BCM SOAR

RESEARCH NEWS

APRIL 2025 EDITION

Baylor College of Medicine

SCHOOL OF MEDICINE

STUDENT OPPORTUNITIES FOR ADVANCEMENT IN RESEARCH (SOAR)

Art by Grace Anderson

IN THIS EDITION:

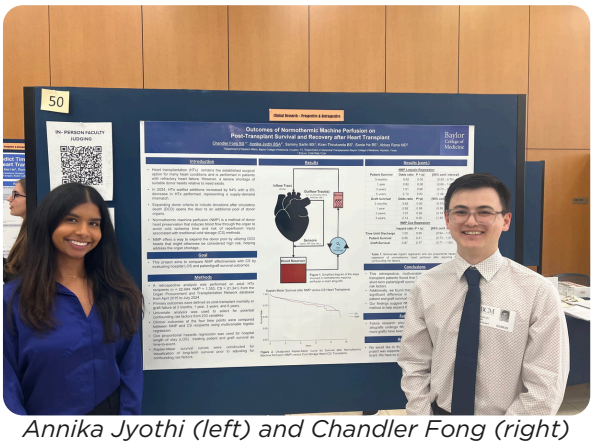
Henry J.N. Taub & James K. Alexander Medical Student Research Symposium

On Mar. 6, 2025, BCM held its annual Henry J.N. Taub & James K. Alexander Medical Student Research Symposium, providing students across different classes and experiences a chance to showcase their research close to home.

The symposium covers a variety of research categories, such as basic science, education, health system science and clinical research. Outstanding students in each category have the chance to be awarded grants, as well as gain valuable feedback on their presentations.

“The Taub conference was a great introduction to poster presentations for those of us who have never presented,” said first-year medical student Chandler Fong. “We were nervous at first, but those nerves disappeared when friendly faces started stopping by to listen to our presentations.”

Fong collaborated with fellow first-year medical student Annika Jyothi. The two met in MESUR 556, a statistical surgical elective that opened the door to research for many first-year students.



Annika Jyothi (left) and Chandler Fong (right)

Together, Fong and Jyothi studied the effectiveness of normothermic machine perfusion (NMP) as an alternative to traditional cold storage methods for heart transplants. They compared the hospital length of stay and patient outcomes for the different methods, finding that NMP did not have significantly worse outcomes than cold storage, a promising step toward expanding the availability of heart transplants.

"I really enjoyed that it felt like a low-stakes way to practice presenting and giving sort of an elevator pitch about our project, how we conducted it, and our findings," said Jyothi. She praised the streamlined process for submitting abstracts, printing posters and recording the supplementary audio.

One of her favorite parts of the conference was the audience awards, where attendees voted on various honors, such as "Most Creative" or "Best Presentation." Jyothi and Fong took home the "Best Visuals" award for their graphic on allograft storage.

Others, such as Arman Yazdian, a third-year medical student at BCM, presented on long-term projects, earning first place in the Basic and Translational Research category.

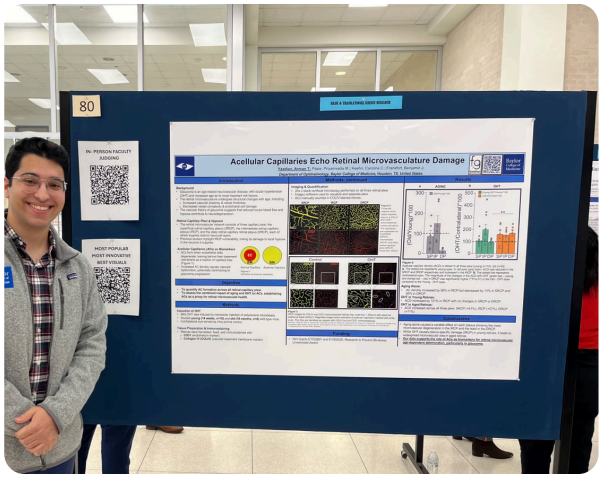
Yazdian joined his project as a first-year student, observing the overall workflow to better understand the equipment, confocal microscopy and slide preparation. This foundation enabled him to contribute meaningfully by generating data for analysis with other lab partners and continue his work and contributions throughout his clinical rotations.

Yazdian emphasized the importance of good mentorship in research. "Finding someone to vouch for you and to give you the guidance that you need to make your poster successful is super important," said Yazdian. "All that comes from showing your passion from day one."

Even with years of research experience, Yazdian found the symposium to be full of new opportunities that expanded his skill set. He reflected on the value of preparing a poster and helping to lead a project, contrasting it with his past collaborations for larger conferences.

Overall, he believes the symposium serves as a strong foundation for learning how to present research and build connections with many faculty members.

The symposium was a success for those involved, ranging from students to attendings that helped uplift student-led posters. Presenters gained experience, honed their projects and were able to walk away with a variety of prizes.



Arman Yazdian

"I loved the idea that there are so many different categories and most conferences are like this too, but just hearing students talk about their research and be enthusiastic about what they're working on gives a sense of school pride," said Yazdian. "They're going to be not just tremendous doctors but amazing people who will be producing research that's going to be very valuable to patients."

Written by Hafsah Khwaja (with help from Malay Shah and Justin Hu)
Edited by Laasya Achanta and Matthew Darmadi

Research Presentation Essentials Panel: **Tips and Strategies for Medical Students**

On Mar. 11, 2025, the Office of Student Opportunities for Advancement in Research (SOAR) hosted the Research Presentation Essentials Workshop featuring a talk by senior associate dean of admissions at BCM, Dr. Jesus Vallejo and a panel of medical students experienced in oral research presentations through SOAR's Medical Student Research Presentations (MSRP) program.

The event offered tips and tricks for medical students looking to present their research and introduced the MSRP as an avenue for students to practice communicating their findings in a supportive environment.

The MSRP provides a free, monthly opportunity for medical students to present their research in front of reviewers and get feedback. Sessions consist of a 10-minute presentation and a 5-minute Q&A, with the flexibility to adjust timing to meet conference specifications if desired. Sessions take place in the evening with an in-person and a virtual option. To participate, students can fill out the registration form.

Dr. Vallejo opened his talk with a breakdown of the key elements of an effective oral research presentation slideshow. He advised keeping the slides simple but informative enough for the audience to follow.

Some of Dr. Vallejo's notable tips for giving a presentation included practicing your talk several times, not rushing and speaking enthusiastically. For the Q&A segment, he advised repeating the question, avoiding long one-on-one discussions and asking if you answered the question sufficiently.

When asked how he would handle questions he doesn't know the answer to, Dr. Vallejo emphasized the importance of honesty. Rather than making something up, he advised acknowledging the question and leaving it at that.

As he concluded his talk, he encouraged students to be confident. "You know your project better than anyone else in the room," said Dr. Vallejo.

Following Dr. Vallejo's talk, first-year medical student and Medical Student Research Ambassador Matthew Darmadi moderated a panel of past MSRP presenters, who shared insights and advice from their experiences.

Fourth-year medical student Nithya Gillipelli, currently on a research year, said the questions she received helped her understand what to include in future presentations. Additionally, first-year medical student Shreya Tamma noted the diversity of perspectives offered by both fellow students and reviewers on qualitative research.

"Having to stand in front of a podium and having slides prepared [...] it's a different way of communicating than when you're at a big, giant conference and people are just kind of walking by and checking out your poster," said third-year medical student Grace Cardenas.

Cardenas and first-year medical student Will Baltazar added that a benefit of preparing slides helped them identify what information would be most relevant for their audience.

SOAR Office Director Dr. Mabel Perez-Oquendo and Dr. Vallejo agreed, emphasizing the importance of tailoring each presentation to fit the audience.

As final parting words, Dr. Vallejo reminded students that MSRP is a safe and encouraging environment. "You're going to make a mistake or something, you're going to get nervous," said Dr. Vallejo. "This is the place to do it."

Written by Adrian Boehnke
Edited by Maheen Kara
Art by Megan Benavides and Grace Anderson

Workshop on SOAR Database and Finding Projects

Finding research opportunities can feel overwhelming, especially when you are unsure where to start. The Student Opportunities for Advancement in Research (SOAR) Database Workshop, hosted by the director of the SOAR Office, Dr. Mabel Perez-Oquendo, offered valuable guidance on exploring projects that align with students' interests, goals and schedules.

The SOAR database features over 450 research listings across various disciplines, including basic science, clinical and translational fields.

Dr. Perez-Oquendo demonstrated how to navigate the department, research type and keyword tags. She also walked students through what to look for in a project description, such as expected duties and timelines and how to utilize the site's keyword search feature to refine results.

One especially invaluable tip was how to set up personalized email alerts. By going to "My Account" and selecting "Manage Alerts," students can choose specific keywords of interest and receive automatic email updates when new projects are posted.

Bookmarking is another helpful feature that makes it easy to keep track of projects for future reference. Students were encouraged to reach out to mentors early, as some projects fill quickly and planning logistics can take time.

"It is also important to make sure you are reaching out to the correct contact listed on the posting, as this may not always be the same as the project lead," said Dr. Perez-Oquendo.

First-year medical student Zuena Karim and second-year medical student Caleb Casanova shared how they used the SOAR database to find research opportunities. Both found the database to be a convenient and user-friendly way to connect with faculty who are actively seeking student collaborators.

Art by Zuena Karim

Casanova expressed that he appreciated how quickly he could get involved in research through the SOAR database. "Many projects already have IRB approval, so you can often jump in and start contributing sooner," said Casanova.

While some projects may list preferred skills, they noted that many mentors are open to working with students who are curious and eager to learn, even without prior experience in the field. They also encouraged students to stay open-minded about SOAR projects with brief or open-ended descriptions.

"Some of the best opportunities can come from projects that don't have all the details listed up front," said Karim. "These initial conversations can often lead to meaningful opportunities tailored to your interests."

Students who move forward with a research project should complete a NICER Research Authorization form after confirming involvement. This step is required to be eligible for a SOAR travel award, which can support future conference presentations. Students with questions can contact the SOAR Office at soar@bcm.edu.

Written by Zuena Karim
Edited by Annika Jyothi

Student Spotlight: ARYAN JAIN

Aryan Jain

Aryan Jain, a first-year medical student at BCM interested in dermatology, is using machine learning to improve skin cancer diagnosis.

Jain's research journey began at the University of Texas at Austin, where he explored psychology and neurology through hands-on lab experiences. He worked in a psychology research lab studying how perception influences daily life and contributed to a neurology project that used computer simulation games to analyze brain region stimulation in school-aged children.

Now at BCM, Jain conducts dermatological research under Dr. Varra Vamsi's lab. His current project applies machine learning to analyze over 2,000 dermatopathology shave biopsy reports. The model uses 70 percent of the data to train to identify five conditions, while 30 percent is used to test the model's abilities. The model has already achieved an impressive 94% accuracy in detecting skin cancer from free-text pathology reports.

Like many research-driven medical students, Jain encountered challenges early on, from mastering chart reviews to navigating EPIC for patient data access. However, he credits persistence and mentorship for his progress.

"The lab fosters a nurturing space where everyone is eager to teach one another," Jain said. "Having a diverse team working together has significantly enhanced our efficiency."

He emphasized the importance of strong mentorship, crediting Dr. Varra for teaching him statistical analysis and chart review skills. "Finding an attending who is willing to mentor and teach you can take you far in your career," said Jain.

Despite the demands of medical coursework, Jain seamlessly integrates research into his studies.

"My interest in dermatology makes research enjoyable rather than just another obligation," he said. "It complements my learning in medical school."

Looking ahead, Jain aims to expand epidemiological research by applying machine learning to larger datasets.

"The more data we feed into our model, the more accurate and efficient it becomes," he said. "This could greatly assist physicians in diagnosing skin conditions and aid researchers in analyzing large datasets more effectively."

For students interested in research, Jain recommends the Student Opportunities for Advancement in Research (SOAR) database as a valuable resource. "Researchers who post on SOAR are genuinely looking for students to collaborate with, making it a great starting point," he said.

Through his dedication to research and medical education, Jain exemplifies the profound impact of curiosity, collaboration and mentorship in advancing medical science.

Written by Austin Hien Tran
Edited by Laura Valderrábano and Mawada Al Faisal

Art by Megan Benavides and Grace Anderson

Upcoming Events

April 3
Medical Student Research Presentation
OBGYN-focused

April 10
Medical Student Research Presentation
Internal Medicine-focused

April 14
Deadline to Submit an Abstract for the Harris Health/BCM Research Day

April 21-25
Housestaff Virtual Research Symposium

The Funny Bone

happy opening day and happy April fools

Art by Megan Benavides and Grace Anderson

Research Opportunities

Minimally Invasive Procedures, Device Innovation
Radiology | Clinical Research
Dr. Ghasemi Rad | rad@bcm.edu

Dynamic Changes in WIfI Clinical Class and Their Association With Outcomes in Chronic Limb-Threatening Ischemia
Surgery | Clinical Research
Dr. Jayer Chung |
cuneyt.koksoy@bcm.edu

Immunology of Male Fertility
Urology | Basic Research
Dr. Blair Stocks| blair.stocks@bcm.edu

Just-In-Time Clinical Education and Research Management
Family and Community Medicine | Community Medicine
Dr. Eric Lee | etlee@bcm.edu

Psychiatry, Suicide, Brain imaging, Genetics
Psychiatry & Behavioral Sciences | Translational Research
Dr. Ramiro Salas | rsalas@bcm.edu

Medical Education and Active Learning
Anatomy Core Services | Medical Education
Dr. Adi Pinkas | adi.pinkas@bcm.edu

The RADIANT (Research Advancing Diabetes, Atypical Network) Project
Endocrinology | Clinical Research
Dr. Ashok Balasubramanyam |
ashokb@bcm.edu

Designed by Ayisat Adegbindin and Hafsah Khwaja