Research Report

LECOM

2020

PREPARED BY:

BERTALAN DUDAS M.D., Ph.D., M.S. (MED. ED)
ASSISTANT DEAN OF RESEARCH AND SCHOLARSHIP

LECOM
2020 PUBLICATIONS

Published articles/Book Chapters


344. Cuculino, Lauren / Gutmann, James L. ENDO 14 (2020), No. 2 (03.06.2020) Page 103-110. Prospective nanotechnology applications in endodontics: a brief overview


Manuscripts submitted (Faculty bold, students underlined)

1. Rezac, K, Bao, NN, Hubert, J, Zeher, B, Avggeropoulos, G, Shenkman, D, **Quinn, TA**, Lorenzo, S. Pulmonary Function After Rib Raising Versus Standard Respiratory Therapy. Submitted, J Am Osteopath Assoc


6. Alice Hudder, Kim Moscatello, Sean Tackett Predictors of Performance for First-Level National Licensing Exams at One Osteopathic Medical School JAOA 5/7/2020


---

**Research Information on the Portal**

- **Maintained** by Dr. Bertalan Dudas and Dr. Diana Speelman

- **Research/Scholarship tab has been updated** so faculty can find info on:
  - Policies and procedures (grant application, student research, registering projects, publication fees, posters)
  - IRB and IACUC forms & links
  - Reports on Scholarly Activity Outcomes, Faculty Expertise & Interests, Annual Reports
  - Funding Opportunities & Information
  - New IPAAR page for newsletters, contacts, project assistance request

- **Faculty research activity information** available for students on the portal
  - Information of faculty research activity is available as an Excel document on the portal. Any updates should be Emailed to Dr. Speelman (dspeelman@lecom.edu). This document is available for the students who want to participate in research activity. (Students Tab > Forms and Documents > Faculty Expertise and Research Projects and >MCH Research Projects)
  - Guidelines for student research can also be found here.
## GRANTS

**LECOM Intramural Seed grants 2019-20**

<table>
<thead>
<tr>
<th>NAME</th>
<th>SCHOOL/CAMPUS</th>
<th>PROJECT TYPE</th>
<th>PROJECT NAME</th>
<th>AMOUNT REQUESTED</th>
<th>AWARD AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abukabda, Alaeddin</td>
<td>COM/Erie</td>
<td>General Basic Science</td>
<td>Complement system mediated endothelial dysfunction in pulmonary hypertension</td>
<td>$19,995.00</td>
<td>$19,995.00</td>
</tr>
<tr>
<td>Biringer, Roger</td>
<td>COM/Bradenton</td>
<td>General Basic Science</td>
<td>Fractionation of Samples Containing Potential Cancer Biomarkers and Biomarker Identification</td>
<td>$19,988.76</td>
<td>$19,989.00</td>
</tr>
<tr>
<td>Myers, Nicole</td>
<td>COM/Bradenton</td>
<td>Osteopathic Manipulative Medicine</td>
<td>Effects of Osteopathic Manipulative Treatment (OMT) and Bio Electro-Magnetic Regulation (BEMER) Therapy on neck pain in adults</td>
<td>$8,410.00</td>
<td>$8,410.00</td>
</tr>
<tr>
<td>Raisch, Kevin</td>
<td>COM/Bradenton</td>
<td>General Basic Science</td>
<td>Analysis of saliva samples for oral microbiome and human papillomavirus</td>
<td>$20,000.00</td>
<td>$20,000.00</td>
</tr>
<tr>
<td>Freeman, Irv</td>
<td>COM/Seton Hill</td>
<td>Health Professions Education</td>
<td>Survey of Hospitals' Policies on the Use of Medical Cannabis by Inpatients</td>
<td>$5,000.00</td>
<td>$5,000.00</td>
</tr>
<tr>
<td>Gnarra, James</td>
<td>COM/Bradenton</td>
<td>General Basic Science</td>
<td>Prolyl isomerase activity in renal cancer cells</td>
<td>$19,512.94</td>
<td>$0.00</td>
</tr>
<tr>
<td>McBride, Jennifer</td>
<td>COM/Erie</td>
<td>General Basic Science</td>
<td>Determining Carcinogenic Potential of In Vitro Acrolein Exposure</td>
<td>$19,691.51</td>
<td>$19,692.00</td>
</tr>
<tr>
<td>Slipak, Inessa</td>
<td>SDM</td>
<td>Health Professions Education</td>
<td>Faculty or Technology: Traditional assessment model of preparations versus computer assisted assessment model</td>
<td>$20,000.00</td>
<td>$20,000.00</td>
</tr>
<tr>
<td>Manibo, Alexandra</td>
<td>SDM</td>
<td>Health Professions Education</td>
<td>Clinical Wear of Two Types of Denture Teeth Materials After Six and Twelve Months</td>
<td>$6,770.00</td>
<td>$6,770.00</td>
</tr>
<tr>
<td>Hussein, Hind</td>
<td>SDM</td>
<td>General Basic Science</td>
<td>Effect of Fluoride application on bonding of orthodontic resin cement and hardness of enamel surface</td>
<td>$14,870.00</td>
<td>$14,870.00</td>
</tr>
<tr>
<td>Abdulhameed Nader</td>
<td>SDM</td>
<td>Health Professions Education</td>
<td>Influence of etching and CHX application on bond strength to the tooth structure using 7th generation bonding system</td>
<td>$17,137.00</td>
<td>$17,137.00</td>
</tr>
</tbody>
</table>
### LECOM Intramural Seed grants 2020-21

<table>
<thead>
<tr>
<th>NAME</th>
<th>SCHOOL/CAMPUS</th>
<th>PROJECT TYPE</th>
<th>PROJECT NAME</th>
<th>AMOUNT REQUESTED</th>
<th>AWARD AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abi Abdallah, Delbert</td>
<td>COM/Erie</td>
<td>General Basic Science</td>
<td>Investigating the immune response to Listeria monocytogenes</td>
<td>$14,989.00</td>
<td>$14,989.00</td>
</tr>
<tr>
<td>Bhattacharya, Dwipayan</td>
<td>COM/Erie</td>
<td>General Basic Science</td>
<td>Elucidating the neuroprotective mechanisms of ILK alcohol exposed brain damage in FASD rat model</td>
<td>$14,887.00</td>
<td>$14,887.00</td>
</tr>
<tr>
<td>Duriancik, David</td>
<td>COM/Erie</td>
<td>General Basic Science</td>
<td>Human monocyte cell line expression of the receptor known as Stimulated by Retinoic Acid 6</td>
<td>$18,800.00</td>
<td>$19,800.00</td>
</tr>
<tr>
<td>He, Ping</td>
<td>COM/Erie</td>
<td>General Basic Science</td>
<td>An investigation of extracellular phosphate perturbed cell signaling networks</td>
<td>$19,884.61</td>
<td>$19,884.61</td>
</tr>
</tbody>
</table>

### LECOMT Seed grants 2020-21 Phase 2 Pending

<table>
<thead>
<tr>
<th>NAME</th>
<th>SCHOOL/CAMPUS</th>
<th>PROJECT TYPE</th>
<th>PROJECT NAME</th>
<th>AMOUNT REQUESTED</th>
<th>AWARD AMOUNT (Oct.15.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bhattacharya, Dwipayan</td>
<td>COM/Erie</td>
<td>General Basic Science</td>
<td>&quot;In vitro Stimulation of Dopamine D4 Receptors Protects PGC-1a Dependent Dopaminergic Neurons&quot;</td>
<td>4,894.00</td>
<td></td>
</tr>
<tr>
<td>Sarsam, Luay</td>
<td>Arnot Ogden Medical Center</td>
<td>Cardiovascular Disease Fellow</td>
<td>&quot;Comparing Apple wearable devices in detecting Cardiac Arrhythmias head-to-head with cardiac monitoring device commonly used in the outpatient clinical practice.&quot;</td>
<td>5,000.00</td>
<td></td>
</tr>
<tr>
<td>Herrick, Richard Li, Yueling</td>
<td>LECOM Health - Millcreek Community Hospital</td>
<td>Psychiatry</td>
<td>&quot;Predictors or factors affecting readmissions or revisiting ER within 30 Days of discharge in psychiatric patients&quot;</td>
<td>5,000.00</td>
<td></td>
</tr>
<tr>
<td>White, Bradley Deangleo, Osmany</td>
<td>Larkin Community Hospital</td>
<td>Diagnostic Radiology</td>
<td>&quot;Point-of-Care Transthoracic Sonographic Evaluation for Early Detection of Post-Procedure Pneumothorax&quot;</td>
<td>4,944.00</td>
<td></td>
</tr>
</tbody>
</table>
# LECOMT Seed grants 2020-21 Phase 1

<table>
<thead>
<tr>
<th>NAME</th>
<th>ADDITIONAL INVESTIGATORS</th>
<th>INSTITUTION</th>
<th>PROGRAM</th>
<th>TITLE</th>
<th>REQUESTED AMOUNT</th>
<th>AWARDED AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ines Kanada, DO</td>
<td></td>
<td>LECOM Health - Millcreek Community Hospital</td>
<td>Internal Medicine</td>
<td>&quot;The benefit of using probiotic in patient with chronic constipation&quot;</td>
<td>3,500.00</td>
<td>3,500.00</td>
</tr>
<tr>
<td>Asad Nasir, MD</td>
<td>Laura Bradel, DO; David Irwin, DO</td>
<td>Arnot Ogden Medical Center</td>
<td>Internal Medicine</td>
<td>&quot;Feasibility Study to Evaluate Fractional Expired Nitric Oxide (FENO) during Hospitalization for Acute Exacerbation and two weeks post discharge for patients with COPD&quot;</td>
<td>2,148.50</td>
<td>2,148.50</td>
</tr>
<tr>
<td>Ping He, MD, PhD</td>
<td></td>
<td>LECOM</td>
<td></td>
<td>&quot;Comparative proteomic analysis of abnormal accumulated proteins in N-glycanase 1 deficient cells&quot;</td>
<td>5,000.00</td>
<td>5,000.00</td>
</tr>
<tr>
<td>Jared Bunевич, DO</td>
<td>Kilee Bayne, DO</td>
<td>St. Elizabeth Boardman Hospital</td>
<td></td>
<td>&quot;Construction of Human Sinus Models using 3-D printing for Surgery Simulation&quot;</td>
<td>4,999.00</td>
<td>3,000.00</td>
</tr>
<tr>
<td>Lindsey Smith, DO</td>
<td></td>
<td>St. Elizabeth Boardman Hospital</td>
<td>Emergency Medicine</td>
<td>&quot;Development of Novel Antiviral Respirators to Address Emergency Department and Hospital shortages amidst the Covid-19 pandemic&quot;</td>
<td>5,000.00</td>
<td></td>
</tr>
<tr>
<td>Anthony Brine, PsyD</td>
<td></td>
<td>St. Elizabeth Boardman Hospital</td>
<td>Family Medicine</td>
<td>&quot;Resident Wellness and the Importance of Exercise&quot;</td>
<td>5,000.00</td>
<td></td>
</tr>
<tr>
<td>James Latronica, DO</td>
<td>Steve Martin, DO</td>
<td>Clarion Hospital</td>
<td></td>
<td>&quot;Proof of concept and Field Testing of Emergency Personal Protective Equipment (PPE) produced by 3D printer&quot;</td>
<td>5,000.00</td>
<td></td>
</tr>
<tr>
<td>Zhu Wang, MD</td>
<td></td>
<td>Clarion Hospital</td>
<td></td>
<td>&quot;Proof of concept and Field Testing of Emergency Personal Protective Equipment (PPE) produced by 3D printer&quot;</td>
<td>4,756.50</td>
<td></td>
</tr>
<tr>
<td>Daniel Hinds, DO</td>
<td></td>
<td>St. Elizabeth Boardman Hospital</td>
<td>Emergency Medicine</td>
<td>&quot;Production of Protective Face Shields for Emergency Department Use during a Time of Critical Supply Shortage&quot;</td>
<td>5,000.00</td>
<td></td>
</tr>
<tr>
<td>Roger Biringer, PhD</td>
<td></td>
<td>LECOM - Bradenton</td>
<td></td>
<td>&quot;Continued Characterization of Na, K-ATPase activity and endogenous ligands in migraine&quot;</td>
<td>5,000.00</td>
<td>5,000.00</td>
</tr>
<tr>
<td>Chad Donley, MD</td>
<td>Kevin Sorensen, DO; Zia Rahman, DO</td>
<td>St. Elizabeth Boardman Hospital</td>
<td>Emergency Medicine</td>
<td>&quot;Age adjusted D-dimer rule out for Pulmonary Embolism&quot;</td>
<td>5,000.00</td>
<td></td>
</tr>
<tr>
<td>Don McLean, MS, MA</td>
<td></td>
<td>Niagara Falls Memorial Medical Center</td>
<td>Family Medicine</td>
<td>&quot;Up to Date Strategies&quot;</td>
<td>4,460.00</td>
<td></td>
</tr>
<tr>
<td>Diana Speelman, PhD</td>
<td>Caitlin Reilly, OMS3</td>
<td>LECOM</td>
<td></td>
<td>&quot;Effect of High-Sugar Diet on Insulin Resistance and Metabolic Dysfunction in a Prenatally Androgenized Rat Model&quot;</td>
<td>5,000.00</td>
<td>5,000.00</td>
</tr>
<tr>
<td>Title</td>
<td>Authors</td>
<td>Institution</td>
<td>Description</td>
<td>Funding 1</td>
<td>Funding 2</td>
<td></td>
</tr>
<tr>
<td>---------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td>------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
<td>-----------</td>
<td>-----------</td>
<td></td>
</tr>
<tr>
<td>Influence of stress on the physiological and psychological wellbeing</td>
<td>Santiago Lorenzo, PhD, M.S., M.S.(MedEd)</td>
<td>LECOM - Bradenton</td>
<td>first year medical students, as measured by Heart Rate Variability and the Perceived Stress Scale</td>
<td>4,939.46</td>
<td>4,939.46</td>
<td></td>
</tr>
<tr>
<td>Improving Medical Student Well-Being during First-Year Anatomy Education</td>
<td>Randy Kulesza, PhD</td>
<td>LECOM</td>
<td></td>
<td>3,913.00</td>
<td>3,913.00</td>
<td></td>
</tr>
<tr>
<td>Clinical Characteristics, Management, Evolution and Outcome of Hospitalized Patients with COVID-19 Compared to Seasonal Influenza in two Community Hospitals (COV-FLU)</td>
<td>Comfort Mfbefu Takang, MD, MPH, Stephanie Klinesmith, student Researcher</td>
<td>Manatee Memorial Hospital Internal Medicine</td>
<td></td>
<td>5,000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Improving Medical Student Well-Being during First-Year Anatomy Education</td>
<td>Randy Kulesza, PhD</td>
<td>Manatee Memorial Hospital Internal Medicine</td>
<td></td>
<td>5,000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Randomized, Open Label, Controlled Clinical trial of Hydroxychloroquine and Doxycycline for the management of hospitalized non-vented COVID-19 patients (CORONA-IN PLUS)</td>
<td>Werther Marciales, MD, Joshua Batzata, DO</td>
<td>Manatee Memorial Hospital Internal Medicine</td>
<td></td>
<td>5,000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A Randomized Open Label Clinical Trial Reviewing Prophylactic Treatment to Decrease the Incidence of Symptomatic COVID-19 in Healthcare Providers on the Frontlines (CORNOA-PREV)</td>
<td>Werther Marciales, MD, Nicholas Ross, DO</td>
<td>Manatee Memorial Hospital Internal Medicine</td>
<td></td>
<td>5,000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact of Bed Angle and Height on Laryngeal Views During Emergency Department Intubation in the Ramped Position</td>
<td>Irtaza Asar, DO, Dhimitri Nikolla, DO, Jestin Carlson, MD, MS</td>
<td>AHN - Saint Vincent Hospital Emergency Medicine</td>
<td></td>
<td>4,920.00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Effect of simple cervical spine exercise regimen on neck pain, strength, range of motion and concussion incidence in collegiate athletes</td>
<td>Bryan Anderson, DO</td>
<td>LECOM Health - Millcreek Community Hospital Orthopaedic Surgery</td>
<td></td>
<td>14,274.80</td>
<td>14,274.80</td>
<td></td>
</tr>
<tr>
<td>Placental and fetal metabolism in pregnant female rats exposed to testosterone during gestation</td>
<td>Diana Speelman, PhD</td>
<td>LECOM</td>
<td></td>
<td>5,000.00</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Absolute lymphocyte counts determine severity score in Coronavirus Disease 2019</td>
<td>Robert Hostoffer, Jr., D.O, LhD, Med, FAAP, FACOP, Ryan Shilian, DO</td>
<td>University Hospitals Allergy Immunology</td>
<td></td>
<td>4,939.99</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Comparison of modern and traditional resources and the effect of student learning style in anatomy education</td>
<td>Randy Kulesza, PhD</td>
<td>LECOM</td>
<td></td>
<td>4,995.99</td>
<td>4,995.99</td>
<td></td>
</tr>
<tr>
<td>Characterization of long-range axonal projections within the auditory brainstem and forebrain of an animal model of autism spectrum disorder</td>
<td>Randy Kulesza, PhD</td>
<td>LECOM</td>
<td></td>
<td>4,870.21</td>
<td>4,870.21</td>
<td></td>
</tr>
</tbody>
</table>