

PROBING DENTISTRY

Student Research Group at LECOM School of Dental Medicine
Newsletter



Our mission:

The mission of the LECOM – Student Research Group (SRG) is to foster an encouraging environment whereby interested students may enrich their dental education through research. As a branch of the American Association for Dental Research (AADR) and the International Association for Dental Research (IADR), several objectives are set forth and followed by all affiliate branches. These objectives are as follows:

- (1) to advance research and increase knowledge for the improvement of oral health;
- (2) to support and represent the oral health research community; and
- (3) to facilitate the communication and application of research findings.

Included in this issue:

- Dental School reviews IRB Protocol
- Community Service Outreach benefits local veterans and their families
- Publication Inspiration from D4 Lauren Cuculino
- Journal Club student presentation explains how milk can be used during dental emergencies
- Dr. Dennis Youngblood presents unique oral surgery cases at Journal Club Meeting
- Success found at Second Oral Presentation Competition
- Adviser Address

Dental school researchers maximize efficiency with IRB review

By Shelby Anderson

LECOM SDM Bradenton campus met via Zoom Video Conferencing for a review of the Institutional Review Board submission protocol. Dr. Irv Freeman, Vice President for LECOM at Seton Hill, Assistant Dean of Academic Affairs and Clinical Professor of Primary Care Medicine lead the presentation. This review of the IRB protocol was held to increase awareness and expedite efficiency in dental school research submissions. The content of the review included exemption categories, specifications to achieve approval, common obstacles and more. Dr. Freeman's IRB review was made possible by collaborations between the Research Committee and Development Committee in association with the Student Research Group at LECOM Bradenton School of Dental Medicine. For additional information on the IRB protocol please visit <https://lecom.edu/research/human-subjects-research-protection-protocol/>.

Community outreach highlight

By Rachna Patel

This year, SRG has joined forces with Manasota Operation Troop Support (MOTS) as a part of our contactless outreach program. MOTS is a non-profit organization that aims to serve military troops and their families by arranging monthly care packages, food pantries for veterans, emergency financial assistance funds, school supply drives for the children of service members, and many additional programs. By providing support before, during, and after deployment, MOTS ensures that troops and their families are taken care of and prepares them for a smooth transition. In order to express our gratitude for the troops that dedicate their lives to keeping us safe, SRG showed support through a MOTS Amazon wish list where members can choose to purchase MOTS-approved foods and supplies for their monthly care packages. If you're interested in furthering the selfless efforts of organizations like MOTS, please consider following Manasota Operation Troop Support on Facebook and through their Amazon wish list.

Publication Inspiration

By Shelby Anderson

On August 11th, fourth-year dental student Lauren Cuculino joined the members of the Student Research Group via Zoom Video Conferencing to share insight on her most recent publication. Lauren and her mentor, Dr. James Gutmann have contributed their publication to the Summer 2020 edition of Endodontic Practice Today (EPT): Official Publication of the Belgian Association for Endodontology and Traumatology (BAET) and the French Society of Endodontics (SFE). The article, *Prospective Nanotechnology Applications In Endodontics: A Brief Overview*, was made possible by Lauren's thirst for knowledge in the field of endodontics. Lauren began networking with her mentor after posting a question in an endodontics question board. She began networking in the dental research community during her second year at LECOM. Lauren's participation has included Research Day poster presentations, oral presentation competitions as well as being an active member in the Student Research Group.

In addition to this publication Lauren has been published in the online pages of the Journal of Endodontics in March 2020 with her abstract entitled; *Relevance of Pre-doctoral CBCT Education to Postgraduate Endodontic Preparedness: A Survey Approach*. The Student Research Group congratulates Lauren and thanks her for being a mentor to other student researchers. Look for the full article in the Summer 2020 edition of Endodontic Practice Today.



Journal Club asks, "Got Milk?"

By Shelby Anderson

On September 1st, 2020 LECOM SRG members and LECOM faculty met over Zoom Video Conferencing for the first student Journal Club presentation of the year. Student dentists, Shelby Anderson and Denise Le, presented an article from the journal: *European Journal of Oral Sciences* titled: *Comparative evaluation of periodontal ligament fibroblasts stored in different types of milk: Effects on viability and biosynthesis of collagen*. When discussing the methodology of the article Denise explained the application of polymerase chain reaction as it applied to the topic. The authors of the article used PCR to analyze gene expression for type 1 collagen present in different household milks.

Denise's knowledge in PCR stems from her undergraduate research which took place in a shark's genetics lab at the University of Western Florida. In addition to the PCR applications in this article Denise reviewed the current application of PCR analysis to the COVID-19 pandemic. When asked about the importance of participating in events like Journal Club, Denise states, "I want to learn more about dentistry besides what is taught in lecture/textbooks." As a second-year dental student, Denise is enjoying periodontics and endodontics coursework. She enjoys working with her hands in the operative course. When asked she says simulation lab practices reminds her of the ten years she spent as a nail technician.

The purpose of Journal Club was developed to introduce peer reviewed journals that report on the newer materials, techniques, and technology in dentistry. The Journal Club welcomes both student and faculty presenters at their monthly meeting. Journal Club was made possible by collaborations between the Faculty Research Committee and Development Committee in association with the Student Research Group.



Journal Club with Dr. Youngblood

By Shreya Patel

Dr. Dennis Youngblood, a clinical faculty at LECOM School of Dental Medicine, hosted the November 2020 Journal Club event through the Student Research Group. Dr. Youngblood is an oral and maxillofacial surgeon who practiced in Dallas, Texas for more than twenty years and taught at the Baylor College of Dentistry for almost ten years prior to joining LECOM.

This Journal Club meeting was a unique one in which Dr. Youngblood led the discussion through a variety of rare cases seen in LECOM's own clinic. By walking the audience through each case and discussing the significance and take-away messages of each, he helped each participant to understand the diagnosis, progression, and treatment plan of all cases through the use of radiographs and images. Clinic cases presented included the formation of a benign polyp following an extraction, the diagnosis and treatment of trigeminal neuralgia, a canted smile leading to the diagnosis of unilateral condylar hypoplasia with possible ipsilateral condylar hyperplasia, Monckeberg arteriosclerosis as seen on radiographs as "rail-tracking", and a pediatric ameloblastic fibroma over the course of treatment.

Dr. Youngblood also spoke in detail about the uses of suture types including braided silk sutures vs monofilament gut sutures. LECOM student dentists begin didactic and pre-clinical practice of suture techniques in their second year of dental school.

Although we are in a difficult time during COVID-19, Dr. Youngblood highly encourages students to ask questions and find research to get involved in. If interested in joining a project, whether you are a D1 or a D3, he recommends to approach someone and just ask. "I wish I had this kind of exposure when I was in dental school," Dr. Youngblood even stated. The Student Research Group thanks Dr. Youngblood for his captivating presentation and is excited to see his tips and teachings be put to use in the clinic.



Journal Club with Dr. Youngblood

By Shreya Patel

Thank you to the following LECOM researchers that enriched LECOM clinical education through further discussion and learning of the cases noted.

Students:

Ernesto Llerena DMD

Oscar Sanchez DMD

Logan Rutch MMS BA DMD Candidate

Sharon Lui BS DMD Candidate

Bomi Kim BS DMD Candidate

Surabhi Mangal MPH DMD Candidate

Emily Katz DMD Candidate

Lorenzo Miranda DMD Candidate

Joshua Ospina DMD Candidate

Aarti Palmer DMD Candidate

Faculty and Mentor:

Dennis Youngblood DDS

Allen Itkin DMD

Don Millner DDS MAGD

Jack Hirschfeld DDS

Timothy Halligan DMD

"In a ham and egg breakfast, the chicken makes a contribution. The chicken provides the eggs for your meal. But the pig is committed to the meal. He gives his life for your ham. Be the PIG! Be committed. It means that whatever you endeavor to do, be committed to it. Be the PIG! "

- Dr. Youngblood

Success found at Second LECOM SDM Oral Presentation Competition

By: Shelby Anderson

On December 1st, LECOM School of Dental Medicine students and faculty gathered for the Second Oral Presentation Competition. Six student research groups presented via Zoom Video Conferencing to four faculty judges. Participating judges included LECOM SDM faculty from physiology, biochemistry and dentistry teaching areas. The six student research groups included second, third and fourth-year dental students. The oral presentation competition is held to select a representative from LECOM SDM to attend the 2021 AADR / Dentsply Sirona Student Competition for Advancing Dental Research and its Application (SCADA) program. Student researchers will attend the 50th Annual Meeting of the American Association for Dental Research being held in Boston, Massachusetts in July 2021. The first place award for the Second Oral Presentation Competition is third year dental student Stanley John for his presentation on LECOM original research project, *The Effect of Essential Oils on The Antibiotics Efficacy Against Enterococcus Faecalis*. Stanley says "I chose to study and present on the topic of secondary infections in endodontics to contribute to the advancement and increased success of endodontic therapy. By attending the AADR conference I hope to spark further discussion about potential new therapies for increased success in all types of endodontic therapies."

We would like to thank the following research teams for their participation in this years' Oral Presentation Competition:

The Effect of Essential Oils on The Antibiotics Efficacy Against Enterococcus Faecalis.

Authors: Stanley John DMD Candidate, Purushottam Lamichhane Ph. D, Richard Michaud DDS, and Thomas Yoon DDS. Lake Erie College of Osteopathic Medicine School of Dental Medicine.

Success found at Second LECOM SDM Oral Presentation Competition

By: Shelby Anderson

Pattern Recognition of Oral Osseous Lesions.

Authors: Philsub Jung DMD Candidate, Shane Burns DMD Candidate, Dennis Youngblood DDS, Allen Itkin DDS. Lake Erie College of Osteopathic Medicine School of Dental Medicine.

Comparison of the Accuracy of Intraoral Scanner (Trios and Omnicam) vs. an In-Lab Scanner.

Authors: Steven Phung DMD Candidate, Anusha Vempaty DMD Candidate, Aubrey Folds DMD Candidate, Alexandra Manibo DDS, Inessa Slipak DDS, Hind Hussein BDS, Nader F. Abdulhameed BDS MS. Lake Erie College of Osteopathic Medicine School of Dental Medicine.

A standardized method to determine proper working distance for dental magnification utilizing neutral ergonomics positioning.

Authors: Hind S. Hussein BDS, Shelby Anderson DMD Candidate, Melissa Matick DMD Candidate, Avery Greene MMS, DMD Candidate, Mark P Zmiyiwsky DDS, Nader F. Abdulhameed BDS MS. Lake Erie College of Osteopathic Medicine School of Dental Medicine.

Does Chlorhexidine Make Modern Dental Adhesives Come “Unglued”?

Authors: Jordan Carey DMD Candidate, Leah Kimerer MMS, DMD Candidate, Irene Thomas DMD Candidate, Hind Hussein BDS, Nader F. Abdulhameed BDS MS. Lake Erie College of Osteopathic Medicine School of Dental Medicine.

Dental Diagnosis and Treatment Planning, Subjective or Objective?

Authors: Shelby Anderson DMD Candidate, Anusha Bontha, DMD Candidate, Gia Hoang DMD, Eugene Lee DMD, Inessa L. Slipak DDS. Lake Erie College of Osteopathic Medicine School of Dental Medicine.

Adviser Address

By: Dr. Mark Zmiyiwsky

I am frequently asked by dental student candidates during admissions interviews about the topic of research. They ask something like “what are the research opportunities available” and more recently “has COVID changed research accessibility at LECOM SDM.”

My response is usually simple: **research is still going strong at LECOM SDM, and research is more important than ever.** Science with research, both direct and indirect, will help us understand the issues we face today, so that we can make breakthroughs into the future. Our dental knowledge of infectious diseases, along with standard usage of “universal precautions” has brought dentistry to the forefront of being the leaders in the health-care field to navigate through the murky waters of these trying times.

There are differing reasons why students (and Faculty!) are drawn to research.

Some commit themselves to their projects solely for the thrill of satisfying their curiosity, while others are trying to make connections in their field of interest to perhaps further their education with a post-graduate dental specialty. I find that most students in research have some combination of the above. Whatever the reason, the way that a profession thrives and treats its population is through innovation.

We at LECOM SDM recognize this importance and will continue to promote research to fulfill the Mission Statement of the School of Dental Medicine:

“The mission of the School of Dental Medicine is to prepare students to become dentists through programs of excellence in education, research, clinical care and community service to enhance the quality of life through improved health for all humanity.”

Special thank you to the dedicated faculty and inspiring student researchers who made this newsletter possible.

What do you hope to gain from participating in research?

SRG 2020-2021 Executive Board

President: Shelby Anderson-

"I hope to increase my professional network and make an impact on dental medicine and dental education."

Vice President: Shaveta Anand-

"Participating in research has given me an edge in the clinic that other students lack. I hope to learn more about topics I am passionate about."

Secretary: Tam Vu-

"With regards to research, I hope to develop into a well-rounded student dentist and contribute to the progression of academia."

Treasurer: Natalie Schmidt-

"I hope to gain knowledge and draw applicable conclusions in order to provide the best care to my patients."

Lab Research Chair: Stanley John-

"By participating in research I hope to contribute to the advancement of science and technology in the field of dentistry."

Inter-professional relations chair: Shreya Patel-

"I hope to gain a deeper, more complex understanding of the science behind dentistry while contributing modern ideas and information that will benefit patient care for years to come."

D3 representative: Jonathan Phen-

"Participating in research allows me to further my own mastery in the field by providing an avenue to challenge the problems that need answering."

D2 Representative: Denise Le-

"I hope to gain the ability to approach questions and debate from a more objective perspective."

D1 Representative: Rachna Patel-

"I hope to delve deeper into a topic that interests me, make connections with students and faculty that share a similar passion, and refine my critical thinking and scientific writing skills by participating in research."