

# FINAL PROGRAM



# ANA

**148TH ANNUAL MEETING**  
OF THE AMERICAN NEUROLOGICAL ASSOCIATION

# 2023

**PHILADELPHIA, PA**  
SEPTEMBER 9-12 • OPENING SYMPOSIUM SEPTEMBER 9

*Please note: all session times are listed in Eastern Daylight Time.*



**AMERICAN  
NEUROLOGICAL  
ASSOCIATION**  
INNOVATORS IN DISCOVERY,  
EDUCATION, AND CARE

[2023.myana.org](https://2023.myana.org) | [#ANA2023](https://twitter.com/ANA2023)

Please join us for an Eisai Inc. Satellite Symposium

# Alzheimer's disease: an expert discussion on the evolving treatment landscape

**Sunday, September 10, 2023**  
**7:30–8:30 PM ET**

Franklin Hall 2 | Philadelphia Marriott Downtown  
Philadelphia, PA

*Light catering will be offered*



**Darren Gitelman, MD, FAAN, FANA**

Director of Cognitive Disorders, Advocate Medical Group  
Neurosciences Medical Research Director  
Senior Medical Director, Advocate Memory Center  
Advocate Lutheran General Hospital  
Chicago, IL



**Jessica Zwerling, MD, MS**

Director, Montefiore Hudson Valley Center of Excellence  
for Alzheimer's Disease (CEAD)  
Professor of Neurology, Albert Einstein College of Medicine  
New York, NY

With the advent of disease-modifying treatments for patients with early Alzheimer's disease, neurologists and primary care providers will encounter new challenges from patients, their families, and care partners in primary and secondary care settings.

Join us for a lively discussion between two prominent clinical experts who will provide insights on the evolving diagnostic and treatment landscape of patients with Alzheimer's disease. This session will provide the opportunity to learn more about clinical management and the feasible implementation of new treatments for patients with Alzheimer's disease.

**We look forward to an informative session and hope to see you there!**



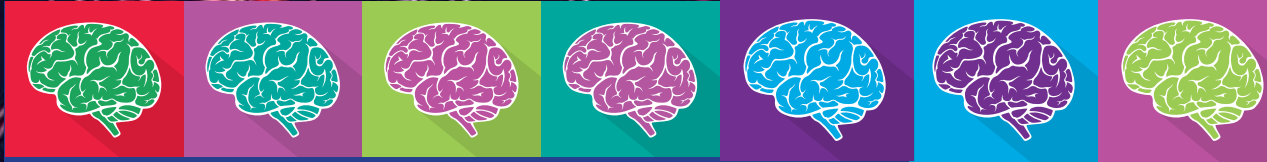
*hvc*  
human health care

This event is not sponsored or programmed by the American Neurological Association. There are no continuing medical education (CME) credits for this symposium.

@2023 Eisai Inc. July 2023 PIPN-M3159

[Click or tap here to register](#)





Enjoy scientific symposia highlighting cutting-edge research in neurology, poster sessions with the latest emerging science, and professional development workshops to help academic neurologists and neuroscientists at all career levels connect and excel at ANA2023.

## TABLE OF CONTENTS

Welcome.....	11
Schedule at a Glance.....	14
General Information.....	17
Program By Day.....	20
Friday, September 8, 2023 .....	20
Saturday, September 9, 2023 .....	21
Sunday, September 10, 2023.....	25
Monday, September 11, 2023.....	41
Tuesday, September 12, 2023 .....	54
Satellite Symposia.....	64
ANA2023 Awardees.....	65
Sponsors .....	74
ANA2023 Abstract Reviewers.....	75
ANA2023 Committees .....	79
Save the Date .....	82

# Understanding Huntington's Disease (HD) Chorea: The Underlying Disease, Impact, and a Treatment Option

## PROGRAM INFORMATION

Saturday, September 9, 2023  
3:00 pm–4:00 pm ET  
Franklin Hall 1  
Fourth Floor  
Philadelphia Marriott Downtown  
Philadelphia, PA

*The speaker is presenting on behalf of and is a paid consultant for Neurocrine Biosciences.*

## PRESENTED BY



**Robert Fekete, MD**  
Associate Professor  
Department of Neurology  
New York Medical College  
Staff  
Department of Neurology  
Westchester Medical Center  
Valhalla, NY

Please visit us at Booth 2

## PROGRAM OBJECTIVES

- > Provide an overview of Huntington's disease (HD), with a focus on chorea
- > Review the many functional, social, and emotional impacts of HD chorea on patients and caregivers
- > Share new clinical data for an FDA-approved treatment for HD chorea, including real patient cases featuring videos before and after treatment

## Important Information

### INDICATION & USAGE

INGREZZA® (valbenazine) capsules is indicated in adults for the treatment of tardive dyskinesia and for the treatment of chorea associated with Huntington's disease.

### IMPORTANT SAFETY INFORMATION

**Depression and Suicidality in Patients with Huntington's Disease: VMAT2 inhibitors, including INGREZZA, can increase the risk of depression and suicidal thoughts and behavior (suicidality) in patients with Huntington's disease. Balance the risks of depression and suicidality with the clinical need for treatment of chorea. Closely monitor patients for the emergence or worsening of depression, suicidal ideation, or unusual changes in behavior. Inform patients, their caregivers, and families of the risk of depression and suicidal ideation and behavior and instruct them to report behaviors of concern promptly to the treating physician. Exercise caution when treating patients with a history of depression or prior suicide attempts or ideation, which are increased in frequency in patients with Huntington's disease.**

### CONTRAINDICATIONS

INGREZZA is contraindicated in patients with a history of hypersensitivity to valbenazine or any components of INGREZZA.

### WARNINGS & PRECAUTIONS

#### Hypersensitivity Reactions

Hypersensitivity reactions, including cases of angioedema involving the larynx, glottis, lips, and eyelids, have been reported in patients after taking the first or subsequent doses of INGREZZA. Angioedema associated with laryngeal edema can be fatal. If any of these reactions occur, discontinue INGREZZA.

#### Somnolence and Sedation

INGREZZA can cause somnolence and sedation. Patients should not perform activities requiring mental alertness such as operating a motor vehicle or operating hazardous machinery until they know how they will be affected by INGREZZA.

#### QT Prolongation

INGREZZA may prolong the QT interval, although the degree of QT prolongation is not clinically significant at concentrations expected with recommended dosing. INGREZZA should be avoided in patients with congenital long QT syndrome or with

### WARNINGS & PRECAUTIONS (continued)

arrhythmias associated with a prolonged QT interval. For patients at increased risk of a prolonged QT interval, assess the QT interval before increasing the dosage.

#### Neuroleptic Malignant Syndrome

A potentially fatal symptom complex referred to as Neuroleptic Malignant Syndrome (NMS) has been reported in association with drugs that reduce dopaminergic transmission, including INGREZZA. The management of NMS should include immediate discontinuation of INGREZZA, intensive symptomatic treatment and medical monitoring, and treatment of any concomitant serious medical problems. If treatment with INGREZZA is needed after recovery from NMS, patients should be monitored for signs of recurrence.

#### Parkinsonism

INGREZZA may cause parkinsonism. Parkinsonism has also been observed with other VMAT2 inhibitors. Reduce the dose or discontinue INGREZZA treatment in patients who develop clinically significant parkinson-like signs or symptoms.

### ADVERSE REACTIONS

The most common adverse reaction in patients with tardive dyskinesia ( $\geq 5\%$  and twice the rate of placebo) is somnolence.

The most common adverse reactions in patients with Huntington's disease ( $>5\%$  and twice the rate of placebo) are somnolence/lethargy/sedation, urticaria, rash, and insomnia.

You are encouraged to report negative side effects of prescription drugs to the FDA. Visit MedWatch at [www.fda.gov/medwatch](http://www.fda.gov/medwatch) or call 1-800-FDA-1088.

**Please see the adjacent page for Brief Summary of Prescribing Information and visit [Neurocrine.com/INGREZZAPI](http://Neurocrine.com/INGREZZAPI) for full Prescribing Information, including Boxed Warning.**



**Brief Summary:** for full Prescribing Information and Patient Information, refer to package insert.

## INDICATIONS AND USAGE

INGREZZA® (valbenazine) capsules is indicated in adults for the treatment of tardive dyskinesia and for the treatment of chorea associated with Huntington's disease.

## WARNING: DEPRESSION AND SUICIDAL IDEATION AND BEHAVIOR IN PATIENTS WITH HUNTINGTON'S DISEASE

VMAT2 inhibitors, including INGREZZA, can increase the risk of depression and suicidal thoughts and behavior in patients with Huntington's disease. Anyone considering the use of INGREZZA must balance the risks of depression and suicidal ideation and behavior with the clinical need for treatment of chorea. Closely monitor patients for the emergence or worsening of depression, suicidal ideation, or unusual changes in behavior. Inform patients, their caregivers, and families of the risk of depression and suicidal ideation and behavior and instruct them to report behaviors of concern promptly to the treating physician.

Particular caution should be exercised in treating patients with a history of depression or prior suicide attempts or ideation, which are increased in frequency in patients with Huntington's disease.

## CONTRAINDICATIONS

INGREZZA is contraindicated in patients with a history of hypersensitivity to valbenazine or any components of INGREZZA. Rash, urticaria, and reactions consistent with angioedema (e.g., swelling of the face, lips, and mouth) have been reported.

## WARNINGS AND PRECAUTIONS

### Depression and Suicidal Ideation and Behavior in Patients with Huntington's Disease

Patients with Huntington's disease are at increased risk for depression, and suicidal ideation or behaviors. VMAT2 inhibitors, including INGREZZA, can increase the risk for suicidal ideation and behaviors in patients with Huntington's disease.

In a 14-week, double-blind, placebo-controlled trial, depression or depressed mood was reported in 4.7% of patients taking INGREZZA compared to 1.6% of patients who received placebo, and no patients taking INGREZZA reported suicidal ideation or behavior compared to 1 patient (1.6%) who received placebo. Patients with significant risk for suicidal behavior or with unstable psychiatric symptoms were excluded from this trial. Suicidal ideation (9 subjects; 7.2%) and suicide attempts (3 subjects; 2.4%) were reported in the longer open-label extension trial (N = 125).

When considering the use of INGREZZA, the risk of suicidal ideation and behaviors must be balanced against the need for treatment of chorea. All patients treated with INGREZZA should be observed for new or worsening depression, suicidal ideation or behaviors. If any of these reactions occur and do not resolve, consider discontinuing treatment with INGREZZA.

### Hypersensitivity Reactions

Hypersensitivity reactions, including cases of angioedema involving the larynx, glottis, lips, and eyelids, have been reported in the post-marketing setting in patients after taking the first or subsequent doses of INGREZZA. A case of angioedema involving the lips and face, with rash and shortness of breath was reported in a patient with Huntington's disease taking INGREZZA during a clinical study. Urticaria and rash were also reported during a clinical study in patients with Huntington's disease. Angioedema associated with laryngeal edema can be fatal. If any of these reactions occur, discontinue INGREZZA.

### Somnolence and Sedation

INGREZZA can cause somnolence and sedation, which was the most common adverse reaction in placebo-controlled trials. Patients should not perform activities requiring mental alertness such as operating a motor vehicle or operating hazardous machinery until they know how they will be affected by INGREZZA.

### QT Prolongation

INGREZZA may prolong the QT interval, although the degree of QT prolongation is not clinically significant at concentrations expected with recommended dosing. In patients taking a strong CYP2D6 or CYP3A4 inhibitor, or who are CYP2D6 poor metabolizers, INGREZZA concentrations may be higher and QT prolongation clinically significant. For patients who are CYP2D6 poor metabolizers or are taking a strong CYP2D6 inhibitor, dose reduction may be necessary. For patients taking a strong CYP3A4 inhibitor, reduce the dose of INGREZZA to 40 mg once daily. INGREZZA should be avoided in patients with congenital long QT syndrome or with arrhythmias associated with a prolonged QT interval. For patients at increased risk of a prolonged QT interval, assess the QT interval before increasing the dosage.

### Neuroleptic Malignant Syndrome (NMS)

A potentially fatal symptom complex referred to as Neuroleptic Malignant Syndrome (NMS) has been reported in association with drugs that reduce dopaminergic transmission. In the post-marketing setting, NMS has been reported in patients taking VMAT2 inhibitors, including INGREZZA. Clinicians should be alerted to the signs and symptoms associated with NMS. Clinical manifestations of NMS are hyperpyrexia, muscle rigidity, altered mental status, and evidence of autonomic instability (irregular pulse or blood pressure, tachycardia, diaphoresis, and cardiac dysrhythmia). Additional signs may include elevated creatine phosphokinase, myoglobinuria, rhabdomyolysis, and acute renal failure. The diagnosis of NMS can be complicated; other serious medical illness (e.g., pneumonia, systemic infection) and untreated or inadequately treated extrapyramidal disorders can present with similar signs and symptoms. Other important considerations in the differential diagnosis include central anticholinergic toxicity, heat stroke, drug fever, and primary central nervous system pathology.

The management of NMS should include (1) immediate discontinuation of INGREZZA; (2) intensive symptomatic treatment and medical monitoring; and (3) treatment of any concomitant serious medical problems for which specific treatments are available. There is no general agreement about specific pharmacological treatment regimens for NMS.

Recurrence of NMS has been reported with resumption of drug therapy. If treatment with INGREZZA is needed after recovery from NMS, patients should be monitored for signs of recurrence.

## Parkinsonism

INGREZZA may cause parkinsonism. Parkinsonism has also been observed with other VMAT2 inhibitors. In the 3 placebo-controlled clinical studies in patients with tardive dyskinesia, the incidence of parkinson-like adverse events was 3% of patients treated with INGREZZA and <1% of placebo-treated patients.

In a placebo-controlled clinical study in patients with chorea associated with Huntington's disease, the incidence of parkinson-like adverse events was 4.7% in patients treated with INGREZZA and 0% in placebo-treated patients. Because rigidity can develop as part of the underlying disease process in Huntington's disease, it may be difficult to distinguish between potential drug-induced parkinsonism and progression of underlying Huntington's disease. Drug-induced parkinsonism has the potential to cause more functional disability than untreated chorea for some patients with Huntington's disease.

Postmarketing safety reports have described parkinson-like symptoms in patients taking INGREZZA for tardive dyskinesia, some of which were severe and required hospitalization. In most cases, severe parkinsonism occurred within the first 2 weeks after starting or increasing the dose of INGREZZA. Associated symptoms have included falls, gait disturbances, tremor, drooling and hypokinesia. In cases in which follow-up clinical information was available, parkinson-like symptoms were reported to resolve following discontinuation of INGREZZA therapy. Reduce the dose or discontinue INGREZZA treatment in patients who develop clinically significant parkinson-like signs or symptoms.

## ADVERSE REACTIONS

The following clinically significant adverse reactions are discussed in more detail in other sections of the labeling:

- Depression and Suicidal Ideation and Behavior in Patients with Huntington's Disease
- Hypersensitivity Reactions
- Somnolence and Sedation
- QT Prolongation
- Neuroleptic Malignant Syndrome (NMS)
- Parkinsonism

### Clinical Trials Experience

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

### Tardive Dyskinesia

#### Variable and Fixed Dose Placebo-Controlled Trial Experience

The safety of INGREZZA was evaluated in 3 placebo-controlled studies, each 6 weeks in duration (fixed dose, dose escalation, dose reduction), including 445 patients. Patients were 26 to 84 years of age with moderate to severe tardive dyskinesia and had concurrent diagnoses of mood disorder (27%) or schizophrenia/schizoaffective disorder (72%). The mean age was 56 years. Patients were 57% Caucasian, 39% African-American, and 4% other. With respect to ethnicity, 28% were Hispanic or Latino. All subjects continued previous stable regimens of antipsychotics; 85% and 27% of subjects, respectively, were taking atypical and typical antipsychotic medications at study entry.

#### Adverse Reactions Leading to Discontinuation of Treatment

A total of 3% of INGREZZA-treated patients and 2% of placebo-treated patients discontinued because of adverse reactions.

#### Common Adverse Reactions

Adverse reactions that occurred in the 3 placebo-controlled studies at an incidence of  $\geq 2\%$  and greater than placebo are presented in Table 1.

**Table 1: Adverse Reactions in 3 Placebo-Controlled Studies of 6-week Treatment Duration Reported at  $\geq 2\%$  and >Placebo – Tardive Dyskinesia**

Adverse Reaction <sup>1</sup>	INGREZZA (n=262) %	Placebo (n=183) %
<b>General Disorders</b>		
Somnolence (somnolence, fatigue, sedation)	10.9	4.2
<b>Nervous System Disorders</b>		
Anticholinergic effects (dry mouth, constipation, disturbance in attention, vision blurred, urinary retention)	5.4	4.9
Balance disorders/fall (fall, gait disturbance, dizziness, balance disorder)	4.1	2.2
Headache	3.4	2.7
Akathisia (akathisia, restlessness)	2.7	0.5
<b>Gastrointestinal Disorders</b>		
Vomiting	2.6	0.6
Nausea	2.3	2.1
<b>Musculoskeletal Disorders</b>		
Arthralgia	2.3	0.5

<sup>1</sup>Within each adverse reaction category, the observed adverse reactions are listed in order of decreasing frequency.

#### Other Adverse Reactions Observed During the Premarketing Evaluation of INGREZZA

Other adverse reactions of  $\geq 1\%$  incidence and greater than placebo are shown below. The following list does not include adverse reactions: 1) already listed in previous tables or elsewhere in the labeling, 2) for which a drug cause was remote, 3) which were so general as to be uninformative, 4) which were not considered to have clinically significant implications, or 5) which occurred at a rate equal to or less than placebo.

*Endocrine Disorders:* blood glucose increased

*General Disorders:* weight increased

*Infectious Disorders:* respiratory infections

*Neurologic Disorders:* drooling, dyskinesia, extrapyramidal symptoms (non-akathisia)

*Psychiatric Disorders:* anxiety, insomnia

During the tardive dyskinesia controlled trials, there was a dose-related increase in prolactin. Additionally, in these trials there was a dose-related increase in alkaline phosphatase and bilirubin, suggesting a potential risk for cholestasis.

#### Chorea Associated with Huntington's Disease

The safety of INGREZZA was evaluated in a 14-week placebo-controlled study including 127 patients with chorea associated with Huntington's disease. Patients were 25 to 75 years of age. The mean age was 54 years. Patients were 96% Caucasian, 1% African-American, 1% Asian, and 2% Other. With respect to ethnicity, 6% were Hispanic or Latino.

#### Adverse Reactions Leading to Discontinuation of Treatment

A total of 8% of INGREZZA-treated patients and 6% of placebo-treated patients discontinued because of adverse reactions.

#### Common Adverse Reactions

Adverse reactions that occurred in the placebo-controlled study at an incidence of  $\geq 4\%$  and greater than placebo are presented in Table 2.

**Table 2: Adverse Reactions in the Placebo-Controlled Study of 12-week Treatment Duration Reported at  $\geq 4\%$  and  $>$ Placebo – Chorea Associated with Huntington's Disease**

Adverse Reaction	INGREZZA (n=64) %	Placebo (n=63) %
<b>Nervous System Disorders</b>		
Somnolence, lethargy, sedation	18.8	3.2
Akathisia	6.3	4.8
<b>General Disorders and Administration Site Conditions</b>		
Fatigue	14.1	9.5
<b>Skin and Subcutaneous Tissue Disorders</b>		
Urticaria	9.4	0
Rash	7.8	0
<b>Gastrointestinal Disorders</b>		
Diarrhea	4.7	1.6
Nausea	4.7	0
<b>Psychiatric Disorders</b>		
Insomnia, middle insomnia	6.3	1.6
Depression, depressed mood	4.7	1.6
<b>Musculoskeletal Disorders</b>		
Back pain	4.7	0

#### Postmarketing Experience

The following adverse reactions have been identified during post-approval use of INGREZZA that are not included in other sections of labeling. Because these reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

*Immune System Disorders:* hypersensitivity reactions (including allergic dermatitis, and pruritus)

## DRUG INTERACTIONS

### Drugs Having Clinically Important Interactions with INGREZZA

**Table 3: Clinically Significant Drug Interactions with INGREZZA**

<b>Monoamine Oxidase Inhibitors (MAOIs)</b>	
<i>Clinical Implication:</i>	Concomitant use of INGREZZA with MAOIs may increase the concentration of monoamine neurotransmitters in synapses, potentially leading to increased risk of adverse reactions such as serotonin syndrome, or attenuated treatment effect of INGREZZA.
<i>Prevention or Management:</i>	Avoid concomitant use of INGREZZA with MAOIs, or within 14 days of discontinuing therapy with an MAOI.
<b>Strong CYP3A4 Inhibitors</b>	
<i>Clinical Implication:</i>	Concomitant use of INGREZZA with strong CYP3A4 inhibitors increased the exposure (C <sub>max</sub> and AUC) to valbenazine and its active metabolite compared with the use of INGREZZA alone. Increased exposure of valbenazine and its active metabolite may increase the risk of exposure-related adverse reactions.
<i>Prevention or Management:</i>	Reduce INGREZZA dose when INGREZZA is coadministered with a strong CYP3A4 inhibitor.
<b>Strong CYP2D6 Inhibitors</b>	
<i>Clinical Implication:</i>	Concomitant use of INGREZZA with strong CYP2D6 inhibitors increased the exposure (C <sub>max</sub> and AUC) to valbenazine's active metabolite compared with the use of INGREZZA alone. Increased exposure of active metabolite may increase the risk of exposure-related adverse reactions.
<i>Prevention or Management:</i>	Reduce INGREZZA dose when INGREZZA is coadministered with a strong CYP2D6 inhibitor.
<b>Strong CYP3A4 Inducers</b>	
<i>Clinical Implication:</i>	Concomitant use of INGREZZA with a strong CYP3A4 inducer decreased the exposure of valbenazine and its active metabolite compared to the use of INGREZZA alone. Reduced exposure of valbenazine and its active metabolite may reduce efficacy.
<i>Prevention or Management:</i>	Concomitant use of strong CYP3A4 inducers with INGREZZA is not recommended.
<b>Digoxin</b>	
<i>Clinical Implication:</i>	Concomitant use of INGREZZA with digoxin increased digoxin levels because of inhibition of intestinal P-glycoprotein (P-gp).
<i>Prevention or Management:</i>	Digoxin concentrations should be monitored when co-administering INGREZZA with digoxin. Increased digoxin exposure may increase the risk of exposure-related adverse reactions. Dosage adjustment of digoxin may be necessary.

## OVERDOSAGE

### Human Experience

The pre-marketing clinical trials involving INGREZZA in approximately 850 subjects do not provide information regarding symptoms with overdose.

### Management of Overdosage

No specific antidotes for INGREZZA are known. In managing overdose, provide supportive care, including close medical supervision and monitoring, and consider the possibility of multiple drug involvement. If an overdose occurs, consult a Certified Poison Control Center (1-800-222-1222 or www.poison.org).

For further information on INGREZZA, call 84-INGREZZA (844-647-3992).



Distributed by:  
Neurocrine Biosciences, Inc.  
San Diego, CA 92130

INGREZZA is a registered trademark  
of Neurocrine Biosciences, Inc.  
CP-VBZ-US-2810 08/2023

The American Neurological Association (ANA) is the champion of neurological research and the ally of all physicians and scientists who strive to make a difference through careers that combine discovery, education, and clinical care.

# TOP 5 Reasons to Join the ANA

## Mission

Advancing science, education, and careers to improve neurologic health for all.

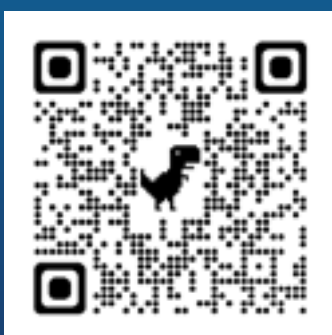
## Vision

A world without neurological disease.

## Join Today!

Learn more at

[myana.org/  
membership](http://myana.org/membership)



### 1 *Connect*

Form **personal connections** with academic neurologists and neuroscientists from all subspecialties, **advancing your research** and expanding your network

### 2 *Learn*

Earn **CME** by participating in the ANA's educational programs including webinars, bite-size learning modules, and podcasts

### 3 *Save*

**Save on registration** for the ANA Annual Meeting, the top meeting in academic neurology and neuroscience

### 4 *Discover*

Enhance your knowledge with the **cutting-edge research** in the ANA's peer-reviewed journals

### 5 *Grow*

Leverage the **ANA's Career Center**, a specialized job market specifically for those working in academic neurology and neuroscience



# Join us for CME in the Philadelphia Marriott Downtown

September 11 | 5:30–7 AM ET  
Room: Franklin Hall 1 - 4th Floor

## Mastering MS: Translating Evidence into Optimal Management Plans

Program Chair: Fred D. Lublin, MD

This continuing education (CE) satellite symposium program aims to update clinicians on key clinical data pertaining to DMT and best practices for developing MS treatment plans to optimize patient outcomes.

This event is not sponsored or programmed by the American Neurological Association



Scan to learn more or visit the link.  
[www.gotoper.com/MS2023](http://www.gotoper.com/MS2023)



## Other CE/CME Neurology Meetings Coming Soon



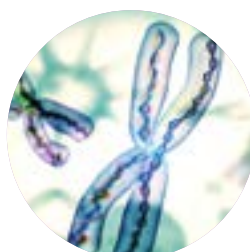
### **5th Annual International Congress on the Future of Neurology®**

September 22–23 | Hybrid | Jersey City, NJ

This 2-day educational program delivers information through a mix of clinical data presentations, case-based discussions, and robust Q&A sessions. This symposium will bring together experts recognized in their respective fields to discuss the impact of new evidence and novel agents in the treatment of neurologic disorders in a highly practical and engaging format.



Scan to learn more or visit the link.  
[www.gotoper.com/IFN23](http://www.gotoper.com/IFN23)



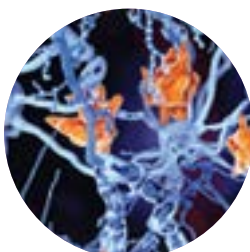
### **CNS: Recognizing Rett Syndrome Early to Improve Long-Term Management Outcomes**

October 5 | 12:30–2:30 PM PT | Hybrid | Vancouver, CA

In this CME activity, a panel of experts will discuss the importance of early diagnosis and treatment for patients with Rett syndrome.



Scan to learn more or visit the link.  
[www.gotoper.com/RETT23](http://www.gotoper.com/RETT23)



### **ECTRIMS: Transforming Multiple Sclerosis Care – Clinical Updates on the Effects of BTK Inhibitors**

October 13 | 13:45-15:15 CET | Hybrid | Milan, Italy

This continuing education (CE) satellite symposium aims to update clinicians on key clinical data pertaining to BTK inhibitors for the treatment of patients with MS.



Scan to learn more or visit the link.  
[www.gotoper.com/ectrims23](http://www.gotoper.com/ectrims23)



## CITY OF PHILADELPHIA

Office of the Mayor  
215 City Hall  
Philadelphia, PA 19107  
(215) 686-2181  
FAX (215) 686-2180

**JAMES F. KENNEY**  
Mayor

September 9, 2023

Greetings!

It is a pleasure and a privilege to welcome you to Philadelphia for the American Neurological Association's 148th Annual Meeting, taking place today through September 12, 2023.

Since its founding, the American Neurological Association (ANA) has worked to advance neurology through training and education, research, discovery, and clinical care. For the past 147 years, the ANA has been a strong advocate for its members and the field of neurology by expanding our understanding of the nervous system and the ability to treat them.

This year's meeting will bring together residents, medical students, academic professionals, neurologists, and other health professionals to network, inspire, and learn. With a full schedule of symposiums, plenary sessions, workshops, developmental sessions and networking events, attendees will gain the tools and resources needed to move neurological science forward. I commend the American Neurological Association for their ongoing efforts to advance neurology.

As the first World Heritage City in the United States, we are very pleased to be hosting you in our historic and culture-rich city that has certainly played a significant role in revolutionary actions and ideas as well as medical research and care. With countless things to do and see, including fascinating museums, vibrant parks, national historic sites and top-tier food for every palate, I hope you can spare some time to explore. On behalf of the City of Philadelphia, I wish everyone a valuable and enriching experience during the American Neurological Association's 148th Annual Meeting.

Best regards,

A handwritten signature in cursive script that reads "James F. Kenney".

James F. Kenney

Mayor

# STATISTICAL SNAPSHOTS SERIES

The ANA provides educational programming all year long to ensure our members have access to current information and discovery.

A new [ANA Highlight's Statistical Snapshots](#) series was recently released, and it provides a digestible way to learn next-level statistical concepts, critical Epidemiology terms, and best techniques to apply to research.

In this series of seven modules, ranging from 10-22 minutes, you will find a high-yield overview of critical statistical concepts that go beyond interpretation of p-values to provide a foundation by which to conduct rigorous medical or public health research, regardless of level or training.

- > 2.25 AMA PRA Category 1 Credit™
- > 2.25 Participation
- > 2.25 ABPN Self Assessment Credit

## HOT TIP

Become a member of the [#AmericanNeurologicalAssociation](#) and earn CME credits through our year-round online learning platform for free!

### WHAT'S OnDEC?

Did you know the ANA offers more than 25 online CME offerings at any given time? Brought to you by the ANA Education Innovation Committee.

[Navigate over to the ANA OnDEC catalog.](#)

NEXT-LEVEL  
STATISTICAL  
CONCEPTS

2.25 AMA PRA  
CATEGORY 1  
CREDIT™

MODULES  
RANGE FROM  
10-22 MINUTES



VISIT  
COURSE  
WEBSITE







## DEAR ANA2023 ANNUAL MEETING ATTENDEES,

ANA 2023 is here! We are so happy to welcome you to *The City of Brotherly Love*, the beautiful city of Philadelphia, for our 148th Annual Meeting. This year's meeting will not disappoint: we have preeminent plenaries, impressive interactive lunch workshops, sublime special interest groups, and compelling career development sessions. Here's a sample of what is to come (not written with any assistance from ChatGPT!).



REBECCA GOTTESMAN, MD, PHD,  
FANA

In the city of Philly, on the 9th of September,  
A meeting will be held that all attendees will remember.  
It's the preeminent meeting for academic neurology,  
And neuroscience, imaging, and neurobiology.

If you're a member, a fellow, a trainee, or student,  
Missing this meeting just wouldn't be prudent.  
There are plenaries, SIG's, and workshops at lunch,  
Professional development, and posters (a bunch!).

You can start with the RCR, or K-awardee course,  
With info on many a new career resource,  
The first plenary's on Saturday, so therefore that means,  
You'll hear about advances of therapies on genes.

On Sunday, the day starts with career training for all,  
Whether chair or new student, no question's too small.  
Then the plenary shifts to discuss RNA,  
And its role in disease and in treatments today.

At lunch there are workshops on trials and HIV,  
On telemedicine, the liver, and device technology.  
There's the Women of the ANA, there's the ABPN,  
And if you want to know when to meet program directors - it's then.

# WELCOME



LETTER FROM REBECCA GOTTESMAN MD, PHD, FANA (CONTINUED)

On Sunday post-lunch, there's the Presidential symposium,  
On sleep and the brain, such great speakers at the podium.  
Then the cross-cutting SIGs that address topics diverse,  
Before a poster reception, then the attendees disperse,

For satellite symposia or dinners with others,  
Try some cheesesteak! A hoagie! Whatever your druthers.  
Try the market at Reading, or walk along the Schuylkill river,  
There's one thing that's sure - the City of Brotherly Love will deliver.

On Monday the 11th come learn about prodromal disease,  
Where the speakers share clinical and research expertise.  
Then multiple offerings in the ILW slots,  
Which will interest attendees and inspire deep thoughts.

The last plenary on Monday is Derek Denny Brown,  
Where great science is presented, (and the accompanying renown),  
It's a chance for rising stars to get awards and to speak,  
And assurance the future is anything but bleak.

Pick a SIG, there are 6 from which you can select,  
Each has multiple speakers and much knowledge you'll collect.  
More great posters, with trainees who'll present their work,  
And finally, a reception, where you can schmooze or network.

Be sure that you stay through the last day of the meeting,  
Where professional development once again starts the day with a greeting,  
And before you think the meeting is losing any steam,  
Using anti-amyloid therapies is the final plenary theme.

Then some traditional SIG's, and for students, a review,  
You can all return home, the meeting in the rear view.  
We hope you'll return, and as you travel away,  
Thanks for attending this year's meeting of the magnificent ANA!



Rebecca Gottesman, MD, PhD, FANA  
Chair of Annual Meeting Planning Committee (AMP)  
American Neurological Association

Do you need help staying up to date on the fast-paced world of genetic testing?

**WE'VE GOT YOU COVERED!**

## ANA HIGHLIGHTS NEUROGENETICS

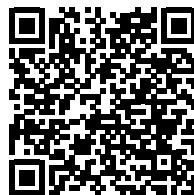
Take this short **#ANAHighlights** online course featuring leading experts to boost your knowledge and earn CME credits.

5.75 AMA PRA Category 1 Credits™ & ABPN Self Assessment Credits awarded!

*This course will guide you through:*

- ✓ The different types of neurogenetic testing
- ✓ Current research & future needs
- ✓ How to advise patients
- ✓ Legal and ethical issues and more!

**CLICK TO VISIT  
COURSE WEBSITE**



### HOT TIP

Become a member of the **#AmericanNeurologicalAssociation** and earn CME credits through our year-round online learning platform for free!

#### WHAT'S OnDEC?

Did you know the ANA offers more than 25 online CME offerings at any given time? Brought to you by the ANA Education Innovation Committee.

[Navigate over to the ANA OnDEC catalog.](#)





# SCHEDULE AT A GLANCE

Please note: all session times are listed in Eastern Daylight Time.



- JREC** Courses marked with “JREC” are recommended for Junior and Early Career attendees
- PR** Courses marked with “PR” are recommended workshops for Program Directors
- \*** Sessions marked with an asterisk (\*) award *AMA PRA Category I Credit(s)*<sup>TM</sup> through the ANA.

Note: The Annual Meeting offers CME to eligible participants. Complete CME information, including a breakdown of the credits offered for each session and the instructions for claiming credit, is available online at [2023.myana.org/continuing-medical-education](https://2023.myana.org/continuing-medical-education).

The American Neurological Association is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians.

Schedule Subject to Change: The event’s operating hours, schedules, and speakers are subject to change or cancellation without notice. Refunds will be not issued for failure to attend a live session.

Satellite Symposia - The ANA values the participation of our corporate partners and is supportive of the role that members of this community continue to play in our efforts to provide neurologists and neuroscientists with quality educational programs. These symposia are not part of the ANA official educational program, and the sessions and content are not endorsed by ANA.

FRIDAY, SEPTEMBER 8, 2023	
3:00 PM - 9:00 PM	<b>ANA-NINDS Career Development Symposium Welcome Reception*</b> (By Invitation Only)

SATURDAY, SEPTEMBER 9, 2023	
7:00 AM - 5:45 PM	<b>ANA-NINDS Career Development Symposium*</b> (By Invitation Only)
7:00 AM - 4:30 PM	<b>Research Careers Reimagined (RCR) Course*</b> (Pre-Registration Required) <b>JREC</b>
2:00 PM - 7:30 PM	<b>Registration</b>
3:00 PM - 4:00 PM	<b>Junior and Early Career Futures Program Meeting</b> (By Invitation Only) <b>JREC</b>
3:00 PM - 4:00 PM	<b>Satellite Symposium</b> <i>Understanding Huntington’s Disease (HD) Chorea: The Underlying Disease, Impact, and a Treatment Option.</i> <b>Sponsored by Neurocrine Biosciences, Inc.</b>
4:00 PM - 5:00 PM	<b>Global Neurology Networking Reception</b> (By Invitation Only) (hosted by the <a href="#">ANA Global Engagement Committee</a> )
4:45 PM - 5:45 PM	<b>Pharma and Biotech Networking Reception</b>
5:00 PM - 5:45 PM	<b>Opening Reception</b>
5:45 PM - 7:15 PM	<b>Plenary Session:</b> Opening Symposium - Gene Therapy in Rare Neurological Diseases
7:30 PM - 8:30 PM	<b>Satellite Symposium</b> <i>ATTR: Think Beyond Idiopathic Neuropathy.</i> <b>Sponsored by AstraZeneca</b>
7:30 PM - 9:00 PM	<b>Junior and Early Career Networking Reception</b> <b>JREC</b>

# SCHEDULE AT A GLANCE

Please note: all session times are listed in Eastern Daylight Time.



## SUNDAY, SEPTEMBER 10, 2023

6:00 AM - 7:00 AM	<p><b>CME Satellite Symposium</b> The Changing Future for Patients With Rett Syndrome and Their Families: Early Diagnosis and Emerging Therapies to Reduce the Burdens of Disease.* <b>Provided by PeerView Institute for Medical Education</b></p>
7:00 AM - 6:30 PM	<b>Registration</b>
7:00 AM - 9:00 AM	<b>Continental Breakfast</b>
7:00 AM - 7:30 AM	<b>Trainee Breakfast with ANA Board of Directors JREC</b>
7:30 AM - 9:00 AM	<p><b>Professional Development Workshops</b> <b>Early Career &amp; Early to Mid-Career Level Workshop 1</b> - View from the NINDS, NIA, NICHD, DOD, and VA *<b>JREC</b> <b>AUPN Chair Career Level Workshop 1</b> - Advanced Practice Providers and How They Fit into Neurology* <b>Program/Residency Director Level Workshop 1</b> - Building a Career in the Medical Educator Track*<b>JREC PR</b></p>
9:00 AM - 9:15 AM	<b>Break</b>
9:15 AM - 9:30 AM	<b>Welcome &amp; Opening Remarks</b>
9:30 AM - 11:30 AM	<p><b>Plenary Session</b> The Role of RNA-Binding Proteins and RNA Metabolism in Neurological Development and Disease*</p>
11:30 AM - 11:45 AM	<b>Break</b>
11:30 AM - 12:45 PM	<b>Grab-and-Go Lunch</b>
12:00 PM - 7:30 PM	<b>Poster Viewing</b>
11:45 AM - 12:45 PM	<p><b>Interactive Lunch Workshops</b> Advances in Neurologic Devices* Emerging Liver Brain Axis in Neurodegeneration* New Paradigms in Clinical Trial Design* Neurological Management of Persons Living With HIV* Teaching Telemedicine in Neurology*</p>
11:45 AM - 12:45 PM	<p><b>Additional Lunch Workshops</b> 23rd Annual Women of the ANA Lunch Program - Paving a Path Forward for Women Despite Challenges in Academic Neurology, a Focus on Solutions* American Board of Psychiatry and Neurology (ABPN) Continuing Certification (CC) Program Session* Meet the Residency Program Directors* <b>PR</b></p>

## SUNDAY, SEPTEMBER 10 (CONTINUED)

1:00 PM - 3:00 PM	<p><b>Plenary Session - Presidential Symposium</b> - Exploring Sleep Disturbance in CNS Disorders*</p>
3:00 PM - 3:30 PM	<b>Break</b>
3:30 PM - 5:00 PM	<p><b>Cross-Cutting Special Interest Groups</b> Health Services and Health Equity Research* Neurogenetics and Gene Therapy* Neuroinflammation and Neuroinfection* Neurorecovery and Neuroplasticity* Neurodegeneration and Cell Death* Neurodevelopment*</p>
5:15 PM - 6:15 PM	<p><b>Satellite Symposium</b> The Role of Neuromuscular Transmission Failure and CIC-1 Inhibition as a Novel Therapeutic Approach Across Neuromuscular Diseases; Positive Proof of Mechanism in Patients with Myasthenia Gravis. <b>Sponsored by NMD Pharma</b></p>
6:00 PM - 7:30 PM	<b>Poster Reception in Exhibit Hall</b>
7:00 PM - 8:30 PM	<b>New Member Meet &amp; Greet with ANA Leaders Past, Present, and Future</b> (by Invitation Only)
7:30 PM - 8:30 PM	<p><b>Satellite Symposium</b> <i>Alzheimer's Disease: An Expert Discussion on the Evolving Treatment Landscape</i> <b>Sponsored by Eisai</b></p>
7:30 PM - 9:00 PM	<b>Inclusion/Diversity/Equity/Anti-Racism/Social Justice (IDEAS) Committee Reception</b> (by Invitation Only)

## MONDAY, SEPTEMBER 11, 2023

6:00 AM - 7:00 AM	<p><b>Satellite Symposium</b> Mastering MS: Translating Evidence into Optimal Management Plans <b>Sponsored by Physicians' Education Resource, LLC</b></p>
6:30 AM - 7:30 PM	<b>Registration</b>

# SCHEDULE AT A GLANCE

Please note: all session times are listed in Eastern Daylight Time.



## MONDAY, SEPTEMBER 11, 2023 (CONTINUED)

6:30 AM - 8:30 AM	<b>Continental Breakfast</b>
7:00 AM - 8:30 AM	<p><b>Professional Development Workshops</b></p> <p><b>Early Career &amp; Early to Mid-Career Level Workshop 2</b> - Landing the Career Track You Want * <b>JREC</b></p> <p>Early Career Development for International Graduates * <b>JREC</b></p> <p><b>AUPN Chair Career Level Workshop 2</b> - Neurology in the Multi-Centered World: Teaching on Multiple Campuses *</p> <p><b>Program/Residency Director Level Workshop 2</b> - Facilitating Research: With or Without an R25 * <b>PR</b></p>
8:30 AM - 8:45 AM	<b>Break</b>
8:45 AM - 10:45 AM	<b>Plenary Session</b> Prodromal Neurologic Disease: Early Markers and Earlier Opportunities for Treatment*
10:45 AM - 11:45 AM	<b>Executive Session of Membership</b>
11:45 AM - 12:00 PM	<b>Break</b>
11:45 AM - 12:45 PM	<b>Grab-and-Go Lunch</b>
12:00 PM - 7:30 PM	<b>Poster Viewing</b>
12:00 PM - 7:30 PM	<b>Exhibit Hall Open</b>
12:00 PM - 1:00 PM	<p><b>Interactive Lunch Workshops</b></p> <p>Lesbian, Gay, Bisexual, Transgender, and Queer + Health in Neurology: Current and Future * Clinical Logic *</p> <p>Driving as a Biomarker for Disease *</p> <p>Childhood Stroke: Approach to Hyperacute Management and Indications for Recanalization Therapies *</p> <p>Psychosis in Parkinson's Disease *</p> <p>ANA Global Neurology Presidential Initiative: Action Plan Update *</p>
12:00 PM - 1:00 PM	<b>Additional Lunch Workshops</b> AUPN Meet the Chairs* Meet the Editors *
1:00 PM - 1:15 PM	<b>Break</b>
1:15 PM - 3:45 PM	<b>Plenary Session</b> Derek Denny-Brown Young Neurological Scholar Symposium *
3:45 PM - 4:15 PM	<b>Break</b>

## MONDAY, SEPTEMBER 11, 2023 (CONTINUED)

4:15 PM - 5:45 PM	<p><b>Traditional Special Interest Groups Sessions</b></p> <p>Cerebrovascular Disease * Headache &amp; Pain * Movement Disorders Neuro-oncology * Neuro-ophthalmology and Neurovestibular Disease * Sleep Disorders &amp; Circadian Rhythms *</p>
6:00 PM - 7:30 PM	<b>Poster Reception in Exhibit Hall</b>
7:30 PM - 10:30 PM	<b>President's Reception</b>

## TUESDAY, SEPTEMBER 12, 2023

6:30 AM - 12:30 PM	<b>Registration</b>
6:30 AM - 8:30 AM	<b>Continental Breakfast</b>
7:00 AM - 8:30 AM	<p><b>Professional Development Workshops</b></p> <p><b>Early Career &amp; Early to Mid-Career Level Workshop 3</b> - Communicating Your Science * <b>JREC</b></p> <p>Career Transitions * <b>JREC</b></p> <p><b>AUPN Chair Career Level Workshop 3</b> - Title IX for Neurology Chairs *</p> <p><b>Program/Residency Director Level Workshop 3</b> - Mentoring the Physician Scientist: Creating the Team to Promote Productivity and Well-Being * <b>PR</b></p>
8:30 AM - 8:45 AM	<b>Break</b>
8:45 AM - 10:45 AM	<b>Plenary Session</b> The Evolving Role of Anti-Amyloid Therapies for Alzheimer Disease*
10:45 AM - 12:30 PM	<b>Grab-and-Go Lunch</b>
11:00 AM - 12:30 PM	<p><b>Traditional Special Interest Groups Sessions</b></p> <p>Autoimmune Neurology &amp; MS * Behavioral Neurology and Dementia* Epilepsy * Global Neurology * Neurocritical Care and Traumatic Brain Injury * Neuromuscular Disease *</p>
11:00 AM - 12:30 PM	<b>Additional Lunch Workshops</b> AUPN Networking Lunch for Small Academic Departments *
1:00 PM - 3:00 PM	<b>Medical Student Session</b> Choosing a Career in Neurology *
3:00 PM	<b>Meeting Adjourned</b>





## ON-SITE REGISTRATION: GRAND BALLROOM FOYER – 5TH FLOOR

<b>Saturday, September 9</b>	2:00 PM–7:00 PM
<b>Sunday, September 10</b>	7:00 AM–6:30 PM
<b>Monday, September 11</b>	6:30 AM–7:30 PM
<b>Tuesday, September 12</b>	6:30 AM–12:30 PM

## POSTER SESSION: FRANKLIN HALL B – 4TH FLOOR

<b>Sunday, September 10</b>	12:00 PM–7:30 PM
	<i>Poster presenters and poster judges will be in attendance from 6:00 PM–7:30 PM</i>
<b>Monday, September 11</b>	12:00 PM–7:30 PM
	<i>Poster presenters and poster judges will be in attendance from 6:00 PM–7:30 PM</i>

## SPEAKER READY ROOM: CONFERENCE ROOM 405 – 4TH FLOOR

<b>Saturday, September 9</b>	2:00 PM–7:00 PM
<b>Sunday, September 10</b>	7:00 AM–6:00 PM
<b>Monday, September 11</b>	6:00 AM–6:00 PM
<b>Tuesday, September 12</b>	6:00 AM–10:30 PM

## BREAKFAST: FRANKLIN BALLROOM FOYER – 4TH FLOOR

<b>Sunday, September 10</b>	7:00 AM–9:00 AM
<b>Monday, September 11</b>	6:30 AM–8:30 AM
<b>Tuesday, September 12</b>	6:30 AM–8:30 AM

## LUNCH: FRANKLIN BALLROOM FOYER – 4TH FLOOR

*Boxed Lunches will be distributed in the foyer and attendees are encouraged to bring them to the Interactive Lunch Workshops.*

<b>Sunday, September 10</b>	11:30 AM–12:45 PM
<b>Monday, September 11</b>	11:45 AM–12:45 PM
<b>Tuesday, September 12</b>	10:45 AM–12:30 PM

## EXHIBIT HALL: FRANKLIN HALL B – 4TH FLOOR

<b>Sunday, September 10</b>	12:00 PM–7:30 PM
<b>Monday, September 11</b>	12:00 PM–7:30 PM

## PRESS ROOM: CONFERENCE ROOM 406 – 4TH FLOOR

<b>Sunday, September 10</b>	7:00 AM–5:00 PM
<b>Monday, September 11</b>	7:00 AM–5:00 PM
<b>Tuesday, September 12</b>	8:00 AM–5:00 PM

## WIRELESS CONNECTION

All Philadelphia Marriott guest rooms booked under the ANA block will be equipped with complimentary high-speed wireless internet access during the official meeting dates (Saturday to Tuesday). To connect, enable WiFi on the device. While in the designated ANA meeting rooms at the Philadelphia Marriott, look for the network SSID: **Marriott Conference**. When prompted, enter the passcode **Philly2023** (*Please note that the password is case sensitive*). Proceed to the internet as normal.



## DISCLAIMER

Please note that some session titles may have changed since this program was posted online. Please refer to the ANA Mobile App for the most current information.

## CONTINUING MEDICAL EDUCATION: ACCREDITATION & DESIGNATION STATEMENT(S)

The American Neurological Association is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to provide continuing medical education for physicians. The Annual Meeting offers CME to eligible participants. Detailed information pertaining to CME can be found in your conference bag and at the following website: [2023.myana.org/continuing-medical-education](https://2023.myana.org/continuing-medical-education).

## ANNUAL MEETING EVALUATIONS

On the final day of the event, you will receive an email containing a link to the evaluation. Please complete the online evaluation within a week of receipt in order to obtain any CME credit. You will be provided with a certificate within three weeks following completion of the evaluation. If you have any questions, please contact the ANA Meeting Coordinator at: [meetings@myana.org](mailto:meetings@myana.org)

## CONSENT TO USE OF PHOTOGRAPHIC IMAGES

Registration and attendance at, or participation in ANA meetings and other related activities constitutes attendee's authorization to ANA's use and distribution (both now and in the future) of the attendee's image or voice in photographs, video recordings, electronic reproductions, audio recordings, and other media throughout the world and royalty free.

## PHOTOGRAPHY

Photography in the Annual Meeting Poster Area and Exhibit Area is restricted to the official conference photographer.

## LANGUAGE

The official language of the Annual Meeting is English. No simultaneous translation is available.

## ADA

ANA fully complies with the legal requirements of the Americans with Disabilities Act rules and regulations. If any participant is in need of special accommodations, they should notify the hotel and indicate the type of assistance needed. ANA cannot ensure the availability of appropriate assistance without advance notice.

## ALCOHOL CONSUMPTION

Any individual under 21 years old will be prohibited from consuming alcoholic beverages at the evening receptions.

### STAY IN THE KNOW AND JOIN IN ON SOCIAL MEDIA

BLOG

CHAT

POST

SHARE

TWEET

FRIEND

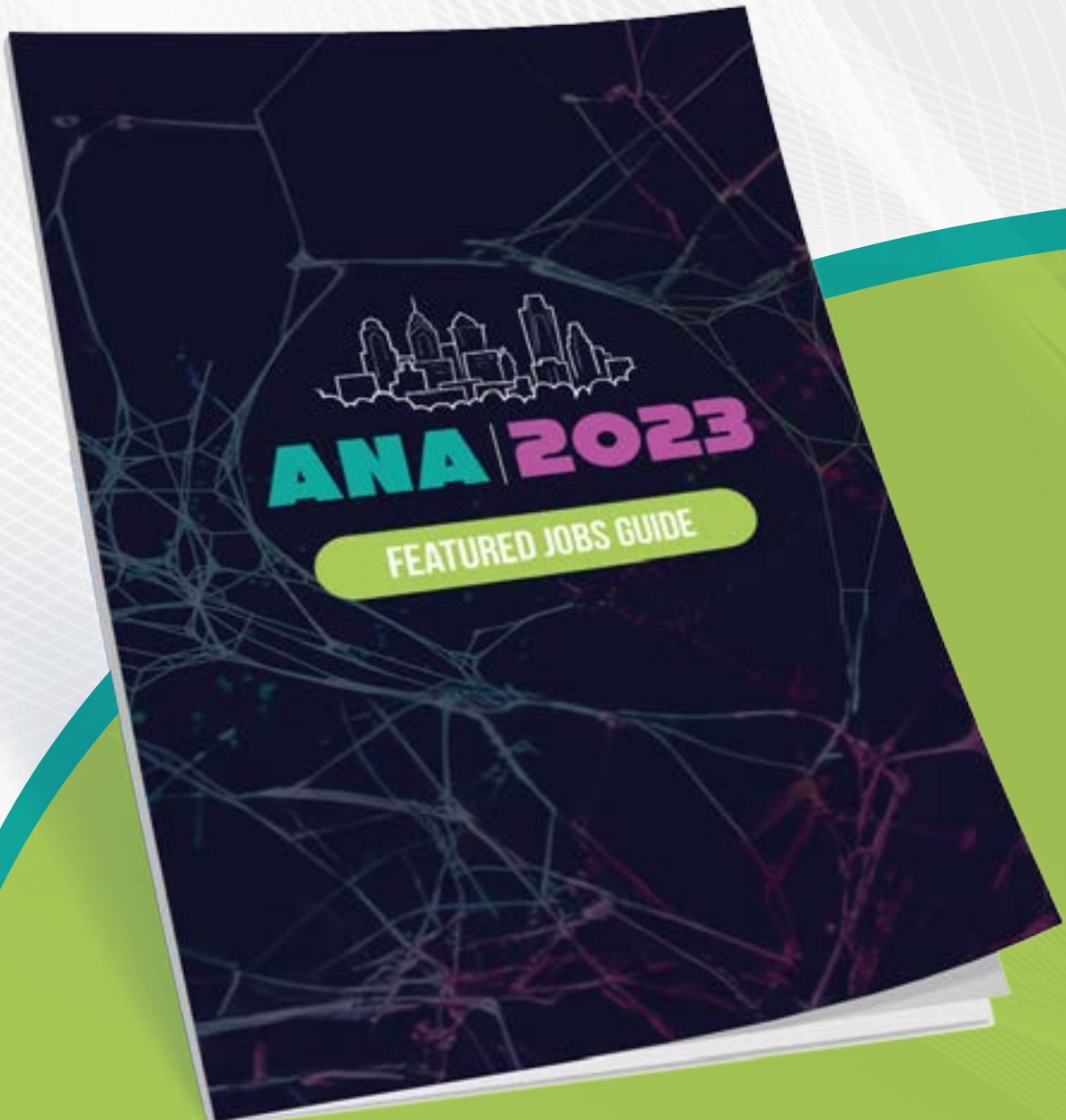
LIKE

#ANA2023



## BROWSE OPEN NEUROLOGY JOBS!

- Explore new career opportunities for FREE!
- Click on any websites, emails and videos to learn more.
- Download the guide to look back on organizations and opportunities that appeal to you.







## FRIDAY, SEPTEMBER 8, 2023

### ANA-NINDS CAREER DEVELOPMENT SYMPOSIUM

#### ANA-NINDS CAREER DEVELOPMENT SYMPOSIUM (INVITATION ONLY)

**3:00 pm – 9:00 PM**  
**Salon C (5th Floor)**

**COURSE DIRECTOR:** Lauren Sansing, MD, MS, FAHA, FANA, Yale University

**COURSE CO-DIRECTOR:** Steve Korn, PhD, National Institute of Neurological Disorders and Stroke

This symposium is a joint collaborative effort between the ANA and NINDS which is designed for clinician-scientists with NIH career development awards (K08 and K23) and is chaired by senior neurologists and neuroscientists who have proven success in career building and navigation, scientific grant writing, networking, and balancing clinical and research efforts.

## SATURDAY, SEPTEMBER 9, 2023

### ANA-NINDS CAREER DEVELOPMENT SYMPOSIUM

#### ANA-NINDS CAREER DEVELOPMENT SYMPOSIUM (INVITATION ONLY)

**7:00 AM - 5:45 PM**  
**Salon C (5th Floor)**

**COURSE DIRECTOR:** Lauren Sansing, MD, MS, FAHA, FANA, Yale University

**COURSE CO-DIRECTOR:** Steve Korn, PhD, National Institute of Neurological Disorders and Stroke

This symposium is a joint collaborative effort between the ANA and NINDS which is designed for clinician-scientists with NIH career development awards (K08 and K23) and is chaired by senior neurologists and neuroscientists who have proven success in career building and navigation, scientific grant writing, networking, and balancing clinical and research efforts.

### RESEARCH CAREERS REIMAGINED COURSE

#### RESEARCH CAREERS REIMAGINED (RCR) COURSE (PRE-REGISTRATION REQUIRED)

**7:00 AM – 4:30 PM**  
**Salon B (5th Floor)**

**COURSE DIRECTOR:** Laura J. Balcer, MD, MSCE, FANA, New York University

**COURSE CO-DIRECTOR:** Craig D. Blackstone, MD, PhD, FANA, Massachusetts General Hospital

Developed by the Research Careers Reimagined (RCR) Course Planning Subcommittee, the 2023 RCR Course explores a variety of funding pathways for researchers in neurology from traditional mechanisms for funding from NIH to pharma. The impact of new technologies and styles that affect academic publications and that embrace new technologies such as artificial intelligence, machine learning, and communication through social media will also be discussed.





## SATURDAY, SEPTEMBER 9, 2023 (CONTINUED)

### RESEARCH CAREERS REIMAGINED COURSE

#### BREAKFAST

**7:00 AM–8:00 AM**

---

#### WELCOME AND INTRODUCTION

**8:00 AM – 8:10 AM**

---

#### ACCESSING NIH FUNDING TO ADVANCE TREATMENTS FOR NEUROLOGICAL DISORDERS

**8:10 AM – 8:35 AM**

Walter J. Koroshetz, MD, FANA, National Institute of Neurological Disorders and Stroke (NINDS), National Institutes of Health (NIH)

---

#### PERSPECTIVE: RESEARCH CAREERS REIMAGINED, UPDATED FOR 2023

**8:35 AM – 9:00 AM**

Frances E. Jensen, MD, FANA, University of Pennsylvania School of Medicine

---

#### FLEXIBILITY AND MENTORING IN EARLY CAREER RESEARCH: NAVIGATING PROMOTION PATHWAYS AND DOING WHAT YOU ENJOY MOST

**9:00 AM – 9:25 AM**

Craig D. Blackstone, MD, FANA, PhD, Massachusetts General Hospital

---

#### TREATMENTS AND GUIDELINES: PATHS TO APPLICATION

**9:25 AM – 9:50 AM**

Jacqueline A. French, MD, FANA, New York University Grossman School of Medicine

---

#### STARTING AND DEVELOPING A SUCCESSFUL CAREER AS A CLINICAL TRIALIST: ART AND SCIENCE BEHIND INVESTIGATOR- AND INDUSTRY-INITIATED STUDIES

**9:50 AM – 10:15 AM**

Brian L. Edlow, MD, Massachusetts General Hospital

---

#### PANEL DISCUSSION AND Q&A

**10:15 AM – 10:35 AM**

---

#### COFFEE BREAK AND NETWORKING

**10:35 AM – 11:00 AM**

---

#### LIFE AND INVESTIGATION IN INDUSTRY – NO CME CREDITS OFFERED

**11:00 AM – 11:25 AM**

Michael Panzara, MD, MPH, Neurvata Neurosciences

---

#### DISCUSSION AND Q&A

**11:25 AM – 11:45 PM**

---

#### NETWORKING LUNCH

**11:45 AM - 12:30 PM**

---



## SATURDAY, SEPTEMBER 9, 2023 (CONTINUED)

### RESEARCH CAREERS REIMAGINED COURSE

**COLLABORATIONS WITH INDUSTRY:  
HOW DO START-UP COMPANIES AND  
INTELLECTUAL PROPERTY PRINCIPLES FIT  
INTO ACADEMIC RESEARCH?**

**12:30 PM - 12:55 PM**

Sadhana Chitale, PhD, MBA, New York University  
Grossman School of Medicine

**CTSA RESOURCES TO SUPPORT CLINICAL  
AND TRANSLATIONAL RESEARCH**

**12:55 PM - 1:20 PM**

Anthony S. Kim, MD, FANA, MAS, University of  
California, San Francisco

**EARLY CAREER TRANSITIONS**

**1:20 PM - 1:45 PM**

Justin C. McArthur, MBBS, FANA, MPH, Johns  
Hopkins University School of Medicine

**PHILANTHROPIC SUPPORT AS A CATALYST  
FOR EARLY CAREERS: PARTNERING WITH  
YOUR DEVELOPMENT OFFICE**

**1:45 PM - 2:10 PM**

Heather MacLean, New York University Grossman  
School of Medicine

**PANEL DISCUSSION AND Q&A**

**2:10 PM - 2:30 PM**

**COFFEE BREAK AND NETWORKING**

**2:30 PM - 2:55 PM**

**ARTIFICIAL INTELLIGENCE IN RESEARCH AND  
WRITING: HOW IT WORKS, BUT WHY WE STILL  
NEED YOU!**

**2:55 PM - 3:20 PM**

Rachel Kenney, PhD, New York University Grossman  
School of Medicine

**INSIDE ACADEMIC PUBLISHING:  
YOUR MANUSCRIPT FROM SUBMISSION  
TO PUBLICATION**

**3:20 PM - 3:45 PM**

Cathy Krendel, Wiley Journal Management/Editorial  
Team

**GETTING YOUR PUBLICATIONS, PROJECTS AND  
COLLABORATIONS OUT THERE: STYLE POINTS  
FOR SOCIAL MEDIA**

**3:45 PM - 4:10 PM**

Aaron Nelson, MD, New York University School of Med-  
icine

**PANEL DISCUSSION AND Q&A**

**4:10 PM - 4:30 PM**

**CLOSING REMARKS AND ADJOURN**

**4:30 PM**



## SATURDAY, SEPTEMBER 9, 2023 (CONTINUED)

### REGISTRATION

**2:00 PM – 7:00 PM**

**Grand Ballroom Foyer (5th Floor)**

### JUNIOR AND EARLY CAREER FUTURES PROGRAM MEETING (BY INVITATION ONLY)

**3:00 PM – 4:00 PM**

**Franklin Hall 3-4 (4th Floor)**

### SATELLITE SYMPOSIUM

#### UNDERSTANDING HUNTINGTON'S DISEASE (HD) CHOREA: THE UNDERLYING DISEASE, IMPACT, AND A TREATMENT OPTION

**3:00 PM – 4:00 PM**

**Franklin Hall 1 (4th Floor)**

*Sponsored by Neurocrine BioSciences, Inc.*

*These symposia are not part of the ANA official educational program, and the sessions and content are not endorsed by ANA.*

This program provides a straightforward overview of Huntington's disease (HD) with a focus on HD chorea and the functional, social, and emotional impact on patients and caregivers. Faculty will share the clinical data for an FDA-approved treatment option for adults with HD chorea. Participants will view video footage of a real patient before and after treatment for HD chorea. This program is non-CME educational content sponsored by Neurocrine Biosciences.

**SPEAKER:** Robert Fekete, MD, New York Medical College

### GLOBAL NEUROLOGY NETWORKING RECEPTION (BY INVITATION ONLY)

**4:00 PM - 5:00 PM**

**Independence Ballroom I (3rd Floor)**

### PHARMA & BIOTECH NETWORKING RECEPTION (BY INVITATION ONLY)

**4:45 PM – 5:45 PM**

**Salon A (5th Floor)**

### OPENING RECEPTION

**5:00 PM – 5:45 PM**

**Salon G-H (5th Floor)**

### PLENARY SESSION

#### OPENING SYMPOSIUM: GENE THERAPY IN RARE NEUROLOGICAL DISEASES

**5:45 PM – 7:15 PM**

**Salon E (5th Floor)**

**CHAIR:** Bryan Traynor, MD, PhD, MMSc, FRCPI, FRCP, FANA, National Institutes of Health (NIH)

**CO-CHAIR:** Beverly L. Davidson, PhD, Children's Hospital of Philadelphia

We have demonstrated that gene modification of a previously untreatable disease, spinobulbar muscular atrophy, is feasible. This session will explore leveraging these advances more broadly to rare neurological disorders. Developing meaningful interventions will require coordination across multiple domains and stakeholders. The session will discuss recent advancements in viral vector and antisense oligonucleotide therapy, including delivery, toxicity, manufacturing, clinical trial design, and regulatory issues. This topic is relevant across all sub-specialties and of perennial interest to neurologists.

#### LEARNING OBJECTIVES:

- Describe recent advances in the development of



## SATURDAY, SEPTEMBER 9, 2023 (CONTINUED)

gene and gene-directed therapies.

- Recognize potential applications of targeted gene therapy for rare neurological diseases.
- Explain how this new class of medications is revolutionizing clinical research in the neurological field.

### Vector-Based Gene Therapies – Advances in Capsids

**SPEAKER:** Beverly L. Davidson, PhD, The Children’s Hospital of Philadelphia

### Optimizing Outcomes in Neurometabolic Disorders with Gene Therapy

**SPEAKER:** Rebecca Ahrens-Nicklas, MD, PhD, The Children’s Hospital of Philadelphia

### Antisense Based Therapy for Rare Neurological Diseases

**SPEAKER:** C. Frank Bennett, PhD, Ionis Pharmaceuticals, Inc.

### George W. Jacoby Award

### Gene Therapy as a Platform: From Giant Axonal Neuropathy to the PaveGT Program

**SPEAKER / AWARD RECIPIENT:** Carsten Bönnemann, MD, Habil, FANA, National Institute of Neurological Disorders and Stroke (NINDS)

## JUNIOR AND EARLY CAREER MEMBERS RECEPTION

**7:30 PM - 9:00 PM:**  
Salon C (5th Floor)

## SATELLITE SYMPOSIUM

### ATTR: THINK BEYOND IDIOPATHIC NEUROPATHY

**7:30 PM – 8:30 PM**  
Salon I (5th Floor)

*Sponsored by AstraZeneca*

*These symposia are not part of the ANA official educational program, and the sessions and content are not endorsed by ANA.*

Transthyretin amyloidosis (ATTR) is a systemic disease with a known underlying pathology of misfolded TTR protein resulting in the formation of fibrils that deposit in tissues and organs. Misfolding of the TTR protein occurs in response to the dissociation/instability of the TTR tetramer. The clinical manifestations due to amyloid fibril deposits are heterogeneous and can vary from patient to patient, but typically include a combination of polyneuropathy (PN) and/or cardiomyopathy (CM) symptoms, as well as a range of other symptoms (eg, gastrointestinal, musculoskeletal). However, the low disease prevalence (estimated 10,000-50,000 cases in the United States), clinical ambiguity and overlap of symptoms, and limited clinical awareness can result in years of undiagnosed disease progression prior to obtaining an accurate diagnosis. This can substantially impact the outcomes of patients with ATTR and the ability for HCPs and specialists to positively intervene.

The ability to identify and diagnose patients—particularly, early on in disease progression—with ATTR can substantially impact clinical outcomes as well as mortality. Treatment options exist for those with PN and/or CM, which make it possible to reduce, and in some cases halt, the progression of symptoms and its impact on quality of life (QoL). Systemic amyloidosis requires a multidisciplinary collaboration between the different medical specialists.

This symposium is intended for ATTR treaters and disease specialists (eg, neurologists) with the goal of highlighting key and critical components of the burden of disease and the patient journey, from raising clinical suspicion for ATTR, to incorporating a diagnostic algorithm for patient identification and consideration of therapeutic approaches to manage clinical manifestations associated with PN and CM. HCPs will learn about the range of clinical manifestations, including key “red flag” symptoms,





## SUNDAY, SEPTEMBER 10, 2023

that patients with ATTR experience and that the clinical profile can vary from patient to patient. Furthermore, HCPs will understand how important their ability to recognize and intervene on behalf of patients, early in disease progression, has the potential to result in more positive outcomes and QoL.

**SPEAKER:** Francy Shu, MD, Neurology, Baylor Scott & White Medical Center

### REGISTRATION

**7:00 AM – 6:30 PM**

**Grand Ballroom Foyer (5th Floor)**

### CONTINENTAL BREAKFAST

**7:00 AM - 9:00 AM**

**Franklin Ballroom Foyer (4th Floor)**

### TRAINEE BREAKFAST WITH ANA BOARD OF DIRECTORS

**7:00 AM – 7:30 AM**

**Salons A-B (5th Floor)**

### SATELLITE SYMPOSIUM

### THE CHANGING FUTURE FOR PATIENTS WITH RETT SYNDROME AND THEIR FAMILIES: EARLY DIAGNOSIS AND EMERGING THERAPIES TO REDUCE THE BURDENS OF DISEASE\*

**6:00 AM – 7:00 AM**

**Salon C-D (5th Floor)**

*Provided by PeerView Institute for Medical Education*

*These symposia are not part of the ANA official educational program, and the sessions and content are not endorsed by ANA.*

The faculty experts will discuss Rett syndrome (RTT) and provide strategies for timely diagnosis and application of the recent consensus guidelines for the multidisciplinary management for RTT, as well as discuss the most up-to-date evidence on novel and emerging therapies targeting MECP2 gene function and practical perspectives in decision-making for patients in daily practice. The program will include a short overview of the epidemiology of RTT, including the patient burden and the need for safe, efficacious treatments; an outline of practice and healthcare gaps, including delayed diagnosis/misdiagnosis; and address the challenges of formulating individualized plans while helping families access support and resources, emphasizing the importance of early initiation of multidisciplinary therapies and appropriate targeted treatments.

The diagnostic portion of the symposium will provide an overview of the four stages of RTT and how the stages typically manifest; challenges in diagnosing RTT (eg, subtlety of initial presentation); conditions in the differential diagnosis (eg, autism, cerebral palsy, Angelman syndrome, neuronal ceroid lipofuscinosis, and nonspecific developmental delay); and diagnostic criteria for classic and atypical RTT. The faculty will also present best practices in diagnostic protocols, including application of the revised diagnostic criteria that includes consideration of main, supportive, and exclusion criteria; testing for MECP2, including clinical decision-making in the absence of the MECP2 mutation; and use of supportive criteria in the case of atypical RTT. Through a case presentation, they will provide examples of common roadblocks to timely diagnosis and how these roadblocks can be avoided.

The multidisciplinary management portion of the symposium will draw from the 2020 consensus guidelines for the management of RTT, as well as address the role of care and assessments from clinicians in fields such as gastroenterology, nutrition, psychology, sleep and pain medicine, orthopedics and rehabilitation, cardiology, pulmonology/respiratory therapy, endocrinology, urology, in addition to neurology. They will present special concerns (eg,



## SUNDAY, SEPTEMBER 10, 2023 (CONTINUED)

### SATELLITE SYMPOSIUM

anesthesia needs, risk of injury from fall, and educational considerations) and what the guidelines suggest about anticipating and responding to patients' evolving needs over time, again using one or more illustrative cases.

The final portion of the symposium will address targeting the MECP2 mutation as a treatment strategy, beginning with the current understanding of MECP2 mutations as the primary causative factor in RTT, explaining the affected downstream targets and their influence on synaptic function and resulting neurologic deficits. A 3D animation will depict the effects of the mutation on synaptic function. The faculty will also review new and emerging treatments (eg, trofinetide, blarcamesine, ketamine, and dextromethorphan), looking at MOA and downstream targets of each, current approval status, trial designs, available data, and potential impact on patient outcomes. They will also address the forthcoming studies of gene therapies for RTT before discussing another case and concluding with a summary and Q&A.

**CO-CHAIR & SPEAKER:** Jeffrey L. Neul, MD, PhD, Vanderbilt Kennedy Center

**CO-CHAIR & SPEAKER:** Alan Percy, MD, The University of Alabama at Birmingham

### PROFESSIONAL DEVELOPMENT WORKSHOPS

#### VIEW FROM THE NINDS, NIA, NICHD, DOD AND VA\*

##### Early Career & Early to Mid-Career Level Workshop 1

**7:30 AM - 9:00 AM**

**Franklin Hall 4 (4th Floor)**

**CHAIR:** Claire Henchcliffe, MD, DPhil, FANA, University of California, Irvine

**CO-CHAIR:** Ali Ezzati, MD, Albert Einstein College of

#### Medicine

This is a panel session of the leadership of the NINDS, NIA, NICHD, DOD and the VA, providing information on resources available for research from the institutions, how to apply, and pearls to help new and experienced investigators navigate the funding systems.

#### LEARNING OBJECTIVES:

- List opportunities for neuroscience and neurology research at the NINDS, NIA, NICHD, DOD, and VA.
- Describe the infrastructure of the NINDS, NIA, NICHD, DOD, and VA as it pertains to neurology and neuroscience research.
- Identify training and career development opportunities available for academic neurologists and neuroscientists at the NINDS, NIA, NICHD, DOD, and VA.

#### View from the National Institute of Neurological Disorders and Stroke

**SPEAKER:** Walter Koroshetz, MD, FANA, National Institute of Neurological Disorders and Stroke

#### Funding Opportunities at the VA

**SPEAKER:** Amanda Hunt, PhD, US Department of Veterans Affairs

#### NIA AD/ADRD Opportunities Update

**SPEAKER:** Eliezer Masliah, MD, National Institute on Aging (NIA)

#### View from the NICHD, Overview of NIH Funding Opportunities

**SPEAKER:** Joe Bonner, PhD, National Institute of Child Health and Human Development

#### ADVANCED PRACTICE PROVIDERS AND HOW THEY FIT INTO NEUROLOGY\*

##### AUPN Chair Career Level Workshop 1

**7:30 AM - 9:00 AM**

**Franklin Hall 2 (4th Floor)**

**CHAIR:** Richard O'Brien, MD, PhD, Duke University



## SUNDAY, SEPTEMBER 10, 2023 (CONTINUED)

### PROFESSIONAL DEVELOPMENT WORKSHOPS

This course will discuss the advantages and challenges of using Advanced Practice Providers (APP's) in Outpatient and Inpatient Neurological settings. Given the shortage of neurologists and neurological residents, departments must look to alternative methods to care for the tsunami of patients we care for in both inpatient and outpatient settings.

#### LEARNING OBJECTIVES:

- How APPs are currently utilized in Neurological Practices.
- Training and Background for Neurological APPs
- Settings and practices in which APPs thrive.

#### Advanced Practice Providers and How They Fit into Neurology

**SPEAKER:** Aashit Shah, MD, FANA, Virginia Tech Carilion School of Medicine

#### Financial Considerations for APPs in Academic Neurology Practice

**SPEAKER:** Dane Chetkovich, MD, PhD, FANA, Vanderbilt University Medical Center

#### The Key Role of APP's in Opening and Expanding Services

**SPEAKER:** Salvador Cruz-Flores, MD, MPH, FANA, Texas Tech University Health Sciences Center, El Paso

#### Managing APPs Within an Academic Neurology Department

**SPEAKER:** Gwenn Garden, MD, PhD, FANA, University of North Carolina

### BUILDING A CAREER IN THE MEDICAL EDUCATOR TRACK\*

#### Program/Residency Director Level Workshop 1

**7:30 AM - 9:00 AM**  
**Franklin Hall 3 (4th Floor)**

**CHAIR:** Rohini Samudralwar, MD, University of Pennsylvania

**CO-CHAIR:** Christa Nobleza, MD, University of Tennessee

The core missions in academic neurology are patient care, education, and research. The clinician pathway as well as the research pathway for professional development are usually clearly defined. The progress of a clinician can be measured by productivity metrics such as relative value units. There is various training and specialty fellowships that can be done for a clinical pathway. Knowing the career path one takes is important to decrease burnout and increase career satisfaction. On the other hand, research tracks established include the pre-NIH or NIH-established tracks as well as available Master of Science courses and degrees for faculty in research. Little is known regarding tracks for medical education. The role and pathway of a medical educator in academic neurology are not clearly defined. Although some institutions have delineated programs for faculty to be a medical educator, this has not been widely recognized. There is a need for increased awareness, dissemination, and consistency of this professional development track for academic neurologists. This session will provide the foundation for which the milestones, approach to grant funding, identification of one teaching philosophy, and how educational research information should be shared. Experts in the field of medical education in academic neurology will discuss these topics as well as answer questions from the audience.

#### LEARNING OBJECTIVES:

- Following this session, the learner will be able to define the building blocks and milestones throughout the career of an academic medical educator.
- Following this session, the learner should be



## SUNDAY, SEPTEMBER 10, 2023 (CONTINUED)

able to describe the approaches to successful medical education grant funding and application.

- Following this session, the learner should be able to define and describe teaching philosophies in academic neurology.
- Following this session, the learner will be able to describe meaningful mechanisms to disseminate educational findings in academic neurology.

### PROFESSIONAL DEVELOPMENT WORKSHOPS

#### **Career Milestones in the Clinician Educator Track: Beyond Bedside Teaching in Academic Neurology**

**SPEAKER:** Amy Pruitt, MD, University of Pennsylvania

#### **Grant Funding as a Clinician Educator in Academic Neurology**

**SPEAKER:** Nicholas Morris, MD, University of Maryland School of Medicine

#### **Disseminating Educational Findings in Academic Medicine**

**SPEAKER:** Roy E. Strowd, MD, MEd, MS, FAAN, Wake Forest School of Medicine

#### **Defining your Teaching Philosophy in Academic Neurology**

**SPEAKER:** Deborah Bradshaw, MD, FAAN, SUNY Upstate Medical University

### BREAK

9:00 AM - 9:15 AM

### PLENARY SESSION

#### **WELCOME & OPENING REMARKS**

9:15 AM - 9:30 AM

Salons E-F (5th Floor)

#### **THE ROLE OF RNA-BINDING PROTEINS AND RNA METABOLISM IN NEUROLOGICAL DEVELOPMENT AND DISEASE\***

9:30 AM - 11:30 AM

Salons E-F (5th Floor)

**CHAIR:** Sheng-Han Kuo, MD, Columbia University

**CO-CHAIR:** Vikram Khurana, MD, PhD, Brigham and Women's Hospital

Cells modify their protein repertoire in response to a specific stimulus, much of which is controlled at the post-transcriptional level by the coordinated activity of RNA-binding proteins (RBPs). RBPs regulate their targets' transport, localization, translation, metabolism, and decay. These functions seem to be particularly critical in the brain, where the precise amount of mRNA transcripts and thus the resultant protein must be available at the right amount. Increasing evidence points to abnormal RNA metabolism as a common pathogenic mechanism in several neurodevelopmental and neurodegenerative diseases. However, while little is known about the functions of RBPs and RNA regulation in brain development or disease, recent studies have been able to pinpoint the root cause and mechanisms of disease, as well as therapeutic options. We will discuss how alterations in RNA and their related RBPs can lead to neurodevelopmental and/or neurodegenerative disorders, as well as potential therapeutic approaches.

#### **LEARNING OBJECTIVES:**

- Learn the basic RNA biology and RNA binding protein homeostasis.
- Understand the new development of anti-sense oligonucleotide and CRISPR technologies.
- Learn the implications for neurodegenerative and neurodevelopmental disorders.





## SUNDAY, SEPTEMBER 10, 2023 (CONTINUED)

### **Same Gene, Different Variants, Different Phenotypes: The Puzzling Case of the RNA-binding Protein Pumilio1 (SCA47)**

**SPEAKER:** Vincenzo A. Gennarino, PhD, Columbia University Irving Medical Center

### **Disruption of RNA Metabolism in Neurodegeneration and Emerging Therapeutic Strategies**

**SPEAKER:** Clotilde Lagier-Tourenne, MD, PhD, FANA, Massachusetts General Hospital and Harvard

### **From Vesicle Trafficking to mRNA Metabolism: A Double-Life for the Parkinson's Protein Alpha-Synuclein**

**SPEAKER:** Vikram Khurana, MD, PhD, Brigham and Women's Hospital

### *Soriano Lectureship Award*

### **Repeating Themes in Human Neurologic Disease**

**SPEAKER / AWARD RECIPIENT:** Peter Todd, MD, PhD, FANA, University of Michigan

### **Improved Survival, Strength, And Neuroinflammation in a Mouse Model of Sporadic ALS After Novel AAV-mediated Delivery of RNAi Targeting Atxn2**

**EMERGING SCHOLAR SPEAKER:** Defne Amado, MD, PhD, University of Pennsylvania

### **Experimental Confirmation of PI3KR1 Gene Mutation as a Cause of ALS-Like Syndrome Associated with Primary Immunodeficiency**

**EMERGING SCHOLAR SPEAKER:** Farinaz Safavi, MD, PhD, National Institute of Allergy and Infectious Diseases (NIAID)/National Institutes of Health (NIH)

## BREAK

11:30 AM - 11:45 AM

## GRAB-AND-GO LUNCH

11:30 AM - 12:45 PM

Franklin Ballroom Foyer (4th Floor)

## POSTER VIEWING

12:00 PM - 7:00 PM

Franklin Hall B (4th Floor)

## INTERACTIVE LUNCH WORKSHOPS

## ADVANCES IN NEUROLOGIC DEVICES\*

11:45 AM - 12:45 PM

Salons C-D (5th Floor)

**CHAIR:** Richa Tripathi, MD, Emory University

**CO-CHAIR:** Eric Wong, MD, FANA, FAAN, Warren Alpert Medical School of Brown University

Over the last decade, there has been a dramatic change in the management of several neurological disorders. One of the biggest components is the use of devices that rely on the principles of neuromodulation to treat disorders. Not all hospitals or academic centers in the country have access to the same. There is a lack of knowledge about the applicability and use of such treatment options among neurologists that may not have directly dealt with these devices. This session aims to communicate the latest scientific data and clinical application of neurologic devices. This topic is important and timely due to the proliferation of FDA-approved devices for numerous neurologic disorders. Even though this session does not aim to train the audience in using such devices, our hope is that the audience understands the basic principles of action as well as the clinical utility of such devices. This would facilitate appropriate referral to institutes that can provide the required care for the patient. Such devices have not only shown significant long-term impact, but in fact early intervention has been encouraged for overall improved quality of life. At times therapy devices may allow the use of less toxic non-invasive interventions such as the use of treating tumor fields in glioblastoma. We will cover deep brain stimulation in movement disorder, and spinal cord stimulation as well as tumor-treating



## SUNDAY, SEPTEMBER 10, 2023 (CONTINUED)

### INTERACTIVE LUNCH WORKSHOPS

devices in neuro-oncology this year.

#### LEARNING OBJECTIVES:

- Deep Brain Stimulation in various movement disorders: Potential risks and benefits of the procedures. Potential candidates for procedures. Available technology that aids DBS programming. Future directions of DBS.
- Spinal cord stimulators for pain: Potential risks and benefits of the procedures. Potential candidates for procedures. Available technology that aids spinal cord stimulation including patient remote control.
- Tumor treating fields therapy: Potential risks and benefits of the procedures. Potential candidates for procedures. Management of medication and device therapy in glioblastoma. Future directions of tumor treating fields therapy.

#### Spinal Cord Stimulation - Therapy and Advances

**SPEAKER:** Peter Konrad, MD, PhD, West Virginia University - Rockefeller Neuroscience Institute

#### Deep Brain Stimulation in Movement Disorders - Therapy and Advances

**SPEAKER:** Christine Esper, MD, Emory University School of Medicine

#### Neurologic Device for Glioblastoma and Scientific Basis of Tumor Treating Fields

**SPEAKER:** Eric Wong, MD, FANA, FAAN, Warren Alpert Medical School of Brown University

### EMERGING LIVER BRAIN AXIS IN NEURODEGENERATION\*

**11:45 AM - 12:45 PM**

**Franklin Hall 2 (4th Floor)**

**CHAIR:** James Gugger, MD, PharmD, University of

Pennsylvania

**CO-CHAIR:** Neal Parikh, MD, MS, RPNI, Weill Cornell Medicine

This session will provide an in-depth overview of data supporting the epidemiology and mechanisms that pertain to the emerging recognition that liver-related factors and liver disease contribute to neurodegenerative disease, cognitive impairment, dementia, and brain aging. It is now well-accepted that isolated neurodegeneration is the exception and not the rule. In other words, many people with cognitive impairment and dementia have multiple contributory factors. While vascular disease and vascular risk factors have received much attention, there is growing recognition of the contribution of systemic factors. The number of publications on the impact of liver disease and related conditions on cognitive impairment and dementia has dramatically increased in the past 5 years. Advances in this area include multiple, complementary epidemiological analyses demonstrating a compelling link between liver disease and cognitive impairment/dementia, mechanistic work pertaining to standard Alzheimer's disease biomarkers, and provocative work regarding liver-derived factors and neurogenesis. A forum to discuss these advances will foster creative collaboration across disciplines and may clarify research priorities in this area.

#### LEARNING OBJECTIVES:

- Describe the changing epidemiology of chronic liver diseases.
- Recognize the impact of clinical and subclini-



## SUNDAY, SEPTEMBER 10, 2023 (CONTINUED)

### INTERACTIVE LUNCH WORKSHOPS

cal liver disease on cognitive impairment and dementia.

- Understand at least three potential mechanisms by which liver-related factors may impact cognitive brain health.

#### **The Liver-Brain Axis: An Epidemiological Perspective on Cognitive Impairment and Dementia**

**SPEAKER:** Neal Parikh, MD, MS, RPNI, Weill Cornell Medicine

#### **Systemic Mechanisms of Exercise Induced Brain Rejuvenation**

**SPEAKER:** Saul Villeda, PhD, University of California, San Francisco, School of Medicine

#### **Insights From ADNI: Altered Bile Acid Profiles and AD Markers**

**SPEAKER:** Kwangsik Nho, PhD, Indiana University School of Medicine

#### **Insights from the Framingham Study: NAFLD, Liver Fibrosis, and Neurodegeneration**

**SPEAKER:** Galit Weinstein, PhD, University of Haifa

### NEW PARADIGMS IN CLINICAL TRIAL DESIGN\*

**11:45 AM - 12:45 PM**

**Franklin Hall 3 (4th Floor)**

**CHAIR:** Cassie Mitchell, PhD, Georgia Institute of Technology & Emory University School of Medicine

**CO-CHAIR:** Lauren Reoma, MD, FAAN, National Institute of Neurological Disorders and Stroke

This session will provide an overview of new paradigms in clinical trial design as it relates to neurological diseases and disorders. This ILW will include integrated perspectives from the National Institute of Neurological Disorders and Stroke (NIH-NINDS), the Food and Drug Administration

(FDA), and clinical trial initiatives in academic neurology. Session topics will include interactive presentation and discussion of new paradigms in clinical trial design, new innovations, and new technology endpoints for clinical trials.

#### **LEARNING OBJECTIVES:**

- Identify and implement novel technologies (recruitment, monitoring/assessment, outcomes) into new clinical trial paradigms.
- Understand and appropriately implement government perspectives and policies for implementation of technology into new clinical trial paradigms.
- Identify the strengths and weaknesses of new clinical trial paradigms for neurological disease or injury.

#### **NIH-NINDS Perspectives on New Clinical Trial Designs for Neurological Disorders**

**SPEAKER:** Lauren Reoma, MD, FAAN, National Institute of Neurological Disorders and Stroke

#### **New Screening Models in Neurological Clinical Design**

**SPEAKER:** Bryan Traynor, MD, PhD, MMSc, FRCPI, FRCP, FANA, National Institutes of Health (NIH)

#### **AI and Machine Learning for Clinical Trials**

**SPEAKER:** David Page, PhD, Duke University

### NEUROLOGICAL MANAGEMENT OF PERSONS LIVING WITH HIV\*

**11:45 AM - 12:45 PM**

**Franklin Hall 4 (4th Floor)**

**CHAIR:** Beau Ances, MD, PhD, MSc, FANA, Washington University in St. Louis

**CO-CHAIR:** Felicia Chow, MD, MAS, University of California, San Francisco

HIV is a leading cause of cognitive impairment



## SUNDAY, SEPTEMBER 10, 2023 (CONTINUED)

### INTERACTIVE LUNCH WORKSHOPS

worldwide in persons less than 50 years old. This session will focus on three common co-morbidities that are typically seen in persons living with HIV (PLWH) in the modern combination anti-retroviral therapy (CART) era. Talks will focus on diagnosis of epilepsy in PLWH especially in low- and middle-income countries, the relationship between stroke (ischemic and hemorrhagic) in PLWH with a concentration on gender differences, and aging with HIV, especially the potential role of Alzheimer disease in this population.

#### LEARNING OBJECTIVES:

- How to take care of PLWH who have epilepsy.
- How to take care of PLWH who have cerebrovascular disease.
- How to take care of PLWH who are aging.

#### Epilepsy in People Living with HIV (PLWH)

**SPEAKER:** Gretchen L. Birbeck, MD, MPH, DTMH, FANA, University of Rochester, and University of Zambia

#### HIV and Alzheimer's Disease

**SPEAKER:** Beau Ances, MD, PhD, MSc, FANA, Washington University in St. Louis

#### Strokes and HIV

**SPEAKER:** Felicia Chow, MD, MAS, University of California, San Francisco

---

### TEACHING TELEMEDICINE IN NEUROLOGY\*

11:45 AM - 12:45 PM

Franklin Hall 13 (4th Floor)

**CHAIR:** Andrew Kayser, MD, PhD, FANA, University of California, San Francisco

**CO-CHAIR:** Amanda Jagolino-Cole, MD, FANA, McGovern School of Medicine, UT Health, Houston

The onset of the COVID-19 pandemic greatly accelerated the utilization of telemedicine and the development of online tools and approaches to provide care remotely for patients. As the provision of teleneurology care has continued to grow and evolve, an increased understanding of its benefits and limitations has also spurred efforts to further develop teleneurology education – e.g. to codify specific learning objectives, to understand the settings in which such education is delivered, and to develop tools (such as simulation) to help neurology educators facilitate teleneurology education. In this rapidly changing environment, helping educational approaches to keep pace will be a critical goal of academic neurology.

#### LEARNING OBJECTIVES:

- Establish learning objectives for teleneurology.
- Understand the role of simulation in enabling and enhancing teleneurology education.
- Determine the best setting (online, in-person, or hybrid) for teaching teleneurology concepts and skills.

#### Simulation for Teleneurology

**SPEAKER:** Alicia Zha, MD, The Ohio State University Wexner Medical Center

#### Online, In-Person, and Hybrid Teleneurology Education

**SPEAKER:** Shivika Chandra, MD, McGovern Medical School, UTHealth - Houston

#### Learning Objectives for Teleneurology

**SPEAKER:** Lee Chung, MD, University of Utah

---





## SUNDAY, SEPTEMBER 10, 2023 (CONTINUED)

### ADDITIONAL INTERACTIVE LUNCH WORKSHOPS

#### 23RD ANNUAL WOMEN OF THE ANA ANNUAL LUNCHEON - PAVING A PATH FORWARD FOR WOMEN DESPITE CHALLENGES IN ACADEMIC NEUROLOGY: A FOCUS ON SOLUTIONS\* INTERACTIVE ROUNDTABLE

**11:45 AM - 12:45 PM**  
**Salons A-B (5th Floor)**

**CHAIR:** Christa Nobleza, MD, University of Tennessee

**CO-CHAIR:** Shilpi Mittal, MD, Thomas Jefferson University Hospital

The challenges experienced by women in academic neurology encompass multifactorial and multi-layer issues (1). Until now, women continue to face challenges exacerbated by the COVID-19 pandemic from lack of time, financial challenges, labor and staffing shortages, and personal protected space (1, 2). Women face different societal and career expectations that need a unique approach when discussing solutions. These challenges are faced by trainees, early-, mid- and late-career women in academic neurology. Specific issues on mentorship, professional development, sponsorship, academic and clinical productivity, and implicit bias have been tackled before; however, discussions on actionable solutions have been limited. This session is unique in that the focus of the round tables is to discuss the solutions to the known challenges faced by women in academic medicine. Experts and advocates of professional development for women in academic neurology are going to lead the round table discussions. Three round tables with themes including: Gender disparities in academic Neurology; The role of departmental leadership in women professional development advocacy and the role of policies and procedures and women advocacy. The initial part of the session will

be each expert panel discussing their experience as it pertains to challenges women face and some actionable solutions they explored. It is followed by 20-minute round table discussions where attendees will move through each table and participate in this interactive session.

#### LEARNING OBJECTIVES:

- Following this session, the learners will be better prepared to propose solutions to challenges associated with gender disparity in their respective institutions.
- Following this session, the learners will be able to have conversations with their departmental leadership to discuss challenges and proposed solutions for challenges faced by women in their respective institutions.
- Following this session, the learners will be able to apply their knowledge of policies and procedures as it applies to challenges faced by women in academic neurology.

#### Review of Gender and Racial Disparities in Academic Neurology and Potential Solutions

**SPEAKER:** Sima Patel, MD, University of Minnesota

#### Legal Protections for Working Mothers: Things Are Looking Up

**SPEAKER:** Deborah Bradshaw, MD, FAAN, SUNY Upstate Medical University

#### The Role of Department Leadership in Women's Professional Development and Advocacy

**SPEAKER:** Lazar John Greenfield, MD, PhD, FANA, University of Connecticut Health Center - UConn Health

.....



## SUNDAY, SEPTEMBER 10, 2023 (CONTINUED)

### ADDITIONAL INTERACTIVE LUNCH WORKSHOPS

#### AMERICAN BOARD OF PSYCHIATRY AND NEUROLOGY (ABPN) CONTINUING CERTIFICATION (CC) PROGRAM\*

**11:45 AM - 12:45 PM**

**Conference Room 403 (4th Floor)**

**CHAIR AND SPEAKER:** Steven Lewis, MD, FANA, American Board of Psychiatry & Neurology, Inc. / Lehigh Valley Fleming Neuroscience Institute

This session provides an overview of the ABPN's Continuing Certification Program, including an update on the ABPN's Article Based Continuing Certification (ABCC) Pathway.

#### MEET THE RESIDENCY PROGRAM DIRECTORS\*

**11:45 AM - 12:45 PM**

**Franklin Hall 1 (4th Floor)**

**CHAIR:** Elisabeth B. Marsh, MD, FAHA, FANA, FAAN, Johns Hopkins University School of Medicine

**CO-CHAIR:** Raymond S. Price, MD, FANA, University of Pennsylvania

This interactive session is a great time for those interested in pursuing a neurology residency to meet the current residency program directors, and those already in a program to network with others, establishing new potential relationships for future mentorship or collaboration.

#### LEARNING OBJECTIVE:

- Following this session, attendees will have had the opportunity to network and establish new relationships for mentoring or collaboration.

### PLENARY SESSION

#### PRESIDENTIAL SYMPOSIUM - EXPLORING SLEEP DISTURBANCE IN CNS DISORDERS\*

**1:00 PM - 3:00 PM**

**Salons E-F (5th Floor)**

**CHAIR:** Frances E. Jensen, MD, FACP, FANA, University of Pennsylvania

**CO-CHAIR:** Heather Snyder, PhD, Alzheimer's Association

Sleep is an underexplored component of many disease processes within neuropsychiatry. In addition, it may serve as a biomarker for disease and a therapeutic target. Sleep is not measured in many clinical trials of devices, pharmaceuticals, and biomarkers. This symposium will highlight the importance of recognizing sleep state in clinical trial design. Additionally, sleep is not recognized as a potential mitigatable target for the treatment of progressive neurological disorders, where sleep disturbance can often be a prodrome in the early stages of the disease. This symposium aims to make stakeholders aware of the importance of sleep in measuring neurobehavioral outcomes and disease progression.

#### LEARNING OBJECTIVES:

- Understand the current state of knowledge regarding the mechanisms, function, and characterization of sleep, including changes across the lifespan.
- Identify how a genes-first approach can illuminate the bi-directional relationship between disturbed sleep and CNS disorders.
- Consider potential relationships among disturbed sleep, CNS disorders, and environmental factors associated with both disturbed sleep and increased risk for CNS disorders, including discussing related disparities and approaches



## SUNDAY, SEPTEMBER 10, 2023 (CONTINUED)

### PLENARY SESSION

to disentangling causal versus contributing factors.

- Discuss research gaps and opportunities for cross-disciplinary collaboration between sleep experts and those focused on CNS disorders.

#### Introduction

**SPEAKER:** Louis Ptáček, MD, FANA, University of California, San Francisco

#### Sleep and Neurodevelopmental Conditions

**SPEAKER:** Beth Malow, MD, MS, FANA, Vanderbilt University Medical Center

#### *F.E. Bennett Memorial Lectureship Award*

#### Glymphatic System – and Relationship to Disorder

**SPEAKER / AWARD RECIPIENT:** Maiken Nedergaard, MD, DMSc, University of Rochester Medical Center / University of Copenhagen

#### Bidirectional Relationship Between Sleep and Alzheimer Disease - Related Pathology

**SPEAKER:** David Holtzman, MD, FANA, Washington University in St. Louis

#### Genetic Sleep Variants Protect Against Alzheimer-Like Diseases

**SPEAKER:** Ying-Hui Fu, PhD, University of California, San Francisco

### BREAK

**3:00 PM - 3:30 PM**

### CROSS-CUTTING SPECIAL INTEREST GROUPS

#### HEALTH SERVICES AND HEALTH EQUITY RESEARCH\*

**3:30 PM - 5:00 PM**

**Salons C-D (5th Floor)**

**CHAIR:** Sahar Zafar, MD, MBBS, MSc, Massachusetts General Hospital

**CO-CHAIR:** Neha Dangayach, MD, Mount Sinai Health System

Health services research (HSR) is a rapidly growing area of research within Neurology. HSR focuses on developing evidence-based solutions to increase access and equity in healthcare, delivering high-quality and cost-efficient care, and ultimately improving outcomes across the patient journey. There is increasing recognition of racial and ethnic inequalities in the delivery of neurologic care, and an urgent need to address these disparities. These inequities have been further amplified by the COVID-19 pandemic. This SIG focuses on the application of different HSR approaches to improve the quality and value of neurologic care, education, and research. The SIG will provide an overview of the development and clinical implementation of quality measures that have been shown to improve patient care across a spectrum of neurologic diseases. The SIG will also review disparities in neurologic research, academia, and best practices to overcome these disparities. Increasing awareness, formal curricula that incorporate unconscious bias, allyship training for trainees and faculty, diversity councils, evidence-based practices to improve recruitment and retention of diverse populations in clinical trials, and training artificial algorithms on data from diverse populations have the potential to address disparities in clinical care, research, and education.

#### LEARNING OBJECTIVES:

- Define health services research approaches to improve the quality of neurologic care and



## SUNDAY, SEPTEMBER 10, 2023 (CONTINUED)

### CROSS-CUTTING SPECIAL INTEREST GROUPS

address healthcare disparities.

- Discuss the role of clinical and community partnerships in improving delivery of neurologic care.
- Demonstrate the utility of big data/AI in evaluating patient outcomes, healthcare safety and efficiency.

#### Disparities in Research: Recruitment and Funding

**SPEAKER:** Adam de Havenon, MD, MS, Yale University

#### Disparities in Education: Curricula and Representation

**SPEAKER:** Rebecca Matthews, MD, Emory University School of Medicine

#### Disparities in Clinical Care: Access, Outcomes and Best Practices

**SPEAKER:** Altaf Saadi, MD, MSc, Massachusetts General Hospital, Harvard Medical School

#### Recruiting and Retaining a Diverse Neurology Workforce: The Pipeline from 2011 to 2022

**ORAL ABSTRACT PRESENTER:** George Ghaly, BA, New York Medical College

#### Evidence-Based Implementation of Free Phenytoin and Free Valproate Therapeutic Drug Monitoring to Reduce Costs and Improve Patient Care at the University of Texas Medical Branch

**ORAL ABSTRACT PRESENTER:** Hannah Lu, BSA, University of Texas

#### Disparities in Access to and Experience with Technology and Teleconferencing in MCI Subjects

**ORAL ABSTRACT PRESENTER:** Abhinav Bhamidipati, BS, University of Pennsylvania

### NEUROGENETICS AND GENE THERAPY\*

**3:30 PM - 5:00 PM**

**Salons A-B (5th Floor)**

**CO-CHAIR:** Suman Jayadev, MD, University of Washington

**CO-CHAIR:** Andrea Gropman, MD, FANA, Children's National Medical Center

Biomarkers offer a way to accelerate biomedical research by uncovering the pathophysiological mechanisms of disease. Biomarkers can also be novel tools for monitoring disease progression, prognosis, and response to drugs, especially in clinical trials, where they can be used to assess the efficacy, efficiency, and side effects of novel drugs or therapies.

Although rare genetic diseases may be less appealing targets for pharmaceutical companies, they are nevertheless in urgent need to evaluate ways for rapid diagnosis, and treatment, and establishing care guidelines. Due to the small number of patients with a particular rare disease, standard methods of clinical trials may not be appropriate. It is important for rare disease groups and FDA to discuss challenges and strategies to move forward to drug approval for these conditions. This SIG will meet this gap in knowledge.

#### LEARNING OBJECTIVES:

- Recognize how FDA qualifies biomarkers and how they may be used for clinical trials.
- Understand the FDA process towards IND and clinical trials.
- Be better equipped to assemble a phase 1 study, be aware of what biomarkers are acceptable and understand primary and safety endpoints.





## SUNDAY, SEPTEMBER 10, 2023 (CONTINUED)

### CROSS-CUTTING SPECIAL INTEREST GROUPS

#### Discovery of Multi-Omic Plasma Biomarkers for Adrenomyeloneuropathy

**SPEAKER:** Ali Fatemi, MD, MBA, Kennedy Krieger Institute

#### Clinical Trial Readiness: Rare Inherited Neuropathies

**SPEAKER:** Michael E. Shy, MD, FANA, Carver College of Medicine, University of Iowa

#### Somatic Variants Activating Ras-MAPK Signaling Cause a Spectrum of Focal Lesions Associated with Mesial Temporal Lobe Epilepsy

**ORAL ABSTRACT PRESENTER:** Sattar Khoshkoo, MD, Brigham and Women's Hospital

#### Inducible Genetically-Encoded Voltage Indicator for Non-Invasive Functional Analysis of Human Stem Cell-Derived Neurons

**ORAL ABSTRACT PRESENTER:** Scott Adney, MD, PhD, Northwestern University

#### Mendelian Randomization of Inflammatory Markers to Show Their Causal Role in Multiple Sclerosis Pathophysiology

**ORAL ABSTRACT PRESENTER:** Sara Seyedroudbari, BA, Drexel University College of Medicine

### NEUROINFLAMMATION AND NEUROINFECTION\*

**3:30 PM - 5:00 PM**  
**Franklin Hall 3 (4th Floor)**

**CHAIR:** Kiran Thakur, MD, Columbia University

**CO-CHAIR:** Felicia Chow, MD, University of California, San Francisco

The inflammatory response in the nervous system plays a key role in the development and spread of infectious diseases in the nervous system. Animal and human-based studies are providing critical insights into the interplay of infectious pathogens

and the immune system. Here, we aim to understand the interactions between the invaders and the body's defense mechanisms, the importance of the inflammatory response for the progression of diseases, and current developments of new forms of therapy for neuroimmunological diseases. Our session will address mechanistic insights into neuroinflammation in neuroinfectious diseases and will highlight genetic host factors and pathogen-specific factors in animal studies. We will highlight how these mechanistic insights inform human-based treatment studies, specifically highlighting clinical trials for novel treatments in progressive multifocal leukoencephalopathy. Our speakers are accomplished scientists leading the field of neuroinflammation and neuroinfection.

#### LEARNING OBJECTIVES:

- Develop knowledge on mechanistic studies on neuroinflammation in Animal Models in Neuroinfectious Diseases.
- To describe genetic factors associated with neuroinflammation and neuroinfectious diseases.
- Define ongoing clinical trials in neurological infections, including progressive multifocal leukoencephalopathy.

#### Leveraging Mechanistic Knowledge on Neuroinflammation in Treatment Trials for Progressive Multifocal Leukoencephalopathy

**SPEAKER:** Irene Cortese, MD, National Institute of Neurological Disorders and Stroke (NINDS), National Institutes of Health (NIH)

#### Mechanistic Studies on Neuroinflammation in Animal Models of Neuroinfectious Diseases

**SPEAKER:** Robyn Klein, MD, PhD, Washington University School of Medicine

#### Genetics in Neuroinflammation and Neuroinfectious Diseases

**SPEAKER:** Ariane Soldatos, MD, MPH, National



## SUNDAY, SEPTEMBER 10, 2023 (CONTINUED)

### CROSS-CUTTING SPECIAL INTEREST GROUPS

Institute of Neurological Disorders and Stroke (NINDS), National Institutes of Health (NIH)

#### **Acute Neurological Inflammatory Diseases in Colombia during the COVID-19 Pandemic: A Multi-Center Observational Study**

ORAL ABSTRACT PRESENTER: Susana Dominguez-Penuela, MD, Johns Hopkins University School of Medicine

#### **Satellite Microglia Have a Role in Regulation of Neuronal Excitability and Change in Response to Injury**

ORAL ABSTRACT PRESENTER: Amber Nolan, MD, PhD, University of Washington

#### **Cortical Microglia Heterogeneity in Remyelination and Aging**

ORAL ABSTRACT PRESENTER: Hannah Loo, BS, University of Pennsylvania

### NEURORECOVERY AND NEUROPLASTICITY\*

**3:30 PM - 5:00 PM**  
**Franklin Hall 4 (4th Floor)**

CHAIR: S. Thomas Carmichael, MD, PhD, FANA, University of California, Los Angeles

CO-CHAIR: Steven Cramer, MD, MMSc, FAAN, FAHA, FANA, University of California, Los Angeles

This session will develop a consensus of what neurorecovery is across neurological diseases, how this is studied, emerging principles, and directions forward. Topics covered will include mechanisms of recovery in the setting of stroke, multiple sclerosis, and spinal cord injury, spanning domains including motor and cognitive function.

### LEARNING OBJECTIVES:

- Understand the mechanisms of nervous system repair.
- Develop valid outcome measures and clinical trials for emerging therapies.
- Integrate protocols in clinical trials.

#### **Brain-Computer Interfaces in Neurorecovery**

SPEAKER: Leigh R. Hochberg, MD, PhD, FANA, Massachusetts General Hospital, Brown University, and Providence VA Healthcare

#### **New Systems of Care for Neurorehabilitation and Recovery**

SPEAKER: Preeti Raghavan, MBBS, Johns Hopkins University School of Medicine

#### **Biomarkers to Guide Restorative Therapies After Stroke**

SPEAKER: Steven Cramer, MD, MMSc, FAAN, FAHA, FANA, University of California, Los Angeles

#### **Potential Effects of Untreated Moderate-to-Severe Sleep-Related Breathing Disorders on the Number of Silent Episodes of Autonomic Dysreflexia during Sleep in People with Spinal Cord Injury**

ORAL ABSTRACT PRESENTER: Julio Furlan, MD, LLB, MBA, PhD, MSc, FRCPC, Toronto Rehabilitation Institute and University of Toronto

#### **Neural Correlates of Phantom Motor Execution: A Systematic Review and Functional Neuroimaging Meta-Analysis**

ORAL ABSTRACT PRESENTER: Kevin Pacheco-Barrios, MD, MSc, MPH, Harvard Medical School

### NEURODEGENERATION AND CELL DEATH\*

**3:30 PM - 5:00 PM**  
**Franklin Hall 13 (4th Floor)**

CHAIR: Alice Chen-Plotkin, MD, PhD, FANA, University of Pennsylvania



## SUNDAY, SEPTEMBER 10, 2023 (CONTINUED)

### CROSS-CUTTING SPECIAL INTEREST GROUPS

**CO-CHAIR:** Vikram Khurana, MD, PhD, Brigham & Women's Hospital

Neurodegenerative diseases represent one of the greatest unmet needs in medicine and neurology. The SIG on Neurodegeneration and Cell Death brings together ANA members with an interest in this area, thus providing a forum for discussion of recent science in this area and offering trainees an opportunity to learn about this area of our field.

#### LEARNING OBJECTIVES:

- Understand mechanisms underlying common neurodegenerative diseases.
- Identify cellular interactions that increase neuronal resilience.

#### **Somatic Mutation Profiling and Pathogenesis in Alzheimer's Disease by Single-Neuron Genome Sequencing**

**SPEAKER:** Michael Miller, MD, PhD, Brigham and Women's Hospital

#### **Astrocyte-Neuron Interactions in Health and Disease**

**SPEAKER:** Nicola Allen, PhD, Salk Institute for Biological Studies

#### **The Brain Transcriptome in Aging and Alzheimer's disease**

**SPEAKER:** Joshua Shulman, MD, PhD, Baylor College of Medicine

#### **Transdifferentiation: A Novel Tool for Disease Modeling and Translational Applications in Alzheimer's Disease**

**ORAL ABSTRACT PRESENTER:** Ching-Chieh Chou, PhD, Stanford University

#### **Amyloid Beta Fibrils Induce Microglial Biosynthesis of Heparan Sulfate Proteoglycans Leading to Increased Tau Phagocytosis and Seeding**

**ORAL ABSTRACT PRESENTER:** Brandon Holmes, MD, PhD, University of California, San Francisco

#### **A CRISPR Library Approach to Identify Microglial Genes That Regulate Uptake and Endolysosomal Trafficking of Aggregated Alpha-Synuclein**

**ORAL ABSTRACT PRESENTER:** Albert Davis, MD, PhD, Washington University School of Medicine

### NEURODEVELOPMENT\*

**3:30 PM - 5:00 PM**

**Conference Room 404 (4th Floor)**

**CHAIR:** Jodi Lindsey, MD, Kennedy Krieger Institute

**CO-CHAIR:** Miya Asato, MD, Kennedy Krieger Institute

Exposure science is increasingly considered in the pathogenesis of neurological diseases occurring during development and across the lifespan. As complex exposures interact with the body and nervous system, candidate critical time periods of development may shed light on potential mechanisms that result in CNS disease across the lifespan, such as mitochondrial disorders and Parkinson's disease. Insights into exposure effects on the body may identify points of intervention and prevention opportunities.

#### LEARNING OBJECTIVES:

- Identify potential candidate environmental exposures via an exposure history.
- Understand the importance of genetic susceptibility for commonly encountered disorders that may be compounded by exposomic mechanisms.
- Initiate and engage in ongoing efforts to contribute to data collection to better characterize and define classification of disorders and exposures.

#### **The Role of Exposomes in Neurodevelopment and CNS Disease**

**SPEAKER:** J. William Gaynor, MD, Children's Hospital



## SUNDAY, SEPTEMBER 10, 2023 (CONTINUED)

### CROSS-CUTTING SPECIAL INTEREST GROUPS

of Philadelphia

#### Gene-Environment Interaction in Neurodevelopmental Disorders

**SPEAKER:** Ashley Song, PhD, Johns Hopkins Bloomberg School of Public Health

#### Lessons from Researching the ALS Exposome

**SPEAKER:** Stephen Goutman, MD, MS, University of Michigan

#### Early Disruption of Epigenetic and Transcriptomic Organization after Prenatal Hypoxia Predicts Persistent Functional Deficits in Glutamatergic Neurons

**ORAL ABSTRACT PRESENTER:** Ana Cristancho, MD, PhD, Children's Hospital of Philadelphia

#### Gross Motor Function in Pediatric Onset TUBB4A-Related Leukodystrophy: GMFM-88 Performance and Validation of GMFC-MLD Use

**ORAL ABSTRACT PRESENTER:** Francesco Gavazzi, MD, PhD, Children's Hospital of Philadelphia

### POSTER VIEWING

**5:00 PM - 6:00 PM**  
**Franklin Hall B (4th Floor)**

### SATELLITE SYMPOSIUM

#### THE ROLE OF NEUROMUSCULAR TRANSMISSION FAILURE AND CLC-1 INHIBITION AS A NOVEL THERAPEUTIC APPROACH ACROSS NEUROMUSCULAR DISEASES; POSITIVE PROOF OF MECHANISM IN PATIENTS WITH MYASTHENIA GRAVIS

**5:15 PM - 6:15 PM**  
**Franklin Hall 1 (4th Floor)**

#### Sponsored by NMD Pharma

*These symposia are not part of the ANA official educational program, and the sessions and content are not endorsed by ANA.*

In a group of neuromuscular diseases, dysfunctions that cause excitation failures of muscle fiber action potential at the neuromuscular junction (NMJ) lead to excessive and, in some cases, life-threatening muscle weakness. Multiple cellular mechanisms can cause NMJ transmission failure in these diseases, commonly affecting the release of acetylcholine from pre-synaptic nerve terminals or the post-synaptic ability of muscle fibers to respond to that release.

During this symposium, we will examine how different neuromuscular diseases affect the NMJ transmission including spinal muscular atrophy, Charcot-Marie Tooth and myasthenia gravis. We will review current clinical evidence of these abnormalities in patients, their correlation with the severity of their symptoms and the potential of skeletal muscle-specific CLC-1 ion channels inhibition to correct these deficits.

Unpublished data results from a proof of mechanism study utilizing a novel and first in class CLC-1 inhibitor in patients with myasthenia gravis will be presented and discussed; patients enrolled in a randomized, double-blind, placebo-controlled, three-way crossover study received a CLC-1 inhibitor and demonstrated clinically relevant improvements.

#### SPEAKERS::

W. David Arnold, MD, University of Missouri

Thomas H. Pedersen, PhD, NMD Pharma

Jorge A. Quiroz, MD, MBA, NMD Pharma

### POSTER RECEPTION IN EXHIBIT HALL

**6:00 PM - 7:30 PM**  
**Franklin Hall B (4th Floor)**





## SUNDAY, SEPTEMBER 10, 2023 (CONTINUED)

### SATELLITE SYMPOSIUM

#### ALZHEIMER'S DISEASE: AN EXPERT DISCUSSION ON THE EVOLVING TREATMENT LANDSCAPE

**7:30 PM – 8:30 PM**

**Franklin Hall 2 (4th Floor)**

*Sponsored by Eisai*

*These symposia are not part of the ANA official educational program, and the sessions and content are not endorsed by ANA.*

With the advent of disease-modifying treatments (DMTs) for patients with early Alzheimer's disease, neurologists will encounter new queries from patients, their family, and care partners in primary and secondary care settings. Please join us as two prominent clinical experts in the field of Alzheimer's disease provide their insights on the evolving diagnostic and treatment landscape. The speakers will give their perspectives on several topics including: changes in the diagnostic workflow utilizing traditional and novel clinical tools; implementation of biomarkers to aid in AD diagnosis; patient appropriateness for potential disease-modifying treatments; managing patient expectations; and treatment outcomes and appropriate monitoring. This session will provide case-based examples of patient profiles and will highlight the perspective of clinicians, as well as patients, including those who are considering disease-modifying treatments as potential therapeutic options. Additionally, the speakers will discuss the benefits and risks associated with DMTs. This session aims to provide insights for general neurologists that may be helpful for the clinical management of patients with Alzheimer's disease and assist in the feasible implementation of new treatments.

**SPEAKERS:**

Darren Gitelman, MD, FAAN, FANA, Advocate Lutheran General Hospital

Jessica Zwerling, MD, MS, Albert Einstein College of

Medicine.....

#### NEW MEMBER MEET & GREET WITH ANA LEADERS PAST, PRESENT, AND FUTURE (BY INVITATION ONLY)

**7:00 PM - 8:30 PM**

**Independence Ballroom I (3rd Floor)**

#### INCLUSION/DIVERSITY/EQUITY/ANTI-RACISM/SOCIAL JUSTICE (IDEAS) COMMITTEE RECEPTION (BY INVITATION ONLY)

**7:30 PM - 9:00 PM**

**Independence Ballroom II (3rd Floor)**

## MONDAY, SEPTEMBER 11, 2023

### REGISTRATION

**6:30 AM – 7:30 PM**

**Grand Ballroom Foyer (5th Floor)**

### CONTINENTAL BREAKFAST

**6:30 AM - 8:30 AM**

**Franklin Ballroom Foyer (4th Floor)**

### SATELLITE SYMPOSIUM

#### MASTERING MS: TRANSLATING EVIDENCE INTO OPTIMAL MANAGEMENT PLANS

**6:00 AM – 7:00 AM**

**Franklin Hall 1 (4th Floor)**

*Sponsored by Physician's Education Resource*

*These symposia are not part of the ANA official educational program, and the sessions and content are not endorsed by ANA.*



## MONDAY, SEPTEMBER 11, 2023 (CONTINUED)

### SATELLITE SYMPOSIUM

The purpose of this continuing education (CE) activity is to update clinicians on the biomarkers, pathophysiology, current therapeutic landscape, emerging therapies, and management of symptoms with MS or its treatment. The importance of individualized treatment planning, shared decision-making, and effective communication to patients and care partners to improve long-term outcomes and QoL for patients living with MS will be discussed. This symposium will include a mix of didactic presentations and discussions guided by cases allowing learners to hear multiple perspectives on optimal approaches to diagnosing and managing MS. Ample time for audience Q&A will be included.

**SPEAKER:**

Fred Lublin, MD, Icahn School of Medicine, Mount Sinai

### PROFESSIONAL DEVELOPMENT WORKSHOPS

#### LANDING THE CAREER TRACK YOU WANT\*

##### *Early Career & Early to Mid-Career Level Workshop 2*

**7:00 AM - 8:30 AM**  
**Franklin Hall 4 (4th Floor)**

**CHAIR:** Peter Todd, MD, PhD, FANA, University of Michigan

**CO-CHAIR:** Sharon Lewis, MD, University of Pennsylvania

The goal of the session is to provide information to medical students, residents, and fellows as they get ready to move into fellow and faculty positions in different academic career tracks. We will have three speakers who will each provide insights into launching a career on their respective tracks (one Physician Scientist/primary researcher, one primary clinician, and one clinician fellowship director and primary educator). Each speaker will give a brief

presentation on their path to success and provide some advice from their personal journey and based on their experiences selecting fellows and new faculty. Then, all the speakers and the committee Chairs will join a panel to answer questions from the audience. The goal is for the event to be informal, to allow people to get valuable career advice and make networking connections with others in academic neurology.

**LEARNING OBJECTIVES:**

- Learn what to expect during the fellowship and faculty application process for physician scientists and clinician educators.
- Understand how to negotiate for an academic neurology position.
- Discover advice on best approaches to apply to and obtain your ideal fellowship or faculty position.

**On a Clinical Track to Neurology and Beyond**

**SPEAKER:** Sharon Lewis, MD, University of Pennsylvania

**Pathway to Medical Educator and Administrator**

**SPEAKER:** Erica A. Schuyler, MD, FANA, FAAN, Hartford HealthCare Ayer Neuroscience Institute

**Launching/Landing a Career as a Physician Scientist**

**SPEAKER:** Conrad C. Wehl, MD, PhD, FANA, Washington University in St. Louis

#### EARLY CAREER DEVELOPMENT FOR INTERNATIONAL GRADUATES\*

##### *Early Career & Early to Mid-Career Level Workshop 2*

**7:00 AM - 8:30 AM**  
**Franklin Hall 3 (4th Floor)**

**CHAIR:** Jayant Acharya, MD, FANA, Southern Illinois University

**CO-CHAIR:** Erica A. Schuyler, MD, FANA, FAAN,



## MONDAY, SEPTEMBER 11, 2023 (CONTINUED)

### PROFESSIONAL DEVELOPMENT WORKSHOPS

Hartford HealthCare Ayer Neuroscience Institute International medical graduates (IMGs) make up approximately a third of neurology trainees and active neurologists in the USA. They play a major role in providing greater access to health care for millions of patients, especially in underserved regions. With the current shortage of neurologists, which is projected to increase in the next few decades, and the increased role of neurologists during the global healthcare crisis with the pandemic, there is an even greater need for IMG neurologists. To remain in the US after training, IMGs face numerous visa-related and other challenges that can limit their scope of practice and range of opportunities in academic medicine. Advocacy and legislation efforts to address immigration complexities, increased recruitment of IMG neurologists in academic departments, and a systematic approach to reducing bias and supporting diversity are necessary. During this session, speakers will present the landscape, challenges, and opportunities for in-training and early-career IMGs for a successful academic career in neurology. Greater knowledge and understanding of these issues will also benefit department chairs and other institutional leaders and encourage them to recruit qualified IMG faculty and provide appropriate counseling to their IMG trainees.

#### LEARNING OBJECTIVES:

- Illustrate visa issues faced by IMG neurologists.
- Highlight challenges and opportunities for IMG neurologists pursuing academic careers.
- Provide recruitment and counseling strategies for IMG neurologists.

#### The Glass Ceiling of J-1 Visas

**SPEAKER:** Abhimanyu Mahajan, MD, MHS, Rush University Medical Center

#### Recruiting and Counseling IMG Neurologists: Chair's Perspective

**SPEAKER:** Brett Kissela, MD, MS, FANA, University of Cincinnati College of Medicine

#### Opportunities for Academic Career Development for IMG Neurologists

**SPEAKER:** Imama Naqvi, MD, Columbia University

#### The Role of Mentorship: Paying it Forward

**SPEAKER:** Neha Dangayach, MD, Mount Sinai Health System

### NEUROLOGY IN THE MULTI-CENTERED WORLD: TEACHING ON MULTIPLE CAMPUSES\*

#### AUPN Chair Career Level Workshop 2

**7:00 AM - 8:30 AM**

**Franklin Hall 2 (4th Floor)**

**CHAIR:** Larry B. Goldstein, MD, FANA, University of Kentucky

Colleges of Medicine can have or are developing regional campuses that provide clinical training for their own medical students that are separate from clerkships at the primary site. Yet, regional campuses are part of a single medical school with the LCME requiring equivalent experiences, regardless of the campus. This requires the Departments of Neurology to develop processes for overseeing medical student education across campuses to assure this requirement is met. This can be particularly challenging when neurological expertise at regional campuses is limited or non-existent.

#### LEARNING OBJECTIVES:

- Be able to discuss LCME educational requirements for Neurology clerkships.
- Be able to develop strategies to meet LCME requirements based on practical examples.



## MONDAY, SEPTEMBER 11, 2023 (CONTINUED)

### PROFESSIONAL DEVELOPMENT WORKSHOPS

- Be prepared to address educational challenges to Neurology clerkships when Colleges of Medicine expand regional campuses.

**Effective Multi-Campus Clerkships in Neurology**  
**SPEAKER:** Catherine Ikard, MD, University of Alabama

**LCME Considerations for Neurology Clerkships at Regional Medical Campuses**  
**SPEAKER:** Kimberly Jones, MD, University of Kentucky

### FACILITATING RESEARCH: WITH OR WITHOUT AN R25\*

#### *Program/Residency Director Level Workshop 2*

**7:00 AM - 8:30 AM**  
**Franklin Hall 13 (4th Floor)**

**CHAIR:** Elisabeth B. Marsh, MD, FAHA, FANA, FAAN, Johns Hopkins University School of Medicine

**CO-CHAIR:** Raymond S. Price, MD, FANA, University of Pennsylvania

This workshop will focus on the challenges of supporting a research presence for trainees during a busy clinical residency program. How do we keep mentees and their mentors engaged during time outside the lab and balance research time with the need for robust clinical training? Speakers will discuss the benefits and limitations of front-loaded programs versus having research electives spread throughout all years of residency, as well as the challenges that come when there is a gap in research time for young physician-scientists while clinical training is the top priority. We will discuss the current and future impact of ACGME requirements and the R25 program on program structure and design.

#### **LEARNING OBJECTIVES:**

- Following this session, the learner will be able to describe strategies for facilitating research over the course of residency after listening to a vari-

ety of programs with or without R25 programs.

- Following this session, the learner will better understand the concept of creating mentoring teams individualized to the needs of the trainee as well as strategies to successfully involve faculty within the department.
- Following the session, the learner will have begun the initial steps toward creating a network of academic program directors for future collaboration.

#### **Successful Program Structures**

**SPEAKER:** Elisabeth B. Marsh, MD, FAHA, FANA, FAAN, Johns Hopkins University School of Medicine

#### **Minding the Gaps**

**SPEAKER:** S. Thomas Carmichael, MD, PhD, FANA, University of California, Los Angeles

#### **Understanding the Value of the R25 and Research for the Resident and Institution**

**SPEAKER:** Argye E. Hillis, MD, MA, FANA, Johns Hopkins University School of Medicine

#### **The Impact of ACGME Requirements**

**SPEAKER:** Jeffrey Ratliff, MD, Thomas Jefferson University

### BREAK

**8:30 AM - 8:45 AM**

### PLENARY SESSION

### PRODROMAL NEUROLOGIC DISEASE: EARLY MARKERS AND EARLIER OPPORTUNITIES FOR TREATMENT\*

**8:45 AM - 10:45 AM**  
**Salons E-F (5th Floor)**





## MONDAY, SEPTEMBER 11, 2023 (CONTINUED)

### PLENARY SESSION

**CHAIR:** Rebecca Gottesman, MD, PhD, FANA, National Institute of Neurological Disorders and Stroke (NINDS), National Institutes of Health (NIH)

**CO-CHAIR:** Allison Willis, MD, FANA, University of Pennsylvania

The growth of our understanding of the development and progression of neurodegenerative disease, through clinical translational neurology research, has only been matched by the actual growth of the population at risk of being diagnosed with these disorders. Due to recent breakthroughs in understanding, the potential for treatments that prevent neurodegeneration before it presents as symptoms such as memory loss, shaking, shuffling, and hallucinations, is greater than ever before. But many questions remain - what do we still need to know to develop effective neuropreventative treatments? Who would receive such treatments and why? This plenary session focuses on current knowledge gaps, as well as the research, clinical, policy, and ethical considerations of success (and failure) to identify and intervene in Alzheimer's Dementia (AD), Parkinson's Disease (PD), and Huntington Disease (HD) while they are their pre-symptomatic/ prodromal state. The panel will include leading clinical-translational neuroscientists focused on pre-symptomatic/prodromal AD, PD, and HD, and a neurodegenerative disease bioethicist.

#### LEARNING OBJECTIVES:

- To be able to describe the current state of clinical translational research focused on the prodromal stages of Alzheimer Dementia, Parkinson Disease and Huntington Disease.
- To understand the current barriers to development or delivery of neuroprotective treatments to the population of persons with premanifest Alzheimer Dementia, Parkinson Disease and Huntington Disease.
- To describe the bioethical principles that may present barriers to achieving the goal of equitable neuropreventive treatment of Alzheimer Dementia,

tia, Parkinson Disease and Huntington Disease, and understand the associated challenges in medical-decision-making academic neurologists may face relating to these principles.

#### *Raymond D. Adams Lectureship Award*

##### **Preclinical Alzheimer Disease**

**SPEAKER / AWARD RECIPIENT:** Marilyn S. Albert, PhD, FANA, Johns Hopkins University School of Medicine

##### **Prodromal Parkinson Disease**

**SPEAKER:** Ron Postuma, MD, MSc, Montreal Neurological Institute, McGill University

##### **From Gene Mutation to Disease Prevention: Progress and Challenges in the Huntington Disease Continuum**

**SPEAKER:** Jane S. Paulsen, PhD, FANA, University of Wisconsin - Madison

##### **What are the Broader Implications of Diagnosing Preclinical Disease?**

**SPEAKER:** Emily Largent, JD, PhD, RN, University of Pennsylvania

##### **Early Changes in Alpha-Synuclein Membrane-Binding in the Central and Enteric Nervous System in Parkinson's Disease**

**EMERGING SCHOLAR SPEAKER:** Virginia Gao, MD, PhD, Weill Cornell Medicine and Columbia University

##### **Plasma-Derived Alpha-Synuclein Strains Distinguish Parkinson's Disease from Dementia with Lewy Bodies**

**EMERGING SCHOLAR SPEAKER:** George Kannarkat, MD, PhD, University of Pennsylvania

### EXECUTIVE SESSION OF MEMBERSHIP

**10:45 AM - 11:45 AM**

**Salons E-F (5th Floor)**

### BREAK

**11:45 AM - 12:00 PM**



## MONDAY, SEPTEMBER 11, 2023 (CONTINUED)

### GRAB-AND-GO LUNCH

11:45 AM - 12:45 PM

Franklin Ballroom Foyer (4th Floor)

### POSTER VIEWING

12:00 PM - 7:30 PM

Franklin Hall B (4th Floor)

### INTERACTIVE LUNCH WORKSHOPS

#### LESBIAN, GAY, BISEXUAL, TRANSGENDER, AND QUEER + HEALTH IN NEUROLOGY: CURRENT AND FUTURE

12:00 PM - 1:00 PM

Salons C-D (5th Floor)

**CHAIR:** Romergryko Geocadin, MD, FANA, Johns Hopkins University School of Medicine

**CO-CHAIR:** Nicole Rosendale, MD, University of California, San Francisco

The lesbian, gay, bisexual, transgender, and queer (LGBTQ+) community remains largely absent from neurologic research despite known and persistent disparities in access to and outcomes in healthcare broadly and the growing prevalence of individuals who openly identify as LGBTQ+. In recognition of these persistent disparities, this community was named as a health disparities population in need of further research by the NIMHD in 2016. This session seeks to address existing gaps in awareness and knowledge about the needs of the community and how to perform inclusive neurologic research. We will review current neurologic disparities in LGBTQ+ people. For example, a 2021 scoping review found disparate rates of stroke, disparities in the care of LGBTQ+ people with multiple sclerosis, and concerns around the care of LGBTQ+ people with dementia. We will also provide practical recommendations for how to incorporate LGBTQ+ health

into neurologic curricula and present best practices for neurologic research inclusive of LGBTQ+ people.

#### LEARNING OBJECTIVES:

- Describe current neurologic disparities for LGBTQ+ people.
- Identify strategies for incorporating LGBTQ+ health content into neurologic curricula.
- Utilize best practices for LGBTQ+ inclusion in neurologic research.

#### LGBTQ+ Health in Neurology: Current Neurological Disparities

**SPEAKER:** Chi-Ying (Roy) Lin, MD, MPH, Baylor College of Medicine

#### LGBTQ+ Health in Neurology: Medical Education and Research

**SPEAKER:** Nicole Rosendale, MD, University of California, San Francisco

### CLINICAL LOGIC\*

12:00 PM - 1:00 PM

Salons A-B (5th Floor)

**CHAIR:** Eric Wong, MD, FANA, FAAN, Warren Alpert Medical School of Brown University

**CO-CHAIR:** Seward B. Rutkove, MD, FANA, Beth Israel Deaconess Medical Center/Harvard Medical School

Clinical Logic is the most popular Interactive Lunch Workshop session in ANA where junior neurologists can learn from expert neurologists in the diagnosis of rare neurologic disorders or unusual presentation of common neurologic diseases. This year, we will have 4 senior neurologists from UTHealth, Harvard, Penn, and UCSF. They will discuss cases in neuro-ophthalmology, neurovascular disease, neuromuscular disorder, as well as delirium, and dementia. Traditionally, the logic behind a neurologist's diagnosis begins with the history and the formulation of several differential diagnoses. The neurologic examination provides localization of the disease process or a lack of it. This cognitive process



## MONDAY, SEPTEMBER 11, 2023 (CONTINUED)

### INTERACTIVE LUNCH WORKSHOPS

helps to eliminate some of the differential diagnoses. Diagnostic tests will narrow down the differential diagnoses further so that the neurologist can arrive at the most likely diagnosis and prescribe the appropriate treatment. Advances in diagnostic tests and neuroimaging have enabled neurologists to do just that and future AI software may also help.

#### LEARNING OBJECTIVES:

- Learn the logic of arriving at a neurologic diagnosis.
- Learn the pitfalls of erroneous neurologic diagnoses.
- Differentiate between logic versus intuition.

#### Case Presentation

**SPEAKER:** Seward B. Rutkove, MD, FANA, Beth Israel Deaconess Medical Center/Harvard Medical School

#### Case Presentation

**SPEAKER:** S. Andrew Josephson, MD, FANA, University of California, San Francisco

#### Case Presentation

**SPEAKER:** Sharon Lewis, MD, University of Pennsylvania

#### Case Presentation

**SPEAKER:** Louise McCullough, MD, PhD, FANA, McGovern Medical School at UTHealth

### DRIVING AS A BIOMARKER FOR DISEASE\*

**12:00 PM - 1:00 PM**

**Franklin Hall 3 (4th Floor)**

**CHAIR:** Andrea Schneider, MD, PhD, University of Pennsylvania

**CO-CHAIR:** Ganesh M. Babulal, PhD, OTD, MSCI, MOT, OTR/L, Washington University School of Medicine

The goal of this session is to show how changes in driving behaviors can be used as a biomarker for evaluating changes seen in multiple neurological

disorders including Alzheimer's disease, Parkinson's disease, traumatic brain injury/concussion, and multiple sclerosis, among others.

#### LEARNING OBJECTIVES:

- To gain knowledge about how driving is impacted by various neurological diseases.
- To learn about different techniques to assess driving function in neurological disease.

#### Driving and Preclinical Alzheimer's Disease Among Older Adults

**SPEAKER:** Ganesh M. Babulal, PhD, OTD, MSCI, MOT, OTR/L

#### Driving After Concussion in Adolescents

**SPEAKER:** Catherine McDonald, PhD, RN, FAAN, University of Pennsylvania School of Nursing

#### Fitness to Drive Intervention for Young Adults with ASD

**SPEAKER:** Anne Dickerson, PhD, OTR/L, SCDCM, FAOTA, FGSA, East Carolina University

### CHILDHOOD STROKE: APPROACH TO HYPER-ACUTE MANAGEMENT AND INDICATIONS FOR RECANALIZATION THERAPIES\*

**12:00 PM - 1:00 PM**

**Franklin Hall 4 (4th Floor)**

**CHAIR:** Mark Wainwright, MD, PhD, FANA, Seattle Children's Hospital

**CO-CHAIR:** Kristin Williams, MD, MSCI, Washington University School of Medicine

Acute management of children with arterial ischemic stroke is hampered by the many stroke mimics in children, delay in diagnosis, heterogeneous etiologies of stroke, and the limited evidence for safe and effective treatments. While mechanical and pharmacologic treatment recanalization treatment strategies have shown benefits in adults with stroke, evidence is lacking for children. As a result, most decisions about these interventions need to be individualized to each child's case.



## MONDAY, SEPTEMBER 11, 2023 (CONTINUED)

### INTERACTIVE LUNCH WORKSHOPS

However, many children or adolescents may present to centers where there is limited pediatric neurology expertise and acute treatment decisions need to be made by adult neurologists.

This session will review recent trends in acute interventions for the treatment of stroke in the young, evidence for the use of endovascular treatment, and the approach to patient selection for such treatment along with hyperacute management of stroke in the young.

#### LEARNING OBJECTIVES:

- To become familiar with the risk factors for stroke in the young and trends in acute management.
- To understand the indications for acute recanalization therapies in children with stroke.

#### Epidemiology and Causes of Stroke in the Young: Trends in Acute Intervention

**SPEAKER:** Fadar Otite, MD, ScM, SUNY Upstate Medical University

#### Tailored Hyperacute Management of Stroke in the Young: Individualizing Management Strategies and Selecting Patients for Recanalization

**SPEAKER:** Kristin Williams, MD, MSCI, Washington University School of Medicine

### PSYCHOSIS IN PARKINSON'S DISEASE\*

**12:00 PM - 1:00 PM**

**Franklin Hall 13 (4th Floor)**

**CHAIR:** Daniel Weintraub, MD, University of Pennsylvania School of Medicine

The speakers will discuss the spectrum of clinical manifestations, underlying pharmacology, and treatment of psychotic manifestations in the Lewy body spectrum disorders including Parkinson's disease, Dementia with Lewy bodies as well as prodromal PD and DLB.

#### LEARNING OBJECTIVES:

- Recognize early manifestations of psychosis across spectrum of LBD.
- Counsel patients and care partners on the etiology of the symptoms and relationship to their LBD diseases.
- Offer appropriate pharmacological and non-pharmacological management and monitor treatment effectiveness.

#### Pharmacological Management of Psychosis in LBD

**SPEAKER:** Daniel Weintraub, MD, University of Pennsylvania School of Medicine

#### Parkinson's Disease Psychosis: Epidemiology and Presentation

**SPEAKER:** Ruth Schneider, MD, University of Rochester

### ANA GLOBAL NEUROLOGY PRESIDENTIAL INITIATIVE: ACTION PLAN UPDATE\*

**12:00 PM - 1:00 PM**

**Franklin Hall 2**

**CHAIR:** Frances E. Jensen, MD, FACP, FANA, University of Pennsylvania

**CO-CHAIR:** Kiran Thakur, MD, Columbia University

#### Zambia Action Plan Update

**SPEAKER:** Melody Asukile, MB.Ch.B, MMED, FCNeurol(SA), Makerere University College of Health Sciences

#### Nigeria Action Plan Update

**SPEAKER:** Njideka Ulunma Okubadejo, MB.Ch.B, MD, FMCP, FAAN, College of Medicine, University of Lagos, Nigeria

#### Uganda Action Plan Update

**SPEAKER:** Angelina Kakooza Mwesige, MB.Ch.B, MMed, PhD, Makerere University College of Health Sciences





## MONDAY, SEPTEMBER 11, 2023 (CONTINUED)

### ADDITIONAL INTERACTIVE LUNCH WORKSHOPS

#### Leveraging Collaborative Partnerships in Global Health for Neurology Training in Ghana

**SPEAKER:** Fred Stephen Sarfo, MD, PhD, Kwame Nkrumah University of Science and Technology

#### AUPN MEET THE CHAIRS\*

**12:00 PM - 1:00 PM**

**Franklin Hall 1 (4th Floor)**

**CHAIR:** Lazar John Greenfield, MD, PhD, FANA, University of Connecticut Health Center - UConn Health

Academic neurologists at the mid to late career level may seek to become a department chair for a variety of reasons, often related to the focus of their careers in research, education, or clinical care. In this interactive session moderated by L. John Greenfield, Jr, President of the AUPN, four department chairs (Tracey A. Milligan, MD, FANA, Claire Henchcliffe, MD, DPhil, FANA, A. Gordon Smith, MD, and Jun Li, MD, PhD, FANA) will discuss how their prior careers prepared them (or didn't) for their responsibilities as department chairs.

#### Pathways to Becoming a Chair

##### SPEAKERS:

Tracey A. Milligan, MD, MS, FANA, Westchester Medical Center, New York Medical College

Claire Henchcliffe, MD, DPhil, FANA, University of California, Irvine

A. Gordon Smith, MD, Virginia Commonwealth University

Jun Li, MD, PhD, FANA, Houston Methodist

#### MEET THE EDITORS\*

**12:00 PM - 1:00 PM**

**Salon I (5th Floor)**

**CHAIR / SPEAKER:** Kenneth Tyler, MD, FANA, University of Colorado School of Medicine

**CO-CHAIR / SPEAKER:** Ahmet Hoke, MD, PhD, FANA, Johns Hopkins University School of Medicine

**SPEAKER:** E. Steve Roach, MD, Texas Tech University Health Sciences Center

#### BREAK

**1:00 PM - 1:15 PM**

### PLENARY SESSION

#### DEREK DENNY-BROWN YOUNG NEUROLOGICAL SCHOLAR SYMPOSIUM\*

**1:15 PM - 3:45 PM**

**Salons E-F (5th Floor)**

**CHAIR:** Laurie Gutmann, MD, FANA, Indiana University

**CO-CHAIR:** Richa Tripathi, MD, Emory University

The Derek Denny-Brown Young Neurological Scholar Symposium is an opportunity for young researchers to share groundbreaking research in the field of Neurology and Neuroscience. This symposium will feature presentations from the 2023 Derek Denny-Brown awardees, the Grass Foundation-ANA Award in Neuroscience recipients, and the Audrey S. Penn Lectureship awardee. Awardees receiving the Distinguished Neurology Teacher Award, the ANA-Persyst IDEAS Professional Development Award, and the ANA Awards for Excellence will also be recognized during this session.

#### The Grass Foundation - ANA Award in Neuroscience

*Inter-Organellar Contact Site Misregulation in Neurodegenerative Diseases*

**AWARD RECIPIENT:** Ivette Wong, PhD, Northwestern University Feinberg School of Medicine

#### Audrey S. Penn Lectureship Award

*From Agnosia to Action: Moving Toward Diversity, Inclusion, and Equity in Neurology*

**AWARD RECIPIENT:** Roy Hamilton, MD, MS, FANA,



## MONDAY, SEPTEMBER 11, 2023 (CONTINUED)

### PLENARY SESSION

University of Pennsylvania

#### **Derek Denny-Brown Young Neurological Scholar Award in Basic Science**

*The Systems Cell Biology of Neurodegeneration: Proteins to Stem Cells to Patients*

AWARD RECIPIENT: Vikram Khurana, MD, PhD, Brigham & Women's Hospital

#### **Derek Denny-Brown Young Neurological Scholar Award in Clinical Science**

*Associations of Traumatic Brain Injury with Long-Term Outcomes: Insights from Epidemiologic Studies*

AWARD RECIPIENT: Andrea Schneider, MD, PhD, University of Pennsylvania

#### **Derek Denny-Brown Young Neurological Scholar Award in Neuroscience**

*Genomic Approaches to Study Alzheimer's Disease Immunity*

AWARD RECIPIENT: David Gate, PhD, Northwestern University

#### **ANA-Persyst IDEAS Professional Development Award**

AWARD RECIPIENT: Tanya J. W. McDonald, MD, PhD, Johns Hopkins University School of Medicine

#### **ANA Award for Excellence - Clinical and Scientific Excellence (<15 years)**

AWARD RECIPIENT: Michael Wilson, MD, MAS, FANA, University of California, San Francisco

#### **ANA Award for Excellence in Education**

AWARD RECIPIENT: Steven Lewis, MD, FANA, American Board of Psychiatry & Neurology, Inc. / Lehigh Valley Fleming Neuroscience Institute

#### **ANA Award for Excellence - Clinical and Scientific Excellence (>15 years)**

AWARD RECIPIENT: Thomas Wisniewski, MD, New York University School of Medicine

#### **Distinguished Neurology Teacher Award**

AWARD RECIPIENT: Tracey Milligan, MD, MS, FANA,

Westchester Medical Center, New York Medical College

### BREAK

3:45 PM - 4:15 PM

### TRADITIONAL SPECIAL INTEREST GROUPS

#### CEREBROVASCULAR DISEASE\*

4:15 PM - 5:45 PM

Franklin Hall 1 (4th Floor)

CHAIR: Michelle C. Johansen, MD, PhD, Johns Hopkins University School of Medicine

CO-CHAIR: Peter Kang, MD, MSCI, Washington University in Saint Louis

This stroke special interest group (SIG) session aims to bring the most important Cerebrovascular Science updates to the attendees of the ANA meeting regarding Stroke Epidemiology, Stroke Clinical Trials, and Advanced MRI imaging in Stroke.

#### LEARNING OBJECTIVES:

- Understand the objective contributions of vascular risk factors common in stroke patients to brain health, and the risk of dementia over time. Learners will have the knowledge to effectively counsel patients regarding the importance of proper early risk factor management.
- Interpret the latest MRI imaging techniques, the limitations implicit to these techniques, and the power of applying them in future research and clinical applications.
- Understand the pathophysiology and recovery trajectory of patients with mild disabling strokes, using the latest evidence to guide clinical decision making.

#### **Ischemic Stroke, Vascular Risk Factors and Cognition over the Decades**

SPEAKER: Deborah Levine, MD, MPH, University of Michigan

#### **Mild Stroke: From Prevention to Recovery**



## MONDAY, SEPTEMBER 11, 2023 (CONTINUED)

### TRADITIONAL SPECIAL INTEREST GROUPS

**SPEAKER:** Pooja Khatri, MD, MSc, University of Cincinnati

**From Diffusion to Perfusion: The Latest Developments in MRI Imaging in Stroke Across the Lifespan**

**SPEAKER:** Richard Leigh, MD, FANA, Johns Hopkins University School of Medicine

**Association of Cerebral Blood Flow with Microstructural Injury in Periventricular and Whole Brain White Matter**

**ORAL ABSTRACT PRESENTER:** Banafsheh Shakibajahromi, MD, MPH, University of Pennsylvania

**Greater Albumin Concentration in Serum May Be Protective against Stroke: The Northern Manhattan Study**

**ORAL ABSTRACT PRESENTER:** Adomas Bunevicius, MD, PhD, Columbia University

**Analysis of the Plasma Proteome in Early CADASIL Reveals Dysregulations in Angiogenesis**

**ORAL ABSTRACT PRESENTER:** Steven Fitzsimons, PhD, Icahn School of Medicine Mount Sinai

### HEADACHE & PAIN\*

**4:15 PM - 5:45 PM**  
**Franklin Hall 2 (4th Floor)**

**CHAIR:** Charles Flippen II, MD, FANA, FAAN, University of California, Los Angeles

**CO-CHAIR:** Seniha Ozudogru, MD, University of Pennsylvania

This session will focus on advances in understanding the mechanism(s) of cortical spreading depression, its influence on the clinical expression of migraine headaches, and how it informs potential migraine therapeutic targets. Several early and mid-career neuroscientists will present their recent work in this area along with selected abstract submissions related to this topic.

**LEARNING OBJECTIVES:**

- Effects of physiological processes (e.g. sleep) on CSD.
- Effect of CSD on the clinical expression of migraine.
- Regulation of neuropeptides related to migraine by delta opioid receptors.

**PACAP as a Therapeutic Target for Medication Overuse Headache**

**SPEAKER:** Arynah Pradhan, PhD, Washington University in St. Louis

**Progress in Understanding Cortical Spreading Depression**

**SPEAKER:** Sinifunanya Nwaobi, MD, PhD, University of California, Los Angeles

**Cortical Spreading Depression Link to Migraine Expression**

**SPEAKER:** Andrea Harriott, MD, PhD, Massachusetts General Hospital

**Targeting the Photoreceptor Basis of Light Aversive Behavior in Mice**

**ORAL ABSTRACT PRESENTER:** Eric Kaiser, MD, PhD, University of Pennsylvania

**Feasibility and Acceptability of Remote-Delivered Mindfulness-Based Cognitive Therapy (MBCT) for Patients with Migraine and Depressive Symptoms**

**ORAL ABSTRACT PRESENTER:** Elizabeth Seng, PhD, FANA, Yeshiva University

### MOVEMENT DISORDERS

**4:15 PM - 5:45 PM**  
**Franklin Hall 3 (4th Floor)**

**CHAIR:** Erin Stimming, MD, University of Texas Health Science Center at Houston

**CO-CHAIR:** Sheng-Han Kuo, MD, Columbia University Medical Center

Novel clinical trials targeting organelles such as lysosomes, and mitochondria have been at the



## MONDAY, SEPTEMBER 11, 2023 (CONTINUED)

### TRADITIONAL SPECIAL INTEREST GROUPS

center of therapeutic development of movement disorders. In addition, gene therapies have been the techniques used to deliver such targeted therapies. In this session, panelists to discuss the basic biology rationale for new therapeutic development in movement disorders and new clinical trials. This SIG seeks to educate neurologists about the most recent development of novel therapies in movement disorders.

#### LEARNING OBJECTIVES:

- Become more knowledgeable about the gene therapies being employed to treat various neurological diseases.
- Be better equipped to educate their patients concerning the types of clinical trials being performed targeting mitochondria and lysosomal dysfunction.
- Learn the potential of these strategies to treat neurological disorders.
- Understand the risks associated with the use of gene therapies.

#### **Mitochondrial Strategies for Friedreich's Ataxia**

**SPEAKER:** David Lynch, MD, PhD, FANA, Children's Hospital of Philadelphia

#### **Optimizing AAV Gene Therapies**

**SPEAKER:** Beverly L. Davidson, PhD, Children's Hospital of Philadelphia

#### **Biomarker of Synucleinopathies: Research and Clinical Implications**

**SPEAKER:** Un Jung Kang, MD, NYU Grossman School of Medicine

#### **Understanding How GBA Mutations Influence Parkinson's Disease Progression**

**ORAL ABSTRACT PRESENTER:** Arnav Khera, BS, University of Washington

### NEURO-ONCOLOGY\*

**4:15 PM - 5:45 PM**

**Franklin Hall 4 (4th Floor)**

**CHAIR:** Kevin Elmore, MD, Mount Sinai Hospital

**CO-CHAIR:** Douglas Ney, MD, FANA, University of Colorado School of Medicine

This conference will address special populations within neuro-oncology including underserved populations, women, and children with brain tumors. Despite considerable advancements in our understanding of the molecular basis of neuro-oncologic diseases, health-disparate populations remain affected by limitations in access to high-quality care. For underserved populations, including minorities and women with brain tumors, barriers to obtaining equitable care result in increased morbidity and mortality and under-representation in clinical trials. Furthermore, women experience health issues including reproductive concerns and hormone-dependent tumors, with gaps in understanding in these tumors and their treatments on female sexuality. Lastly, the unique molecular profiles of pediatric brain tumors will be emphasized, namely the influences of autophagy on pediatric brain tumor growth. A better understanding of the mechanisms of autophagy and the manipulation of these pathways be leveraged to improve responses to anti-cancer therapies. This session aims to educate participants on the challenges faced and identify opportunities to improve outcomes within these unique populations.

#### LEARNING OBJECTIVES:

- Recognizing disparities in health care access and outcomes within under-represented populations.
- Addressing women's reproductive health and hormone-dependent tumors.
- Understanding the role of autophagy in cancer and how manipulating autophagy may improve brain tumor therapies.

#### **The Neuro-Oncology of Women (NOW):**

#### **Neuro-Oncology Issues Across Her Lifespan**

**SPEAKER:** Na Tosha Gatson, MD, PhD, FAAN, Banner





## MONDAY, SEPTEMBER 11, 2023 (CONTINUED)

### TRADITIONAL SPECIAL INTEREST GROUPS

MD Anderson Cancer Center

#### **Autophagy and Targeted Therapy in Brain Tumors**

**SPEAKER:** Jean M. Mulcahy Levy, MD, University of Colorado Anschutz

#### **Underserved Populations in Neuro-Oncology**

**SPEAKER:** Shawn Hervey-Jumper, MD, University of California, San Francisco

#### **Receipt of Guideline Concordant-Care for Neurofibromatosis 1 (NF1) in the United States: A National Survey of NF1 Patients and Caregivers**

**ORAL ABSTRACT PRESENTER:** Vanessa Merker, PhD, Massachusetts General Hospital

#### **The Natural History of Neurolymphomatosis**

**ORAL ABSTRACT PRESENTER:** Eric Wong, MD, FANA, FAAN, Warren Alpert Medical School of Brown University

### NEURO-OPHTHALMOLOGY AND NEUROVESTIBULAR DISEASE\*

4:15 PM - 5:45 PM

Franklin Hall 13 (4th Floor)

**CHAIR:** Ali Hamedani, MD, MHS, University of Pennsylvania

**CO-CHAIR:** Scott Grossman, MD, New York University

Neuro-ophthalmic and neuro-otologic diseases are common causes of neurologic symptoms and reasons for referral to neurologists. However, many of these diseases are poorly understood, with limited exposure during neurology training, and teachings from as little as five years ago are outdated as our understanding of them has changed dramatically thanks to active cutting-edge research. In this Special Interest Group session, leaders in the fields of neuro-ophthalmology and neuro-otology will present exciting research on important and emerging topics covering the full spectrum of the afferent and efferent visual and balance systems. The audience will learn about the molecular genetics and treatment of hereditary episodic ataxias, eye

movement abnormalities and technological applications in cortical visual impairment, and real-world utilization and treatment outcomes for acute optic neuritis. These will add to the listener's clinical armamentarium when evaluating patients and facilitate a deeper appreciation of future research advances.

#### **LEARNING OBJECTIVES:**

- To name the genes involved in episodic ataxias type 1 and 2 and the mechanisms by which ion channel mutations lead to symptoms of episodic ataxia.
- To understand the patterns of abnormal eye movement in cortical visual impairment and how they are measured.
- To explain the evidence for and utilization of corticosteroids in acute optic neuritis.

#### **Real World Healthcare Utilization, Treatment, and Outcomes in Acute Optic Neuritis**

**SPEAKER:** Lindsey De Lott, MD, MS, University of Michigan

#### **Molecular Genetics and Therapies for Hereditary Episodic Ataxia**

**SPEAKER:** Joanna Jen, MD, PhD, Icahn School of Medicine at Mount Sinai

#### **Multimodal Imaging and Outcomes in Children with Optic Pathway Gliomas**

**SPEAKER:** Robert A. Avery, DO, MSCE, Children's Hospital of Philadelphia

#### **Association between Retinal Microvascular Changes and Late Brain Amyloid Deposition: The ARIC-PET Study**

**ORAL ABSTRACT PRESENTER:** Marco Egle, PhD, National Institute of Neurological Disorders and Stroke

#### **Validation of the 2023 International MOGAD Panel Proposed Criteria: An Institutional Cohort**

**ORAL ABSTRACT PRESENTER:** Malak Alaboudi, MD, University Hospitals Cleveland Medical Center



## MONDAY, SEPTEMBER 11, 2023 (CONTINUED)

### TRADITIONAL SPECIAL INTEREST GROUPS

#### SLEEP DISORDERS AND CIRCADIAN RHYTHMS\*

**4:15 PM - 5:45 PM**  
**Salons C-D (5th Floor)**

**CHAIR:** Sabra Abbott, MD, PhD, Northwestern University

**CO-CHAIR:** Brendan Lucey, MD, Washington University St. Louis

This session will highlight state-of-the-art research in sleep and circadian rhythm disorders that is relevant for researchers and practicing clinicians.

#### LEARNING OBJECTIVES:

- Define sleep and circadian disruption.
- Recognize the role of this disruption in the pathophysiology of neurological disorders.
- Use strategies aimed at optimizing sleep and circadian health as a tool for neurological disease treatment and prevention.

#### **Bidirectional Role of Sleep and Stroke**

**SPEAKER:** Eric Landsness, MD, PhD, Washington University St. Louis

#### **Circadian Rhythms in Neurodegenerative Disorders**

**SPEAKER:** Aleksander Videnovic, MD, MSc, FANA, Massachusetts General Hospital, Harvard Medical School

#### **The Impact of CPAP Therapy for 4 Months for Management of SRBDs on Psychosocial Outcomes in Individuals with Chronic Spinal Cord Injury: A Mixed-Methods Study**

**ORAL ABSTRACT PRESENTER:** Julio Furlan, MD, LLB, MBA, PhD, MSc, FRCPC, Toronto Rehabilitation Institute and University of Toronto

#### **COVID-19 Disrupts Sleep Architecture by Reducing N3 Stage Sleep**

**ORAL ABSTRACT PRESENTER:** Sung Ji, MD, PhD, University of Washington

#### **Sleep Insufficiency, Circadian Rhythms, and Metabolomics: The Connection to Metabolic Sleep Disorders**

**ORAL ABSTRACT PRESENTER:** Katherine Russell, MSPH, University of North Texas Health Science Center at Fort Worth

### POSTER RECEPTION IN THE EXHIBIT HALL

**6:00 PM - 7:30 PM**  
**Franklin Hall B (4th Floor)**

### PRESIDENT'S RECEPTION

**7:30 PM - 10:30 PM**  
**Salons G-H (5th Floor)**

## TUESDAY, SEPTEMBER 12, 2023

### REGISTRATION

**6:30 AM - 12:30 PM**  
**Grand Ballroom Foyer (5th Floor)**

### CONTINENTAL BREAKFAST

**6:30 AM - 8:30 AM**  
**Franklin Ballroom Foyer (4th Floor)**

### PROFESSIONAL DEVELOPMENT WORKSHOPS

#### COMMUNICATING YOUR SCIENCE\*

**Early Career & Early to Mid-Career Level Workshop 3**



## TUESDAY, SEPTEMBER 12, 2023 (CONTINUED)

### PROFESSIONAL DEVELOPMENT WORKSHOPS

**7:00 AM - 8:30 AM**  
**Salons A-B (5th Floor)**

**CHAIR:** Kelly Sloane, MD, University of Pennsylvania  
**CO-CHAIR:** Romergryko Geocadin, MD, FANA, Johns Hopkins University School of Medicine

This is an interactive workshop focused on tools for communicating your science to non-scientists. Being able to effectively and concisely describe your science to a non-scientist (e.g. philanthropists, journalists) is an essential part of advancing your career and your research. We will hear from speakers with expertise in public speaking to non-scientists and in social media communication. In this session, you will also be encouraged to interact with your colleagues and practice your own research.

#### LEARNING OBJECTIVES:

- To learn about approaches to communicating about your research or clinical interests with non-scientific or clinical audiences in an oral presentation.
- To learn about approaches to communicating about your research or clinical interests with non-scientific or clinical audiences through social media.
- To gain hands-on practice with developing a brief summary to explain verbally your science to a non-scientist/clinician.
- To gain hands-on practice with developing a brief summary to explain your science to a non-scientists/clinicians over social media.

#### How to Present Your Science to a Non-Scientist

**SPEAKER:** Kelly Sloane, MD, University of Pennsylvania

#### How to Present Your Science to a Non-Scientist

**SPEAKER:** S. Andrew Josephson, MD, FANA, University of California, San Francisco

#### Beyond the Traditional Medium: Communicating Your Science through Social Media

**SPEAKER:** Stephan Mayer, MD, FCCM, FNCS, Westchester Medical Center, New York Medical College

### CAREER TRANSITIONS (INTERACTIVE ROUNDTABLE)\*

#### Early Career & Early to Mid-Career Level Workshop 3

**7:00 AM - 8:30 AM**  
**Franklin Hall 3 (4th Floor)**

**CHAIR:** Michael Wilson, MD, MAS, FANA, University of California San Francisco

**CO-CHAIR:** Niraj Shanbhag, MD, PhD, Takeda Pharmaceuticals

Currently, training in neurology does not generally include information on career transitions and exposure to the full range of post-training career opportunities. A plethora of options exist – including basic/clinical or outcomes/quality research or pure clinical practice in an academic setting, private practice, a variety of roles in the biopharmaceutical industry including research and development, as well as jobs in tech, government, and other sectors. The goal of this session is to get attendees to start to think about these transitions and the options available to them. This will be done through a facilitated discussion with several speakers who have taken different career paths post-training, and who will describe what brought them there.

#### LEARNING OBJECTIVES:

- Following this session, learners will have a better understanding of the full range of career options available to them in neurology/neuroscience including academic medicine, private practice, biopharmaceuticals and the tech industry.

#### The Story of Your Transition to Your Clinical/Research Career after Residency/Fellowship

**SPEAKERS:**

Niraj Shanbhag, MD, PhD, Takeda Pharmaceuticals  
Nicole Rosendale, MD, University of California, San



## TUESDAY, SEPTEMBER 12, 2023 (CONTINUED)

### PROFESSIONAL DEVELOPMENT WORKSHOPS

Francisco

Christine Hessler, MD, Vituity Telehealth, Access TeleCare

Ludy Shih, MD, MMSc, FANA, Boston University School of Medicine

### TITLE IX FOR NEUROLOGY CHAIRS\*

#### *AUPN Chair Career Level Workshop 3*

**7:00 AM - 8:30 AM**

**Franklin Hall 2 (4th Floor)**

**CHAIR:** Michel Torbey, MD, MPH, FANA, University of New Mexico

This course is designed to provide neurology department chairs and leaders with a comprehensive understanding of Title IX. The course will cover the legal requirements of Title IX and its application to neurology departments, as well as the responsibilities of department chairs and leaders in preventing and addressing sex discrimination. Through this course, participants will gain the knowledge and skills needed to effectively address and prevent sex discrimination within their departments.

#### **LEARNING OBJECTIVES:**

- Understand the legal requirements of Title IX and how they apply to neurology departments.
- Identify and address potential sex discrimination within their departments, including harassment, retaliation, and unequal treatment.
- Develop strategies for preventing and addressing sex discrimination in the workplace, such as creating and implementing policies and procedures, providing training and education, and fostering a culture of inclusion and respect.

#### **Title IX for Neurology Chairs**

**SPEAKER:** Paul A. Garcia, MD, FANA, University of California, San Francisco

### **Gender Discrimination and Sexual Harassment in Academic Medicine**

**SPEAKER:** Anita Raj, PhD, Tulane University

### **MENTORING THE PHYSICIAN SCIENTIST: CREATING THE TEAM TO PROMOTE PRODUCTIVITY AND WELL-BEING\***

#### *Program/Residency Director Level Workshop 3*

**7:00 AM - 8:30 AM**

**Franklin Hall 13 (4th Floor)**

**CHAIR:** Elisabeth B. Marsh, MD, FAHA, FANA, FAAN, Johns Hopkins University School of Medicine

**CO-CHAIR:** Raymond S. Price, MD, FANA, University of Pennsylvania

This workshop will focus on supporting and mentoring our young physician-scientists. Mentoring is now a true team effort, with a team that is often composed of people in and outside of the Department to meet all of the trainee's needs. Creating and maintaining these teams can be challenging, and we will discuss strategies to create successful mentoring partnerships, monitor progress, and ensure integration within the residency program to prevent a sense of isolation. We will discuss training not only the "traditional academic" who is focused on research, but also how to create robust training environments for those interested in pursuing an academic career with a focus on clinical work, quality assurance, medical education, and global health that will help trainees to be successful as junior faculty and thrive in an academic environment.

#### **LEARNING OBJECTIVES:**

- Following this session, the learner will better understand the concept of creating mentoring teams individualized to the needs of the trainee as well as strategies to successfully involve faculty within the department.
- Following the session, the learner will better un-





## TUESDAY, SEPTEMBER 12, 2023 (CONTINUED)

### PROFESSIONAL DEVELOPMENT WORKSHOPS

Understand pathways for success in an academic setting outside of a traditional research role as well as strategies to expose trainees to these alternative pathways and help them to obtain the necessary skills during trainees to become successful junior faculty.

#### Creating the Super Department

**SPEAKER:** S. Thomas Carmichael, MD, FANA

#### Pulled in Multiple Directions

**SPEAKER:** Michael Kornberg, MD, PhD, Johns Hopkins University School of Medicine

#### Alternative Academic Paths: Master Clinician, QI, Global

**SPEAKER:** Raymond S. Price, MD, FANA, University of Pennsylvania

#### What is an Academic Medical Educator?

**SPEAKER:** Andres Fernandez, MD, MEd, ACNS, Thomas Jefferson University

### BREAK

8:30 AM - 8:45 AM

### PLENARY SESSION

## THE EVOLVING ROLE OF ANTI-AMYLOID THERAPIES FOR ALZHEIMER'S DISEASE\*

8:45 AM - 10:45 AM  
Salons E-F (5th Floor)

**CHAIR:** Beau Ances, MD, PhD, MSc, FANA, Washington University in St. Louis

**CO-CHAIR:** Krishnankutty Sathian, MBBS, PhD, FANA, Pennsylvania State University College of Medicine

This session will discuss the current role of recently approved anti-amyloid therapies for Alzheimer's Disease. This session will evaluate the mechanisms

of action of previous and current anti-amyloid therapies. This will be followed by a discussion of how to ensure the implementation of these new therapies in the clinical setting (including the implementation of strategies that focus on under-represented minorities). Finally, a pro and con debate regarding the use of anti-amyloid therapies will be provided.

#### LEARNING OBJECTIVES:

- Understand the mechanism of action of current anti-amyloid therapies.
- Understand the risks, benefits and limitations of current therapies.
- Understand how to administer and follow patients who are receiving anti-amyloid therapies.

#### Anti-Amyloid Monoclonal Antibodies: Mechanisms of Action and Clinical Trials

**SPEAKER:** Michael Rafii, MD, PhD, Keck School of Medicine, University of Southern California

#### Pros of Anti-Amyloid Monoclonal Antibodies

**SPEAKER:** Gil Rabinovici, MD, FAAN, FANA, University of California, San Francisco

#### Cons of Anti-Amyloid Monoclonal Antibodies

**SPEAKER:** Madhav Thambisetty, MD, PhD, FANA, National Institute on Aging

#### Challenges of Implementing Anti-Amyloid Therapies in the Clinic

**SPEAKER:** Liana G. Apostolova, MD, MSc, FAAN, Indiana University School of Medicine

#### Improving Inclusiveness in Research and Clinical Settings

**SPEAKER:** Monica Parker, MD, Goizueta Alzheimer's Disease Research Center- Emory University

#### A Genome-wide CRISPR Interference Screen Reveals Genetic Modifiers Of Lysosomal Glucocerebrosidase Activity

**EMERGING SCHOLAR SPEAKER:** Georgia Minakaki, MSc, PhD, Northwestern University, Feinberg School of Medicine

#### Pyramidal Neurodegeneration is Linked to Se-



## TUESDAY, SEPTEMBER 12, 2023 (CONTINUED)

### TRADITIONAL SPECIAL INTEREST GROUPS

#### **lect Cytoarchitecture and Cognitive Impairment in Behavioral Variant Frontotemporal Dementia with Tau or TDP-43 Pathology**

EMERGING SCHOLAR SPEAKER: Daniel Ohm, PhD, University of Pennsylvania

### GRAB-AND-GO LUNCH

10:45 AM - 12:30 PM

### AUTOIMMUNE NEUROLOGY & MS\*

11:00 AM - 12:30 PM

Franklin Hall 1 (4th Floor)

CHAIR: Gregory Day, MD, MSc, MSCI, FAAN, Mayo Clinic

CO-CHAIR: Amanda Piquet, MD, University of Colorado

This session will discuss emergent and established measures of meaningful outcomes in patients with autoimmune encephalitis and multiple sclerosis. Topics will highlight recent publications and developing research on patient- and caregiver-specified quality of life measures, associated symptoms/signs in recovering patients (e.g., depression, apathy, fatigue, pseudobulbar affect, cognitive impairment, sleep dysfunction), and objective neuroimaging biomarker measures of disease activity. Active screening and documentation of meaningful outcomes are critical to quantify the burden of disease in recovering patients, identify and target treatable symptoms that compromise function, and optimize long-term outcomes in patients with neurological autoimmune disease.

#### LEARNING OBJECTIVES:

- Knowledge: Learners need to recognize common sequelae of autoimmune neurological diseases and the impact of persistent symptoms / signs / syndromes on meaningful recovery.

- Performance: Learners need to actively assess / measure meaningful outcomes in patients with autoimmune neurological disease.
- Performance: Learners need to leverage available on-label therapies to manage common sequelae of autoimmune neurological diseases to optimize long-term outcomes.

#### **Measuring Disease Activity in Multiple Sclerosis: Beyond New Lesions**

SPEAKER: Matthew Brier, MD, PhD, Washington University St. Louis

#### **Cognitive & Psychological Outcomes in Patients with Anti-NMDAR Encephalitis**

SPEAKER: Mar Guasp, MD, PhD, Hospital Clínic, University of Barcelona

#### **Quality of Life (Patient and Caregiver) and Other Factors Influencing Recovery Following Autoimmune Encephalitis**

SPEAKER: Sophie N.M. Binks, BMBS, MRCP, PhD, University of Oxford

#### **The Innate Immune Regulator Nlrp1 Limits Inflammatory Neurodegeneration in the Visual Pathway in Experimental Autoimmune Encephalomyelitis**

ORAL ABSTRACT PRESENTER: Alexander Gill, MD, PhD, Johns Hopkins University School of Medicine

#### **Investigations of Synaptic Signaling Targets of Human Anti-NMDAR Antibodies**

ORAL ABSTRACT PRESENTER: David Benavides, MD, PhD, University of Maryland School of Medicine

#### **The Racial and Ethnic Disparities in Clinical Outcomes in Patients with Encephalitis**

ORAL ABSTRACT PRESENTER: Sienna Wu, BSA, UT Health Houston

### BEHAVIORAL NEUROLOGY AND DEMENTIA\*

11:00 AM - 12:30 PM

Franklin Hall 2 (4th Floor)

CHAIR: Thomas Wingo, MD, Emory University

CO-CHAIR: Lenora Higginbotham, MD, Emory



## TUESDAY, SEPTEMBER 12, 2023 (CONTINUED)

### TRADITIONAL SPECIAL INTEREST GROUPS

#### University

The session covers important facets of dementia and behavioral neurology.

About 90% of early-onset Alzheimer's disease is not caused by well-known AD-causing mutations; however, compared to autosomal dominant causes of AD, comparatively much less is known about the clinical course, biomarkers, and imaging of these individuals with AD. The Longitudinal Early-onset Alzheimer's Disease Study (LEADS) aims to address these knowledge gaps. The session will include interim results of LEADS clinical observational study and discuss their implications for the practice of clinical neurology. Dementia with Lewy Bodies is a prevalent cause of dementia. Yet, there are no current treatments specifically addressing the unique constellation of clinical symptoms affecting individuals with this condition. The session will outline the challenges and progress for creating therapeutics for dementia with Lewy Bodies and share insights from phase 2 clinical trials for the condition. One of the most devastating sequels of stroke is the loss of language abilities. While most people with aphasia recover some language function there is substantial variability in the degree of recovery that presents a challenge in deciding the timing and type of language therapy, the specific behavior and augmentation therapies that may aid recovery, and the ability to provide realistic prognostication for patients and families.

#### LEARNING OBJECTIVES:

- To recognize the most recent therapeutic trials for Dementia with Lewy bodies and gain an understanding of advancements that may impact clinical care.

#### Early-Onset AD Advances and Findings from LEADS

**SPEAKER:** Liana G. Apostolova, MD, MSc, FAAN, Indiana University School of Medicine

#### Language Recovery after Stroke

**SPEAKER:** Argye E. Hillis, MD, MA, FANA, Johns Hopkins University School of Medicine

#### Dementia with Lewy Bodies Advances, Including Phase 2 Trials

**SPEAKER:** James Galvin, MD, MPH, University of Miami Miller School of Medicine

#### Improving Early Recognition of Potentially Treatment-Responsive Causes of Rapidly Progressive Dementia

**ORAL ABSTRACT PRESENTER:** Nihal Satyadev, MD, MPH, Mayo Clinic Florida

#### Differential ATN Networks of Cerebrospinal Fluid and Neuroimaging Biomarkers and Their Prediction of Cognition between Self-Reported Black and Non-Hispanic White Individuals

**ORAL ABSTRACT PRESENTER:** Samuele Bonomi, MD, Washington University in St. Louis

### EPILEPSY\*

**11:00 AM - 12:30 PM**

**Franklin Hall 3 (4th Floor)**

**CHAIR:** Colin Ellis, MD, University of Pennsylvania

**CO-CHAIR:** Elizabeth Gerard, MD, FANA, Northwestern Feinberg School of Medicine

The management of epilepsy in patients with gestational capacity requires specialized knowledge topics on seizures during pregnancy; the impacts of antiseizure medications on pregnancy outcomes and childhood development; the management of catamenial seizures; and the role of genetics in the recurrence risk of passing on epilepsy to children. There have been several recent, high-impact publications from the Maternal Outcomes and Neurodevelopmental Effects of Antiepileptic Drugs (MONEAD) study, which is a prospective, observational, multicenter investigation of pregnancy outcomes for people with epilepsy and their children. Catamenial seizure exacerbation is common in women with epilepsy and may not be optimally treated because of uncertainty regarding which



## TUESDAY, SEPTEMBER 12, 2023 (CONTINUED)

### TRADITIONAL SPECIAL INTEREST GROUPS

treatment works best and when in the menstrual cycle treatment should be taken, as well as the possible impact on fertility, the menstrual cycle, bone health, and cardiovascular health. Finally, the role of genetics in epilepsy, and its impact on family planning, is an important topic that can now be informed by molecular genetic testing. However, many neurologists are unfamiliar or uncomfortable with ordering genetic tests, interpreting their results, and counseling patients about genetic risks. In this SIG session focused on epilepsy in patients with gestational capacity, leaders in the field will speak about recent advances in these areas and their impacts on patient care.

#### LEARNING OBJECTIVES:

- Understand the latest literature on pregnancy outcomes in patients with epilepsy and gestational capacity and how this data is obtained.
- Discuss neuroendocrine aspects of catamenial epilepsy and how they inform potential treatments.
- Review the implications of neurogenetic testing for family planning and how neurogenetic testing differs from prenatal genetic screening.

#### Studying and Optimizing Pregnancy Outcomes in Epilepsy

**SPEAKER:** Page Pennell, MD, FANA, University of Pittsburgh School of Medicine

#### Catamenial Epilepsy: Biological Basis and Treatment Options

**SPEAKER:** Paula Emanuela Voinescu, MD, PhD, Brigham and Women's Hospital, Harvard Medical School

#### Neurogenetic Testing in Epilepsy and Implications for Family Planning

**SPEAKER:** Elizabeth Gerard, MD, FANA, Northwestern Feinberg School of Medicine

#### Homeostatic Sleep Need Increases Seizure Risk

**ORAL ABSTRACT PRESENTER:** Vishnu Cuddapah, MD, PhD, Children's Hospital of Philadelphia

#### An Unsupervised Learning Approach for Discov-

#### ering Pathological High-Frequency Oscillations

**ORAL ABSTRACT PRESENTER:** Hiroki Nariai, MD, PhD, MS, University of California, Los Angeles

### GLOBAL NEUROLOGY\*

11:00 AM - 12:30 PM

Franklin Hall 4 (4th Floor)

**CHAIR:** Monica Maria Diaz, MD, MS, University of North Carolina at Chapel Hill

**CO-CHAIR:** B. Jeanne Billioux, MD, National Institutes of Health (NIH)

Interest in global health in neurology is growing rapidly. The ANA Global Health SIG strives to unify members with common interests in global neurology to create collaborations and initiatives to improve neurology education, training, and research in low and middle-income countries (LMICs). The Global Health SIG focuses on neurology research and clinical care in sub-Saharan Africa, Asia, Latin America, and the Middle East. We hope that this year the Global Health SIG will emphasize an important topic in Global Health—“Ethical Considerations in Global Health”. This year, we hope to highlight the challenges faced by investigators and clinicians abroad when applying best practices to care for their patients or conducting research in neurology in different international settings. We aim to 1) highlight the ethical dilemmas and considerations in dementia care and research worldwide; 2) obligations to non-participants in neurology research in LMIC settings and ethical considerations for in addition of essential neurology medications to the World Health Organization essential medicines list; 3) ethical considerations in neurometabolic screenings in newborns in Latin America and worldwide. We have invited three speakers on these topics who will share their expertise on this timely topic. We hope that by highlighting three important topics in neurology and the ethical considerations associated with these audiences will apply ethical best practices to their own research and clinical care.





## TUESDAY, SEPTEMBER 12, 2023 (CONTINUED)

### TRADITIONAL SPECIAL INTEREST GROUPS

#### LEARNING OBJECTIVES:

- Learn of the ethical considerations of dementia care and research.
- Learn ethical challenges in neurologists' responsibilities when performing clinical care and research in international settings.
- Learn the ethical considerations of neurometabolic screening for newborns in international settings.

#### **Ethical Considerations of Newborn Metabolic Screening in International Settings**

**SPEAKER:** Juan Francisco Cabello, MD, Instituto de Nutricion y Tecnologia de los Alimentos, Universidad de Chile

#### **Clinical Outcomes in Aicardi Goutières Syndrome: A Natural History Study**

**ORAL ABSTRACT PRESENTER:** Laura Adang, MD, PhD, Children's Hospital of Philadelphia

#### **Obligations to Non-Participants in Research in Lower-Resource Settings**

**SPEAKER:** Farrah Mateen, MD, PhD, FANA, Massachusetts General Hospital

#### **Ethical Considerations in Neurology Education in Resource-Limited Settings**

**SPEAKER:** Aaron Berkowitz, MD, PhD, University of California, San Francisco

#### **Longitudinal Cognitive Outcomes in Children with HIV in Zambia**

**ORAL ABSTRACT PRESENTER:** David Bearden, MD, University of Rochester Medical Center

#### **Patient Knowledge of Epilepsy and Seizure Safety in Lusaka, Zambia**

**ORAL ABSTRACT PRESENTER:** Alexa King, MD, Northwestern Memorial Hospital

### NEUROCRITICAL CARE AND TRAUMATIC BRAIN INJURY\*

**11:00 AM - 12:30 PM**

**Conference Room 404 (4th Floor)**

**CHAIR:** Marion S. Buckwalter, MD, PhD, Stanford University

**CO-CHAIR:** Danielle K. Sandsmark, MD, PhD, University of Pennsylvania

This session will highlight advanced neuroimaging techniques, their use in TBI and neurocritical care, and the evidence that they predict and/or can be used to modify outcomes in patients with critical brain dysfunction. Dr. Lori Shutter, Professor of Critical Care Medicine, Neurology, and Neurosurgery Vice Chair for Education will discuss brain tissue oxygen monitoring in TBI and its use in potentially improving outcomes. She will discuss the results of her Phase 2 trial, BOOST 2, and her ongoing Phase 3 trial BOOST 3. Dr. Matt Kirschen is an Assistant Professor at the University of Pennsylvania. He will discuss his work using neuromonitoring, particularly NIRS (near-infrared spectroscopy) to predict prognosis after cardiac arrest. In addition, 2-3 short talks on advanced neuromonitoring will be selected from submitted abstracts.

#### LEARNING OBJECTIVES:

- Participants will learn about brain tissue oxygen, NIRS, and PRx as measures of brain health.
- Participants will learn the latest evidence on whether brain tissue oxygen treatment improves neurological outcomes.
- Participants will learn the latest evidence on whether optimizing cerebral autoregulation improves neurological outcomes.
- Participants will learn the evidence that NIRS predicts outcomes after cardiac arrest.

#### **NIRS After Cardiac Arrest**

**SPEAKER:** Matthew Kirschen, MD, PhD, Children's Hospital of Philadelphia

#### **Brain Tissue Oxygen Monitoring**

**SPEAKER:** Lori Shutter, MD, FCCM, FNCS, FANA, UPMC / University of Pittsburgh



## TUESDAY, SEPTEMBER 12, 2023 (CONTINUED)

### TRADITIONAL SPECIAL INTEREST GROUPS

#### **Current Practice for Continuous EEG Monitoring in the Critically Ill Patient: A Latin American Survey**

ORAL ABSTRACT PRESENTER: Clio Rubinos, MD, MS, Columbia University

#### **Systemic Metabolic Alterations after Aneurysmal Subarachnoid Hemorrhage**

ORAL ABSTRACT PRESENTER: Aaron Gusdon, MD, UTHHealth Houston

### NEUROMUSCULAR DISEASE\*

**11:00 AM - 12:30 PM**

**Franklin Hall 13 (5th Floor)**

CHAIR: Teerin Liewluck, MD, Mayo Clinic

CO-CHAIR: Hani Kushlaf, MD, FAAN, FANA, FAANEM, University of Cincinnati

There are 3 speakers for this session cover the following areas: 1) immune-mediated rippling muscle disease (iRMD), Charcot-Marie-Tooth type (CMT) 1A and myasthenia gravis (MG). iRMD is an emerging group of immune-mediated myopathies that anti-cavin 4 antibodies was recently discovered in most iRMD patients. CMT1A is the most common hereditary motor and sensory neuropathy that affect patients of all ages and there are recent developments regarding natural history study, outcome measures, and gene therapy of this condition. As for MG, there are new therapeutic agents targeting complements and neonatal Fc receptors that have been approved by FDA in the recent years.

#### **LEARNING OBJECTIVES:**

- Diagnose and manage patients with iRMD.
- Diagnose and provide CMT1A patients with the current knowledge regarding the recent development of CMT1A therapies.

- Select the appropriate therapeutic agents for individuals with myasthenia gravis.

#### **CMT1A: Natural History, Outcome Measures and Therapeutic Development**

SPEAKER: Michael E. Shy, MD, FANA, Carver College of Medicine, University of Iowa

#### **Novel Therapies for Myasthenia Gravis**

SPEAKER: Vera Brill, MD, FRCPC, University of Toronto

#### **Immune-Mediated Rippling Muscle Disease: From Bench to Bedside**

SPEAKER: Margherita Milone, MD, PhD, FANA, Mayo Clinic College of Medicine and Science, Rochester, MN

#### **Early B Cell Tolerance Defects in Anti-Neurofascin-155-Mediated Autoimmune Nodopathy**

ORAL ABSTRACT PRESENTER: Bhaskar Roy, MBBS, MHS, Yale School of Medicine

#### **Using Unsupervised Machine Learning to Identify Phenotypic Clusters of Small Fiber Neuropathy**

ORAL ABSTRACT PRESENTER: Peyton Murin, MD, Saint Louis University

#### **Alternative Polyadenylation in the Pathogenesis of Amyotrophic Lateral Sclerosis**

ORAL ABSTRACT PRESENTER: Sebastian Michels, MD, University of California, Irvine

### ADDITIONAL INTERACTIVE LUNCH WORKSHOPS

#### **AUPN NETWORKING SESSION FOR SMALL ACADEMIC DEPARTMENTS\***

**11:00 AM - 12:30 PM**

**Conference Room 402 (4th Floor)**

#### **Advanced Practice Providers and How They Fit into Neurology**

CHAIR AND SPEAKER: Aashit Shah, MD, FANA, Virginia Tech Carilion School of Medicine



## TUESDAY, SEPTEMBER 12, 2023 (CONTINUED)

### MEDICAL STUDENT SESSION

#### CHOOSING A CAREER IN NEUROLOGY\*

**1:00 PM - 3:00 PM**  
**Salons A-B (5th Floor)**

**CHAIR:** George Newman, MD, PhD, FANA, Albert Einstein Medical Center

**CO-CHAIR:** Saman Zafar, MD, MSc, Albert Einstein Medical Center

**Sponsored by Einstein Healthcare Network**

The purpose of this session is to provide a forum in which medical students can explore a career in Neurology. Clerkship and Program Directors, faculty and residents from Neurology residencies in and around Philadelphia will offer brief presentations and facilitate discussions so that participants can learn about the many career options in Neurology.

**PANELISTS:**

Aparna Prabhu, MD, MRCP, Albert Einstein Medical Center

David Roby, MD, Albert Einstein Medical Center

Mohamad Rostami, MD, FANA, PhD, Thomas Jefferson University

Tsao-Wei Liang, MD, Thomas Jefferson University

Frances E. Jensen MD, FACP, FANA, University of Pennsylvania

Raymond S. Price, MD, FANA, University of Pennsylvania

H. Branch Coslett, MD, University of Pennsylvania

Mercedes Jacobson, MD, Temple University

Anh-Thu Vu, MD, Drexel University

Jeffrey Ratliff, MD, Thomas Jefferson University

Louis Goodrich, DO, MS, Temple University

Jyoti Pillai, MD, Drexel University

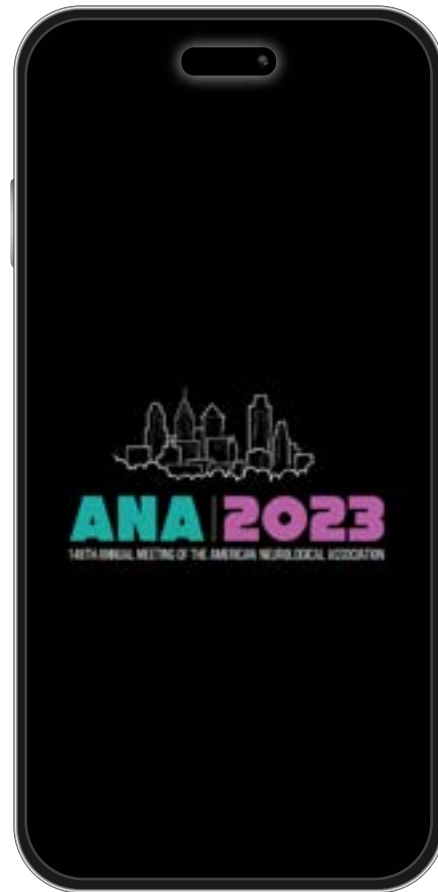
Sridhara Yaddanapudi, MD, MBBS, Thomas Jefferson University

#### ANA2023 ADJOURNED

**3:00 PM**

### GET THE FREE APP

Download the event app now to get the most from your experience!





The ANA values the participation of our corporate partners and is supportive of the role that members of this community continue to play in our efforts to provide neurologists and neuroscientists with quality educational programs. These symposia are not part of the ANA official educational program, and the sessions and content are not endorsed by ANA.

## SATURDAY, SEPTEMBER 9

**3:00 pm - 4:00 pm Franklin Hall 1 (4th Floor)**

**UNDERSTANDING HUNTINGTON'S DISEASE P(HD) CHOREA: THE UNDERLYING DISEASE, IMPACT, AND A TREATMENT OPTION**

Sponsored by Neurocrine Biosciences, Inc.

## SATURDAY, SEPTEMBER 9

**7:30 pm - 8:30 pm Salon I (5th Floor)**

**ATTR: THINK BEYOND IDIOPATHIC NEUROPATHY**

Sponsored by AstraZeneca

## SUNDAY, SEPTEMBER 10

**6:00 am - 7:00 am Salons C-D (5th Floor)**

**THE CHANGING FUTURE FOR PATIENTS WITH RETT SYNDROME AND THEIR FAMILIES: EARLY DIAGNOSIS AND EMERGING THERAPIES TO REDUCE THE BURDENS OF DISEASE\***

Provided by Peerview Institute for Medical Education

## SUNDAY, SEPTEMBER 10

**5:15 pm - 6:15 pm Franklin Hall 1 (4th Floor)**

**THE ROLE OF NEUROMUSCULAR TRANSMISSION FAILURE AND CLC-1 INHIBITION AS A NOVEL THERAPEUTIC APPROACH ACROSS NEUROMUSCULAR DISEASES; POSITIVE PROOF OF MECHANISM IN PATIENTS WITH MYASTHENIA GRAVIS**

Sponsored by NMD Pharma

## SUNDAY, SEPTEMBER 10

**7:30 pm - 8:30 pm Franklin Hall 2 (4th Floor)**

**ALZHEIMER'S DISEASE: AN EXPERT DISCUSSION ON THE EVOLVING TREATMENT LANDSCAPE**

Sponsored by Eisai

## MONDAY, SEPTEMBER 11

**6:00 am - 7:00 am Franklin Hall 1 (4th Floor)**

**MASTERING MS: TRANSLATING EVIDENCE INTO OPTIMAL MANAGEMENT PLANS**

Sponsored by Physicians' Education Resource







## F.E. BENNETT MEMORIAL LECTURESHIP AWARD

The F.E. Bennett Memorial Lectureship began in 1979 to recognize outstanding neuroscientists.

SUNDAY, SEPTEMBER 10, 2023, FROM 1:00 PM – 3:00 PM EST



**Maiken Nedergaard, MD, DMSc**

University of Rochester Medical Center /  
University of Copenhagen

### PRESENTATION TITLE: GLYMPHATIC SYSTEM – AND RELATIONSHIP TO DISORDER

This award will be presented during the Presidential Symposium - Exploring Sleep Disturbance in CNS Disorders.

Dr. Nedergaard received her MD in 1984 and her D.M.Sc. in 1990 from the University of Copenhagen. She has since focused on experimental work at Weill Cornell Medical School, New York Medical College, Rochester University, and the University of Copenhagen where she holds a part-time position. Dr. Nedergaard is a glial Cell Biologist focused on the role of astrocytes in higher brain functions and she discovered the glymphatic system.

## SORIANO LECTURESHIP AWARD

This award was established in 1987 by ANA member Dr. Victor Soriano and his wife to provide a “brilliant lecture delivered by an outstanding scientist” who is a member of the Association.

SUNDAY, SEPTEMBER 10, 2023, FROM 9:30 AM – 11:30 AM EST



**Peter Todd, MD, PhD, FANA**

University of Michigan

### PRESENTATION TITLE: REPEATING THEMES IN HUMAN NEUROLOGIC DISEASE

This award will be presented during the Plenary Session: The Role of RNA-Binding Proteins and RNA Metabolism in Neurological Development and Disease.

Peter Todd, MD, FANA, PhD, is the Harris Professor of Neurology and Associate Chair for Research at the University of Michigan. Dr. Todd completed his MD/PhD in neuroscience at the University of Wisconsin, his neurology residency at the University of Pennsylvania and fellowships in movement disorders and neurogenetics at Michigan. Dr. Todd’s lab studies the mechanisms by which nucleotide repeat expansions cause neurological disease with a goal of developing novel therapeutics. Dr. Todd directs the Michigan Clinical Neurogenetics Research Program and cares for patients with ataxia and related inherited neurological disorders. He received the ANA’s Derek Denny-Brown Young Neurological Scholar Award in 2018.



## RAYMOND D. ADAMS LECTURESHIP AWARD

This award honors Dr. Raymond D. Adams, emeritus Bullard Professor of Neuropathy at Harvard Medical School and emeritus Chief of Neurology Service at the Massachusetts General Hospital.

**MONDAY, SEPTEMBER 11, 2023, FROM 8:45 AM - 10:45 AM EST**



**Marilyn Albert, PhD, FANA**

Johns Hopkins School of Medicine

### PRESENTATION TITLE: PRECLINICAL ALZHEIMER DISEASE

This award will be presented during the Plenary Session: Prodromal Neurologic Disease: Early Markers and Earlier Opportunities for Treatment.

Dr. Marilyn Albert is Professor of Neurology and Director of the Division of Cognitive Neuroscience in the Department of Neurology at the Johns Hopkins University School of Medicine. She is also the Director of the Johns Hopkins Alzheimer's Disease Research Center. Over the course of her career she has conducted several large longitudinal studies aimed at improving our understanding of Alzheimer's disease (AD), the most recent of which is focused on preclinical AD. She has received many awards for her contributions to AD research; most recently, the Henry Wisniewski Lifetime Achievement Award, given by the Alzheimer's Association in 2019.

## GEORGE W. JACOBY AWARD

The Jacoby Award is given triennially to a member of the American Neurological Association who, in the judgment of a review committee, has conducted especially meritorious experimental work on any neurologic or psychiatric subject in the preceding three years.

**SATURDAY, SEPTEMBER 10, 2023, FROM 5:45 PM - 7:15 PM EST.**



**Carsten Bönnemann, MD, Habil, FANA**

National Institute of Neurological Disorders and Stroke

### PRESENTATION TITLE: GENE THERAPY AS A PLATFORM: FROM GIANT AXONAL NEUROPATHY TO THE PAVEGT PROGRAM

This award will be presented during the Opening Symposium Plenary Session: Gene Therapy in Rare Neurological Diseases

Dr. Carsten Bönnemann trained in pediatrics in Germany and in neurology/child neurology at MGH/Harvard Medical School followed by postdoctoral research with Louis Kunkel at Boston Children's. He was on faculty at CHOP before joining the National Institute of Neurological Disorders and Stroke in 2010. His work centers on early onset neuromuscular disorders and on the development of gene directed treatments, including AAV mediated gene therapy. He was a Pew Fellow in the Biomedical Sciences, received the ANA Derek Derek Denny-Brown Young Neurological Scholar Award, the Legacy Award of the MDA USA, and the Duchenne-Erb Prize of the German DGM. He is Co-Editor-in-Chief of the *Journal of Neuromuscular Diseases*.



## DEREK DENNY-BROWN YOUNG NEUROLOGICAL SCHOLARS

The Derek Denny-Brown Young Neurological Scholar Awards are presented annually during the Annual Meeting to members of the association who have achieved significant stature in neurological research, and who show promise and will continue making major contributions to the field of neurology and neuroscience.

## DEREK DENNY-BROWN YOUNG NEUROLOGICAL SCHOLAR AWARD IN NEUROSCIENCE

MONDAY, SEPTEMBER 11, 2023, FROM 1:15 PM-3:45 PM EST



**David Gate, PhD**

Northwestern University

### PRESENTATION TITLE: GENOMIC APPROACHES TO STUDY ALZHEIMER'S DISEASE IMMUNITY

This award will be presented during the Derek Denny-Brown Young Neurological Scholar Symposium.

Dr. David Gate received his PhD from the University of Southern California in 2015. He then trained as a postdoctoral fellow with Tony Wyss-Coray at Stanford. In 2021, Dr. Gate became a faculty member in Neurology at Northwestern University in Chicago. Dr. Gate's laboratory employs multi-omics strategies to interpret immune system changes related to neurodegeneration. His group is particularly interested in the interplay between T cells and neurodegenerative disease antigens.



## THE DEREK DENNY-BROWN YOUNG NEUROLOGICAL SCHOLAR AWARD IN BASIC SCIENCE

MONDAY, SEPTEMBER 11, 2023, FROM 1:15 PM-3:45 PM EDT



**Vikram Khurana, MD, PhD**

Brigham & Women's Hospital and Harvard Medical School

### PRESENTATION TITLE: THE SYSTEMS CELL BIOLOGY OF NEURODEGENERATION: PROTEINS TO STEM CELLS TO PATIENTS.

This award will be presented during the Derek Denny-Brown Young Neurological Scholar Symposium.

Vikram Khurana, MD, PhD, is Chief of the Division of Movement Disorders at Brigham and Women's Hospital and Harvard Medical School. He has advanced our understanding of alpha-synucleinopathy, the fundamental pathology associated with Parkinson's disease (PD). Khurana helped pioneer human stem-cell technologies for the understanding of PD and has helped advance drugs to clinical trials. His central goal is to develop precision medicines for PD and related disorders. He is a former Fulbright Scholar, New York Stem Cell Foundation Robertson Stem Cell Investigator, Aligning Science Across Parkinson's (ASAP) Investigator and APDA Cotzias fellow. He founded two neurodegeneration-focused biotech companies.

## DEREK DENNY-BROWN YOUNG NEUROLOGICAL SCHOLAR AWARD IN CLINICAL SCIENCE

MONDAY, SEPTEMBER 11, 2023, FROM 1:15 PM-3:45 PM EDT



**Andrea Schneider, MD, PhD**

University of Pennsylvania

### PRESENTATION TITLE: ASSOCIATIONS OF TRAUMATIC BRAIN INJURY WITH LONG-TERM OUTCOMES: INSIGHTS FROM EPIDEMIOLOGIC STUDIES

This award will be presented during the Derek Denny-Brown Young Neurological Scholar Symposium.

Andrea Schneider, MD, PhD is an Assistant Professor of Neurology in the Division of Neurocritical Care with a secondary appointment in the Department of Biostatistics, Epidemiology, and Informatics at the University of Pennsylvania. She received her PhD in Epidemiology in 2012 and her MD in 2014 from Johns Hopkins University. She completed Neurology Residency and Neurocritical Care Fellowship at Johns Hopkins Hospital in 2020. Her research program is centered on the epidemiology of traumatic brain injury, with a focus on using epidemiological and biostatistical methods to characterize traumatic brain injury-related neurocognitive outcomes and to gain insights into disease mechanisms.





## THE GRASS FOUNDATION— ANA AWARD IN NEUROSCIENCE

Established in 2007, the award honors outstanding young investigators conducting research in basic or clinical neuroscience.

**MONDAY, SEPTEMBER 11, 2023, FROM 1:15 PM–3:45 PM EDT**



**Yvette Wong, PhD**

Northwestern University Feinberg School of Medicine

### PRESENTATION TITLE: INTER-ORGAN- ELLE CONTACT SITE MISREGULATION IN NEURODEGENERATIVE DISEASES

This award will be presented during the Derek Denny-Brown Young Neurological Scholar Symposium.

Dr. Yvette Wong is an Assistant Professor in Neurology at Northwestern University's Feinberg School of Medicine. Her research lab investigates inter-organelle contact sites and novel organelle dynamics using super-resolution live cell microscopy and their roles in neurodegenerative diseases. She obtained her BA in Biology & Mathematics from Cornell University, her PhD in Neuroscience from University of Pennsylvania, and conducted her postdoctoral research at Northwestern University. For her research on organelle dynamics, she has received the NIH K99/R00 Pathway to Independence Award from NINDS, the Warren Alpert Distinguished Scholars Award, and the DP2 NIH Director's New Innovator Award.

## AUDREY S. PENN LECTURESHIP AWARD

Provided to ANA members who conduct outstanding research, program-building, or educational scholarship to promote health equity on health care disparities.

**MONDAY, SEPTEMBER 11, 2023, FROM 1:15 PM–3:45 PM EDT**



**Roy Hamilton,  
MD, MS, FANA**

University of Pennsylvania

### PRESENTATION TITLE: FROM AGNOSIA TO ACTION: MOVING TOWARD DIVERSI- TY, INCLUSION, AND EQUITY IN NEUROL- OGY

This award will be presented during the Derek Denny-Brown Young Neurological Scholar Symposium.

Roy Hamilton, MD, MS, FANA is a Professor of Neurology at the University of Pennsylvania, where he directs the Laboratory for Cognition and Neural Stimulation (LCNS) and the Penn Brain Science, Translation, Innovation and Modulation Center (brainSTIM). His research uses noninvasive brain stimulation to characterize and enhance plasticity in the intact and injured brain. He is also nationally recognized for his work in diversity. He serves as Vice Chair for Diversity and Inclusion in the Department of Neurology and is one of two inaugural Associate Editors for Equity, Diversity, and Inclusion for the Neurology journal and its related academic journals.



## ANA AWARD FOR EXCELLENCE - CLINICAL AND SCIENTIFIC EXCELLENCE (> 15 YEARS)

The ANA Award for Excellence - Clinical and Scientific Excellence (Career Based Contributions over a period of time greater than 15 years) goes to an individual who has made novel scientific contributions that reshape the field's conceptual understanding of specific neurological syndromes or diseases, novel or sustained contributions through the development of new therapeutics for neurological diseases, and/or a major contribution that transforms or expands diagnostic tools in neurology.

MONDAY, SEPTEMBER 11, 2023, FROM 1:15 PM-3:45 PM EDT



**Thomas Wisniewski, MD**

New York University Grossman School of  
Medicine

This award will be presented during the Derek Denny-Brown Young Neurological Scholar Symposium.

Dr. Thomas Wisniewski is Professor of Neurology, Pathology and Psychiatry at New York University School of Medicine. His group helped develop novel therapeutic approaches for Alzheimer's disease (AD) and Down syndrome, in particular immunotherapeutic approaches. His laboratory developed both active and passive immunization specifically targeting abnormal oligomeric protein conformation, as well as a means to stimulate

innate immunity to ameliorate AD pathology via stimulation of Toll-like receptor 9. Recently, he developed an unbiased proteomic methodology that produces robust data utilizing archival formalin, fixed paraffin embedded human tissue, and used this method to perform the most extensive proteomic analyses of amyloid plaques and phosphorylated tau. In addition, Dr. Wisniewski was the first to hypothesize that apolipoprotein (apo) E plays a critical role in AD pathogenesis, coining the term "pathological chaperone" for the role of apoE in AD. His laboratory also developed a novel therapeutic approach based on blocking the interactions between apoE and amyloid-beta, showing it to be effective in multiple AD models. More recently, his laboratory has worked on characterization of the neurological manifestations of hospitalized COVID-19 patients and has shown that some biomarkers of neuroinflammation and neurodegeneration are even higher in these COVID-19 subjects than found in Alzheimer's disease patients.



## ANA AWARD FOR EXCELLENCE - ANA AWARD FOR EXCELLENCE - EDUCATION (> 15 YEARS)

This award was established to recognize an individual who has made a sustained and transformative impact on neurology education that has been widely adopted outside the candidate's home institution and has reshaped neurology training nationally or internationally.

MONDAY, SEPTEMBER 11, 2023, FROM 1:15 PM-3:45 PM EDT



**Steven Lewis, MD, FANA**

Lehigh Valley Fleming Neuroscience Institute / American Board of Psychiatry & Neurology, Inc.

This award will be presented during the Derek Denny-Brown Young Neurological Scholar Symposium.

Dr. Lewis is Physician in Chief and Endowed Chair at Lehigh Valley Fleming Neuroscience Institute in Allentown, Pennsylvania. He is an ABPN Director and past Chair of the Neurology RRC of the ACGME. Dr. Lewis is Secretary-General of the World Federation of Neurology (WFN), Chair of WFN Education Committee, Editor of *World Neurology*, and immediate past Editor-in-Chief of *Continuum: Lifelong Learning in Neurology*. He is a graduate of Yale College and Stanford Medical School and performed his neurology residency at the University of Chicago. In 2019, Dr. Lewis received the AAN's A.B. Baker Award for Lifetime Achievement in Neurologic Education.

## ANA AWARD FOR SCIENTIFIC EXCELLENCE

The ANA Award for Excellence - Clinical and Scientific Excellence (Career Based Contributions over a period of time less than 15 years) goes to an individual early in their career who has made novel scientific contributions that reshape the field's conceptual understanding of neurological disorders, made sustained or breakthrough contributions to the development of therapeutics, or helped transform or expand diagnostic tools and technologies.

MONDAY, SEPTEMBER 11, 2023, FROM 1:15 PM-3:45 PM EDT



**Michael Wilson,  
MD, MAS, FANA**

University of California San Francisco

This award will be presented during the Derek Denny-Brown Young Neurological Scholar Symposium.

Dr. Michael Wilson is a Professor of Neurology and neurologist at UCSF where he directs the UCSF Center for Encephalitis and Meningitis. He runs a laboratory focused on developing new diagnostic tools to better differentiate cases of infectious and autoimmune encephalitis, early biomarkers for multiple sclerosis and new therapeutic approaches for infectious and autoimmune neurologic conditions.



## DISTINGUISHED NEUROLOGY TEACHER AWARD

The award recognizes and rewards contributions by gifted and talented teachers of neurology.

**MONDAY, SEPTEMBER 11, 2023, FROM 1:15 PM-3:45 PM EDT**



**Tracey Milligan, MD, MS,  
FANA**

Westchester Medical Center, New York  
Medical College

This award will be presented during the Derek Denny-Brown Young Neurological Scholar Symposium.

Dr. Tracey A. Milligan is Professor and Chair of Neurology at New York Medical College and Director of Neurology at Westchester Medical Center Health Network. She additionally serves as Neurology Residency Program Director and Co-Director of the Brain and Behavior course. She received her undergraduate degree in Communication Disorders from the University of New Mexico and a graduate degree in Speech Language Pathology from Emerson College. She went on to receive a medical degree from Albert Einstein College of Medicine and completed her internship at Beth Israel Hospital and residency training in neurology at Harvard in the Massachusetts General and Brigham and Women's Hospitals. She is fellowship trained in clinical neurophysiology and epilepsy at Brigham and Women's Hospital, physician leadership at Harvard Business School and medical education at Harvard Medical School. She recently completed a fellowship in the

Executive Leadership in Academic Medicine (ELAM) program. She previously served as Harvard Neurology Clerkship Director, Mass General Brigham Neurology Program Director, co-director of the Mass General Brigham neurology fellowships, and Vice Chair for Education in the BWH Dept of Neurology.

She has received awards for her work in education, leading a Spanish Neurology Clinic, neurology volunteerism program at Indian Health Services, building a diverse and inclusive community at Harvard Medical School, and received the Exceptional Institutional Service award from Harvard Medical School. She is a member of the National Board of Medical Examiners, associate editor for MedEdPortal of the Association of American Medical Colleges, and a member of the Media Engagement Committee of AUPN.





## ANA-PERSYST IDEAS PROFESSIONAL DEVELOPMENT AWARD

This award is provided to an individual who identifies as an underrepresented in medicine early career academic neurologist or neuroscientist and is an ANA member specializing in the field of epilepsy.

MONDAY, SEPTEMBER 11, 2023, FROM 1:15 PM-3:45 PM EDT



**Tanya J. W. McDonald, MD,  
PhD**

Johns Hopkins Epilepsy Center

This award will be presented during the Derek Denny-Brown Young Neurological Scholar Symposium.

Dr. McDonald is an Assistant Professor of Neurology at the Johns Hopkins University School of Medicine. She completed her undergraduate studies at Emory University and received her medical and doctoral degrees from Cornell University. She trained in neurology and epilepsy at Johns Hopkins and is board certified in neurology and epilepsy. She focuses on the diagnosis and treatment of epilepsy and seizures. Her interests include dietary therapies for adults with epilepsy and epilepsy in women (including considerations during pregnancy). Her research focuses on the impact of ketogenic diet therapies on cardiovascular health measures and other outcomes in adults with epilepsy.

# SEE THE PATTRNS

**Recognize the constellation of symptoms**

ATTR is a systemic disease with multiple clinical manifestations

**Scan the code to learn  
more about ATTR**

**Visit us at booth #1**



©2023 AstraZeneca. All rights reserved. US-77583 7/23



## PLATINUM SPONSOR:



## GOLD SPONSORS:



## SPONSORS AND EXHIBITORS:

- |  |   |
|--|---|
| Agency for Toxic Substances and Disease Registry (ATSDR) | NS Pharma                               |
| Argenx   | Patient Advocate Foundation             |
| Atlantic Health  | Pearson Assessments                     |
| Catalyst Pharmaceuticals                                 | PeerView Live                           |
| CSL Behring  | Penn Neurogenetics Therapy Center       |
| Dejavi Innovation Solutions                              | Penn State Health                       |
| Eisai  | Physicians' Education Resource          |
| FeetMe   | PTC Therapeutics                        |
| Horizon Therapeutics                                     | RosmanSearch                            |
| Lambert-Eaton LEMS Family Association                    | RWJBarnabas Health                      |
| Linus Health   | Sanofi                                  |
| National Lipid Association                               | Sarepta Therapeutics                    |
| Neurocrine Medical Affairs                               | UCB                                     |
| NINDS OneTox   | United Mitochondrial Disease Foundation |
| NMD Pharma   | University of Pittsburgh Medical Center |
| Northwestern University Behavior Neurology Fellowship    | Wiley                                   |

## INDEPENDENT MEDICAL EDUCATION GRANTS:

- Bristol Myers Squibb
- Eisai Inc.
- GE Healthcare
- Lilly USA, LLC



We want to thank the experts who reviewed the almost 500 abstracts submitted in 18 categories for inclusion in this year's poster hall. They performed outstanding service for the ANA. Based on these ratings and comments, authors of almost 50 impressive studies were selected to give short oral presentations of their abstracts during both Plenary and the SIG Series sessions.

**Aashit Shah, MD**, Carilion Clinic/ Virginia Tech Carilion School of Medicine

**Abdulmunaim Eid, MD**, Houston Methodist Neurological Institute

**Afsaneh Shirani, MD, MSCI**, University of Nebraska Medical Center

**Akashleena Mallick, MD**, Massachusetts General Hospital

**Alexander Gill, MD, PhD**, Johns Hopkins University School of Medicine

**Ali Habib, MD**, University of California, Irvine

**Ali Hamedani, MD, MHS**, University of Pennsylvania

**Aliison Willis, MD**, University of Pennsylvania

**Altaf Saadi, MD, MSc**, Massachusetts General Hospital / Harvard Medical School

**Alvin Das, MD**, Beth Israel Deaconess Medical Center / Harvard Medical School

**Andrea Gropman, MD**, Children's National Hospital

**Andrea Schneider, MD, PhD**, University of Pennsylvania

**Angela Vincent, MBBS, MSc, FRCPATH, FRS**, University of Oxford

**Anna Bank, MD**, Northwell Health

**Annapurna Poduri, MD, MPH**, Harvard

**Anshika Goenka, PhD**, Northwestern University

**Anupama Rani, PhD**, Barrow Neurological Institute

**Araya Puwanant, MD, MS**, Wake Forest University School of Medicine

**Arun Kumar Hanumana Gouda Patil, PhD**, Johns Hopkins University School of Medicine

**Barbara Decker, MD, MSCE**, University of Vermont Medical Center

**Beau Ances, MD, PhD**, Washington University in Saint Louis

**Bhaskar Roy, MBBS, MHS**, Yale School of Medicine

**Bhavesh Trikamji, MD**, University of California Riverside School of Medicine

**Bing Liao, MD, MSc**, The Houston Methodist Hospital

**Bo Hu, MD, PhD**, Houston Methodist Research Institute

**Bramha Prasad Vangala, MBBS, MCh**, Apollo Hospitals Secunderabad

**Brendan Lucey, MD**, Washington University School of Medicine

**Brian Sauer, MD, PhD**, University of Colorado

**Bridgette Jeanne Billioux, MD**, National Institute of Neurological Disorders and Stroke (NINDS)

**Bryan Traynor, MD, PhD**, National Institutes of Health (NIH)

**Carolyn Fredericks, MD**, Yale School of Medicine

**Cassie Mitchell, PhD**, Georgia Institute of Technology

**Charles Flippen II, MD**, University of California, Los Angeles

**Cheran Elangovan, MBBS**, University of Tennessee Health Science Center, Memphis

**Chih-Chun Lin, MD, PhD**, Columbia University

**Chilvana Patel, MD**, University of Texas Medical Branch



**Ching-Chieh Chou**, PhD,  
Stanford University

**Chirag Patel**, MD, PhD, The  
University of Texas MD  
Anderson Cancer Center

**Christine Gill**, MD, University of  
Iowa

**Christoph Stretz**, MD, Brown  
University

**Claire Henchcliffe**, MD, DPhil,  
FANA, FAAN, University of  
California, Irvine

**Colin Ellis**, MD, University of  
Pennsylvania

**Craig Blackstone**, MD, PhD,  
Massachusetts General Hospital  
and Harvard Medical School

**David Pleasure**, MD, University  
of California, Davis

**Deanna Saylor**, MD, MHS,  
Johns Hopkins University  
School of Medicine

**Dedrick Jordan**, MD, PhD, LSU  
Health Shreveport

**Diana Madrid Fuentes**, BSc,  
MSc, Wake Forest University  
School of Medicine

**Dilip Kumar Jayaraman**, MD,  
MainLine Health

**Dinesh Chaudhari**, MD,  
Indraprastha Apollo Hospital

**Dinesh Jillella**, MD, Emory  
University

**Don Cameron**, BSc(HON), MD,  
FRCP(C), CSCN, FANA, FAHA,  
University of British Columbia

**Don Higgins**, MD, Stratton VA  
Medical Center / Albany  
Medical College

**Doug Neyh**, MD, University of  
Colorado

**Duygu Selcen**, MD, Mayo Clinic

**Edward Faught**, MD, Emory  
University

**Edward Yu**, MD, Zucker School  
of Medicine

**Elias Karroum**, MD, PhD,  
George Washington University

**Elias Sotirchos**, MD, Johns  
Hopkins University School of  
Medicine

**Elizabeth Wright-Jin**, MD,  
PhD, Nemours Children's  
Health

**Erin Furr Stimming**, MD,  
McGovern Medical School at  
UTHealth

**Farren Briggs**, PhD, ScM, Case  
Western Reserve University

**Frank Barone**, PhD, Downstate  
Health Sciences University

**Giovanni Meola**, MD, FAAN,  
University of Milan

**Glenn Graham**, MD, PhD, UCSF  
and San Francisco VAMC

**Grace Gombolay**, MD, Emory  
University / Children's  
Healthcare of Atlanta

**Gregory Day**, MD, Mayo Clinic  
Florida

**Hani Kushlaf**, MD, University of  
Cincinnati

**Hans-Peter Hartung**, MD,  
FRCP, FAAN, FANA, FEAN,  
University of Sydney

**Harini Sarva**, MD, Weill Cornell  
Medicine

**Howard Goodkin**, MD, PhD,  
University of Virginia

**Hyunyoung Koh**, MD, PhD,  
Boston Children's Hospital/  
Harvard Medical School

**Ioannis Karakis**, MD, PhD, MSc,  
Emory University School of  
Medicine

**Jack Parent**, MD, University of  
Michigan

**Jaleed Ahmed Gilani**, MBBS,  
Aga Khan University

**Jerome Graber**, MD, MPH,  
FAAN, University of Washington

**Jerome Jeevarajan**, MD, UT  
Health Houston

**Jessica Magid-Bernstein**, MD,  
PhD, Yale School of Medicine

**John Kincaid**, MD, Indiana  
University

**Jonathan Rosand**, MD MSc,  
Massachusetts General  
Hospital/Harvard Medical  
School

**Jordan Clay**, MD, University of  
Kentucky

**Joseph Carrera**, MD, University  
of Michigan

**Juebin Huang**, MD, University  
of Mississippi Medical Center

**Julio Furlan**, MD, LLB, MBA,  
PhD, MSc, FRCPC, FAAN,  
University of Toronto

**Justin McArthur**, MBBS, Johns  
Hopkins University School of  
Medicine

**Justyna Dobrowolska  
Zakaria**, PhD, Northwestern  
University Feinberg School of  
Medicine

**Kapil Arya**, MBBS, DA, FAAP,  
FANA, FACNS, University of  
Arkansas for Medical Sciences

**Kathy Newell**, MD, Indiana  
University

**Kazumasa Saigoh**, MD, PhD,  
Kindai University Hospital





**Kemar Green**, DO, Johns Hopkins University School of Medicine

**Kenichi Oishi**, MD, PhD, FANA, Johns Hopkins University School of Medicine

**Kevin O'Connor**, MD, University of Kentucky

**Kevin Pacheco-Barrios**, MD, MSc, MPH, Harvard Medical School

**Krishnankutty Sathian**, MBBS, PhD, FANA, Pennsylvania State University College of Medicine

**Kristy Hwang**, MD, University of California, San Diego

**Kunal Bhatia**, MD, University of Mississippi Medical Center

**Larry Goldstein**, MD, University of Kentucky

**Laura Balcer**, MD, MSCE, NYU Grossman School of Medicine

**Lauren Sansing**, MD, Yale School of Medicine

**Lauren Singer**, MD, Northwestern University

**Lawrence Honig**, MD, PhD, FAAN, Columbia University

**Lenora Higginbotham**, MD, Emory University

**Linda Keilman**, DNP, MSN, GNP-BC, FAANP, Michigan State University

**Lori Shutter**, MD, FCCM, FNCS, University of Pittsburgh / UPMC

**Ludy Shih**, MD, MMSc, Boston University School of Medicine

**M. Elizabeth Ross**, MD, PhD, Weill Cornell Medicine

**Man Mohan Mehndiratta**, Dr. B.L.Kapur Hospital Centre for Neurosciences New Delhi

**Maria Luisa Gorno-Tempini**, MD, University of California, San Francisco

**Mariam Natsvlshvili**, New Vision University

**Marie Davis**, MD, PhD, University of Washington

**Maysaa Basha**, MD, FAES, FANA, Wayne State University School of Medicine

**Meheroz H Rabadi**, MD, MRCPI, FAAN, FANA, OKC VA Medical Center

**Michael Levy**, MD, PhD, Massachusetts General Hospital

**Michael McGarvey**, MD, Hospital of University of Pennsylvania

**Miguel Ja Lainez**, Universidad Catalica de Valencia

**Mill Etienne**, MD, MPH, CPH, FAAN, FANA, FAES, New York Medical College

**Minjee Kim**, MD, Northwestern University Feinberg School of Medicine

**Mithilesh Siddu**, MD, Medical College of Georgia/Augusta University

**Monica Diaz**, MD, MS, University of North Carolina at Chapel Hill

**Muhammad Alvi**, MD, West Virginia University

**Neal Parikh**, MD, MS, Weill Cornell Medicine

**Neena Cherayil**, MD, Northwestern University Memorial Hospital

**Nigel Pedersen**, MBBS, University of California, Davis

**Nils Henninger**, MD, PhD, University of Massachusetts Chan Medical School

**Nina Riggins**, MD PhD, University of California San Diego

**Nirav Sanghani**, MD, DM, FAA-NEM, FEBN, Trinity Health of New England, Hartford

**Nitish Chourasia**, MD, University of Tennessee Health Science Center

**Oana Dumitrascu**, MD, MSc, Mayo Clinic

**Oday Halhouli**, MD, University of Iowa Hospitals and Clinics

**Panayiotis Mitsias**, MD, PhD, Henry Ford Hospital & Wayne State University

**Patricia Greenstein**, MB.BCh, Beth Israel Deaconess Medical Center

**Paulina Gonzalez-Latapi**, MD, MSc, Northwestern University

**Pazhani Ranganathan**, DM, FRCP, FAAN, FANA, Pazhani Neuro Centre

**Peter Kang**, MD, MSCI, Washington University School of Medicine

**Peter Ngum**, MD, PhD Candidate, University of Turku

**Piero Antuono**, MD, Medical College of Wisconsin

**Prashant Natteru**, MBBS, MD, University of Iowa Hospitals & Clinics

**Rajesh Gupta**, MD, UTHealth Houston

**Ramon Diaz-Arrastia**, MD, PhD, University of Pennsylvania



**Rebecca Gottesman**, MD, PhD,  
FANA, National Institutes of  
Health (NIH)

**Reza Seyedsadjadi**, MD,  
Massachusetts General Hospital

**Rizwan Akhtar**, MD, PhD,  
Northwestern University

**Robert Nishimura**, MD,  
University of California Los  
Angeles

**Roberta La Piana**, MD, PhD,  
Montreal Neurological Institute

**Rohini Bhole**, MD, MS, FAAN,  
University of Virginia

**Rong Ye**, MD, PhD,  
Massachusetts General hospital

**Roy Hamilton**, MD, MS,  
University of Pennsylvania

**S. Thomas Carmichael**, MD,  
PhD, University of California,  
Los Angeles

**Sally Mathias**, MD, University of  
Kentucky

**Sameer Sharma**, MBBS,  
University of Mississippi  
Medical Center

**Santosh Murthy**, MD, MPH,  
Weill Cornell Medicine

**Sara Saez Atienzar**, PhD,  
National Institutes of Health  
(NIH)

**Sarah Nelson**, MD, MPH, Mount  
Sinai Health System

**Satya VVN Kothapalli**, PhD,  
Washington University

**Saurav Das**, MD, University of  
Kentucky

**Scott Grossman**, MD, New York  
University

**Seniha Ozudogru**, MD,  
University of Pennsylvania

**Sharon Lynch**, MD, University  
of Kansas Medical Center

**Shashank Shekhar**, MD, MSc,  
University of Mississippi  
Medical Center

**Sheng-Han Kuo**, MD, Columbia  
University

**Shivakrishna Kovi**, MD,  
Unitypoint Health

**Shivika Chandra**, MD,  
UTHealth, Houston

**Sihyeong Park**, MD, University  
of Toledo

**Stefanie Geisler**, MD,  
Washington University School  
of Medicine, St. Louis

**Steve Cramer**, MD, University  
of California, Los Angeles

**Tammy Smith**, MD, PhD,  
University of Utah

**Tamra Ranasinghe**, MD, Wake  
Forest University School of  
Medicine

**Teerin Liewluck**, MD, Mayo  
Clinic

**Thomas Wingo**, MD, Emory  
University

**Tian Wang**, MD, Georgetown  
University

**Tritia Yamasaki**, MD, PhD,  
University of Kentucky

**Tuhin Virmani**, MD, PhD, FAAN,  
University of Arkansas for  
Medical Sciences

**Uma Menon**, MD, MBA, FACNS,  
FAES, FAAN, FANA, Morehouse  
School of Medicine

**Vanessa Merker**, PhD,  
Massachusetts General Hospital

**Varun Sreenivasan**, MBBS,  
Mississippi Center for Advanced  
Medicine

**Veeresh Kumar N.**

**Shivamurthy**, MD, University of  
Connecticut School of Medicine

**Vikram Kaur**, MD, Tower Health  
Reading Hospital

**Vikram Khurana**, MD, PhD,  
Brigham & Women's Hospital

**Wilfreda Lindsey**, MD, MS,  
Kennedy Krieger Institute/  
Johns Hopkins University  
School of Medicine

**William Kilgo**, MD, University  
of South Alabama

**William Powers**, MD, FANA,  
Duke University School of  
Medicine

**Xin-Ming Shen**, PhD,  
Department of Neurology,  
Mayo Clinic

**Xuyi Yue**, PhD, Nemours  
Children's Hospital

**Zain Guduru**, MD, FAAN,  
University of Kentucky



## BOARD OF DIRECTORS

DIRECTOR

**Jun Li, MD, PhD, FANA**

2020-2023

*Houston Methodist Hospital*

DIRECTOR

**Erik Roberson, MD, PhD, FANA**

2020-2023

*University of Alabama at Birmingham*

DIRECTOR

**M. Maral Mouradian, MD, FANA**

2020-2023

*Rutgers University*

DIRECTOR

**Elisabeth Marsh, MD, FAHA, FAAN, FANA**

2021-2024

*Johns Hopkins University*

DIRECTOR

**Avindra Nath, MD, FANA**

2021-2024

*National Institutes of Health (NIH)*

DIRECTOR

**Ming Guo, MD, PhD, FANA**

2021-2024

*University of California, Los Angeles*

DIRECTOR

**Devin Brown, MD, MS, FANA**

2022-2025

*University of Michigan*

DIRECTOR

**Salvador Cruz-Flores, MD, MPH, FANA**

2022-2025

*Texas Tech University*

DIRECTOR

**Rajiv Ratan, MD, PhD**

2022-2025

*Burke Neurological Institute*

DIRECTOR

**Kevin Sheth, MD, FANA**

2021-2023

*Yale University*

EX-OFFICIO

**Ahmet Hoke, MD, PhD, FANA**

2022-2026

*Johns Hopkins University*

EX-OFFICIO

**Kenneth Tyler, MD, FANA**

2022-2025

*University of Colorado*

EX-OFFICIO

**Bhooma Aravamuthan, MD, DPhil**

2022-2023

*Washington University in St. Louis*

## ANNUAL MEETING PROGRAMMING (AMP) COMMITTEE

CHAIR

**Rebecca Gottesman, MD, PhD, FANA**

2021-2023

*National Institutes of Health (NIH)*

VICE CHAIR

**Allison Willis, MD, MS, FANA**

2022-2023

*University of Pennsylvania*

MEMBER

**Bryan Traynor, MD, PhD, FANA**

2020-2023

*National Institutes of Health (NIH)*

MEMBER

**Krishnankutty Sathian, MBBS, PhD, FANA**

2020-2023

*Penn State College of Medicine*

MEMBER

**Beau Ances, MD, PhD, MSc, FANA**

2021-2024

*Washington University in St. Louis*

MEMBER

**Jack M. Parent, MD, FANA**

2021-2024

*University of Michigan*

MEMBER

**Howard Goodkin, MD, PhD, FANA**

2021-2024

*University of Virginia*

MEMBER

**Roy H. Hamilton, MD, MS, FANA**

2021-2024

*University of Pennsylvania*

MEMBER

**Lauren Sansing, MD, MS, FANA**

2021-2024

*Yale University*

MEMBER

**Annapurna Poduri, MD, MPH**

2021-2024

*Boston Children's Hospital*



# 2023 COMMITTEES



MEMBER

**Sheng-Han Kuo, MD**  
2020-2023  
*Columbia University*

MEMBER

**Stefanie Geisler, MD**  
2020-2023  
*Washington University in  
St. Louis*

MEMBER

**Maria Luisa Gorno-Tempini,  
MD, PhD, FANA**  
2020-2023  
*University of California, San  
Francisco*

EX-OFFICIO

**Justin C. McArthur, MBBS, MPH,  
FANA**  
2019-2023  
*Johns Hopkins University*

EX-OFFICIO

**Frances E. Jensen, MD, FACP,  
FANA**  
2019-2025  
*University of Pennsylvania*

EX-OFFICIO

**M. Elizabeth Ross, MD, PhD, FANA**  
2020-2027  
*Weill Cornell Medicine*

CHAIR OF INTERACTIVE LUNCH  
WORKSHOPS

**Cassie Mitchell, PhD**  
2022-2024  
*Georgia Institute of Technology*

CHAIR OF PROFESSIONAL  
DEVELOPEMENT COURSES

**Claire Henchcliffe, MD, DPhil,  
FANA**  
2022-2024  
*University of California, Irvine*

VICE-CHAIR OF ANA-NINDS

**Stephen Korn, PhD**  
*NINDS*

CHAIR OF RCR

**Laura Balcer, MD, MSCE,  
FANA**  
2019-2023  
*New York University*

CHAIR OF LOCAL ARRANGEMENTS  
SUBCOMMITTEE

**Frances E. Jensen, MD,  
FANA**  
2023-2023  
*University of Pennsylvania*

ANA BOARD LIAISON

**Ming Guo, MD, PhD, FANA**  
2021-2024  
*University of California,  
Los Angeles*

ANA BOARD LIAISON

**Kevin Sheth, MD, FANA**  
2021-2023  
*Yale University*

## PROFESSIONAL DEVELOPMENT WORKSHOPS SUBCOMMITTEE

CHAIR

**Claire Henchcliffe, MD, DPhil,  
FANA**  
2022-2024  
*University of California, Irvine*

MEMBER

**Daniela Maria Menichella, MD,  
PhD, FANA**  
2020-2023  
*Northwestern University*

MEMBER

**Peter Todd, MD, PhD, FANA**  
2020-2023  
*University of Michigan*

MEMBER

**Christa Nobleza, MD**  
2021-2024  
*University of Tennessee*

MEMBER

**Jayant Acharya, MD, FANA**  
2021-2024  
*Southern Illinois University*

MEMBER

**Kelly Sloane, MD**  
2022-2025  
*University of Pennsylvania*

MEMBER

**Michael Wilson, MD, MAS,  
FANA**  
2022-2025  
*University of California,  
San Francisco*

EX-OFFICIO / ANA BOARD LIASION

**Romergryko Geocadin, MD,  
FANA**  
2020-2023  
*Johns Hopkins University*

## INTERACTIVE LUNCH WORKSHOP SUBCOMMITTEE

CHAIR

**Cassie Mitchell, PhD**  
2022-2024  
*Georgia Institute of Technology*





# 2023 COMMITTEES



MEMBER

**Tanya Simuni, MD, FANA**  
2016-2023  
*Northwestern University*

MEMBER

**Mark Wainwright, MD, PhD, FANA**  
2016-2023  
*Seattle Children's Hospital*

MEMBER

**James Gugger, MD, PharmD**  
2022-2025  
*University of Pennsylvania*

MEMBER

**Eric Wong, MD, FANA, FAAN**  
2022-2025  
*Rhode Island Hospital*

MEMBER

**Andrew Kayser, MD, PhD, FANA**  
2022-2025  
*University of California, San Francisco*

MEMBER

**Andrea Schneider, MD, PhD**  
2022-2025  
*University of Pennsylvania*

MEMBER

**Richa Tripathi, MD**  
2022-2025  
*Emory University*

EX-OFFICIO

**Romergryko Geocadin, MD, FANA**  
2020-2023  
*Johns Hopkins University*

ANA BOARD LIAISON

**M. Elizabeth Ross, MD, PhD, FANA**  
2021-2023  
*Weill Cornell Medical College*

## LOCAL ARRANGEMENTS SUBCOMMITTEE

CHAIR

**Frances E. Jensen, MD, FACP, FANA**  
2023  
*University of Pennsylvania*

MEMBER

**Krishnankutty Sathian, MBBS, PhD, FANA**  
2023  
*Penn State College of Medicine*

MEMBER

**Jennifer Orthmann Murphy, MD, PhD**  
2023  
*University of Pennsylvania*

MEMBER

**Allison Willis, MD, MS, FANA**  
2023  
*University of Pennsylvania*

MEMBER

**Raymond Price, MD, FANA**  
2023  
*University of Pennsylvania*

MEMBER

**Mohamad Rostami, MD, PhD, FANA**  
2023  
*Thomas Jefferson University*

MEMBER

**George Newman, MD, PhD, FANA**  
2023  
*Jefferson-Einstein Medical Center*

MEMBER

**Jeffrey Ratliff, MD**  
2023  
*Thomas Jefferson University*

MEMBER

**Andres Fernandez, MD, MSEd**  
2023  
*Thomas Jefferson University*

MEMBER

**Jyoti Pillai, MD**  
2023  
*Drexel University*

MEMBER

**Paul Katz, MD**  
2023  
*Temple University*

MEMBER

**Peter Gliebus, MD**  
2023  
*Drexel University*

MEMBER

**Ajitesh Ojha, MD**  
2023  
*University of Pittsburgh*

MEMBER

**Page Pennell, MD, FAES, FANA**  
2023  
*University of Pittsburgh School of Medicine*

# SAVE THE DATE!



# ANA 2024

149th Annual Meeting  
of the American  
Neurological Association



ORLANDO  
FLORIDA

September  
14-17

2024

