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Biomedical training in alcoholism research

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***BIOMEDICAL TRAINING IN
ALCOHOLISM RESEARCH***

NIAAA TRAINING GRANT OVERVIEW

T32 AA007580

Andrew C. Health, D. Phil.
Director, Missouri Alcoholism Research Center
Spencer T. Olin Professor in Psychology in Psychiatry
Department of Psychiatry
Washington University School of Medicine

Objectives and Goals

- ◆ To bring together for multidisciplinary training a pool of outstanding trainees, both clinician and non-clinician PhDs, from various backgrounds including typical disciplines such as biomedical and behavioral sciences and “less conventional” disciplines including mathematics, statistics and physics.
- ◆ To provide trainees with mentoring by highly qualified preceptors with experience and funding, who can help them develop into successful independent alcohol researchers.
- ◆ Give trainees the opportunity to participate and to manage ongoing research projects and to develop their own research.
- ◆ Use of a research apprenticeship model to complement the mentored research with individualized tutorials, lab rotations, journal clubs, and formal didactic training to develop expertise and skills that will allow them to propose and to implement their own independent research.

5 Major Training Areas

- i. Behavior genetics and genetic epidemiology
- ii. Gene discovery
- iii. Developmental psychopathology and longitudinal studies
- iv. Basic and cognitive neuroscience
- v. Epidemiology, nosology and prevention research

Approach

- ◆ The training program is ordinarily 3 years duration reflecting the diverse background of our applicant pool (e.g. psychology, psychiatry, mathematics, behavioral neuroscience, social work)
- ◆ 1-2 year post-doctoral fellowships are also offered for experienced alcoholism researchers seeking training in a new area of alcoholism research (e.g. human genetics). Resident physicians are particularly encouraged.

Approach (*con't*)

- ◆ At the beginning of their training, trainees develop a mentoring plan jointly with their mentors. Trainees then meet at least weekly with their mentors. Importantly, there is flexibility in the selection in that trainees can change or add additional preceptors as mentors later in their training.
- ◆ In addition to specialization in a primary discipline, trainees are encouraged to obtain a sufficient familiarity with at least one other focus area to facilitate fruitful cross disciplinary collaborations in their research careers.

Major Strengths

- ◆ Availability of a large faculty with an extensive program of alcoholism research, representing expertise in many aspects of statistical / quantitative, molecular and behavioral genetic, epidemiologic and neurobiologic research on alcoholism
- ◆ Highly productive research environment
- ◆ Availability of major genetic and epidemiologic data-bases, and access to a large number of ongoing projects, that offer many research options to trainees
- ◆ The program's location in one of the nation's leading medical schools, allowing trainees to take advantage of a rich array of didactic courses and seminars and research experiences
- ◆ The long tradition of successful mentoring and research training of scientists and physician scientists from diverse intellectual backgrounds

Major Strengths *(con't)*

- ◆ The Washington University School of Medicine (WUSM) has a long history of training individuals who have gone on to be leaders in the field of alcohol research.
- ◆ WUSM ranks fifth among U.S. medical schools in NIH grant support and the WUSM Department of Psychiatry ranks second among clinical departments with \$39M in NIH grants.

Program Administration

Director and Principal Investigator: Andrew C. Heath, DPhil

- ◆ Dr. Heath's research has focused on the etiology of alcoholism and its association with other psychiatric and substance use disorders.
- ◆ He has served as mentor or co-mentor for approximately 30 post-doctoral trainees and junior faculty in the areas of addiction and/or child psychiatry.
- ◆ 1991—Dr. Heath established the NIDA-funded post-doctoral research program, that lead to the establishment of the WUSM as one of the leading centers in the U.S. for training in human genetic research on drug addiction. (*PI: Cicero; T32 DA07313*)
- ◆ 1997—He brought together an international, multi-institutional team of collaborators to establish the Midwest Alcoholism Research Center (MARC). Funded by the NIAAA in 1999, the MARC is one of 15 nationwide Alcoholism Research Centers funded by the NIH. (*PI: Heath; P50 AA11998*)
- ◆ 1999—He established the NIAAA-funded post-doctoral training program in alcoholism research. (*PI: Heath; T32 AA07580*)

Training Faculty

- ◆ The training faculty consists of 36 preceptors and tutors in the five major research areas.
- ◆ The preceptors are all established and independently funded researchers who provide research mentoring to the trainees. Collectively, they are PI or Co-Is on more than 180 funded research grants, primarily from NIH, but also from foundations and industry. Many have international reputations in their respective fields of alcohol research.
- ◆ Preceptors and tutors have a history of successfully obtaining grant funding, and most are well funded and can provide the resources to support the research training needs of the trainees, as well as to potentially fund the trainees' independent research.
- ◆ The mix of more experienced and younger faculty is an excellent way to cover more needs of trainees.

Training Faculty (*con't*)

Preceptors & Tutors

Gustav Akk, PhD

Andrey Anokhin, PhD

Laura Bierut, MD

Kathleen Bucholz, PhD*

Randy Buckner, PhD

C. Robert Cloninger, MD

John Constantino, MD

Linda Cottler, PhD

Danielle Dick, PhD

Seth Eisen, MD

Nuri Farber, MD

Anne Glowinski, MD*#

Alison Goate, DPhil

Julia Grant, PhD

Andrew Heath, DPhil*

Tony Hinrichs, PhD

Collins Lewis, MD

Michael Lynskey, PhD

Pamela Madden, PhD*

Steven Mennerick, PhD*

Louis Muglia, MD, PhD

Elliot Nelson, MD

Rosalind Neuman, PhD

John Olney, MD

Karen O'Malley, PhD

Rumi Price, PhD

Wendy Reich, PhD

John Rice, PhD

John Rohrbaugh, PhD

Jeff Scherrer, PhD

Erik Sirevaag, PhD

Joseph Steinbach, PhD

Richard Todd, PhD, MD*

Alexandre Todorov, PhD

David Wozniak, PhD

Charles Zorumski, MD

*Internal Advisory Committee member

#Training Program Ombudsman

Current Postdoctoral Trainees

| | <u>Trainee</u> | <u>Faculty Mentor</u> | <u>Research Focus</u> |
|-----------------|------------------------|-----------------------|---|
| 3rd Year | Mary Waldron, PhD | A. Heath | Impact of alcoholism and environmental risks associated with parental alcoholism and on reproduction and parenting |
| | Vivia McCutcheon, PhD | A. Heath | Parental alcoholism, early childhood trauma relationships, and risk of psychopathology, as a framework for investigating GxE interaction |
| 2nd Year | Scott Ochs, PhD | K. O'Malley | Mechanisms of dopaminergic cell death using primary dopaminergic cultures treated with various toxins, as well as ethanol |
| | Sean Kristjansson, PhD | J. Rohrbaugh | Multilevel modeling to analyze dynamic posturographic, oculomotor, cardiovascular data to address moderating effects of nicotine on acute alcohol intoxication in smokers/non-smokers |
| 1st Year | Caroline Sartor, PhD | M. Lynskey | Substance use disorders from a developmental psychopathology perspective |