



National Institute  
on Alcohol Abuse  
and Alcoholism



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ON ALCOHOL  
ABUSE AND  
ALCOHOLISM

# Integrative Neuroscience Initiative on Alcoholism: INIA

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Mark Egli, PhD | 2.6.2020



### INIA was Launched in FY2001

The primary goal of INIA is to identify brain adaptations at multiple levels of analysis resulting in excessive alcohol consumption.

It supports translational, multidisciplinary, collaborative research efforts by 2 **interactive** consortia studying brain mechanisms of excessive alcohol drinking associated with AUD and the relationship between excessive drinking, stress, and anxiety.

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## Origins and Goals

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### INIA was Launched in FY2001

*I skate to where the puck is going to be, not to where it has been.*

*-Wayne Gretzky*

*Flight cannot be understood by studying only feathers.*

*-David Marr*

- INIA pioneered use of NIH cooperative agreement “U” mechanism to support multidisciplinary basic research.
  - INIA recognized that understanding AUD required knowledge of actions and interactions at multiple biological levels.
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## Achievements

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### INIA proactively addressed broader research issues that emerged as priority NIH concerns:

**Reproducibility** – developed standard alcohol drinking and neuroimaging paradigms now widely used in multiple labs.

#### Translation & Backtranslation

- Cross-species analysis (from drosophila, to rodents, to NHPs to humans)
- Preclinical validation of systems pharmacology approaches for AUD medication target discovery.
- Nomination of repurposed medications for human lab AUD studies.

#### Sex as a Biological Variable

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## Non-alcohol researchers brought into the fold by INIA

**NIGEL ATKINSON SUSAN BERGESON RON DAVIS  
CANDICE CONTET MICHAEL GORMAN DAVID JONES  
BRIGITTE KIEFFER THERESE KOSTEN AMY LASEK  
DAYNE MAYFIELD SCOTT MOORE MORTON PRINTZ  
KAREN SZUMLINSKI CHRISTINE WU NATALIE ZHR  
FENG ZHOU MARISA ROBERTO REGINA MANGIERI  
ELANA VAZEY DAVID MOORMAN ZOE MCELLIGOT  
SEAN FARRIS IGOR PONOMAREV DAN GOLDOWITZ  
ROB WILLIAMS ELISSA CHISLER TODD KIPPEN  
NATALI CEBALLOS DAVID ROSSI BETSY FERGUSON  
CHRIS KROENKE ERIC DELPIRE DANNY WINDER  
ALAN ROSENWASSER**

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### Why is INIA still relevant?

- Peripheral and central **stress** and **neuroimmune pathways** remain active neuroscience research topics.
  - Expanding appreciation of **AUD phenotype** beyond excessive drinking to include negative affect, cognitive control dysfunction, sleep dysregulation, pain.
  - *“A tool-driven revolution is currently underway.”*
    - BRAIN Initiative
    - AI tools and technologies
  - Modeling Approaches
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# The Future

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Two research consortia each centered around a common theme and lead by Consortium Coordinator

Cluster of Cooperative Agreement projects (U01)

Research Resources (U24s) as needed

Each project contributes data and analyses to other consortium components and address hypotheses which integrate different levels of analysis or mechanistically related manifestations of AUD.

Between consortium cooperation

Engagement of early-stage investigators and relevant experts outside the alcohol field will be encouraged

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# Thank you

**For more information, please contact:**

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