



Write your name here:

\_\_\_\_\_

# 36<sup>th</sup> Asilomar Conference on Mass Spectrometry

## THE ROLE OF MASS SPECTROMETRY IN NEURODEGENERATIVE DISEASE RESEARCH

Friday, December 10 - Tuesday, December 14, 2021  
Asilomar Conference Center, Pacific Grove, CA

### Organizers

**Nathan Hatcher**, *Merck*

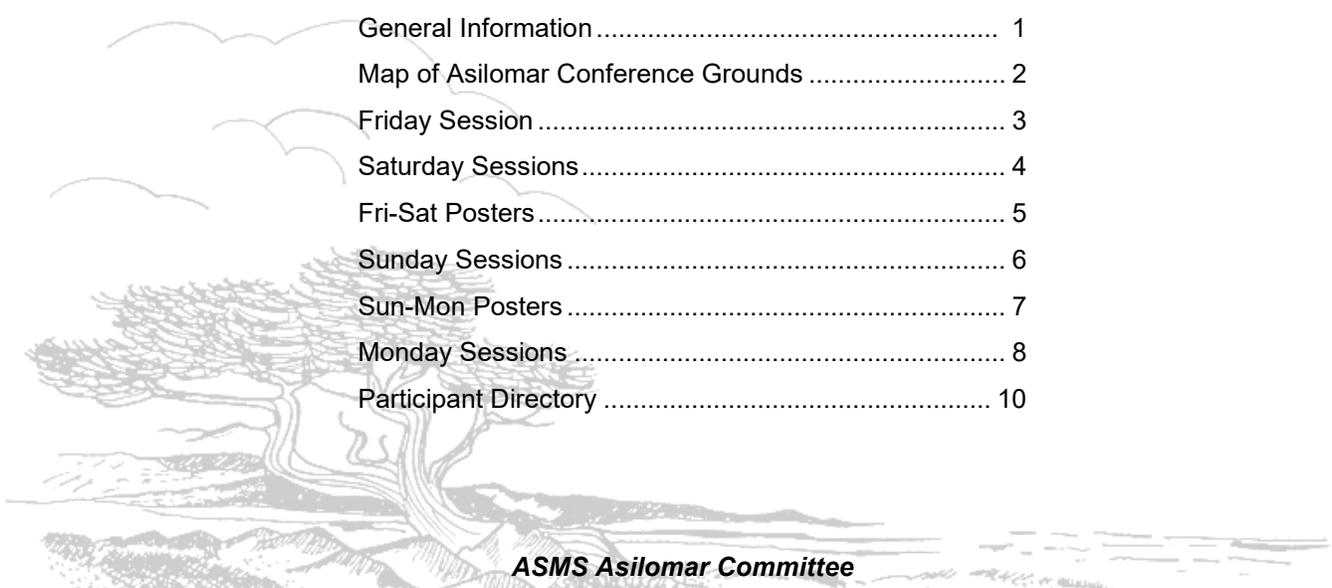
**Joseph Loo**, *University of California, Los Angeles*

**Renā Robinson**, *Vanderbilt University*

**Birgit Schilling**, *The Buck Institute for Research on Aging*

### Table of Contents

General Information .....	1
Map of Asilomar Conference Grounds .....	2
Friday Session .....	3
Saturday Sessions .....	4
Fri-Sat Posters .....	5
Sunday Sessions .....	6
Sun-Mon Posters .....	7
Monday Sessions .....	8
Participant Directory .....	10



### ASMS Asilomar Committee

**John Bowden**  
*University of Florida*

**Jason Hogan**  
*Bristol-Myers-Squibb*

**Beatrix Ueberheide**  
*New York University*

**Richard Yost**, ASMS Board Representative  
*University of Florida*

# GENERAL INFORMATION

## INTERNET ACCESS

There is complimentary wi-fi access in the session room (Chapel), guest rooms and the Social Hall (main building). To use the wi-fi in Chapel (session room), please follow these instructions:

- Connect to the Asilomar Conference Network
- Passphrase is the word "conference" (lowercase)

## MEALS AT ASILOMAR

For attendees lodging at Asilomar you will receive meal tickets for all meals beginning with dinner on Friday and ending with lunch on Tuesday. A vegetarian option is always available upon request at the meal line. *For Tuesday a box lunch has been requested for you, please use your remaining lunch ticket to pick up your box lunch on Tuesday morning, 7:45-9:00 am in Crocker Dining Hall.*

For attendees staying offsite you will have (3) lunch tickets. If for some reason you did not pay the offsite fee, there will be no tickets for you at registration.

For everyone, to-go lunches are available all days during lunch service hour. Simply go to the regular lunch window and request a "To-Go Lunch". You can take your "To-Go Lunch" to the beach or find a nice perch on the campus.

## EVENING RECEPTIONS

Friday, Saturday, and Sunday evenings an informal reception in Chapel immediately following the evening session. These evening mixers are an opportunity to continue lively discussion and interact with fellow attendees. Saturday and Sunday evenings look for authors attending their posters. There are two groups of posters (Fri-Sat and Sun-Mon).

## SUNDAY AFTERNOON

There is a free afternoon. Attendees are encouraged to join others for outings. Suggest your own activity or sign up to join others. Sign-up sheets in Chapel.

## MONDAY EVENING

Weather permitting, we will have a bonfire with s'mores at the firepit outside of Crocker Dining Hall following the final session. If you do not know what a s'more is we will show you!

## PRESENTER GUIDELINES

Invited Speakers and Short Talk Speakers. Please arrive in the Chapel 15-20 minutes prior to the start of the session to set up your device or load your presentation onto the conference computer (PC). Remember to have your own adapters handy to connect to HDMI if using your own device.

Poster Presenters. All posters are located in the Chapel. Poster boards will be numbered. There are two groups of posters, please note the posting and removal times listed below.

### *Friday-Saturday Posters*

Mount posters by 6 pm Fri (or as soon as you arrive). Remove after Saturday evening reception.

### *Sunday-Monday Posters*

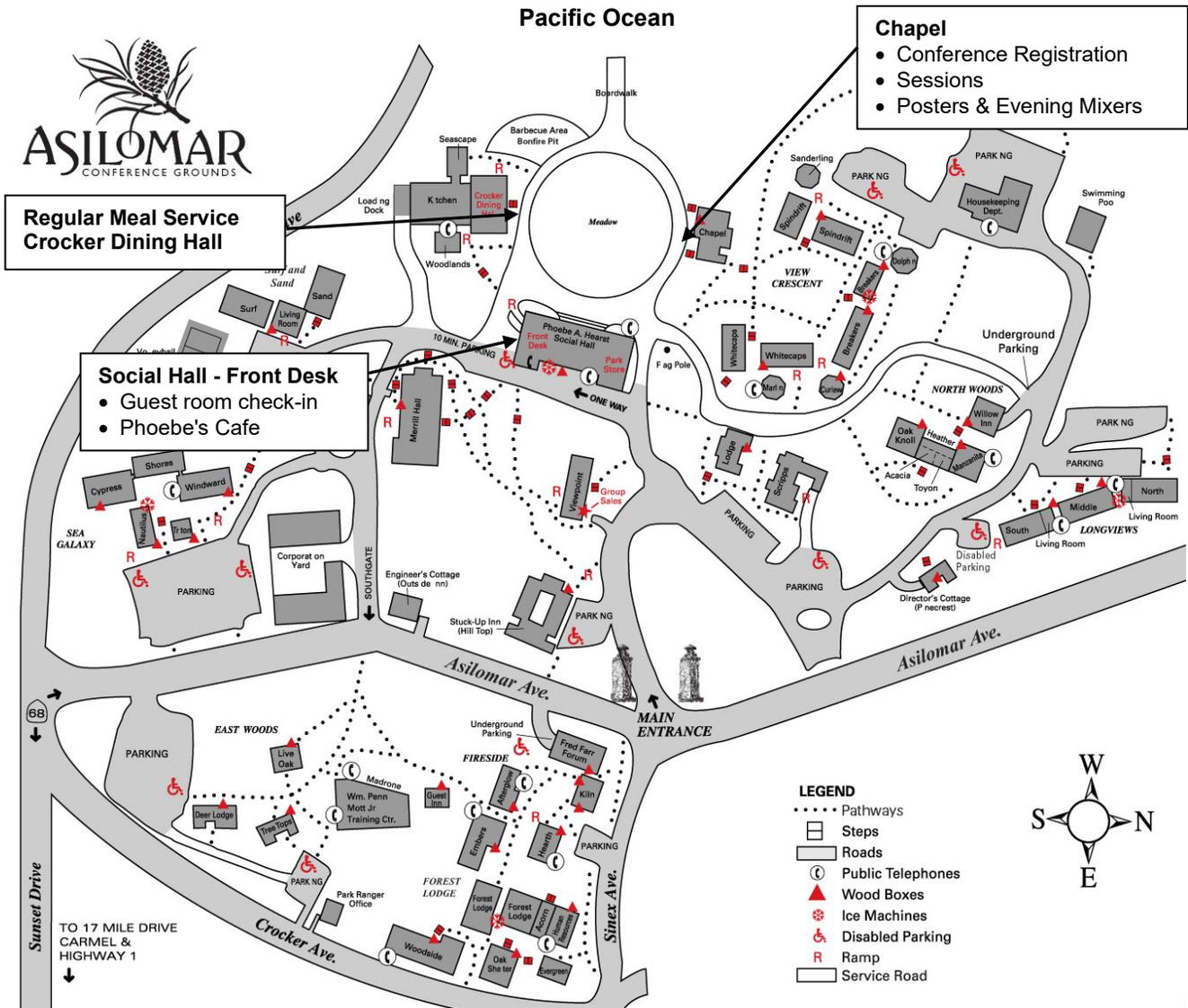
Mount posters by 9 am Sunday. Remove after Monday evening closing session (or just before plenary talk.)

Poster Highlight Talks. Follow instructions you received by email. Please send slides for your 2-min max talk to [jennifer@asms.org](mailto:jennifer@asms.org) by 1:00 pm on Saturday, Dec 11 (for Fri-Sat Poster Highlights) and by 1:00 pm on Sunday Dec 12 (for Sun-Mon Poster Highlights).

## PROGRAM OVERVIEW

Friday	4:00 - 6:00 pm	.....	Badge Pickup
	6:00 - 7:00 pm	.....	Asilomar Dinner
	7:05 - 8:00 pm	.....	Session
	8:30 - 10:00 pm	.....	Reception & Posters
Saturday	7:30 - 9:00 am	.....	Asilomar Breakfast
	9:00 - 10:10 am	.....	Session
	10:10 - 10:40 am	.....	Coffee Break
	10:40 am - 12:05 pm	.....	Session
	12:00 - 1:00 pm	.....	Asilomar Lunch
	1:15 - 3:00 pm	.....	Session
	3:00 - 3:30 pm	.....	Break & Group Photo
	3:30 - 5:15 pm	.....	Session
	6:00 - 7:00 pm	.....	Asilomar Dinner
	7:15 - 7:45 pm	.....	Session
	7:45 - 9:30 pm	.....	Reception & Posters
Sunday	7:30 - 9:00 am	.....	Asilomar Breakfast
	9:00 - 10:10 am	.....	Session
	10:10 - 10:40 am	.....	Coffee Break
	10:40 am - 12 pm	.....	Session
	12:00 - 1:00 pm	.....	Asilomar Lunch
	1:00 - 6:00 pm	.....	Free Afternoon
	6:00 - 7:00 pm	.....	Asilomar Dinner
	7:15 - 7:45 pm	.....	Session
	7:45 - 9:30 pm	.....	Reception & Posters
Monday	7:30 - 9:00 am	.....	Asilomar Breakfast
	9:00 - 11:15 am	.....	Session
	10:10 - 10:40 am	.....	Coffee Break
	11:15 am - 12 pm	.....	Session
	12:00 - 1:00 pm	.....	Asilomar Lunch
	1:15 - 5:15 pm	.....	Session
	3:00 - 3:30 pm	.....	Coffee Break
	6:00 - 7:00 pm	.....	Asilomar Dinner
	7:15 - 8:20 pm	.....	Session
	8:30 - 10:00 pm	.....	Bonfire & S'Mores!
Tuesday	7:30 - 9:00 am	.....	Asilomar Breakfast
	7:45 - 9:00 am	.....	Box lunch pick-up inside Crocker Dining Hall (Asilomar guests only)

# ASILOMAR GROUNDS MAP



## MONTEREY BAY AREA ATTRACTIONS

Sunday afternoon is scheduled free time. You are encouraged to relax on your own or with your fellow attendees. **Look for sign-up sheets in the session room** for those interested in group activities. Do you have a car and wish to visit the aquarium? Do you want to rent bikes with others and tour around the area? How about kayaking around Monterey Bay admiring sea otters and the renowned kelp forest as you paddle? Do you want to rent some clubs and play golf? **Be an instigator and list your activity on a sign-up sheet for others to join you.**

### Some Ideas...

Accessible by foot, bus, bike or car:

- In Monterey - Monterey Bay Aquarium, Fisherman's Wharf, Cannery Row, kayaking on the bay.
- Pebble Beach attractions include the 17-Mile Drive which is accessible free-of-charge on foot or enter by car for a fee.

Accessible by car:

- Carmel Valley is home to many wineries, farms, ranches and the historic Carmel Mission. Hiking in Big Sur or Point Lobos.

At Asilomar:

- Walking trails and self-guided tours throughout the Asilomar campus. Inquire at front desk for details.



## WELCOME

This conference will bring together biomedical researchers and mass spectrometrists to discuss and educate how mass spectrometry technologies can be used to address the growing problem of neurodegenerative diseases (NDs).

From information provided by the NIH, Alzheimer's disease (AD) is a progressive, degenerative disorder of the brain and is the most common form of dementia of the elderly. AD is the sixth leading cause of death in the United States. Currently, at least five million Americans at age 65 and older suffer from AD, and it is projected that the number of new cases of AD will double by 2025. AD is clearly becoming a national health crisis affecting Americans and the total annual payments of health care for people with AD are projected to be more than \$1 trillion in 2050. And these numbers are only for AD. Other neurodegenerative diseases such as Parkinson's disease, Huntington's disease, ALS (Lou Gehrig's disease), and many others add to the growing healthcare issue for future generations.

Mass spectrometry has already been a leading contributing technology that has been applied to address biomedical research in these areas. Still unknown to the research community are how the proteins specific to each disease (e.g., AD (beta-amyloid, tau), Huntington's (Huntingtin protein), Parkinson's (alpha-synuclein), ALS (superoxide dismutase)) either cause and/or are hallmarks of the disease. Protein aggregation, folding/misfolding, modifications, etc all appear to contribute to the disease, and they are difficult to study by MS because of issues related to solubility. Yet, a recent literature search using Scifinder returned over 1800 publications when searching "neurodegenerative disease + mass spectrometry".

Funding agencies (e.g., NIH Aging Institute, NIA; National Institute of Neurological Disorders and Stroke, NINDS) are encouraging more research that applies state-of-the-art mass spectrometry. This conference will bring together mass spectrometrists already engaged in various aspects of ND research with specialized biologists expert in ND. Students, postdocs, and senior researchers will learn the field that is likely to continue long-term into the future. New collaborations will hopefully develop from the discussions and interactions at the conference.

We wish all attendees an enjoyable and stimulating conference at Asilomar, "the refuge by the sea".

*Nathan Hatcher, Joe Loo, Renã Robinson, and Birgit Schilling*

## FRIDAY, DECEMBER 10, 2021

4:00 - 6:00 pm: Badge Pick-up and Covid Protocols Check in *Chapel*  
Materials will also be available for pick-up during the sessions.

6:00 - 7:00 pm: Asilomar Dinner, *Crocker Dining Hall*  
*For Asilomar lodgers with dinner tickets.*

7:05 - 8:00 pm: **WELCOME + OPENING SESSION**

Joe Loo, presiding

7:05 - 7:15 pm Opening Remarks: **Joseph Loo** (UCLA) and **Beatrix Ueberheide** (New York University)

7:15 - 7:55 pm **Gal Bitan** (UCLA), *Neurodegenerative Diseases - Achievements, Challenges, and Opportunities*

7:55 - 8:00 pm Q & A

8:00 - 10:00 pm: **RECEPTION + FRI-SAT POSTERS**, *Chapel*

## SATURDAY, DECEMBER 11, 2021

7:30 - 9:00 am: Asilomar Breakfast (onsite lodgers), *Crocker Dining Hall*

9:00 – 10:10 am: **ION MOBILITY MASS SPECTROMETRY - MONOMERS TO FIBRILS**, *Chapel*  
*There is a ten-minute gap after each talk for Q&A.*

Frank Sobott, presiding

9:00 - 9:25 am **Brandon Ruotolo** (University of Michigan), *Untangling the Complexity of Protein Misfolding Diseases with Ion Mobility-Mass Spectrometry*

9:35 - 10:00 am **Christian Bleiholder** (Florida State University), *Towards Elucidating the Glycan Shield of Viral Protein Complexes with Tandem-trapped Ion Mobility Spectrometry/Mass Spectrometry*

10:10 - 10:40 am: **COFFEE BREAK**

10:40 – 12:05 pm: **NEURODEGENERATIVE DISEASE BIOLOGY AND NIH PERSPECTIVES**, *Chapel*  
*There is a ten-minute gap after each talk for Q&A.*

Birgit Schilling, presiding

10:40 - 11:05 am **Ryan Julian** (UC Riverside), *Surprising Connections between Isomerization and Alzheimer's Disease*

11:15- 11:40 am **Yinsheng Wang** (UC Riverside), *The Role of RNA Modification in Neurodegenerative Diseases Arising from Trinucleotide Repeat Expansion*

11:50 am - 12:05 pm **Austin Yang** (National Institute on Aging, NIH), *NIH Perspectives*

12:05 - 1:00 pm: Asilomar Lunch, *Crocker Dining Hall*  
*Asilomar meal ticket required. Offsite lodgers that paid the offsite fee will have lunch tickets.*

## SATURDAY AFTERNOON WILL NOW BE 'FREE AFTERNOON'

**The planned Saturday afternoon sessions will now be presented on Sunday afternoon.**

*See next pages for regularly scheduled Saturday evening poster highlight talks 7:15-7:45 pm followed by reception and then the following days.*

## SATURDAY, DECEMBER 11, 2021, *continued*

6:00 - 7:00 pm: Asilomar Dinner, *Crocker Dining Hall*  
*For onsite lodgers.*

7:15 – 7:45 pm: **FRI-SAT POSTER LIST & HIGHLIGHT TALKS**, *Chapel*  
*Listing of ALL Fri-Sat Posters. Fri-Sat Posters 05-16 will present highlight talks in this session.*

Jeff Agar, presiding

### FRI-SAT POSTERS 01 – 05 ARE POSTER-ONLY.

Fri-Sat 01: **Dmytro Morderer** (Mayo Clinic, Jacksonville, FL)  
*Proximity Proteome Profiling of C9orf72-Related Dipeptide Repeats*

Fri-Sat 02: **Brielle Van Orman** (University of California Riverside, Riverside, CA)  
*Spontaneous Modifications to Aged Human Tau Modulates Lysosomal Proteolysis*

Fri-Sat 03: **Jeffrey Silva** (ADEPTRIX Corp., Beverly, MA)  
*Affinity-Bead Assisted Mass Spectrometry (Affi-BAMSTM): A High-Resolution Immunoassay Assay Platform for Monitoring Brain and CSF Biomarkers by MALDI MS*

Fri-Sat 04: **Manxi Yang** (Purdue University, West Lafayette, IN)  
*Mass Spectrometry Imaging of Lipidome in a Mouse Model of Alzheimer's Disease*

### FRI-SAT POSTERS 05 – 16 WILL PRESENT POSTER HIGHLIGHT 'LIGHTNING TALKS' (2-min max!)

Fri-Sat 05: **Varun Gadkari** (Department of Chemistry, University of Michigan, Ann Arbor, MI)  
*Amyloid Modifying Protein SERF Interacts with RNA and Forms Liquid-Liquid Phase Separated Membrane-less Organelles*

Fri-Sat 06: **Melissa Bärenfänger** (Donders Institute for Brain, Cognition, and Behavior, Radboud University Medical Center, Nijmegen, Netherlands)  
*Unravelling the Brain Glycoproteome in Congenital Disorders of Glycosylation*

Fri-Sat 07: **Blaine Roberts** (Emory School of Medicine)  
*Revealing Hidden Post-translational Modifications and Markers of Neuroinflammation Revealed with Quantitative Mass Spectrometry and Ion Mobility*

Fri-Sat 08: **Joanna Bons** (Buck Institute for Research on Aging, Novato, CA)  
*Deciphering the Molecular Determinants of X-linked Dystonia Parkinsonism Neuropathogenesis Using Human Neural Stem Cells and Medium Spiny Neurons*

Fri-Sat 09: **Henry Sanders** (The University of Arizona, Tucson, AZ)  
*Mass Spectrometry-Based Approaches to Understanding  $\alpha$ -Synuclein-Lipid Interactions*

Fri-Sat 10: **Melanie Cheung See Kit** (Indiana University- Purdue University Indianapolis, Indianapolis, IN)  
*Capturing the Structural Intricacies of  $\alpha$ -Synuclein Conformers via Gas-phase Ion/Ion Cross-linking Coupled to Ion Mobility/Time-of-flight Mass Spectrometry*

Fri-Sat 11: **Casimir Bamberger** (The Scripps Research Institute, La Jolla, California)  
*Protein Footprinting with Covalent Protein Painting Surveys the 3D Proteome for Structural Aberrations in Alzheimer Disease*

Fri-Sat 12: **Agathe Depraz Depland** (VU Amsterdam, Amsterdam, Netherlands)  
*Unravelling peptide aggregation Mechanisms in Neurodegenerative Diseases: Can TIMS-MS Experiment Be Used to Monitor and Identify Early Oligomeric Stages?*

Fri-Sat 13: **Mukesh Kumar** (Harvard Medical School / Boston Children's Hospital, Boston, MA)  
*GFAP Post-Translational Modifications Correlate with Pathological Tau Aggregation in Frontotemporal Lobar Degeneration Human Patients Brain Tissue*

Fri-Sat 14: **Yilin Han** (Department of Chemistry, University of Michigan, Ann Arbor, MI)  
*Native Ion Mobility-Mass Spectrometry Reveals the Binding Mechanisms for Anti-amyloid Therapeutic Antibodies*

Fri-Sat 15: **Scott Kuzdzal** (Shimadzu Scientific Instr., Columbia, MD)  
*A Story of Innovation and Translation: Advances in Plasma A $\beta$  Biomarkers for Alzheimer's Disease*

Fri-Sat 16: **Xikun Liu** (University of California, Santa Barbara)  
*Tachykinin Neuropeptides and Amyloid  $\beta$  (25-35) Assembly: Friend or Foe?*

7:45 - 9:30 pm: **EVENING RECEPTION + FRI-SAT POSTERS**, *Chapel*

## SUNDAY, DECEMBER 12, 2021

7:30 - 9:00 am: Asilomar Breakfast (onsite lodgers only), *Crocker Dining Hall*

9:00 – 10:10 am: **LIPIDS AND NEURODEGENERATIVE DISEASES**, *Chapel*  
*There is a ten-minute gap after each talk for Q&A.*

Renā Robinson, presiding

9:00 - 9:25 am **Nathan Hatcher** (Merck), *Defining Lipid Dysregulation in Neurodegenerative Disease with Mass Spectrometry*

9:35 - 10:00 am **Amina Woods** (NIAID), *Lipid Biomarkers' MS Imaging Differentiates bTBI and CCI Brain Injury and Validate Remedial Therapy*

10:10 – 10:40 pm: **COFFEE BREAK**

10:40 am – 12:00 pm: **SELECTED SHORT TALKS**, *Chapel*  
*There is a five-minute gap after each talk for Q&A.*

Nathan Hatcher, presiding

10:40 - 10:55 am **Thanh Do** (University of Tennessee, Knoxville), *A New Class of Amyloid Oligomers Linking Selective Cellular Vulnerability to Disrupted Lipid Metabolism*

11:00 - 11:15 am **Bethany Taylor** (Baylor College of Medicine), *Proteoform Analysis of Transcriptional Programs and Proteostasis Signaling Pathways in Aging Mouse Brains*

11:20 - 11:35 am **Michael Fitzgerald** (Duke University), *Global Measurements of Protein Folding Stability for Characterization of Neurodegeneration*

11:40 - 11:55 am **Anouk Rijs** (Vrije Universiteit), *Structure and Kinetics of Aggregating Peptide Segments Probed by Advances in Hyphenated Mass Spectrometry*

12:00 - 1:00 pm: Asilomar Lunch, *Crocker Dining Hall*  
*Asilomar meal ticket required. Offsite lodgers that paid the offsite fee will have lunch tickets.*

These are

1:15 - 3:00 pm: **MASS SPECTROMETRY TO OTHER BIOPHYSICAL TECHNIQUES**, *Chapel*  
*There is a ten-minute gap after each talk for Q&A.*

Ryan Julian, presiding

1:15 - 1:40 pm **Derek Wilson** (York University), *Millisecond Hydrogen Deuterium Exchange for Drug Development in Neurodegenerative Disease*

1:50 - 2:15 pm **John Yates** (The Scripps Research Institute), *In-vivo Covalent Protein Footprinting to Measure Global Changes in Protein Conformations in a Mouse Model*

2:25 - 2:50 pm **Per Andren** (Uppsala University), *Mass Spectrometry Imaging Strategies for Pathophysiology Investigations in Parkinson's Disease and L-Dopa-induced dyskinesia*

3:00 - 3:30 pm: **BREAK + GROUP PHOTO**  
Convene outside on Social Hall deck stairs for photo!

3:30 – 5:15 pm: **PTMs AND NEURODEGENERATIVE DISEASES**  
*There is a ten-minute gap after each talk for Q&A.*

Yinsheng Wang, presiding

3:30 – 3:55 pm **Judith Steen** (Boston Children's Hospital), *Tau Protein*

4:05 – 4:30 pm **Birgit Schilling** (The Buck Institute), *PTMs and Proteoforms: Protein Aggregates in Amyloid beta and tau Alzheimer's Disease Models*

4:40 – 5:05 pm **Renā Robinson** (Vanderbilt University), *Proteomic Platforms for Endogenous Measurement of S-Nitrosylation in Aging & Alzheimer's Models*

6:00 - 7:00 pm: Asilomar Dinner, *Crocker Dining Hall*  
*For onsite lodgers.*

## SUNDAY, DECEMBER 12, 2021, *continued*

7:15 – 7:45 pm: **SUN-MON POSTER LIST & HIGHLIGHT TALKS**, Chapel  
*Listing of ALL Sun-Mon Posters. Sun-Mon Posters 06-16 will present highlight talks in this session.*

Birgit Schilling, presiding

### SUN-MON POSTERS 01 – 05 ARE POSTER-ONLY.

Sun-Mon 01: **Carter Lantz** (University of California Los Angeles, Los Angeles, CA)  
*Mass Spectrometry Analysis of the Tau Protein Returns Relevant Information on Details of Amyloid Protein Aggregation*

Sun-Mon 02: **Gretchen Guaglianone** (University of California, Irvine, Irvine, CA)  
*High Throughput Investigation by Native IMS-MS of Oligomeric Assemblies of Peptides Derived from A $\beta$  and Correlation to Peptide Toxicity*

Sun-Mon 03: **Yu-Fu (Leon) Lin** (Ohio State University, Columbus, OH)  
*Aggregation of amyloid  $\beta$  peptide Model Trimers and tau Protein Measured by Native Mass Spectrometry and Mass Photometry*

Sun-Mon 04: **Xi Peng** (University of Virginia, Charlottesville, VA)  
*Identification of Phosphorylated MHC Class I Peptides Presented in Brain by Mass Spectrometry*

Sun-Mon 05: **Emily Byrd** (University of Leeds, UK)  
*Probing the Conformational Dynamics of alpha-synuclein by Ion Mobility Mass Spectrometry*

### SUN-MON POSTERS 06 – 16 WILL PRESENT POSTER HIGHLIGHT 'LIGHTNING TALKS' (2-min max!)

Sun-Mon 06: **Ian Webb** (Indiana University- Purdue University Indianapolis, Indianapolis, IN)  
*Rapid Solution and Gas-Phase Hydrogen Deuterium Exchange for Characterization of Pathological Intrinsically Disordered Proteins*

Sun-Mon 07: **Rachel Harris** (MOBILion Systems, Inc., Chadds Ford, PA)  
*Optimization of an LC-HRIM-MS Platform for Characterization of Complex Ganglioside Phenotypes in a GBA Mutant Mouse Model for Parkinson's Disease*

Sun-Mon 08: **Dobrin Nedelkov** (Isoformix Inc., Phoenix, AZ)  
*Discovering Apolipoprotein E isoform-Specific Glycosylation, and Its Implication in Alzheimer's Disease Pathology*

Sun-Mon 09: **Christina King** (Buck Institute for Research on Aging, Novato, CA)  
*Quantitative Proteomic Analysis of the Insolublome in Muscle and Neuronal C. elegans Alzheimer's Disease Models*

Sun-Mon 10: **Yehia Mechref** (Texas Tech University, Lubbock, TX)  
*Glycomics and Glycoproteomics Changes Associate with the Development and Progression of Alzheimer's Disease*

Sun-Mon 11: **Haley Tarbox** (Johns Hopkins University, Baltimore, MD)  
*Investigating the Protein Conformational Landscape Associated with Cognitive Decline in Aging with Limited Proteolysis Mass Spectrometry*

Sun-Mon 12: **Ravinder J. Singh** (Mayo Clinic, Rochester, MN)  
*Challenges in Development and Validation of Neurosteroids Assays in the Clinical Laboratory*

Sun-Mon 13: **Kiani Jeacock** (University of Edinburgh, Edinburgh, United Kingdom)  
*Native Top-Down Electron Capture Dissociation Mass Spectrometry with Isotope Depletion for Studying alpha-synuclein Proteoforms*

Sun-Mon 14: **Matthijs de Geus** (Massachusetts General Hospital)  
*Using Data-Independent Acquisition for Biomarker Discovery in Cerebrospinal Fluid in Alzheimer's on 500 Samples from a Neurology Clinic – An Interim Analysis*

Sun-Mon 15: **Jericha Mill** (Department of Chemistry, University of Wisconsin-Madison, Madison, WI)  
*DiLeu-Enabled Quantitative Analysis of Sphingolipids for Biomarker Discovery in Alzheimer's Disease*

Sun-Mon 16: **Arun Upadhyay** (Northwestern University, Chicago, IL)  
*A Bottom-Up Approach to Determine the Amyloid-beta Fibril Proteome*

7:45 - 9:30 pm: **EVENING RECEPTION + SUN-MON POSTERS**, Chapel

## MONDAY, DECEMBER 13, 2021

7:30 - 9:00 am: Asilomar Breakfast (onsite lodgers only), *Crocker Dining Hall*

9:00 am - 11:15 am: **INHIBITORS OF NEURODEGENERATIVE DISEASES**, *Chapel*  
*There is a ten-minute gap after each talk for Q&A.*

Nathan Hatcher, presiding

- 9:00 - 9:25 am **Jeffrey Agar** (Northeastern University), *Proteoform-Inspired Pharmacological Chaperones for ALS*
- 9:35 - 10:00 am **Frank Sobott** (University of Leeds), *Shaping Up a-synuclein - Towards filling the Gap between Monomer and Fibril*
- 10:10 - 10:40 am COFFEE BREAK
- 10:40 - 11:05 am **Deanna Plubell** (University of Washington), *Peptide Abundance Correlations with Neuropathological Markers of Dominantly-inherited and Sporadic Alzheimer's Disease*

11:15 am – 12:00 pm: **SELECTED SHORT TALKS**, *Chapel*  
*There is a five-minute gap after each talk for Q&A.*

Renā Robinson, presiding

- 11:15 - 11:30 am **Asim Siddiqui** (Seer, Inc.), *Plasma Protein Profiling of Alzheimer's and Mild Cognitive Impairment Subjects with a Novel Approach for Identification of Known/Unknown Candidate Biomarkers*
- 11:35 - 11:50 am **Peter Verhaert** (ProteoFormiX), *Mass Spectrometry Histochemistry: A Direct Route to Relevant Molecular Biomarker Discovery from Histopathologically Documented Human FFPE Material Representing Neurodegenerative Diseases*

12:00 - 1:00 pm: Asilomar Lunch (all attendees), *Crocker Dining Hall*  
*Asilomar meal ticket required. Offsite lodgers that paid the offsite fee will have lunch tickets.*

1:15 - 3:00 pm: **'OMICS AND BIOMARKERS OF NEURODEGENERATIVE DISEASES (Part 1)**, *Chapel*  
*There is a ten-minute gap after each talk for Q&A.*

Renā Robinson, presiding

- 1:15 - 1:40 pm **Tara Tracy** (Buck Institute), *Dynamics of the Tau Interactome Associated with Neurodegenerative Disease*
- 1:50 - 2:15 pm **Stephanie Cologna** (University of Illinois, Chicago), *Proteomic and Lipidomic Studies in Niemann Pick Type C Disease*
- 2:25 - 2:50 pm **Eric Kuhn** (Kymera), *Verification of Genotypic and Pharmacodynamic Effects on Prion Protein in the Central Nervous System using Targeted Mass Spectrometry*

3:00 – 3:30 pm: **COFFEE BREAK**

3:30 - 5:15 pm: **'OMICS AND BIOMARKERS OF NEURODEGENERATIVE DISEASES (Part 2)**, *Chapel*  
*There is a ten-minute gap after each talk for Q&A.*

Birgit Schilling, presiding

- 3:30 - 3:55 pm **Lingjun Li** (University of Wisconsin), *Mass Spectrometry-Based Omics Strategies for Biomarker Discovery in Alzheimer's Disease*
- 4:05 - 4:30 pm **Jennifer Van Eyk** (Cedars Sinai Medical Center), *Finding Parkinson's Disease mechanism: CSF, Plasma or IPSC Chips*
- 4:40 – 5:05 pm **Perdita Barran** (University of Manchester), *Diagnosis of Parkinson's Disease from Sebum – Insights to Lipids Dysregulation that are More than Skindeep [pre-recorded talk]*

**MONDAY, DECEMBER 13, 2021, *continued***

6:00 - 7:00 pm: Asilomar Dinner, *Crocker Dining Hall*  
*Asilomar meal ticket required. Offsite lodgers that paid the offsite fee will have dinner tickets.*

7:15 - 8:20 pm: **CLOSING SESSION**, *Chapel*

Joe Loo, presiding

7:15 – 7:55 pm **Michael Bowers** (University of California, Santa Barbara), *Assembly and Cross talk in Amyloid Systems: ALS and Alzheimer's Disease*

7:55 - 8:00 pm Q & A

8:00 - 8:20 pm Closing Remarks: **Joe Loo** (UCLA)

8:30 - 9:30 pm: **BONFIRE! S'MORES + DRINKS**  
*Protected Firepit Area near Crocker Dining Hall. Weather and wind dependent.*

**TUESDAY, DECEMBER 14, 2021**

7:30 - 9:00 am: Asilomar Breakfast, *Crocker Dining Hall*

7:45 - 9:00 am: Box Lunch Pick-up for Asilomar Lodgers.  
*Use your remaining lunch ticket for redemption. Look for email on exact location of box lunch pick-up.*