NIAAA Director’s Report
on Institute Activities to the 137th Meeting
of the National Advisory Council on Alcohol Abuse and Alcoholism

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Rockville, MD

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FY 2014

- The NIAAA is currently closing out Fiscal Year (FY) 2014 to coincide with the end of the Fiscal Year calendar, September 30th. The FY 2014 appropriation for NIH is **$29.9 billion**, **$1 billion above the FY 2013 appropriation level** after taking into account the impact of the 2013 budget sequestration.

- For NIAAA, the **FY 2014 appropriation provides $445.4 million**. This represents a **$12.6 million or a 2.9% increase** over the FY 2013 budget level (also post-sequestration). NIAAA estimates the appropriation will provide support a total of 677 Research Project Grants (RPGs) in FY 2014, including 174 competing awards, compared to 671 RPGs and 166 competing awards in FY 2013.
NIAAA Budget

FY 2015
• On March 4, 2014, President Obama submitted to Congress his FY 2015 budget request for all Federal agencies – the FY 2015 President’s Budget. Included in this request is a proposed FY 2015 budget for the National Institutes of Health (NIH) of $30.4 billion. The NIAAA budget request for FY 2015 is $446.0 million which is $0.6 million or a 0.1 % increase over the FY 2014 Enacted level.

FY 2016
• Preliminary work on the budget for FY 2016 is beginning. After intermediate stages of review, the President’s budget request for FY 2016 will be presented to Congress on March 3, 2015.
Honors & Awards

• **Dr. George Koob** was awarded the 25th annual Neuronal Plasticity Prize of the Fondation Ipsen for his “pioneering works in the domain of neuropsychology of drug addiction.” The honor was awarded on July 8, 2014 at the FENS (Federation of European Neuroscience Societies) in Milan, Italy.

• **Drs. Pal Pacher** and **George Kunos** have both been selected as Thomson Reuters Highly Cited Researchers in the area of Pharmacology/Toxicology. This is based on highly cited papers published during the period 2002-2012 (highlycited.com).
Staff Transitions

New Staff

• **Lori Ducharme**, Ph.D., joined DTRR on June 2, 2014, as Program Director for Health Services Research. Trained as an organizational sociologist, she focuses on the structure, quality, and availability of alcohol treatment services, and in particular on moving evidence-based practices into routine service delivery.

• **Richard Doucette** recently joined NIAAA as a Workforce Resources Specialist, in the Administrative Services Branch. He comes from the National Institute of Mental Health, with expertise in personnel appointment mechanisms.

• **Rachel Quade** joined the Division of Neuroscience and Behavior in August of this year and is the secretary/assistant for the division and Dr. Antonio Noronha. She previously worked with the intramural Laboratory of Molecular Signaling.
Staff Transitions

Retiring
• Patricia Scullion retired in early July after working at NIH for over 40 years and serving as NIAAA’s Chief Administrative Officer for 7 years. She and her husband recently relocated to Southport, North Carolina.

Leaving NIAAA
• Jenny Czajkowski recently moved to Boston, Massachusetts, after working at NIH for over 19 years and serving as NIAAA’s Deputy Executive Officer for the past 3 years. Previously, she was Communications Director for the Center for Information Technology (CIT), and Deputy Director of Customer Support.

• Jennifer Norsworthy has left NIAAA and will be working at the Centers for Medicare & Medicaid Services (CMS) at the Center for Program Integrity in the Data Sharing and Partnership Group.
New Positions

- Fred Donodeo, who was serving as Acting Director of the NIAAA Communications and Public Liaison Branch, was recruited and selected as permanent Director of the Communications and Public Liaison Branch. Mr. Donodeo, who joined NIAAA in 1998, has an extensive background in public affairs, social marketing, and community relations. Before coming to NIAAA, Mr. Donodeo was a Public Affairs Specialist at the National Cancer Institute (NCI), having joined NIH as a Presidential Management Intern.
New Program Announcements (PAs) and Request for Applications (RFAs)

New PAs:

- PAR-14-281: Connectomes Related to Human Disease (U01)

NIAAA reissued the following RFAs/PAs

- RFA-AA-15-001: Specialized Alcohol Research Centers (P50)
- RFA-AA-15-002: Comprehensive Alcohol Research Centers (P60)
- RFA-AA-15-003: Collaborative Partnership on Alcohol and Health Disparity Research Center (AHDRC) (U54)
- PAR-14-268: International Research Collaboration on Alcohol and Alcoholism (U01)
Drs. Antonio Noronha and Changhai Cui were editors on the book “Neurobiology of Alcohol Dependence” (ISBN: 978-0-12-405941-2, Elsevier, 2014). This book presents a comprehensive overview of our current understanding of the neurobiological mechanisms underlying alcohol dependence at the molecular, cellular, circuitry, and behavioral levels. It highlights the profound impact of alcohol on multiple neurocircuits related to reward, stress, habit formation, and executive function.
Dr. George Koob is the first author on the new textbook “Drugs, Addiction, and the Brain,” (ISBN-13: 978-0123869371, Elsevier, 2014) which explores the molecular, cellular, and neurocircuitry systems in the brain that are responsible for drug addiction. Common neurobiological elements are emphasized that provide novel insights into how the brain mediates the acute rewarding effects of drugs of abuse and how it changes during the transition from initial drug use to compulsive drug use and addiction. The book provides a detailed overview of the pathophysiology of the disease.
Alcohol Issues Across the Lifespan

- NIAAA supports research to study how alcohol can affect health and well-being at various stages of life.

Lifespan Transcending Themes
- Neurobiology
- Metabolism
- Genetics
- Epigenetics
- Epidemiology
- Health Services Research

Alcohol

- Prenatal Alcohol Exposure
- Binge Drinking
- Organ Damage
- Alcohol Dependence
- Medication Interactions

Alcoholic Family Environment

NIH National Institute on Alcohol Abuse and Alcoholism
Conceptual Framework for Neurobiological Bases of the Transition to Excessive Drinking
DEVELOPMENTAL TRAJECTORIES FOR VISUO-SPATIAL ATTENTION ARE ALTERED BY PRENATAL ALCOHOL EXPOSURE: A LONGITUDINAL FMRI STUDY

Significance: A longitudinal fMRI study in children and adolescents with fetal alcohol spectrum disorder (FASD) revealed differences in cortical activation patterns for visuo-spatial attention in those with FASD at similar performance levels across samples of children recruited from three separate study sites in the U.S. and in South Africa in a study from the Collaborative Initiative on Fetal Alcohol Spectrum Disorders (CIFASD). (Gautam P, Nuñez SC, Narr KL, Mattson SN, May PA, Adnams CM, Riley EP, Jones KL, Kan EC, Sowell ER. Cereb Cortex. 2014 Aug 4. [Epub ahead of print])

Within group change in activation in South African subjects
MODULATION OF FATTY ACID AND BILE ACID METABOLISM BY PEROXISOME PROLIFERATOR-ACTIVATED RECEPTOR α PROTECTS AGAINST ALCOHOLIC LIVER DISEASE

**Significance:** Transcriptomics results indicated that PPARα activity was clearly enhanced through the induction of fatty acid β-oxidation, and striking increases in a proinflammatory factor, Thbs1, were observed only in alcohol-fed Ppara-null mice. These findings suggest the potential application of PPARα agonists in preventing ALD progression. (Li HH, Tyburski JB, Wang YW, Strawo S, Moon BH, Kallakury BV, Gonzalez FJ, Fornace AJ Jr. *Alcohol Clin Exp Res.* 2014 Jun;38(6):1520-31)

**Proposed mechanisms for the protective role of peroxisome proliferator-activated receptor α in alcoholic liver disease progression**
**RAT NUCLEUS ACCUMBENS CORE ASTROCYTES MODULATE REWARD AND THE MOTIVATION TO SELF-ADMINISTER ETHANOL AFTER ABSTINENCE**

**Significance:** Astrocytes in the nucleus accumbens core regulate dependence-induced ethanol consumption during a forced abstinence period in rat model. (Bull C, Freitas KC, Zou S, Poland RS, Syed WA, Urban DJ, Minter SC, Shelton KL, Hauser KF, Negus SS, Knapp PE, Bowers MS. *Neuropsychopharmacology*. 2014 Jun 6 [Epub ahead of print])

Activation of astrocytic Gaq-DREADDs expressed in the NA core decreased the motivation to self-administer ethanol after 3 weeks abstinence.
**Significance**: Functional connectivity analysis of sober alcoholics and controls using resting-state functional magnetic resonance imaging and neuropsychological testing showed weaker within-network and expanded outside network connectivity correlated with poorer performance and mood. (Müller-Oehring EM, Jung Y-C, Pfefferbaum A, Sullivan EV, Schulte T, *Cerebral Cortex* [Epub ahead of print June 16, 2014])

*Intrinsic network differences in alcoholics (ALC) relative to controls (CTL). Red more in ALC; green less in ALC*
**Significance:** Alcohol exposure during adolescence in rats produced deficits in executive-like function in adulthood when no alcohol is present, and administration of a positive allosteric modulator of mGluR5 reverses these deficits. (Gass JT, Glen WB, McGonigal JT, Trantham-Davidson H, Lopez MF, Randall PK, Yaxley R, Floresco SB, Chandler LJ. *Neuropsychopharmacology* 2014 [Epub ahead of print])

**Administration of a positive allosteric modulator of the mGluR5 receptor (CDPPB*) immediately prior to testing in an operant set-shifting task attenuates adolescent intermittent ethanol (AIE) exposure-induced deficits in behavioral flexibility in adulthood**

*3-cyano-N-(1,3-diphenyl-1H-pyrazol-5-yl)benzamide*
INTRAVENOUS GHRELIN ADMINISTRATION INCREASES ALCOHOL CRAVING IN ALCOHOL-DEPENDENT HEAVY DRINKERS: A PRELIMINARY INVESTIGATION


Increase in alcohol urge by dose, expressed as an increase compared with the baseline (predrug) value using an Alcohol-Visual Analogue Scale (dA-VAS)
A MODERATING ROLE FOR GENDER IN RACIAL/ETHNIC DISPARITIES IN ALCOHOL SERVICES UTILIZATION

Significance: Findings suggest lower alcohol service utilization among Latinos and Blacks compared to Whites, and women compared to men, with the strongest evidence of disparities between the minority groups and Whites occurring among women. (Zemore SE, Murphy RD, Mulia N, Gilbert PA, Martinez P, Bond J, Polcin DL. Alcohol Clin Exp Res. 2014 Aug;38(8):2286-96)

Alcohol services utilization among Whites, Blacks, and Latinos with a lifetime alcohol use disorder

- Any services (gender: p<.001)
- Specialty treatment (gender: p<.001)
- Alcoholics Anonymous (gender: p=.05)
BRAIN (Brain Research through Advancing Innovative Neurotechnologies) Multi-Council Working Group (MCWG)

• Provide scientific advice to the BRAIN IC staff and funding process to complement the expertise of the individual councils

• Members will ensure that each of the advisory councils is informed about BRAIN initiatives, awards, and progress.

• First meeting -- August 25 – review of applications* received for 6 FOAs. Reviewed concepts for BRAIN 2015 initiatives

*applications still have to be approved by lead IC Council
CRAN Initiative

Adolescent Brain and Cognitive Development (ABCD) National Longitudinal Study

Planning Strategy

☑ Expert panel workshop to develop recommendations on best large-scale designs and measures to assess developmental effects of substance exposure (beginning prior to exposure) during childhood through adolescence (in human subjects) – May 27-28, 2014

☑ An RFI to get input on proposed study design/measures June-August 2014

Revised design based on input from RFI to be presented for further input at a satellite symposium at SfN Monday Nov 17, from 6:30-8:30, Walter E Washington Convention Center Rm 150A

FOA to be released early in 2015
CRAN Initiative

National Longitudinal Study of
Adolescent Brain and Cognitive Development (ABCD)
@ SfN-- November 17, 2014 -- Washington, D.C.

• Sponsored by the NIH CRAN (NIDA, NIAAA, & NCI) in partnership with NICHD

• Workshop to *solicit input for a large-scale prospective cohort study* to assess developmental effects of substance use from early adolescence into young adulthood in human subjects.

• The study goals are to understand the impact of various patterns and trajectories of substance exposure on brain structure and function; future SUD or other psychopathology; and functional outcomes, including academic achievement, social development and other behaviors of public health importance.
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