



NEWSLINE

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CPDD PRESIDENT'S COLUMN

Margaret Haney, Ph.D., President, CPDD

Happy Spring! As our meeting in San Antonio is starting to come into focus, I would like to fill you in on meeting developments and CPDD activity since my last Newsline column.

2019 Annual Scientific Meeting: As you'll see, the Program Committee has done a stellar job putting together a program that celebrates the scientific diversity of our membership while fitting it into our new experiment: a **4-day meeting**. There is much in the program to recommend this year, but I'd like to highlight two workshops. One will be a short tutorial on tweeting for the uninitiated, "Learning to Tweet Yourself Right" run by CPDD's own, Chris Wolf. I keep dipping a hesitant toe into this water and hope a tutorial will help me take the leap. Another is the Media Committee's Scientific Communication Workshop to optimize the dissemination of addiction research. My field of study (cannabis and its constituents) serves as a glaring example of the disconnect between science and public policy. It is essential that science be a part of the conversation, so I try to say 'yes' to as many media requests as I can to communicate principles foundational to many of us (e.g., placebo control, dose response, bioavailability, route of administration) while also calling attention to the barriers to conducting placebo-controlled studies with cannabis. Federally funded researchers owe it to the public to communicate, and there is a genuine and growing interest in the science of addiction. This workshop is a great opportunity to learn how to communicate your research more effectively to the public.



Margaret Haney, Ph.D.,

CPDD PRESIDENT'S COLUMN *continued from page 1*

President's Lecture: I am excited to have organized a lecture focusing on a topic that is sometimes overlooked in our field: how cigarette smoking impacts other substance use disorders (SUDs). Individuals with SUDs have far higher rates of tobacco use than average, yet our understanding of the impact of this use on the treatment or the neurobiology of opioid, cocaine, alcohol, cannabis use disorders is poor. Here we will look at this question from a preclinical, human laboratory, epidemiological and public policy perspective. My hope is that this broad range of approaches and drugs will be of interest to the vast expertise represented by our membership.

Other Meeting Highlights: We have re-structured the 'prom' to try something new! On Tuesday night, we will have dessert and music in lieu of the dinner, and you will have a choice of two venues: one room with a DJ and dance floor and another with soft jazz for conversation. Additionally, in response to many of your survey comments, coffee will be available in the afternoon. Remember to let us know what you think about these changes by filling out your Annual Survey after the meeting. We listen.

Data on Membership Diversity: We have recently taken several steps to address the topic of diversity in our College. First, we have updated the 'About CPDD' section of the website to include a **Commitment to Diversity** <https://cpdd.org/about-us/>. Second, the Committee on Underrepresented Populations (URPOP), under the leadership of Debra Furr-Holden and with encouragement from Jack Henningfield, is formulating strategies for collecting demographic data on CPDD membership and on meeting attendees, as we currently have none. Please be on the lookout for our requests and help us to get an understanding of where we stand on this issue. It is our hope that we, perhaps in concert with NIH and other scientific organizations, can formulate strategies to address any shortcomings in this area once we have the data.

Code of Conduct Committee: In response to an initiative spearheaded last year by Alan Budney prior to our 2018 meeting, I formed a Code of Conduct Working group (Catherine Stanger, Leslie Lundahl, Pia Mauro, Jacques Nguyen, Howard Chilcoat, Sudie Back). We, like many other scientific societies, want our meeting attendees to know that there is a procedure in place to respond to any instances of harassment. Our Working Group has developed a policy and SOP that are currently under review that we expect to have in place for our June meeting.

Long-Range Planning Committee: We have updates on the development planning efforts that CPDD leadership initiated last year. Our Development Task Force, in collaboration with an outside consultant, have launched a feasibility study to determine whether or not to move forward on a major personal giving campaign to help enhance CPDD's overall mission to advance science and improve public health related to substance use and addiction. If successful, this would allow us to better support our membership by reducing costs associated with meeting attendance; provide more educational opportunities for members and the public; enhance our ability to advocate for smart public policy and increased research funding; and help grow the scientific workforce. If you have any questions, ideas, or would like to contribute to this effort, please contact Alan Budney, Chair of our Long-Range Planning Committee alan.budney@dartmouth.edu.

CPDD PRESIDENT'S COLUMN *continued from page 2*

Board of Directors Updates: I am grateful for the responsive and hard-working members of our Board of Directors (BOD) and would like to thank those rotating off after our 2019 Business Meeting: Patrick Beardsley, Kathleen Carroll, Marilyn Carroll, and Jennifer Tidey, while welcoming our soon-to-be President-elect, Stacey Sigmon and newly elected Board members: Erin Winstanley, Dace Svikis, Wendy Lynch, and Jermaine Jones. Note that just one of the many tasks the BOD completed this year was to review new CPDD position statements on animal research, human research and barriers to conducting cannabis research, so I'd like to remind you to check out these valuable resources <https://cpdd.org/position-statements/>. Many members of our BOD also participated in last month's Advocacy Day, organized with great success by Sandy Comer, our Public Policy Officer, and Ed Long and Katie Vanlandingham of Van Scoyoc Associates. We had 19 CPDD members meeting with representatives across 10 states to advocate for CPDD and for NIDA research funding. The following day, Geoffrey Mumford working with the American Psychological Association, Friends of NIDA and other organizations sponsored a Congressional Briefing, in which CPDD leadership (myself, Elise Weerts and Alan Budney) and Nora Volkow spoke about the opportunities and challenges in conducting cannabinoid research. These two days in DC offered a powerful opportunity to bridge the ivory tower and policy makers.

Finally, as this is my last Newsline piece, I'd like to thank you in this forum for the opportunity to be President of CPDD. I know the biggest job is still to come (the meeting!), but this experience has been personally rewarding. You don't truly know what you're getting yourself into when you say 'yes' to new opportunities, and balancing the job on top of my full-time gig is admittedly not easy, but the work is interesting and I am so glad to have had the chance to work alongside Loretta Finnegan, Ellen Geller and our Executive Committee, Jack Bergman, Sandy Comer, Alan Budney and Elise Weerts, as well as the BOD. I encourage you all to look for opportunities to participate in our organization in the variety of ways offered. It is mutually beneficial.

See you all soon!

Warm regards,

Meg Haney, President, CPDD (2018-2019)

2019 ANNUAL MEETING HIGHLIGHTS

To Explore Non-Opioid Treatments for Managing Pain (Full Symposium)

David Shurtleff, Chair, and Emmeline Edwards, Co-Chair

I am excited and honored to be co-chairing a symposium, “Exploring Non-opioid Approaches for the Treatment of Pain”, with Dr. Emmeline Edwards, Director of the NCCIH Division of Extramural Research, at the 2019 CCPD Meeting.

Our topic is a critical one, given that more than 25 million adults in the U.S. experience daily pain. More than 2 million Americans have an opioid use disorder (OUD), many having started with opioid analgesics prescribed to them for pain.

The scientific community must be engaged in developing solutions to these public health emergencies, as through advances in medication development and non-pharmacologic approaches. To accelerate this effort, NIH has launched the HEAL (Helping End Addiction Long-term) Initiative, which has a range of research objectives to improve treatment for OUD and strategies for pain management.

Our speakers will present unique, innovative research:

“Brain Imaging to Assess Neuroplasticity Following Acupuncture Therapy for Neuropathic Pain”

Vitaly Napadow, Ph.D., Lic.Ac.

Associate Professor, Harvard Medical School
Director, Center for Integrative Pain NeuroImaging
Martinos Center for Biomedical Imaging

“Enhancement of Opioid Analgesia Using Chemokine Receptor Antagonists”

Saadet Inan, M.D., Ph.D.

Co-investigator, Integrative Physiological Systems and Pain Core
Center for Substance Abuse Research
Lewis Katz School of Medicine at Temple University

“Shedding New Light on Pain Management”

Mohab M. Ibrahim, Ph.D., M.D.

Director, Comprehensive Pain Management Clinic
Associate Professor, Anesthesiology
University of Arizona College of Medicine

“The Role of Mindfulness-Based Stress Reduction in Migraine Management ”

Shana Burrowes, Ph.D.

Postdoctoral Associate
Boston University School of Public Health
Center to Advance Chronic Pain Research
University of Maryland School of Dentistry



*David Shurtleff, Ph.D.
National Center for Complementary and
Integrative Health (NCCIH), National
Institutes of Health (NIH)*

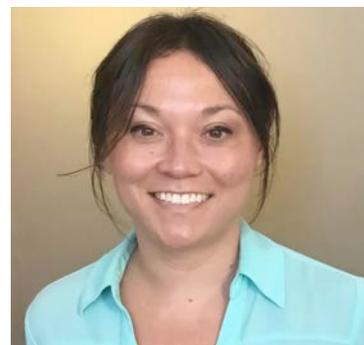
Also included will be a brief overview of HEAL, a Q&A, and general discussion. Dr. Edwards and I hope you can join us!

2019 ANNUAL MEETING HIGHLIGHTS *continued from page 4*

Predictive modeling in addiction: Recent findings and implications for precision medicine (Full Symposium)

Sarah Yip, Chair, and Susan Whitfield-Gabrielli, Co-Chair

Machine-learning methods enable data-driven prediction of complex behaviors, including substance use. Unlike more traditional statistical approaches, which typically aim to test explanatory hypotheses, machine-learning approaches focus on individual differences and generalization to novel subjects (i.e., cross-validation). This symposium, chaired by Dr. Sarah Yip and Dr. Sue Whitfield-Gabrielli, will present cutting-edge research demonstrating the potential of machine-learning methods to inform clinical and neurobiological understanding of substance-use disorders and their treatment. It is paired with a didactic Workshop (‘Introduction to Machine Learning and Applications to Addiction Research’) that will provide a practical introduction to machine-learning methods to encourage future adoption of these methods in addiction research.



Sarah Yip, Ph.D.
Yale University, School of Medicine

Dr. Reagan Wetherill will present data demonstrating the ability of machine learning to accurately classify substance-using versus non-substance-using individuals using fMRI data. Dr. Hugh Garavan will present novel data on the prediction of substance-use initiation in developmental cohorts. Dr. Sarah Lichenstein will present recent work using connectome-based predictive modeling to identify dissociable brain networks that predict abstinence from opioids versus cocaine. Dr. Jennifer Stewart will present her work using Bayesian analysis to show that prediction errors on the Stop Signal task robustly predict relapse status one year later in methamphetamine-dependent individuals. The Discussant (Dr. Sue Whitfield-Gabrielli), a world-recognized expert in machine learning, will synthesize research findings and discuss implications for precision medicine.

While the goal of this Symposium is to showcase clinically relevant addiction findings derived from machine-learning methods, our paired Workshop will provide a practical introduction to machine-learning methods to encourage future adoption of these methods in addiction research.

2019 ANNUAL MEETING HIGHLIGHTS *continued from page 5*

Mechanisms for sex/gender differences in addiction: Implications for prevention and treatment (Full Symposium)

Mariangela Martini, Chair, and Mark A. Smith, Co-Chair

Sex and gender differences have been described for multiple aspects of addiction/substance use disorder including rates of use, vulnerability to use, progression to addiction, relapse, and treatment. In this session, we will explore evidence from human and laboratory animals for mechanisms underlying sex and gender differences in addiction focusing on biologically and psychologically based mechanisms.

Mariangela Martini (North Carolina State University) will discuss recent evidence in mice for a role of sex chromosome complement in vulnerability to cocaine use as a mechanism underlying the enhanced vulnerability observed in females.

Anousheh Bakhti-Suroosh (University of Virginia) will discuss recent evidence in rats for the enhancing effects of estradiol on the development of motivational aspects of an addicted phenotype as a mechanism underlying the enhanced progression to addiction observed in females.

Mark Smith (Davidson College) will present recent data in rats showing that estradiol, which is known to enhance vulnerability to stimulants in females, has a different, and sometimes opposite effect, on sensitivity to opioids.

Kathleen Brady (Medical University of South Carolina) will present recent evidence for sex and gender differences in psychiatric co-morbidities and will discuss how differences in the temporal relationship between the first presentation of addiction and the first psychiatric symptoms impact the trajectory of addiction. She will also present data on sex differences in response to stress and discuss implications for prevention and treatment.

Finally, Wendy J. Lynch (University of Virginia) will synthesize the findings from these various research perspectives with a view toward implications for sex/gender-specific prevention and treatment strategies. Lastly, Dr. Gary Zarkin will discuss the economic analyses of these projects.



*Mariangela Martini, Ph.D.
North Carolina State University*

2019 ANNUAL MEETING HIGHLIGHTS *continued from page 6*

Application of behavior analysis to the treatment of addiction: A symposium celebrating the life and work of Nancy Petry PhD (Full Symposium)

Kathleen Carroll, Chair, and Maxine Stitzer, Co-Chair

Nancy Petry was a creative and highly productive investigator who made many important contributions during a career cut short by her recent untimely death in July of 2018.

This symposium will honor her memory and celebrate those many contributions. The title reflects the behavior analysis perspective that underpinned her work while the presentations highlight the major aspects of her contribution.

In the first presentation, *Warren Bickel* will describe how Nancy began her career with work on behavioral economics and delay discounting, how that perspective informed her subsequent treatment development work and where the field has taken the early discounting work. *John Roll* will discuss Nancy's creative contribution to the development and advance of contingency management as a treatment for substance use disorders and the large body of research she generated with her colleagues that has helped to cement this approach as an evidence-based treatment intervention. *Carla Rash* will follow with a discussion of Nancy's substantial body of contingency management dissemination work, a valuable asset to clinicians. This work includes development of counselor training methods, research on efficacy of training interventions and dissemination of CM throughout the network of Veteran's Administration substance use disorder programs. The fourth presentation by *David Ledgerwood* highlights another independent line of research on gambling disorders in which Nancy stimulated advances through her assessment and intervention research. The symposium will conclude with remarks by the session chairs (Drs. Maxine Stitzer and Kathleen Carroll).



*In memoriam
Nancy Petry, Ph.D.*

We invite all CPDD attendees to join us in remembering and honoring Nancy.

2019 ANNUAL MEETING HIGHLIGHTS *continued from page 7*

To smoke or not to smoke: That is the cue-estion (Full Symposium)

Yasmin Zakiniaez, Chair, and Eric Woodcock, Co-Chair

Tobacco smoking is a leading cause of preventable death in the world. Deaths related to the use of combustible tobacco products greatly exceed those from all other drugs combined, including opioids. Approximately 70% of smokers express a desire to quit, yet few can maintain long-term abstinence, even using the most efficacious treatments. Smoking-related cues and cue-reactivity are major contributors to relapse.

Cue-reactivity, physiological and/or subjective responses to drug-related stimuli, plays a critical role in continued cigarette smoking and precipitating smoking relapse. Neuroimaging research has highlighted important neural structures and circuits that mediate physiological and subjective responses to cigarette-related cues, which have been linked to continued cigarette smoking.



*Yasmin Zakiniaez, Ph.D.
Yale University, School of Medicine*

This symposium, on Tuesday, June 18, will showcase human neuroimaging and laboratory work to explore the specific brain regions involved in cue-reactivity as well as the influence of (1) acute stress, (2) biological sex/hormones, and (3) novel interventions, on cue-reactivity and smoking behavior in cigarette smokers.

Insight into factors that influence cue-reactivity are likely to provide new targets for smoking cessation. Novel interventions such as using nicotine-free electronic cigarettes, timing quit dates to coincide with hormonal variation, and reconsolidation-based strategies will be discussed.

The Speakers, Dr. Amy Janes, Dr. Eric Woodcock, Dr. Theresa Franklin and Dr. Michael Saladin, leaders in the field of cigarette smoking cue-reactivity, will present neuroimaging and behavioral findings that highlight the importance of cue-reactivity from cigarette craving to nicotine-seeking behavior to treatment outcomes.

The Discussant, Dr. Rajita Sinha, an expert in neuroimaging stress- and cue-reactivity of addictive disorders, will synthesize study findings and identify knowledge gaps to facilitate audience discussion on the challenges and opportunities for studying cue-reactivity in smokers.

2019 ANNUAL MEETING HIGHLIGHTS *continued from page 8*

Studies of Medications for Addiction Treatment in Correctional Settings (SOMATICS) Cooperative: Addressing the Opioid Crisis in Vulnerable Populations (Full Symposium)

David Farebee, Chair, and Redonna Chandler, Co-Chair

An alarming number of people continue dying each year from an opioid-related overdose making it a leading cause of preventable death in the United States. People who use opioids tend to have high levels of criminal justice system involvement and research indicates they are extremely vulnerable to overdose when returning to the community following periods of incarceration. The real tragedy in the opioid crisis is the under use of effective medications that are available to treat Opioid Use Disorder (OUD), reduce criminal activity, and reduce the risk of opioid-related overdose.



David Farebee, Ph.D.
University of California, Los Angeles

Jails, where people are typically incarcerated for shorter periods of time than prisons, provide a unique opportunity to identify and treat individuals with OUD. Although the total prison population is greater than the total jail population at any one time, jails have more than 10 times as many admissions as prisons, with much greater flow from jails to the community. Individuals with OUD who are not in treatment at the time of arrest often endure difficult detoxification and withdrawal in jail without the opportunity to initiate pharmacotherapy for OUD prior to release. Without treatment, people with OUD are at high risk of relapse and overdose upon return to the community.

The NIDA-funded Studies of Medication for Addiction Treatment in Correctional Settings (SOMATICS) cooperative was created to develop evidence-based approaches to initiating medication and other OUD treatment in jail settings and continuing treatment upon release. As the NIDA science partner for this cooperative, Dr. Redonna Chandler will begin the symposium with an overview of the SOMATICS cooperative, and the need to address OUD in correctional settings. Dr. Robert Schwartz will share preliminary results from his Baltimore-based study examining methadone treatment and patient navigation initiated in jail. Dr. Joshua Lee will provide an overview of his Riker's jail project in which participants were randomized to receive either extended release naltrexone (XR-NTX) or treatment as usual prior to release. I will summarize 6-month outcomes from an experimental comparison of XR-NTX alone and combined with patient navigation in a jail setting in the Albuquerque Metropolitan Detention Center. Lastly, Dr. Gary Zarkin will discuss the economic analyses of these projects.

2019 ANNUAL MEETING HIGHLIGHTS *continued from page 9*

Etiology and treatment of co-occurring substance use disorders and attention deficit hyperactivity disorder: From preclinical studies to big data analytics (Mini Symposium)

Emily Hankosky, Chair, and Linda Dwoskin, Co-Chair

Neuropsychiatric disorders are highly prevalent among individuals with substance use disorders (SUDs). Attention deficit hyperactivity disorder (ADHD) is one of the most prevalent neuropsychiatric disorders and it is estimated that more than 20% of individuals with SUD having co-occurring ADHD. Emerging data analytics tools and resources provide opportunities for generating new insights into the mechanisms of SUD pathology and these discoveries are most robust in the context of multidisciplinary investigations. This mini-symposium will seek to integrate evidence from multiple scientific domains to understand the most recent findings regarding the etiology and treatment of co-occurring SUD and ADHD. With evidence spanning the translational science spectrum from preclinical studies to big data analytics, this symposium will describe the current state of knowledge regarding the etiology and treatment of co-occurring ADHD and SUD.



*Emily Hankosky, Ph.D.
University of Kentucky, (UKY)*

Professor of Psychological & Brain Sciences at Boston University, Dr. Kathleen Kantak will open the mini-symposium by presenting findings from preclinical studies on drug abuse liability in animals with an ADHD-like phenotype and the impact of ADHD medication exposure on the developing brain and drug-seeking behavior. Then Dr. Jeffery Talbert who is a Professor in the Department of Pharmacy Practice and Science at the University of Kentucky will present emerging findings from big data analytics investigating adolescent-onset ADHD medication utilization and SUD risk. Dr. Frances Levin who is a Professor of Psychiatry at Columbia University will wrap up our session by presenting the latest clinical trial evidence on the efficacy of ADHD medications to treat co-occurring ADHD and SUD.

Attendees of the mini-symposium can expect to hear the latest findings regarding ADHD and SUD and understand how emerging data technologies can be leveraged to advance our understanding of risk factors and treatments for SUDs.

2019 ANNUAL MEETING HIGHLIGHTS *continued from page 10*

The use of technology to improve detection and treatment of perinatal substance use disorders (Mini Symposium)

Constance Guille, Chair, and Kimberly Yonkers, Co-Chair

The prevalence of perinatal substance use is increasing and associated with significant maternal, fetal, and newborn morbidity and mortality. Early identification and treatment of pregnant women with substance use disorders are vital to improving the health and well-being of mothers, their infants, and families. Barriers to care, however, prevent pregnant women from accessing treatment. Innovative solutions are needed to improve detection of perinatal substance use and facilitate access to evidence-based treatment.



*Constance Guille, Ph.D.
Medical University of South Carolina*

On Tuesday, June 18th, the symposium “The use of technology to improve detection and treatment of perinatal substance use disorders”, will describe innovative solutions to meet the needs of pregnant women with substance use disorders. Dr. Kimberly Yonkers, Yale University, will present results from a NIH trial that screened women for substance use and provided a motivational interview to help participants reduce substance misuse (Screening, Brief Intervention and Referral to Treatment; SBIRT). The behavioral intervention was delivered either by a clinician or via a computerized avatar and was compared to usual care. Findings on the impact of the SBIRT intervention on substance misuse, compared to usual care, will be presented. Dr. Constance Guille, Medical University of South Carolina, will describe the implementation of a telemedicine service for pregnant women with opioid use disorder and present results from a NIDA and Duke Endowment sponsored trial delivering perinatal opioid use disorder treatment in-person, compared to telemedicine. Using propensity score matching between group (in-person vs. telemedicine) outcomes related to substance use, and obstetrics and newborn health will be presented. Dr. Ariadna Forray, Yale University, will present results from a trial that used hand-held computers to undo the attentional bias that perinatal women who smoked have toward smoking and tobacco-related products. The symposium will provide an opportunity to learn about innovative technology-assisted solutions that facilitate evidence-based treatment for women with substance use disorders.

2019 ANNUAL MEETING HIGHLIGHTS *continued from page 11*

Leveraging Technology to Innovate Substance Abuse Research and Treatment (Mini Symposium)

Allison N Kurti, Chair, and Stephen Higgins, Co-Chair

Substance use disorders are a source of premature morbidity and mortality for which evidence-based treatments exist, so why aren't more people receiving these treatments? In some cases, barriers to treatment involve one's geographical place of residence or socioeconomic status. Capitalizing on technology to monitor substance use and deliver treatment remotely may allow us to surmount these barriers, along with providing other ways to innovate substance abuse research more generally.



*Allison N Kurti, Ph.D.
University of Vermont*

On Wednesday, June 19th, the mini-symposium “Leveraging technology to deploy innovative substance abuse treatments” will explore these exciting possibilities. Dr. Allison N Kurti, University of Vermont, will set the stage by describing the promising data resulting from a pilot study examining feasibility and effectiveness of a smartphone-based financial incentives intervention to promote smoking cessation among socioeconomically disadvantaged pregnant women. Dr. Donald Dougherty, University of Texas Health Science Center at San Antonio, will discuss a study that leveraged transdermal alcohol monitoring to reduce alcohol consumption in an incentives-based intervention to reduce heavy drinking. Finally, Dr. Stacy Ryan, Western Michigan University, will describe the results of a study in which Internet-based sampling methods were employed to ask parents about their attitudes and expectations regarding a smartphone-based financial incentives program for supporting recovery among their adolescent and young adult offspring.

This mini-symposium will give attendees an exciting glimpse into the various ways that technology can be harnessed to innovate both research and treatments for drug abuse, along with increasing understanding of the feasibility, effectiveness, and acceptability of emerging technology-based substance abuse treatments.

2019 ANNUAL MEETING HIGHLIGHTS *continued from page 12*

Outcomes of mindfulness-based interventions in the treatment of maternal substance use (Mini Symposium)

Diane J. Abatemarco, Chair, and Karol Kaltenbach, Co-Chair

This interesting and exciting symposia will discuss Innovative Interventions to Enhance Substance Use Treatment and Programing with Pregnant and Parenting Women. Dr. Abatemarco and her team have implemented three distinct mindfulness-based interventions in women's substance use treatment to improve pregnancy, parenting, and family functioning. Dr. Abatemarco team's research has been noted in the NY Times as well as in other national media. Maternal substance use and treatment is a complex public health concern. Women with substance use disorders report high levels of depression, anxiety, parenting stress, and adverse childhood exposures/trauma. Trauma as a leading cause for addiction behavior has not been systematically addressed. The use of mindfulness-based practices to ameliorate the effects of early life trauma and prevent intergenerational trauma among new mothers and their children has shown promise.



*Diane J. Abatemarco., Ph.D.
Associate Professor of Obstetrics,
Gynecology and Pediatrics
Director of Maternal Addiction
Treatment, Education and Research
(MATER)*

Mindfulness practice supports mothers to be present with their children when interacting, while simultaneously highlighting non-judgment, self-compassion, self-regulation, and emotional awareness. This symposium will present data from two studies with women in treatment for opioid use disorder who participated in mindfulness-based interventions; one intervention during pregnancy and the other postnatally. The symposium will provide a comprehensive overview of the trauma informed intervention programs and how each program was designed to reduce stress, improve pregnancy outcomes and parenting responsiveness. A comprehensive presentation of the results will include both quantitative and qualitative findings. The quantitative data demonstrate improvement in general stress, parenting stress, mindfulness, parenting, and anxiety. The qualitative results focus on systematic program evaluation using focus groups and Re-AIM methods. Presentations will also include a comprehensive discussion of what the current research findings suggest for future mindfulness research in this population and the role of parenting in comprehensive treatment and relapse-prevention. Implications, plans for sustainability, and lessons learned including barriers and assets for including mindfulness in treatment programs for pregnant and parenting women with substance use disorders will also be discussed. Questions, answers, and discussion will be encouraged by the participants who attend this symposia.

2019 ANNUAL MEETING HIGHLIGHTS *continued from page 13*

NIDA International Forum/CPDD International Research Poster Session Brings the World to CPDD

Steve Gust, Ph.D.

Are you curious about drug abuse research conducted in countries other than the United States? All CPDD attendees are invited to attend the NIDA International Forum/CPDD International Research Poster Session on Monday evening, June 17. This unique, multidisciplinary gathering highlights the range and quality of global addiction research. As in the past several years, we anticipate that about 135 scientists will present posters about research conducted in around 40 countries. The scientific and geographic diversity highlights international commonalities and differences as well as emerging issues.

In addition to the poster session, the NIDA International Forum will hold a series of plenary, workshop, and breakout sessions on Friday, June 14, and Saturday, June 15. There is no fee to attend the NIDA International Forum, and all CPDD participants are welcome. You can register on site.

Since 2015, the CPDD International Committee has selected the best poster presentation by a researcher from a low-, lower middle-, or upper middle-income country. CPDD generously provides 3 nights' lodging for the winner at one of the next two CPDD Annual Meetings.

Previous winners are:

- 2015: Irma Kirtadze, Georgia, "Comprehensive women-centered treatment for substance use in Georgia: Initial examination of drug use and HIV risk."
- 2016: Tatiana Yaroslavtseva, Russia, "Fatal Overdose in Recently Detoxified HIV-Infected People Who Inject Drugs in St. Petersburg, Russia—Role of Naltrexone?"
- 2017: Petal Peterson Williams, South Africa, "Predictors of Risk of Illicit Drug Use During Pregnancy Among Women Attending Midwife Obstetric Units in the Cape Metropole, South Africa"
- 2018: Rabia Hanif, Pakistan, "Personality traits differentiate Pakistani males in recovery versus relapse from substance use disorders."

The abstracts for posters presented since 2003 at the NIDA International Forum are online in the searchable International Drug Abuse Research Abstract Database, <https://www.drugabuse.gov/international/abstract-database>.



CPDD International Committee judges present the 2017 Best Poster award during the NIDA International Forum/CPDD International Research Poster Session.

From left are Renee Goodwin, Columbia University; CPDD International Committee Chair Clyde McCoy, University of Miami Miller School of Medicine; award winner Petal Peterson Williams, South Africa; NIDA International Program Director Steve Gust; and Linda Cottler, University of Florida.

2019 ANNUAL MEETING HIGHLIGHTS *continued from page 14*

Introduction to Machine Learning and Applications to Addiction Research (Workshop)

Dustin Scheinost, Chair, and Sarah Yip, Co-Chair

This workshop brings together addiction researchers with expertise in data science, neuroimaging and biomedical engineering to provide a practical introduction to common machine-learning methods and is paired with a symposium (*Predictive modeling in addiction: Recent findings and implications for precision medicine*) that will showcase recent findings using these approaches to study addictions and their treatment.

In a series of didactic presentations, Workshop presenters will discuss the following topics:

(i) What is machine learning? An overview of common approaches (Nicholas Allgaier, Ph.D.);

(ii) What do I need to know? Ten simple rules for machine learning (Dustin Scheinost, Ph.D.);

(iii) How do I do this? Practical application of machine learning in addiction (Sarah Yip, Ph.D.);

(iv) What if I need help? Resources for incorporation of machine learning into research (Jillian Hardee, Ph.D.).

Finally, the Discussant, a senior program officer at NIDA (Steve Grant, Ph.D.), will address the question: What can we learn from machine learning? The goal of this workshop is to provide a practical introduction to machine-learning methods. By attending both the symposium and the workshop, participants will learn how categorical and dimensional machine-learning models are generated, and how the adoption of these methods can advance understanding of the pathophysiology of addictions and inform clinical decision-making.



*Dustin Scheinost, Ph.D.
Yale University, School of
Medicine*

2019 ANNUAL MEETING HIGHLIGHTS *continued from page 15*

Expanding the impact of substance use disorder research: Economic analysis for program and policy evaluation (Workshop)

Sean Murphy, Chair, and Kathryn McCollister, Co-Chair

The CDC announced that more than 70,000 people died from drug overdoses in 2017. One key strategy in reducing deaths from the substance use epidemic is to improve access to evidence-based therapies; however, barriers to access remain. Economic evaluation studies can support broadening access to SUD treatment by informing stakeholders how best to allocate limited resources across competing public health initiatives, including SUD treatment. Ensuring that resources are used efficiently requires consideration of both costs and effectiveness. Relying solely on cost in the decision-making process may result in foregone effectiveness, while relying solely on effectiveness may result in the selection of a strategy that while slightly more effective, is substantially more expensive.



*On the left, Kathryn McCollister, Ph.D.
Florida International University*

*On the right, Sean Murphy, Ph.D.
Weill Cornell Medical College*

The workshop led by Drs. Kathryn McCollister and Sean Murphy from the Center for Health Economics of Treatment Interventions for Substance Use Disorder, HCV and HIV will present economic evaluation methods and help participants understand how to leverage existing clinical trials to examine cost-effectiveness and budget impact of new SUD interventions. Dr. McCollister will introduce participants to cost-effectiveness analysis (CEA) as a tool for evaluating return-on-investment of SUD interventions from multiple stakeholder perspectives. Dr. Murphy will provide participants with the tools to calculate incremental cost-effectiveness ratios and interpret CEA findings.

The workshop will be interactive and employ group-based learning exercises to illustrate recommended procedures and key decisions in conducting a CEA, using real-world examples. Participants will gain an understanding of how CEA complements clinical effectiveness trials and can expand the impact of this research by calculating budget impact and long-term fiscal viability of new interventions. They will also consider the net economic benefits attributable to the intervention such as healthcare sector savings, reduced criminal justice system costs, and improved productivity.

2019 ANNUAL MEETING HIGHLIGHTS *continued from page 16*

Using implementation science principles and interventions to improve substance use services linkage for justice-involved adolescents: Findings from the NIDA JJ-TRIALS cooperative agreement (Workshop)

Steven Belenko, Chair, and Danica Knight, Co-Chair

This workshop will present highlights of findings from a NIDA-funded cooperative agreement that has been investigating strategies to reduce unmet substance use treatment needs among adolescents under juvenile justice (JJ) supervision in the community. The workshop will be chaired by Dr. Steven Belenko of Temple University, and co-chaired by Dr. Michael Dennis of Chestnut Health Systems and Dr. Danica Knight of Texas Christian University. Additional presenters include Dr. Gail Wasserman of Columbia University, Dr. Jennifer Becan of Texas Christian University, Dr. John Bartkowski of the University of Texas at San Antonio, Dr. Wayne Welsh of Temple University, and Dr. Tisha Wiley of NIDA.

Substance use (SU) is common among justice-involved youth and a primary predictor of recidivism; 51% of youth have SU problems requiring treatment. Because of limited focus on SU and limited coordination across JJ and behavioral health (BH) systems, youth under community supervision often do not receive services that improve clinical outcomes. This workshop presents findings from the Juvenile Justice—Translational Research on Interventions for Adolescents in the Legal System (JJ-TRIALS) project, a NIDA-funded cooperative aiming to improve delivery of services for substance-involved delinquent youth (Knight et al., 2016) and testing the impacts of implementation interventions on SU service receipt along the Behavioral Health Services Cascade (Cascade; Belenko et al., 2017).



*Steven Belenko, Ph.D.
Temple University*

Presentation 1 reports on findings on the characteristics of more than 25,000 youth in 34 counties in 7 states, and individual and contextual factors affecting service receipt along the Cascade.

Presentation 2 provides findings from tests of the main hypotheses on the impact of JJ-TRIALS on service receipt, and the additive impact of facilitation in the enhanced condition.

Presentation 3 examines the conceptualization and operationalization of the implementation science construct of site engagement, using a multidimensional approach.

Presentation 4 examines the influence of individual and agency-level factors on interagency service coordination between JJ agencies and BH partners, using survey data from 549 JJ and BH staff. The workshop concludes with a discussion of research and practice implications among the panelists and the audience.

2019 ANNUAL MEETING HIGHLIGHTS *continued from page 17*

Deep phenotyping, drug development tools and -omics biosignatures for SUDs (Workshop)

Tanya Ramey, Chair, and F. Gerard Moeller, Co-Chair

A broad palette of SUDs and their extensive clinical variability is not fully reflected by the existing set of diagnostic criteria of the SUD diagnosis in the DSM system. Yet rational drug discovery and development rests on the precision of the match of physiologic systems' dysfunctions and deficits with specific psychopathology. Reduction of diagnostic depth increases clinical "noise", impedes proper efficacy signal ascertainment in clinical drug development, making SUDs drug development a high technical risk endeavor.

As a potential solution, Research Domain Criteria (RDoC) dimensional approach was proposed. Dimensional RDoC has enabled potential clinical efficacy evaluation of a construct or a functional domain transdiagnostically spanning the illness – health continuum (Cuthbert, 2014). The application of RDoC principles to addictions has led to Addictions RDoC represented initially by Negative Emotionality, Incentive Salience and Executive Function domains. Addictions Neuroclinical Assessments (ANA) Battery was developed at NIAAA (Kwako et al, 2016).



Tanya Ramey Ph.D.
National Institute on Drug Abuse

NIDA is building on Addictions RDoC initial effort. We present NIDA Phenotyping Assessments Battery (NIDA PhAB) with added domains of Interoception and Metacognition. NIDA's internal Workgroup output, followed by the Workshop (Feb 2017) consensus of experts, selected measures and tasks for the NIDA PhAB. Resting state fMRI was also added. Operationally NIDA PhAB is an improvement, minimizing patient burden. Lori Keyser-Marcus from VCU will present NIDA PhAB.

We discuss the multimodal neuroimaging probes of neurocircuitry dysfunction SUDs profiles (James Bjork, VCU), and discuss approaches on possibly pairing clinical outcome assessments with the CNS circuitry dysfunction profiles as composite biomarkers- FDA's Drug Development Tools.

Along the same vein, Kristopher J. Bough (NIDA) will discuss approached to peripheral biomarkers. New powerful methodologies and ability to model multivariate data iteratively enables the peripheral biomarkers development and their potential utilization as a part of a composite biomarker(s).

2019 ANNUAL MEETING HIGHLIGHTS *continued from page 18*

The CPDD Media Forum 2019: What's hot? (Forum)

Margaret S. Chisolm, Chair, and Erin Winstanley, Co-Chair

The Mainstream news media have been the traditional conduit by which scientists communicate their discoveries. However, with the rise of social media, scientific organizations and investigators are now able to deliver these discoveries directly to the public. Regardless of the method of dissemination, it is imperative that scientists learn verbal and visual story-telling methods to communicate their research effectively.

The CPDD Media Forum 2019: What's Hot forum will offer CPDD scientists an opportunity to present their research in a rapid-fire, brief and media-friendly, comprehensible manner. Once the oral abstract submissions to be included at CPDD have been selected, the CPDD Media Committee choose those that represent some of the "hottest" topics of broad public interest to be presented at CPDD - across a range of research areas.

This year, the Media Forum will feature approximately eight to ten presenting scientists. The presenting scientists will be selected by the Media Committee from among the accepted oral abstracts determined by the Program Committee. Thus names of the speakers will not be known until ~April 2019.



*Meg Chisolm, M.D.
Johns Hopkins Medicine*

With the guidance of the Media Forum Chair and Co-Chair, Meg Chisolm and Erin Winstanley, the presenting investigators will learn the art of developing 5-minute engaging presentations of their research for the public. The audience members will have a chance to learn about some of the most topical and important drug-related discoveries presented at the CPDD annual meeting, and the scientists and the audience members will have the opportunity to engage in ten minutes of discussion about the hot topics presented. The Media Forum will be livestreamed to CPDD's social media accounts and recorded so that the presentations can be shared on the CPDD and NIDA websites.

In past years, the Media Forum Chair and Co-Chair typically present a very brief social and mainstream news media training session; however, beginning in 2019 these trainings will be presented in a separate Workshop session, chaired by Erin Winstanley.

2019 ANNUAL MEETING HIGHLIGHTS *continued from page 19*

Animal Forum: How many “Rs” does it take to do research? (Forum)

Mark Smith, Chair, and Ziva Cooper, Co-Chair

The Animals in Research Committee will be hosting its annual Animal Forum at the CPDD meeting in San Antonio. This year, our special invited guest is Dr. Sander O. Hacker, VMD, DACLAM. Dr. Hacker is attending veterinarian for UT Health Sciences Center in San Antonio, and commonly deals with issues related to the 3 R’s (replacement, reduction and refinement) that govern the use of animal models in biomedical research.

One challenge faced by preclinical researchers is that the regulatory landscape surrounding the performance of science using animal-based models is a complex and ever-changing entity.

While federal and non-federal bodies that oversee these activities have their hearts and minds in the right place, interpretation of the stated and unstated regulations that animal-model researchers must adhere to can be confusing and frustratingly subjective.

Dr. Hacker’s lecture will present a light-hearted overview of some hot, and not-so-hot, animal research related topics, both in and out of the lab, that the scientific community must navigate to better understand and assist the human condition. Although these topics are especially relevant for those of us who use animal models in our laboratory, Dr. Hacker will touch on topics that are relevant to all our members who bump against regulatory hurdles in their research. We invite all members of the CPDD community to attend and participate.



*Mark Smith, Ph.D.
Davidson College*

Ethical challenges recruiting and retaining participants in addiction research (Humans in Research Forum)

Victoria Votaw

The College of Problems on Drug Dependence (CPDD) Human Research Committee invites CPDD members to a forum focusing on the recruitment and retention of participants in addiction research. This forum is targeted towards all level of career investigators and includes thoughtful discussions focusing on potential challenges and ethical considerations that may arise in selecting, enrolling, retaining, and compensating human participants.

The talks will be bookended by an introduction and a robust discussion period moderated by an expert senior discussant (Dr. Catherine Striley). To appeal to a wide array of audience members, the panel includes human subject researchers ranging in experiences and populations studied, and with diverse interests within the addiction research field.

Challenges recruiting and retaining participants have historically contributed to inconclusive findings and limited generalizability in the addiction research field.

Stigma against individuals with substance use has contributed to these challenges, resulting in participants' distrust of research, biased perception by researchers, non-representative samples, and inadequate compensation.

The forum focuses on recruiting and retaining participants for three study designs that are commonly utilized to understand the etiology, maintenance, and treatment of addiction: (1) human laboratory studies, (2) clinical trials, and (3) technology-based studies (e.g., electronic momentary assessment, mHealth).

Discussion content will include the following: selecting inclusion criteria, barriers to participation, strategies to increase retention, and appropriate compensation. The focus of the talks will span adolescent/emerging adult to adult participants. Overall, the forum will facilitate didactic talks and discussion about necessary ethical considerations to enhance recruitment and retention of participants in addiction research.



*Victoria Votaw, B.A.
University of New Mexico*

DRUG AND ALCOHOL DEPENDENCE *CORNER*

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Editor's choice articles

<https://www.journals.elsevier.com/drug-and-alcohol-dependence/editors-choice/editors-choice-2019>

Higher average potency across the United States is associated with progression to first cannabis use disorder symptom.

Brooke J. Arterberry, Hayley Treloar Padovano, Katherine T. Foster, Robert A. Zucker, Brian M. Hicks

(Drug Alcohol Depend. 2019 Feb 1;195:186-192. doi: 10.1016/j.drugalcdep.2018.11.012)

Higher cannabis potency (i.e., national average level of delta-9-tetrahydrocannabinol [THC], the psychoactive compound in cannabis) in the US is associated with increased risk for onset of symptomatic cannabis use. Specifically, higher national average potency at cannabis use initiation was associated with over four times the risk of experiencing a symptom of cannabis use disorder in the year following initiation. As the availability of cannabis increases, it is critical that policy makers, researchers, clinicians, and physicians understand the health outcomes associated with increases in potency to enhance development of future guidelines and regulations to curb potential negative health consequences of use.

Greater risk for frequent marijuana use and problems among young adult marijuana users with a medical marijuana card.

Joan S. Tucker, Anthony Rodriguez, Eric R. Pedersen, Rachana Seelam, Regina A. Shih, Elizabeth J. D'Amico

(Drug Alcohol Depend. 2019 Jan 1;194:178-183. doi: 10.1016/j.drugalcdep.2018.09.028)

Obtaining a medical marijuana recommendation from a provider ("MM card") allows the holder to legally purchase marijuana from a dispensary, and (in some states) cultivate marijuana for personal medical usage. In a sample of 671 young adults (age 19) reporting past month marijuana use, MM card holders were more likely to use marijuana daily or near daily from ages 13-19 compared to non-MM card holders. MM card holders also reported more marijuana negative consequences, selling marijuana/hashish, and driving under the influence of marijuana. Young MM card holders are an at-risk population that deserves more attention, especially given expanding state legalization of medical marijuana.

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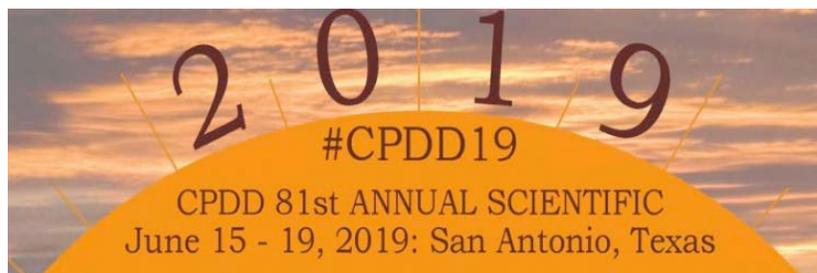
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81ST ANNUAL MEETING



DATES:

June 15 – 19, 2019

LOCATION:

JW Marriott San Antonio Hill County Resort and Spa
 San Antonio, Texas



DEADLINES:

Late-Breaking Abstract Submission

April 15, 2019

Early Bird Registration: April 15, 2019

Hotel Registration: April 15, 2019