



TEXAS A&M HEALTH  
Institute of Pharmacology  
and Neurotherapeutics



American Epilepsy Society Supported

# National Workshop on Experimental Models of Post-Traumatic Epilepsy

March 10, 2023

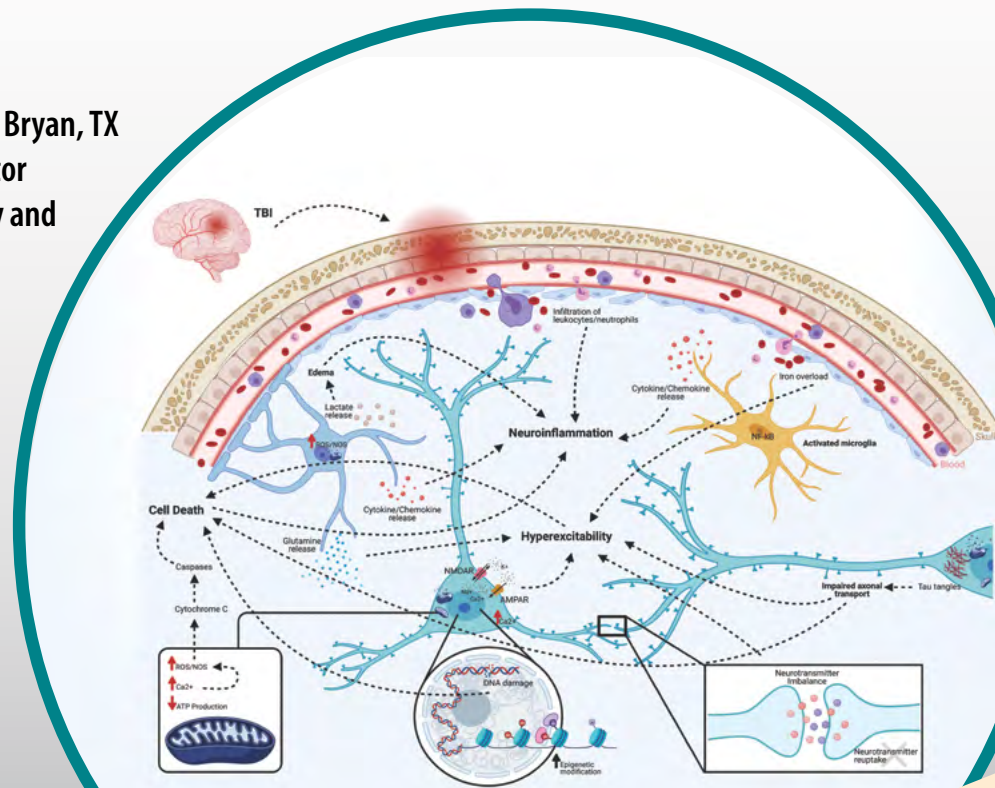
Texas A&M University Health Science Center, Bryan, TX

Chair: Dr. Samba Reddy, Professor and Director

Texas A&M Health Institute of Pharmacology and  
Neurotherapeutics

<https://ipn.tamu.edu>

Venue: Texas A&M Health Science Center,  
8447 Riverside Parkway, HPEB Bldg #LL43AB,  
Bryan, TX 77807



The Texas A&M Health Institute of Pharmacology and Neurotherapeutics (IPN) is hosting AES-sponsored “**National Workshop on Experimental Models of Post-Traumatic Epilepsy (PTE)**” for Junior Investigators. The IPN team invites you or your colleagues to learn the various facets of PTE research to discover and advance therapeutic agents. This Workshop will impart insightful and rigorous courses about animal models, lab protocols, biomarkers and therapeutic interventions for TBI seizures and post-traumatic epileptogenesis.

## Contact Information

### Workshop Chair

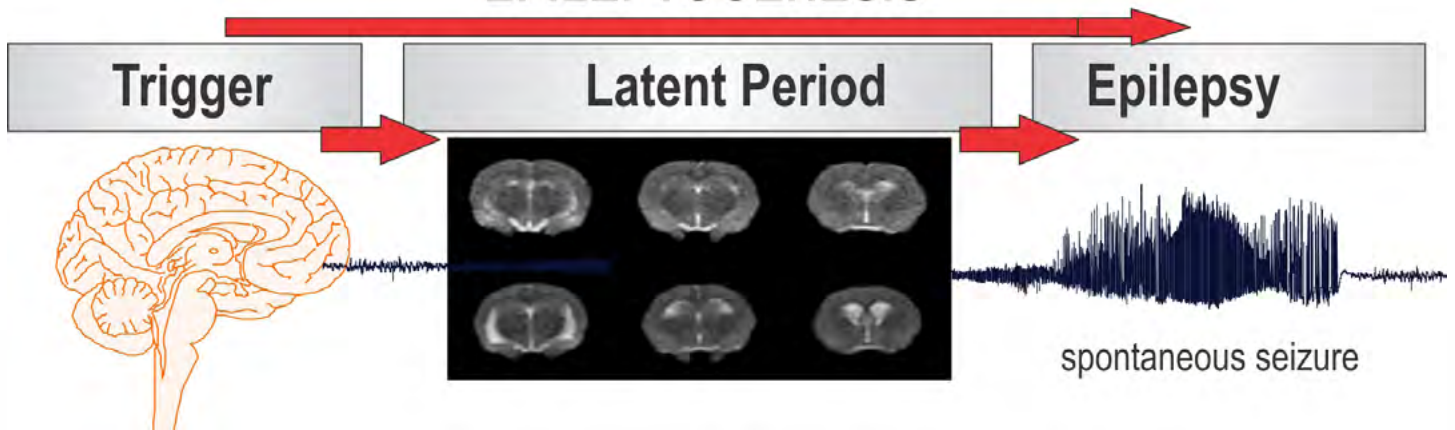
Dr. SAMBA REDDY, Director, Texas A&M Institute of Pharmacology and Neurotherapeutics  
Professor, Neuroscience and Experimental Therapeutics; Engineering Medicine, Biomedical Engineering  
Texas A&M University Health Science Center, School of Medicine  
8447 Riverside Pkwy, Bryan, TX 77807  
Tel: 979-436-0324 | Email: [sambareddy@tamu.edu](mailto:sambareddy@tamu.edu)

### Workshop Staff

Dr. Sreevidhya Ramakrishnan, Postdoctoral Research Associate, Texas A&M School of Medicine  
Email: [sreevidh@tamu.edu](mailto:sreevidh@tamu.edu)



# EPILEPTOGENESIS



## Workshop Overview

Traumatic brain injury (TBI) is a leading cause of epilepsy in military persons and civilians. Spontaneous recurrent seizures (SRS) occur in the months or years following the injury, which is referred to as post-traumatic epilepsy (PTE). Currently, there is no effective treatment or cure for PTE, therefore, there is a great need to expand the research workforce in PTE research. The main objective of this AES-sponsored workshop is to provide research training on PTE models with presentations and lab demonstrations to junior investigators. Panelists will present and discuss lab protocols and approaches to learning PTE models, with ample time for Q&A. This workshop, chaired by Dr. Samba Reddy (Texas A&M) and expert researchers from leading institutes, is designed to offer deep insights into how TBI induction can lead to epileptogenesis and discuss PTE model protocols. It aims to help educate and expose researchers to exciting PTE research and provide opportunities for young investigators to interact with leaders in the field. There is no registration fee. Sessions are in-person with a Zoom option available. Early-stage investigators, graduate students, postdocs, and research scientists will benefit from training in the cutting-edge innovative research of PTE. The Texas A&M team and speakers are excited to offer this workshop, which will help to educate researchers interested in pursuing research on TBI-induced epilepsy and interventions for PTE and its comorbidities.

## Who Should Attend?

Junior Investigators (graduate and undergraduate students, technicians, research assistants, postdocs); Faculty Investigators; and Government and industry participants interested in PTE research.

This Workshop is designed for junior researchers and research staff who are engaged, or would like to become engaged, in PTE research and therapeutic development. Senior academic faculty and research professionals are also invited to participate and engage in deliberations on TBI epilepsy research.

## Benefits of Attending

- One full day of presentations, panel discussions, and networking.
- The top research experts share their knowledge and lessons learned.
- Gain critical insight into TBI & PTE models, platforms, and systems.
- Learn how to overcome challenges in recording EEGs for long-term monitoring and analysis.
- Discover critical approaches, agents, and design attributes for drug intervention studies.
- Learn how to overcome challenges for screening new agents in PTE models and systems.

## Workshop Objectives

This PTE workshop is an intensive 1-day course that will provide participants with the various facets of experimental PTE research to begin and/or advance preclinical projects on post-traumatic epileptogenesis.

The workshop will impart participants with a comprehensive blueprint of various PTE models, study protocols, biomarkers and outcomes, and the screening of therapeutics agents for treatment/ prevention of PTE.

This workshop will provide hands-on training on PTE models with presentations and lab demos. Panelists will present and discuss lab protocols and approaches to learning PTE models to participants, with ample time for Q&A. Participants will learn:

- PTE Overview and the merits of various PTE models
- The Bench Demo: How to induce a TBI and trigger PTE in animals
- The Lab Demo: How to set up and monitor video-EEG in animals
- Designing a successful intervention in PTE model and research plan
- Artificial Intelligence for seizure prognosis
- Experimental Pitfalls: How to avoid mistakes new researchers make
- Closing networking reception

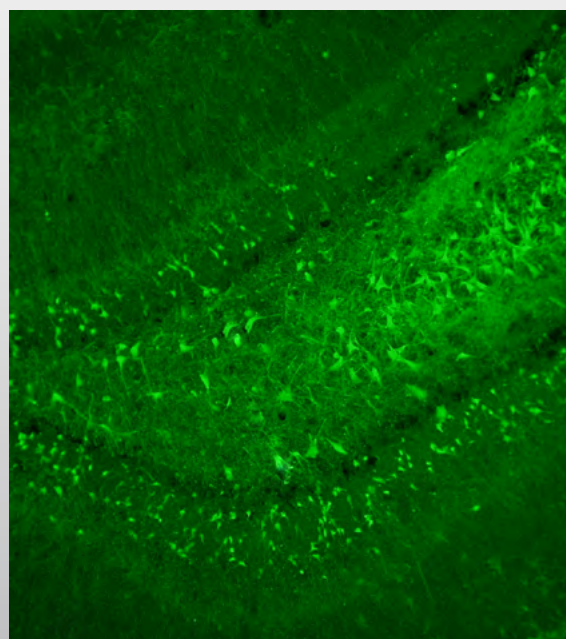
## Workshop Topics

- Introduction and Overview of Workshop (Chair)
- Opening Session (keynote)
- Overview of Brain Response Following TBI and Modeling of PTE
- Small Animal Models
- Cortical Impact Injury Model of PTE in Mice
- Fluid Percussion Injury Model of PTE in Rats
- Closed-Head Injury Model of TBI in Rats
- Large Animal Models
- Diffuse Injury Model of PTE in Pigs
- Canine Model of TBI and Injury
- Biomarkers and Biological Variables
- Biomarkers of Experimental PTE
- Age- and Sex-specific Differences in PTE Models
- Therapeutic Screening and Outcomes
- Experimental Approaches for PTE Interventions
- Novel Disease-Modifying Therapeutics for PTE
- Translational Impact of Sleep in PTE Models
- Closing session (keynote)
- Artificial Intelligence for Epilepsy Prognostics

## Program Schedule & Speakers

The Workshop faculty represent the world-renowned researchers in PTE and neurotherapeutic research. They are drawn from academia, industry and government and have excellent expertise and experience. Program schedule available at:

<https://ipn.tamu.edu/national-workshop-pt.html>



Program Schedule • March 10, 2023	
<b>8:10-8:30 AM Introduction &amp; Opening Remarks (Chair)</b> Samba Reddy, PhD/RPh, Professor & Director, Texas A&M Institute of Pharmacology and Neurotherapeutics	
<b>8:30-9:00 AM OPENING SESSION &amp; KEYNOTE ADDRESS</b> <b>Overview of Brain Response Following TBI &amp; Modeling of PTE</b> Ben Churn, Ph.D., Program Director, Channels, Synapses, and Circuits, NIH/NINDS, Rockville, MD.	
SMALL ANIMAL MODELS	<b>9:00-9:40 AM Cortical Impact Injury Model of PTE in Mice (PTE Protocol #1)</b> D. Samba Reddy, PhD, RPh, Professor, Texas A&M University College of Medicine, Bryan, TX.
	<b>9:40-10:20 AM Fluid Percussion Injury Model of PTE in Rats (PTE Protocol #2)</b> Lee Shapiro, PhD, Associate Professor, Texas A&M College of Medicine, Bryan, TX.
	<b>10:20-11:00 AM Closed-Head Injury Model of TBI in Rats (PTE Protocol #3)</b> Ashok Shetty, PhD, Professor, Texas A&M University College of Medicine, Bryan, TX.
11:00-11:20 AM Break	
LARGE ANIMAL MODELS	<b>11:20-NOON Diffuse Injury Model of PTE in Pigs (PTE Protocol #4)</b> John A. Wolf, PhD, Assistant Professor of Neurosurgery, University of Pennsylvania, PA.
	<b>NOON-12:40 PM Canine Model of TBI &amp; Injury (PTE Protocol #5)</b> Nicholas Jeffery, DVM, Professor, Texas A&M College of Veterinary Medicine, College Station, TX.
12:40-1:30 PM Lunch & Networking	
BIOMARKERS & BIOLOGICAL VARIABLES	<b>1:30-2:10 PM Biomarkers of Experimental PTE</b> Asla Pitkänen, PhD, Professor, University of Eastern Finland, Kuopio, Finland.
	<b>2:10-2:50 PM Age and Sex-specific Differences in PTE Models</b> Aristeia S. Galanopoulou, MD, PhD, Professor, Albert Einstein College of Medicine, Bronx, NY.
2:50-3:00 PM Break	
THERAPEUTIC SCREENING & OUTCOMES	<b>3:00-3:40 PM Experimental Approaches for PTE Interventions</b> Detlev Boison, PhD, Professor, Rutgers University Medical School, New Brunswick, NJ.
	<b>3:40-4:20 PM Novel Disease-Modifying Therapeutics for PTE</b> Chris Dulla, PhD, Associate Professor, Tufts University School of Medicine, Boston, MA.
	<b>4:20-5:00 PM Translational Impact of Sleep in PTE Models</b> Rama Maganti, MD, Professor, Department of Neurology, University of Wisconsin-Madison, WI.
<b>5:30-7:30 PM Networking Reception &amp; Keynote Address</b> <b>Artificial Intelligence for Epilepsy Prognostics</b> Roderic Pettigrew, PhD, MD (NAM, NAE, NAI), CEO EnHealth, Professor and Inaugural Dean, School of Engineering Medicine, Texas A&M University and Houston Methodist Hospital, Houston, TX.	

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# National Workshop on Experimental Models of Post-Traumatic Epilepsy

**MARCH 10, 2023**  
**REGISTRATION IS FREE**

Texas A&M University Bryan Campus,  
HPEB Bldg, Lecture Hall #LL43AB  
8447 Riverside Parkway  
Bryan, TX 77807



## REGISTRATION DEADLINE

February 10, 2023

This Workshop is Supported  
by a grant from the American  
Epilepsy Society

## Workshop Outcomes

The Workshop lectures and video clips will be available for viewing after the course ends. The proceedings of this workshop, especially the experimental protocols and overview of various models discussed, will be published in a special issue of *Epilepsia* or *Current Protocols* journal.



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## Event Details

### **IN-PERSON & ZOOM**

Zoom links will ONLY be sent to registered participants.

### **IN-PERSON REGISTRATION INCLUDES**

Lunch, refreshments and Networking Reception hosted by the organizer.

## Traveling To College Station

### **BY CAR**

Texas A&M University is located in College Station, Texas, about 90 minutes by car northwest of Houston, and under 2 hours by car east of Austin.

### **FLYING TO COLLEGE STATION (CLL)**

American Airlines serves Easterwood Airport (CLL) in College Station via Dallas Fort Worth International Airport (DFW).

### **FLYING TO HOUSTON (IAH) + SHUTTLE TRANSFER**

You can also fly to George Bush Intercontinental Airport (IAH) in Houston and then take a shuttle to College Station (<https://www.groundshuttle.com/>), which takes about 90 minutes and drops you off at your hotel.

## Lodging

### **HOTEL ACCOMMODATIONS**

There are several hotel options near the Texas A&M Campus. We recommend [The Stella Hotel](#) and [The George](#).

## Venue & Parking

### **CONFERENCE LOCATION & PARKING**

The conference will take place in the Health Professionals Education Building (HPEB) on the Texas A&M HSC campus, where the School of Medicine is located. Visitor parking is available in the main parking lot in front of Clinical Building 1 for a maximum of an hour. Parking over an hour will require a daily temporary permit.

### **QUESTIONS?**

Email Dr. Sreevidhya Ramakrishnan at [sreevidh@tamu.edu](mailto:sreevidh@tamu.edu)