Welcome to the OSU COM Class of 2021! This is a very exciting time in your medical education. The knowledge and perspectives you acquire and experiences you have will greatly influence your career direction and opportunities. The Office of Medical Student Research is here to assist you with engaging in medical research whether you are a novice or seasoned researcher. Immersion in an exciting research project during the summer between your Med I and Med II years will undoubtedly enhance the breadth or depth of engagement in biomedical inquiry and develop your critical thinking and problem solving skills. You will have an opportunity to develop important professional relationships with your research mentor(s) and teammates. It may pave the foundation for continued research as an important member of a research team throughout your subsequent medical school training. The importance of biomedical research education and training during medical school is evident in the Lead Serve Inspire curriculum which incorporates content in all years which highlights and applies Evidence Based Inquiry and Research (EBIR) principles to medically relevant topics. Furthermore, the Advanced Competency in Research offers students who have successfully completed an introductory research project during medical school the opportunity to further develop specific clinical and translational research competencies.

Several opportunities are organized to assist you in learning about the breadth of research opportunities available to you. On October 23rd the Research Opportunities Fair was held in the Biomedical Research Tower from 4:30-6:00pm. At this event students were able to meet many faculty and their research representatives to discuss in person and to gather prepared materials about the research opportunities available for medical students. And on November 9th the Annual Medical Student Research Symposium will be held in the Biomedical Research Tower from 12:00 to 2:00pm. Med II students will be presenting posters reporting research results from summer 2017 research projects funded by COM research scholarships.

To make the most of these opportunities I recommend that you start early and prepare yourself for a productive summer research experience. This preparation should include the following 1) prepare a resume outlining your educational background, achievements and research experience, 2) acquire information from multiple sources (website, other students, events) which describe faculty research to help you narrow down a list of faculty with whom you would like to correspond and/or meet to discuss potential research opportunities, 3) interview multiple faculty so you can select the project which most interests you, 4) work with your mentor to prepare a COM research scholarship application (Phase I application due December 18th, Phase II application due January 16th) and 5) work with your mentor to identify extramural sponsors which fund medical student research and then format the same materials you prepared for the COM research scholarship to apply for an extramural research scholarship offered by many professional medical foundations. This way you will gain experience with research grant funding applications and diversify your options for funding your research training.

As always Bianca McArrell, MDSR program manager and I are available to meet with you personally to discuss research education and training in more detail. As you will see in reading the MDSR Newsletter, OSU COM medical students are involved in all types of research and those who have had successful and rewarding experiences are those who have made the most of the opportunities available!

Sincerely,
Ginny L. Bumgardner MD PhD FACS
Associate Dean for Research Education
By Rishi Sethia: I grew up in Chicago, IL and graduated from Indiana University with a Bachelor of Science in Biology and Neuroscience. As an undergraduate, I studied the effect of gonadal hormones on neural plasticity as a research scholar in the lab of Dr. Preston Garraghty. I then went on to complete a clinical research internship with the Department of Neurological Surgery at Indiana University. There, I investigated outcomes of cerebral aneurysms with Dr. Aaron Cohen-Gadol. After entering medical school at The Ohio State University, I focused my research interests on otolaryngology. During my first year of medical school I was awarded a College of Medicine Barnes Research Scholarship to investigate quality of life outcomes for head and neck cancer patients treated with transoral robotic surgery under the guidance of Dr. Enver Ozer.

Throughout medical school, I have worked on various projects within the Department of Otolaryngology-Head and Neck Surgery. These projects include 1) evaluation of a pediatric imaging protocol 2) a medical student mentorship program with Dr. Garth Essig and Dr. Charles Elmaraghy, 3) a report on implant extrusion management 4) a retrospective study on recurrent respiratory papillomatosis with Dr. Brad deSilva and Dr. Laura Matrka, 5) two review articles on temporal bone simulation and resident performance assessment with Dr. Gregory Wiet. In addition to co-authoring several peer-reviewed publications, I have received travel awards to present my work at national conferences including the Triological Society Annual Meeting, Combined Otolaryngology Spring Meetings, and a regional meeting of the Association of American Medical Colleges. I’m currently applying for a residency in otolaryngology and plan to maintain an active research focus throughout my career and ultimately work in academic medicine. I’m very interested in helping younger students take advantage of the vast research resources available at OSU, and specifically encouraging them to consider otolaryngology as a career option. For those interested, you can contact me at rishabh.sethia@osumc.edu.

By Jason Campbell: I grew up in Northwest Washington, D.C. and attended Emory University, graduating with a Bachelor of Science degree in Anthropology and Human Biology. Prior to starting medical school, I volunteered in the AmeriCorps City Year program in Washington D.C. serving underserved high school students. During his first years of medical school, I quickly developed an interest in Sports Medicine and Surgical Oncology. During my first year of Medical School I was awarded a College of Medicine Roessler Research Scholarship award working with Dr. Tom Best in collaboration with Dr. Ian Shrier and the Cirque du Soleil organization, examining time to return from injury for these circus artists. Furthering my musculoskeletal research, I also had the opportunity to work on a research project highlighting female runners with a low BMI are at a higher risk to sustain stress fractures—Time to return to running after tibial stress fracture in female Division I collegiate track and field. This research was published in May 2017 in Current Orthopedics Practice.

As my career has evolved my love for children’s health surfaced as evidenced by my work for the advancement of treatment for parechovirus and echovirus in infants between 4 and 60 days who were evaluated at Nationwide Children’s Hospital for fever or rule out sepsis with + HPeV PCR. The goal of this research is to: describe the prevalence, genotypes, clinical manifestations, laboratory findings and outcomes associated with HPeV infections in children ≤ 60 days of age, compare epidemiologic, clinical and laboratory characteristics from HPeV with enterovirus infections. In my most recent research exploration I found my passion for surgery, specifically surgical oncology. Under the guidance and tutelage of Drs. Grignol and Pollock, I’m studying patients who have a very rare form of cancer - sarcoma. These patients are being categorized into a multi-institutional databank to help direct guidelines and management options for sarcoma patients in the future. As I pursue a career in surgery I plan to remain active in the research community. I’m very interested in encouraging others to consider surgery as a career option and to take advantage of research resources available at The Ohio State University Wexner Medical Center and College of Medicine. For those who are interested, I can be reached at JL.campbell11@gmail.com
My MDSRS Experience

With research being such a crucial part of my curriculum during my undergraduate career, I was delighted to see the abundance of research opportunities when I came to the College of Medicine. In fact, before my interview at The Ohio State University, I found myself on the Office of Medical Student Research’s website looking at potential opportunities and “stalking” principal investigators that had taken medical students into their lab in the past. This search led me to Dr. Gail Besner, a pediatric surgeon using tissue engineering to treat gastrointestinal diseases of premature infants. I found this fascinating and decided to reach out via email. To my surprise, not only did Dr. Besner respond, but she also wanted to meet after my OSU interview. From then and throughout my first year of medical school, Dr. Besner and I kept in contact through email, meetings, and shadowing of surgeries until she asked me to join her lab at Nationwide Children’s Hospital for the summer. I happily agreed and the rest is history.

In my opinion, there are three key aspects in my experience that set apart OSUCOM research from other medical schools. First, this story is not unique. Many of my peers were able to find their research mentors easily and have developed long-lasting relationships with them. Although the former is due to the accessibility of the Office of Research Education website, the latter is due to the culture at Ohio State and the welcoming personalities of these doctors. All of the physicians I have met while in Columbus are so receptive to teaching and will go above and beyond to give you the opportunities you desire. Second, there are multiple opportunities for funding to completely pay for summer research. Through the Office of Research Education, I was able to apply for the Medical Student Research Program Scholarship. I really appreciated how this allowed me to spend sufficient time in the lab without having to pick up another job in the summer. Third, this experience taught me a lot. I was able to work with a rat model where I did everything from feeding the mice to performing cesarean sections. I was also able to build upon my communication skills, including writing grants, creating posters, and presenting at meetings. And these successes did not go unnoticed; I received first place at the Nationwide Children’s Summer Student Poster Day, third place at the Florida Chapter of American Academy of Pediatrics Medical Student Research Forum Oral Presentation, am published in the Florida Pediatrician, and will be co-authored in other journals later this year. Overall, this has been a truly amazing and rewarding experience. I would recommend any student to reach out to the Medical Student Research Program if they had any interest at all in furthering their research education.

~Sarah Gartner
Med II

Applications for the 2017 OSU COM Medical Student Research Scholarship opened on October 7, 2016. Phase I documents were due December 16, 2016 and Phase II documents were due January 16, 2017. The MDSR program received 101 applications for the 2017 academic year and funded 87 applicants, including one student taking a year-long LOA for research and a part-time year-long project. Applications for the 2018 OSU COM Medical Student Research Scholarship will open on October 9, 2017. Phase I documents are due December 18, 2017 and Phase II documents are due January 16, 2018. To find out more about the application process, contact our office by email at Research.Education@osumc.edu or visit our website: http://medicine.osu.edu/go/mdsr

Statistics to the upper right represent MDSR College of Medicine scholarship-supported research.
The 2nd Annual Medical Student Research Symposium took place on October 31st in the Ross Hospital Auditorium and Lobby. The annual event is aimed at improving the scientific communication skills of medical students who receive funding through the College of Medicines Medical Student Research Program. The research grants are funded by the Roessler, Bennett, and Barnes Research Scholarship. Eighty-four MDSR Scholars presented their work during a small group faculty led breakout session, and then collaborated on answering questions about methods and challenges for effective scientific communication. Each group reported out and shared tips on how to be successful when presenting your research in diverse venues. The report out segment of the evening was followed by open poster viewing.

The 2017 event will take place on November 9th in the Biomedical research tower. Congratulations to all of our research scholars on the culmination of a successful summer!

Read more about the event here
http://go.osu.edu/mdsymposium

The Landacre Research Honor Society is the medical student research society at OSU COM, founded in 1956 in honor of Dr. Francis Leroy Landacre, professor and first chair of the Department of Anatomy. Dr. Landacre’s exceptionally high standards in both academic achievement and research guide the society’s promotion and support of medical student research activities. In addition to providing students with information about research opportunities at Ohio State, Landacre also holds research seminars, hosts speakers, participates in the organization of the annual OSU COM Trainee Research Day, and recognizes faculty members who have demonstrated a strong commitment to medical student research with the Landacre Faculty Award. Students inducted into the society have demonstrated exceptional achievement in research. Membership is open to all medical students at The OSU COM who have demonstrated excellence in medical research and fulfilled membership criteria. Students interested in joining Landacre can see a full list of requirements on the website. Each year new inductees are welcomed into the Society at the Annual Induction Ceremony and Awards Banquet. This year’s event was held on May 11, 2017 at the Ohio Union. The Honor Society welcomed 55 new members in May, for the full list of new inductees visit the News and Awards section of the MDSR website. http://medicine.osu.edu/go/mdsr

The 2017 keynote address was given by Michael Racke, MD. Dr. Racke is an international leader in neurological sciences and a distinguished scholar known for his research in immunology and multiple sclerosis. His research focuses on understanding how inflammation gets established in the central nervous system (CNS). Dr. Racke was also awarded the 2017 Landacre Honor Society Researcher of the Year award. The 2017 Landacre Research Mentor of the year award was given to Tamar Gur MD, PhD. Dr. Gur's research focuses on transgenerational transmission of psychiatric illness, microbiome, and stress.

To see the full list of 2017 inductees please visit the MDSR website.
http://go.osu.edu/MDSRnews


### Salhi H.E., Hassel N.C., Siddiqui J.K., Brundage E.A., Ziolo M.T., Davis J.P.L, Davis J.P. Biesiadecki B.J., Myofila-ment Calcium Sensitivity: Mechanistic Insight into Tnl Ser-23/24 and Ser-150 Phosphorylation Integration. FrontiersinPhysiology, December2016, Volume7, Article567


### Cerier E., Lampert B.C., Kilic A., McDavid A., Deo S.V., Kilic A., 26, To ventricular assist devices or not: When is implantation of a ventricular assist device appropriate in advanced ambulatory heart failure? World Journal of Cardiology, Dec 26, 2016; Volume 8, Issue 12: Pages 695-702


Tretter EM, Ebel JJ, Pohar KS, Zynger DL, 2017 Mar, Does the gross prosector impact pT3 subclassification or lymph node counts in bladder cancer?, Human Pathology, Volume 61, March 2017, Pages 190-198


Tanwar V, Adelstein JM, Grimmer JA, Youtz DJ, Sugar BP, Wold LE. PM2.5 exposure in utero contributes to neonatal cardiac dysfunction in mice. Environmental Pollution, Volume 230, Epub 2017 Jun 22, Pages 116-124


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**MDSR Program Contact Information**

Medical Student Research Program Websites:

http://medicine.osu.edu/go/mdsr

MDSR Newsletter and Events  http://go.osu.edu/MDSRevents

Research Opportunities  http://go.osu.edu/mdsresearchopportunities

Attention research mentors: you can advertise your research opportunities on the MDSR website by completing a Faculty Research Announcement Request. http://go.osu.edu/MDSRmentors

This provides medical students with an array of research opportunities in one easy location!

We want to hear from you! To submit an item for the newsletter or to highlight medical student research accomplishments, email: research.education@osumc.edu

MDSR Program Manager: Bianca McArrell
333 W. 10th Ave.
1190A Graves Hall
Columbus, Ohio 43210
614-685-9106
Bianca.McArrell@osumc.edu
## Mark Your Calendar!

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Location</th>
<th>Sponsor</th>
</tr>
</thead>
<tbody>
<tr>
<td>August 2, 2017</td>
<td>COM Medical Student Orientation “Research Opportunities”</td>
<td>160 Meiling Hall</td>
<td>MDSR – LSI</td>
</tr>
<tr>
<td>August 2, 2017</td>
<td>Career Development: Research in Medical Careers</td>
<td>160 Meiling Hall</td>
<td>MDSR – LSI</td>
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<tr>
<td>August 29, 2017</td>
<td>Evidence Based Inquiry &amp; Research Learning Objectives</td>
<td>160 Meiling Hall</td>
<td>MDSR – LSI</td>
</tr>
<tr>
<td>Sept. 14, 2017</td>
<td>2017 Dean’s Fall Scholarship Awards Ceremony (Presentation of Awards to Medical Students Recognized for Research Accomplishments)</td>
<td>Biomedical Research Tower</td>
<td>OSU COM</td>
</tr>
<tr>
<td>Sept. 15, 2017</td>
<td>Introduction to Medical Student Research Opportunities &amp; How to Prepare a Competitive Research Proposal</td>
<td>160 Meiling Hall</td>
<td>MDSR – LSI Module</td>
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<tr>
<td>Oct. 9, 2017</td>
<td>2018 COM Medical Student Research Scholarship Application Process Opens, 9:00 AM</td>
<td>Medical Student Research Website</td>
<td>MDSR Program</td>
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<tr>
<td>Oct. 23, 2017</td>
<td>Medical Student Research Opportunities Fair Meet faculty from OSU COM and NWCH</td>
<td>115 Biomedical Research Tower</td>
<td>MDSR Program</td>
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<td>Nov. 9, 2017</td>
<td>Medical Student Research Symposium</td>
<td>115 Biomedical Research Tower</td>
<td>MDSR Program</td>
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<tr>
<td>Dec. 18, 2017</td>
<td>COM Medical Student Research Scholarship Phase I Documents Due, 5:00 PM</td>
<td>Medical Student Research Website</td>
<td>MDSR Program Roessler, Barnes, and Bennett</td>
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<tr>
<td>Jan. 16, 2018</td>
<td>COM Medical Student Research Scholarship Phase II Documents Due, 5:00 PM</td>
<td>Medical Student Research Website</td>
<td>MDSR Program Roessler, Barnes, and Bennett</td>
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<td>April 10, 2018</td>
<td>COM Medical Student Research 2018 Scholarship Award Notifications (MDSRS)</td>
<td>Email Notification</td>
<td>MDSR Program</td>
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<td>April 12, 2018</td>
<td>2018 OSU COM Trainee Research Day</td>
<td>Biomedical Research Tower</td>
<td>OSU COM</td>
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<tr>
<td>May 10, 2018</td>
<td>2018 Landacre Honor Society Induction Ceremony</td>
<td>The Ohio Union</td>
<td>Landacre</td>
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<tr>
<td>May 31, 2018</td>
<td>Medical Student Summer Research Kickoff (Mandatory of all MDSR Scholarship Recipients)</td>
<td>115 Biomedical Research Tower</td>
<td>MDSR Program</td>
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