



# Measurement of Pain

## Behavioral, Social and Biological Factors

Hosted by  
The NIH Office of Behavioral and Social Sciences Research (OBSSR)

February 13 – 14, 2020

The National Institutes of Health  
Building 45  
Natcher Conference Center  
Bethesda, Maryland



NIH National Institutes of Health  
Office of Behavioral and Social Sciences Research

### AGENDA

#### Thursday, February 13, 2020

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##### **Session I: Welcome and Overview of the Workshop**

Session Chair: *Wendy B. Smith, M.A., Ph.D., BCB, Associate Director, OBSSR, OD, NIH*

- 9:00 a.m. — 9:10 a.m.      **Opening Remarks: Workshop Goals**  
*Wendy B. Smith, M.A., Ph.D., BCB, Associate Director, OBSSR, OD, NIH*
- 9:10 a.m. — 9:25 a.m.      **Clinical and Research Significance of the Workshop**  
*William T. Riley, Ph.D., Director, OBSSR, OD, NIH, Associate Director, BSSR, NIH*
- 9:25 a.m. — 9:35 a.m.      **Discovery and Validation of Biomarkers for Chronic Pain: Background from the 2018 NIH Pain Biomarker Workshop**  
*Mary Ann Pellemounter, Ph.D., National Institute of Neurological Disorders and Stroke (NINDS), NIH*
- 9:35 a.m. — 9:50 a.m.      **The Need for Comprehensive Pain Measurement: A Patient Perspective**  
*Christin Veasley, B.S., Chronic Pain Research Alliance*

##### **Session II: Setting the Stage: Advances and Challenges**

Session Chair: *Martha Matocha, Ph.D., Program Director, Symptom Science and Genetics Branch, Office of Extramural Programs, National Institute of Nursing Research (NINR), NIH*

- 9:50 a.m. — 10:10 a.m.      **Biopsychosocial and Genomic Biomarkers for Individualized Integrative Pain Care - The Horizon**  
*William Maixner, D.D.S, Ph.D., Duke University*
- 10:10 a.m. — 10:30 a.m.      **Ethical Considerations in Pain Measurement for Pain Diagnostics and Treatment**  
*Amanda C. Pustilnik, J.D., University of Maryland School of Law*
- 10:30 a.m. — 10:45 a.m.      **Session II Panel Discussion**  
**Q&A**
- 10:45 a.m. — 11:00 a.m.      **Break**

##### **Session III: Chronic Pain Measurement: Beyond the Visual Analog Scale**

Session Chair: *Wen G. Chen, Ph.D., Branch Chief, Basic and Mechanistic Research in Complementary and Integrative Health, Division of Extramural Research (DER), National Center for Complementary and Integrative Health (NCCIH), NIH*

- 11:00 a.m. — 11:20 a.m.      **Using Multidimensional Self Report Scales in the Context of Chronic Pain: Current State of the Science**  
*Francis J. Keefe, Ph.D., Duke University*

- 11:20 a.m. — 11:40 a.m.    **Measurement Methods: Factors That Influence Outcome Measurement**  
*Elizabeth Roy Felix, Ph.D., University of Miami Miller School of Medicine and Miami Veterans Administration Medical Center*
- 11:40 a.m. — 12:00 p.m.    **Tailoring Measurement of Pain Predictors, Modulators, and Outcomes to the Patient Population: Examples from Studies of Chronic Postsurgical Pain**  
*Kristin Schreiber, M.D., Ph.D., Brigham and Women's Hospital and Harvard Medical School*
- 12:00 p.m. — 12:30 p.m.    **Session III Panel Discussion  
Q&A**
- 12:30 p.m. — 1:15 p.m.    **Lunch**

**Session IV: Co-morbidities on Chronic Pain Measurement and Potential Impact on Outcome Measures**

Session Chair: *Juanita J. Chinn, Ph.D., Program Director, Population Dynamics Branch, Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD), NIH*

- 1:15 p.m. — 1:35 p.m.    **Affective States: The Influence of Depression, Anxiety and Catastrophizing**  
*Claudia M. Campbell, Ph.D., Johns Hopkins University School of Medicine*
- 1:35 p.m. — 1:55 p.m.    **Challenges of Measuring the Brain State: Chaos or Stability**  
*David Borsook, M.D., Ph.D., Boston Children's Hospital, Massachusetts General Hospital, McLean Hospital, and Harvard Medical School*
- 1:55 p.m. — 2:15 p.m.    **Sleep Disturbance and Pain Outcomes**  
*Alban Latremoliere, Ph.D., Johns Hopkins School of Medicine*
- 2:15 p.m. — 2:45 p.m.    **Session IV Panel Discussion  
Q&A**
- 2:45 p.m. — 3:00 p.m.    **Break**

**Session V: The Social and Cultural Factors Influencing Chronic Pain and Clinical Performance Measures**

Session Chair: *Karen C. Lee, M.D., M.P.H., Program Director, Behavioral Pediatrics and Health Promotion Program, NICHD, NIH*

- 3:00 p.m. — 3:20 p.m.    **The Role of Parental and Family Factors in Children and Adolescents with Chronic Pain**  
*Tonya M. Palermo, Ph.D., University of Washington and Seattle Children's Research Institute*
- 3:20 p.m. — 3:40 p.m.    **Functional Neuroimaging of Psychosocial States: Brain Circuitries Supporting Pain and Pain Catastrophizing**  
*Vitaly Napadow, Ph.D. LAc., Massachusetts General Hospital and Harvard Medical School*
- 3:40 p.m. — 4:10 p.m.    **Session V Panel Discussion  
Q&A**
- 4:10 p.m. — 4:30 p.m.    **Panel Discussion Summarizing Day 1**  
*Martha Matocha, Ph.D., NINR, NIH*  
*William Maixner, D.D.S, Ph.D., Duke University*  
*Amanda C. Pustilnik, J.D., University of Maryland School of Law*
- 4:30 p.m.    **Day 1 Adjournment and Networking**

**Session VI: The Use of Technologies to Inform Pain Outcomes**

Session Chair: *Erin Spaniol, M.S., O.T.R., M.P.H., Health Science Policy Analyst, Office of the Director, NIH*

- 8:30 a.m. — 8:50 a.m.      **Wearable Devices in the Rehabilitation Setting**  
*Karen Lomond, Ph.D., Ithaca College*
- 8:50 a.m. — 9:10 a.m.      **Molecular Imaging of Peripheral and Central Pain Processes**  
*Clas Linnman, Ph.D., Harvard Medical School*
- 9:10 a.m. — 9:30 a.m.      **Developing Digital Measures from Person-Generated Health Data**  
*Luca Foschini, Ph.D., Evidation Health, Inc.*
- 9:30 a.m. — 10:00 a.m.      **Session VI Panel Discussion**  
**Q&A**
- 10:00 a.m. — 10:15 a.m.      **Break**

**Session VII: Role of Technologies in Clinical Trials and Measurement Development**

Session Chair: *David Thomas, Ph.D., Special Advisor, Office of Research on Womens Health (ORWH), OD, NIH*

- 10:15 a.m. — 10:35 a.m.      **Bedside Sensory Testing for Clinical Trials**  
*Roy Freeman, M.D., Beth Israel Deaconess Medical Center*
- 10:35 a.m. — 10:55 a.m.      **Ambulatory Activity Dosage Response**  
*David Boone, BSPO, M.P.H., Ph.D., Orthocare Innovations*
- 10:55 a.m. — 11:15 a.m.      **Collecting Complex Data in Pain Clinical Trials: Some Caveats**  
*Dennis C. Turk, Ph.D., University of Washington*
- 11:15 a.m. — 11:45 a.m.      **Session VII Panel Discussion**  
**Q&A**
- 11:45 a.m. — 12:30 p.m.      **Lunch**

**Session VIII: What is Efficacy in Pain Clinical Trials?**

Session Chair: *Will M. Aklin, Ph.D., Director, Behavioral Treatment Program, Clinical Research Grants Branch (CRGB), National Institute on Drug Abuse (NIDA), NIH*

- 12:30 p.m. — 12:50 p.m.      **FDA Perspective – Genetic, Clinical and Phenotypic Endpoints**  
*Elektra Papadopoulos, Ph.D., U.S. Food and Drug Administration*
- 12:50 p.m. — 1:10 p.m.      **A Momentary Measurement Perspective to Pain Intensity**  
*Arthur A. Stone, Ph.D., University of Southern California*
- 1:10 p.m. — 1:30 p.m.      **Objectives and Endpoints of Clinical Trials in Pain: Proof of Biology, Efficacy, Impact**  
*Joachim Scholz, M.D., Biogen*
- 1:30 p.m. — 2:00 p.m.      **Session VIII Panel Discussion**  
**Q&A**

**Session IX: Towards a Complex Composite Measurement for Chronic Pain from Behavioral, Social and Biological Measurements**

Session Chair: *Dennis C. Turk, Ph.D., University of Washington*

2:00 p.m. — 3:00 p.m.

**Panel Discussion:**

*Francis J. Keefe, Ph.D., Duke University*

*David Borsook, M.D., Ph.D., Boston Children's Hospital, Massachusetts General Hospital, McLean Hospital, and Harvard Medical School*

*Jing Wang, M.D., Ph.D., New York University School of Medicine*

Each panelist will be given 5 minutes to speak on one or more of the following topics, followed by discussion and Q&A: How to move forward and what is needed

- Use of big data analyses, machine learning techniques
- Expertise needed to advance the field
- Implications for research teams
- Resources needed

3:00 p.m.

**Adjournment**