

# STAR SPOTLIGHT

## Newsletter

1/1/2025 - 6/30/2025



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

***Spotlight on STAR*** is a semi-annual publication designed to keep members informed about research activities during the current academic year within the Department of Anesthesiology, the Trauma Program, and the National Study Center.

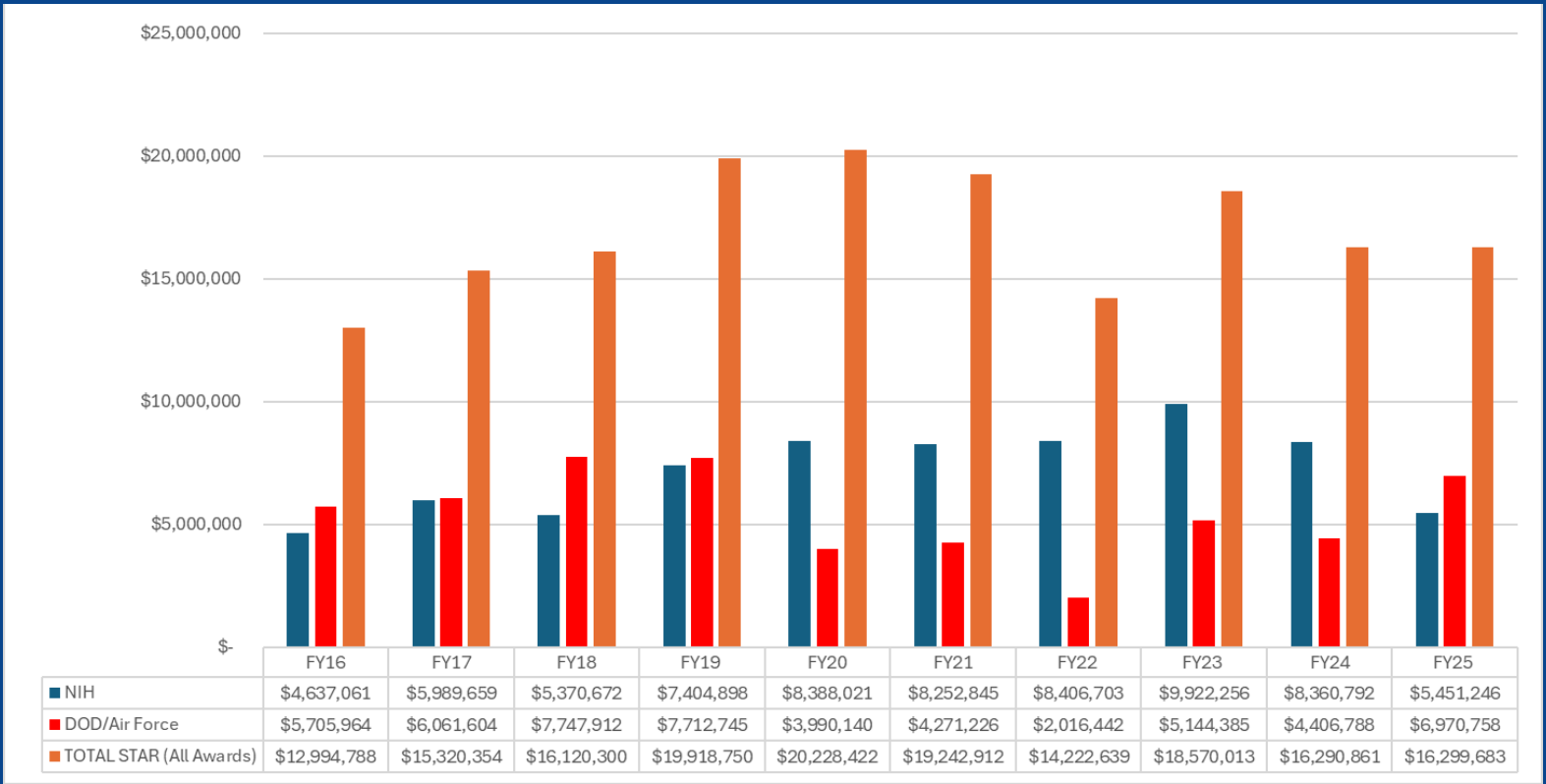
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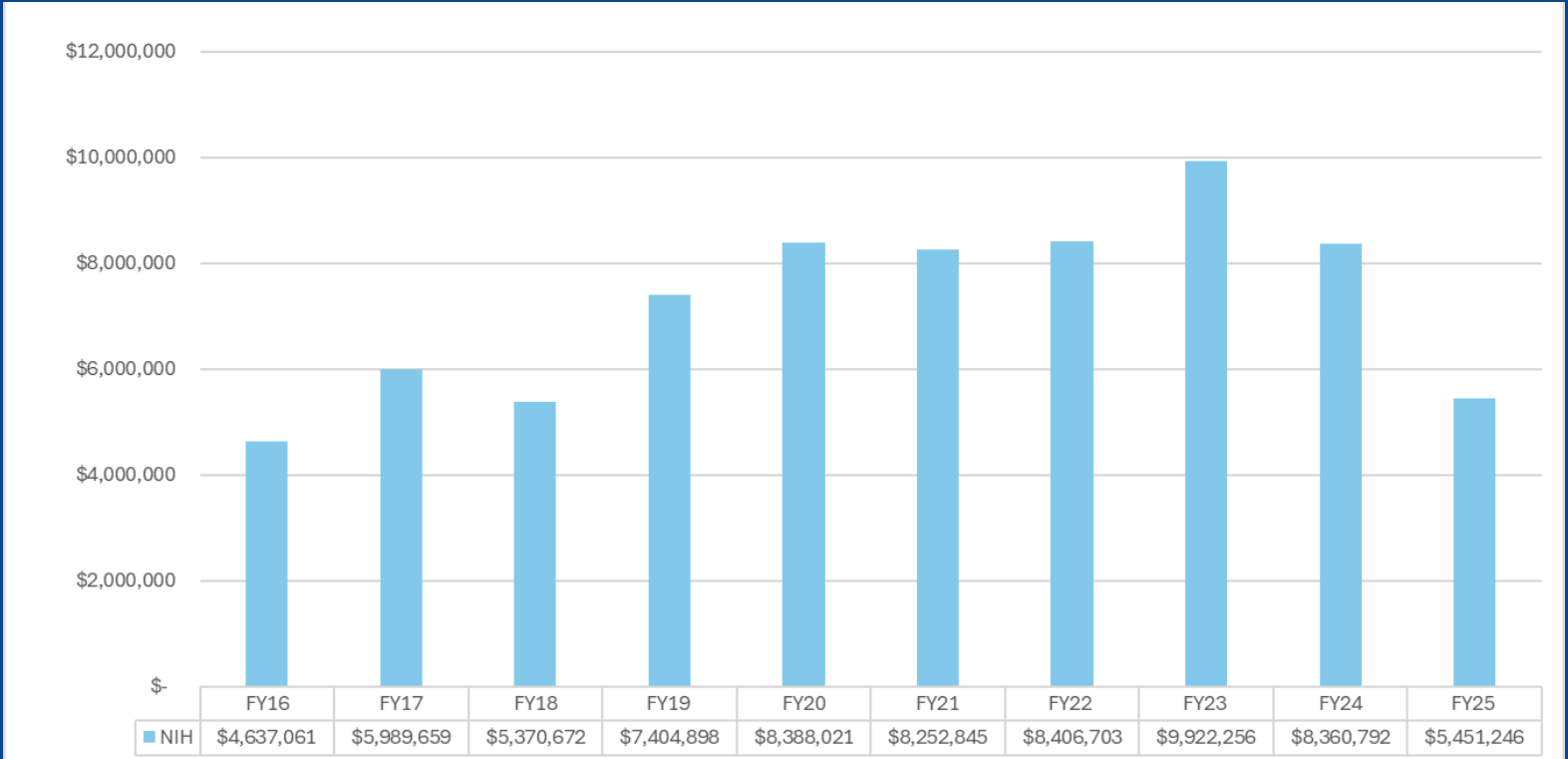


# FY25 STAR Funding

## STAR Grant Funding - 10 years



## NIH Funding Trend

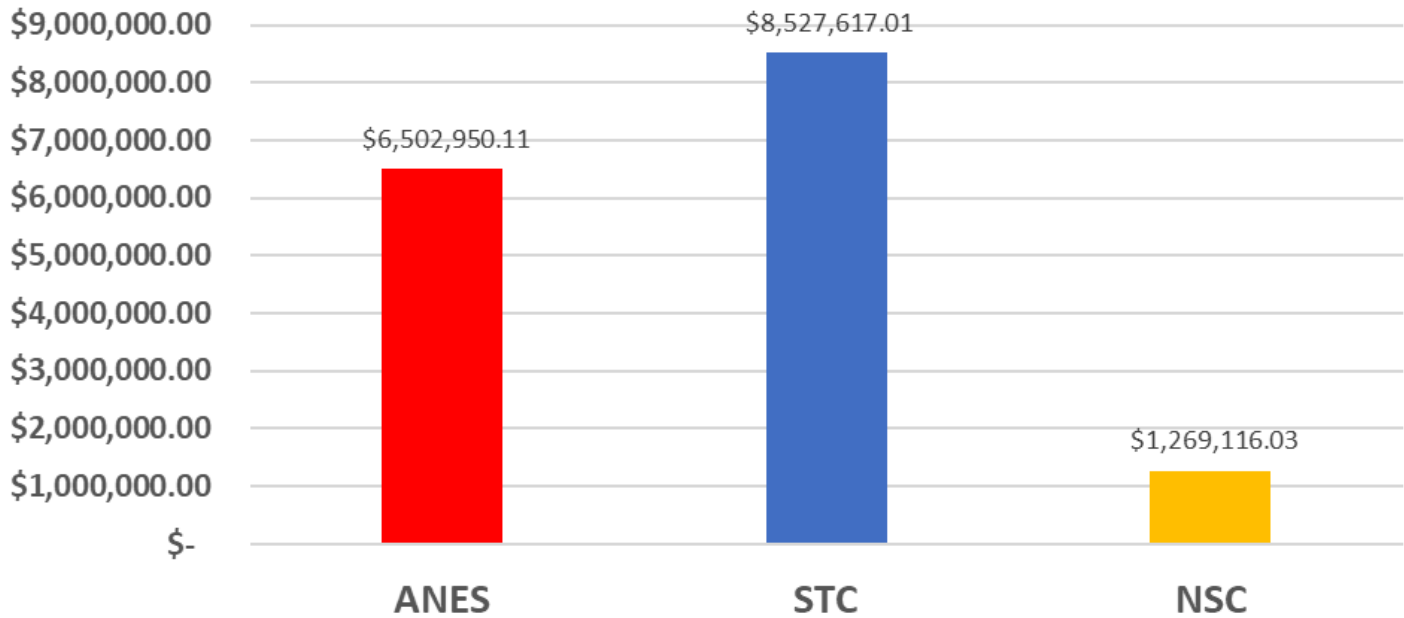




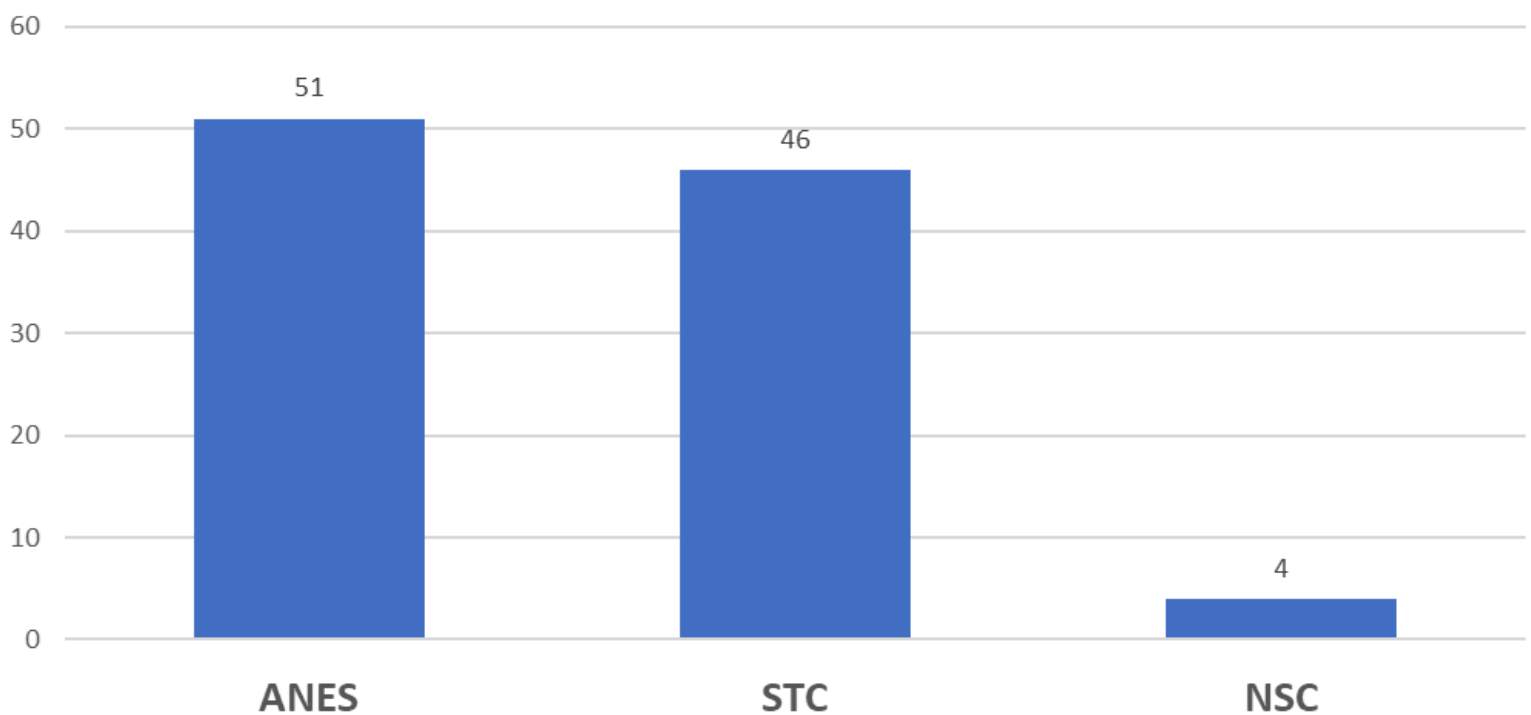


# FY25 STAR Funding

## Research funding - by Department Total-\$16,299,683



## Proposals submitted- by Department Total- 101 submissions





# Active Clinical Studies

## Anesthesiology

Principal Investigator	Study - Short Title	Sponsor	Enrolled FY25	Total Enrolled
Wei Chao	SEPSIS study	IARS/NIH	40	119
Samuel Galvagno	CPRM Study	UMD/NIH	86	320
Reney Henderson	CRYPTICS	Cellphire, Inc	0	4
Patrick Odonkor	ANH and AKI	PI-initiated	37	37
Brittney Williams	Plasma EVs in CPB	PI-initiated	26	26

## Shock Trauma

### Clinical Research Team (CRT)

Principal Investigator	Study - Short Title	Sponsor	Enrolled FY25	Total Enrolled
Gary Schwartzbauer	ARTIC	DoD	5	14
Rosemary Kozar	BIOBANK	Trauma	4250	12373
Gary Schwartzbauer	BOOST_3	NIH	0	1
Mira Ghneim	BRIGHT	MPOWER	18	44
Deborah Stein	CIREN 2	NHTSA	72	78
Deborah Stein	CIREN MCC	NHTSA	11	11
Samuel Tisherman	EPR	DoD	1	13
Melike Harfouche	HIPS	AAST	9	73
Kinjal Sethuraman	HOBIT	NIH	4	23
Rosemary Kozar	MAUI	DoD	80	80
Rosemary Kozar	MAUI 2	DoD	25	25
Neeraj Badjatia	MTEC	MTEC/DOD	12	65
Melike Harfouche	PRE-PELVIS	AAST	7	7
Konstantin Birukov	POCBH	UMD/NIH	68	181
William Teeter, Peter Hu	RITMO	DARPA	395	512
William Teeter, Peter Hu	RITMO2	DARPA	168	168
Deborah Stein	SCENARIO	NIH	126	261
Deborah Stein	TROOP	NIH	41	51

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

The **Clinical Research Team (CRT)** is onsite 24/7 and assesses over 5,500 STC admissions annually upon arrival for research inclusion.



# Active Clinical Studies

RMS alerts for prospective observational studies	
7/1/2024-6/30/2025	
Study	Alerts Sent
TRAUMA INJURY LAB	249
BLUNT AORTIC INJURY	36
PEDIATRIC C-SPINE	71
REBOA	8
LIVER/SPLEEN INJURY	48
THORACOTOMY	28
RETRO_TBI	121

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.

Neurocritical Care				
Principal Investigator	Study Short Title	Sponsor	Enrolled FY25	Total Enrolled
Gunjan Parikh	DISCOVERY	MGH/NIH	9	240
Gunjan Parikh	REACH-ICH	MGH/NIH	9	11
Nicholas Morris	WHOL-PAIN	U of Florida (DUA)	6	26
Prajwal Ciryam	REACH CSF	N/A	39	538





# Grant Proposal Submission

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



## NIH- Upcoming Grant Deadlines



### **Announcement: NIH Initiative to Prioritize Human-based Research**

On April 29, NIH announced it is prioritizing human-focused research and reducing animal use in research.

### **New**

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

### **Renewal / Resubmission**

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

# New Awards



## Anesthesiology



**Molly Goodfellow, PhD**

AFOSR–Air Force Office of Scientific Research

*"Deferoxamine as a Resuscitative Adjuvant to Mitigate Damage Caused by Combined Traumatic Brain Injury, Hemorrhagic Shock, and Delayed Hypobaric Exposure"*

\$1,270,100.00



**Lin Zou, MD, PhD**

AFOSR–Air Force Office of Scientific Research

*"Targeting Extracellular miRNAs Sensing in Trauma-Induced Acute Lung Injury"*

\$1,237,574.00

NIAID (MPI: Ryan Pearson)

*"Multimodal Nanoparticles for Severe Inflammation and Sepsis"*

\$3,421,030

## Shock Trauma



**Neeraj Badjatia, M.D., M.S**

AFOSR–Air Force Office of Scientific Research

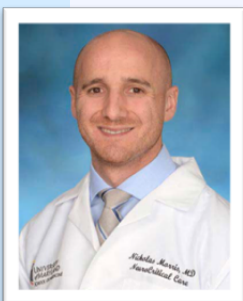
*"Measuring Dysautonomia for the Rapid Determination and Progression of TBI"*

\$2,339,382.80

University of Texas Health Science Center at San Antonio/NIH

*"Biomarkers of Cerebral Edema after Subarachnoid Hemorrhage"*

\$121,090.00



**Nicholas A. Morris, MD, FAAN, FNCS**

American Academy of Neurology

*"Simulation-Based Mastery Learning to Assess and Ensure Competency in Brain Death/Death by Neurologic Criteria Determination"*

\$10,000.00

# New Awards



***Sarah Murthi, MD***

UMD/NSF

*"UMB MIXR Projects, Year 1: Markerless Registration and Cybersickness"*

\$141,183.00



***Elizabeth Powell, MD***

AFOSR-Air Force Office of Scientific Research

*"Rescue, Recycle, Restore, Resuscitate, Recover, ReVive, In Vivo Validation Studies"*

\$1,013,566.00



***Kinjal N. Sethuraman, MD, MPH***

The Johns Hopkins University Applied Physics Laboratory LLC/DOD

*"Hyperbaric Chamber Dive Tests"*

\$228,496.00



***William Teeter, MD / Peter F. Hu, PhD***

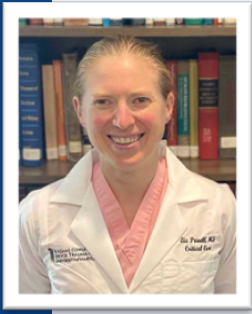
AFOSR-Air Force Office of Scientific Research

*"Triage Clinical Decision Support for Prolonged Field Care Scenarios"*

\$2,999,336.00



# Honors & Highlights



## ***STAR "Shark Tank" Winner: Dr. Elizabeth Powell***

*Dr. Elizabeth Powell won this year's School of Medicine "Shark Tank" competition, receiving \$50,000 to pilot a military-developed mobile app called BATDOK-J. The app allows first responders to send de-identified patient information—such as vital signs—directly to the hospital, helping medical teams prepare before the patient arrives.*

*The project is a collaboration between the Air Force Research Laboratory and UMB researchers, aimed at improving emergency care and patient handoffs.*

*Congratulations to Dr. Powell on this well-deserved recognition and exciting opportunity!*



## ***Congratulations to Drs. Prajwal Ciryam, Mira Ghneim and Brittney Williams - 2025 AHEAD Scholar***

We are excited to celebrate Drs. Prajwal Ciryam, Mira Ghneim, and Brittney Williams on being selected as 2025 Burroughs Wellcome Scholars through the prestigious AHEAD Program. This distinguished honor includes a \$30,000 grant from the Burroughs Wellcome Fund, recognizing their outstanding work, innovative vision, and steadfast commitment to advancing health equity and academic excellence.

Congratulations to all three scholars on this well-deserved achievement!



## ***Dr. Konstantin Birukov Receives UM-BILD Accelerator Grant for Chronic Pain Research***

We're excited to announce that Dr. Konstantin Birukov has received a UM-BILD Accelerator Pilot Grant for his project on a novel non-opioid treatment for chronic pain.

Launched in 2023, the UM-BILD program supports early-stage healthcare innovations with funding and mentorship. Dr. Birukov's project is one of eight pilots selected for its potential to improve patient care.

Congratulations to Dr. Birukov on this achievement!



# Honors & Highlights



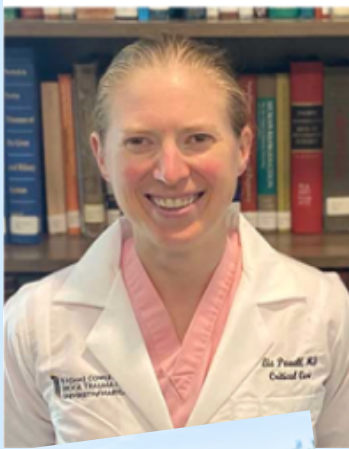
## **Dr. Junfang Wu Named Matjasko Professor of Anesthesiology Research**

We are thrilled to announce that Dr. Junfang Wu was honored as the Matjasko Professor of Anesthesiology Research during the Investiture Ceremonies in June 2025. This prestigious recognition highlights Dr. Wu's outstanding contributions to traumatic brain and spinal cord injury research and her dedication to advancing the field. Congratulations, Dr. Wu, on this well-deserved honor!





# Researcher in the SPOTLIGHT



## **Elizabeth K. Powell, MD** **Associate Professor**

**Dr. Elizabeth K. Powell** is an Associate Professor of Emergency Medicine and Surgery at the University of Maryland School of Medicine and intensivist at the R Adams Cowley Shock Trauma Center. Liz Completed her medical school at the University of Pennsylvania School of Medicine and residency in emergency medicine at the Hospital of the University of Pennsylvania. After residency, Dr. Powell completed an Emergency Medical Services fellowship at the University of Cincinnati. After working at the University of Cincinnati in the emergency department and in various leadership roles in emergency medical services, Dr. Powell completed an Anesthesia Critical Care Fellowship before accepting a position at the R Adams Shock Trauma Center and University of Maryland. In addition, Liz has been a member of the United States Air Force Reserve for 13 years.

Dr. Powell's research spans preclinical and clinical research. She has a particular interest in knowledge products, therapeutics, and devices that improve the care of the injured warfighter. She is the PI of the Advanced Resuscitation in Combat Casualty Care Laboratory (ARC3). The laboratory space is specifically designed to conduct research and collaborate with other agencies to develop products with a warfighter focus and is outfitted with all equipment necessary to do advanced research into such topics as extracorporeal support, hemorrhage control and complication mitigation, and research into advanced tactical combat casualty care training strategies. All research and development has associated civilian care and homeland applications.

Current projects are seeking to improve blood utilization in austere environments, expand prehospital data capture and collection, and mitigate ischemia reperfusion injury. Through the laboratory's work, Dr. Powell hopes to develop strategies to extend the Golden Hour, provide medical providers with advanced methods to care for critically injured patients, and ultimately save lives.

### **Recent Publications:**

- **Powell EK**, Betzold R, Lammers DT, Podell J, Wan R, Teeter W, Hardin RD, Scalea TM, Galvagno SM. Veno-Venous Extracorporeal Membrane Oxygenation Improves Outcomes in Trauma Patients Suffering Respiratory Failure. *Shock*. 2024. Epub 20241024. PubMed [PMID: 39456115](#).
- **Powell EK**, Reynolds T, Webb JK, Kundi R, Keville M, Anderson DH, Matta AE, Juhasz S, Taylor BS, Galvagno S, Scalea TM. Validation of a Training Model for Austere Veno-Venous Extracorporeal Membrane Oxygenation Cannulation and Management. *J Spec Oper Med*. 2024. Epub 20241202. PubMed [PMID: 39621009](#).
- **Powell EK**, Betzold R, Hardin RD, Biberston J, Hathaway E, Tripp MS, Sams VG, Holcomb JB, Gurney JM, Tadlock MD. The incidence, outcome, and treatment of advanced organ failure and support after trauma: A review with implications for future large-scale combat operations. *J Trauma Acute Care Surg*. 2025 Jun 19. Epub ahead of print. [PMID: 40539974](#).





Did you know? The Shock Trauma Biobank now holds over 16,000 samples from more than 12,000 patients, representing one of the most comprehensive collections of its kind.

Plasma samples collected at the time of patient arrival are available to STAR faculty for use in clinical or translational research. This is a valuable resource for investigators looking to explore trauma-related mechanisms, biomarkers, and outcomes.

For more information on sample availability, patient population details, or associated costs, please contact:

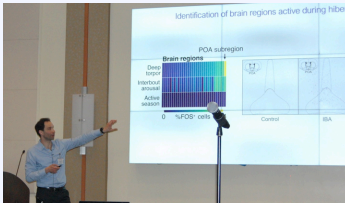
- Mark Scarboro: [Mscarboro@som.umaryland.edu](mailto:Mscarboro@som.umaryland.edu)
- Dr. Rosemary Kozar: [RKozar@som.umaryland.edu](mailto:RKozar@som.umaryland.edu)



# Anesthesiology Research Retreat

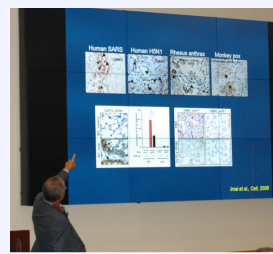
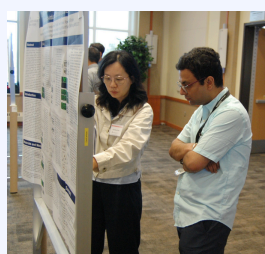
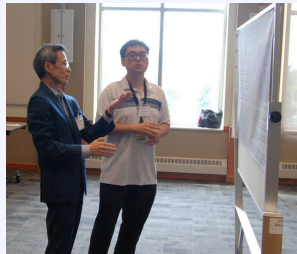
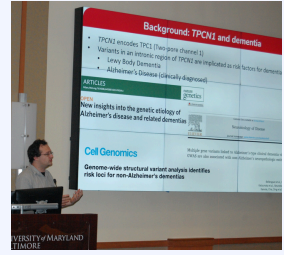


The Department of Anesthesiology held its 4th Annual Research Retreat on May 16, 2025, bringing together faculty, fellows, and students to share their latest scientific discoveries and foster collaboration.



**Dr. Sinisa Hrvatin** from MIT delivered a compelling keynote on *"The Biology of Mammalian Torpor and Hibernation,"* sparking lively discussion among attendees.

The retreat offered a vibrant platform for sharing innovative ideas and exploring new directions in basic and clinical anesthesiology research. With 26 abstracts submitted, the event featured a dynamic mix of oral and poster presentations across a wide range of cutting-edge topics.



Four outstanding abstracts by **Chanhee Park, Yongdae Yoon, Kamoltip Promnares, and Yijia Li** were selected for special recognition through the retreat's awards program — an initiative aimed at celebrating excellence and encouraging future participation.

With 70 participants and overwhelmingly positive feedback, the retreat was a great success, with strong support for continuing the tradition in future years.







# STAR Seminar

## STAR Seminar Series

The STAR Seminar Series plays a vital role in advancing our research and educational missions, with a meaningful impact across basic, translational, and clinical investigation.

Have a guest you'd like to invite?  
Drs. Brittney Williams and Chinmoy Sarkar will coordinate 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)



## STAR Seminar FY2025

Date	Speaker	Topic	Guest Host
9/23/24	<b>Jeffrey Huang, PhD</b> Georgetown University	<i>Role of microglia in CNS myelin regeneration</i>	Marta Lipinski
11/18/24	<b>Michal Hetman MD, PhD</b> University of Louisville	<i>Role of the integrated stress response in pathogenesis of the traumatic spinal cord injury</i>	Junfang Wu
12/16/24	<b>Alfred Ayala, PhD</b> Brown University	<i>Some Unique Roles for Checkpoint Proteins in the Dys-homeostatic Process of Shock/Sepsis</i>	Lin Zou
1/27/25	<b>Tae-In Kam, PhD</b> Johns Hopkins University	<i>PARKinson's Disease: Role of Poly (ADP-ribose) (PAR) in <math>\alpha</math>-synuclein Neurodegeneration</i>	Marta Lipinski
3/3/25	<b>Heather Ferris, MD, PhD</b> University of Virginia	<i>Cholesterol as a Mediator of Neuroinflammation and Alzheimer's Disease</i>	Brian Polster
4/14/25	<b>Yang Yang, PhD</b> Purdue University	<i>SCN2A related autism and epilepsy: from mouse and hiPSC models to genetic medicine</i>	Junfang Wu
6/30/25	<b>John Lukens, PhD</b> University of Virginia	<i>Causes and Consequences of Defective Brain Lymphatic Drainage in Head Trauma</i>	James Barret





# 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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### ***Shan Li***

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