, Utah and presents some of the renowned Dentistry Update courses across the country. Dr. Dorociak is a graduate of the University of Notre Dame and attended dental school at the University of Illinois at Chicago. He completed a general practice residency in Miami, Florida. He has a Mastership in the Academy of General Dentistry. Dr. Dorociak is a courtesy Clinical Associate Professor at the University of Florid and maintains a full time private practice in Sarasota Florida.

Second Floor Dental Lecture Hall 2-2300

Morning Session

Seating: 9:45-10:00 am

Presentation: 10:00-11:00 am

Afternoon Session

Seating: 1:45-2:00 pm

Presentation: 2:00-3:00 pm

Robert Bilkovski, MD, MBA

Chief Executive Officer, MedAppraise Inc.

Dr. Bilkovski has broad management experience, having served in leadership roles in four Fortune 500 companies overseeing medical affairs and clinical development in pharmaceutical and medical device companies. During his tenure at GE Healthcare where he served as the chief medical officer for the Lifecare Solutions business brought innovative medical technology to drive healthcare improvements in the fields of critical care, anesthesiology and clinical decision support. Dr. Bilkovski designed the first study to be approved by the FDA that utilized a closed-loop anesthesia drug delivery system in the US. While at Hospira, Dr. Bilkovski led their proprietary pharmaceuticals drug development and drug device platform development and was a silver medalist at their Innovation Olympics for the design of a sepsis software surveillance platform implemented in hospital emergency rooms. While at Walgreens, Dr. Bilkovski was instrumental in designing clinical programs for the Take Care Health System that provided on-site health and occupational therapy services to many Fortune 500 companies.

Dr. Bilkovski received his undergraduate degree in biochemistry with a focus in genetic engineering at McMaster University in Hamilton, Ontario, Canada. He completed his medical training at Rosalind Franklin University/The Chicago Medical School and subsequently pursued specialization in emergency medicine, where he completed residency training at Henry Ford Hospital in Detroit and served as Chief Resident. Dr. Bilkovski earned his MBA at the University of Notre Dame as part of his transition from a clinical career into a medical industry career.

Musculoskeletal Disorder Reporting System (MSDR®) as an Opioid Addiction Deterrent

Second Floor Lecture Hall 212

Morning Session

Seating: 9:45-10:00 am
Presentation: 10:00-11:00 am

Afternoon Session

Seating: 1:45-2:00 pm
Presentation: 2:00-3:00 pm

Interprofessional Community Healthcare Leadership Panel Discussion

The Economics of the US Healthcare System in 2018 and Beyond

Bank of America

Healthcare Roundtable with Andy Bressler

Join us as we gather local healthcare influencers around the table with Andy Bressler, CFA, Managing Director, Bank of America Merrill Lynch Global Research, as he presents on key issues impacting the healthcare industry. After his presentation we will open it up for questions and roundtable discussion.

What: Healthcare Roundtable
Date: Thursday, April 19
Time: 1:00 p.m. - 2:30 p.m.
Location: LECOM School of Dental Medicine - *2nd Floor Dental Board Room*
4800 Lakewood Ranch Blvd, Bradenton, Florida 34211
Day of event contact: Tim Novak, Assistant Dean - LECOM, 941.374.5299

Please RSVP by 4/13 to: Jamie.Kahns@bankofamerica.com

Looking forward to the conversation,

LECOM Bradenton Interprofessional Research Day 2018.

Research, a LECOM Journey of Discovery

POSTER PRESENTATIONS:

College of Medicine:

COM 401 – COM 431

LAKE ERIE COLLEGE OF OSTEOPATHIC MEDICINE

College of Medicine Posters

NUMBER:	**COM 401**	
TITLE	**A Case Report on Parkinson's Disease**	
MENTOR	Frank Liuzzi	fliuzzi@lecom.edu
STUDENTS/	Jayashree Gandhi Carly Weber Ambika Ramesh Minh Thu Nguyen	
ABSTRACT	This is a postmortem case report on a patient diagnosed with Parkinson's Disease.	

NUMBER:	**COM 402**	
TITLE	**Brachial Artery Anomaly**	
MENTOR	Frank Liuzzi	fliuzzi@lecom.edu
STUDENTS/	Raphael Itzkowitz David Pozo Chris White	
ABSTRACT	We have dissected a specific brachial artery anomaly we discovered during our medical school's anatomy lab. We described the clinical significance of exhibiting such an abnormal brachial artery branching arrangement, as well as explained the embryological malformation due to improper involution along the 7th cervical intersegmental artery, based on a number of research citations. Lastly, we will compare our brachial artery anomaly with other examples found in the literature.	

College of Medicine Posters

NUMBER:	**COM 403**	
TITLE	**Seborrheic Keratosis: Subtotal Skin Involvement with Associated Lymphadenopathy, A Case Report**	
MENTOR	Aleksandr Sinelnikov	asinelnikov@lecom.edu
STUDENTS/	Hannah Suddreth Angela Bott Timothy Marsh	
ABSTRACT	A 93-year-old Caucasian female presented with seborrheic keratosis with extensive skin involvement and associated lymphadenopathy. Skin and organ biopsies were obtained for gross, histologic, and genetic review. The lesions revealed non-specific histological changes within the spleen, liver, bone marrow, and potentially lymph nodes. The predominant lesion type was most consistent with acanthotic seborrheic keratosis; however, genetic testing was negative for HPV. We suspect that the extensive involvement of the skin, along with non-specific changes to the reticuloendothelial system and lymphadenopathy are consistent with immune involvement that reflects a state of immunodeficiency. We speculate from the information available that this case may represent a connection between diffuse seborrheic keratosis and involvement of the reticuloendothelial system that departs from classic presentation, with implications for further genetic study.	

NUMBER:	**COM 404**	
TITLE	**Observation of Angular Deformity of a Straight Line**	
MENTOR	Paul Danahy	
STUDENTS/ MEDICAL	Levi Harris Brad Tishman	
ABSTRACT	This simple study was designed to assess the human eye perception of a line as either straight or non-straight using bent lines in a survey format. The survey was created using 20 questions made from a random sample of 49 possible deviated lines with 0.5° degree increments from 0°-6°, 10°, and 30°. The survey showed that all 109 respondents could determine that an angle above 2.5° was non-straight. Below this, the accuracy of the respondents depended directly on the degree of deviation with the lowest angle (0.5°) having 29.36% and the highest angle (2.5°) having 98.62% of the respondents determining that the line was non-straight. Between 1° and 1.5° of deviation is where the largest jump occurs (from 46.79% to 86.24%). These findings suggest that the normal human eye can accurately distinguish angles of 2.5° and above from straight lines 100% of the time, but has poorer analysis at lower angles.	

College of Medicine Posters

NUMBER:	**COM 405**	
TITLE	**Middle Cranial Fossa Meningioma**	
MENTOR	Frank Liuzzi	fliuzzi@lecom.edu
STUDENTS/ MEDICAL	Kasey Coutinho Amber Gordon Caroline Laferia Brittany Godfrey Sara Lohbauer	
ABSTRACT	Our group is presenting on a sphenoid wing meningioma found in a 92 y.o. female donor and describing the different gross and microscopic features of this tumor.	

NUMBER:	**COM 406**	
TITLE	**Orbital Meningioma**	
MENTOR	Frank Liuzzi	fliuzzi@lecom.edu
STUDENTS/ MEDICAL	Matthew Von Zimmerman Miguel Caldera Rachel Resnick Brandon Llechukwu Nick Bellaciccio,	
ABSTRACT	This is a case report of a orbit invading meningioma discovered during a routine cadaver dissection.	

College of Medicine Posters

NUMBER:	**COM 407**	
TITLE	**CYP2C19-guided voriconazole prophylaxis in neutropenic AML patients.**	
MENTOR	James Hicks	
STUDENTS/ MEDICAL	Kevin Shahbazian	
ABSTRACT	Background: Acute myeloid leukemia (AML) patients who have prolonged neutropenia are at increased risk of morbidity and mortality due to invasive fungal infections. Voriconazole (VCZ), an effective antifungal prophylactic, is metabolized by the polymorphic CYP2C19 enzyme. Approximately 25% of individuals are genetically predicted to be CYP2C19 rapid metabolizers, thus at increased risk of breakthrough fungal infections due to low VCZ concentrations. We implemented a quality improvement pilot utilizing CYP2C19 genotype to optimize prophylactic VCZ dosing. Methods: AML patients with prolonged neutropenia are eligible for CYP2C19 genotyping (Luminex xTAG CYP2C19 Kit v3). Phenotypes are assigned per Clinical Pharmacogenetics Implementation Consortium guidelines. CYP2C19-guided recommendations for our quality improvement pilot are as follows: avoidance of VCZ in ultrarapid metabolizers, VCZ 300 mg twice daily (BID) for rapid metabolizers, and VCZ 200 mg BID for all other phenotypes. Therapeutic drug monitoring (TDM) is performed at the discretion of the medical team (goal trough concentration of 1-5.5 mcg/ml). Results: To date, 193 AML patients have undergone CYP2C19 genotyping; 3 (1.6%) ultrarapid, 50 (25.9%) rapid, 78 (40.4%) normal, 55 (28.5%) intermediate, and 7 (3.6%) poor metabolizers were observed. 154 patients (79.8%) received VCZ for prophylaxis, 11 (5.7%) for treatment, and 28 (14.5%) did not receive VCZ. Of the 154 patients receiving prophylactic VCZ, 137 (89%) were dosed per CYP2C19-guided recommendations. Pre-intervention (VCZ 200 mg BID) and post-intervention (VCZ 300 mg BID) VCZ trough concentrations were compared. Only 36.4% (4/11) of CYP2C19 rapid metabolizers receiving VCZ 200 mg BID achieved the goal trough concentration, whereas 75% (21/28) of rapid metabolizers receiving VCZ 300 mg BID achieved the goal trough concentration. CYP2C19-guided VCZ dosing resulted in trough concentrations in the target range for 70.1% (47/67) of all patients. Conclusions: Implementation of CYP2C19 genotyping to guide VCZ prophylactic dosing is feasible, with 70.1% of all patients having a VCZ goal trough concentration. Future analysis will determine if CYP2C19-guided VCZ dosing prevents breakthrough fungal infections.	

College of Medicine Posters

NUMBER:	**COM 408**	
TITLE	**Effect of osteopathic manipulative treatments on the pulmonary function of adults with chronic asthma in comparison to standard pulmonary rehabilitation techniques**	
MENTOR	Thomas Quinn Santiago Lorenzo	
STUDENTS/ MEDICAL	Lauren Rybolt Sean McManus Danielle Lang Carrie Schoonover	
ABSTRACT	Osteopathic manipulative treatment (OMT) is applied by many osteopathic physicians either alone or in combination with conventional forms of medicine to achieve improved patient outcomes. The purpose of this study is to identify the effect of OMT on the pulmonary function of adults with chronic asthma in comparison to standard pulmonary rehabilitation (SPR) techniques. Previous studies through LECOM Bradenton's Student Research Association aimed to determine the effect of a single or repeated series of OMT in comparison to SPR techniques on the pulmonary function of healthy individuals. This project seeks to bridge the gap between applying these techniques in healthy individuals and their efficacy in those with a pulmonary pathology. The osteopathic techniques of thoracic lymphatic pump and rib raising were compared against the SPR techniques of nebulized saline and pursed lip breathing, while a placebo treatment of light touch served as a negative control. Four participants with chronic asthma were recruited for the study and served as their own controls by receiving each of the five treatments. A randomized order of one treatment per week was provided over the course of five consecutive weeks. Lung function was assessed via spirometry before and after each treatment utilizing measurements of forced vital capacity (FVC), forced expiratory volume in one second (FEV1), and the ratio of FEV1/FVC. Post-treatment surveys were also employed to evaluate subjective changes in breathing on a scale from -2 to +2. Overall, the data suggested no significant correlation between the specific OMT treatments and increased pulmonary function as measured by FVC, FEV1, and the ratio of FEV1/FVC. Future applications of this study could be expanded to include a greater number of participants with asthma, or explore the effect of OMT on different subject groupings such as those with a smoking history or various exercise habits.	

College of Medicine Posters

NUMBER:	**COM 409**	
TITLE	**"A Sleep from Which You Do Not Wake": A rare case of Artery of Percheron Infarction**	
MENTOR	none	
STUDENTS/ MEDICAL	Kayla Cox Shervin Sani Alexis Serrano Kevin Donohue Christopher Halleman	
ABSTRACT	This is a case presentation of a rare anatomic variant known as the Artery of Percheron (AOP).The AOP is a unique anatomic variant that occurs when a single artery arising from the posterior cerebral artery (PCA) bifurcates to supply portions of the thalamus and midbrain. AOP occlusion leads to a rare case of bilateral paramedian thalamic infarction with or without midbrain involvement. Bilateral paramedian thalamic infarcts make up only 0.1% to 2% of ischemic strokes, however early recognition and diagnosis of this condition is essential for timely management.	

NUMBER:	**COM 410**	
TITLE	**Novel PPARγ binding peptides: an in silico analysis**	
MENTOR	Mark Best Kersten Schroeder	
STUDENTS/ MEDICAL	Nikolas Parisis	
ABSTRACT	Introduction: Western lifestyle with a high intake of simple sugars, saturated fat, and physical inactivity promotes the devastating global epidemics we are all too familiar with: type 2 diabetes, obesity, and metabolic syndrome. The thiazolidinediones (TZDs), rosiglitazone and pioglitazone, activate the peroxisome proliferator-activated receptor gamma (PPARγ) and are used in the treatment of type 2 diabetes mellitus. PPARs form heterodimers with the retinoid X receptor to bind DNA and regulate gene expression via their action as transcription factors. PPARγ is expressed primarily in adipose tissue while PPARα is the major form in the liver. Beneficial effects are mediated via transcriptional induction of adiponectin in adipose tissue. Besides glucose and lipid metabolism, PPARγ plays a critical role in adipogenesis, atherogenesis, inflammation, and immunity. The current TZDs, while effective at reducing insulin resistance and improving glycemic control leave much to be desired secondary to complications of heart failure, bone loss, and bladder cancer. Our	

	objective is to contribute to the PPARγ ligand literature, in order to identify agonists that maximize therapeutic potential and mitigate adverse reactions. Methods Pioglitazone was chosen as the standard over rosiglitazone because head-to-head clinical trials demonstrate a consistent and favorable impact of pioglitazone compared to rosiglitazone on serum lipids, lipoproteins, risk of death, myocardial infarction, and stroke. Computational molecular docking analysis was performed using Python Prescription, AutoDock Vina. This molecular docking program simulated receptor-ligand complexes in order to predict binding affinities and bound conformations. The crystallographic structure of PPARγ was downloaded from the Protein Data Bank (PDB ID: 3DZU). Avogadro, a chemical builder and molecule editor, was used to build peptides in silico. We modeled our short peptides after drugs and natural endogenous PPARγ agonists or antagonists. Our goal was to mimic already known PPARγ binders using natural amino acids. MacPyMol, a molecular visualization program, was used to identify the biochemical interactions occurring between PPARγ residues and our peptides. Results An 8-residue tryptophan (W) chain in an alpha helix secondary structure (8Ws) showed the greatest binding affinity of -11.4 kcal/mol with PPARγ compared to the standard pioglitazone at -8.5 kcal/mol. We had binding affinities above pioglitazone with nine tryptophan peptides between five to twelve residues in length. Visualization revealed significant hydrophobic interactions between PPARγ pockets and the peptide ligands presented here. Conclusion: The hydrophobic, tryptophan rich peptides containing five to twelve amino acids in length may be used as PPARγ modulators to treat type 2 diabetes mellitus. A set of nine peptide ligands with binding affinities greater than or equal to pioglitazone are presented here. Future in vivo and in vitro studies are needed to confirm our results and determine agonist or antagonist effects.

College of Medicine Posters

NUMBER:	**COM 411**	
TITLE	**Case presentation of multiple simple renal cysts**	
MENTOR	Aleksandr Sinelnikov	
STUDENTS/ MEDICAL	Brooke Anderson Kassandra Serre Matthew Goldschmidt Jessica Cooper Danis Lester Jean-Claude Guidi	
ABSTRACT	Renal cysts are sacs of liquid or semisolid fluid that form in the kidneys. While some types of inherited and acquired cystic kidney diseases can perpetuate chronic kidney failure, more often cysts are simple and cause no apparent symptoms. Simple cysts are thin walled sacs filled with water-like fluid. They are common in older people with the incidence growing to 50% by age 50. Because these simple cysts often present asymptomatic they commonly go undiagnosed, or are incidental findings on imaging studies. Understanding the pathogenesis of the most common inherited cystic kidney disease, autosomal dominant polycystic kidney disease (ADPKD) has advanced to therapeutic clinical trials (3). More research, however, is required to fully understand the pathogenesis of simple renal cysts. In this paper we describe a case of simple cysts with extra parenchymal involvement and splenomegaly, and offer mechanisms for the cystic development and for increased detection of simple renal cysts in the population.	

NUMBER:	**COM 412**	
TITLE		
MENTOR		
STUDENTS/ MEDICAL		
ABSTRACT		

College of Medicine Posters

NUMBER:	**COM 413**	
TITLE	**Can Genetics, Histology, and Mitotic Rate Predict Prognosis of Pancreatic Cancer?**	
MENTOR	Aleksandr Sinelnikov	
STUDENTS/ MEDICAL	Michelle Kaminsky Taylor Adams	
ABSTRACT	The purpose of our project was to find out whether or not genetics, histological features, or the mitotic rates could predict the aggressiveness, and therefore determine the prognosis, of Acinar Cell Carcinoma (ACC) and Intraductal Invasive Papillary Mucinous Adenocarcinoma of the pancreas. The histological slides were provided from Dr. Sinelnikov's personal collection. The data was collected from multiple peer reviewed journals about each cancer. Several studies have found that overall, ACC has a better prognosis than ductal adenocarcinoma at all stages; the 5-year survival of 17.2% vs 2.8% of ductal adenocarcinoma at the metastatic state. In regard to ACC, some of the poor prognostic features included: pain or fixation; gross invasion (including vascular and perineural infiltration); microscopic features demonstrating desmoplastic properties, pleomorphism, or increased mitotic activity; and lack of ability to excise at initial treatment. There seemed to be an overall consensus that neither morphologic pattern nor composition was predictive of prognosis. Tumors that showed more than 50% of p53 positive cells also tended to have a worse survival rate than those tumors lacking or expressing p53 in <50% of neoplastic cells. Comparatively the most important prognostic factor of Intraductal Invasive Papillary Mucinous Adenocarcinoma appeared to be lymph node (LN) metastases as those with positive regional LN biopsy had a mean survival of 16 months. On the other hand, those with node negative disease had a mean survival of 78 months which is almost 5xs greater than the survival of node positive disease. CA19-9>80 also contributed to an increased risk of death. Loss of Smad4 was a very significant indicator that the tumor was an invasive carcinoma, 3/8 with carcinoma vs. 0/10 without. Greater loss of p16INK4a in intraductal papillary mucinous tumors vs carcinoma, favored a better prognosis. The colloid type was associated with a much more favorable outcome, and generally expressed MUC2 and CDX2. Tubular type generally expresses MUC1, but not MUC2 and CDX2 and was indicative of worse outcome. The two differences in survival depending on histological subtype of this type of cancer demonstrates the importance of histology in predicting prognosis of Intraductal Invasive Papillary Mucinous Adenocarcinoma. This characteristic can be compared to ACC in which neither the morphological pattern nor composition was predictive of prognosis.	

NUMBER:	**COM 414**

College of Medicine Posters

TITLE	**A case report of an unusual comminuted Capitate fracture with displacement**	
MENTOR	Paul Danahy	
STUDENTS/ MEDICAL	Logan Bernhardt Eric Taris Dylan Brech	
ABSTRACT	An unusual comminuted displaced Carpal Capitate fracture with displacement and instability which required open reduction and internal fixation. A one year follow up study.	

NUMBER:	**COM 415**	
TITLE	**Alterations of the Angioarchitecture of the Heart with Pacemaker Placement**	
MENTOR	Aleksandr Sinelnikov	
STUDENTS/ MEDICAL	Tiffany Bridges Benjamin Cooper Matthew Williams	
ABSTRACT	Studies have shown that pacemaker implantation can induce a chronic inflammatory response involving leukocytes, giant cells, histiocytes, macrophages, fibrous sheaths of hyaline and proliferative connective tissue of varying thickness, and in some cases necrotic muscle fibers (Dvorak et al., 2012). Such inflammatory responses are thought to elicit the release of certain growth factors to the site of inflammation. These growth factors, such as vascular endothelial growth factor (VEGF) and recently suggested Decoy receptor 3 (DcR3), promote angiogenesis which may alter the angioarchitecture of the heart (Yan et al., 2017). In this study, cardiac tissues from five cadavers were analyzed for capillary diameter, SP of interstitial edema, SP of nuclei, SP of CMC's and relative volume of parenchyma, necrosis, hemorrhage, lipomatosis, fibrosis, inflammatory cells, and the presence of arteriolovenular and arteriolo-arteriolar anastomoses.	

College of Medicine Posters

NUMBER:	**COM 416**	
TITLE	**The Case of a Severe Leg Wound in Rural Nepal**	
MENTOR	Oren Rosenthal	
STUDENTS/ MEDICAL	William Billari Adam Wolberg	
ABSTRACT	Wound infections are a common cause for morbidity within hospitals on a global scale. A patient presenting with necrotic lower extremity wounds in Nepal illustrated the impact that proper hygiene can have on one's hospital course. Despite limitations set by the infrastructure within the country, the medical staff were able to perform procedures to prevent further spread of necrosis, potentially saving the patient's leg. Amidst the striking differences between Nepal and the United States, this case showed that an adequate level of care was still attainable.	

NUMBER:	**COM 417**	
TITLE	**A Comparison of the Effects of Alzheimer's Disease to Parkinson's Disease on Hippocampus and Frontal Cortex Histology**	
MENTOR	Frank Liuzzi	
STUDENTS/ MEDICAL	Riddhi Ramanlal Gizem Reyhanoglu Mitul Patel Alan Wong	
ABSTRACT	Alzheimer's disease (AD) is a progressive brain disease that causes memory and cognitive function impairment. In this study, we compared H and E stained sections of frontal cortex and hippocampus from two cadavers. One was a 92-year-old female diagnosed with AD and dementia, while the other was an 82-year-old male diagnosed with Parkinson's disease (PD) and dementia. The hallmark histological features of AD are neuritic plaques and neurofibrillary tangles. Lewy bodies, which are characteristic of a number of neurodegenerative diseases, can also be found in AD. In the frontal cortex of the 92-year-old female with AD, neuritic plaques and Lewy bodies were observed, but their presence was not widespread throughout the cortex. In the same cadaver, multiple pyknotic neuronal nuclei were observed in the pyramidal cell layer of the hippocampus. Additionally, large amounts of lipofuscin accumulation were noted, although this could be attributed to the individual's advanced age. By contrast, similar changes were not evident in the cortex or hippocampus of the 82-year-old male diagnosed with PD and dementia. Dementia occurs in approximately 50% of Parkinson's patients and approximately 60-80% of Alzheimer's patients. The cognitive decline associated with AD patients is often more severe than that in PD patients, possibly explaining the apparent absence of pathological changes in the PD cortex and hippocampus.	
NUMBER:	**COM 418**	

College of Medicine Posters

TITLE	**Epsom Salt induced Acute Liver Failure: A Case Report**	
MENTOR	Michael Herman	
STUDENTS/ MEDICAL	Michael Foss	
ABSTRACT	Introduction Acute liver failure is a rare entity that often affects young adults with no prior history of liver disease. Globally it is most often caused by viruses such as Hepatitis A, B & E. However in the United States the disorder is usually drug related; with acetaminophen related hepatotoxicity being the most commonly cited cause. The sudden loss of hepatic function is accompanied by the appearance of jaundice as well as dramatic elevations in the serum transaminase & bilirubin values. Despite this disease entity being easily identified on physical exam, there are many times where the etiology remains unknown. In these instances the differential includes novel viral infections, as well as toxin exposure. These hepatotoxins are many in number have yet to be fully characterized. We propose that one such hepatotoxin is magnesium sulfate; more commonly known as epsom salts. Here we detail a case of an elderly female who presented with fulminant liver failure that was induced by epsom salt ingestion. Case Presentation 61yo caucasian female was admitted to the hospital with acute liver failure. Her presenting complaints were progressive weakness, orthostasis, abdominal pain and nausea for a week. She had a hepatocellular injury pattern with an AST 1100, ALT 1285, TB 2.2 and AP 208. Synthetic functional remained intact and there was no encephalopathy. Acetaminophen and salicylate levels were negative. Further work-up was notable for negative autoimmune, IgG4, viral (A,E,B,C, cytomegalovirus, Epstein-Barr, HSV), and inherited liver disorders. She denied any sick contacts, recent travel, or new medications other than completing an Epsom Salt Cleanse to treat her constipation one week prior to admission. Liver biopsy was notable for acute hepatitis, grade 3, consistent with drug toxicity. She was treated with supportive care to include IV hydration and close monitoring. Her liver enzymes all returned to normal in 3 weeks with no subsequent sequelae. Discussion Acute liver failure and injury due to Epsom salt naturopathy has been reported in the literature. Patients typically present with symptoms related to both the liver injury itself and from issues related to hypermagnesemia to include lethargy, nausea, hypotension and muscle weakness. There is no specific treatment other than supportive care to include aggressive hydration and close monitoring to ensure liver reserves are adequate for recovery. This case illustrates the importance of obtaining detailed medication, herbal and naturopathy exposures in patients who present with acute liver failure.	
NUMBER:	**COM 419**	

College of Medicine Posters

TITLE	**How can physicians influence behavior modification to improve patient compliance and diabetic outcomes?**	
MENTOR	Teresa Pettersen	
STUDENTS/ MEDICAL	Saarah Chaudhri Dana Penfold Mary Michael Dana Dandinashira Shikha Walia	
ABSTRACT	Each year, 1.5 million Americans are diagnosed with diabetes. With various factors contributing to the prevalence and individual prognosis, the mainstay treatment remains medications and standard lifestyle changes While the final outcome in the management of type II diabetes is reliant on the patient's decision and initiative, the physician constitutes a major role in whether a patient will be compliant in these changes. The goal of this study is to explore the results recorded, discuss the correlation regarding patient compliance to lifestyle change, and strategize new approaches that future physicians may use to promote improved, prioritized management of their patients' diabetes. In this study, 96 diabetic patients were surveyed anonymously regarding the management of their diabetes; 22 questions were asked. 62.9% of participants were found to be aware that they will become insulin dependent if lifestyle changes are not enough, however 38.9% of participants indicated that management of their diabetes is not a daily priority. 41.6% of the participants also indicated that they find it hard to avoid various types of junk food. These relationships suggest there is a gap in physician-patient communication that could be affecting the overall management. Therefore, it is crucial for physicians to seek understanding of patient behavior and influence healthy behavior modification. Placing an emphasis on empathy, motivational interviewing, and interprofessionalism, beginning in medical school, will allow future and current physicians to develop custom treatment plans that will promote a positive direction towards compliance as well as long-term health of the patient.	

College of Medicine Posters

NUMBER:	**COM 420**	
TITLE	"**Biochemical Separation of Bodily Fluid Samples From Cancer Patients**"	
MENTOR	Thomas Quinn	
STUDENTS/ MEDICAL	Shivan Ramsamooj Khulan Sarmiento Jennifer Lee Randy Leung Rehan Muhammad	
ABSTRACT	"Identifying biomarkers for early cancer detection has made large strides alongside technological advances in molecular identification. Classes of identified biomarkers for cancer include proteins, nucleic acids, metabolites, lipids, and volatile organic compounds. For decades, dogs have demonstrated the ability to detect human disease conditions such as epileptic seizures, low blood sugar, and cancer through their sense of smell. They are able to accurately detect cancer in bodily fluids, breath, and on bandages with very high sensitivity and, in some cases, long prior to the detection by current medical techniques. It remains unknown precisely what the dogs are detecting in cancers, both generally and in specific cancers. It is likely to be a complex mixture of several different classes of biomarkers, which would require multiple analytical techniques to identify. The rationale for this work was to isolate cancer biomarkers into smaller, less complex samples and reduce the number of samples requiring downstream analysis. Using two different bodily fluids from cancer patients, we sought to separate the raw samples into two groups: subfractions prompting a canine “alert” response to cancer odorants, and subfractions not eliciting an “alert” response. We used three well-established basic biochemical separation strategies, alone or in combination. 156 of the samples we submitted for canine scent detection testing are presented here. As a positive control, we submitted tubes of N1-acetyl spermidine (NAS) at varied concentrations. Polyamines are a family of molecules that are well-documented biomarkers of cancer. The dogs alerted to the NAS test samples, though these results are preliminary. Many of the other results from this study are considered proprietary."	

College of Medicine Posters

NUMBER:	**COM 421**	
TITLE	**Osteopathic Manipulative Treatment as taught at the American School of Osteopathy 1893-1895**	
MENTOR	Thomas Quinn	
STUDENTS/ MEDICAL	Victoria Cocozza Danielle Lang Nisha Ramchander	
ABSTRACT	"Osteopathy the New Science of Healing" by Elmer Barber, D.O. outlines the osteopathic manipulative treatments taught at the American School of Osteopathy in 1893-1895. His book was published in 1896 and is the earliest known book on osteopathy. Helen and Elmer Barber used their class notes from the American School of Osteopathy to write the book. Our historical research focused on the goal of organizing "Osteopathy the New Science of Healing" into a pamphlet for historical reference. All osteopathic manipulative treatments were taken directly from the book. We aim to highlight the treatments exactly as they were taught at the first school of osteopathic medicine. Three treatments that were taught in 1893-1895 have similar features to osteopathic manipulative treatments performed today. "Treatment of Headache," "Treatment for Hiccough," and "Treatment of Backache" will be explained in detail in our poster and will be demonstrated in person. By sharing these osteopathic manipulative treatments, it reveals how osteopathic medicine has evolved over the years. Additionally, we want to acknowledge Helen Barber as one of the co-authors, despite her name not being listed in the book. During the late 1800's, women were not recognized for their efforts as authors, especially not in medicine. In conclusion, "Osteopathy the New Science of Healing" provides further insight into the history of osteopathic medicine while also exemplifying the struggles of women in medicine in the late 1800's.	

College of Medicine Posters

NUMBER:	**COM 422**	
TITLE	**Patient Concern over long-term effect of Type II Diabetes Mellitus and the prioritizing of lifestyle changes to achieve an ideal health outcome**	
MENTOR	Teresa Pettersen	
STUDENTS/ MEDICAL	Stephanie Breval Sandra Cabezas Victoria Carvajal Gizem Reyhanoglu	
ABSTRACT	Type II diabetes mellitus is a worldwide problem projected to increase from the 366 million cases recorded in 2011 to 552 million by 2030. The size of the current and projected patient population provides room for innovation and improvement of how type II diabetic patients are being managed. This study aims to better understand the diabetic population and how they perceive their illness from an osteopathic perspective. Individuals living with type II diabetes were surveyed on critical issues regarding their lifestyle and how they perceive their diagnosis. This included their knowledge on the etiology of their disease and the maintenance of their condition with factors such as diet and physical activities. In this meta-analysis, there was a strong correlation between patient concern regarding short-term care of their type II diabetes and their willingness to prioritize lifestyle changes to achieve a more ideal long-term health outcome. This study hopes to encourage patients to have a more active role in treatment of their condition. Although type II diabetes has the potential to be a chronic illness if not well-managed, physicians should motivate patients and encourage a hopeful outlook to prevent comorbidities. Thus, osteopathic physicians can play a role in implementing a holistic outlook for professionals to engage in interprofessional collaboration, encourage patients to utilize their autonomy, and motivate active participation in their health outcome.	

College of Medicine Posters

NUMBER:	**COM 423**	
TITLE	**The Shrinking Microbiome and Its Apocalyptic Effects on the Genesis of Allergies**	
MENTOR	James Gnarra	
STUDENTS/ MEDICAL	Kevin Quach Kathryn Weston Stephen Yap	
ABSTRACT	Strategies for treating infectious diseases in today's society have led to an improvement in health and longevity. Classically, the decrease in infectious diseases can be attributed to the advancement of vaccines, antibiotics, and public health systems. However, over the same time period, there has been a significant increase in the prevalence of allergic diseases: asthma, atopy, allergic rhinitis. In an epidemiological study by Strachan in 1989, there was an association between the prevalence of hay fever, atopic dermatitis, and family size, in which the higher infection rate of children with older siblings protected them from developing allergies. Strachan proposed the Hygiene Hypothesis, which stated that the lack of microbial exposure in early life due to hygienic conditions had an impact on the immune system, leading to the development of allergic diseases. Since then, the microbiome has been investigated and found to contribute to the developing immune system and subsequently, the root of the Hygiene Hypothesis. Clinical observations from Strachan have advanced through research to understanding the etiology of early childhood allergic diseases and possible preventative treatment. Research has shown an early life window, the first 100 days, during which intestinal microbial dysbiosis, microbial imbalance or maladaptation, promotes hypersensitivity disorders. Early life disruption of the microbiota composition adversely affects the development of the immune system leading to the development of asthma and atopic diseases.	

College of Medicine Posters

NUMBER:	**COM 424**	
TITLE	**Traumatic Osseous Plastic Deformity**	
MENTOR	Paul Danahy	
STUDENTS/ MEDICAL	Charles Tindley Tyler Gammon Andrew Willinger Branden Shlansky Zachary Retalis	
ABSTRACT	Traumatic bowing of bone is a rare phenomenon with important clinical consequences. Currently the basic science of mechanical engineering and structural deformity is not utilized clinically and can be helpful with respect to treatment. We set out to evaluate the mechanism of plastic deformity of bones. Our research involved three aspects: 1) a review of current literature on plastic deformity of long bones, 2) case studies using radiographic images and 3) recreating plastic deformity in animal cadaver models. We were able to isolate pig and deer ribs through dissection. Using gradual mechanical force, we induced plastic deformity in several samples without any obvious acute fractures. Further investigation of the histology showed no cortical fractures or micro-fractures in any of the plastically deformed bone. We were able to conclude several key findings. First, recreating plastic deformation in animal cadaver models is possible and second, histological evaluation showed no cortical fractures indicating plastic deformity in bone must occur at a nanometer scale.	

College of Medicine Posters

NUMBER:	**COM 425**	
TITLE	**Morphologic and morphometric characteristic of remote myocardium with and without pacemaker: Does long-standing pacemaker cause secondary arrhythmia?**	
MENTOR	Aleksandr Sinelnikov	
STUDENTS/ MEDICAL	Travis Denny Michael Valleriano Cameron Heyd	
ABSTRACT	The heart has a specialized conduction system that promotes unidirectional flow of current in a precise timed manner. This serves to provide a coordinated sequence of myocardial contraction to drive fluid flow through the chambers to maintain cardiac output. Aberrant accessory pathways, like in Wolff- Parkinson-White syndrome, or foci, like in atrial fibrillation, are well known examples that can interrupt normal conduction. Since 1958 when the first pacemaker was implanted in Sweden in order to treat a patient with Stokes-Adams syndrome, physicians have been trying to find increasingly better ways to normalize cardiac electrical activity. However, in the attempt to correct one arrhythmogenic aberration in the heart, there may be a possibility in creating additional new arrhythmogenic activity. Our project seeks to determine whether pacemakers themselves can serve as arrhythmogenic foci.	

College of Medicine Posters

NUMBER:	**COM 426**	
TITLE	**Mental Health and Wellness of LECOM Students**	
MENTOR	Donald Simpson	
STUDENTS/ MEDICAL	Amy Lowther Radhika Sharma Molly Johannessen Melanie Dunbar	
ABSTRACT	Osteopathic medicine is based on the interrelationships between structure and function, and an appreciation of the body's ability to heal itself. However, the healing properties of the body can't be expressed if the opportunity to heal is impaired through addictive behaviors or taken away with suicide. Until recently support for resiliency and well-being of students in professional programs was extremely limited. Additionally, stigma continues to exist around the mental health needs of future healthcare providers. Students in professional programs face clear stressors that impact mental health. The purpose of this project is to assess mental health and wellness among first year students in professional programs at LECOM. Using an online questionnaire generated through Survey Monkey, all LECOM students will be provided with an electronic link to provide responses to questions in an anonymous and confidential manner. Data will be analyzed using Statistical Package for the Social Sciences (SPSS) software. The Theory of Reasoned Action and the Transtheoretical (Stages-of-Change) Model will be used to assist with the research project constructs and provide the framework for understanding intentional health behavior and change. The specific aims of this project are: 1. To understand the prevalence of depression, anxiety, suicidal thoughts, eating disorders and coping behaviors among LECOM students. 2. To assess knowledge, attitudes and beliefs surrounding stigma associated with healthcare professionals seeking mental wellness care. 3. To quantify perceptions of mental health resources available to LECOM students, internally and externally to the institution.	

College of Medicine Posters

NUMBER:	**COM 427**	
TITLE	**Effects of a drug that inhibits peptidyl prolyl isomerase activity on microbial viability and growth**	
MENTOR	James Gnarra	
STUDENTS/ MEDICAL	Catherine Boldig Caroline Laferla Kimberly Boldig Matt Montanarella Haiden Harrison Alexandra Kimchy Lamson Vo	
ABSTRACT	Peptidyl prolyl isomerases (PPIases) are enzymes that catalyze the cis-trans isomerization of a peptide bond to proline, thus modifying the conformation of target proteins. Three super families of PPIases have been described, which are in part defined based on small inhibitory molecules/drugs that bind to the proteins. These include the FK506-binding proteins (FKBPs), the Cyclophilins (which are inhibited by cyclosporine A or related molecules), and the Parvulins. Pin1 is a human Parvulin. Members of the Parvulin family are conserved in bacteria and in fungi. We determined the effects of treatment of Juglone, a Pin1 inhibitor, on microbial viability and growth. We found that Juglone inhibited growth of some human microbial pathogens. These results suggest that development of drugs that target Parvulin activity may lead to the development of novel anti-microbial therapies.	

College of Medicine Posters

NUMBER:	**COM 428**	
TITLE	**LECOM GenOMeS program: molecular diagnostics in coordination with gross anatomy**	
MENTOR	James Gnarra	
STUDENTS/ MEDICAL	Catherine Boldig Caroline LaFerla Kim Boldig Alexandra Kimchy Harrison Haiden Matthew Montanarella Lamson Vo	
ABSTRACT	The LECOM GenOMeS program links training in the anatomic sciences with medical genetics and molecular diagnostics. DNA samples have been isolated from tissues procured from cadavers in the gross anatomy lab. PCR analyses of selected target loci have been performed as a proof of principle for this project. In addition, selected cadaver-extracted DNA samples have been submitted for exome sequencing. Analysis of the exome sequencing results will provide additional training opportunities for genetics and molecular diagnostics.	

College of Medicine Posters

NUMBER:	**COM 429**	
TITLE	**LECOM Bradenton EM Club Medical Student Interest in Ultrasound after Attending Skills Lab**	
MENTOR	Oren Rosenthal	
STUDENTS/ MEDICAL	Clairisse Hafey	
ABSTRACT	Rationale: The use of Point of Care Ultrasound (POCUS) is a rapidly growing field in emergency medicine and is being taught in residency and fellowship programs. The LECOM Bradenton Emergency Medicine (EM) Club strives to prepare its members for a career in emergency medicine by providing skills labs, such as in POCUS. In October 2017, the club held its first US skills lab. Students were taught how to perform the Focused-Assessment with Sonography of Trauma (FAST) exam. Objective: The purpose of this research survey is to develop a preliminary understanding of the LECOM-Bradenton EM Club medical student perceived interest levels in ultrasound (US) after attending the skills lab. These findings are important for the continuation of and the improvement of future ultrasound skills labs. Methods: After attending the workshop students completed an anonymous 7-degree Likert scale survey with an option to provide comments regarding their level of interest in ultrasound. Comparisons were made between the OMS-1/2 subgroups using the Mann Whitney rank sum test. Results: There was a statistically significant difference between medical school classes regarding 6 of the 8 statements. More OMS-1's rated statements higher than OMS-2's. General trends in student responses showed that students possess a perceived value in US as a skill, saw value in the US skills lab, and have future interest in US skills labs. Conclusions: The US skills lab was generally well-received and future LECOM EM Club US skills labs should be offered, improved, and studied.	

College of Medicine Posters

NUMBER:	**COM 430**	
TITLE	**A malrotated, fused supernumerary kidney**	
MENTOR		
STUDENTS/ MEDICAL	Joseph Miller Benjamin Babchick Yaquob Tokhi	
ABSTRACT	A supernumerary kidney is defined as a functional accessory kidney, in addition to two functionally normal kidneys, which has its own vascular supply. Supernumerary kidneys are a rare congenital anomaly with less than 100 cases reported in literature. We present a 43-year-old Hispanic male with long-standing history of kidney stones with evidence of a right-sided malrotated, fused supernumerary kidney on trans-axial CT. The majority of supernumerary kidneys reported in literature are found on the left side, making the presentation in this patient very rare. The fused and malrotated presentation makes this case even rarer than the already rare supernumerary kidney. This case presentation highlights the utility of radiological imaging to detect anatomical reasoning for clinical renal pathology such as recurrent bouts of kidney stones.	

College of Medicine Posters

NUMBER:	**COM 431**	
TITLE	**Next Generation: In-Vitro Gametogenesis (IVG) and its Potential to Change the Future of Reproductive Endocrinology**	
MENTOR	James Gnarra	
STUDENTS/ MEDICAL	Austin Kuiawa Remington Mark	
ABSTRACT	New breakthroughs in stem cell differentiation and reprogramming show promise that functional human gametes could soon be created in vitro. Zhou (et al.) has successfully developed a protocol for IVG in mural cell lines. They reported complete in vitro meiosis from embryonic stem cell (ESC)-derived primordial germ cells (PGCLCs). Co-culture of PGCLCs with neonatal testicular somatic cells and sequential exposure to morphogens and sex hormones reproduced key hallmarks of meiosis, including erasure of genetic imprinting, chromosomal synapsis and recombination, and correct nuclear DNA and chromosomal content in the resulting haploid cells. Intracytoplasmic injection of the resulting spermatid-like cells into oocytes produced viable and fertile offspring, showing that this robust stepwise approach can functionally recapitulate male gametogenesis in vitro. Multiple different research groups such as Easley (et al.) and Panula S. (et al.) have also verified that IVG could be induced from stem cell lines in mice. While these techniques have not yet been implicated on human cell lines; success in the murine model, as well as, similarity between human and murine cell line behaviors has not revealed any fundamental hurdle that should impede success also with human cells. IVG affords the opportunity to change the world in which we live in. Perfection of this technique provides profound applications to human society, that were previously unimaginable. These include, but are not limited to: ending infertility, self-replication, same-sex couple parenting, multiplex parenting, disease prevention, and birth-control. The benefits and risks of IVG, as well as, the ethical issues behind the new technology will be expanded upon and discussed during the presentation.	

LECOM Bradenton Interprofessional Research Day 2018.

Research, a LECOM Journey of Discovery

POSTER PRESENTATIONS:

Dental Medicine:

SDM 801 – SDM 842

LAKE ERIE COLLEGE OF OSTEOPATHIC MEDICINE

NUMBER:	SDM 801

School of Dental Medicine Posters

TITLE	**Perceptions of opioid use, abuse, and educational opportunities among LECOM students**	
MENTOR	Todd Nolan Mary Badawy	
STUDENTS/ DENTAL	Destynee Horner Amani Halum	
ABSTRACT	The use and abuse of opioids within the United States and particularly throughout Appalachia and New England continues to rise. One of the first lines for helping prevent abuse are the providers that we at LECOM are training (Dentists, Osteopathic Physicians, and Pharmacists). Surveys of practicing physicians have demonstrated that opioid prescriptions for "legitimate pain" are the primary reason patients develop opioid dependence. However, these same physicians feel their knowledge for treating/managing opioid dependence is low (Keller, et al. 2012). These same attitudes have been noted in surveys of dentists (McCaule, et al. 2016) and pharmacists (Kahan, et al. 2011). Additionally, a lack of communication between pharmacists, dentists, and physicians results in a reduction in the quality of care that the patient experiences. Determination of student attitudes toward opioid prescription and use will help us develop opioid education programs tailored to our student populations.	

School of Dental Medicine Posters

NUMBER:	**SDM 802**	
TITLE	**Antimicrobial effect of Melaleuca alternifolia (tea tree oil) on Candida albicans in denture tissue conditioners**	
MENTOR	Thomas Yoon	
STUDENTS/ DENTAL	Gia Hoang Kailand Cosgrove Eugene Lee	
ABSTRACT	Tissue conditioners or temporary liners are being utilized as a great adjunct in removable prosthodontics to provide an interim or cushing for traumatized oral mucosa. Disadvantageously, microorganisms could grow and expose patients and dental prosthesis to infection. Candida associated denture stomatitis is one of the most common oral infectious diseases that occur in patients with either partial or complete dentures. A medical university in Poland found that 66.7% of denture wearing patients displayed growth of C. albicans compared to 28.9% in those patients without dentures. There have been numerous attempts at reducing the growth of C. albicans in these patients, one of which is tea tree oil. Tea tree oil comes from the leaves of the plant Melaleuca alternifolia by steam distillation. Studies have shown that tissue conditioner combined with tea tree oil have proven to be effective in preventing growth of C. albicans and possibly other oral fungal species. There is an interest in determining the most effective concentration at which tea tree oil would maintain the setting time of tissue liner and also inhibit the Candida growth. The purpose of this study is to determine the optimal concentration and the efficacy of tea tree oil as an antimicrobial solution against Candida albicans growth in Lynal denture tissue conditioner.	

NUMBER:	**SDM 803**	
TITLE	**Use of a Streptococcus mutans biofilm to isolate Enterococci from avian excreta**	
MENTOR	Jonathan Coffman	
STUDENTS/ DENTAL	Keaton Jolley Timothy Novak	
ABSTRACT	In this study, we continued our analysis of the eubacterial content of avian excreta. We used a Streptococcus mutans sucrose-induced biofilm to identify Enterococci that would bind to the biofilm. Ion torrent DNA sequencing of the total eubacterial content of avian excreta indicated that Enterococcus was less than 1% of all operational taxonomic units (OTU's). Selective culture of biofilm binders using Bile Esculin Azide (BEA) agar allowed us to isolate 26 strains of Enterococcus identified by Sanger sequencing of the 16S ribosomal gene. One isolate was only 79% identical to Enterococcus casseliflavus and was chosen for genomic sequencing.	

School of Dental Medicine Posters

NUMBER:	**SDM 804**	
TITLE	**Change in Microhardness due to Remineralization of Enamel Post Mainstream Whitening Agents**	
MENTOR	Thomas Yoon	
STUDENTS/ DENTAL	Mehreen Sulaiman Brini Thomas Andrea Wise	
ABSTRACT	The purpose of this study was to compare the enamel surface roughness of extracted teeth after the use of mainstream whitening agents. The goal is to measure the effectiveness of the whitening agents on remineralization. Extracted human teeth were collected from LECOM School of Dental Medicine student clinics. The extracted teeth were housed in an artificial saliva solution prior to preparation to simulate an oral environment. The specimens were all cut down to 3 x 2 mm sample size with the use of finger cutter and separated into groups of 10. The Mitutoyo profilometer was used to measure the surface roughness. All samples were initially embedded into red rope wax, so that the most accurate reading could be obtained from each specimen. Products used were 30% hydrogen peroxide, 10% carbamide peroxide, 30% of carbamide Peroxide = 10% hydrogen peroxide, sodium perborate, Nu-White- 22% Carbamide Peroxide teeth whitening gel, Opalescence and Dentibright. They were then applied to specimens & profilometer readings were obtained every 2 days.	

NUMBER:	**SDM 805**	
TITLE	**Factors Influencing Consumer Purchase of Oral Surgery Products Between Oral Maxillofacial Surgeons and Periodontists**	
MENTOR	Thomas Yoon	
STUDENTS/ DENTAL	Viet Tran Gia Hoang	
ABSTRACT	BACKGROUND: Each year money is spent by dental professionals on instruments and supplies. The factors of importance for purchasing these products vary among dental professionals and there are few researches that determine the importance of factors that influences purchasing decisions between oral maxillofacial surgeons and periodontists. OBJECTIVE: The objective is to determine different important factors that influence the purchase of surgical products between oral maxillofacial surgeons and periodontists. METHODS: A search conducted using electronic articles published from 2000 to 2015 to determine the possible factors influencing the choice of surgical products among dental professionals. Electronic surveys were sent to oral maxillofacial surgeons and periodontists to obtain data analysis. RESULTS: Pending CONCLUSIONS: Pending	
NUMBER:	**SDM 806**	

School of Dental Medicine Posters

TITLE	**Prevalence of Elongated Styloid Processes in LECOM SDM Patient Population**	
MENTOR	Alexandra Manibo Sharon Angelici	
STUDENTS/ DENTAL	Jessica Mustelier Kristina Mangiafico	
ABSTRACT	The styloid process is a conical bony protuberance extending from the most inferior portion of the temporal bone, serving as a site of muscle attachment. Typical measurements of the styloid process range from 20-30 mm, with measurements over 30 mm considered elongated (Bruno, 2017). The presence of an elongated styloid process can arise from calcification of the stylohyoid ligament or the elongation of the osseous structure. Elongated styloid process' are categorized as: Type I - uninterrupted, Type II - pseudo-articulated, or Type III - segmented (AlZarea, 2017). Elongations can occur with or without clinical symptoms, however, when concurrent symptoms are presents it is known as Eagle's syndrome. Eagle's syndrome occurs in approximately 4% of the population with symptoms including nerve like pain in the jaw and joint, back of throat and base of trunk during deglutition, mouth opening or neck rotation (Bruno, 2017). An increased incidence of Eagle's syndrome has been seen in patients with throat trauma and tonsillectomy. (Shahoon, 2008). Current literature has found a correlation between elongated styloid process' and age (AlZarea, 2017; Vieira, 2015). It is the goal of this research study to correlate presence of an elongated styloid process in the patient population of LECOM SDM with age, gender and/or ethnicity. Presence of concurrent symptoms corresponding to Eagle's syndrome will also be noted.	

NUMBER:	**SDM 807**

School of Dental Medicine Posters

TITLE	**Integrity of Nitrile Examination Gloves After Use in a Dental School Clinic**	
MENTOR	Mark Zmiyiwsky	
STUDENTS/ DENTAL	Charlotte Haught Shayna Zalec	
ABSTRACT	Nitrile examination gloves are established for everyday use in the dental clinic in order to protect both patient and clinician from infectious contaminants. However, regulatory agencies such as the CDC and OSHA do not establish clear guidelines on the continuous usage of gloves over an extended period of time. The authors conducted a study in which Microflex Xceed powder-free Nitrile Examination Gloves were collected after second year dental students wore them for either 30- or 90-minutes performing dental prophylaxis on a student partner. The used gloves were separated based on dominant and non-dominant hand then tested for their integrity according to EN 455-1:2000 accepted standard. Results were recorded as either "pass" (no integrity loss) or "fail" (loss of integrity). From the 30-minute working time group, the dominant hand gloves had a 6.9% failure rate while the non-dominant hand failure rate was 17.3%. From the 90-minute working time group, the dominant hand gloves had a failure percentage of 25.5% while the non-dominant hand group was 22%. The results of this research show that there is a need for established policy guidelines for use of nitrile examination gloves to ensure protection of patients and clinicians.	

School of Dental Medicine Posters

NUMBER:	**SDM 808**	
TITLE	**Obstructive Sleep Apnea and ADHD in Pediatric Population**	
MENTOR	Stacey Lubetsky Inessa Slipak	
STUDENTS/ DENTAL	Yei-Won Lee Liridon Qafleshi Matthew Roche Grant Ross	
ABSTRACT	Purpose: The purpose of this study is to raise awareness of obstructive sleep-disordered breathing (SDB) and instigate proper treatment of obstructive sleep apnea (OSA) in the pediatric population. The role of the dentist in identifying adenotonsillar hypertrophy and decreased airway size-evidence of obstructive SDB-is paramount. This study focuses on ascertaining a potential comorbidity between adenotonsillar hypertrophy, decreased airway size, evidence of obstructive SDB, and presence of ADHD in the pediatric population at LECOM SDM. Background: Attention-deficit/hyperactivity disorder (ADHD) is a very common neurobehavioral disorder that typically affects children. Many of the diagnostic criteria that are associated with ADHD can also be seen when a child is deprived of proper sleep. Symptoms of ADHD are not specific to ADHD and may also manifest in the behavior of children with sleep disorders such as restless legs syndrome, periodic limb movement disorder, and obstructive sleep apnea (Archbold 2006). Sleep deprivation affects adults and children differently. Adults who suffer from sleep disorders present with daytime sleepiness, mood swings, and irritability; children present with hyperactivity, hyperexcitability, and impulsivity. Thus, many children may be misdiagnosed with ADHD instead of getting a proper sleep disorder diagnosis. The correlation between ADHD and sleep disorders has become the topic of increasing research efforts in recent years. Methods: Patients who agreed to participate had tonsil sizes and airways evaluated. In addition, short survey was conducted to examine sleeping patterns and behaviors of the patients. Results: The research is still being conducted, and the results will be disclosed on Research Day. Conclusion: Pending	

School of Dental Medicine Posters

NUMBER:	**SDM 809**	
TITLE	**Post-Operative Infection Rates Following Extractions at LECOM**	
MENTOR	Dennis Youngblood	
STUDENTS/ DENTAL	Kevin Vernet Tuan Le	
ABSTRACT	The purpose of this study is to determine the post-operative infection rate following routine extractions performed at the Lake Erie College of Osteopathic Medicine (LECOM), by the third and fourth year dental students during June 2016-June 2017. Extractions are often indicated for teeth with periodontal infections and dental caries. Post-operative infections are uncommon following routine extractions. Infections are more commonly seen in extractions that require soft tissue reflection and bone removal. With proper extraction techniques, including asepsis, complete wound debridement, irrigation with saline, and thorough removal of foreign material, infections can be decreased or prevented. Typical signs of an infection include swelling, erythema, foul taste or smell, fever and increased pain three to four days following surgery. The extraction site will look inflamed and may include the presence of purulence. In a patient presenting with pain, an infection should be considered until ruled out. The Methods will be performed by compiling and auditing random charts from Bradenton, Erie, and DeFuniak locations through axiUm from the 2016-2017 school year. The Codes for all surgical extractions performed will be recorded. The notes of the procedures will be reviewed and patients with postoperative infections will be notated. Furthermore, the extractions with post-operative infections will have a notation of which extraction sites were irrigated and non-irrigated during the procedures.	

School of Dental Medicine Posters

NUMBER:	**SDM 810**	
TITLE	**Diversity in Dentistry: An analysis of the Pipeline Dental Program from its inception to now and how it has influenced URM enrollment**	
MENTOR	Yvette Weir	
STUDENTS/ DENTAL	Keaton Jolley Naty Trejo Francis Curd Thomas Yoon	
ABSTRACT	Reducing healthcare disparities has being a focus and a healthcare initiative since 2000 when the Surgeon General's report declared oral health care a crisis for disadvantaged communities. This fact is also juxtaposed with changing demographic statistics which predicts that minority will be in the majority by 2050. The Pipeline Programs were implemented by grants from the Robert Wood Johnson Foundation and the California Endowment Fund in 2001 to twenty three dental schools in two phases with a mission to increase Under Represented Minority (URM) in dental enrollment. The purpose of this study is to assess the Pipeline Program and to observe where these schools are today in terms of reaching that goal and what if any further improvements may have been made in their programs ten years after the program has officially ended. Methodology: Quantitative data was analyzed from ADA database from 2001 and qualitative data was analyzed in the form of surveys sent to a sampling of Pipeline Dental Schools.	

NUMBER:	**SDM 811**	
TITLE	**The Effect of Common Antimicrobials on S. Mutans Encompassing Orthodontic Brackets: In vitro Study**	
MENTOR	Mark Zmiyiwsky	
STUDENTS/ DENTAL	Ly Ngo Alex Plevris Miguel DeLeon	
ABSTRACT	The primary question of this research is to establish whether the commonly available antimicrobials (Listerine and Listerine with Fluoride) have any difference in effect around bonded orthodontic brackets that is inoculated with Streptococcus mutans in vitro	

School of Dental Medicine Posters

NUMBER:	**SDM 812**	
TITLE	**Bond Strength of Composite with Silver Diamine Fluoride and Potassium Iodide**	
MENTOR	Joel Felsenfeld	
STUDENTS/ DENTAL	Vinh Nguyen Cody Neill Liridon Qafleshi Huong Phan	
ABSTRACT	Background: Silver diamine fluoride (SDF) is increasingly recognized as a cost-effective, easy-to-use alternative to reduce sensitization and arrest caries. Research supports the use of potassium iodide (KI) treatment with SDF to decrease the staining associated with SDF. Recently, articles have been published showing evidence that SDF+KI applied to tooth preparations before restorations lowers the incidence of recurrent decay and may extend the life of restorations. Despite the building research, SDF and KI treatments are still not being utilized by dentists to combat the main cause of restoration failure. The goal of this research is to use the SDF/KI as a liner when using composite restoration and testing the bonding or shear strength associated with the material. Methods: Three groups (n=48) of molar teeth were examined via Ultradent UltraTester to evaluate the effects of bonding strength of SDF/KI when used as a liner following the restoration of composite. Group A (n=17) consisted of the application of SDF followed immediately by KI. Group B (n=15) included just the SDF as a liner. Group C (n=16) was used as a control with no application of SDF/ KI. All three groups used Beautibond (7th generation) followed by the composite Beautifil as the restoration of choice. Results: Groups A (SDF+KI) demonstrated the best results averaging a shear strength of 8.42 MegaPascals (MPa) followed by group C (control) with 6.25MPa. Group B (SDF alone) showed the lowest number of MPa averaging 4.92. It is important to note that the specimens were stored in 37 degrees Celsius storage unit for 24 hours before the shear strength was tested in order to maximize the complete polymerization of the composite restoration. Conclusion: Treatment of SDF followed by KI had the highest value of bond strength as demonstrated in this study. It can be substantiated that the use of KI has no detrimental effects on the bonding strength and can also improve it when used in conjunction with SDF. This can be clinically relevant as practitioners can utilize this technique to eliminate the stain residue caused by the excess silver ions in the SDF, and it can also be used to increase the bond strength between dentin and the restoration.	

School of Dental Medicine Posters

NUMBER:	**SDM 813**	
TITLE	**The Impact of Oral Hygiene Knowledge on Periodontal Status**	
MENTOR	Thomas Yoon	
STUDENTS/ DENTAL	Sara Siddiqui Ernest Wong	
ABSTRACT	A patient's oral hygiene regimen is influenced by a variety of factors, ranging from dental knowledge to having access to dental care. One major factor linking oral infections to systemic diseases is periodontal disease (Li et al, 2000). This study seeks to find a correlation between patients' impressions of their own oral hygiene regimen and their actual periodontal status. As well as find the difference reinforcing oral hygiene instructions can be in the improvement of periodontal status. A survey study containing twelve questions was distributed to dentulous patients who are current or new at the LECOM School of Dental Medicine clinic. Patients had their periodontal charts and plaque indexes evaluated to determine their current periodontal status. At the participants' next recall appointment their periodontal charting was re-examined and the patients completed the questionnaire again in order to compare results from the initial visit. From this study we believe to find that a patient's oral hygiene knowledge does not accurately represent their periodontal status.	

NUMBER:	**SDM 814**	
TITLE	**Effectiveness of single and dual retraction cord to remove extruded cements when restoring dental implants**	
MENTOR	Alexandra Manibo	
STUDENTS/ DENTAL	Rob Sparks Matt Imbrogno Thomas Yoon	
ABSTRACT	Numerous factors have been linked to causing peri-implantitis, which is evidenced by radiographic bone loss coincided with gingival inflammation. Some of these factors include smoking; already present periodontal disease, and functional loading. We are looking into another causative factor of peri-implantitis, which is the apical migration of extruded cement while placing a crown to restore a dental implant [insert citation here]. It has been proposed that the use of retraction cords can aid a dentist to remove excess cement that could have potentially been left in the gingival tissues and therefore prevent the development of peri-implantitis.	

School of Dental Medicine Posters

NUMBER:	**SDM 815**	
TITLE	**The current state of dental implant prosthetics in the United States**	
MENTOR	Thomas Yoon	
STUDENTS/ DENTAL	Rob Sparks Matt Imbrogno Thomas Yoon Katie Dinh	
ABSTRACT	In order to provide patients with quality implants, dental labs and dentists must collaborate effectively. Lab technicians and dentists have numerous areas to discuss such as materials and designs of crowns and abutments, working through issues that may arise in a case and possible recommendations each party may have for one another to improve their implant cases. Our goal is to analyze these topics nationally and also the demographic preferences of dental labs and dentists. The information gathered from this survey can be used to improve the communication and outcome of implant restoration cases.	

NUMBER:	**SDM 816**	
TITLE	**Dental Student with Unique Case of Unilateral Condylar Resorption**	
MENTOR	Timothy Halligan	
STUDENTS/ DENTAL	Emily Katz Lorenzo Miranda Dennis Youngblood	
ABSTRACT	This poster presentation explains the clinical and radiographic findings in a dental student with unilateral condylar resorption. This case is currently being worked up for a differential diagnosis and initial treatment. Potential differential diagnoses for condylar resorption will be explored in this poster as well as management and treatment possibilities.	

School of Dental Medicine Posters

NUMBER:	**SDM 817**	
TITLE	**Individual Preferences on Grading Systems in Dental Schools**	
MENTOR	Mark Zmiyiwsky	
STUDENTS/ DENTAL	Nicholas Allen	
ABSTRACT	The objective of this study was to determine the type of grading system (pass/fail, pass/fail/pass with honors, traditional A-F grading) that individuals prefer in a sample of U.S. dental schools. 15 U.S. dental schools were selected, 9 used a type of pass/fail grading system, 6 used a traditional (A-F) grading system. 6 schools responded to correspondence and were sent the questionnaire which included demographic questions, questions on individual status as student or faculty, question on current school grading system and individual preference for grading system types. Data was analyzed using chi-squared test of independence. Significant relation was found between individual status versus preference for pass/fail grading, individual status versus preference for traditional grading and individual status versus preference for pass/fail/pass with honors grading. Dental school faculty were found to strongly disagree with pass/fail grading as compared to students. First and second year students were found to disagree more with traditional grading compared to third and fourth year students and dental school faculty. Dental school faculty were found to strongly agree with traditional grading more than students. Additionally dental school faculty were more likely to disagree with the pass/fail/pass with honors grading system than dental students.	

School of Dental Medicine Posters

NUMBER:	**SDM 818**	
TITLE	**Identifying Barriers to Proper Dental Care among Easter Seals members in Southwest Florida**	
MENTOR	Stacey Lubetsky	
STUDENTS/ DENTAL	Soo Hye Cho Margaret Pahl John Vitello Marc Levicoff	
ABSTRACT	With increasing concern for access to dental care nationwide, there is particular interest in determining if the chasm is greater for those with special needs. Recent evidence based research reveals that patients with autism are less likely to have a routine dentist, and furthermore, autistic patients are also more likely to have poor dentition compared to non-autistic counterparts. Research also indicates that even in families expected to have manageable access to care, such as with high parental education, high income, and private insurance, there is still a significant number of these special needs children who face barriers to dental care. The purpose of this study is to determine the connection for Easter Seals special needs patients between access to care and current dental maintenance, needs, and parental understanding of oral hygiene. The devised questionnaire obtains a basic background of the child, explores their current dental habits, and inquires on the parental perception of barriers and understanding of dental care. The collected data will help determine the influences on access to care issues. In the future, we expect this research to act as a springboard for investigating innovative ways to overcome the barriers to dental care for special needs patients and their families.	

School of Dental Medicine Posters

NUMBER:	**SDM 819**	
TITLE	**Analysis of Cone Beam Computed Tomography Training during Pre-doctoral Training in the United States**	
MENTOR	Thomas Yoon	
STUDENTS/ DENTAL	Eugene Lee Kevin Vernet Gia Hoang	
ABSTRACT	Cone Beam Computed Tomography (CBCT) is a new imaging technology that lets the dental practitioner see structures in 3rd Dimensional in comparison to panoramic imaging, which would only allow you to see structures as 2nd Dimensional (Basics). It is an imaging technology that is changing the way dentistry can view structures. The CBCT takes a 360 degree image in pixels and converts it into a digital image. After the image is taken, with special Digital Imaging and Communications in Medicine (DICOM) software, the practitioner can visualize the axial, coronal, and sagittal 2D sections which can be very useful to visualize what 2D imaging cannot display. Although it can show 3D and 2D images, it has fairly low radiation doses due to the reduction of size of the irradiated area. The purpose of this study is to determine the amount of knowledge that predoctoral dental students are attaining during didactic and clinical courses pertaining to Cone Beam Computed Tomography (CBCT) education. This analysis will be used to understand the past while providing an accurate indication of the necessity of CBCT training in the future.	

School of Dental Medicine Posters

NUMBER:	**SDM 820**	
TITLE	How Resilient are LECOM Students?	
MENTOR	Todd Nolan	
STUDENTS/ DENTAL	Tara Tavakoli	
ABSTRACT	Resilience is based on the idea that certain individuals are able to cope with negative situations, overcome, and even grow as a result of these adverse experiences. The qualities associated with resiliency can help strengthen academic performance, reduce depression and burnout, and improve the overall wellbeing of professional students. The goals of this study are to determine average resilience ratings with LECOM students; specifically examining if there is a difference at the different campuses, between the student populations, and between years. The 30-item Academic Resilience Scale (ARS-30) will be used to assess academic resiliency, as it is based on adaptive responses providing good internal reliability and construct validity. A short intervention will be developed and students will be resurveyed at the end of the year to assess if components of resiliency can be taught and integrated into student strategies to help handle and cope with the academic rigor.	

School of Dental Medicine Posters

NUMBER:	**SDM 821**	
TITLE	**Physiological Barriers of Proper Pediatric Dental Care**	
MENTOR	Stacey Lubetsky	
STUDENTS/ DENTAL	Huong Phan Vinh Nguyen Lauren Weant	
ABSTRACT	There are numerous physiological barriers to access proper dental and medical services. Rural areas are often limited with their modes of transportation, leading to more travel time, dependency on others, and poorer health conditions. Additionally, the level of the healthcare the children receives in those same families is influenced by the parent's knowledge of health and monetary restraints. Methods: Over the course of three days, fifty-five patients (ranging from 2-15 years old) received dental care at the San Juan Outreach Clinic in Nicaragua. Data was collectively obtained through a questionnaire given to parents/guardians. Results: Out of the 55 patient population, 80% uses public transportation to get to their nearest health care provider. Intervals of 30 minutes, 1 hour, and greater than 2 hours were traveled 43.6%, 38.2% and 16.4%, respectively to get to their nearest dentist. Notably, when inquired about their last dental visit, about 38.2% had never seen a dentist. For those that had been to a dentist, about 35.2% were of emergency cases. In regards to medical services, only 10.9% of the pediatric patients has never been to a physician. Conclusion: Basic health care needs significantly rely on public transportation. Some of the sample population would have to travel as far as 2 hours to get to their nearest dentist, which most have never made the trip due to monetary restraint. Our findings indicate that preventive healthcare, as expected, was prioritized over oral health care. The purpose of this study is to compare the rural populations in San Juan, Nicaragua to the United States population with respect to barriers receiving oral health care.	

School of Dental Medicine Posters

NUMBER:	**SDM 822**	
TITLE	**Medical Professional Students Knowledge of Pediatric Oral Health.**	
MENTOR	Stacey Lubetsky	
STUDENTS/ DENTAL	Cara Frink Anthony Vanzo Daniel Sorokolit	
ABSTRACT	Pediatric patients are more likely to first visit the physician's office before the dentist's. During these visits, physicians should emphasize the importance of visiting a dental office by age 1, or 6 months after the first tooth erupts. However, according to a survey done by Delta Dental, the average age of a pediatric patient's first dental visit is 2.6 years old. This is much later than what is currently recommended by the American Academy of Pediatric Dentistry. In addition in a study done by Ferullo, it was found that of 88 medical schools surveyed, 61 of the schools spent 5 hours or less on an oral health focused curriculum. The objective of this study is to examine the dental knowledge of current LECOM medical professional students, specifically in regards to the age at which pediatric patients should make initial dental visits and oral hygiene instructions. In addition how many hours of oral education they are currently receiving. In a follow-up survey, we would like to compare current practicing physicians corresponding dental knowledge and recommendations.	

School of Dental Medicine Posters

NUMBER:	**SDM 823**	
TITLE	**Periodontitis and Inflammation: Analysis of Cytokines**	
MENTOR	Julie Brown	
STUDENTS/ DENTAL	Elborz Safarzadel	
ABSTRACT	We are establishing a bench science-based research project using dental clinic patient samples in order to involve dental students in clinical sample research. This will foster an appreciation of a dentist's access to clinical samples and their ability to collaborate in dental research within their future practices. We have established collaboration between clinic dentists and bench scientists to procure samples within an IRB approved protocol to study periodontitis. Periodontitis is the chronic inflammation of gingival tissues that can arise from poor oral hygiene, improperly used hygiene techniques or certain genetic predispositions. Periodontitis certainly arises from an underlying microbial infection but the response of the immune system against these bacteria is where the genetic component of the disease lies. To understand the problem of chronic unresolved inflammation in periodontitis, we must understand why immune cells fail to die or continue to divide. The immune system organizes a response to infection through cytokines, proteins that act as chemical messengers that recruit specific immune cell types and induce them to multiply and differentiate. Some cytokines can either inhibit or enhance immune cell function. IL17-producing cells can differentiate to either pro-inflammatory Th17 cells or to regulatory T cells. We are studying the TH17/IL23 cytokine regulatory network in gingival tissue of patients with periodontitis compared to those with no periodontitis.	

School of Dental Medicine Posters

NUMBER:	**SDM 824**	
TITLE	**Caries Diagnostic Assessment of Dental Students versus General Dentists**	
MENTOR	Inessa Slipak	
STUDENTS/ DENTAL	Gia Hoang Eugene Lee	
ABSTRACT	Caries diagnosis and treatment could greatly vary among dental professionals. The question is how much impact years of experience could have on diagnosing and treating carious lesions. This study assessed the caries diagnostic methods and treatment preference comparing between dental students and general dentists. Methods: This study was determined to be exempt from review by the Institutional Review Board at Lake Erie College of Osteopathic Medicine (protocol 24-125; February 27, 2017). A literature review conducted using electronic articles published from 1995 to 2017 to fabricate the survey and the discussion of the results. Clinical radiographs and intraoral photos were used to obtain caries diagnosis and treatment decisions from third-year dental students, fourth-year dental students, and general dentists via Survey monkey electronic survey program. Results: The majority of dental students and general dentist voted that radiographic examination was the most important method utilized in detecting caries. Clinical experience was ranked as the most important factor regarding diagnosing and treating caries. However, there was no significant difference in diagnosing caries between dental students and general dentists utilizing the provided radiographs. The results contradicted the initial hypothesis that the years of experience could impact the caries diagnosis and treatment. Remarkably, there was significance in restorative material choice between amalgam and composite. Conclusion: The years of experience did not have an impact on diagnosing and treating caries. Composite was the material of choice as experience increased while amalgam was the material of choice among dental students. Further studies can be continued to evaluate how education and clinical experience could influence the material preference among dental professionals.	

School of Dental Medicine Posters

NUMBER:	**SDM 825**	
TITLE	**Tea Time- A Possible Preventive Strategy for Oral Health**	
MENTOR	Mark Zmiyiwsky	
STUDENTS/ DENTAL	Mariya Pecheny Nicole Perez	
ABSTRACT	Previous research has shown that the antioxidants found in green tea have antibacterial properties. The study will specifically use the antioxidant EGCG commonly found in green teas to test this theory. Biofilm will be grown on hydroxyapatite disks using Streptococcus mutans under controlled conditions. These disks will then be exposed to 10ul, 1:10, 1:100, 1:1000 concentrations of the EGCG along with a control. After 48 hours of incubation, the wells will be washed and the concentration of the bacteria will be calculated using a plate reader. It is expected that the HA disks that were exposed to the highest concentration of EGCG will have a significant reduction in the amount of biofilm growth.	

NUMBER:	**SDM 826**	
TITLE	**Are in vitro methods for evaluating endodontic materials flow, working time and film thickness suitable and reproducible?**	
MENTOR	Richard Michaud	
STUDENTS/ DENTAL	Maya Bartels Grant Ross Setu Shah	
ABSTRACT	Continue the study we conducted last year on Flow and working time of various endodontic root canal sealers (listed below). The Film Thickness of these sealers will also be tested and will be evaluated to see if they comply with the standards outlined in ISO 6876; 2012. The flow and working time have modified requirements compared to previous versions of the standard. A comparison of the results with the current literature will be performed to verify that the modified standard is appropriate for endodontic sealers. Sealers: Acroseal, EndoREZ , Pulp Canal Sealer, GuttaFlow 2, EZ Fill Express, Apexit Plus, Sealapex	

School of Dental Medicine Posters

NUMBER:	**SDM 827**	
TITLE	**Judicious Use of Fluoride for Dental Health**	
MENTOR	Raja Dewan	
STUDENTS/ DENTAL	Jung Philsub John Armstrong Reema Bassoumi Michael Dubac Taylor Pringle Meeve Luken	
ABSTRACT	Fluoride is naturally found in some food and in water. Many urban areas add fluoride to the water supply. Fluoride is considered as an essential element to protect the tooth. Fluoride is also considered as a toxic chemical. Only a relatively narrow range of fluoride is required to maintain dental health. Low level of fluoride in the drinking water causes dental caries, however, elevated level of fluoride in the drinking water causes mottling of teeth and skeletal fluorosis. Although the mottled teeth are resistant to caries they may not be strong structurally. Fluoride does not make the teeth themselves stronger. Fluoride has poorly understood effect in preventing the cariogenic process. Perhaps it is deposited in the hydroxyapatite crystals of the teeth and retards the activation of the bacterial enzymes. Excess of fluoride enlarges bones but the matrix of the bone is structurally weak and fluoride is not an ideal treatment for osteoporosis. Excessive bone growth linked with an excess of fluoride narrows down the natural foramina of the bones leading to neuropathy and ischemia. Daily consumption of water containing fluoride levels of 10 mg/liter or more for 20 years or more may be associated with crippling skeletal fluorosis. The level of fluoride varies in different geographical locations. Children may swallow fluoridated toothpaste and some beverages like iced-tea may contain an excess of fluoride. According to WHO, there are many pockets of underground water resources with an excess of fluorides. Fluoride is not a panacea for dental caries. Brushing, flossing, maintaining oral hygiene and regular checkup with the dentist is the remedy for dental caries.	

School of Dental Medicine Posters

NUMBER:	**SDM 828**	
TITLE	**Incidence and Prevalence of Antral Polyps Post Dental Extractions.**	
MENTOR	Dennis Youngblood	
STUDENTS/ DENTAL	Ernesto Llerena Oscar Sanchez	
ABSTRACT	The prevalence of antral polyps is a well- documented phenomenon. The source of which can most often be attributed to an inflammatory process rather than an injury repair process. Our purpose is to determine through literature review and case reports the incidence of trauma induced polyps, contrast the mechanisms of development, and describe treatment options.	

NUMBER:	**SDM 829**	
TITLE	**The Significance of Environmental Effects on Dental Implants for Forensic Science Victim Identification**	
MENTOR	Thomas Yoon Barry Lipton	
STUDENTS/ DENTAL	Evan Black Alexander Ahmadi Stephanie Vazana	
ABSTRACT	In the field of forensic science, mass disasters and other environmental concerns regarding death and victim identification are an unfortunate reality. However, with available emerging technologies and techniques within the field of dentistry, we can apply a new age of modern forensic odontology to help provide closure to the families and loved ones of those involved in fatal events where the remains are fully skeletonized or disfigured. Certain key forensic modalities such as DNA, fingerprints, or natural teeth may not always be available to analyze after death. Events worthy of note include those of mass disasters with incineration, acidic or basic bodily decomposition in criminal activity, and environmental decomposition. Antemortem and postmortem radiography of previous restorative dental work has been pivotal in evaluating unidentified remains and helping with victim identification. Currently, dental implants have been thrust into the forefront of new treatment options for many patients under the care of dental practitioners. With an increasing prevalence of implant treatment within the population, the significance of these procedures within the forensic community should be evaluated. Previous research has been conducted to test the ability of implant material to withstand high temperature, but minimal research has been documented in vitro with various implant designs. Our study analyzes the prevalence of serial or batch/lot numbers amongst 330 implant companies on the body of physical implants themselves, the retention of those numbers amidst testing of environmental stressors such as acid, base, burial and incineration, and also the effects of those stressors on the implant surface topography utilizing scanning electron microscopy.	
NUMBER:	**SDM 830**	

School of Dental Medicine Posters

TITLE	**Correlation between palatal height and seasonal allergies.**	
MENTOR	Joel Felsenfeld	
STUDENTS/ DENTAL	Daniel Sorokolit Kayahan Kosar	
ABSTRACT	Allergies are an overreaction of the immune system to substances that generally do not affect other individuals. These substances, or allergens, can cause sneezing, coughing, and itching. Allergic reactions range from merely bothersome to life-threatening. Some allergies are seasonal, like hay fever. Allergies have also been associated with chronic conditions like sinusitis and asthma. (CDC) Allergies are the 6th leading cause of chronic illness in the U.S. with an annual cost in excess of $18 billion. More than 50 million Americans suffer from allergies each year. (CDC) The objective of this study is to find a correlation between tall palatal heights and seasonal allergies. This would be done using patients' stone casts of the maxillary impressions to measure palatal heights along with recording whether or not the patient has allergies. Cone beam measurements could also be used. Allergies are to be defined as: allergic Rhinitis due to seasons Palate heights are to be defined as: Normal, Medium, or Tall Index of palatal height = (palatial height x100) / palatal width - Low = 27.9mm; Med = 28-39.9mm; Large = above 40mm Possible future correlations include: palatal height to mouth breathing; mouth breathing to seasonal allergies	

NUMBER:	**SDM 831**	
TITLE	**In vitro study investigating the dentin tubule occlusion properties comparing dipotassium oxalate against potassium nitrate**	
MENTOR	Thomas Yoon	
STUDENTS/ DENTAL	Viet Tran	
ABSTRACT	Purpose: To compare in vitro the ability of dipotassium oxalate against potassium nitrate to occlude dentin tubules. Methods: Scanning electron microscopy (SEM) was used to compare dentin tubule occlusion and resistance to an acid challenge where human dentin was treated with product twice daily and exposed acid challenges on Days 3 and 4. Visual occlusion was measured and graded. Results: Pending	

School of Dental Medicine Posters

NUMBER:	**SDM 832**	
TITLE	**Lip Prints and Identification in Forensic Dentistry**	
MENTOR	Thomas Yoon Barry Lipton	
STUDENTS/ DENTAL	Eliza Kim Maggie Pahl	
ABSTRACT	In the modern forensic odontology field, there are a lot of questions raised when it comes to identification of a victim or suspect with methods other than dentition identification and matching. Bite marks can be of controversial subject and the use of lip prints has also been questioned. Cheiloscopy is a forensic investigation technique that deals with identification of humans based on lips traces. Previous research has focused on the categorizing of lip prints, and to determine if they are truly as unique as one's fingerprints. The question is if the wrinkle pattern on the vermillion border of the lips can be synonymous to the uniqueness of fingerprint patterns for individuals.	

NUMBER:	**SDM 833**	
TITLE	**Medical Offering Influences Dosage Compliance for HPV Vaccination**	
MENTOR	Jonathan Coffman Tim Novak David Molnar	
STUDENTS/ DENTAL	Phennatda Polpornvitoon	
ABSTRACT	The human papillomavirus is a ubiquitous pathogen that been linked to cervical cancer, head and neck tumors and oral cancer. A tetravalent, recombinant protein vaccine was developed that included a requirement of 3 doses for efficacy. Clinical trials demonstrated that the vaccine was 100% effective (95% CI 72–100) against VIN2–3 or VaIN2–3 associated with HPV16 or HPV18, and the vaccination induced antibodies that cross reacted with 22 strains of the virus. Opposition to the vaccine has included concerns about safety, sexual behavior and age. The theory of reasoned action (TRA) and the theory of planned behavior (TPB) are two socio-psychological theories that include constructs of perceived norms where important people support a person's action, in this case, vaccination. Perceived norms influence physician's willingness to vaccinate (Mclaure 2010), influence parents (Allen et al, 2010, Ogilvie 2007), initiate vaccination (Hopfer & Clippard 2011) and complete vaccination (de Visser et al, 2011).	

School of Dental Medicine Posters

NUMBER:	**SDM 834**	
TITLE	**The intervention of endo sealer in combination with curcumin produces a long term release of anti-bacterial activity against E. faecalis, which results in a better prognosis for root canal treated teeth than endo sealer alone.**	
MENTOR	Thomas Yoon Katie Dinh	
STUDENTS/ DENTAL	Phennatda Polpornvitoon Ernest Wong	
ABSTRACT	Enterococcus faecalis are often found in failed root canal-treated teeth and is known to harvest these nosocomial bacteria. The purpose of this research is to test the hypothesis that endo sealer in combination with curcumin would produce a better prognosis for RCT then endo sealer alone. The use of curcumin as a source of antibacterial, anti-inflammatory, and its ability to suppress osteoclastogenesis would reduce the chance of E. faecalis to survive in endodontic treated tooth. Thus, the new incorporate material would reduce the chance of RCT failure.	

NUMBER:	**SDM 835**	
TITLE	**Bruxism and Its Corresponding Risk Factors and Comorbidities among Pediatric Patients in Bradenton, FL**	
MENTOR	Stacey Lubetsky	
STUDENTS/ DENTAL	Anthony Vanzo Lauren Barkley Cara Fink	
ABSTRACT	The emphasis of this study will be upon examining the risk factors that can lead to pediatric patients being more likely to develop some type of dangerous parafunctional habit. The data found will help dentists and parents identify ways to prevent or lower the chances of the pediatric patient causing unwanted occlusal trauma. With varying information in regards to the etiology and risk factors for bruxism in the pediatric population, this survey could help provide the proper education and information to give to parents.	

School of Dental Medicine Posters

NUMBER:	**SDM 836**	
TITLE	**The valve of the inferior vena cava: A report of three cadaveric specimens**	
MENTOR	Dewan Raja	
STUDENTS/ DENTAL		
ABSTRACT	The valve of the inferior vena cava has an important role to propel a significant volume of right atrial blood to the left atrium through the patent foramen ovale to detour the pulmonary circulation. The foramen ovale is closed immediately after birth and most of the valve of the inferior vena cava disappears after birth. We are reporting literature reviews about persistent valve of the inferior vena cava in the images of three cadaveric specimen and their embryogenesis. To our knowledge this type of study is the first in cadavers. We searched the relevant information from the PubMed, endnote, and textbooks about the epidemiology and possible complications of persistent valve of the inferior vena cava. Persisting valve of the inferior vena cava may obstruct the normal circulation. It may be associated with atrial septal defect, pulmonary embolism, cyanosis, tachycardia, endocarditis, clubbing, and sudden death. In conclusion the valve of the inferior vena cava has advantages before birth and disadvantages after birth	

School of Dental Medicine Posters

NUMBER:	**SDM 837**	
TITLE	**The Assessment of Vertical Integration Amongst Second and Third Year Students For a Dental Hygiene Course**	
MENTOR	None	
STUDENTS/ DENTAL	Sandra Wolf Mathew Bateman Thomas Yoon	
ABSTRACT	Background: Dental education has experienced numerous changes in curricula as a means to better prepare future clinicians. The incorporation of Vertical Integration (VI) into the current dental education structure has received much recent attention. There is limited research on VI being utilized in current dental schools. This study investigated the effects of Vertical Integration on second and third year dental students for a dental hygiene course. Methods: IRB approval was obtained, Protocol #24-121. For eight weeks, third year dental students assumed a teaching role as part of a dental hygiene course for second year students who received early patient experience as a vertical integration component. Three specific aspects were investigated for this study: course evaluations, an electronic survey, and a student debrief. Course evaluations that were previously completed by all second, third, and fourth year dental students were retrospectively compared. An anonymous electronic survey was also sent out to second and third year students who took part in the course (D2s: n=62; D3s: n=36). 10 second year students and 10 third year students volunteered to be part of a student debrief in order to provide a qualitative component of the results of this study. The course evaluations and electronic survey were repeated the next year to see changes in perceptions of students who experienced the new educational model by assuming both roles. Results: Analysis for the initial study showed a positive trend over time with D2s consistently rating the highest. The course evaluations (rated from 1 to 5) showed no significance between the D2s and D3s, although both classes rated the course fairly highly. Analysis from the electronic survey showed significance on 5 questions regarding the course ($p<.05$). The overall impression from the student debrief was that vertical integration was a rewarding experience. The extension of the study for the following year showed improvement in multiple categories as well in the student evaluations. Conclusions: Our results suggest that Vertical Integration in a dental school setting can be beneficial in conjunction with current dental courses, with proper attention to knowledge of student roles and standardization for students and faculty.	

School of Dental Medicine Posters

NUMBER:	**SDM 838**	
TITLE	**Simulated Immediate Implant Placement Considerations Cone Beam Computer Tomography Assessment**	
MENTOR	Thomas Yoon	
STUDENTS/ DENTAL	Sandra Wolf Stephanie Vazana	
ABSTRACT	Placing immediate implants in the anterior region of the maxilla poses the risk of invading the incisive canal. Invasion of the incisive canal can lead to nerve damage and inadequate osseointegration, thus a poor long term prognosis. Cone beam computed tomography (CBCT) is an effective instrument used to visualize the anatomical landmarks in the maxillary and mandibular arches. Utilizing this technology may be beneficial in the placement of immediate implants. The design of the implant being immediately placed plays a role as well, specifically with the taper of the specific implant. Implant taper varies between different implant companies and should be investigated. 100 CBCT scans will be selected from the LECOM School of Dental Medicine patient image database. All scans were taken prior to April 6, 2018 and are currently within the database. Cases will be selected based on candidacy for immediate implant placement of tooth #8 or #9. There will be no patient identifiable information recorded. Subjects will be assigned new record numbers 1-100 that will not be linked to any patient identifiers. Each case will then be used for simulation of immediate implant placement utilizing the CBCT. Implants with different taper will be placed virtually to compare and see if there is invasion of the canal. Collecting data from these simulations will be used to determine the effectiveness of CBCT in the appropriate placement of implants, specifically impinging on the incisive foramen.	

School of Dental Medicine Posters

NUMBER:	**SDM 839**	
TITLE	**Comparing Dental Cements and Their Effects on Bacteria Associated with Peri-Implantitis: an in vitro study**	
MENTOR	Thomas Yoon	
STUDENTS/ DENTAL	Stephanie Vazana Sandra Wolf	
ABSTRACT	Peri-implantitis is a polymicrobial, destructive inflammatory process. Current research has shown various microbes as being contributory to the infection, with the consensus including moderate evidence of S. mutans, P. intermedia, T. forsythia, E. faecalis, F. nucleatum, some evidence of C. rectus, T. denticola, A. actinomycetemcomitans, and even Candida albicans. The purpose of this study is to evaluate the effects of various dental cements and their role in inhibiting or propagating bacteria currently associated with peri-implantitis. These results will be helpful in clinical practice when it comes to selecting the proper dental cements to restore implants. Specimen disks will be fabricated to act as vehicles for the various cements. Cements that will be analyzed include: TempBond (TB), RelyX, Premier Implant Cement (PIC), Durelon (polycarboxylate), and zinc phosphate. Once disks are prepared, each will be submerged in various bacterial suspensions, which include those of Streptococcus mutans, Aggregibacter actinomycetemcomitans, Enterococcus faecalis, and Treponema denticola. Interactions with Candida albicans will also be evaluated. The bacterial growth in the suspensions will be assessed by determining the optical density of the cultures (OD570). Specific bacteria will also be grown on agar media in order for colony forming units to be quantified, based on results of the OD570 tests. This is a currently ongoing study.	

NUMBER:	**SDM 840**
TITLE	**Concurrent Manifestation of Florid Cemento-Osseous Dysplasia (FCOD) and Systemic Lupus Erythematosus (SLE) in a 48 year old Cambodian Female**
MENTOR	Alexandra Manibo
STUDENTS/ DENTAL	Jessica Mustelier
ABSTRACT	This case report aims to discuss manifestations of Florid cemento-osseous dysplasia and systemic lupus erythematosus as it presents as simultaneous co-morbidities in a patient treated for routine dental care at the Lake Erie College of Osteopathic Medicine, School of Dental Medicine clinic in Bradenton, FL. After literature review and to the best of the authors' knowledge concurrent presentation of these diseases has yet to be presented in current literature. Pathophysiology of each condition will be reported with a timeline of the patient case.
NUMBER:	**SDM 841**

School of Dental Medicine Posters

TITLE	**Follow-up Analysis of Implant Training in Oral and Maxillofacial Surgery Residency Programs in the United States**
MENTOR	Dennis Youngblood
STUDENTS/ DENTAL	Phennatda Polpornvitoon Kevin Vernet Tuan Le
ABSTRACT	As of April 2017, according to the Kaiser Family Foundation, there are 6,147 Oral Surgeons within the United States. As of 2016, according to the American Association of Oral and Maxillofacial Surgeons, there are 187 Accredited OMS Programs. The status of implant training in US oral and maxillofacial surgery programs has been reported previously based on data assembled from residency program directors. Since the time of those earlier surveys, however, many new technological and surgical developments have occurred in implant therapy. The purpose of this study is to evaluate the present status of implant training in oral and maxillofacial surgery residency programs in the United States.

School of Dental Medicine Posters

NUMBER:	**SDM 842**
TITLE	**Concentration Dependent Effects of Pyridoxine on Mouse Neuronal and Glial Cells**
MENTOR	Todd Nolan Purushottam Lamichhane
STUDENTS/ DENTAL	Luisa Barrueto Lindsay Cash Fracncheska Caminero
ABSTRACT	Sensory deficits can have a profound effect on quality of life, whether it is the development of a profoundly painful condition such as trigeminal neuralgia or something more benign such as the loss of feeling. Pyridoxine is the form of vitamin B6 that is commonly found in multivitamins and energy drinks. Pyridoxine has also been used empirically to treat various conditions, including side effects of isoniazid, treatment of pyridoxine-dependent epilepsy, depression, morning sickness, hypertension and as an adjuvant to chemotherapy (4). However, high dose pyridoxine has been implicated in the development of sensory and motor deficits, which may magnify the already high emotional effects suffered by people undergoing chemotherapeutic treatment. Our research proposes to examine the effect of pyridoxine on neuronal cell cultures. Mouse embryonic stem cells will be purchased and differentiation will be induced to form neural stem cells, which will then be further differentiated to form motor neurons and astrocytes. We have chosen to observe the effect of pyridoxine on these 2 cell types because until now, the majority of research on vitamin B6 induced toxicity has focused on sensory neuralgia. However, there have been instances where B6 supplementation has led to motor deficits that have not been well studied.

LECOM Bradenton Interprofessional Research Day 2018.

Research, a LECOM Journey of Discovery

POSTER PRESENTATIONS:

School of Pharmacy: **SOP 601 – SOP 625**

LAKE ERIE COLLEGE OF OSTEOPATHIC MEDICINE

School of Pharmacy Posters

NUMBER:	**SOP 601**	
TITLE	**Do the benefits of prophylactic antibiotics for asthma/COPD outweigh the risks?**	
MENTOR	Kelly Scolaro	
STUDENTS/ PHARM	Mavis Sakyi Derek Whitecotton Rashad Dalaq Ghazal Blair Linh Tran	
ABSTRACT	Background: COPD is the 3rd most common cause of death in the US while asthma is the leading cause of activity limitation and costs our nation billions of dollars annually. Although there has been a slight decline in rates of death related to these diseases over the past few decades, these diseases are still a major concern in the healthcare society. With recent COPD GOLD Guidelines updates, prophylactic antibiotics may be used in COPD patients who experience frequent exacerbations. With increased antibiotic use, we as pharmacists worry about a few things: Adverse effects and resistance. Objective: To determine the benefits of prophylactic antibiotics for asthma/COPD patients and to see if these benefits outweigh the risks. Methods: We conducted systematic search through pubmed, embase and google scholar. We also use the GOLD guidelines 2017 and GINA guidelines 2017. The study search included macrolide antibiotic prophylaxis and resistance in COPD and asthma exacerbation. We also included limitations within 10 years using human population and randomized control trial (RCT) Results: GINA guidelines do not recommend routine antibiotics for asthma exacerbations in the other hand GOLD guidelines recently added macrolides as a recommendation for COPD patients experiencing frequent exacerbations. In order to add prophylactic antibiotic use to prevent exacerbation further asthma studies are needed to support claims. Conclusion: In order to add prophylactic antibiotic use to prevent exacerbation further asthma studies are needed to support claims. Anti-Inflammatory properties of macrolides need further studies and resistance rates need to be assessed thoroughly. Guidelines need to be established to ensure maximum benefits are achieved while keeping resistance rates to a minimum	
NUMBER:	**SOP 602**	

School of Pharmacy Posters

TITLE	**What is the Comparative Effectiveness of Abaloparatide Versus Teriparatide in Osteoporosis?**	
MENTOR	Julie Wilkinson	
STUDENTS/	Caroline Koshy Amanda Tonti Calvin Mason Chakshu Sharma Kennen Munoz Munoz Vy Dang	
ABSTRACT	Introduction. About 20 million Americans with osteoporosis and over two million bone fractures are reported every year nationwide. Osteoporosis is a skeletal disorder that causes an increased risk of fractures in patients due to compromised bone strength due to underlying problems in the bone density and/or bone quality. Osteoporotic fractures cause morbidity, mortality, and a decreased quality of life. Bisphosphonates, such as risedronate and alendronate, and a monoclonal antibody, denosumab, are recommended as initial therapy in most patients that have high fracture risk. Teriparatide and abaloparatide, the only two FDA approved anabolic agents, are used in: post-menopausal women, patients who are unable to use oral therapies, at a significantly high risk for fractures, or have failed previous therapies. Methods. A search was conducted for articles to find the comparative effectiveness, including efficacy, safety, and cost, of teriparatide compared to abaloparatide. There were five pertinent trials, four trials studying direct drug efficacy and one focusing on bone histology. Results. Relevant outcomes included increase in bone mineral density (BMD), reduction in vertebral and non-vertebral fractures, lower cortical porosity, and change in calcium levels. Efficacy results showed an insignificant difference between changes in bone mineral density and non-vertebral fractures between patients treated with teriparatide versus abaloparatide. Abaloparatide was shown to be superior to teriparatide in lower prevalence of hypercalcemia during treatment. Additional studies must be conducted to prove the difference in safety between the two drugs, including the risk of osteosarcoma.	
NUMBER:	**SOP 603**	
TITLE	**The Comparative Analysis of Bridging Therapy: New Oral Anticoagulants**	

	vs Heparin	
MENTOR	Sunil Jambhekar	
STUDENTS/ PHARM	Yosor Altabtabaee Omar Alnafoosi Chelsea O'Berry Khara Tirb Kristen Glover Stephanie Romano	
ABSTRACT	Objective: Determine whether NOACs show a lower risk of bleeding when used in bridge therapy compared to LMWH. Background: The number one drug responsible for emergency department admissions due to adverse events is warfarin. The most commonly prescribed oral anti-coagulant has the intention to treat/prevent blood clots but the capability to make a patient bleed so bad that it may become life-threatening or even fatal. NOACs were introduced in 2010 when the FDA approved Dabigatran, a thrombin inhibitor which has a much lower risk for bleeding. "Bridge" therapy can be used in patients undergoing a major surgery. It involves the administration of a short acting anticoagulant during the peri-operative period, when the patient is not taking any chronic oral anticoagulants. Bridge therapies main purpose is to minimize the risk of bleeding during the peri-operative period and lower the risk of a thromboembolic event. Methods: Examined clinical trials that compared traditional bridging therapy with LMWH vs. Xa Inhibitors, thrombin inhibitors and uninterrupted warfarin. Recircut focused on a direct thrombin inhibitor, dabigatran vs warfarin. BRUISER-1 trial compared LMWH bridging to uninterrupted warfarin therapy and COMPARE looked into the use of standard bridging with enoxaparin vs. warfarin. Results: It was found that NOACs like dabigatran were indeed the better choice in patients undergoing major surgeries instead of LMWH bridging. Xa inhibitors specifically improved patient outcomes compared to LMWH. Ultimately whether to use Xa inhibitor bridging in a high risk patient compared to the traditional bridging with LMWH is still termed inconclusive.	

School of Pharmacy Posters

NUMBER:	**SOP 604**	
TITLE	**Male Breast Cancer: The Forgotten Malignancy**	
MENTOR	Kenneth Bauer	
STUDENTS/ PHARM	Christina Albert David Hampton Ryan Coddington Donteeno Todd Joseph Jiannetti Travis McKoy	
ABSTRACT	Background: According to the CDC, in 2014, 2,141 men in the USA were diagnosed with breast cancer. Of these men, 465 men died from from breast cancer. Although male breast cancer is an uncommon disease accounting for roughly 1% of all breast cancer cases, male breast cancer has been on the slow rise since the 70's. Objective: Due to the infrequency of the disease, guidelines for screening and identification are lacking. When compared to women, men are more likely to be diagnosed with advanced stage breast cancer. This difference is believed to be due to decreased awareness, decreased risk perception, and lack of clinical guidance. In this review, information is compiled on epidemiology, etiology, and risk factors to help guide screening and identification of male breast cancer. Results: After reviewing several articles, risk factors identified that can place a male at a higher risk of male breast cancer are transurethral resection of the prostate, BRCA1/2, gene mutations, gynecomastia, and klinefelter's. Conclusion: Males with these risk factors should be informed of the complications of male breast cancer, instructed how to perform a proper self-examination, and obtain yearly clinical checkups.	

School of Pharmacy Posters

NUMBER:	**SOP 605**	
TITLE	**Emerging Hepatitis C Treatments: A Cost Effectiveness and Safety Analysis**	
MENTOR	Kenneth Bauer	
STUDENTS/ PHARM	Stephen Roscher Hubert Davis Jr Traniece Fullwood Natalia Manzano Shelby Swartzentruber Kadie Hoang	
ABSTRACT	Chronic Hepatitis C virus (HCV) is a blood-borne virus that currently affects 3.2 million Americans. If untreated, Chronic HCV can progress to cirrhosis, hepatocellular carcinoma, and eventually cause end stage liver disease. Previously, the mainstay of therapy was ribavirin and interferon-based. However, direct-acting antivirals (DAA) have become the first line therapy recommended by guidelines due to their safety and efficacy profile. The barrier to many patients receiving DAAs is cost. We sought to perform a cost effectiveness and safety analysis of Harvoni (ledipasvir-sofosbuvir), Mavyret (glecaprevir-pibrentasvir), and ribavirin plus peginterferon alfa-2a in patients with chronic HCV of genotype 1 with cirrhosis. Harvoni and ribavirin plus peginterferon alfa-2a are covered by Florida Medicaid, whereas Mavyret is not. A 12-week course of Mavyret provided a 99% sustained virologic response (SVR) in the EXPEDITION-1 trial at $39,600, a 12-week course of Harvoni provided a 94% SVR in the ION-1 trial at $94,500, and a 48-week course of ribavirin plus peginterferon alfa-2a provided a 43% SVR at $75,519. Additionally, Harvoni and Mavyret have demonstrated mild adverse events compared to ribavirin plus peginterferon alfa-2a thus DAAs have favorable safety characteristics. Mavyret was concluded to be the most cost effective, dominating Harvoni and ribavirin plus peginterferon alfa-2a due to higher efficacy and significantly decreased cost.	

School of Pharmacy Posters

NUMBER:	**SOP 606**	
TITLE	**Effectiveness of conventional therapy in decreasing CAPS score in patients with combat-related post-traumatic stress disorder**	
MENTOR	Aashish Morani	
STUDENTS/ PHARM	Crystal Maharaj Hadiyah Humayun Farhana Akter Veronica Bell Maggie Braxton Hasan Alnafoosi	
ABSTRACT	Background: Post traumatic stress disorder (PTSD) is characterized by difficulty in recuperating following a traumatic life event. PTSD is effectively managed by major antidepressants. Clinical administered PTSD scale (CAPS) is a qualitative tool used to diagnosis PTSD and is considered as a gold standard in PTSD assessment. The aim of this study was to determine the effectiveness of the antidepressant drugs in lowering total CAPS score. Methods: A meta-analysis was performed to assess the effectiveness of major antidepressant drugs (fluoxetine, paroxetine sertraline, venlafaxine) on total CAPS score reduction. Four randomized control trials (RCT) published were included in the study, which represents 554 participants. A random-effect model was used to analyze the effect on total CAPS score reduction compared to baseline for each drug. All the four RCT's were placebo controlled. Results: Total CAPS score significantly improved with venlafaxine XR at 6 months (-51.7). Sertraline showed significant total CAPS score reduction at 12-months (-42.22). Similarly, fluoxetine displayed improvement in total CAPS score reduction at 12 weeks (-31.12). However, paroxetine showed minor improvement in total CAPS score reduction at 12 weeks (-3.4). Conclusions: Venlafaxine XR is currently not FDA approved for the treatment of PTSD, however it was proven to be safe and effective. Sertraline had promising results in total CAPS score reduction, which confirms its use in PTSD. Fluoxetine also had positive results, but it was concluded a larger scale trial should be done. Data on paroxetine also concluded further studies is needed to confirm it's use in PTSD.	

School of Pharmacy Posters

NUMBER:	**SOP 607**	
TITLE	**Delaying diabetes by controlling pre-diabetes**	
MENTOR	Deepak Gupta	
STUDENTS/ PHARM	Aimara Gonzalez Sobrino Ai-Ja Jackson Haley Fitzpatrick Jason Schneider Elisha Thomas Sandy Lam	
ABSTRACT	The prevalence of diabetes has been increasing world-wide. Diabetes can cause long term complications when it is not managed correctly. Many of these complications include, but are not limited to hypertension, dyslipidemia, peripheral neuropathy or retinopathy. Therefore, it is to our best interest to try and delay diabetes by controlling pre-diabetes. As we eat, our body will break down starches and sugars and convert them to glucose. Our body regulates the blood glucose with a peptide hormone, insulin, which is secreted from the beta cells. When the beta cells become impaired, there is no insulin secretion and the cells can not regulate the glucose properly, leading to increase in blood glucose levels. Pre-diabetes occurs when there is too much glucose in the body as compared to normal, but is not high enough to be diagnosed with diabetes. According to the ADA guidelines, having a FPG of 100-125 mg/dL, PPG (2 hr) of 140-199 mg/dL and an A1C of 5.7-6.4%, puts a person in a pre-diabetic state. Controlling glycemic levels helps delay diabetes and its complications. Many interventions have been proposed to control high glycemic levels which have shown to lower the risk of diabetes. The main objective of this research is to show how the use of herbal supplements (Vitamin D, Black Tea, and Aloe Vera), lifestyle management, and a pharmacological treatment with Metformin could be promising in delaying diabetes.	

School of Pharmacy Posters

NUMBER:	**SOP 608**	
TITLE	**The Use of Vitamins and Supplements in Alzheimer's Disease**	
MENTOR	Kathleen Hitchcock	
STUDENTS/ PHARM	Celestine Che Michael DiCamillo Amina Meier Amber Brammer Lissette Logan Whitney McGuire	
ABSTRACT	Background: Alzheimer's Disease (AD) is marked by a cognitive decline with deterioration of functional abilities and behavioral disturbances. Two of the more prominent diagnosis and monitoring examinations in AD are Mini-Mental State Examination (MMSE) and Activities of Daily Living (ADL). There is no cure for AD. Utilization of acetylcholinesterase inhibitors and N-methyl-D-aspartate receptor antagonists can slow the progression of the disease. Objective: To evaluate benefits of natural over-the-counter (OTC) products to counteract the progression of mild to moderate AD. Methods and Findings: We conducted a systematic review on PubMed and TripDatabase. After applying our limitations of randomized controlled trials (RCTs) using human participants within the past 10 years, we checked the studies to see if MMSE and/or ADL were included as outcomes. The search restrictions provided 5 articles to include in this analysis. The trials spanned anywhere from 4 to 27 months in length. Vitamins and supplements examined in the trials included vitamin E, vitamin C, alpha-lipoic acid (ALA), B12, B6, folic acid, curcumin, ginseng, and CoQ10. Supplements were given as mono- or combination therapy. The patients using vitamin E had the least amount of cognitive and functional decline. However, one of the studies using vitamin E also identified a higher mortality rate in patients. Conclusions: Due to the increased mortality of patients on vitamin E, our group concluded that a combination of folic acid, B12, and B6 was the safest and most effective option for delaying the worsening of AD.	

School of Pharmacy Posters

NUMBER:	**SOP 609**	
TITLE	**Emerging Tyrosine Kinase Inhibitors in Acute Myeloid Leukemia**	
MENTOR	Ningning Yang	
STUDENTS/ PHARM	Oscar Njume Diana Doan Phat Hoang Carolyne Da Silva Grettel Rodriguez Madison Saxton	
ABSTRACT	Objective. Compare emerging tyrosine kinase inhibitors based on clinical trials success, failure and current activity in adult acute myeloid leukemia (AML) patients with a positive FMS-related tyrosine kinase 3 (FLT3) mutation. Methods. Investigated clinical trials that compared results of novel tyrosine kinase inhibitors targeting the FLT3 mutation. The medications included midostaurin, sorafenib, gliterinib, and lestaurtinib. Studies assessed three randomized clinical trials and one retrospective study analysis. These emerging drug therapies were evaluated by their place in therapy, reported clinical outcomes, and current FDA status. The endpoints considered included improved overall survival (OS) and complete remission (CR) in AML patients with a positive FLT3 mutation. Results. Studies reviewed overall benefit in targeting the FLT3 mutation in AML. From the four studies, midostaurin is currently the only FDA approved medication to treat AML with a 22% increase in OS (p=0.009). Gilteritinib exhibited promising FLT3 inhibition correlating with remission rates and was placed on fast-track to phase 3 trials by the FDA. Sorafenib showed improved overall survival by 19% (p=0.029) and is assigned as off-label use in refractory AML. Lestauritinib failed to show statistically significant improvements in OS and CR (p=0.25). Conclusion. Additional small molecule tyrosine kinase inhibitors and other therapies targeting the elusive FLT3 mutation are currently under development and being studied in clinical trials. It is predicted that over the next few years there will be a rise in the amount of therapies targeting common mutations, especially the FLT3 mutation in AML.	

School of Pharmacy Posters

NUMBER:	**SOP 610**	
TITLE	**Use of IV Magnesium in Pediatric Sickle Cell Vaso-occlusive Crisis**	
MENTOR	Michael Mueller	
STUDENTS/ PHARM	Alexandra Mollanazar Navid Golab Zachary Siegel Rosalin Carranza Khanh Le John Maneno	
ABSTRACT	Purpose: To evaluate the efficacy of IV magnesium in treating pediatric sickle cell patients experiencing vaso-occlusive crisis. Sickle cell anemia (SCA) is a disease of mutated hemoglobin which alters the size, shape, and oxygen carrying capacity of red blood cells. SCA leads to severe pain from vaso-occlusion that requires hospitalization. Magnesium provides vasodilatory and anti-inflammatory effects that improve dilation and decreases clotting of red blood cells within veins. By administering IV magnesium as an adjunct treatment during a vaso-occlusive crisis, there may be improvement in pain, hospital length of stay, and need for opioid analgesics. Methods: Trials evaluating the use of IV and oral magnesium during vaso-occlusive crisis for pediatric patients with SCA were obtained from PubMed and Ovid. Trials were limited to pediatric patients and analyzed the impact on pain levels, length of stay, and reduction in additional opioid based treatment. Results: IV Magnesium use in vaso-occlusive crisis was not found to be effective in reducing pain, length of stay, and use of analgesics for pain management. Conclusion: Further studies should be completed to determine other options for this population, however at this time, the use of IV magnesium should not be recommended for vaso-occlusion pain in pediatric SCA patients.	

School of Pharmacy Posters

NUMBER:	**SOP 611**	
TITLE	**Implementing CFTR Modulator Treatments to Preserve Lung Functions in CF Patients**	
MENTOR	Stephanie Peshek	
STUDENTS/ PHARM	Stephanie Sugarman Liliana Reyes Yi Kim Zeba Siddiqui Kaytie Weierstahl Janelle Paramore	
ABSTRACT	Objective: Assess efficacy of three FDA-approved CFTR modulation therapies (Orkambi, Kalydeco, Symdeko) in the treatment of CF patients homozygous for F508del or G551D mutation. Introduction: Cystic fibrosis (CF) is a chronic, genetic condition characterized by near constant lung infections, excess mucus production, and various organ dysfunction. Development of CF stems from a variety of different mutations in the cystic fibrosis transmembrane conductance regulator (CFTR), thereby altering the function of essential chloride channels. Until recently, individualized treatment focused solely on alleviation of symptoms, but with the advent of CFTR modulation therapy, the root cause of CF can be addressed, and the ultimate goal of preserving lung function and prolonging life expectancy can potentially be obtained. Methods: Analyzed six randomized controlled and one open-label trial in patients 1) aged 2 years and older, 2) homozygous for F508del or at least one G551D mutation, 3) receiving either Orkambi, Kalydeco, or Symdeko. Therapeutic assessment focused on preservation of lung function (i.e. spirometry, LCI) CFTR modulation (sweat chloride test), and quality of life (CFQ, CFQ-R). Results: In whole, the seven studies showed statistical improvements in the absolute and relative changes in FEV1, quality of life, and sweat chloride tests in patients using CFTR modulators as compared with those receiving placebo. Therefore, patients feel better overall, lung function is improved, and CFTR channels show improved functioning than those not receiving the CFTR modulators.	

School of Pharmacy Posters

NUMBER:	**SOP 612**	
TITLE	**An Overview of Anticoagulant Reversal Agents & Antidotes**	
MENTOR	Deepak Gupta	
STUDENTS/ PHARM	Lydia Rivera Cruz Dominic Cordisco Meilin Paule Tazmin Sultana Edgardo Suarez	
ABSTRACT	Anticoagulants are used extensively to prevent blood clots that can potentially block a blood vessel and disrupt circulation of blood around the body. They are broadly used in conditions such as stroke, pulmonary embolism, heart attacks, transient ischemic attacks, and deep vein thrombosis, for example. On the other hand, in cases of life threatening situations of uncontrollable bleeding, there are reversal agents that counteract the effects of anticoagulants. For example, Vitamin K is the FDA-approved reversal agent for warfarin, Idarucizumab reverses the effect of Dabigatran, and Protamine Sulfate reverses the effect of UFH and LMWH. A new medication that is currently in a phase III trial, Andexanet Alfa, will assist in the reversal of factor Xa inhibitors such as Rivaroxaban, Apixaban, and Edoxaban. Another drug that is in the process of approval and is currently in phase II trial is Ciraparantag, which will be helping in the reversal of the effects of factor Xa inhibitors, Dabigatran, LMWH, and UFH. It is important to fully understand how to effectively manage a major bleeding event with the correct reversal agent. Understanding clinical profiles of anticoagulant medications currently available and efficiently developing treatment plans using the appropriate reversal agent will support the physician in adequately managing a life-threatening situation.	

School of Pharmacy Posters

NUMBER:	**SOP 613**	
TITLE	**Treatment of T2DM patients with newer classes of drugs (SGLT2I, GLP-1I, DPP-4I) compared to the landmark trials (UKPDS, ACCORD, ADVANCE, VADT)**	
MENTOR	Marcus Campbell	
STUDENTS/ PHARM	Susan Lam Clarisse Mukeshimana Fleurancia Rene Leibniz Frometa Martinez Jerry Roche Fauzi Alhumaidi	
ABSTRACT	Background: Diabetes is increasing astronomically and is the 7th leading cause of death in the United States. The American Diabetes Association states that 193,000 youths under the age of 20 are diagnosed with diabetes and 30.3 million Americans have type 2 diabetes mellitus (T2DM). Every year, 1.5 million Americans are diagnosed with T2DM. Methods: Pubmed, Ovid, and Embase were used to search for articles pertaining to cardiovascular disease, type 2 diabetes, and cardiovascular events. Some of the limitations include randomized control trial, published <5 years ago, and in the English language. Results: Landmark trials for T2DM such as the United Kingdom Prospective Diabetes Study (UKPDS), Action to Control Cardiovascular Risk (ACCORD), Action in Diabetes and Vascular Disease: Preterax and Diamicron Modified Release Controlled Evaluation (ADVANCE), and Veterans Affairs Diabetes Trial (VADT) were based on sulfonylureas as the mainstay of therapy for T2DM in order to reduce patients' A1C levels. The Empa Reg Trial used empagliflozin and found a vast improvement in cardiovascular (CV) events. The study led to an additional indication for reduction of CV events approved by the FDA for empagliflozin. The Liraglutide and Cardiovascular Outcomes in Type 2 Diabetes trial also found benefits in using a new class of T2DM in patients with advanced disease. Conclusions: Advancements shown in these trials may open stricter treatment goals in T2DM patients and increase their overall quality of life.	

School of Pharmacy Posters

NUMBER:	**SOP 614**	
TITLE	**Evaluating the Safety and Efficancy of Medical Marijuana in Crohn's Disease**	
MENTOR	Alex Vazquez	
STUDENTS/ PHARM	Samuel Appiah Ashleigh Beachy Amanda Cortes Michelle Nerney Ngoc Phuong Nguyen Bishoy Gad	
ABSTRACT	Purpose: The purpose of this project is to analyze the safety and efficacy of using cannabis to treat Crohn's disease. Various studies were examined supporting the notion of cannabis being efficacious in patients with Crohn's disease. Active agents in the cannabis plant have been shown to stimulate appetite, decrease pain, reduce inflammation and act as antiemetics. However, there are conflicting studies questioning the safety of cannabis as a pharmacologic agent. Methods: Data was compiled from a primary literature search using Pubmed and Ovid. Key terms included medical marijuana, cannabis, Crohn's disease, and inflammatory bowel disease. Results: Multiple articles supported the use of cannabis with different types of gastrointestinal diseases. Using the CDAI score, 5 patients in the intervention group entered remission and 1 patient in the placebo group entered remission in one study. This was defined as a score of 150 or less. In another study, the CDAI scores decreased from 337 to 220. In an observational study, the Harvey Bradshaw Index was used to evaluate patients and 21 patients saw improvement. SIBDQ surveys were done in 3 studies where the majority or at least half of the patients had improvement in Crohn's symptoms. Overall, the results of each study were not clinically significant. Conclusion: Due to the lack of consistent dosage forms, trial designs, and safety profiles in studies, additional research and trials are needed to validate the use of cannabis as a pharmacologic agent in treatment of Crohn's disease.	

School of Pharmacy Posters

NUMBER:	**SOP 615**	
TITLE	**How effective is exercise at reducing symptoms of Parkinson's disease?**	
MENTOR	Tatiana Yero	
STUDENTS/ PHARM	Brandon Krebs Prince Thompson Jennie Tran Carlos Bravo Ross Overstreet Samuel Comandari	
ABSTRACT	Background: Parkinson's disease is a chronic and progressive movement disorder. The development of Parkinson's disease is unknown. Lifestyle modifications such as various exercises are vital as it can aid in the maintenance of balance and mobility, improvement of daily activities, and an overall increase in quality of life. Objective: To evaluate the benefits of various types of exercise in patients with Parkinson's disease in order to reduce frequency, intensity, and progression of potentially debilitating symptoms and to increase quality of life. Methods: Extensive literature research on PubMed. Some of the terms used to search included: Parkinson's disease, exercise, motor skills, and quality of life. Results: Five randomized control trials were evaluated, all with different outcomes. The results were mixed with some studies showing significant benefit and the others showing none. There does, however, seem to be some potential benefit to be gained from exercise in PD patients. Conclusions: Overall, there was a strong correlation between aerobic exercise and improvements in quality of life, cognitive function, and motor function in patients with Parkinson's disease. There was no evidence that indicated weight based exercise showed a significant benefit in fall risk reduction, though some potential motor function benefit in moderate-risk groups was observed. Larger studies need to be conducted in order to reinforce study results; however, it is safe to conclude that adding exercise will not negatively impact this patient population.	

School of Pharmacy Posters

NUMBER:	**SOP 616**	
TITLE	**"Novel Approaches in Heart Failure"**	
MENTOR	Victoria Reinhartz	
STUDENTS/ PHARM	Anshuli Patel Jessica Fabian Darryl Jones Robin Kim Lindsay Diez Ivy Vu	
ABSTRACT	Background: Heart failure is a condition where the heart cannot pump enough blood to meet the body's needs. With the use of a standard of care agents like angiotensin-converting enzyme inhibitors, angiotensin II receptor blockers, beta-blockers, loop diuretics, digoxin, sacubitril/valsartan, ivabradine and spironolactone, symptoms can be managed and the quality of life can be improved. Purpose: This study focuses on evaluating the safety and efficacy of new novel pharmacological HF treatment approaches, such as Anakinra, Serelaxin, Iron, Pyridostigmine, Cimaglermin Alfa, Omecamtiv mecarbil Methods: PubMed, ClinicalTrials.gov, and Ovid were used to search for randomized controlled trials regarding new treatments being researched for heart failure. Results: New treatments were evaluated for use in heart failure patients. Results were compared with standard of care treatment options and focused on improvement in dyspnea relief, improvement in heart rate, safety, and the effect on mortality. In each subcategory, the standard of care option showed to be the best pharmacotherapeutic treatments at this time. Conclusions: The new treatments being investigated in heart failure have shown promising results, but further studies are needed in order to determine the safety and efficacy. Currently, the standard of care regimens still outshines the new therapeutic medications.	

School of Pharmacy Posters

NUMBER:	**SOP 617**	
TITLE	**Are Pharmacists Effective in Reducing the Opioid Crisis?**	
MENTOR	Alejandro Vazquez	
STUDENTS/ PHARM	Daniel Sun Carmen Leonelli Tiffany Jamison Dionta Hubbard Stanley Enokekwa Elizabeth Dang	
ABSTRACT	Pharmacists are starting to take action in this opioid epidemic. Many pharmacists are expanding their role to educate patients regarding opioids and overdose situations. Some pharmacists collaborate with other health care professionals in the prescribing and monitoring process of opioid prescriptions. In a limited amount of states, pharmacists are allowed to dispense naloxone to patients. Pharmacists are effective in reducing the number of opioid prescriptions, as well as educating patients and providers on the risks of opioid overdose. Pharmacists direct intervention with the patient and physician can help to maximize therapeutic effectiveness, decrease serious adverse events, and improve quality of life. Additional Randomized Controlled Trials from more diverse healthcare settings need to be done to prove the effectiveness of pharmacists' intervention in opioid management.	

School of Pharmacy Posters

NUMBER:	**SOP 618**	
TITLE	**Complementary Alternative Medicines as Effective Treatments for Symptomatic Relief of GERD**	
MENTOR	Vanessa Lesneski	
STUDENTS/ PHARM	Clarke Powell Alyssa Cappelluti Chelsea Duchatellier Brittany Bright Mark Johnson Van-Hanh Vu	
ABSTRACT	Background: There have been growing concerns associated with the long-term risks of using proton pump inhibitors (PPIs) and histamine receptor antagonists (H2RAs) for the treatment of gastroesophageal reflux disease (GERD). Using complementary and alternative medicine (CAM) to treat GERD symptoms may prevent the adverse effects associated with conventional treatments and may provide similar relief. Objective: The objective of this meta-analysis is to compare the efficacy of natural, or homeopathic, treatments for chronic symptoms of GERD as an alternative to pharmacological standards of care. Methods: A literature search was performed using PubMed and Embase databases. Seven articles were chosen and evaluated by students of LECOM Pharmacy School. Multiple studies used subjective patient data collection for analyses, such as daily journals. Results: The results of the studies involving Mucosave, a vitamin complex, aloe vera, hyaluronic acid-chondroitin sulphate, and sugar free gum have shown improved outcomes in the GERD population with both symptom reduction and improved quality of life. Conclusions: While the alternative therapies were found to be as effective as conventional treatments, there were several limitations to our study. The research included small population sizes, were not long term, and there were few, if any, repeat studies available. Further research is required to determine if there is reduction of adverse effects while using CAM versus PPI's and H2RA's for general treatment.	

School of Pharmacy Posters

NUMBER:	**SOP 619**	
TITLE	**Effect of Ascorbic Acid on ICU and Hospital Length of Stay**	
MENTOR	Rinita Vaishnav	
STUDENTS/ PHARM	Delia Ermina Makapedua Nafisat Lawal Kendall Smith Larreb Shakil Lisa Nguyen Garnjana Vassanapradit	
ABSTRACT	Purpose: To evaluate the role of ascorbic acid on patients admitted to the ICU. ICU patients suffer from many organ dysfunctions such as endothelial damage and edema. Vitamin C is a water-soluble antioxidant that repairs tissues, heals wounds, and makes collagen. Administration of ascorbic acid can play a vital role in macrophage activity, reduce oxidative stress, and overcome infections in critically ill patients. Methods: Randomized, double-blind, placebo-controlled, and prospective studies on the effects of ascorbic acid on ICU patients were extracted from PubMed and Ovid. Inclusion words used to search were: ascorbic acid AND ICU, vitamin C AND ICU, vitamin C in critically ill. Excluded studies were studies that included healthy patients, patients not treated with ascorbic acid alone, and patients who were not admitted to the ICU. A total number of 7 studies were evaluated. Results: Ascorbic acid groups compared to placebo groups were found to decrease both the hospital and ICU length of stay in most of the studies. Ascorbic acid appeared to be safe, decrease vasopressor requirement and duration in septic shock patients. Post-cardiac surgical patients had decrease in intubation time and complications in the ICU in ascorbic intervention groups. Atrial fibrillation occurrence and EFI were also reduced with ascorbic acid administration. Conclusion: Ascorbic acid administration in critically ill patients showed benefits in increasing organ function, reducing infections, and endothelial damage. There were no adverse effects shown with ascorbic acid therapy. Ascorbic and additional antioxidants may show more positive results in critically ill patients.	

School of Pharmacy Posters

NUMBER:	**SOP 620**	
TITLE	**PD-1 inhibitors vs PD-L1 inhibitors in terms of survival benefit and toxicity profile in Lung/Urothelial cancer**	
MENTOR	Rahul Deshkmuth	
STUDENTS/ PHARM	Tyler Hochman Guilda Ouellette Natasha Kulkarni Bakir Becirevic Arsalan Ali Henry Thai	
ABSTRACT	One of the mechanisms by which cancer cells proliferate is by evading immune system detection. Cancer cells possess a ligand called PD-L1. When bound to its receptor PD-1, which is present on T-cells, it causes the cancer cell to evade T-cell detection. There are two classes of medications that specifically target and inhibit this binding process, known as PD-1 Inhibitors and PD-L1 Inhibitors. The study of these two classes of drugs is relatively young, however, emerging evidence has proven their role in cancer treatment. This comparative study looks at the survival benefits between these two classes and their respective toxicity profiles. To narrow our search, we looked specifically at two cancer types, lung cancer and urothelial cancer. To compare the studies, the median progression-free survival and median overall survival were assessed as our primary endpoints. In addition, their adverse events profiles were compared based on the likelihood and severity. For PD-1 inhibitors in both cancers, the median progression-free survival ranged from 2.1 months to 10.3 months. Grade 3-5 adverse events were shown in 28.8% or less patients. In comparison, PD-L1 Inhibitors in both cancers had a median progression-free survival range from 1.5 months to 16.8 months. They also exhibited a similar adverse events profile with Grade 3-5 seen in 29.9% or less patients. While both drugs have demonstrated efficacy, additional comparative research is needed in order to establish superior efficacy of one option over another.	

School of Pharmacy Posters

NUMBER:	**SOP 621**	
TITLE	**Systematic Review of FDA Approved Pharmacotherapy Options for Opioid-Induced Constipation in Noncancer Pain**	
MENTOR	Katherine Tromp	
STUDENTS/ PHARM	Megan Barber Ammar Sunbulli Justin Gonsalves Alexandria Rivera Sarah Mazooni Gianluca Gullo	
ABSTRACT	Objective. To review and compare FDA approved pharmacotherapy options for opioid induced constipation (OIC) in patients with chronic non-cancer pain. Methods. A literature search was performed using the following terms: opioid induced constipation, methylnaltrexone, naloxegol, lubiprostone, and naldemedine. The search was limited to randomized controlled trials published within the last 10 years. Data extracted from Phase 3 trials included study design, participant selection criteria, intervention, primary and secondary endpoints and results. By observing data from each of the studies chosen, a comparison was performed. Results. Upon review of five phase 3 clinical trials for methylnaltrexone (SQ and oral), naloxegol, lubiprostone, or naldemedine over 3200 subjects were enrolled across the trials and randomized into treatment and placebo groups. Trials observed demonstrated a greater response by those in the treatment group than in the placebo group. Studies were consistent with both safety and adverse effect profiles. Conclusion. Identification of a superior therapeutic option for OIC cannot be made at his time. Due to the short duration of the studies, long-term efficacy and safety data of all agents must be further evaluated to investigate each of these agents further. Utilization of a cost utility analysis would allow for improved and patient-specific therapeutic selection for the treatment of OIC. In addition, further investigation is needed to compare treatment options of OIC in cancer-related pain.	

School of Pharmacy Posters

NUMBER:	**SOP 622**	
TITLE	**What is the efficacy of NGAL when compared to standard of care in early detection of acute kidney injury?**	
MENTOR	Lana Hochmuth	
STUDENTS/ PHARM	Arsalan Hashmi Haley Skipper Courtney Kimmons Caitlin Brady Damarys Padilla Stephen Siska	
ABSTRACT	Acute kidney injury (AKI) is a serious concern following many medical interventions, especially cardiac related interventions. Unfortunately, following the current guidelines, there is not an efficient way to detect AKI early enough to prevent injury. These studies examined the efficacy of neutrophil gelatinase-associated lipocalin (NGAL), a biomarker released by the kidneys upon injury, for earlier detection. PubMed, Ovid and Trip Databases were utilized to research NGAL biomarker use in acute kidney injury. Many different cardiology intervention studies were examined, many of which resulted in NGAL levels being raised within hours after the particular intervention. Patients who developed AKI after these interventions displayed a greater increase in urine NGAL (uNGAL) when compared to patients who did not develop AKI. Increased NGAL levels played a role in showing a significant increase in the biomarker as soon as 2 hours after the injury. In conclusion, a rise in NGAL allows the detection of AKI within 2 to 12 hours of injury as compared to 24 to 48 hours using serum creatinine. Using NGAL would solve the current delay in detecting AKI, but further research should be done to prove that this biomarker is specific for AKI.	

School of Pharmacy Posters

NUMBER:	**SOP 623**	
TITLE	**Management of Neuropathic Pain with Cannabis**	
MENTOR	Nina Pavuluri	
STUDENTS/ PHARM	Michael Geers Christen Ferguson Lorin Eori Wendy Kollar Michael Zaccaro	
ABSTRACT	Background: Neuropathic pain is a chronic condition in which damaged nerve fibers send incorrect signals to the brain that are perceived as pain. Cannabis has been suggested to aid in the alleviation of neuropathic pain. Until recently, high quality evidence has been lacking. Objective: This study's aim is to conduct a meta-analysis, which incorporates current studies/trials in order to update clinicians' knowledge regarding the efficacy, route, and adverse effects of cannabis use in the treatment of pain. Methods: A meta-analysis was performed which incorporated an electronic search utilizing PubMed, Medline, Trip Database and Google Scholar with the use of Medical Subject Heading (MeSH terms on all literature published). The included studies were randomized controlled trials (RCT) and crossover trials. Five trials were chosen and out of the five all were randomized and placebo-controlled, while three out of the five trials were double-blinded. The five study types separately analyzed the effects of cannabis related to pain. Results: Of the 5 included RCTs, 4 demonstrated a statistically significant pain reduction from baseline, while 1 trial claims no difference. The 4 trials supporting cannabis use measured pain on a standard objective pain scale, whereas the trial that lacked significant results utilized a neuropathic pain scale, which independently measures 10 separate symptoms, making statistically significant differences harder to discern. Conclusions: Increasing Δ-9-tetrahydrocannabinol (THC) level is shown to reduce neuropathic pain and raises the risk of adverse effects. Further studies are therefore necessary to continue to measure the effects of cannabis on neuropathic pain.	

School of Pharmacy Posters

NUMBER:	**SOP 624**	
TITLE	**The Role of Ketamine for Refractory Status Epilepticus in Adults and Children**	
MENTOR	Kathryn Samai	
STUDENTS/ PHARM	Uyen Huynh Michael Shaheen Armani Cyrus Isaac Vasbinder Reshma Patel	
ABSTRACT	Objective: To evaluate the role of ketamine in the treatment of refractory status epilepticus in adults and children. Background: Seizures occur when there is an abnormal electrical activity in the brain. When the seizure continues for more than five minutes, it is termed as status epilepticus. Refractory status epilepticus is defined as continuous seizures despite the treatment with a benzodiazepine plus one anti-epileptic drug. Ketamine is another option for patients with refractory status epilepticus by blocking the N-Methyl-D-aspartate (NMDA) receptor. It is FDA approved as an anesthetic. However, it has many off-label uses including the treatment of refractory status epilepticus, refractory depressive disorders, complex regional brain syndrome, and as an analgesic. Method: Systemic search strategies were conducted using different database engines including Pubmed and Ovid. Some of the search terms used were ketamine, status epilepticus, and refractory status epilepticus to evaluate ketamines role in refractory status epilepticus. The search was limited to humans in randomized control trials, clinical trials, case series, and observation studies within the last 5 to 10 years. Results: The results of the study showed that ketamine is effective and safe in patients with refractory status epilepticus with less side effects than the standard of care medications including benzodiazepines and anti-epileptic drugs. However, since ketamine is only used after failing multiple anti-epileptic drugs, more studies need to be done to show the efficacy and safety of ketamine alone.	

School of Pharmacy Posters

NUMBER:	**SOP 625**	
TITLE	**Adjuvant Treatments for Vaso-occlusive Crisis in Pediatric Patients with Sickle Cell Disease**	
MENTOR	Revika Matuknauth	
STUDENTS/ PHARM	Terry Amelunke Lilibet Burgos Susan Daniels Maryam George Stephanie Gonzalez	
ABSTRACT	Sickle cell disease (SCD) affects millions of people worldwide. It is a genetic condition that is present at birth. Children inherit sickle cell genes from their parents. People with SCD begin to have signs during the first year of life, usually around 5 months of age. One major painful complication pediatric patients will battle early in life is vaso-occlusive crisis (VOC). This painful crisis is the result of sickle cells clogging the blood flow in blood vessels, leading to decreased oxygen supply. Currently, clinical guidelines recommend opioid analgesic medications such as morphine for primary treatment. This recommendation has not been updated for over 20 years. Presently, there are growing concerns with overuse of opioids in pediatric patients and timely administration for pain relief. Therefore, this study will identify new adjuvant therapies for VOC pain management in pediatric patients. Studies found differences in pain scores between intranasal fentanyl (2) vs placebo (1) (P=0.048) while also decreasing time to first analgesic medication. Methadone use was shown to have greater pain relief scores versus control (P=0.0396) and lower pain scores (P=0.002). Arginine was found to reduce opioid use by 54% (P=0.02) and resulted in lower pain scores (P=0.01). Magnesium was not shown to have significant impact on opioid use, pain relief, nor length of stay. Cognitive behavioral therapy had a positive correlation with decrease in next day pain score when completed on a high pain score day when compared to control (P=0.048).	

LECOM Bradenton Interprofessional Research Day 2018.

Research, a LECOM Journey of Discovery

POSTER PRESENTATIONS:

Pharm Distant Ed: **PDE 201 – PDE 205**

LECOM
LAKE ERIE COLLEGE OF OSTEOPATHIC MEDICINE

School of Pharmacy-Distance Education Posters

NUMBER:	**PDE 201**	
TITLE	**Adjuvant treatments for vaso-occlusive crisis in pediatric patients with sickle cell disease.**	
MENTOR	Revika Matuknauth	
STUDENTS/ PHARM	Lilibet Burgos Terry Amelunke Stephanie Gonzalez Maryam George Susan Daniels	
ABSTRACT	Sickle cell disease (SCD) affects millions of people worldwide. It is a genetic condition that is present at birth. Children inherit sickle cell genes from their parents. People with SCD begin to have signs during the first year of life, usually around 5 months of age. One major painful complication pediatric patients will battle early in life is vaso-occlusive crisis (VOC). This painful crisis is the result of sickle cells clogging the blood flow in blood vessels, leading to decreased oxygen supply. Currently, clinical guidelines recommend opioid analgesic medications such as morphine for primary treatment. This recommendation has not been updated for over 20 years. Presently, there are growing concerns with overuse of opioids in pediatric patients and timely administration for pain relief. Therefore, this study will identify new adjuvant therapies for VOC pain management in pediatric patients. Studies found differences in pain scores between intranasal fentanyl (2) vs placebo (1) (P=0.048) while also decreasing time to first analgesic medication. Methadone use was shown to have greater pain relief scores versus control (P=0.0396) and lower pain scores (P=0.002). Arginine was found to reduce opioid use by 54% (P=0.02) and resulted in lower pain scores (P=0.01). Magnesium was not shown to have significant impact on opioid use, pain relief, nor length of stay. Cognitive behavioral therapy had a positive correlation with decrease in next day pain score when completed on a high pain score day when compared to control (P=0.048).	

School of Pharmacy-Distance Education Posters

NUMBER:	**PDE 202**	
TITLE	**Does the Addition of Sulfamethoxazole/ Trimethoprim to Standard Therapy Improve Outcomes in Patients Presenting**	
MENTOR	Christina Hanson	
STUDENTS/ PHARM	Amanda Noel Angela Reyes Youjian Nistorenko Saniye Stevens Karla Castro	
ABSTRACT	Cellulitis is a common bacterial infection of the skin and soft tissue typically caused by Streptococcus or Staphylococcus bacteria and is diffuse, superficial, and spreads rapidly. Proper source control, incision and drainage, and antimicrobial treatment can help prevent spread, reduce burden on healthcare system, lead to better patient outcomes, and reduce unnecessary antimicrobial exposure. Current IDSA guidelines recommend SMP/TMX for MRSA cellulites treatment; but, lacking an approved FDA indication this is currently used off-label in the healthcare system for staphylococcus based infections and is controversial with current efforts towards antimicrobial stewardship. We conducted a PubMed search of clinical trials of SMX-TMP and acute bacterial skin and skin structure infections (ABSSSI) or cellulitis and identified five randomized controlled trials (RCTs) investigating the use of SMX-TMP as add-on therapy. Of the five studies, two indicated that SMX/TMP may be useful as an alternative to clindamycin monotherapy on a case by case basis, two indicated no benefit in adding SMX/TMP to current standard of care cephalexin, and one indicated increased clinical cure rate when SMP/TMP was added to incision and drainage procedures, with or without methicillin-resistant Staphylococcus aureus (MRSA) colonization. It can be concluded that in patients presenting with cellulitis, SMX/TMP should not be added to empiric therapy. However, it can be included in patients requiring I&D procedure with or without MRSA colonization after assessment of side effects, local antibiogram, and individual risk factors.	

School of Pharmacy-Distance Education Posters

NUMBER:	**PDE 203**	
TITLE	**Effectiveness of Intranasal vs Intramuscular Naloxone in Treatment of Opioid Overdose Patients in a Pre-hospital Setting**	
MENTOR	Mark Hutchinson	
STUDENTS/ PHARM	Amanda Jonna Laksshmanan Govindasamy Bahar Noorbakhsh Tara La Salle Robert Duong	
ABSTRACT	Opioids are a mainstay in pain management and are common drugs of choice encountered in addiction recovery programs. Although effective, these drugs are associated with overdose, both intentional and accidental. Parenteral naloxone is the definitive treatment for opioid overdose, however easy to use naloxone formulations are needed to help address the opioid overdose epidemic. In pre-hospital settings in which opioid over dose is suspected, both intranasal and intramuscular formulations are of viable options to reverse the opioid overdose. Both formulations have shown to have equal efficacy in treating opioid overdose in a pre-hospital setting. Particularly treatment for respiratory depression was seen to be similar in both routes of administration. In comparing two randomized controlled trials, both IN naloxone and IM naloxone proved to have similar efficacy and results; % of patients with successful reversal, in which the primary outcome was mean response time to return of spontaneous respiration (rate of >10 breaths/min). When looking at the safety profile of each formulation, both showed similar rates and occurrences of adverse effects. Therefore, through analyzing many different types of studies comparing these two formulations, the intranasal and intramuscular routes of administrations can be considered equally efficacious in reversal of opioid induced overdose in a pre-hospital setting.	

School of Pharmacy-Distance Education Posters

NUMBER:	**PDE 204**	
TITLE	**Modern Advances in Stent Technology**	
MENTOR	Lakhu Keshvara	
STUDENTS/ PHARM	Sheryl Kosler Anteneh Alamneh Andrea Babajko-Brown Rodger Slutz Huyen Tran	
ABSTRACT	Background The bioresorbable vascular scaffolds (BVS) were designed to overcome inadequacies of current stents, such as drug eluting stents (DES) and bare-metal stents (BMS), used in the medical industry. Although the BVS promised a decrease in long term adverse effects such as stent thrombosis and other cardiovascular complications, recent investigations may demonstrate the contrary. Objective To evaluate the safety and efficacy of bioresorbable drug-eluting stents versus bare-metal stents in patients with cardiovascular disease. Methods A systematic review was conducted on PubMed and Google Scholar. Two randomized control trials (RCT) and two meta-analysis were found after applying filters of human subjects in the last 8 years. A separate search was done to discover implications of dual anti-platelet therapy (DAPT) and bioresorbable scaffolds. Results Results from both meta-analysis found that BVS outperformed BMS and first generation DES, however it underperformed when compared to second generation DES. The BVS were associated with a higher risk of stent thrombosis and cardiovascular complications during the first year after the procedure. Conclusions The technology of bioresorbable scaffolds is continually evolving and there are others coming to market with more promising results. However, bioresorbable scaffolds have not performed as intended and have had some disappointing results. Further clinical trials and additional time may provide more definitive evidence on use of these stents. For now, when choosing an appropriate stent, patient specific parameters should be evaluated when selecting the stent.	

School of Pharmacy-Distance Education Posters

NUMBER:	**PDE 205**	
TITLE	**Neonatal Abstinence Syndrome: Treatment Strategies and Longitudinal Impact**	
MENTOR	Kristen Gawronski	
STUDENTS/ PHARM	Ian Toloza Carmen Ciliberti Pauline Cass Rahaf Obeid Jevon Yaldo	
ABSTRACT	Background Neonatal abstinence syndrome (NAS) can be caused by exposure to opioids in utero. The treatment of NAS can require lengthy hospital stays and prolonged pharmacological treatment including morphine or methadone with adjuvant phenobarbital and clonidine. Several studies suggest alternative treatment including non-opioids, which may decrease treatment length. In addition, there is a risk of cognitive delays in children with NAS regardless of treatment. Methods A search was performed of NAS patients using the pharmacological treatment options of buprenorphine and clonidine. Additional studies included the evaluation of longitudinal cognitive development of children born to mothers with opioid use. The study search included articles published between 1992 and 2018 comparing five more articles: three buprenorphine studies, one clonidine study, and one pharmacological study. Results Long-term use of prescription opioids, regardless of risk factors, resulted in an increased risk of developing NAS. Non-pharmacological treatment was efficacious to improve NAS care. Treatment of buprenorphine or clonidine is significantly more effective than morphine in reducing the duration of treatment. A longitudinal study indicated a decreased level of cognitive functioning in patients exposed to drugs during fetal development, indicating a need for efficacious treatments. Conclusion Non-pharmacological treatment is important in NAS treatment and should comprise standard initial care for neonates. Additional research into the use of buprenorphine and clonidine as standard therapy has shown decreasing length of treatment. NAS treatment decreases long-term cognitive disturbances, which can reduce the number of future developmental treatments for children.	

Faculty & Interprofessional Posters

NUMBER:	**FIP 001**	
TITLE	**Impact of Prescription Drug Abuse Education in Health Professional Curriculum**	
MENTOR	Dr. Timothy Novak Teri Runo	
STUDENTS/	Alexandria Rivera (SOP) Madison Saxton (SOP) Amanda Craven (COM) Sean Gage (USF)	
ABSTRACT	To evaluate the current level of knowledge retained by medical, pharmacy and students at Lake Erie College of Osteopathic Medicine (LECOM) Bradenton on the topics of pain management and prescription drug abuse prevention using the existing curriculum. Also, to assess the impact of a new online curriculum on the health professional students' knowledge regarding these topics. Methods. Students in the Doctor of Osteopathic Medicine (DO), Doctor of Pharmacy (PharmD) and Doctor of Medicine (DMD) programs at LECOM Bradenton completed an online course on pain management and prescription drug abuse. As part of the course, the students provided demographic information, completed a current knowledge pre-assessment, viewed a presentation, and completed a post-exposure assessment. Results of the pre- and post- assessments were compared, as well as the data between the professional programs. Results. Aggregate data shows an overall 15% average increase in assessment scores among all groups after exposure to the curriculum. Performance increased 7.2% among medical students, 12.5% for students and 31% for pharmacy students between pre- and post-exposure assessments. Conclusion. Exposure to pain management and prescription drug abuse education among three Doctoral programs (Medical, Pharmacy and) showed an increase in knowledge. These findings suggest that the level of understanding of pain management and prescription drug abuse from current education is improved upon implementation of this online course. Further investigation is needed to explain why pharmacy students demonstrated the largest increase in performance.	

Faculty & Interprofessional Posters

NUMBER:	**FIP 002**	
TITLE	**Vital Signs of U.S. Osteopathic Medical Residency Programs Pivoting to Single Accreditation Standards**	
MENTOR	Tim Novak	
STUDENTS/	Tim Novak	
ABSTRACT	Osteopathic physician (D.O.) residency programs that do not achieve accreditation under the new Single Accreditation System (SAS) standards by June 30, 2020 will lose access to their share of more than $9,000,000,000 of public tax dollars. This U.S. Centers for Medicare & Medicaid Services (CMS) funding helps sponsoring institutions cover direct and indirect resident physician training expenses. A significant financial burden would then be shifted to marginal costs of the residency program's sponsoring institution in the absence of CMS funding. The sponsoring institution's ability or willingness to bare these costs occurs during a time when hospital operating margins are at historic lows (Advisory.com /Daily Briefing /May 18, 2017 | The Daily Briefing / Hospital profit margins declined from 2015 to 2016, Moody's finds). Loss of access to CMS funding may result in potentially cataclysmic reductions in the production and availability of primary care physicians for rural and urban underserved populations. Which osteopathic residency programs will be able to survive the new accreditation requirement changes by the 2020 deadline? What are some of the defining attributes of those programs that already have achieved "initial accreditation" under the new SAS requirements? How can the osteopathic programs in the process of seeking the new accreditation more effectively "pivot" by learning from those programs that have succeeded? What are the potential implications of SAS to both access and quality of health care to millions of Americans? This report is based upon a study that examined and measured how osteopathic physician residency programs in the U.S. are accommodating the substantive structural, financial, political and clinical requirements approximately half way through a five-year adaptation period.	

APPENDIX A

Staff and Faculty Event Support Assignments

Dental Building RESEARCH DAY Staffing Chart APRIL 19, 2018

Time	Where	What	Names	
Morning		Lunch ticket hand out-students	Frank Runo	
7:00-8:00	**Security Entrance Foyer**	Sign in guests/name badges	Elena Taddeo	
7:00-8:00	**Student Affairs Conf Rm**	Judges/greeter/guide	Shirley Parrada	OPEN DOORS
7:00-8:00	**Table Clinics/VIP/Guests**	Welcome/Coordinate/Guide		
8:00-10:00	**Atrium**	Scholarship auction raffle	Helen Adorno	
8:00-10:00	**Atrium by Elevators**	Greeter/guide/directing	David Machado	
8:00-9:45	**Dental Poster Judging**	Student and Official Judging	*see list below of offical judges	
8:00-9:45	**Dental Simulation Lab Tour**	Initialing student rubrics	Jodie Dye	
	Dental Simulation Lab Tour	Demonstration Faculty	Nicole Squitieri	
8:00-9:45	**Dental Clinic Tour (Whip Mix)**		Javon Lassiter	BY DOORS
	Dental Clinic Tour (Whip Mix)	Initialing student rubrics	Willow Meline	
	Dental Faculty Tour (Whip Mix)	Demonstration Faculty	Dr. TA	
9:30-10:00	**Lecture Hall 2-2200 (large)**	Initialing student rubrics/sign in	Peggy Workman	
9:30-10:00	**Lecture Hall 2-2300 (small)**	Initialing student rubrics/sign in	Michelle Cihlar-Carey	
9:45-11:00	**Lecture Hall 2-2200 (large)**	Hall supervisor/Intro speaker	Jonathan Coffman, PhD, MBA	
9:45-11:00	**Lecture Hall 2-2200 (large)**	Guest Speaker	Marcos A. Sanchez-Gonzalez, MD, PhD	
9:45-11:00	**Lecture Hall 2-2300 (small)**	Hall supervisor/Intro speaker	Marc Ottenga, DDS	
9:45-11:00	**Lecture Hall 2-2300 (small)**	Guest Speaker	Michael Dorociak, DDS, MAGD	
11:00-11:15	**Lecture Hall 2-2200 (large)**	Initialing student rubrics	Peggy Workman	
11:00-11:15	**Lecture Hall 2-2300 (small)**	Initialing student rubrics	Michelle Cihlar-Carey	
11:15 AM	**END OF STUDENT MORNING SESSION**			
11:00-12:00	**Security Entrance Foyer**	Sign in guests/name badges	Teresa Ward	
11:00-1200	**Student Affairs Conf Rm**	Judges/greeter/guide	Shirley Parrada	
8:00-10:00	**Atrium**	Scholarship auction raffle	Kim Duracher	
8:00-10:00	**Atrium by Elevators**	Greeter/guide/directing		
1200-1:45	**Dental Poster Judging**	Student and Official Judging	*see list below of offical judges	
12:00-1:45	**Dental Simulation Lab Tour**	Initialing student rubrics	Wendy Smith	
12:00-1:45	**Dental Simulation Lab Tour**	Demonstration Faculty	Nicole Squitieri	
12:00-1:45	**Dental Clinic Tour (Whip Mix)**		Javon Lassiter	BY DOORS
12:00-1:45	**Dental Clinic Tour (Whip Mix)**	Initialing student rubrics	Willow Meline	
12:00-1:45	**Dental Faculty Tour (Whip Mix)**	Demonstration Faculty	Dr. TA	
12:00-1:00	**Lecture Hall 2-2200 (large)**	Virtual posters coordinator (IT)	Jim Hanlon	
1:30-2:00	**Lecture Hall 2-2200 (large)**	Initialing student rubrics/sign in	Cristina Gonzalez	
1:30-2:00	**Lecture Hall 2-2300 (small)**	Initialing student rubrics/sign in	Dotty Kidd	
1:45-3:00	**Lecture Hall 2-2200 (large)**	Hall supervisor/Intro speaker	Jonathan Coffman, PhD, MBA	
1:45-3:00	**Lecture Hall 2-2200 (large)**	Guest Speaker	Marcos A. Sanchez-Gonzalez, MD, PhD	
1:45-3:00	**Lecture Hall 2-2300 (small)**	Hall supervisor/Intro speaker	Marc Ottenga, DDS	
1:45-3:00	**Lecture Hall 2-2300 (small)**	Guest Speaker	Michael Dorociak, DDS, MAGD	
3:00-3:15	**Lecture Hall 2-2200 (large)**	Initialing student rubrics	Dyan McCloughan	
3:00-3:15	**Lecture Hall 2-2300 (small)**	Initialing student rubrics	Dotty Kidd	
3:15 PM	**END OF STUDENT AFTERNOON SESSION**			
3:15-4:15	**Lecture Hall 2-2200 (large)**	Speaker Intro Joint Faculty Session	Tim Novak, DBA, MSA	
3:15-4:15	**Lecture Hall 2-2200 (large)**	Guest Speaker Joint Faculty Session	Andy Breessler, CFA, MBA	

***Offical Judges**	**Morning**	**Afternoon**
		103

Dental Research Director
Dr. Thomas Yoon

Graduate Studies Research Director
Dr. Jonathan Coffman

Dental Building
Research Day Coordinator
Diana Hohman

PHARMACY-RESEARCH DAY Staffing Chart APRIL 19, 2018

Time	Where	What	Names
7:00-8:00	**Security Entrance Foyer**	Sign in guests/name badges	Amy Lewis
7:00-8:00	**Student Affairs Conf Rm**	Judges/greeter/guide	Susan Ballinger
8:00-10:00	**Atrium**	Scholarship auction raffle	Denay Hunter
8:00-10:00	**Atrium by Elevators**	Greeter/guide/directing	Nicole Papanikos
8:00-9:45	**Pharmacy Poster Judging**	Student and Official Judging	*see list below of offical judges
8:00-9:45	**Compound Lab-ground floor**	Initialing student rubrics	Cyndi Kerr
	Compound Lab-ground floor	Demonstration Faculty	Ningning Yang, Nina Pavuluri
8:00-9:00	**Lecture Hall 211**	Virtual posters coordinator (IT)	Cameron
9:30-10:00	**Lecture Hall 211**	Initialing student rubrics/sign in	Marcia Coit
9:45-11:00	**Lecture Hall 211**	Hall supervisor/Intro speaker	Julie Wilkinson, PharmD
9:45-11:00	**Lecture Hall 211**	Guest Speaker	Robert Bilkovski, MD, MBA
11:00-11:15	**Lecture Hall 211**	Initialing student rubrics	Marcia Coit
11:15 AM	**END OF MORNING SESSION**		
11:00-12:00	**Security Entrance Foyer**	Sign in guests/name badges	Amy Lewis
11:00-12:00	**Student Affairs Conf Rm**	Judges/greeter/guide	Susan Ballinger
12:00-1:45	**Compound Lab-ground floor**	Initialing student rubrics	Cyndi Kerr
	Compound Lab-ground floor	Demonstration Faculty	Ningning Yang, Nina Pavuluri
12:00-2:00	**Atrium**	Scholarship auction raffle	Deborah Kerris
12:00-2:00	**Atrium by Elevators**	Greeter/guide/directing	Ashley Simons
12:00-1:45	**Pharmacy Poster Judging**	Student and Official Judging	*see list below of offical judges
1:30-2:00	**Lecture Hall 211**	Initialing student rubrics/sign in	Marcia Coit
1:45-3:00	**Lecture Hall 211**	Hall supervisor/intro speaker	Katherine Tromp, PharmD
1:45-3:00	**Lecture Hall 211**	Guest Speaker	Robert Bilkovski, MD, MBA
3:00-3:15	**Lecture Hall 211**	Initialing student rubrics	Marcia Coit
3:15 AM	**END OF STUDENT AFTERNOON SESSION**		
3:15-4:15	**Lecture Hall 2-2200 (large)**	Speaker Intro Joint Faculty Session	Tim Novak, DBA, MSA
3:15-4:15	**Lecture Hall 2-2200 (large)**	Guest Speaker Joint Faculty Session	Andy Breessler, CFA, MBA

***Offical Judges**

Morning	Afternoon

Research Director
Dr. Alejandro Vazquez

Pharmacy Admin Coordinator
Dale Martin

Research Day Building Coordinator
Teri Runo, MHSA

NOTES:

Medicine RESEARCH DAY Staffing Chart APRIL 19, 2018

Time	Where	What	Names
7:00-8:00	**Security Entrance Foyer**	Sign in guests/name badges	Cinda Roberts
7:00-8:00	**Student Affairs Conf Rm**	Judges/greeter/guide	Falin Brucee
8:00-10:00	**Atrium by Elevators**	Greeter/guide/directing	Sandy Chan
8:00-9:45	**Medicine Poster Judging**	Student and Official Judging	*see list below of offical judges
8:00-9:45	**OMM LECTURE HALL 212**	Initialing student rubrics	Elora Lee
	OMM Demonstration	Demonstration Faculty	Thomas Quinn, Nicole Myers, Steven Ma
9:30-10:00	**Lecture Hall 212**	Initialing student rubrics/sign in	Emily Lenart
9:45-11:00	**Lecture Hall 212**	Hall supervisor/Intro speaker	Mark Kauffman, DO
9:45-11:00	**Lecture Hall 212**	Guest Speaker	Howard McLeod, PharmD
11:00-11:15	**Lecture Hall 212**	Initialing student rubrics	Kandyse Taylor
11:15 AM	**END OF MORNING SESSION**		
11:00-12:00	**Security Entrance Foyer**	Sign in guests/name badges	Cinda Roberts
11:00-12:00	**Student Affairs Conf Rm**	Judges/greeter/guide	Falin Brucee
12:00-1:45	**OMM LECTURE HALL 212**	Initialing student rubrics	Elora Lee
	OMM Demonstration	Demonstration Faculty	Thomas Quinn, Nicole Myers, Steven Ma
12:00-2:00	**Atrium by Elevators**	Greeter/guide/directing	Sandy Chan
12:00-1:45	**Medicine Poster Judging**	Student and Official Judging	*see list below of offical judges
1:30-2:00	**Lecture Hall 212**	Initialing student rubrics/sign in	Kandyse Taylor
1:45-3:00	**Lecture Hall 212**	Hall supervisor/Intro speaker	Mark Kauffman, DO
1:45-3:00	**Lecture Hall 212**	Guest Speaker	Howard McLeod, PharmD
3:00-3:15	**Lecture Hall 212**	Initialing student rubrics	Kandyse Taylor
3:15 AM	**END OF STUDENT AFTERNOON SESSION**		
3:15-4:15	**Lecture Hall 2-2200 (large)**	Speaker Intro Joint Faculty Session	Tim Novak, DBA, MSA
3:15-4:15	**Lecture Hall 2-2200 (large)**	Guest Speaker Joint Faculty Session	Andy Breessler, CFA, MBA

***Offical Judges**

Morning	Afternoon

Medicine Research Director
Dr. James Gnara

Medical Admin Coordinator
Florann Steinberg

Research Day Building Coordinator
Teri Runo, MHSA

NOTES:

APPENDIX B

Poster Locations

Floor Plans

Windows

SOP BUILDING- 1ST FLOOR- POSTERS-VENDOR-HELP

Windows

ATRIUM

Door

STUDENT AFFAIRS CONFERENCE ROOM

Falin Brucee

Susan Ballinger

Cyndi Kerr

RAFFLE

Deb Kerris

Denay Hunter

RUBRIC

Amy Lewis

Cinda Roberts

TABLE VIP SIGN IN

CAFE

LIBRARY

SECURITY OFFICE

ENTRANCE

Windows

Windows

SOP BUILDING- 1ST FLOOR-ATRIUM

Chair

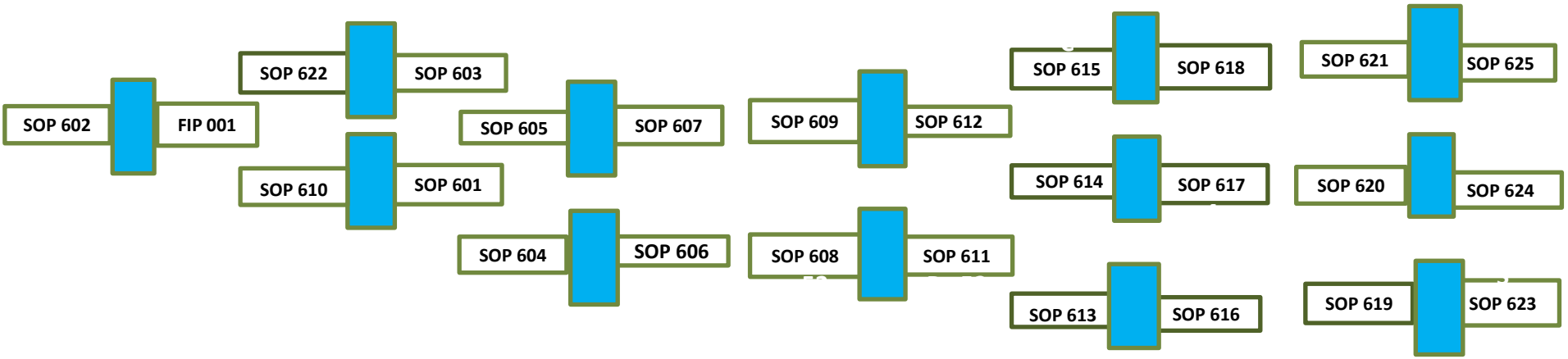
Chair

Table

Chair

Chair

Door



VENDORS

BOA x 1

Assistant's Desk

Elevator

Nicole Papanikos

Ashley Simons

Elevator

SOP BUILDING- 2nd FLOOR- LECTURE HALLS

3 x A frames

Lecture Hall # 211

PDE 202

PDE 203

PDE 201

PDE 204

PDE 205

Marcia Coit

Lecture Hall # 212

OMM Demonstration

Kandyse Taylor

Elora Lee

Displayed in lecture hall 211

Virtual Posters x 5 Pharm Distant Education

Elevator

Elevator

1ST FLOOR DENTAL BUILDING-SIGNS POSTERS-VENDORS-HELP

2 x stantion poles

Whip Mix

Willow Meline

SDM 830
SDM 822

SDM 835
SDM 832

SDM 818
SDM 806

SDM 840
SDM 810

SDM 803
SDM 804

SDM 816
SDM 807

Jodie Dye

Wendy Smith

Nicole Squitieri

SIMULATION LAB

Hiossen x 1

BOA x 1

Glaxo Smith x 2

Dentsply x 2

Javon Lassiter

SDM 828
SDM 817

SDM 823
SDM 825

SDM 827
SDM 842

LIBRARY

CAFE

STAIRS

RAFFLE

Helen Adorno

Kim Duracher

David Machado

Shirley Parrada

RUBRIC

SIGN IN/BADGES

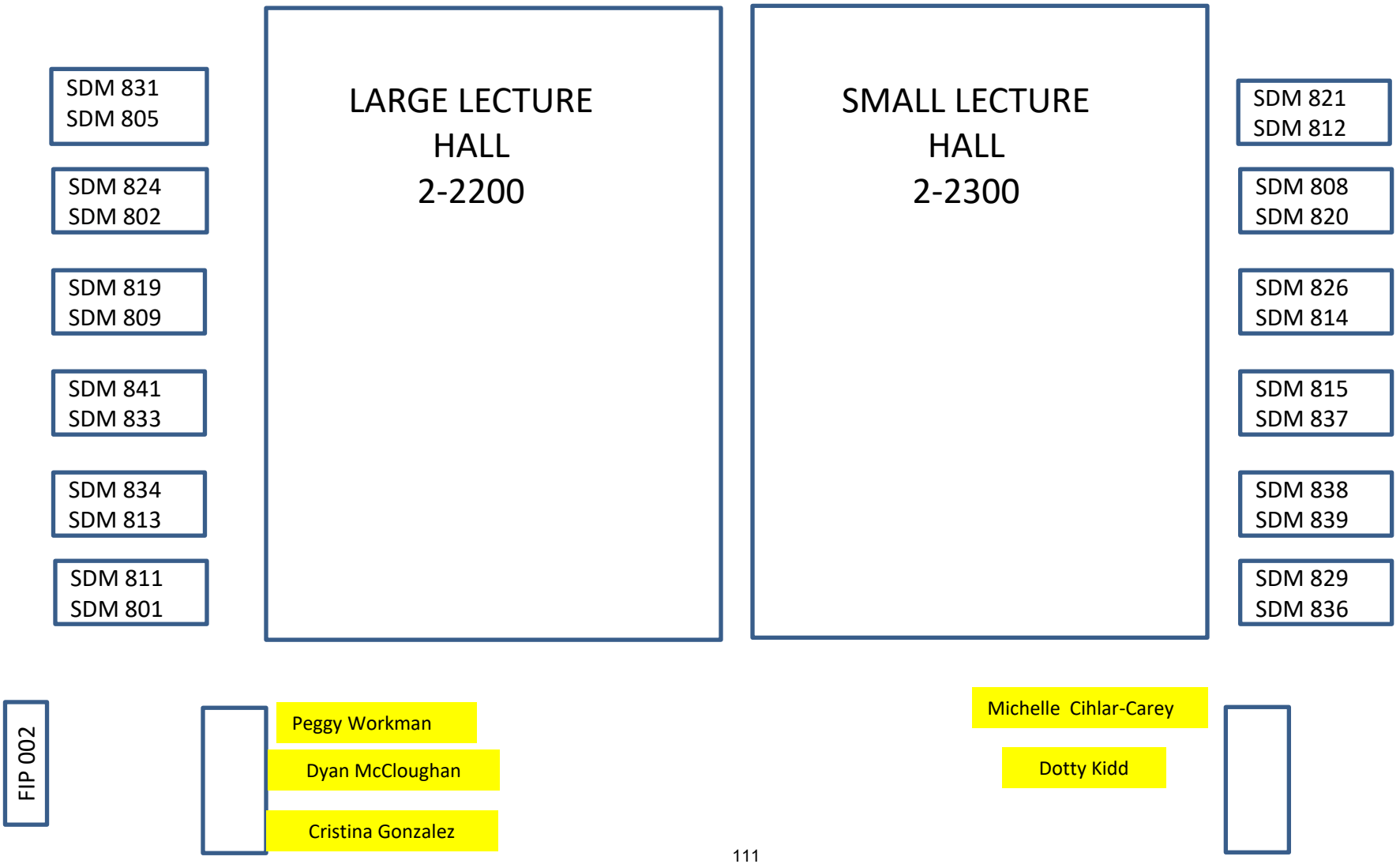
Elena Taddeo

Teresa Ward

ADMISSIONS CONFERENCE ROOM 1-2423

STAIRS

2ND FLOOR DENTAL BUILDING
POSTERS-VENDORS-HELP



1ST FLOOR DENTAL BUILDING-SIGNS POSTERS-VENDORS-HELP

2 x stantion poles

SDM 830
SDM 822

SDM 835
SDM 832

SDM 818
SDM 806

SDM 840
SDM 810

SDM 803
SDM 804

SDM 816
SDM 807

Jodie Dye

Wendy Smith

Nicole Squitieri

SIMULATION LAB

Hiossen x 1

BOA x 1

Glaxo Smith x 2

Dentsply x 2

Whip Mix

Willow Meline

Javon Lassiter

LIBRARY

SDM 828
SDM 817

SDM 823
SDM 825

SDM 827
SDM 842

CAFE

STAIRS

RAFFLE

Helen Adorno

Kim Duracher

David Machado

Shirley Parrada

RUBRIC

SIGN IN/BADGES

Elena Taddeo

Teresa Ward

ADMISSIONS CONFERENCE ROOM 1-2423

STAIRS

APPENDIX C

LECOM Students Scholarship Fund

LECOM Student Scholarship Fund

Research Day- April 19, 2018

Tables Clinics:

2 TABLES - BANK OF AMERICA
1 TABLE - HIOSSEN
2 TABLES - DENTSPLY
2 TABLES - GSK, GLAXO SMITH KLINE
7 TABLES @ $500

Table Donations: $3,500.00

Raffle Tickets Sales:

Raffle Donations: $290.00

TOTAL Event donation for Student Scholarship Fund **$3,790.00**

NOTE: ***Special thanks to Dr. Katie Dinh heading-up table clinics and Diana Hohman for organizing raffle***

8 Tickets!!
Sarasota Orchestra
May 12, 2018

A Gift Basket!!!

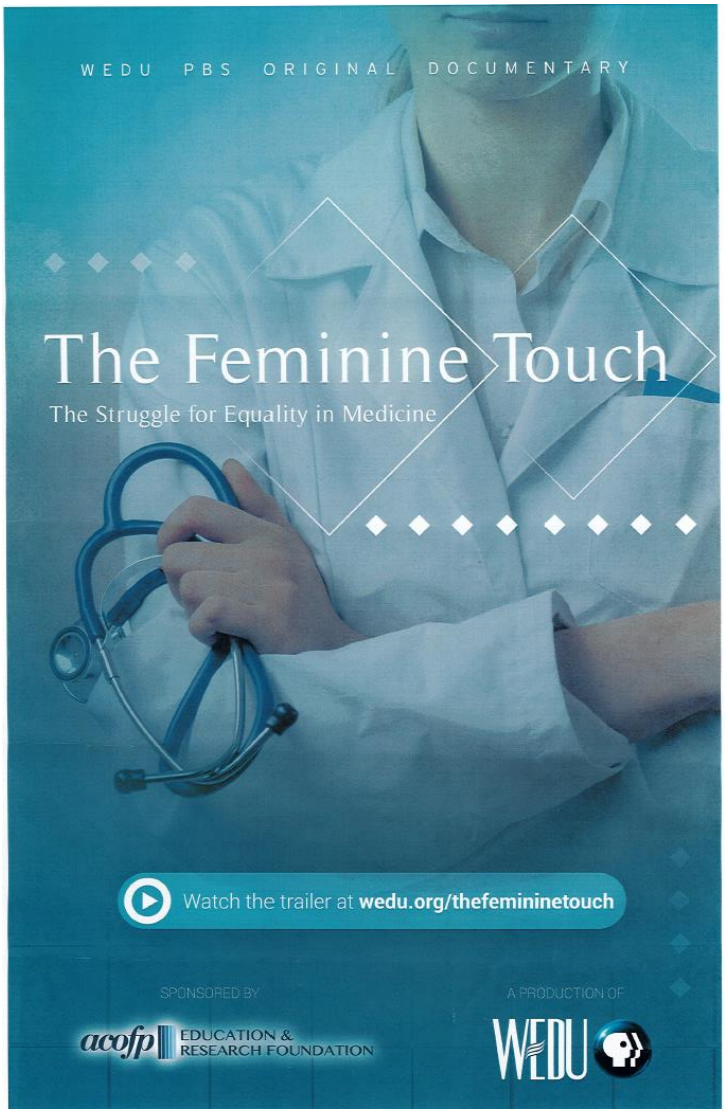
4 Game Tickets!!
Use by 9/30/2018

RAYS

APPENDIX D

Honoring Osteopathic Recognition Week Celebration

In honor of **Osteopathic Recognition Week**, the award winning documentary was show in both the Medical and Dental Building Cafes during lunch sessions for Students and Faculty to learn and enjoy! It features many of our LECOM leadership and faculty including Thomas Quinn, DO, and our Provost, Senior VP and Dean of Academic Affairs Silvia Ferretti, DO



The AOA celebrated National Osteopathic Medicine (NOM) Week April 15-21, 2018 with a full slate of activities focused on bringing the profession together to raise awareness of osteopathic medicine and DOs in communities across the nation.

APPENDIX E

Research day Tours and Demonstrations:

OMM Demonstration

Pharmacy Compound Lab Demos

Dental Simulation Clinic Demo/Tour

WhipMix Dental Clinic Tour

Osteopathic Manipulation Medicine Demonstrations

Faculty:

Dr Thomas Quinn, Dr Nicole Myers, Dr Steven Ma

Osteopathic Manual Medicine or OMM is hands-on care. It involves using the hands to diagnose, treat, and prevent illness or injury. Using OMM, your osteopathic physician will move your muscles and joints using techniques including stretching, gentle pressure and resistance. It is central to Mind, Body, Spirit healing.

Second Floor Lecture Hall 212

Morning Session Presentations: 8:00 - 9:45 am

Afternoon Session Presentations: 12:00 - 1:45pm

Pharmacy Compound Laboratory Demonstrations




Faculty:

Dr Ningning Yang, Dr Nina Pavuluri

Pharmacy compounding is the art and science of preparing personalized medications for patients. Compounded medications are made based on a practitioner's prescription in which individual ingredients are mixed together in the exact strength and dosage form required by the patient. This method allows the compounding pharmacist to work with the patient and the prescriber to customize a medication to meet the patient's specific needs.

Ground Floor –Pharmacy Compound Laboratory

Morning Session

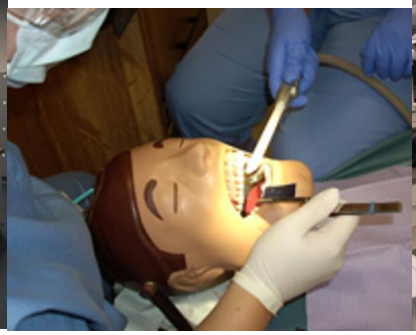
Presentations: 8:00 - 9:45 am

Afternoon Session

Presentations: 12:00 - 1:45pm

Dental Simulation Laboratory

Demonstrations


Faculty:

Nicole Squitieri, **EFDA** Simulation Lab Supervisor

Current approaches to dental education clinical simulation and the availability of experiential learning tools which imitate “real life” clinical conditions in dentistry. These include patient simulation devices such as heads, jaws, teeth and clinical environments. Some of the equipment currently available for simulation of clinical procedures, and assesses the initial experiences and responses of 1st and 2nd, year dental students at LECOM School of Dental Medicine to case-based simulations.

Ground Floor –Dental Simulation Laboratory

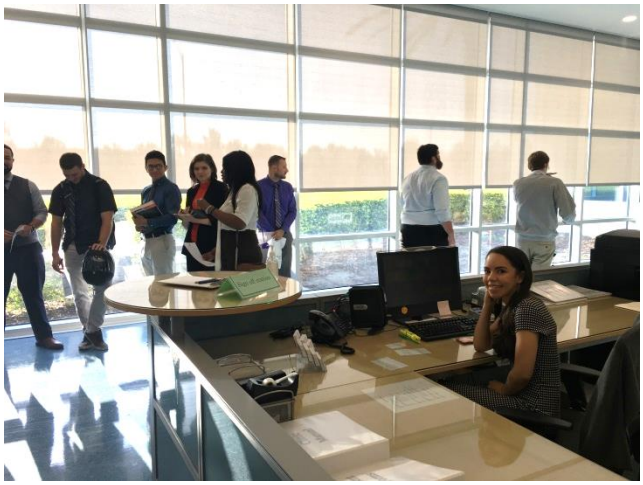
Morning Session

Presentations: 8:00 - 9:45 am

Afternoon Session

Presentations: 12:00 - 1:45pm

Dental Patient Clinic



Faculty:

Dr. My Huong Ta, D.D.S.

At the LECOM Dental Offices, all dental students work under direct supervision of licensed dentists and use the latest diagnostic tools such as full mouth and individual tooth digital X-rays.

Each patient has an individual treatment room where they are provided comprehensive, restorative dental care services. This includes: cleanings, periodontal treatments, crowns, root canal therapy, extractions, dental restorations and full and partial dental prostheses.

Ground Floor –Dental Clinic Tours

Morning Session

Presentations: 8:00 - 9:45 am

Afternoon Session

Presentations: 12:00 - 1:45pm

APPENDIX F

Virtual Research Poster Presentation

Pharmacy Distance Education Virtual Presentations

Second Floor Lecture Hall 211

Morning Session
Presentations: 8:00 - 9:45 am
Afternoon Session
Presentations: 12:00 - 1:45pm

Group 1 – Dr Hanson	Group 2 – Dr Gawronski
Amanda Noel Angela Reyes Youjian Nistorenko Saniye Stevens Karla Castro	Ian Toloza Carmen Ciliberti Pauline Cass Rahaf Obeid Jevon Yaldo
Group 3 – Dr Keshvara	**Group 4 – Dr Matuknauth**
Sheryl Kosler Anteneh Alamneh Andres Babajko-Brown Jrodger Slutz Huyen Tran	Lilibet Burgos Terry Amelunke Stephanie Gonzalez Maryam George Susan Daniels

Group 5 – Dr Hutchinson
Amanda Jonna Laksshmanan Govindasamy Bahar Noorbakhsh Tara La Salle Robert Duong

APPENDIX G

Standard Research Poster Grading Rubric

LECOM Bradenton Interprofessional Research Day 2018

Research Poster Grading Rubric

Table Clinic: Company Name: _____ Initials: _____

Lecture Hall: LH-212 LH-211 SDM-LR SDM-SM Initials: _____ circle one

Dental Sim Lab: Initials: _____

Medical OMM Demo: Initials: _____

Pharm Compound Lab: Initials: _____

Dental Clinic: Initials: _____

JUDGING SUMMARY:

Evaluator Name: _____ P1 P2 P3 M1 M2 D1 D2 D3 _____
circle one other

POSTER #: _____ Title of Poster: _____

Total Score (A + B + C), out of 50: _____ + _____ + _____ = _____
A B C Total

Assigned Letter Grade (**P3's ONLY**): _____

Presenters: _____,_____ ____,_____,_____

_____,_____,_____ , _____

Strengths: _____

Weaknesses: _____

General Comments: _____

Directions: The poster grading is arranged in three main categories:

A. Overall appearance
B. Content
C. Presentation

To fairly evaluate a research poster, circle the number that best describes your rating of that poster element. The rating scale ranges from 1 to 5. Circle only one rating for each criterion. **Grading consistency is critical.** A score of **"3" is an average grade** assigned as compared to other posters you have viewed. A score of **"5" would be the best you have ever viewed**. A score of **"1" would be the worst you have ever viewed**. Scores of **"2" and "4" would be lower than average and better than average respectively of posters you have viewed**. Make sure your name and other information is filled out on Judging summary.

After you have responded to all items, tally those in each category to obtain a sub score. Then, add the three sub scores to obtain the total score. The higher the score, the better the overall quality of a poster. The total score is out of 50 points.

P3's ONLY: Along with your total score, please assign a letter grade that you feel the poster deserves.

Category A: Poster Criterion						
Criteria		**Rating**				
		Poor	Fair	Average	Good	Excellent
1	The information is clear with appropriate balance of text, images, graphics, tables, etc.	1	2	3	4	5
2	The poster is viewable from 3-5 feet	1	2	3	4	5
3	Poster is clear and professional in appearance	1	2	3	4	5
Comments:						

Sub Score A (Out of 15): _____

Category B: Content						
Criteria		**Rating**				
		Poor	Fair	Average	Good	Excellent
4	The poster clearly describes the research project	1	2	3	4	5
5	Results are highlighted in a way so they make sense to the reader	1	2	3	4	5
6	The conclusions are consistent with the results	1	2	3	4	5
7	The display is free of grammatical errors	1	2	3	4	5
Comments:						

Sub Score B (Out of 20): _____

Category C: Presentation						
Criteria		**Rating**				
		Poor	Fair	Average	Good	Excellent
8	Presentation was professional, engaging and focused	1	2	3	4	5
9	The rationale or significance of the study were clearly explained	1	2	3	4	5
10	Rate the professional presence of the authors	1	2	3	4	5
Comments:						

Sub Score C (Out of 15): _____

APPENDIX H

Research Poster Prize Winners and Faculty Mentors

LECOM

LAKE ERIE COLLEGE OF OSTEOPATHIC MEDICINE

LECOM BRADENTON
INTERPROFESSIONAL RESEARCH DAY

First Place

AWARDED TO

Students: Ghazal Blair, Rashad Dalaq, Mavis Sakyi, Linh Tran, Derek Whitecotton

Mentor: Dr. Kelly Scolaro

Awarded this 19th day of April, 2018

Associate Dean for Florida and Distance Education Pathways

Research Committee Chairman

RESEARCH DAY - APRIL 19, 2018. Research Poster Awards

SCHOOL OF DENTAL MEDICINE

SDM	POSTER	POSTER TITLE	MENTOR	STUDENT	CHECK AMOUNT	CHECK #
1st-$500	SDM 826	Are in vitro methods for evaluating endodontic materials flow, working time and film thickness suitable and reproducible?	DR RICHARD MICHAUD	MAYA BARTELS	$166.67	065953
				GRANT ROSS	$166.67	065954
				SETU SHAH	$166.66	065955
					$500.00	
2nd-$300	SDM 838	Simulated Immediate Implant Placement Considerations Cone Beam Computer Tomography Assessment	DR THOMAS YOON	SANDRA WOLF	$150.00	065962
				STEPHANIE VAZANA	$150.00	065963
					$300.00	
3rd-$100	SDM 807	Integrity of Nitrile Examination Gloves After Use in a Dental School Clinic	DR MARK ZMIYIWSKY	CHARLOTTE HAUGHT	$50.00	065973
				SHAYNA ZALEC	$50.00	065974
					$100.00	
SDM				**TOTAL**	**$900.00**	

SCHOOL OF PHARMACY

SOP	POSTER	POSTER TITLE	MENTOR	STUDENT	CHECK AMOUNT	
1st-$500	SOP 601	Do the benefits of prophylactic antibiotics for asthma/COPD outweigh the risks?	DR KELLY SCOLARO	GHAZAL BLAIR	$100.00	065959
				RASHAD DALAQ	$100.00	065958
				MAVIS SAKYI	$100.00	065956
				LINH TRAN	$100.00	065960
				DEREK WHITECOTTON	$100.00	065957
					$500.00	
2nd-$300	SOP 616	"Novel Approaches in Heart Failure"	DR VICTORIA REINHARTZ	LINDSAY DIEZ	$50.00	065968
				JESSICA FABIAN	$50.00	065965
				DARRYL JONES	$50.00	065966
				ROBIN KIM	$50.00	065967
				ANSHULI PATEL	$50.00	065964
				IVY VU	$50.00	065969
					$300.00	
3rd-$100	SOP 611	Implementing CFTR Modulator Treatments to Preserve Lung Functions in CF Patients	DR STEPHANIE PESHEK	YI KIM	$16.67	065977
				JANELLE PARAMORE	$16.66	065980
				LILIANA REYES	$16.67	065976
				ZEBA SIDDIQUI	$16.67	065978
				STEPHANIE SUGARMAN	$16.67	065975
				KAYTIE WEIERSTAHL	$16.66	065979
					$100.00	
SOP				**TOTAL**	**$900.00**	

COLLEGE OF MEDICINE

COM	POSTER	POSTER TITLE	MENTOR	STUDENT	CHECK	
1st-$500	COM 407	CYP2C19-guided voriconazole prophylaxis in neutropenic AML patients.				
				KEVIN SHAHBAZIAN	$500.00	065951
					$500.00	
2nd-$300	COM 418	Epsom Salt induced Acute Liver Failure: A Case Report	DR MICHAEL HERMAN	MICHAEL FOSS	$300.00	065961
					$300.00	
3rd-$100	COM 421	Osteopathic Manipulative Treatment as taught at the American School of Osteopathy 1893-1895	DR THOMAS QUINN	VICTORIA COCOZZA	$33.34	065970
				DANIELLE LANG	$33.33	065971
				NISHA RAMCHANDER	$33.33	065972
					$100.00	
COM				**TOTAL**	**$900.00**	