



CNRA Connections

Center for Neurobehavioral Research on Addiction

Department of Psychiatry

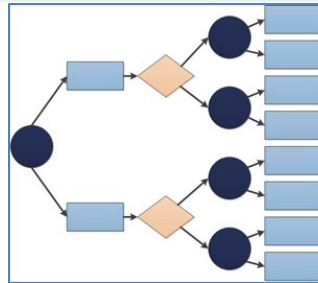
Ready, Set, Go!

New projects launch at CNRA



The CNRA launches four new research projects for 2017:

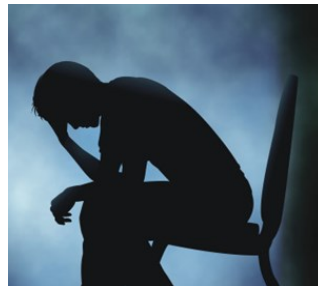
- ◆ **Adaptive Interventions for Cocaine Cessation and Relapse Prevention**
- ◆ **Targeting Anhedonia in Cocaine Use Disorder**
- ◆ **Reducing Cigarette Smoking in Individuals with Schizophrenia**
- ◆ **Treatment of Methamphetamine Use Disorder**



Adaptive Interventions for Cocaine Cessation and Relapse Prevention

No single treatment is appropriate for everyone; rather, treatments need to be adjusted based on patient characteristics and response in order to be maximally effective. The CNRA has launched a new clinical trial designed to test adaptive treatment interventions (the interventions may change based on how the participant is doing) for cocaine cessation and relapse prevention. Participants may receive motivational incentives, individual therapy, and medication, combined in a way that targets their treatment needs and progress toward recovery. We are currently recruiting adults, ages 18-60, who suffer from cocaine addiction.

Targeting Anhedonia in Cocaine Use Disorder



Anhedonia, or the lack of interest or pleasure in non-drug rewards, is considered a key mechanism of action (“target”) underlying addiction. Treatment directed at changing or improving this target may lead to clinical benefit. The CNRA has launched a new clinical trial to determine whether medication treatment can improve brain reward deficits and, in doing so, reduce anhedonia and facilitate achievement of abstinence. Participants receive motivational incentives, brief therapy, and medication in this 4 week trial. We are currently recruiting adults, ages 18-60, who suffer from cocaine addiction.

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Newsletter layout and design by Kathryn Tipton

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CNRA: About us MISSION:

To develop evidence-based treatment for substance use disorders (SUDs) using decisions informed by behavioral neurosciences.

AIMS:

In pursuit of this mission the CNRA aims to:

- Map out the neurological, behavioral, and clinical mechanisms that contribute to drug addiction
- Target key mechanistic processes in the development of SUD treatment
- Evaluate treatment efficacy using innovative clinical trial designs and statistical methods

Core Faculty:

Charles Green, Ph.D.

Angela Heads, Ph.D.

Scott Lane, Ph.D.

Joy Schmitz, Ph.D.

Robert Suchting, Ph.D.

Anka Vujanovic, Ph.D.

Margaret Wardle, Ph.D.

Michael Weaver, M.D.

Jin Yoon, Ph.D.

Interested in research?

Contact us!

(713) 486-2823

Rolanda Johnson
CNRA Program Manager

New Projects Launch, continued from page 1



Reducing Cigarette Smoking in Individuals with Schizophrenia

The prevalence of tobacco smoking among schizophrenics is 80-90% and associated with increased risk of smoking-related diseases and death. Smoking reduction has health benefits on its own and also increases the likelihood that smokers may initiate and succeed in quitting smoking in the future. The CNRA is conducting a pilot feasibility study on the use of e-cigarettes in conjunction with nicotine-replacement therapy to promote smoking reduction among individuals with schizophrenia. Participants will receive nicotine patches and may receive an e-cigarette during this 5-week trial. We are currently recruiting adults, ages 18-65, who smoke cigarettes and have been diagnosed with schizophrenia or schizoaffective disorder.



Treatment of Methamphetamine Use Disorder

Methamphetamine is a stimulant like cocaine, but not actually cocaine. Both drugs increase levels of dopamine in the brain; however they do so via different mechanisms. Methamphetamine has a much longer duration of action, meaning that more of the drug remains in the brain longer, leading to prolonged stimulant effects. Next month the CNRA will launch a new clinical research study of a promising new medication combination treatment for methamphetamine addiction. We will be looking for methamphetamine-using individuals (18-65 years old) who want to quit or reduce their use. Learn more about methamphetamine in the Clinical Corner (p. 5).

Your Support Is Needed

Contributions to CNRA help advance important research to develop science-based treatments for those who suffer from substance use disorders.

Donations can be made to:

Office of Development
Attn: B. Henry/CNRA
P.O. Box 1321
Houston, TX 77251-1321

Funds provided by the Faillace Endowed Professorship, established in 2011 by **Cynthia and Ray Wright** in honor of **Louis A. Faillace, M.D.**, supports excellence in psychiatric research and patient care, and envelops the mission of the CRNA – to develop evidence-based addiction treatment.

Research Update

Recent Faculty Publications & Presentations

- Asby AT, **Heads AM**, Dickson JW: Living with maternal HIV: Spirituality, depression, and family functioning. *American Journal of Health Sciences*, 31, 15-22, 2016.
- De La Garza R, **Yoon JH**, Thompson-Lake D, Haile C, Eisenhofer J, Newton TF, Mahoney JJ: Treadmill exercise improves fitness and reduces craving and use of cocaine in individuals with concurrent cocaine and tobacco-use disorder. *Addictive Behaviors*, 245, 133-140, 2016.
- Gan G, Preston-Campbell RN, Moeller SJ, Steinberg JL, **Lane SD**, Maloney T, Parvaz MA, Goldstein RZ, Alia-Klein N: Reward versus retaliation - the role of the mesocorticolimbic salience network in human reactive aggression. *Frontiers in Behavioral Neuroscience*, 10, 179, 2016.
- Gonzalez A, Friedberg F, Li X, Zvolensky MJ, Bromet EJ, Mahaffey BL, **Vujanovic AA**, Luft BJ, Kotov R: Trauma-focused smoking cessation for smokers exposed to the World Trade Center Disaster: A randomized clinical trial. *Nicotine and Tobacco Research*. In press.
- Lijffijt M, Maili L, **Lane SD**, Moeller FG, Steinberg JL, Swann AC: Impulsivity and risk seeking relate differentially to intensity-sensitivity of N1 and P2 auditory evoked potentials. *Journal of Neuropsychiatry and Clinical Neurosciences*. In press.
- Ma L, Steinberg J, Wang Q, **Schmitz J**, Boone E, Narayana P, Moeller FG: A preliminary longitudinal study of white matter alteration in cocaine use disorder subjects. *Drug and Alcohol Dependence*. In press.
- Miller WR, Fox RF, Stutz S, **Lane SD**, Denner L, Cunningham KA, Dineley KT: PPAR γ agonism attenuates cocaine cue reactivity. *Addiction Biology*. In press.
- Mooney ME, **Schmitz JM**, Allen S, Grabowski J, Pentel P, Oliver, A, Hatsukami DK: Bupropion and naltrexone for smoking cessation: A double-blind randomized placebo-controlled clinical trial. *Clinical Pharmacology and Therapeutics*, 100, 344-352, 2016.
- Parsaik AK, Abdel-Gawad N, Chotalia J, **Lane SD**, Pigott TA: Early life trauma in hospitalized mood disorder patients and its association with clinical outcomes. *Journal of Psychiatric Practice*, 23, 36-43, 2017.
- Paulus DJ, **Vujanovic AA**, **Wardle MC**: Anxiety sensitivity and alcohol use among trauma-exposed, acute-care psychiatric inpatients: The mediating role of emotion regulation difficulties. *Cognitive Therapy and Research*, 40, 813-823, 2016.
- **Vujanovic AA**, Meyer TD, **Heads AM**, Stotts AL, Villarreal YR, **Schmitz JM**: Cognitive-behavioral therapies for depression and substance use disorders: An overview of traditional, third-wave, and transdiagnostic approaches. *The American Journal of Drug and Alcohol Abuse*, 5, 1-14, 2016.
- **Vujanovic AA**, **Wardle MC**, Liu S, Dias NR, **Lane SD**: Attentional bias in adults with cannabis use disorders. *Journal of Addictive Diseases*, 35, 144-153, 2016.
- **Vujanovic AA**, **Wardle MC**, Smith L, Berenz EC: Reward functioning in posttraumatic stress disorder and substance use disorders. *Current Opinion in Psychology*, 14, 49-55, 2017.
- **Vujanovic AA**, Bonn-Miller MO, Petry NM: Co-occurring posttraumatic stress and substance use: Emerging research on correlates, mechanisms, and treatments – Introduction to the special issue. *Psychology of Addictive Behaviors*, 30, 713-719, 2017.

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Research Update Continued

Recent Faculty Publications & Presentations

- **Wardle MC**, Vincent JN, **Suchting R**, **Green CE**, **Lane SD**, **Schmitz JM**: Anhedonia predicts poorer outcomes in contingency management for cocaine use disorder. *Journal of Substance Abuse Treatment*, 72, 32-39, 2016.
- **Weaver, MF**: How to treat opiate use disorders. *The Carlat Addiction Treatment Report* 4(2-3): 1-3, 6-9, 2016.
- **Weaver, MF**: Hallucinogens. In R. J. Levesque (Ed.), *Encyclopedia of Adolescence*, 2nd Ed., New York, NY: Springer, 2016.
- **Weaver, MF**: “Newer Synthetics: Spice and Bath Salts.” *Fundamentals of Addiction Medicine teleExtension for Community Healthcare Outcomes online teleconference didactic lecture*. May 2016.
- **Weaver, MF**: “Lifelong Learning: Review of Articles for ABAM MOC Part 2.” Workshop at the American Society of Addiction Medicine Annual Conference, Baltimore, MD. April 2016.
- **Weaver, MF**: “Medication-Assisted Treatments for Addiction.” Panelist at Spectrum 2016 conference, Texas Association of Addiction Professionals, Houston, TX. October 2016.
- **Weaver, MF**: “Management of Substance Misuse.” Houston Mood Disorders Conference, Memorial Hermann Hospital, Houston, TX. September 2016.
- **Weaver, MF**: “Documentary Video Premier: Chasing the Dragon.” Panelist at Texas Behavioral Health Institute conference, Austin, TX. July 2016.
- **Weaver, MF**: “Treating the Behavioral Health Trauma Patient.” Mercy Trauma CME Conference, Mercy Hospital Joplin, Joplin, MO. March 2016.
- **Weaver, MF**: “Designer Drugs Update.” Mercy Trauma CME Conference, Mercy Hospital Joplin, Joplin, MO. March 2016.
- **Yoon JH**, De La Garza R, Newton TF, Suchting R, Weaver MT, Brown GS, Omar Y, Haliwa, I: A comparison of Mazur’s k and area under the curve for describing delay discounting data. *Psychological Record*. In press.

Upcoming Events

UTHealth Stomp Out Stroke Festival

Saturday May 6th 2017 9am-3:30pm

Discovery Green: 1500 McKinney St, Houston, TX 77010

- Free, open to the public, family-friendly event
- Stroke and brain health education
- Free health screenings
- Entertainment, performances, & music

Visit the CNRA at the Brain on Drugs booth in the Kid’s Zone.

Register at www.strokefestival.org



CNRA’s Brain on Drugs Booth

Clinical Corner: Methamphetamine: Q&A

What is methamphetamine?

Methamphetamine (“meth,” “speed,” “ice,” “crystal,” “crank,” or “glass”) is a synthetic amphetamine-type stimulant. It is powerful and highly addictive. Chemically, meth is similar to drugs such as cocaine and amphetamine.



Crystal methamphetamine Photo by DEA

Although meth can be prescribed for medical treatment of certain disorders (e.g., ADHD, narcolepsy), most meth use is illegal and for nonmedical reasons. Crystal meth is in the form of a rock-like crystal that is usually a semi-transparent white or blue color. It is mostly heated and then smoked in a glass pipe. Less frequently, the drug is crushed up to be snorted or injected.

How prevalent is methamphetamine in the U.S.? In Texas?

Nationally, approximately 1.2 million people (0.4% of the popula-

tion) report using meth in the past year. Based on recent surveys, there are approximately 133,000 new users of meth age 12 or older per year – a rate unchanged from previous years. The average age of new meth users is 19.7 years old.

In the state of **Texas**, trends show increasing prevalence of more potent meth made in Mexico. This reflects a resurgence in meth use after the 2006 restrictions on the sale of pseudoephedrine (used to produce the illicit drug) took effect. Rates are now at similar or higher levels than ever seen in Texas.

Treatment admission rates for smoked meth reflect the same: increasing from 3% of all admissions in 1995 to 13% in 2005 – dropping to 8% in 2009 – then rising to 13% in 2013. The figure below shows a notable change in route of administration of meth over the same time period. The percentage smoking ice decreased after the ban took effect, but by 2013, ice was more available and smoking had increased to a slightly higher level than in 2006. [source: Maxwell, JC. Substance Abuse Trends in Texas: June 2014, Community Epidemiology Work Group]

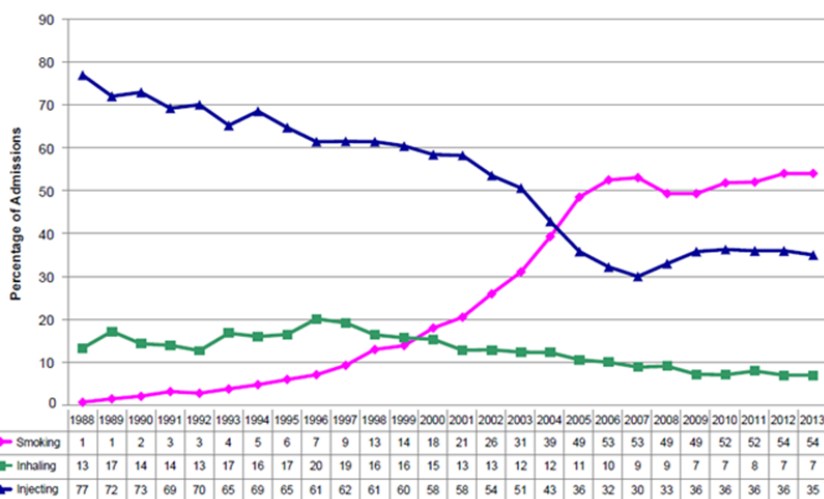
How is methamphetamine used?

Meth is most commonly smoked or injected. Using these routes, meth is delivered very quickly to the brain, where it produces an immediate, intense euphoria that is usually felt within 3 to 5 minutes of ingestion. The euphoric effect, however, is short-lived, leaving the user seeking repeated doses in a “binge and crash” pattern.

What are the short-term effects of methamphetamine abuse?

The short-term physical effects of meth include increased wakefulness, increased physical activity, decreased appetite, increased respiration rate, rapid heart rate, irregular heart rate, increased blood pressure, and increased body temperature.

Percentage of Route of Administration of Methamphetamine by Clients Admitted to Substance Abuse Treatment Programs, Texas: 1988-2013



SOURCE: Texas Department of State Health Services

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Methamphetamine Q&A continued from page 5

What are the long-term effects of methamphetamine abuse?

Long-term, or chronic, use of meth causes chemical and physical changes in the brain. In particular, changes in the activity of the dopamine system are associated with reduced motor skills and impaired verbal learning. Brain areas associated with emotion and memory are impacted by persistent meth use, leading to mood disturbances and cognitive deficits. Psychotic symptoms, including paranoia and hallucinations, can develop from repeated use over time.

What treatments are effective for people who abuse methamphetamine?

At this point, behavioral therapies are the most effective treatments for meth addiction. These therapies typically combine skills training with family education, individual counseling, 12-step support, drug-testing, and incentives for engaging in non-drug-related activities. There are currently no medications that are FDA-

approved for the treatment of meth, however the National Institute on Drug Abuse (NIDA) has made research in the development of medications to treat meth addiction a priority.

What is ADAPT-2 trial?

The NIDA Clinical Trials Network has launched a 7-site national trial evaluating two medications for meth use disorders. The study is being done to test if the combina-

tion of naltrexone and bupropion works better than placebo to help meth addiction.

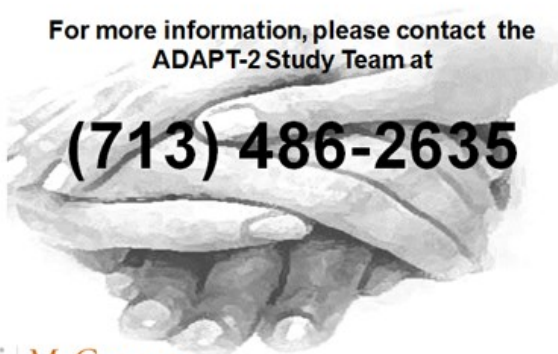
Eligible participants (18 to 65 years old) will have clinic visits twice a week, receive 12 weeks of medication, and be compensated for study activities. Participation is voluntary and possible risks and benefits will be discussed before you agree to participate. For more information about the study, please call 713-486-2635.

Using meth and want to quit or reduce your use?

We are looking for methamphetamine-using individuals who are age 18 to 65 for a research study evaluating two medications for methamphetamine use disorders.

For more information, please contact the ADAPT-2 Study Team at

(713) 486-2635



UTHealth
The University of Texas
Health Science Center at Houston

McGovern
Medical School

SHAKE YOUR GROOVE GENE

UT CNRA Groove Gene Submission Video



The CNRA were declared the **Best Overall winners** of the Genotek sponsored “*Shake Your Groove Gene*” video contest.

Watch the CNRA dance in this humorous video about a Phase I clinical trial of a serum which activates your groove gene!

To watch the *hilarious* and creative winning video, visit <https://youtu.be/UkIzOZNMBXQ>

Recent Awards, Recognition, Honors

- ◇ **Dr. Joy Schmitz** was recipient of the 2016 **Women Faculty Forum Clinical Excellence Award** in recognition of outstanding accomplishments and contributions to McGovern Medical School.
- ◇ **Dr. Scott Lane**, Vice Chair for Research at the Department of Psychiatry and Behavioral Sciences, was named one of five inaugural McGovern Scholars by the Dean of McGovern Medical School, Barbara J. Stoll. Selected for his outstanding research, Dr. Lane will receive \$50,000 for the next two years for his work at the UTHealth CNRA.
- ◇ **Dr. Scott Lane**, was appointed to the advisory panel of the Alcohol and Substance Abuse Disorders Research Program (ASADRP), Department of Defense Congressionally Directed Medical Research Programs. The ASADRP is developing a research network with the goal of accelerating the delivery of new or improved treatments related to alcohol and substance abuse and PTSD. Dr. Lane will make recommendations to help refine program focus and investment strategy, assist in policy development, recommend a research investment strategy, perform programmatic review and provide input for the dissemination of information.
- ◇ **Dr. Anka Vujanovic** was appointed to the editorial board of *Psychology of Addictive Behaviors* and *Psychological Trauma: Theory, Research, and Policy*.
- ◇ **Dr. Margaret Wardle** was inducted as an associate member into the American College of Neuropsychopharmacology (ACNP). Membership in ACNP is restricted to individuals who have made significant research contributions in the area of neuroscience of mental illness. Congratulations Megin!
- ◇ **Dr. Michael Weaver** was appointed Distinguished Fellow of the American Society of Addiction Medicine.
- ◇ **Dr. Michael Weaver** received an award in appreciation of time, dedication, leadership and accomplishments as the Chair of the Examination Committee from the American Board of Addiction Medicine.
- ◇ **Dr. Michael Weaver** was named Houston's Top Doctors 2016 in Addiction Medicine in *H Texas Magazine*.
- ◇ **Dr. Michael Weaver** was appointed as member of the Guideline Writing Group for the American Psychiatric Association Practice Guideline on Treatment of Patients with Alcohol Use Disorder.
- ◇ **Dr. Michael Weaver** was elected Chair of the Addiction Medicine Sub-Board for the American Board of Preventive Medicine.



Dr. Joy Schmitz

Dr. Scott Lane

Dr. Anka Vujanovic

Dr. Margaret Wardle

Dr. Michael Weaver

Check out the CNRA trials posted on ClinicalTrials.gov!

- [NCT02896712](#) Developing Adaptive Interventions for Cocaine Cessation and Relapse Prevention
- [NCT02785406](#) Role of the Orexin Receptor System in Stress, Sleep and Cocaine Use
- [NCT02773212](#) Targeting Anhedonia in Cocaine Use Disorder
- [NCT02918630](#) E-cigarettes to Promote Smoking Reduction Among Individuals with Schizophrenia



New Faces at the CNRA

Tasha Davis, B.S., is a research assistant with Dr. Joy Schmitz on the *Accelerated Development of Additive Pharmacotherapy Treatment for Methamphetamine Use Disorder* study. She is a graduate student in Behavioral Neuroscience at University of Houston – Clear Lake and is currently investigating the role of a serotonin receptor subtype on anxiety.

Sarwar Khan, B.S., is a second year medical student at McGovern Medical School in Houston, Texas. He is a medical student trainee at the CNRA currently working on the Gene Expression Project.

Amanda Long, M.A., is a fourth-year doctoral student in the University of Houston Counseling Psychology program. She earned her B.S. in Psychology from the University of Illinois at Urbana-Champaign, and her M.A. in Community Counseling from Loyola University in Chicago. Her interests focus on the empowerment of African Americans through research and community based initiatives. She is doing her doctoral practicum at the CNRA as a counselor working on the *Developing Adaptive Interventions for Cocaine Cessation and Relapse Prevention* study.

Johann D'Souza, M.A. received his masters in psychology from Boston University where he performed research in Stefan Hofmann's social anxiety lab. His interest in mindfulness for anxiety led

him to investigate third generation cognitive behavioral therapies with Dr. Kevin Majeres at Harvard Medical School. Currently, he works as lab manager in Dr. Wardle's Emotions in Addiction Lab and collaborates with her and Dr. Vujanovic on a study examining heart rate variability as a marker of comorbid trauma and drug symptom severity.

Christina "Nina" Moak, M.A., is a dual research assistant and counselor at the CNRA. Her research assistant duties apply to various ongoing studies within the Center, while she is a counselor in the *Developing Adaptive Interventions for Cocaine Cessation and Relapse Prevention* study. Prior to working at the CNRA she completed her Master's degree in Clinical Psychology at the University of Houston-Clear Lake. Her training focuses on evidence-based treatment approaches including CBT, behavioral parent training, and third wave interventions for the treatment of mood and behavioral disorders. She also completed an internship at Texas Children's: The Center for Women and Children, working with underserved populations through individual, family, and group therapy.



www.facebook.com/UTHealthCNRA

Inside the CNRA

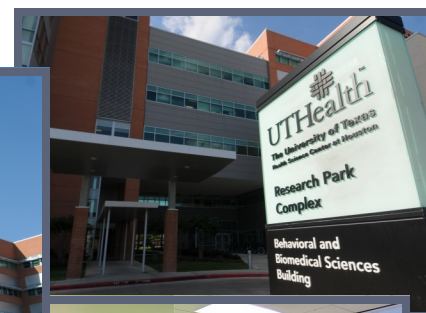
The CNRA currently has two ongoing studies of treatment for cocaine use disorders.

- ◆ Developing adaptive interventions for cocaine cessation and relapse prevention
- ◆ Targeting anhedonia in Cocaine Use Disorder



CNRA Program Features:

- ◆ No Cost Treatment
- ◆ 100% confidential
- ◆ Medical & Behavioral Treatments
- ◆ Experienced and Professional Staff
- ◆ A Safe and Clean Atmosphere
- ◆ Free Parking and Metro Tickets
- ◆ Financial Compensation for Research Participation
- ◆ Funded by the National Institute on Drug Abuse (NIDA)



Appointments:

713-500-DRUG (3784)

Clinic Hours:

Monday – Friday 7:30-4:00

**Behavioral and Biomedical Sciences Building
1941 East Road
Houston Texas 77054**

<https://med.uth.edu/psychiatry/research/addiction/>