

**UAB**  
**Medical Student Summer Research Programs**

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 Associate Director, Physician Scientist Development  
[www.uab.edu/medicine/phisci](http://www.uab.edu/medicine/phisci)

**UAB SCHOOL OF MEDICINE**  
 Physician Scientist Development Office

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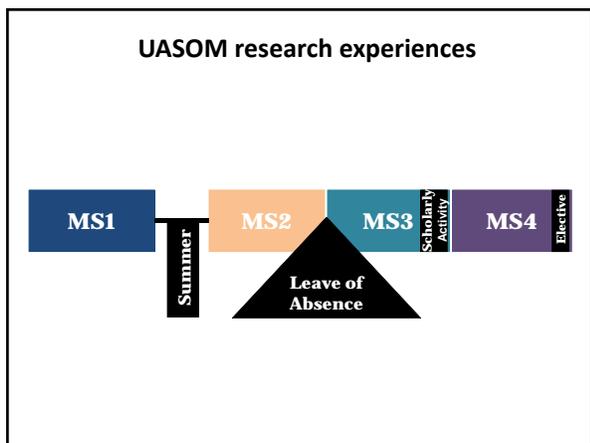
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**Physician Scientist Development Office (PSDO)**

**Application Deadline: March 5, 2019**

- Unless indicated, please check deadlines for other programs as they may vary

**Time Line**

- 8-Week Appointment:
  - June 10 – August 2
- 8-Week with Additional Experiences (e.g., Orientation Leader)
  - June 10 – August 16 (adjustable stipend rate)
- 10-Week Appointment
  - June 10 – August 16

**Additional Requirements Prior to Starting**

- All UASOM students conducting research on campus regardless of funding source are required to successfully complete the Collaborative Institutional Training Initiatives (CITI) online "RCR Abbreviated Course for Undergraduates"
- IRB Approval:** If the project you select involves research with human subjects you must enter the project's IRB protocol approval numbers in the online application. Your mentor will have this protocol number. For additional resources on IRB visit: [www.uab.edu/irb](http://www.uab.edu/irb)
- IACUC Approval:** If the project you select involves research with animal subjects you must enter the project's IACUC protocol approval numbers in the online application. Your mentor will have this protocol number. For additional resources on IACUC visit: [www.uab.edu/iacuc](http://www.uab.edu/iacuc)
- IRB/IACUC Training (Humans/Animals):** Complete the required IRB/IACUC online training, then print and email your Learning System transcript to [phisci@uab.edu](mailto:phisci@uab.edu). Discuss this with your mentor so you will know which courses to take.

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**Physician Scientist Development Office (PSDO)**



**Physician Scientist Development Office**

- <http://www.uab.edu/medicine/physci/medical-students>

**Medical Student Summer Research Opportunities at UAB: Single PSDO Application Due March 5, 2019**

- Koopman Medical Student Research Excellence Award (Medicine)
- Anesthesiology and Perioperative Medicine
- Department of Surgery Summer Research Program
- Diabetes Research Center Summer Research Fellowship)
- O'Brien Center for Research in Kidney Related Diseases
- Functional Neurorehabilitation Research Opportunities (Physical Medicine and Rehabilitation)
- Short Term Training in Health Professional Schools Program (SRTP/T35)

**Medical Student Summer Research Opportunities at UAB: Individual Requirements**

- Cancer Research Experiences for Students (CaRES)



Physician Scientist Development Office

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**Physician Scientist Development Office (PSDO)**



**Medical Student Summer Research Opportunities at UAB**

**Individual Requirements**

- Cancer Research Experiences for Students (CaRES)



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**Overview of the CaRES Program**

*UAB Cancer Research Experiences for Students*  
[www.uab.edu/cares](http://www.uab.edu/cares)

Dr. Peter Smith & Dr. John Waterbor, Directors  
Dr. C. Michael Brooks, Evaluation Director  
UAB O'Neal Comprehensive Cancer Center

January 2019

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**Goals of the CaRES Program**

*CaRES is an "R25" research training grant funded by the National Cancer Institute (NCI) to support students to undertake short cancer research projects*

**Long-term** goal: motivate participating students to pursue careers in cancer research.

**Short-term** goals: provide each student with the support needed to undertake a mentored cancer research project; provide each preceptor with a capable student who can facilitate his or her research progress.

**Overarching goal: to become recognized as a model for short-term cancer research education and training.**

*Sept. 2016: CaRES made an invited presentation at NCI as a model R25 program*




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**Background of CaRES**

- CaRES was initially funded in 1999, now in year 19
- In 2015, CaRES was renewed for **2016-2020**
- To date CaRES supported **~750 medical students and graduate students** to do short cancer research projects
- **Preceptors** are UAB Comprehensive Cancer Center faculty
- Through summer 2015, all projects were done at UAB
- **Longitudinal tracking** of 1999-2015 CaRES students found:
  - 1) 15% remain actively involved in cancer research
  - 2) 27% published cancer-related, peer-reviewed papers after doing CaRES, about 500 papers through 2017




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**Students Eligible for CaRES**

- **UAB** medical students as well as graduate students in public health or nutrition sciences
- **USA** medical students
- **Auburn** veterinary medicine and pharmacy students
- **Samford** pharmacy and graduate public health students
- **ACOM** medical students
- **New for 2019:** HBCU students in medicine, dentistry, and veterinary medicine, as well as graduate students in nursing and public health

**Undergraduates and high school students are not eligible.**




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### CaRES Application Process

- There is **no application** (document) to fill out!
- There are **no essays** to write and **no research proposals** to put together! (Sounds too easy, doesn't it?)
- **Each CaRES cancer research project is proposed by a UAB Cancer Center faculty member who will interview interested students until she or he finds the perfect student to work on their research project this summer**
- **If you are selected** to do a CaRES project **we will need** your current CV and proof of American citizenship or permanent residency to **verify program eligibility**




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### Who are the CaRES Faculty Preceptors?

**400 UAB O'Neal Comprehensive Cancer Center (CCC) faculty members in six major research areas** can propose CaRES projects and mentor CaRES students:

- 1) Inflammation, Immunology, and Immuno-therapeutics
- 2) Cancer Cell Biology
- 3) Experimental Therapeutics
- 4) Neuro-Oncology
- 5) Cancer Control and Population Sciences
- 6) Cancer Chemoprevention




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### What Projects will CaRES fund?

**Any cancer research project proposed by a CCC faculty member can be a CaRES project for a student to work on.**

**CaRES projects funded over the past 3 years were:**

- **Basic Science** (including animal research) – 35%
- **Clinical** (cancer patients) – 35%
- **Community** (people at risk for cancer) – 25%
- **Analytical** (secondary data) – 5%

In recent years many CaRES projects have focused on cancers of the breast, ovary, cervix, skin, and brain; or on obesity, diet, and tobacco use; or on cancer survivorship.




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### CaRES Student-Preceptor Self-Matching Process Timeline

- In **February** and in early March, **UAB-CCC faculty members** who want a CaRES student to work with them in the summer will post their **project descriptions** on [www.uab.edu/cares](http://www.uab.edu/cares)
- Students read each **project description** and **identify** projects to which they are **well-suited**, based on their background and career interests
- **Students** email their CV to the preceptor of each project that interests them, and **request an interview** as soon as possible.
- **Students** interview for as many CaRES projects as they wish, and **preceptors** interview as many students as they wish.
- **Once a student and a preceptor agree** to work together, they email Dr. Waterbor together to claim one of our **50 CaRES internship slots**.
- **Typically, all internship slots are filled by about March 1 but the projects are not done until summer!**



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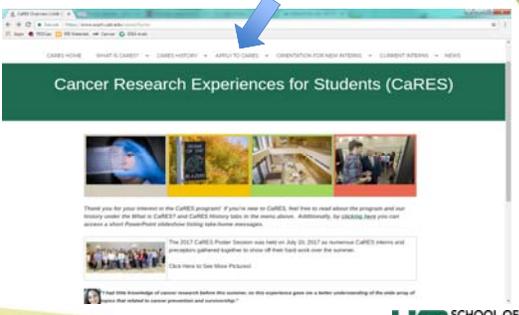
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### Application Details on CaRES Website




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### CaRES Administrative Details

- **CaRES Internships** must be at least **8 weeks** long and at most **15 weeks**, in the period **May 6 – August 30, 2019**
- **Specific start and end dates** for each project are negotiated between preceptor and student
- **Performance Sites:** all projects must be done at UAB or at HudsonAlpha Institute for Biotechnology in Huntsville, AL
- Student pay is **\$400/week** for full-time effort (**~40 hrs/wk**)
- CaRES can pay for poster printing and for some other **training-related expenses** for a limited number of students
- Students must arrange and pay for their own **housing** (with suggestions on the CaRES website)



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### Summer CaRES Activities

- **Most of each student's time each day is spent working with the preceptor in a lab, office, or clinic.**
- **CaRES Orientation Luncheon:** one day in June
- **CaRES Seminar Series:** three 2-hour classes in June or July on career development and the **Responsible Conduct of Research (RCR)**, with online homework assignments
- **CaRES Poster Session:** in July CaRES students showcase their work with travel awards given for the best posters. Students may keep their posters for later presentations.

**CaRES students** are encouraged to present their research at professional conferences. CaRES will help pay for registration and travel as our budget allows.




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### CaRES Poster Day 2017





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### Highlights of CaRES

- **Self-matching process** of students to preceptors
- **Flexible start and end dates** in May through August
- **400 UAB Cancer Center** faculty eligible to be preceptors
- Recruitment of students from **several professional and biomedical graduate programs**, from **several universities**
- Up to 6 projects based at **HudsonAlpha** in Huntsville
- **Individual Development Plans** are completed by each student-preceptor pair before summer begins
- Instruction in the **Responsible Conduct of Research**
- **Outstanding short- and long-term program evaluation results** (see CaRES website for evaluation summaries)




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### Publications about CaRES

- **Daniel CL, Brooks CM, Waterbor JW.** Approaches for longitudinally tracking graduates of NCI-funded short-term cancer research training programs. *J Cancer Educ* 2011; 26:58-63
- **Desmond R, Padilla LA, Daniel Cl, Prickett CT, Venkatesh R, Brooks M, Waterbor JW.** Career outcomes of graduates of R25E short-term cancer research training programs. *J Cancer Educ* 2016;31 (1):93-100.
- **Padilla LA, Venkatesh R, Daniel CL, Desmond RA, Brooks CM, Waterbor JW.** An evaluation methodology for longitudinal studies of short-term cancer research training programs. *J Cancer Educ* 2016; 31(1):84-92. NIHMSID: NIHMS644185 PubMed [journal] PMID:25412722, PMCID: PMC4441613
- **Padilla LA, Desmond RA, Brooks CM, Waterbor JW.** Automated Literature Searches for Longitudinal Tracking of Cancer Research Training Program Graduates. *J Cancer Educ* 2016; PubMed PMID:27734282, PMCID PMC5380600. *This paper won the American Association of Cancer Education (AACE) Presidential Prize Paper Award in 2016*




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### Reasons Why the CaRES Program Has Been Successful

- **Large pool of bright and highly-motivated students of varied backgrounds and disciplines from which to recruit**
- Excellent (and numerous) **UAB faculty preceptors** who are active in cancer research, submit project descriptions, and enjoy mentoring students
- **Dedicated CaRES program faculty** (Drs. Smith, Waterbor, Brooks, Desmond, Litton, and Padilla) and **staff** (Internship Coordinator Judy Baker; Website Developer Dan Camburn)
- UAB's collaborative and **student-oriented** environment
- UAB's outstanding **O'Neal Comprehensive Cancer Center**




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*CaRES Team: Renee Desmond, John Waterbor, Judy Baker, Peter Smith, Allison Litton; and (not pictured) C. Michael Brooks, Aly Padilla, and Daniel Camburn*




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*If you have any questions please contact:*

**Dr. John Waterbor**  
**CaRES Program Director**  
**Ryals Building-227C**  
**205-934-7146**  
[h2obor@uab.edu](mailto:h2obor@uab.edu))

**Thank you for your interest in the CaRES Program!**

**January 8, 2019**




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**Physician Scientist Development Office (PSDO)**






**Single Application Process Affiliated Programs**

**Medical Student Summer Research Opportunities at UAB**

- Koopman Medical Student Research Excellence Award (Medicine)
- Anesthesiology and Perioperative Medicine
- Department of Surgery Summer Research Program
- Diabetes Research Center Summer Research Fellowship)
- O'Brien Center for Research in Kidney Related Diseases
- Functional Neurorehabilitation Research Opportunities (Physical Medicine and Rehabilitation)
- Short Term Training in Health Professional Schools Program (SRTTP/T35)




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**How to apply (PSDO Single Application)**

Visit the MSSRP website

- <https://www.uab.edu/medicine/mssrp/>

Select a faculty sponsor

With the help of your sponsor, draft a project proposal

Complete the online application

- Demographic Information
  - Name, address, GPA, MCAT
- Brief description of any previous research experience
- Resume (as a PDF)
- Summer Project Title, type of research
- Mentor name, department, contact information
- Project Proposal




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### Required Project Proposal

- **How to Format Your Summer Research Project Proposal** (3-5 pages)  
Include your name on the project  
Preferred font: Arial 11  
Single Space
  - Research Interests and Career Goals (limited to 1 page)
    - What type of research are you interested in
    - What are your ultimate career goals
      - How does research fit in with these career goals
  - Research Project Description (1-3 pages)
    - Introduction
      - Background information relevant to your project
    - Project Objectives and Hypothesis
    - Methods/Approach
  - Literature Cited (3-10 relevant papers)
- \*Project Proposal should be no longer than 4 pages (not counting references)



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### 2019 Koopman Medical Student Research Excellence Award

- In honor of Distinguished Professor and Chairman Emeritus of the DOM William J. Koopman, MD.
- Dr. Koopman's insights into rheumatoid arthritis inspired novel treatments still being used today. His distinguished research career is a model and inspiration for young investigators.
- This prestigious award is for medical students with a **passion for research and making a lasting impact.**



William J. Koopman, MD



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### Applicant Criteria

- First year medical students with an interest in medical or health-related research are encouraged to apply for this **8-10 week summer internship program** with a research mentor who has a primary appointment in the DOM.
- The project will be conducted during the summer between the MS1 and MS2 years.



*Koopman Medical Student Research Excellence Award*



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### Application Process



- Select a **faculty sponsor** with a primary or secondary appointment DOM
- With sponsor, outline a **research project**
- Apply with the **common application form by March 5, 2019**  
<http://www.uab.edu/medicine/mssrp/>
- **Research Proposal:** Follow the common Summer Research Project Proposal guidelines
- Koopman-specific: **Interviews** for competitive applicants (late March/early April)

*Koopman Medical Student Research Excellence Award*




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### Successful Applicants



- Awards will be given annually to **three** outstanding medical students in the DOM.
- Includes a stipend of **\$500/week** over the course of the summer training.
- Awardees will also be provided with a **\$1,500 travel allowance**
- Awardees will present a poster at the **DOM Trainee Research Symposium and a brief talk at the DOM Clinical Research Seminar** in Spring the following year (2019)
- **Career peer mentoring** provided by former Koopman Scholars

*Koopman Medical Student Research Excellence Award*




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### Prior Awardees



<p><b>2016</b>  <b>Stephanie Donaldson</b>                  Suzanne Oparil, MD                  Cardiovascular Disease</p>	<p><b>2017</b>  <b>Dixon Johns</b>                  Steven Rowe, MD                  Pulmonary/Allergy/Critical Care</p>	<p><b>2018</b>  <b>Akhil Kaushik and Alex D'Amico</b>                  Jennifer Pollock, PhD                  Nephrology</p>
<p><b>Joshua Jackson</b>                  Jessie DeShane, PhD                  Pulmonary/Allergy/Critical Care</p>	<p><b>Amy Schmitt</b>                  Ganesh Halade, PhD                  Cardiovascular Disease</p>	<p><b>Audrey Ang</b>                  Roslyn Mannon, MD                  Nephrology</p>
<p><b>Benjamin Smood</b>                  Palaniappan Sethu, PhD                  Cardiovascular Disease</p>	<p><b>Forrest Gamble</b>                  Steven Lloyd, MD PhD                  Cardiovascular Disease</p>	<p><b>Paul St. Clair</b>                  Christina Muzny, MD                  Infectious Diseases</p>

*Koopman Medical Student Research Excellence Award*




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**Questions?**

**Contact us:**

**Bobbie Van Der Pol, Ph.D. - [bvanderpol@uabmc.edu](mailto:bvanderpol@uabmc.edu)**

**Chad Hunter, Ph.D. - [chadhunter@uabmc.edu](mailto:chadhunter@uabmc.edu)**

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**Department of Anesthesiology and  
Perioperative Medicine  
Summer Research for Medical Students**  
<https://www.uab.edu/medicine/anesthesiology/>



**Chair  
Dan Berkowitz, MBBCh**



**Vice Chair for Research  
Sadis Matalon, PhD, DrSc  
(Hon)**

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**Department of Anesthesiology and  
Perioperative Medicine  
Summer Research for Medical Students**  
<https://www.uab.edu/medicine/anesthesiology/>

**Two slots for 8-10 weeks** of laboratory, educational or clinical projects, under the guidance of basic, translational and clinical scientists. These activities will be accompanied by the following:

- Attendance to Anesthesiology Grand Rounds
- Attendance to Research and Clinical Conferences
- Participation and presentation at weekly laboratory meetings
- Shadowing of clinical faculty in the operating rooms, surgical intensive care and pain clinics
- Tutoring on how to prepare abstracts and manuscripts
- Presentation of manuscripts at national meetings

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**Department of Anesthesiology  
and Perioperative Medicine  
Summer Research for Medical Students**

**Contact a mentor and work with her/him to design a project  
and prepare an application; Apply to the UAB MSSRP using the PSDO  
Single Application**

**Some Areas of Active Research**  
<https://www.uab.edu/medicine/anesthesiology/research/labs>

**Redox regulation and dysregulation in vascular biology** and pathobiology, as it relates to aging, atherosclerosis, and radiation-induced vascular endothelial function; **Chemical Injury** to the Adult and Newborn Lungs; **Sensory Neurobiology**: Recovery of Function after **Spinal Injury**; Mechanisms of **Bladder Pain**; **Neuropathic Inflammation** and Pain; ARDS, **coagulopathy** and **lung infections** after trauma; Mechanisms of **viral (influenza) infections** contributing to lung diseases; Role of **HIFs** in disease development; **Quality and Patient Safety**; **Simulation**

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**Alternate Pathway: Apply to the Foundation for Anesthesia  
Research Summer Program (FAER)**  
<https://www.asahq.org/faer/programs/medicalstudentfellowships/summerfellowships>

(Deadline: February 1<sup>st</sup>, 2019)

**Medical Student Anesthesia Research Fellowship Program**

The summer fellowship provides medical students with an eight-week research experience within an academic anesthesiology department. During the fellowship, students participate in **research, training** and **clinical anesthesia activities**. In addition, medical student summer fellows have the opportunity to make a scientific presentation at the **ASA's ANESTHESIOLOGY®** annual meeting

A \$400 per week student stipend, ASA student membership dues, plus additional funds to help cover the costs of travel to the ANESTHESIOLOGY® annual meeting

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**Recent Graduates**



Mathew Carlisle, MD; Internal Medicine. Duke U. (Class of 2017)

- Worked with Dr. Matalon during the summer of 2015 and continued working part time during the rest of their time in medical school
- Published five papers each, including papers in **JCI Insight** and **Hypertension**
- Presented their work in three international meetings and received prizes for best talk and poster
- Their numerous publications were of great help in getting **their first choices in residencies in highly prestigious programs**



Adam Lam, MD  
General Surgery, U. Of Chicago. (Class of 2017)

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**Recent Publications with Medical Students**

Heme scavenging reduces pulmonary endoplasmic reticulum stress, fibrosis, and emphysema. Aggarwal S, Ahmad I, **Lam A, Carlisle MA**, Li C, Wells JM, Raju SV, Athar M, Rowe SM, Dransfield MT, Matalon S. *JCI Insight*. 2018 Nov 2;3(21). PMID: 30385726

Mechanisms and Treatment of Halogen Inhalation-Induced Pulmonary and Systemic Injuries in Pregnant Mice. Lambert JA, **Carlisle MA, Lam A**, Aggarwal S, Doran S, Ren C, Bradley WE, Dell'Italia L, Ambalavanan N, Ford DA, Patel RP, Jilling T, Matalon S. *Hypertension*. 2017 Aug;70(2):390-400. PMID: 28607126

Role of apoptosis and autophagy in tuberculosis. **Lam A**, Prabhu R, Gross CM, Riesenber LA, Singh V, Aggarwal S. *Am J Physiol Lung Cell Mol Physiol*. 2017 Aug 1;313(2):L218-L229. PMID: 28495854

Wood W, **McCollum J**, Kukreja P, Hosseinzadeh Maleki A, Vetter I, Riesenber L. Graduate medical education scholarship activities initiatives: a systematic review. *BMC Med Educ* (In Process).

Mardis M, Davis J, Benningfield B, Elliott C, Youngstrom M, Nelson L, Justice EM, Riesenber L. Shift-to-shift handoff effects on patient safety and outcomes: A systematic review. *Am J Med Q* 2017;32(1):34-42.

Davis J, **Roach C, Elliott C**, Mardis M, Justice EM, Riesenber L. Feedback and assessment tools for handoffs: A systematic review. *J Grad Med Educ* 2017;9(1):18-32.

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**Surgery Short-Term Research Experiences  
Advancing Medical Students  
(STREAMS)**

Program Directors: Herbert Chen, MD  
and Jayme Locke, MD

Program Administrator: Kristi Herritz



**UW MEDICINE**  
SURGERY

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STREAMS Overview

- 8 or 10 week full-time research experience
- Supplemented with:
  - ♦ Surgery-specific research seminars
  - ♦ Clinic/OR observations
- Opportunities for abstracts/manuscripts
- Many team projects (with residents, undergrads)



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Potential Mentors/Projects

- Opportunities in variety of surgical diseases - list posted at <https://www.uab.edu/medicine/surgery/education/medical-students/streams>
  - Basic Science
  - Translational
  - Outcomes
  - Education



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How to Apply/Stipends/Etc.

- Apply through MSSRP Common Application – Select Surgery/STREAMS/all other applicable options
- Pending NIH T35 to support 8 students
- Stipend – NIH predoc level approx. \$475/week
- Travel awards for accepted first authored abstracts
- Questions – contact Kristi Herritz
  - [kherritz@uabmc.edu](mailto:kherritz@uabmc.edu)
  - 608-712-6993 (cell)

**UAB MEDICINE**  
SURGERY

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### Contact Us

- Kristi Herritz, Program Administrator
  - [kherritz@uabmc.edu](mailto:kherritz@uabmc.edu)
- Herb Chen, Program Director
  - [hchen@uabmc.edu](mailto:hchen@uabmc.edu)

**UAB** THE UNIVERSITY OF ALABAMA AT BIRMINGHAM  
Knowledge that will change your world

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### NIH-Funded Diabetes Research Centers

Boston Area Diabetes Research Center  
 Columbia University, New York  
 Indiana University/Purdue University, Indianapolis  
 Joslin Diabetes Center/Harvard University, Boston  
 Kaiser Foundation Research Institute, Oakland  
 Stanford University, Stanford  
**University of Alabama, Birmingham**  
 University of California, San Diego  
 University of California, San Francisco  
 University of Chicago  
 University of Colorado, Denver  
 University of Michigan, Ann Arbor  
 University of Pennsylvania, Philadelphia  
 University of Washington, Seattle  
 Vanderbilt University, Nashville  
 Washington University, St. Louis  
 Yale University, New Haven

Medical Student Summer Research Program in Diabetes  
<https://www.uab.edu/shp/drc>  
<http://medicalstudentdiabetesresearch.org>




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UAB Diabetes Research Center  
 Medical Student Summer Research Program in Diabetes



- Fellowships for 6 students
- ~\$4,000/8-week (can do additional weeks)
- Full-time hands-on research
- Diabetes, Complications, Metabolic Syndrome, CVD risks
- Required training in responsible conduct of research
- Required presentation at Vanderbilt (Nashville, TN) at the end of the summer
- PI is Tim Garvey ([garveyt@uab.edu](mailto:garveyt@uab.edu)); Administrator is Jelisa Moseley ([jelisam@uab.edu](mailto:jelisam@uab.edu))

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### NIH O'Brien Center Summer Research Program

- Research in kidney-related diseases
- 8-10 week full-time mentored research experience
- 80% time spent in the laboratory, 20% time learning about clinical and translational research
- Training in responsible conduct of research
- Attendance at the NRTC Monday Conference, Core Concepts in Kidney Research.
- Participation is MSRD
- We utilize the common application




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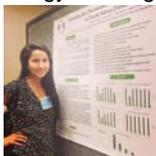
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### Previous Students and Publications

- 36 student participants (since 2011)
- 28 publications, abstracts and presentations including trainees and their work
- Trainee work has been selected for presentation at national meetings such as the American Society of Nephrology Meeting (Kidney Week)



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### Example Publications

- **Jackson JL**, et al, **Gutierrez OM**. (2014) Associations of 25-hydroxyvitamin D with markers of inflammation, insulin resistance and obesity in black and white community-dwelling adults. *J Clin Transl Endocrinol*. 5:21-25. PMC5098550.
- **Goetsch MR**, et al, **Franco RA**. (2017) Direct-Acting Antivirals in Kidney Transplant Patients: Successful Hepatitis C Treatment and Short-Term Reduction in Urinary Protein/Creatinine Ratios. *Pathog Immun*. 2(3):366-375. PMC5654569
- **Questions** Dr. Anupam Agarwal ([aagarwal@uabmc.edu](mailto:aagarwal@uabmc.edu)) or Kelly Andringa, PhD ([kellyandringa@uabmc.edu](mailto:kellyandringa@uabmc.edu))



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## Functional Neurorehabilitation Research Opportunities for UAB Medical Students

Victor Mark, MD  
and the faculty of the UAB  
Department of Physical Medicine  
and Rehabilitation

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• **FNR Scholars Program**

Rationale:

- Increase awareness of the field of PM&R and physiatrists among UAB Medical Students.
- Support School of Medicine educational mission (i.e., scholarly activity and student research)
- Mentor next-generation of leaders in the field, including physician-scientists.

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Approach

- Provide stipend and research fund for a UAB 1<sup>st</sup> year Medical Student to conduct a summer research project mentored by PM&R faculty: **(\$4,000 stipend + \$1,000 travel funds for conference presentation = \$5,000/ medical student).**
- Students will apply to FNR Scholars Program, and PM&R faculty will evaluate applications, awarding most meritorious.
- 1 funded award will be made for summer 2019
- Students can also apply outside of the FNR Scholars program, without department funding, by individual arrangement with PM&R faculty

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Timeline

- December 4, 2018: Orientation to FNR project
- List potential mentors and areas of research in mailing
- Prospective applicants contact mentors to develop project
- January 11, 2019: 1<sup>st</sup> year Medical Students attend UASOM Summer Program Meeting for all sponsoring SOM departments for brief overview of each department's summer funded fellowships
- January 14, 2019: Application portal opens

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## Timeline

- March 5, 2019: Deadline to submit application to the office of the UAB Medical Summer Research program:  
<http://www.uab.edu/medicine/mssrp/>
- Applications will then be forwarded to Dr Mark for redistribution to PM&R faculty for reviewing applications, without students' names
- Faculty vote on submissions by blinded ballot
- March 20, 2019: Announcement of summertime scholars

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## RREMS option for sponsored rehabilitation research

- Rehabilitation Research Experience for Medical Students (RREMS) by the Association of Academic Physiatrists (AAP)
- National program, parallel to UAB PM&R
- UAB PM&R is a site for this program; ~15 other programs also participate
- 8-week summertime research
- \$4000 stipend
- The PM&R Department will cover conference presentation up to \$1000 at the February 2020 AAP conference
- UAB PM&R Department will support up to 2 students' conference costs if approved for presentation (approved mentors for RREMS = Dr Mark and Dr Yarar-Fisher)
- Final decision of the RREMS program is judged by AAP; typically ~7 national students are awarded

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## RREMS option for sponsored rehabilitation research

- Deadline for student registration for interest for the RREMS program December 14, 2018
- Deadline for research submissions January 25, 2019
- Present awarded research findings at annual AAP meeting Feb 2020
- <https://www.physiatry.org/page/RREMS>
- Students can apply for the PM&R Department scholarship and the RREMS program
- However, student cannot be approved for both awards
- Student who accepts RREMS award must forgo PM&R Department award; it will transfer to the next approved student

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### Potential kinds of research projects

- Join on-going research by mentor
- Student-initiated research (must be approved by mentor)
- Database or chart review
- Clinical study proposed by clinical faculty member, with secondary mentorship by research faculty member, OR
- Research study proposed by research faculty member, with secondary mentorship by clinical faculty member
- The following do not qualify: literature review, case report

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### Additional aspects

- PhD faculty may serve as mentors
- Mentorship counts toward faculty member's annual productivity report
- Students must perform all critical aspects of research analysis and interpretation, and not delegate to staff research assistants or students

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### Additional aspects

- Statistical analysis should be under the supervision of a statistician or research-experienced mentor
- Mentor needs to keep the Research Committee informed of progress, complications, revisions to research topic

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### Current faculty research topics for Scholarly Projects

- Yuying Chen, MD, PhD (yuyingchen@uabmc.edu)
  - Spinal cord injury; secondary data analysis, weight control
- Rachel Cowan, PhD (recowan@uabmc.edu)
  - Clinically relevant fitness thresholds in persons with spinal cord injury
- Keneshia Kirksey, MD (kmkirksey@uabmc.edu)
  - Falls in lumbar stenosis, control of neuropathic pain
- Amy Knight, PhD (ajk@uab.edu)
  - Brain metabolic changes in acute medical trauma
- Victor Mark, MD (vwmark@uabmc.edu)
  - Cognitive effects on neurorehabilitation, visual attention and language effects on recovery in brain disease
- Amie McLain, MD (ajackson@uabmc.edu)
  - Women's reproductive and gynecological topics in spinal cord injury
- Danielle Powell, MD (daniellepowell@uabmc.edu)
  - Obesity in spinal cord injury; spina bifida needs in adults
- Ceren Yarar-Fisher, PT PhD (cyarar@uab.edu)
  - Skeletal muscle physiology in spinal cord injury, influence of ketogenic diet on neurologic recovery
- Xiaohua Zhou, MD (zhou@uab.edu)
  - Swallowing management in stroke; bladder training in stroke

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### For questions

- Contact Dr Mark, FNR coordinator:  
  
Victor Mark, MD  
vwmark@uabmc.edu
- Sarah Banasiewicz, office assistant to Dr Mark
- 975-8810
- sbanasiewicz@uabmc.edu

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### NIH T35 Short-Term Research Training Program (SRTP)

- Funded since 1980 by the National Heart, Lung, and Blood Institute (NIH) through their Short Term Training for Health Professionals Schools T35 Program
- The goal of this training program is to introduce medical students to the principles of scientific experimentation, the proper methods of data analysis, and the interpretation and application of research results.
- Priority given to projects in NHLBI's area of interest (but any research focus can be funded)
  - Cardiovascular
  - Pulmonary
  - Blood
  - Sleep
- Required training in responsible conduct of research
- Additional workshops on poster presentations and how to communicate your research




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### Logistics: SRTP

- Full time research for 8-10 weeks in a laboratory at UAB
  - June-August
- Stipend of \$2068/month (paid out biweekly)
- Required to present at Medical Student Research Day
- Applications Due by March 5th of your MS1 year
- Can work with any faculty member in any department at UAB



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### FAQ: SRTP Program

- Can I do part-time research?
  - No, you are required to do research full-time
- Can I be an Orientation Leader for incoming MS1 SOM students and participate in summer research
  - Yes! For 2018-2019, we have worked with the SOM to allow for both summer research and orientation leader opportunities (time line of program is adjusted)
- Can I do full-time research for less than 8-weeks?
  - No



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### How to Find a Research Project

- Contact faculty members working in an area in which you may have an interest
  - See UAB APSA website
    - <https://www.uab.edu/medicine/mstp/academics/mstp/uab-apsa-chapter>
  - See Short-term Research Training Program Website
    - [www.uab.edu/mssrp](http://www.uab.edu/mssrp)
  - Look at faculty on UAB department websites
  - Search PubMed for Birmingham Alabama and your keywords of interest
  - Contact Randy Seay for advice
  - Select a faculty sponsor and write a research proposal



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