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AFFILIATED MEETING | SATURDAY, SEPTEMBER 21 | 8:00AM - 11:45AM | ROOM 220

## SLEEP-CIRCADIAN BIOMARKERS WORKSHOP

 COST \$75.00

PRESENTED BY THE SLEEP RESEARCH SOCIETY &amp; SLEEP RESEARCH NETWORK

### Summary

The goal of the workshop is to discuss sleep-circadian biomarkers and ways to facilitate international collaboration.

The sessions will be very interactive, with 4 Panel Leaders who will introduce each their topics of discussion and frame the issues and then lead breakout groups that include themselves and 4 additional discussants per breakout group.

Following the breakout there will be a brief presentation by each panel breakout leader, and then broader discussion which will include participants from all breakout groups, including discussants and broader audience members.

Finally, the Panelists will present once more to the larger group, the consensus, and/or key observations of the critical next steps for their panel's topic of discussion.

### Panel Breakout 1

Biomarker development is an iterative process which starts with smaller samples of extreme cases, and moves to general populations. The sleep circadian field has begun to work on biomarker development for these use cases with deeply phenotyped small samples and has identified candidates for further omics developments. What kinds of extreme cases have been fruitful and what are the major limitations and needs for next steps?

### Panel Breakout 2

What resolution of time is desirable to pinpoint with a biomarker? Will circadian identification require multiple systems markers?

### Panel Breakout 3

Selecting methods, sharing expertise, experts and data – What has been standardized in the omics? What are current barriers? How can we identify individuals with the big data expertise and model development expertise that is needed? How can we share resources and harmonize data?

### Panel Breakout 4

How (much) to get involved in the contract process locally – from sponsors to academic institutions. What are barriers to data sharing and how can they be overcome so that progress towards useful biomarkers can be made available for international use?

### Chairs

Janet Mullington (United States); Ellis Boudreau (United States)

### Presentation

8:00am – 8:10am

#### Introduction

*Janet Mullington (United States)*

8:10am – 8:50am

#### Consortia models for tech-transfer of biomarkers

*Seema Basu (United States)*

8:50am – 8:55am

#### Introduction to Panel Objectives

*Janet Mullington (United States)*

8:55am – 9:00am

#### Panel Breakout 1: Extreme cases to inform fitness for duty, sleep sufficiency

*Clare Anderson (Australia)*

9:00am – 9:05am

#### Panel Breakout 2: The circadian use cases

*Jeanne Duffy (United States)*

9:05am – 9:10am

#### Panel Breakout 3: Data analysis expertise – trials and tribulations

*Raymond Ng (Canada)*

9:10am – 9:15am

#### Panel Breakout 4: IP – How to navigate your sources of support

*Seema Basu (United States)*

9:15am – 10:15am

#### Panel Breakout Sessions

10:15am – 10:30am

#### Break

10:30am – 11:30am

#### Panel Synopsis Presentations

*Clare Anderson (Australia); Jeanne Duffy (United States); Raymond Ng (Canada); Seema Basu (United States)*

11:30am – 11:45am

#### Summary Statements



# **SLEEP-CIRCADIAN INFORMATICS DATA HARMONIZATION**

 **COST \$75.00**

PRESENTED BY THE SLEEP RESEARCH SOCIETY & SLEEP RESEARCH NETWORK

## **Summary**

The goal of the workshop is to discuss sleep-circadian informatics and data harmonization with a view towards facilitating the expansion of existing cohorts and merging datasets to enhance international informatics data sharing and collaboration.

The sessions will be very interactive, with 4 Panel Leaders who will introduce the topic of discussion and frame the issues and then lead breakout groups.

Following the breakout there will be a brief presentation by each panel breakout leader, and then broader discussion which will include participants from all breakout groups.

Finally, the Panelists will present once more to the larger group, formulating consensus, and/or key observations of the critical next steps for their panel's topic of discussion.

## **Opening Speaker**

Dr. Melissa Haendel is the Director of Translational Data Science, Linus Pauling Institute, Oregon State University, and PI of a grant from the National Center for Advancing Translational Sciences to establish a National Center for Data To Health (CD2H). Dr. Haendel's work focuses on developing data integration technologies and implementation of platforms and tools for translational research. Dr. Haendel will discuss translational informatics projects including work in the development of ontologies, and data sharing.

## **Panel Breakout 1**

What are the most essential questions to include and how often should they be asked to be meaningful? What are some considerations for how to share the data? Are there tools, and support infrastructure that are necessary or that would be exceptionally helpful?

## **Panel Breakout 2**

What are the minimum technical standards for data collection (sensitivity, sampling rate, writing to memory, battery capacity, etc).

## **Panel Breakout 3**

What measures, and other data elements would be most critical to harmonize for polysomnography? Total sleep time, sleep onset latency, stages, efficiency, etc.

## **Panel Breakout 4**

Discussion of infrastructure needs – beginning with the example of the National Sleep Research Resource (NSRR)—currently has 170 TB of PSG/actigraphy data available to share with the world wide sleep community.

Discussion of General Data Protection Regulation (GDPR) principles for world-wide data sharing, Digital Object Identifier systems (DOI), etc.

## **Chairs**

Eilis Boudreau (United States); Janet Mullington (United States)

## **Presentation**

8:00am – 8:10am

### **Introduction**

*Eilis Boudreau (United States)*

8:10am – 8:50am

### **Translational informatics, development of ontologies, and data sharing**

*Melissa Haendel (United States)*

8:50am – 8:55am

### **Introduction to Panel Objectives**

*Eilis Boudreau (United States)*

8:55am – 9:00am

### **Panel Breakout 1: Questionnaires**

*Daniel J. Buysse (United States)*

9:00am – 9:05am

### **Panel Breakout 2: Actigraphy**

*Till Roenneberg (Germany)*

9:05am – 9:10am

### **Panel Breakout 3: PSG**

*Thomas Penzel (Germany)*

9:10am – 9:15am

### **Panel Breakout 4: Infrastructure models and opportunities**

*Shaun Purcell (United States)*

9:15am – 10:15am

### **Panel Breakout Sessions**

10:15am – 10:30am

### **Break**

10:30am – 11:30am

### **Panel Synopsis Presentations**

*Daniel J. Buysse (United States); Till Roenneberg (Germany); Thomas Penzel (Germany); Shaun Purcell (United States)*

11:30am – 11:45am

### **Summary Statements**



**SCIENTIFIC PROGRAM  
NOW AVAILABLE**

To view the Scientific Program for World Sleep 2019, scan the code.

