

# STAR SPOTLIGHT

*Newsletter*

7/1/2024 - 12/31/2024

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## ***The Center for Shock, Trauma and Anesthesiology Research***

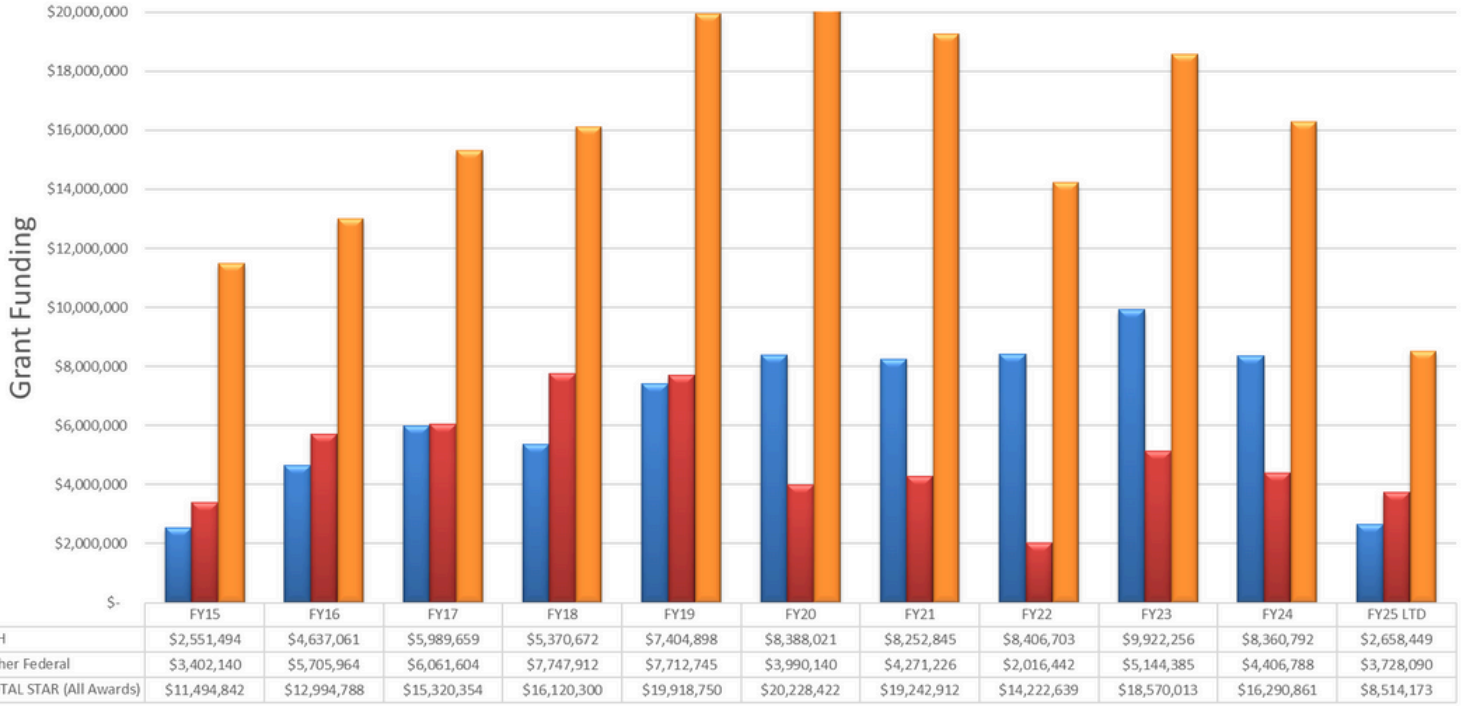
Spotlight on STAR is a semi-annual distribution that serves to keep its members informed of research activities for the current academic year in the Department of Anesthesiology, the Program in Trauma and the National Study Center. The Spotlight on STAR includes current information about funding, grants submitted, new awards, top enrolling clinical studies and helpful contact information for the STAR administrative team. We also selectively publish stories of STAR investigators and introduce their research interests and accomplishments.



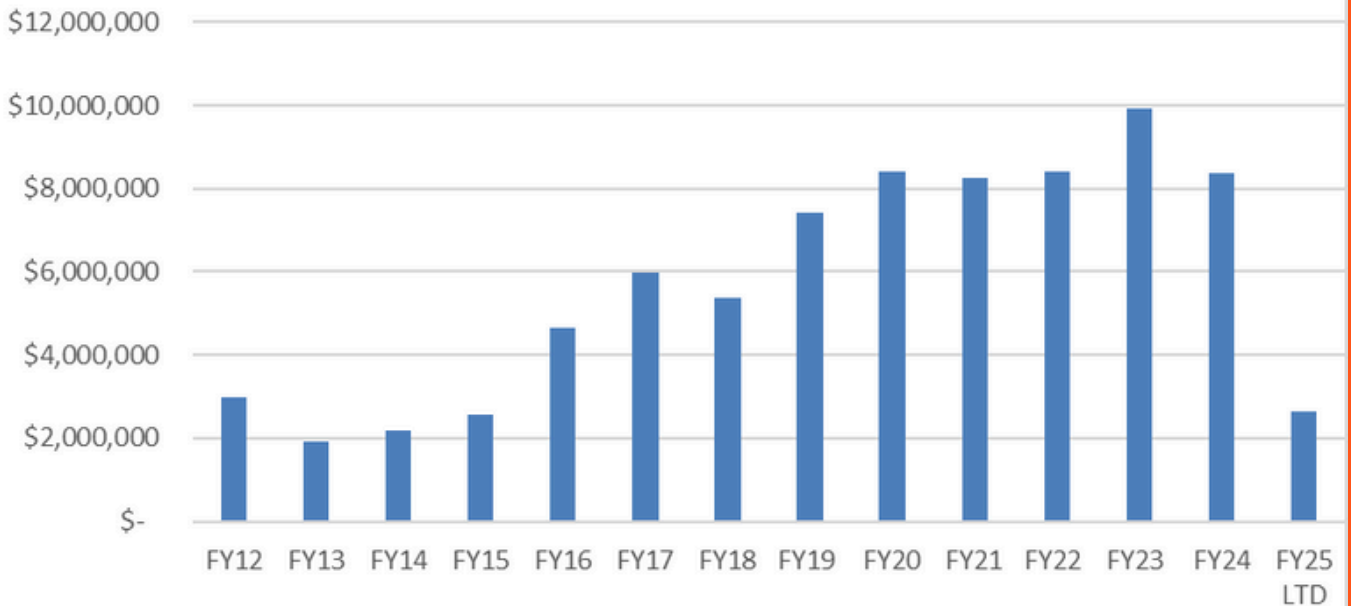
# FY25 STAR's Trending Graphs

## STAR's Grant Funding - 10 years

Grant Funding: Fiscal Year 2016-2025 (YTD December)



## NIH Funding Trend

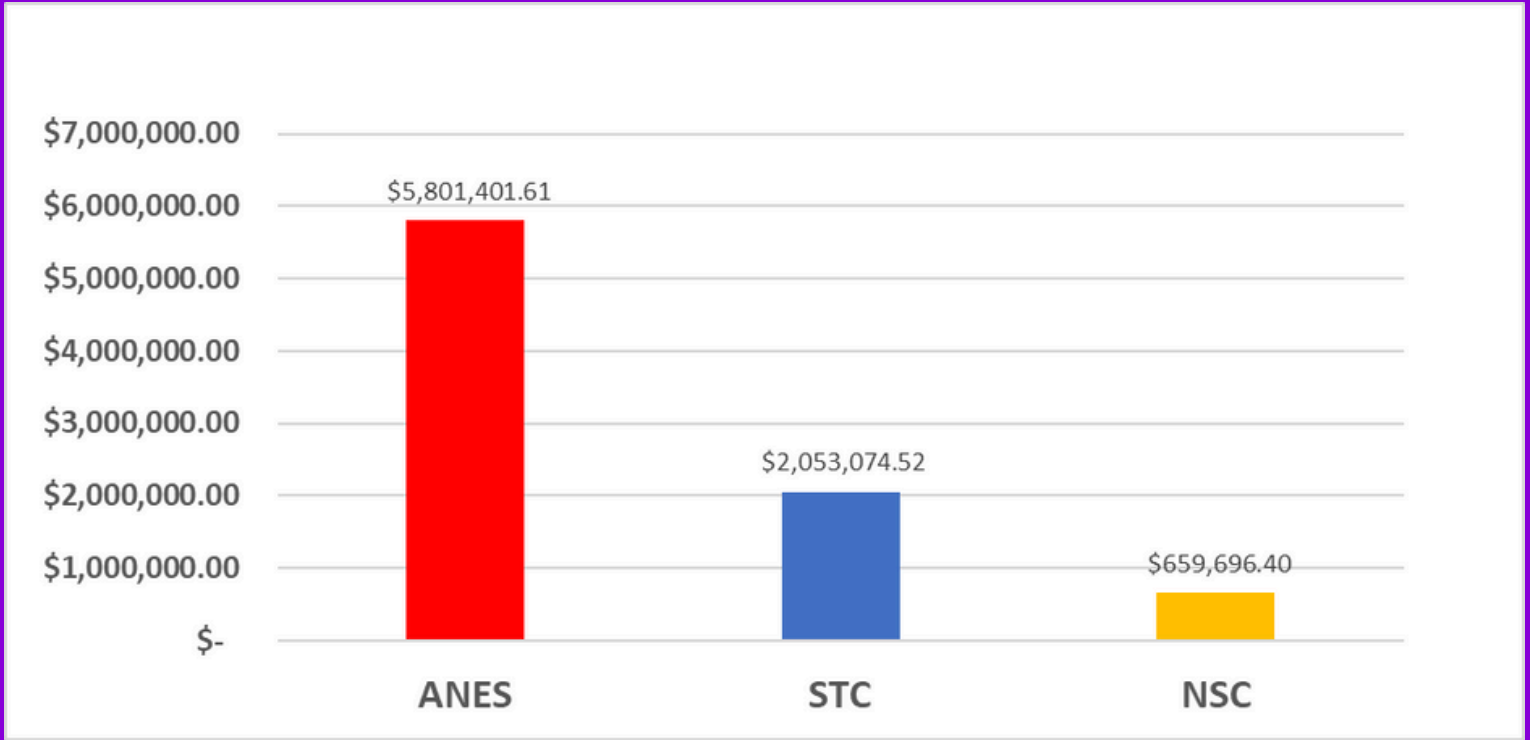




# FY25 STAR's Trending Graphs

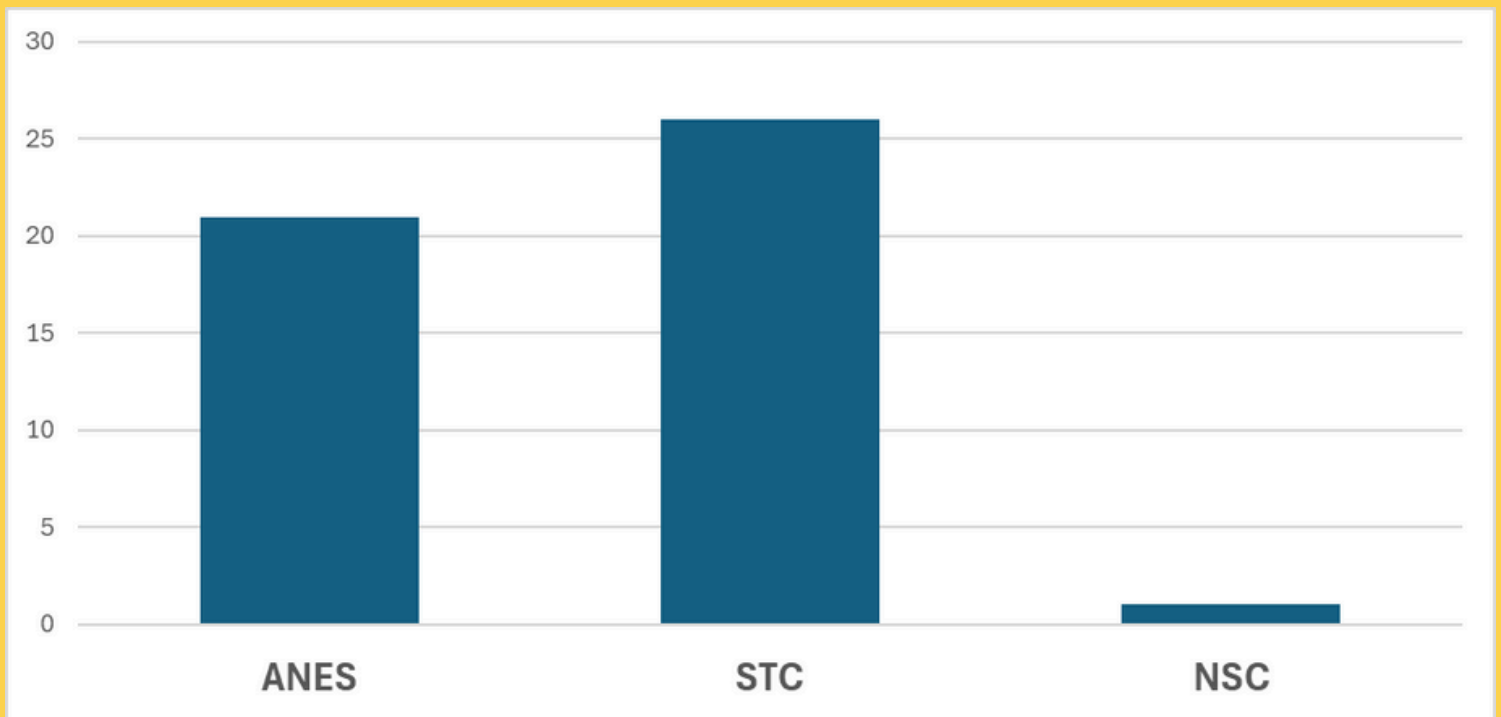
7/1/2024-12/31/2024

## Research Funding



**Total - \$8,514,173**

## Proposals Submitted



**DON'T FORGET**

## **Grant Submission Timeline**

**To improve the operation, efficiency, and quality, please keep the following deadlines in mind during grant submissions.**

- Notify STAR Admin as soon as you have identified a potential grant submission- A minimum of 1 month prior to the deadline
- STAR as a subcontract - 3 weeks is required, 2 weeks may be feasible if STAR admin has the capacity and if the application can be quickly turned over.
- Exceptions must be approved by the STAR Administration (Co- Directors and Director of Operations)

## **UMB Grant Routing Timeline:**

- **STAR approval:** 9 business days prior to the deadline (Final budget/justification)
- **Dean's Office:** 7 business days prior to the deadline (Final budget/justification)
- **SPA:** 5 business days prior to the deadline (All documents final)  
Be mindful that STAR Admin requires time to review/upload documents into the routing system.



## **NIH- Upcoming Grant Deadlines**

### **New**

- R01 - Feb.5, Jun.5, Oct.5
- K Awards - Feb.12, Jun.12, Oct.12
- R03/R21 - Feb.16, Jun.16, Oct.16

### **Renewal, Resubmission**

- R01 - Mar.5, Jul.5, Nov.5
- K Awards - Mar.12, Jul.12, Nov.12
- R03/R21 - Mar.16, Jul.16, Nov.16



# New Awards

## Anesthesiology



**Nagendra Yadava, PhD**

NIH-National Institute on Aging

*"Role of mitochondrial Complex I deficiency in Alzheimer's disease and dementia"*

\$311,000.00



**Lin Zou, MD, PhD**

NIH-National Institute of General Medical Sciences

*"Extracellular nucleic acids in trauma innate immunity"*

\$2,060,375.00

## Shock Trauma



**Prajwal Ciryam, MD, PhD**

The Brain Aneurysm Foundation

*"A CSF leukocyte atlas to predict delayed cerebral ischemia after aneurysmal SAH"*

\$35,000.00

Neurocritical Care Society

*"Suppression of neutrophil recruitment to the choroid plexus after TBI by SGLT2 inhibition"*

\$77,000.00



**Melike Harfouche, MD**

American Association for the Surgery of Trauma

*"Evaluation of Hemorrhage Control Techniques in Hemodynamically Unstable Pelvic Fractures: A Feasibility Study"*

\$49,870.00

Acumed, Johnson & Johnson, Zimmer, KLS Martin

*"Chest Wall Stabilization Course 2024"*

\$13,150.00



**Gunjan Parikh, MD**

Brigham and Women's Hospital/NIH

*"REACH-EpiVCID"*

\$6,466.00

Site PI

**National Study Center**



**Kartik Kaushik, MSc, PhD**

STMD-Maryland Motor Vehicle Administration

*"Traffic Records Program FY25"*

\$258,584.00



**Roumen Vesselinov, PhD**

STMD-Maryland Motor Vehicle Administration

*"Occupant Protection - Seatbelt FY25"*

\$150,946.00

District of Columbia Department of Transportation

*"2025 DC Seat Belt Study"*

\$250,000.00



# STAR Translational Research Pilot Grant



The **STAR Translational Research Pilot Grant** supports early-stage research by STAR faculty in Anesthesiology, Trauma, and Neuroscience (NSC). It provides up to **\$50,000 per project** to help investigators generate preliminary data for future external funding.



## Key Highlights of the Grant

### Eligibility

Open to full-time STAR faculty who are not PIs on federally funded grants (e.g., NIH, DoD, VA).

### Proposal Requirements

#### Applications must include:

- Abstract, Objectives, and Background - Project summary, hypothesis, and clinical significance.
- Research Plan - Experimental design, methodology, and feasibility.
- Justification - Why pilot funding is needed.
- Budget & Biosketch - Detailed cost breakdown and NIH-format biosketch.

### Post-Award Expectations

Awardees must submit progress reports at 6 months and project completion, detailing study progress, findings, and future funding plans.

This grant provides vital support for innovative research and future funding success.

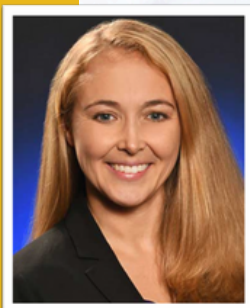


## FY25 STAR Translational Research Pilot Grant Awardees



### **Prajwal Ciryam, MD, PhD**

*"Single-Cell Transcriptomic Biomarkers of Secondary Injury in TBI"*  
\$50,000.00



### **Arissa M. Torrie, MD, MHS**

*"Association Between Peripheral Nerve Blocks and Clinical Outcomes in Orthogeriatric Hip Fractures"*  
\$49,080.00



# Dean's Research Incentive



**Dean Gladwin** has introduced a **new Research Incentive Plan** for UMSOM faculty, designed to encourage and reward faculty efforts in securing sponsored awards that:

- **Provide faculty salary coverage.**
- **Foster collaborative activities.**
- **Boost indirect cost (IDC) expenditures.**



## Key Highlights of the Plan

### Eligibility:

- Full-time faculty at the rank of Assistant Professor or higher are eligible.
- Ineligible: Postdocs, clinical trainees, Research Associates, Instructors, and part-time faculty.

### Fiscal Year Salary Coverage Requirements:

- Assistant Professors: At least 60% salary coverage.
- Associate Professors: At least 70% salary coverage.
- Professors: At least 80% salary coverage.
- Clinical Faculty: Must also have at least \$50K salary coverage from sponsored grants or contracts.

### Incentive Calculation:

- Faculty meeting the minimum salary coverage requirement will earn an incentive equal to 10% of the fiscal year IDC expenditures for sponsored awards where they serve as PI or MPI, provided the awards recover at least 26% IDC.

### Additional details:

- Incentives from MPI awards will be split among eligible MPIs.
- Subawards to UMB, where the faculty is the UMB PI, are included.
- Internal subawards, child accounts, or institutional training/career awards are excluded.
- Awards managed outside the PI's department still count toward salary coverage and IDC expenditures.

### Special Cases:

Faculty with individual career development awards providing at least 50% salary support will earn \$5,000 per fiscal year during the award period.

### Cap and Payment:

The total incentive for a fiscal year is capped at \$30,000. Incentives will be paid as a lump sum to the PI's payroll.

### Phased Implementation:

Assistant Professors will earn incentives starting with FY24 salary coverage and IDC expenditures.

For Associate and full Professors, the incentive will be phased in starting FY25.





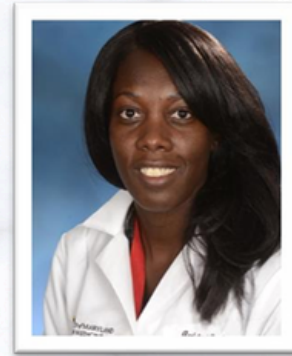
# FY24 Dean's Research Incentive Awardees



## Anesthesiology



**Chinmoy Sarkar, PhD**  
*Assistant Professor*



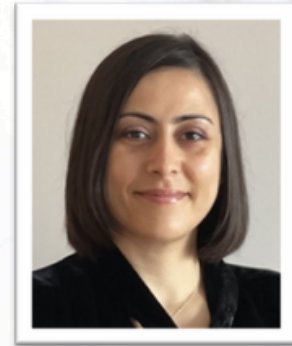
**Brittney Williams, MD**  
*Associate Professor*



## Shock Trauma



**Prajwal, Ciryam, MD, PhD**  
*Assistant Professor*



**Mira Ghneim, MS, MD**  
*Assistant Professor*

## National Study Center



**Roumen Vesselinov, PhD**  
*Assistant Professor*





# Active Clinical Studies

## Anesthesiology

Principal Investigator	Study Short Title	Sponsor	7/1/24 - 12/31/24	Total Enrolled
Wei Chao	SEPSIS Study	IARS	16	75
Samuel Galvagno	CPRM Study	UMD/NIH	145	234
Renee Henderson	CRYPTICS	Cellphire, Inc	1	4

## Shock Trauma

### The Clinical Research Team (CRT)

Principal Investigator	Study - Short Title	Sponsor	7/1/24 - 12/31/24	Total Enrolled
Gary Schwartzbauer	ARTIC	U of Miami/DoD	2	9
Rosemary Kozar	BIOBANK	Trauma	2255	9712
Wendy Chang	BOOST-3	U of Michigan/NIH	*	1
Mira Ghneim	BRIGHT	MPOWER	11	26
Deborah Stein	CIREN	NHTSA	11	272
Rosemary Kozar	ENDOSHOCK2	NIH	*	187
Rosemary Kozar	ENDOSHOCK2_CONTROL	NIH	*	37
Mira Ghneim	GERI_PRO	UMB ICTR/NIH	17	79
Kinjal Sethuraman	HOBIT	Temple/NIH	2	19
Rishi Kundi	Humacyte HAV	Humacyte, Inc	*	9
Rosemary Kozar	MAUI	MAUI Imaging/DoD	45	45
Neeraj Badjatia	MTEC	MTEC/DOD	5	56
Konstantin Birukov	POCBH	UMD/NIH	60	170
William Teeter	RITMO	DARPA	184	262
William Teeter	RITMO2	DARPA	36	36
Deborah Stein	SCENARIO	MCW/NIH	109	243
Deborah Stein	TROOP	U of Alabama/NIH	18	27

\* Indicates an active study that is not enrolling at this time.

The **C**linical **R**esearch **T**eam (**CRT**) is onsite 24/7 and assesses over 5,500 STC admissions annually upon arrival for research inclusion.



# Active Clinical Studies

## Trauma Neurocritical Care

Principal Investigator	Study Short Title	Sponsor	7/1/24 - 12/31/24	Total Enrolled
Gunjan Parikh	DISCOVERY	MGH/NIH	14	219
Gunjan Parikh	REACH-ICH	MGH/NIH	5	6
Nicholas Morris	WHOL-PAIN	U of Florida (DUA)	2	21
Prajwal Ciryam	REACH CSF	N/A	35	531

## Coordinating Center

Principal Investigator	Study Short Title	Sponsor	Active Trauma Centers	Patients Enrolled to Date
Melike Harfouche	Hemorrhage Control Interventions in Pelvic Fractures Study (HIPS)	N/A	47	860

**Dr. Melike Harfouche** leads a multi-center observational study for the American Association for the Surgery of Trauma, coordinating 47 data use agreements and a REDCap data portal developed by STAR CRT.

## RMS Alerts 7/1/24-12/31/24

Study	Alerts Sent
BLUNT AORTIC INJURY	24
PEDIATRIC C-SPINE	36
REBOA	10
LIVER/SPLEEN INJURY	148
THORACOTOMY	17
HEMOTHORAX	105
RETRO TBI	58

The **R**esearch **M**anagement **S**ystem (**RMS**) Alerts provide real-time identification of potential research subjects through automated EMR surveillance and prospective data capture for study protocols.



# Researcher in the SPOTLIGHT



## **Yifan Yuan, PhD** **Assistant Professor**

Dr. Yifan Yuan is a tenure-track assistant professor at the University of Maryland School of Medicine. After his PhD training in vascular biology and matrix biology at Ottawa Hospital Research Institute in Canada, he joined Dr. Laura E. Niklason's group at Yale School of Medicine for postdoctoral training in whole organ tissue engineering.

Throughout his training, Dr. Yuan gained extensive experience in lung and vascular tissue engineering and regeneration, including skills in bioreactor design, decellularization, recellularization, animal surgery, lab management, and developing independent research projects. He has explored how native lung extracellular matrix (ECM) regulates endothelial cells using decellularized whole lung scaffolds. Through this system, he developed a novel endothelial-repopulated lung model that mimics native cellular behaviors and physiological functions, providing a platform to study lung vascular diseases. His work has earned him several competitive awards, including the American Heart Association (AHA) Postdoctoral Fellowship and the NIH K99/R00 Pathway to Independence Award.

In the recent years, Dr. Yuan has also trained in computational biology from Dr. Naftali Kaminski's group at Yale, where he specialized in single-cell RNA sequencing (scRNA-seq) and comprehensive data analysis pipelines such as Connectome and NICHES. Using these tools, he has identified a novel soluble factor enriched in lungs, including those of humans, with potential therapeutic implications. In his lab at the STAR, Dr. Yuan aims to integrate molecular biology, bioengineering, and computational biology to investigate biological mechanisms within the lung vascular microenvironment, with the ultimate goal of developing new therapeutic strategies for lung vascular diseases.

### **Recent Publications**

1. **Yuan Y.** Clinical translation of engineered pulmonary vascular models. *Adv Exp Med Biol.* 2023;1413:273-288. doi: 10.1007/978-3-031-26625-6\_14. PubMed PMID: 37195536.
2. **Yuan Y,** Leiby KL, Greaney AM, Raredon MBS, Qian H, Schupp JC, Engler AJ, Baevova P, Adams TS, Kural MH, Wang J, Kural M, Wang J, Obata T, Yoder MC, Kaminski N, Niklason LE. A pulmonary vascular model from endothelialized whole organ scaffolds. *Front. Bioeng.* 2021 Nov 19;9:760309. doi: 10.3389/fbioe.2021.760309. eCollection 2021. PubMed PMID: 34869270
3. **Yuan Y,** Khan S, Stewart DJ, Courtman DW. Engineering blood outgrowth endothelial cells to optimize endothelial nitric oxide synthase and extracellular matrix production for coating of blood contacting surfaces. *Acta Biomater.* 2020 Apr 14; doi: 10.1016/j.actbio.2020.04.016. [Epub ahead of print] PubMed PMID: 32302726.



# Events and News



## 2025 Anesthesia Summer Medical Student Research Program

We are excited to announce that several faculty members from the University of Maryland, Baltimore, have been selected as mentors for the 2025 Medical Student Anesthesia Research Fellowship (MSARF) Summer Program.

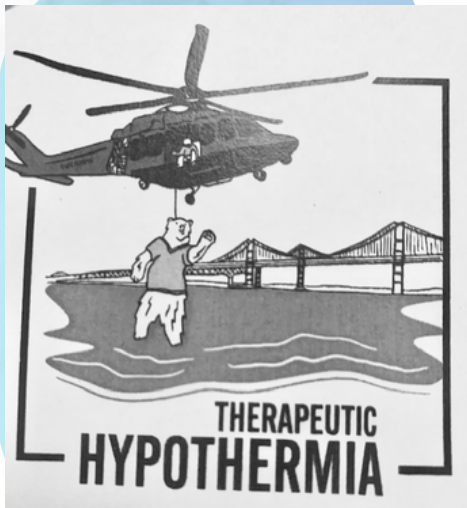
- **Wei Chao, MD, PhD, FAHA**
- **Molly Goodfellow, BA, MA, PhD**
- **Tibor Kristian, MS, PhD**
- **Marta Lipinski, PhD**
- **Bogdan Stoica, MD, PhD**
- **Yifan Yuan, BE, MSc, PhD**

These mentors will guide students in exciting anesthesia and critical care research projects tailored to their interests.

Congratulations to all! Thank you for supporting the next generation of researchers.



## Community Service



*The Shock Trauma team, under the leadership of **Dr. Rishi Kundi**, proudly partnered with the Maryland State Police to support Special Olympics through the annual Polar Plunge. Team Therapeutic Hypothermia participated in this inspiring event, demonstrating their commitment to community involvement and raising awareness for individuals with intellectual disabilities. Together, the team raised **\$17,500.00** to support this vital cause.*



## STAR Seminar

This seminar series serves as an important part of our research and educational missions and had a significant impact on what we do as basic, translational, and clinical investigators.

Have a guest you would like to invite? Drs. Brittney Williams and Chinmoy Sarkar will direct and organize these important lectures.  
[brittany.williams@som.umaryland.edu](mailto:brittany.williams@som.umaryland.edu)  
[csarkar@som.umaryland.edu](mailto:csarkar@som.umaryland.edu)

### Upcoming STAR Seminar Speakers

**Location: HSFII Auditorium**

Presenter	Institution	Topic	Date
Heather Ferris	University of Virginia	Cholesterol as a Mediator of Neuroinflammation and Alzheimer's Disease	Mar. 3
Yang Yang	Purdue University	SCN2A related autism and epilepsy: from mouse and hiPSC models to genetic medicine	Apr. 14

## STAR Research Faculty Profile 2024 Edition



We are excited to announce that the 2024 edition of our STAR Research Faculty Profiles is now live on the STAR website!

You can access it here:

[STAR Research Faculty Profile 2024 Edition](#)

We extend our heartfelt thanks to our research faculty for their invaluable support and input in updating these profiles. Your contribution has been essential in ensuring their accuracy and completeness.



# **STAR Administrative Team**

***Wei Chao, M.D., Ph.D. Co-Director, STAR ORC***  
***Rosemary Kozar, M.D., Ph.D. Co-Director, STAR ORC***

## **Clinical Research**

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