

## From the Associate Dean for Research Education

Greetings!

The OSU College of Medicine Medical Student Research Program (MDSR) welcomed the Class of 2017 during orientation on August 6, 2013. Students learned about resources available on the MDSR website and exciting calendar of events to facilitate medical student participation and success in biomedical research.

I spoke to Med I students about physician research career paths and opportunities as part of the career series in the LSI curriculum on August 21, 2013. And the Landacre Research Honor Society hosted the annual Research Fair at the Biomedical Research Tower on October 23, 2013 which gave students the opportunity to learn about research opportunities and meet research mentors and staff.

The MDSR office also reviewed data available from the 2012 medical student research survey, Landacre Honor Society membership, Trainee Research Day participation, the annual COM medical student research scholarship and PubMed to identify students who have achieved a high level of research productivity. Many students' research during medical school has resulted in a co-authored publication, national presentation, and/or national competitive award or research scholarship. Three students whose achievements were distinctive, seniors Barbara Reichert, Derrick Knapik, and Joel Palko, were recognized at the Dean's Fall Scholarship Dinner on October 22, 2013. Barbara received the AOA research scholarship during her Med I year to perform obesity-related research. Her research during medical school resulted in two first-authored publications. Joel took a leave of absence (LOA) to pursue bioengineering related research with a mentor in the Department of Biomedical Engineering which resulted in two first-authored publications and two manuscripts in preparation. Derrick also took a research year leave of absence to pursue cartilage repair research, which resulted in two first-authored publications which spanned both clinical and basic research. Congratulations to all medical students pursuing research during medical school!



Ginny L. Bumgardner MD PhD FACS  
Associate Dean for Research Education



Pictured Above at the annual Dean's Scholarship Dinner:  
Dean Lockwood, Barbara Reichert, Derrick Knapik and  
Dr. Bumgardner.

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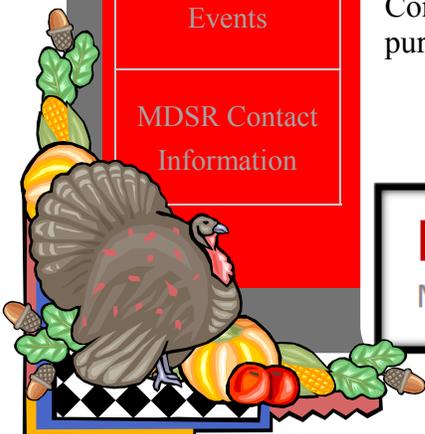
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## Research Trainees

Medical Student Research Program



THE OHIO STATE UNIVERSITY  
College of Medicine



## 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 and 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 them to directly influence the future course of medicine.



**Joel Palko** graduated with dual degrees in chemical and biomedical engineering. As an undergraduate, Joel worked on several projects focused on using biomechanics to understand and treat various pathologies. He entered medical school in 2009 and has since continued to utilize his background in biomechanics to investigate eye diseases with Jun Liu, PhD in the Department of Biomedical Engineering, thanks to funding from OSU COM research scholarships.

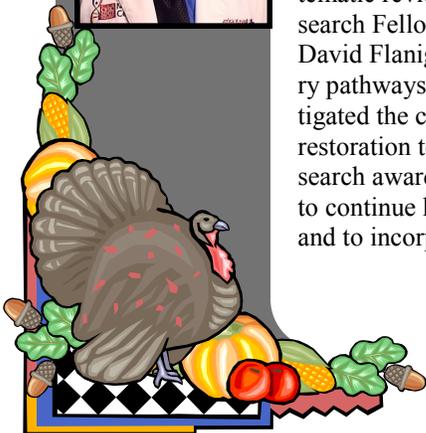
Joel took a leave of absence between his second and third to further his research experience and currently has three first author publications in well-respected ophthalmology journals. His previous studies focused on the influence of the peripapillary sclera mechanical properties on optic nerve head damage in the development of glaucoma, shedding light on the complex interactions between intraocular pressure and glaucoma progression. More recently Joel work has been working to develop *in vivo* methodologies to assess the mechanical properties of the cornea. This work will be used to evaluate clinical corneal cross-linking therapies in diseases such as keratoconus and corneal ectasia. Joel plans on continuing his work as a physician-scientist in the field of ophthalmology.



**Vanessa Stagliano** completed her undergraduate degree in biology at John Carroll University in Cleveland. She had several service and research opportunities that developed her interest in research and confirmed her commitment to medicine. As an intern in the Poverty and Solidarity Summer Internship Program at JCU in the summer of 2009, Stagliano worked at St. Vincent Charity Hospital with patients in an underserved area. She also researched and wrote a thesis on the disparities in diabetes outcomes in low-income populations. The following summer, Stagliano worked in Dr. Donald Jacobsen's lab in the Department of Cellular and Molecular Medicine at the Cleveland Clinic Lerner Research Institute, studying the mechanisms of homocysteine toxicity and its role in the development of atherosclerosis. After entering medical school in 2011, she continued to be involved in research and worked with Dr. Lorraine Wallace's studying health literacy and ways to improve physician-patient communication. Stagliano presented research at the North American Primary Care Research Group conference in New Orleans last year and her and Wallace's paper titled "Brief Health Literacy Screening Items Predict Newest Vital Sign Scores" was recently published in the *Journal of the American Board of Family Medicine*. Stagliano's passion for primary care and her commitment to working with underserved populations has inspired her to pursue family medicine and working in a medically underserved area.



**Derrick Knapik** completed his undergraduate education in history at UC Berkeley. His initial research in stem cell technology studied the potential of human term placental stem cells to successfully incorporate and heal damaged tissue in mice. He entered medical school in 2009 and, with a focus to his future career, engaged in orthopaedic research. Over the course of his first and second years, Derrick completed a pilot study examining the progression of acute cartilage lesions in the femoral condyles of rats. During his third year, Derrick remained actively engaged in projects ranging from examination of novel agents in exercise-driven bone formation to systematic reviews of cartilage restoration. His interest in research earned him a position as an Orthopaedic Research Fellow with the Department of Orthopaedics at OSU under the direction of Sudha Agarwal, PhD and David Flanigan, MD. During his fellowship, Derrick directed an independent project examining the inflammatory pathways in trauma to assess the ability of exercise to down-regulate inflammatory mediators. He also investigated the clinical utility and molecular ramifications of continuous passive motion therapy and novel cartilage restoration techniques. Derrick has presented at national and international conferences, earned numerous research awards for his work, and published his work in both basic science and orthopaedic journals. Derrick plans to continue his research with future projects to target inflammatory suppression following trauma and surgery and to incorporate his results into patient care.



## From MD to PhD

**David Clever** recently made the jump from medical school to the MD/PhD program at Ohio State. David grew up in Cincinnati and attended St. Xavier High School, where he developed an interest in medicine after taking a health careers seminar course and shadowing physicians in the Cincinnati area. These experiences solidified his interest in a career in medicine. He graduated from Ohio State with an undergraduate degree in biology, but did most of his undergraduate research at the University of Cincinnati through the R.O.S.E. program.

David enjoyed the exploration and creativity that is afforded in the laboratory but did not truly recognize the translational impact of scientific research until he started medical school and had the opportunity to work with Don Benson, MD, PhD. Spending time in Dr. Benson's lab and having the opportunity to see cancer patients in the hospital really solidified David's desire to advance the understanding and treatment of cancer through translational research. This passion was further fueled during his year as a Howard Hughes Medical Institute (HHMI) research fellow with Louis Staudt, MD, PhD at the National Cancer Institute.

Now in his third year in the Medical Scientist Training Program, David is mentored by Nicholas Restifo, MD and is focused on exploring novel mechanisms to enhance the human immune system's ability to recognize, respond to, and eliminate metastatic cancer. David is specifically interested in utilizing regenerative medicine strategies, pioneered by recent Nobel Laureate Shinya Yamanaka, to generate self-renewing tumor-reactive T-cells that will ideally mediate better tumor regression. David plans to be a physician-scientist in oncology at an academic institution.



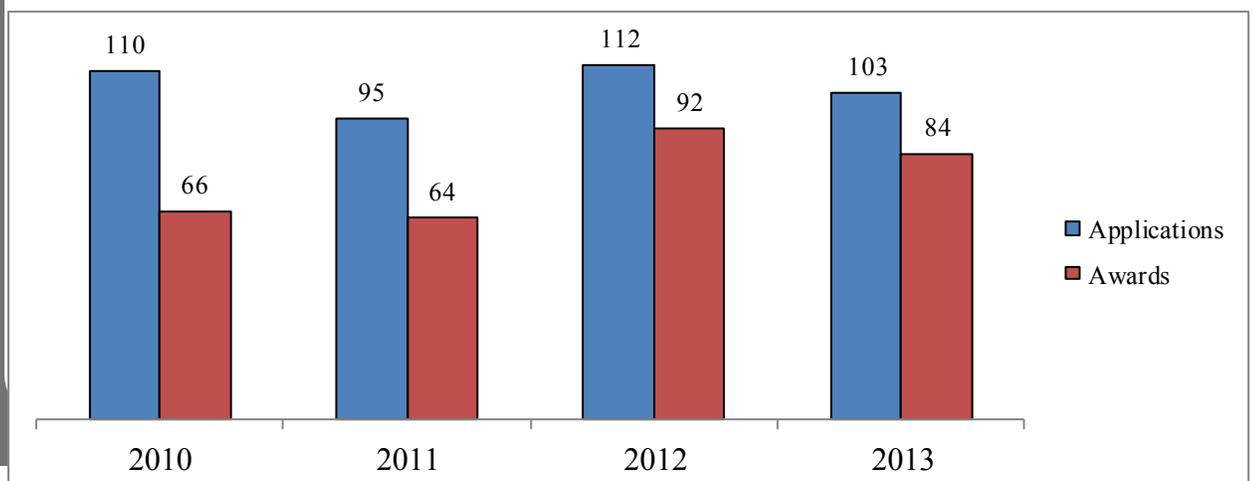
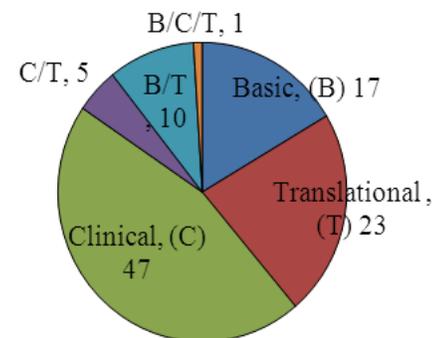
## College of Medicine Research Scholarship Opportunity

Applications for this year's OSU COM Medical Student Research Scholarship opened on Tuesday, October 14, 2013. Phase I documents are due December 6, 2013; Phase II documents are due January 10, 2014. All applications must be submitted online via the MDSR [website](#).

To find out more about the application process, contact our office by email at [Research.Education@osumc.edu](mailto:Research.Education@osumc.edu) or visit our website: <http://medicine.osu.edu/go/mdsr>

Last year the MDSR received 103 Phase I applications and funded 84 projects, including three year-long leave of absence projects, two year-long part-time projects and 79 summer projects. Statistics below represent MDSR College of medicine scholarship supported research. Additional students (not represented below) pursued research supported by departmental mentor or external grant sources.

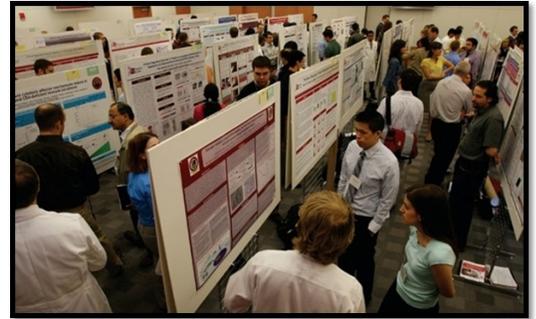
### Category of Research 2013



# The 2013 Trainee Research Day

**12th Annual Trainee Research Day, April 10-11, 2013.** Research Day provides an opportunity for research trainees 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, including graduate, undergraduate, medical and MD/PhD students, as well as postdoctoral researchers and fellows and clinical residents and fellows. Research Day also presents an opportunity for colleagues and visitors to learn about research occurring at Ohio State.

To kick off Research Day, the OSU [Center for Clinical and Translational Science](#) (CCTS) hosted a session on April 10th featuring Caroline Wagner, PhD, an expert in the field of science and technology and its association to policy, society and innovation. And on April 11th, more than 390 posters representing a wide array of research topics were displayed in the Biomedical Research Tower. Trainees from over 66 departments were on hand to discuss their projects and research findings with visitors, guests and faculty judges. Research Day also featured a keynote address 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. You can read more about her research program on how dysregulation of lipid uptake and trafficking contributes to human disease [here](#).



Pictured: Dr. Ginny Bumgardner, Amanda Harper and Kate Hartmann, co-chairs of the 2013 Student Planning Committee



Pictured: Students enjoying the reception following the 2013 event.

The event also included State-of-the-Art faculty lectures given by **Ray E. Hershberger, MD**, professor and director of the Division of Human Genetics in the Department of Internal Medicine at Ohio State, and **Christopher Breuer, MD**, co-director of the new Tissue Engineering Program at Nationwide Children's Hospital (NWCH) and director of Tissue Engineering at the Center for Regenerative Medicine and Cell Based Therapies at Ohio State.

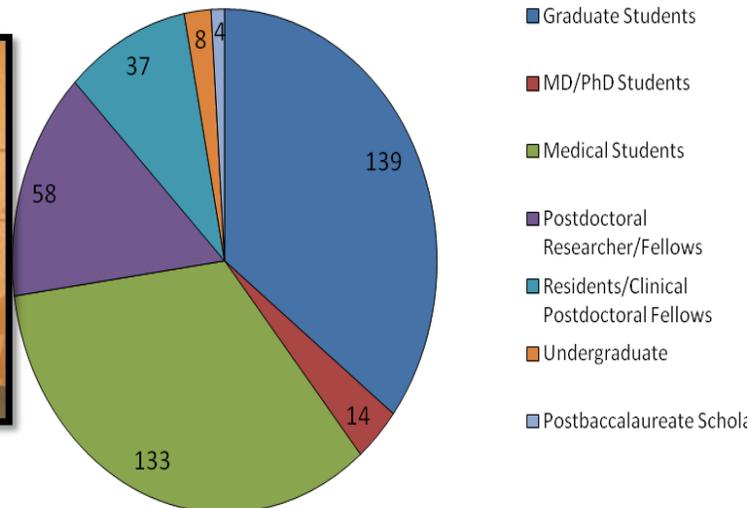
Research Day wrapped up with a social hour and awards ceremony recognizing the outstanding research and mentorship at OSU COM. Travel awards were given to trainees with top scoring poster presentations at each training level. This year 35 trainees, including 12 medical students, received \$1000 travel awards.

Medical students made up almost 34% of the trainee representation this year. Derrick Knapik was selected to sit on the Allan Yates Distinguished Research Scholars Panel and presented his research entitled "Exercise Antagonizes Local and Systemic Inflammation via Suppression of NF-κB Activation."

The next Trainee Research Day is scheduled for **April 9 & 10, 2014** and the keynote speaker will be [Jeffrey A. Whitsett, MD](#). Dr. Whitsett is chief of the Section of Neonatology, Perinatal and Pulmonary Biology at Cincinnati Children's Hospital Medical Center, read more about Dr. Whitsett's research [here](#).



Pictured Above: 2013 Student Travel Award winners and to the right a break down of trainee levels that participate in the event.



## Landacre Research Honor Society Annual Induction Ceremony and Banquet

The Landacre 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 a variety of information about research opportunities at Ohio State, Landacre also holds research seminars, hosts speakers, participates in the organization of the annual OSUWMC 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.



Pictured: Bianca McArrell, MDSR Program Manager, Lauren Sall, 2012 Landacre President and Danny Clark, 2012 Landacre MSTP Officer



Pictured above: Interest Group Members Anupama Joseph- (Vice President), Maarten Galantowicz (Officer), and Volodymyr Manko (Officer)

Membership is open to all medical students at The OSU COM who have demonstrated excellence in medical research and fulfilled membership criteria by successfully completing an application and essay. 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 April 25, 2013 at the Blackwell Inn.



Pictured right: Dr. Ginny Bumgardner and Interest Group President Brad Schnedl.

The 2013 Board was led by: Lauren Sall – President; Kathleen Matic – Vice President; Casey Reed – Treasurer; Eliza Beal – Secretary; Samer Salamekh – Officer; Amanda Pensiero – Officer; Bin Ni – MSTP Officer; Danny Clark – MSTP Officer; Ben Wendt – Immediate Past President; and the 2013 Interest Group was led by Brad Schnedl – President; Anupama Joseph-Vice President; Martin Vonau – Treasurer; Shakthi Bhaskar – Secretary; Maarten Galantowicz – Officer; and Volodymyr Manko – Officer. Pictured: Dr. Rebecca Jackson, Director of the CCTS, Dr. Andrew Schwaderer, Director of the Division of Nephrology at NWCH; Dr. Ginny Bumgardner, Associate Dean of Research Education; and AJ Cardounel PhD as the 2013 recipient of the Landacre Distinguished Researcher of the Year Award.



The 2013 Landacre executive board selected Rebecca Jackson, MD, to address the newly inducted members. Dr. Jackson is director of the CCTS and was actively involved in Landacre as a medical student and later as a faculty advisor for the executive board. Each of the 52 new members of the Landacre Honor Society was presented with a certificate and pin, and each current board member was recognized for their dedication and service during the 2012-13 academic year.

The executive board unanimously selected A.J. Cardounel, PhD, as the 2013 Landacre Distinguished Researcher of the Year. Dr. Cardounel joined the faculty of OSU as an assistant professor in 2002. The board also selected Andrew Schwaderer, MD to receive the 2013 Mentor of the Year award because of his commitment to teaching, advising, and mentoring the physicians of tomorrow. Dr. Schwaderer is the Division of Nephrology's Research Director and a faculty member of the Nephrology Fellowship Program at NWCH.

A Landacre Faculty Award was presented to Dr. Bumgardner for her continued support and service as faculty advisors to the Landacre Honor Society during the 2012-2013 academic year.



Pictured Above: Interest Group Treasurer Martin Vonau and Dr. Andrew Schwaderer

## Congratulations to 2013 Landacre Inductees!

- Nikhil Agrawal
- Eric Altneu
- Marcela Augusta Azevedo
- Caroline Berglund
- Keerthana Bolisetty
- Olga Borofulin
- Christina Boutsicaris
- Elinor Brown
- Nil Celebi Cherukuri
- Yao-Wen Cheng
- Kelly Copeland
- Ana De Roo
- Yueyang Fei
- Ava Feng
- Megan Feng
- Maarten Galantowicz
- Ranjit Ganguly
- Ryan Gerritsen
- Ian Green
- Katie Hateley
- Zachary Hing
- Marri Horvat
- Anupama Joseph
- Ruth Kagwima
- Vinny Keshav
- Deena Khamees
- Christopher Kobe
- Spenser Lang
- Jiayun Lu
- Lauren Madigan
- Sankalp Malhotra
- Erica Mathieu
- Nima Milani-Nejad
- Matthew Newcomb
- Mihee Park
- Pete Pow-Anpongkul
- Casey Reed
- Brad Schnedl
- Nathan Schulz
- Samantha Sharpe
- S Christian Smith
- Andrew Stiff
- Tyler Syndergaard
- Eric Tsung
- James Vargo
- John Vaughn
- Polina Vaynshtok
- Andrew Victory
- Martin Vonau
- Christina Wu
- Juliette Yedimenko
- Katherine Zheng

## Landacre Annual Research Fair

On October 23, 2013 the Landacre Honor Society hosted its annual Research Opportunities Fair in the Biomedical Research Tower. This year's event brought together over 30 labs from the OSU College of Medicine and Nationwide Children's Hospital to offer research opportunities to OSU medical students. The fair is a unique event because it brings medical students and faculty researchers together and creates an opportunity for them to interact with potential mentors outside the classroom. The fair is one of the largest research-focused events hosted by Landacre during the academic year and allows medical students to network with research mentors. These research opportunities and many more are available to medical students through the [Current Research Opportunities](#) page.



## Mark Your Calendar! Upcoming Events

Date	Information	Location
Tuesday, October 1, 2013	Introduction to Medical Student Research Opportunities & Identifying a Research Mentor Information Session	115 BRT
Monday, October 14, 2013	COM Medical Student Research Scholarship	<a href="#">Medical Student Research Website</a>
Tuesday, October 22, 2013 5:30 – 8:00 pm	Dean’s Fall Scholarship Dinner (Presentation of Awards to Medical Students Recognized for Research Accomplishments)	The Ohio State University 4-H Center
Wednesday, October 23, 2013 5-6:30 pm	Landacre Research Opportunities Fair Meet faculty from OSU COM and NWCH	115 BRT
Friday, November 15, 2013 11:30-1:00 pm	Landacre Inaugural Med 4 Research Mentorship Program Workshop	1167 Graves Hall
Wednesday November 20, 2013	How to Write a Competitive Research Grant - LSI	160 Meiling Hall
Friday, December 6, 2013	COM Medical Student Research Scholarship Phase I Documents Due	Medical Student Research Website <a href="http://medicine.osu.edu/go/mdsr">http://medicine.osu.edu/go/mdsr</a>
Friday, January 10, 2014	COM Medical Student Research Scholarship Phase II Documents Due	Medical Student Research Website <a href="http://medicine.osu.edu/go/mdsr">http://medicine.osu.edu/go/mdsr</a>
January 13, 2014 – February 3, 2014	Landacre Research Honor Society Application Process	Landacre Website <a href="http://go.osu.edu/LANDACRE">http://go.osu.edu/LANDACRE</a>
Friday February 7, 2014 5:00 pm	Trainee Research Day – Abstracts Submission Deadline	Research Day Website
Friday April 4, 2014	COM Medical Student Research 2014 Scholarship Award Notifications	Email Notification
April 9&10, 2014	OSUWMC Trainee Research Day	BRT& DHLRI

### MDSR Program Contact Information

Medical Student Research Program Websites:

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

[MDSR Newsletter and Events](#)

[Research Opportunities](#)

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 location!

**We want to hear from you!**  
**To submit an item for the newsletter**  
**or to highlight medical student research**  
**accomplishments, e-mail:**  
[research.education@osumc.edu](mailto:research.education@osumc.edu)



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