

From the Associate Dean for Research Education

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Greetings! It has been an exciting year and I wanted to recap some of those events with you. In this issue, we are profiling four medical students who pursued rewarding research projects. All four students were competitively selected for extramural awards to pursue their research. Their research experiences were sponsored by the [Carolyn L. Kuckein AOA Student Research Fellowship](#), the [HHMI Summer Medical Research Fellowship](#), and the HHMI-NIH Research Scholars (Cloister Program).

I hope you had a chance to stop by the Landacre Research Opportunities Fair in October. It was great to see so many students and faculty interacting with one another and sharing great ideas. Faculty participants at the Fair developed wonderful brochures, posters and other materials. Some also brought equipment and props to demonstrate their research methodologies or medical applications. (see photos and details on page 4).

Also, recently, I met with Dr. Mekhjian’s Learning Community about research careers and opportunities and learned that one of the students identified her summer research mentor as Dr. Michael Knopp, Director of the [Wright Center for Innovation in Biomedical Imaging](#) at the Landacre Fair!

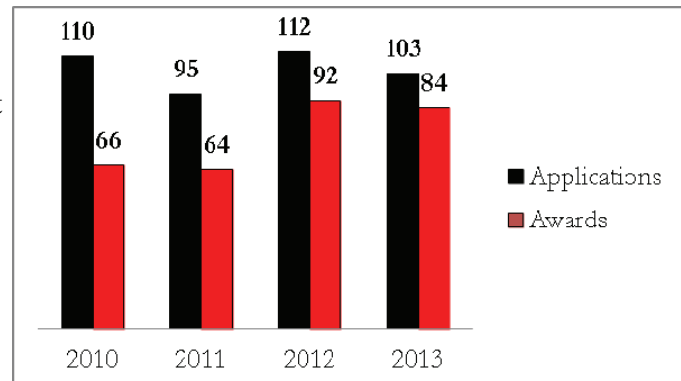
Looking forward to another great summer!
Ginny Bumgardner, MD, PhD
Associate Dean, Research Education



College of Medicine Research Scholarship Opportunity

The 2013 OSU College of Medicine Medical Student Research Scholarship application was released on October 23, 2012. Phase I documents were due December 7, 2012, and Phase II documents were due January 11, 2013. The Medical Student Research Office received 103 Phase II applications for the 2013 academic year. For more information about the application process visit the MDSR website <http://medicine.osu.edu/go/mdsr>. If you are a faculty member who has a research opportunity for Medical Students, please take a few moments to post it on our [Current Research Opportunities page](#) via the [Faculty Research Announcement Request page](#).

The review process: Medical Student Research Program Office invites COM research faculty to serve as an advisory committee. The MDSR Faculty Advisory (FAC) Committee meets no more than twice per academic year to inform policy and participate in initiatives to enhance the quality of medical student research training experiences and outcomes. The inaugural 2011 FAC was charged with reviewing the 2011 MDSR Scholarship Application review criteria, forms, and applications. The MDSR FAC also provides input for new initiatives and strategies to enhance medical student research mentoring and overall value of the research scholarship experience. In this way, medical student research serves as a key component of medical student training at OSU. If you are interested in serving on the MDSR FAC please contact Research.Education@osumc.edu.



Why Research?

Research as part of the medical student training incorporates discovery through critical thinking, innovation and experimentation. Medical student researchers learn how to communicate new knowledge, how to apply discoveries to enhance patient care. Our students' participation in research gives them firsthand experience and skills in biomedical discovery, increases the depth of understanding of medicine and prepares our graduates to directly influence the future course of medicine.



"I felt like I was contributing to a field of study rather than receiving information"
- Reichert

Barbara Reichert grew up in Dayton, Ohio and attended the Ohio State University, graduating with a B.S. in Nutrition. Barbara has always been passionate about nutrition so she started exploring nutrition-related research during her undergraduate education. She joined Dr. Ziouzenkova's lab to study and explore the effects of vitamin A metabolites on female obesity. Barbara's research methods included cell culture, Western blots, animal experiments and surgeries, and RNA extractions. Barbara reflects that she "felt like she was contributing to a field of study rather than receiving information." She was inspired by the opportunity to "figure out mechanisms occurring in the body that no one else had ever discovered". She entered medical school in 2010 and decided to continue her nutrition-related research during the summer between Med I and Med II year. Her research entitled "Estrogen and Retinoic Acid Interactions in the Regulation of Adipose Triglyceride Lipase" was sponsored by a competitive national research scholarship awarded to her in 2011 by the Carolyn L. Kuckein AOA Student Research Fellowship. Now a third year medical student, Barbara continues to be mentored by Ouliana Ziouzenkova PhD as well as Rudolf Zechner PhD. Her current project involves looking at the interactions of estrogen and vitamin A metabolism on the rate-limiting enzyme in fat breakdown in adipose tissue, adipose triglyceride lipase (ATGL). The results from their research may be important in targeting abdominal obesity in women and could help discover how to target obesity differently in premenopausal versus postmenopausal women. Barbara plans to continue to integrate research as part of her career in medicine.



Kate Collier grew up in Milwaukee, Wisconsin and attended Princeton University where she graduated with a BSE in Chemical Engineering. Her first research experience was an NIH-funded Neuroscience program at the University of Chicago where she worked on the development of an injectable hydrogel intraocular drug delivery system. After graduating, Kate moved to Dublin, Ireland and earned a research-based Masters in Science from the Department of Chemistry and Chemical Biology at University College Dublin. She next pursued a Masters degree in Chemical Engineering from the University of Texas at Austin where she worked on a project exploring the synthesis, characterization, surface chemistry modification, and electronic and biological applications of silicon nanowires. Kate decided to attend medical school after realizing she wanted more immediate and direct gratification from her professional efforts than she would see as an engineer in the nanomaterial or semi-conductor industries. In the summer between her M1 and M2 years, Kate received an HHMI Summer Medical Research Fellowship to work with Dr. Thomas Walz at Harvard Medical School. Now a second year medical student at OSU, she's being mentored by Dr. Michael Knopp as they investigate the different tracers for brain PET. Kate anticipates continuing to be very involved in research in the future.



Kathleen Matic (Kassouf) grew up in Brecksville, Ohio and completed her undergraduate education at the Ohio State University, graduating with a B.S. in Psychology and a minor in Life Sciences. She chose to pursue a career in medicine to aid patients on a personal level, and to pursue a career in research to solve problems in medicine on a more global level. She believes medicine provides opportunities for life-long learning and community involvement. Kathleen is currently an M2, and she is being mentored by Dr. Robert Higgins while working on research to improve the post-operative care and clinical outcomes of patients undergoing mechanical assist device surgery ("LVADs"= left ventricular assist devices) in the Division of Cardiothoracic Surgery.

After medical school, Kathleen plans to attend a residency program in cardiothoracic surgery followed by a fellowship in pediatric cardiothoracic surgery. She aspires to work in research to provide minimally invasive cardiac procedures for pediatric cardiac patients with congenital heart disease, and to provide better long term care for these patients as they age.



2013 Honors Consortium

The Ohio State University College of Medicine Honors Consortium is a collaboration between the three COM Honor Societies, [Alpha Omega Alpha](#), [Gold Humanism Honor Society](#), and the [Landacre Research Honor Society](#). The consortium's board members include the presidents and advisors of each honorary. This year's presidents of the honoraries include: Leigh Stone from AOA, Margaret Germain from GHHS, and Lauren Sall from Landacre.

Each year the Honors Consortium holds an informational session where they invite medical students, faculty, and staff from the College of Medicine to learn more about each honorary. This year's Honors Consortium event was held on September 25th and included presentations from each group including each organizations' history, induction process, and membership guidelines.

Founded in 1956, the Landacre Honor Society holds its members to the high standards in both academic achievement and research in honor of professor and first chair of the Department of Anatomy Dr. Francis Leroy Landacre, whom the society is named after. Alpha Omega Alpha (AOA) is the only academic honor medical society in the world. For over a century, AOA's mission has remained constant: To recognize and perpetuate excellence in the medical profession. The Gold Humanism Honor Society (GHHS) recognizes those students who at the end of their third year have demonstrated exemplary attitudes and behaviors characteristic of the most humanistic physicians: Integrity, excellence, compassion, altruism, respect, empathy, and service. The GHHS complements the Alpha Omega Alpha Honor Medical Society by recognizing those students who excel not only in academic performance, but also in their attitudes toward patient care.



Landacre Research Honor Society Annual Fund Raiser

The Landacre Honor Society provides students with a variety of information about research opportunities at OSU. The society also organizes research conferences, hosts speakers, and contributes to the annual Trainee Research Day, where students present posters and oral presentations summarizing their research to their peers.

On December 7, 2012, The Landacre Honor Society and Landacre Research Interest Group hosted a bake sale in Meiling Lobby to benefit the Boys and Girls Club of America. The Boys and Girls Club of America provides safe and fun after school activities for children of all ages. Faculty, advisors, and students all donated baked goods to sell.



Picture: Members of the Landacre Honor Society Interest Group sell baked goods to profit the Boys and Girls Club of America

2013 OSUWMC Trainee Research Day

The 12th Annual OSUWMC Trainee Research Day, April 10th & 11th 2013.

Research Day provides an opportunity for researchers in training at the OSU Wexner Medical Center to present their biomedical research in a public forum and to compete for travel awards given for outstanding work. This group includes trainees at all levels of programming, including graduate, undergraduate, medical and MD/PhD students, as well as post-doctoral fellows and researchers and clinical residents and fellows. Research Day also presents an opportunity for colleagues and visitors to learn about the cutting edge research occurring at Ohio State.

This year's Keynote Address was given by HHMI Investigator **Helen Hobbs, MD** who is a Professor of Internal Medicine and Molecular Genetics, Chief of the Division of Medical Genetics and Director of the Eugene McDermott Center for Human Growth and Development at the University of Texas Southwestern Medical Center. Dr. Hobbs is also a member of the Institute of Medicine, American Society for Clinical Investigation, Academy of Arts and Sciences, and National Academy of Sciences. She has received numerous awards including the Heinrich Wieland Prize and the American Heart Association's Clinical Research Prize and Distinguished Scientist Award.

You can read more about the focus of her research program which is to study how dysregulation of lipid uptake and trafficking contributes to human disease, here:

http://www4.utsouthwestern.edu/mcdermottlab/hcl/hcl_contact.htm

For more information about Trainee Research Day <http://researchday.osu.edu>.

Pictured (right): keynote speaker, Helen Hobbs, MD.



Landacre Research Opportunities Fair



On October 23, 2012 the Landacre Honor Society hosted it's annual Research Opportunities Fair in the Biomedical Research Tower. This year's event brought together a record number of labs offering research opportunities to over 100 medical students.

The fair is a unique event because it brings medical students and faculty researchers together and creates an opportunity for students to interact with potential mentors outside of the classroom setting. This evening is one of the largest research focused events hosted by Landacre during the academic year and most medical students find their research mentor through networking at the research opportunity fair.

To obtain a list of the other faculty labs that were registered you can access the information on the [Events Page](#) of the MDSR website.

We would also like to encourage Faculty to visit our [Faculty Research Announcement](#) page and submit information about research opportunities available for medical students. These opportunities are announced or communicated to Medical student through the [Current Research Opportunities](#) page.



Pictured: OSU Medical Students visiting with Prospective Research Mentors at the 2012 Landacre Research Opportunities Fair

An Introduction to Medical Student Research Opportunities

BIOMEDICAL ENGINEERING: On Thursday September 20th 2012, the Landacre Honor Society and the Office of Medical Student Research Education held an information session with the goal of introducing medical students to some of the research opportunities in the OSU Department of Biomedical Engineering. This session was organized in response to student input that a significant number of OSU medical students have an engineering background and might be interested in pursuing biomedical engineering research projects. Richard T. Hart, Ph.D., Department Chair, (photo right) gave a presentation introducing students to the OSU [Department of Biomedical Engineering](#) faculty and Research opportunities.



YEAR-LONG RESEARCH FELLOWSHIPS FOR MEDICAL STUDENTS: Jeff Mason, Program Director of Pelotonia Fellowship, also presented information about the OSU [Pelotonia Medical Student Fellowship Program](#) on September 20th, 2012. The Pelotonia Fellowship Program provides one-year research fellowships for up to two of the best and brightest OSU medical students who want to help cure cancer. Medical students who are interested in applying for the Pelotonia fellowship must be pursuing a cancer related project and participate in the Pelotonia bike tour.

Landacre Research Honor Society Application Process

The Landacre Honor Society applications were sent out to the entire medical school on Wednesday, January 23rd 2013 and the deadline to apply was February 3rd 2013, midnight. Membership is open to all medical students who have demonstrated excellence in medical research and who meet the following criteria. The student must have made a significant contribution to the qualifying research, as demonstrated by at least one of the following.

- Authorship of a peer-reviewed published journal article
- First authorship of a competitively reviewed abstract accepted for oral or poster presentation at a national conference.
- Recipient of a competitive national research award.

For more information about qualifications and the application process go to the [Landacre Honor Society](#).

All student who were selected for membership were invited to attend the Annual Landacre Induction Ceremony and banquet which occurred on April 25th, 2013.

Pictured: left to right at the 2012 Landacre Research Opportunities Fair are Landacre Faculty Advisor Ginny L. Bumgardner MD PhD, Martin Vonau, Interest Group Treasurer, Lauren Sall, Landacre President; Bin Ni, MSTP Officer; Anupama Joseph, Interest Group Vice President; Kathleen Matic, Landacre Vice President; Daniel Clark, MSTP Officer. Back Row, left to right: Maarten Galantowicz, Interest Group Officer; Amanda Pensiero, Landacre Officer; Ben Wendt, Landacre Immediate Past President; Casey Reed, Landacre Treasurer; Brad Schnedl, Interest Group President; Shakthi Bhaskar, Interest Group Secretary; and MDSR Program Manager and Co-Advisor Bianca McArrell



We want to hear from you!
To submit an item for the newsletter
or to highlight medical student research
accomplishments e-mail:

MDSR Program Contact Information

Medical Student Research Program Websites:
<http://medicine.osu.edu/go/mdsr>

Attention research mentors! You can advertise your research opportunities on the MDSR website by completing a [Faculty Research Announcement Request](#). This provides medical students with an array of research opportunities in one easy to find location!

