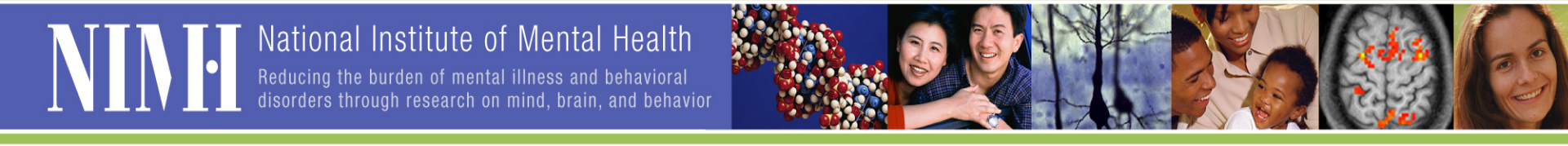


NIMH Update: Intramural Research Training Opportunities

Joyce Y. Chung, M.D.

Program Director, PGY4 & Clinical Fellowship Program

Deputy Clinical Director

National Institute of Mental Health

Bethesda, Maryland

Disclosures

With respect to the following presentation, there has been no relevant financial relationship between the party listed above (and/or spouse) and any for-profit company in the past 24 months which could be considered a conflict of interest.

Disclaimer

The views presented are mine and do not represent the views or policy of the National Institutes of Health, the Public Health Service or the Department of Health and Human Services.

NIMH National Institute of Mental Health

Reducing the burden of mental illness and behavioral disorders through research on mind, brain, and behavior

The National Institutes of Health

NIMH National Institute of Mental Health

Reducing the burden of mental illness and behavioral disorders through research on mind, brain, and behavior

NIH is comprised of 27 Institutes and Centers (ICs)

FY ’14 Budget of $30 billion

NCI is largest at $4.9 billion

NIMH is the 7th largest budget ($1.45 billion in FY14)

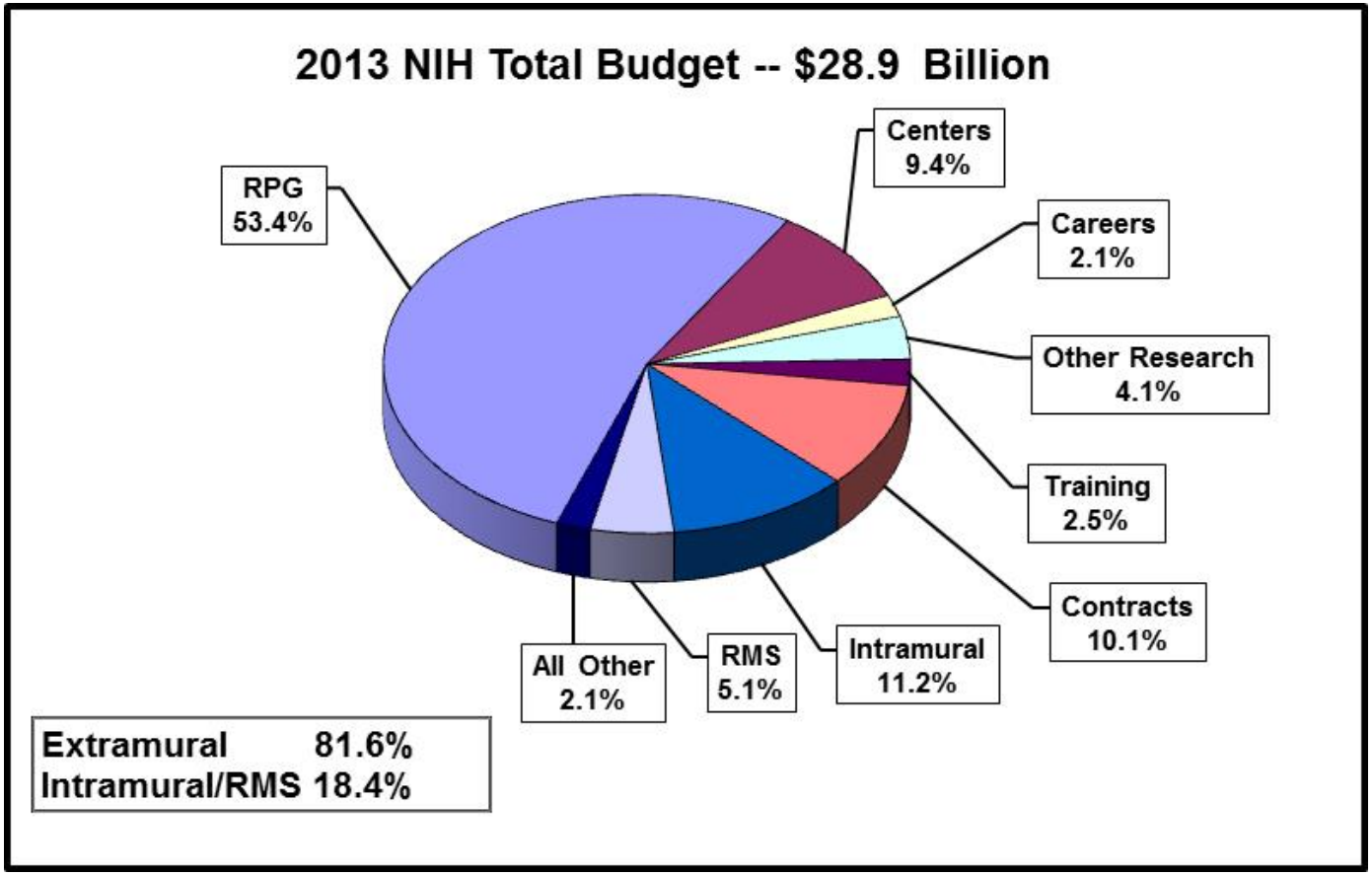
NATIONAL® CANCER INSTITUTE

NIMH National Institute of Mental Health

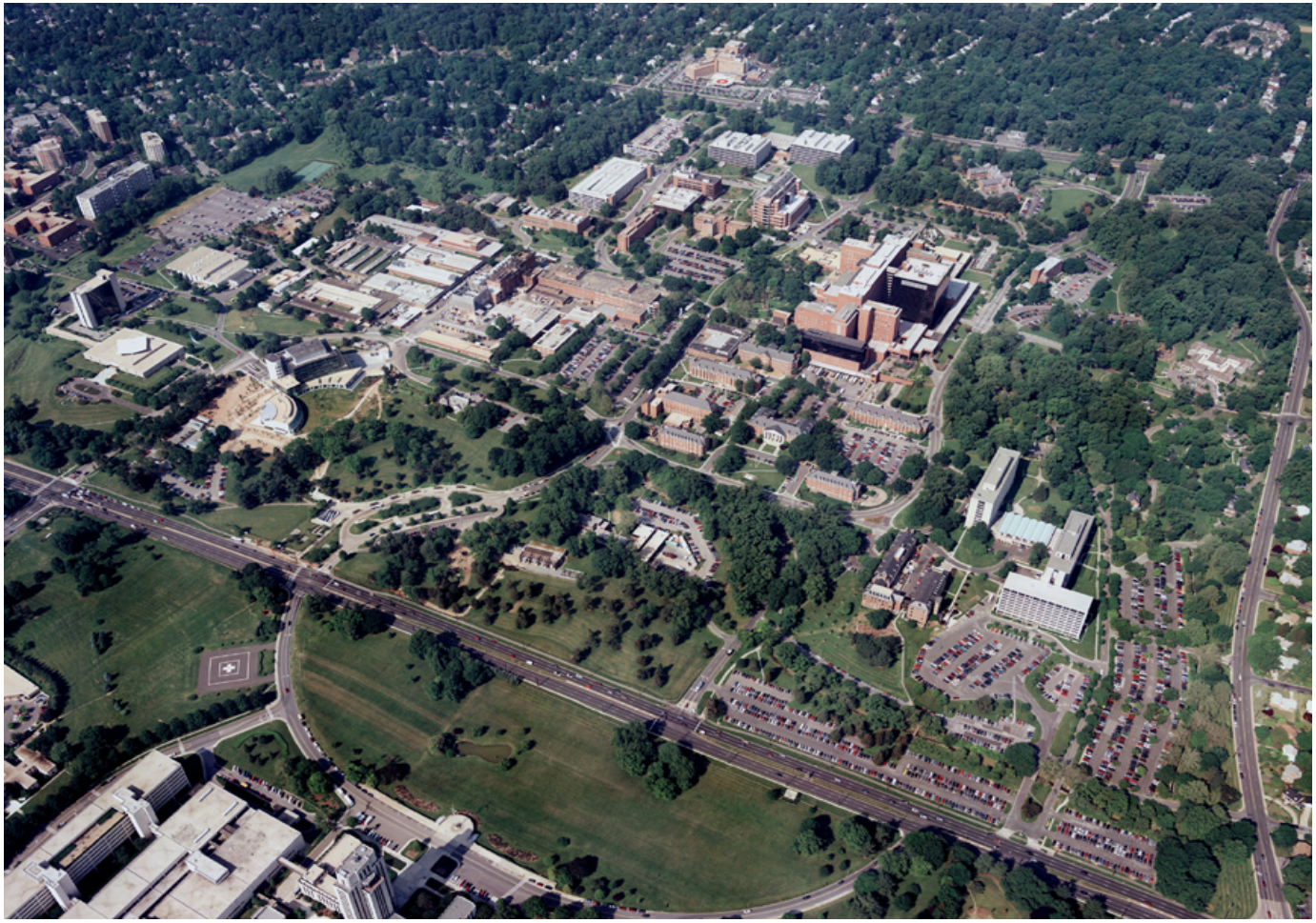
NIDA NATIONAL INSTITUTE ON DRUG ABUSE

NIAAA National Institute on Alcohol Abuse and Alcoholism

Extramural vs Intramural



NIH Intramural Campus



NIH Clinical Center

NIH Clinical Center

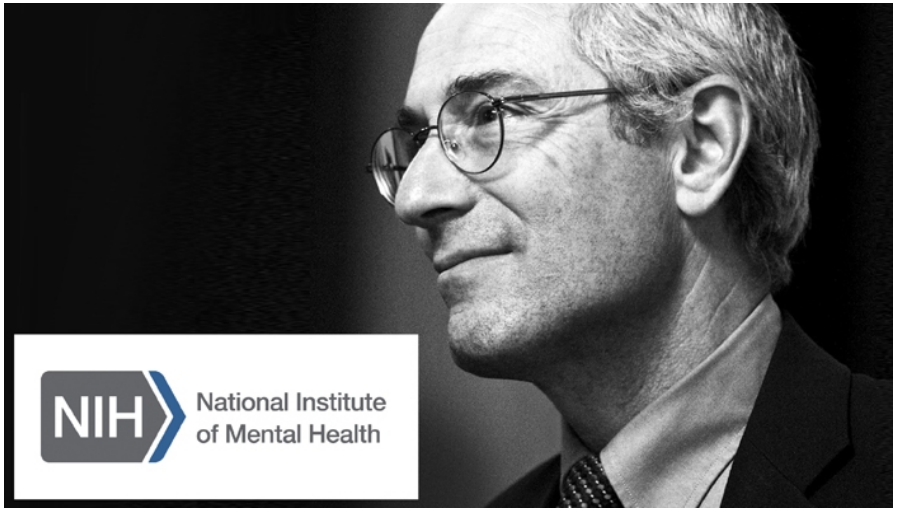
- 240 beds plus day hospital and clinic
- 1,500 clinical protocols
  - Half are first in human trials
- Natural history studies on many rare disorders
  - Undiagnosed diseases program
- No cost to patients to receive care
- Home institution for 18 accredited residency and fellowship programs

NIH Clinical Center Accomplishments

- First chemotherapy for childhood leukemia and Hodgkin's
- First use of AZT for AIDS
- First immunotherapy for cancer (melanoma)
- First RCT of lithium for depression
- State of the art capabilities for highly infectious conditions (Ebola)

NIMH National Institute of Mental Health

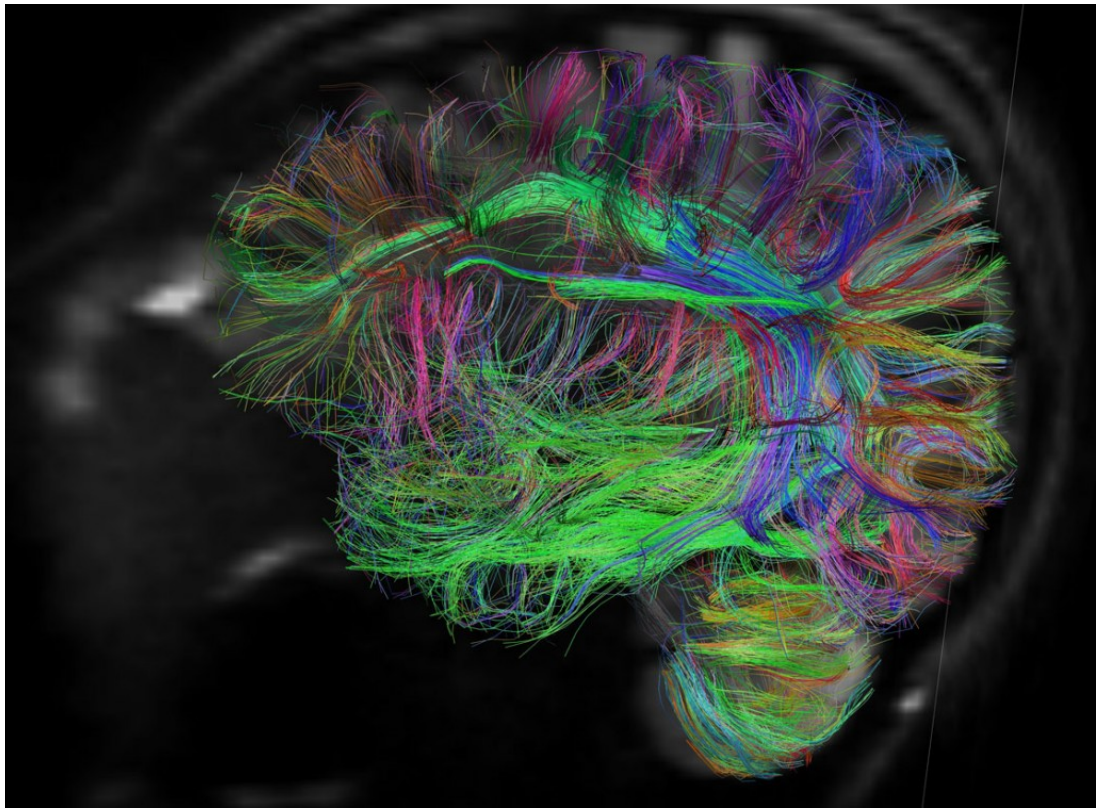
Reducing the burden of mental illness and behavioral disorders through research on mind, brain, and behavior



Mission: To transform the understanding and treatment of mental illnesses through basic and clinical research, paving the way for prevention, recovery and cure.

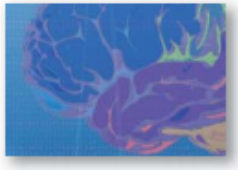
Leadership – Thomas Insel – NIMH Director; Susan Amara – Scientific Director; Maryland Pao – Clinical Director

What does NIMH fund?



Research on brain, behavior, and mental illness

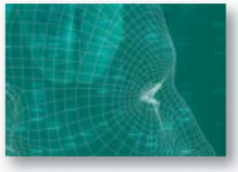
NIMH Strategic Plan



STRATEGIC OBJECTIVE 1

Promote Discovery in the Brain and Behavioral Sciences to Fuel Research on the Causes of Mental Disorders

We will support basic, translational, and clinical research to gain a more complete understanding of the genetic, neurobiological, behavioral, environmental, and experiential factors that contribute to mental disorders.



STRATEGIC OBJECTIVE 2

Chart Mental Illness Trajectories to Determine When, Where, and How to Intervene

We will chart the course of mental disorders over the lifespan in order to understand ideal times and methods for intervention to preempt or treat mental disorders, and hasten recovery.

STRATEGIC OBJECTIVE 3

Develop New and Better Interventions that Incorporate the Diverse Needs and Circumstances of People with Mental Illnesses

We will improve existing approaches and devise new ones for the prevention, treatment, and cure of mental illness, allowing those who may suffer from these disorders to live full and productive lives.

STRATEGIC OBJECTIVE 4

Strengthen the Public Health Impact of NIMH-Supported Research

Through research, evaluation, and collaboration, we will further develop the dissemination capacity of the Institute to help close the gap between the development of new, research-tested interventions and their widespread use by those most in need.

NIMH Research Domain Criteria (RDoC)

Director's Blog: Transforming Diagnosis

Recent Posts

- **Collaborative Care**
  March 3, 2015
- **Mortality and Mental Disorders**
  February 24, 2015
- **Immune to Stress?**
  February 9, 2015
- **Precision Medicine for Mental Disorders**
  February 2, 2015
- **The Ignorance Project**
  January 28, 2015

*By **Thomas Insel** on **April 29, 2013***

In a few weeks, the American Psychiatric Association will release its new edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). This volume will tweak several current diagnostic categories, from autism spectrum disorders to mood disorders. While many of these changes have been contentious, the final product involves mostly modest alterations of the previous edition, based on new insights emerging from research since 1990 when DSM-IV was published. Sometimes this research recommended new categories (e.g., mood dysregulation disorder) or that previous categories could be dropped (e.g., Asperger's syndrome).[1]

The goal of this new manual, as with all previous editions, is to provide a common language for describing psychopathology. While DSM has been described as a "Bible" for the field, it is, at best, a dictionary, creating a set of labels and defining each. The strength of

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Publications by the Directo

Selected publications by NIMH Director Thomas Insel

Science News

NIMH Names Directo
Translational Resear

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Yet, what may be realistically feasible today for practitioners is no longer sufficient for researchers. Looking forward, laying the groundwork for a future diagnostic system that more directly reflects modern brain science will require openness to rethinking traditional categories. It is increasingly evident that mental illness will be best understood as disorders of brain structure and function that implicate specific domains of cognition, emotion, and behavior. This is the focus of the NIMH's Research Domain Criteria (RDoC) project. RDoC is an attempt to create a new kind of taxonomy for mental disorders by bringing the power of modern research approaches in genetics, neuroscience, and behavioral science to the problem of mental illness.

Thomas Insel, NIMH Director

NIDA/NIAAA

- Addiction as primary focus
- Both have extramural and intramural programs
- NIAAA in Bethesda
- NIDA in Baltimore
- Neither offer research training for MDs or medical students

NIMH Mission: Training Implications

- Assumes a well-trained cadre of investigators who conduct research relevant to mental illness

- Physician-scientists are critical to translating neuroscience research into clinical interventions

- Need more psychiatrists to decide to seek research careers during their residency training

NIMH Intramural Research Program

- Emphasis on mechanisms and neurobiology of mental illness
- High-risk, high-reward research
- Longitudinal studies
- 23 adult and 6 child inpatient beds as well as an outpatient clinic
- State-of-the-art imaging center (11 tesla magnet)

NIMH IRP

- Budget is 60% clinical:40% basic
- Notable features:
  - Novel therapeutics
  - Neuroimaging methods and resources
  - Child clinical research

NIMH National Institute of Mental Health

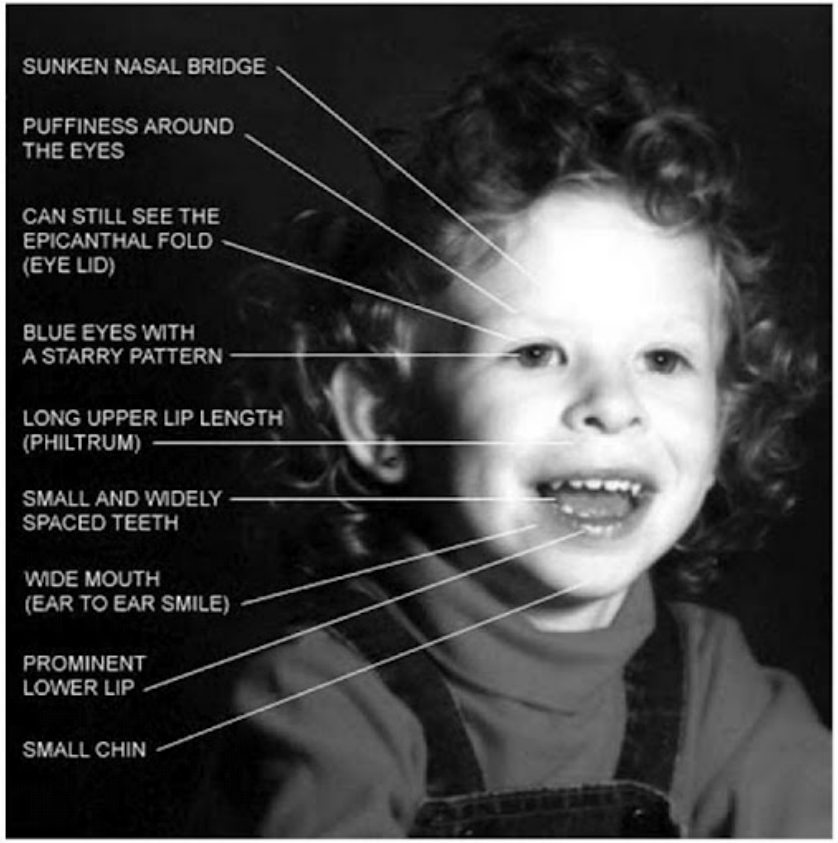
Reducing the burden of mental illness and behavioral disorders through research on mind, brain, and behavior

Carlos Zarate speeds up treatment for major depression.

Karen Berman, MD

Chief, Clinical Translational Neuroscience Branch

Williams Syndrome



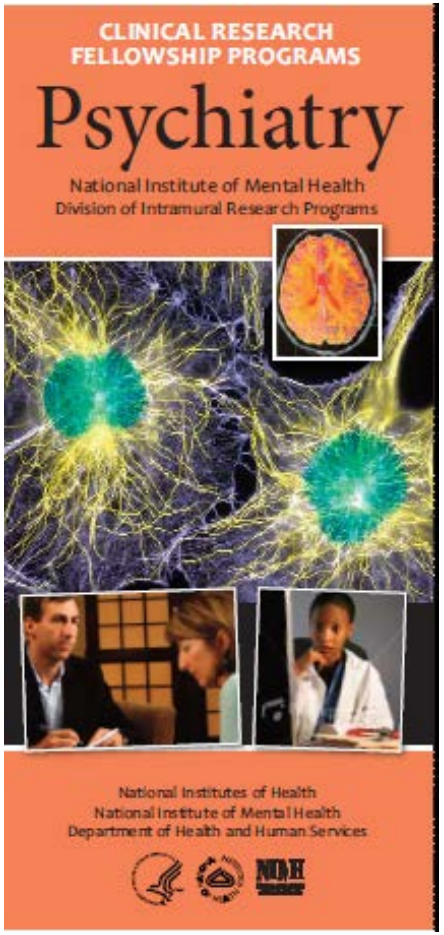
NIMH IRP Educational Programs

- PGY4 Psychiatry Residency Program
- Clinical Fellowship Program
- Residency Elective program
- Medical Student Electives
- Medical Research Scholars Program

Why Research Fellowship Training?

- Most residency programs cannot provide "protected time" for research
- Residency curricula are burdened by ACGME requirements
- Residency is often when trainees discover their primary interests in psychiatry

NIMH PGY4 and Clinical Fellowship



- Started in 1954
- ACGME accredited PGY4 year
- Three-year intensive research training
- Located on Bethesda, Maryland campus of NIH – Intramural Research Program

NIMH Clinical Fellowship Program

- Mentor driven match between a clinical condition, e.g. bipolar disorder, or methodology, e.g. fMRI
- Nearly full-time effort on research activities; minimal clinical duties
- Intramural Loan Repayment Program
- Eligible for K99/R00 grant while a fellow

General Program Information

- Application and interview dates align with other fellowship programs but start dates can be off cycle
- 3-year training period is offered to qualify for NIH IRP Loan Repayment Program (LRP)
- Residents/fellows are hired through Title 42 mechanism (non-FTE) and salaries are by PGY level; MD-PhDs are paid slightly higher
- On call stipend is $5,000 per year

General Program Information

- Fellows and residents develop an Individual Development Plan (IDP) with mentors
- Core training activities include coursework and a weekly seminar
  - Bioethics course
  - Neurobiology of Mental Illness
  - Clinical Research Curriculum Certificate option
- Travel to scientific meetings is provided

Applicant qualifications

- Residents/clinical fellows must come from an ACGME accredited U.S. or RCPS Canadian residency program
- Trainees must have a full U.S. or Canadian medical license in order to be credentialed
- ACGME years can accept J1 visa; other years can transfer H1B visa or similar
- Must identify a research mentor within NIMH IRP
- Research experience varies but applicants generally have a track record of research activity

NIMH IRP Mentors

- 18 different NIMH mentors have trained 41 clinical fellows over the past 10 years
- Mentor characteristics:
  - 44% women (n=8)
  - 28% PhDs (n=5)
  - 50% conduct child research (n=9)

Trainee Demographics

Program	Female (n, %)	Underrepresented Minority (n, %)	Ethnic Minority (n, %)
PGY4 Residency (n=12)	7 (58%)	1 (8%)	7 (58%)
Combined Children's Fellowship (n=3)	2 (67%)	1 (33%)	1 (33%)
NIMH Clinical Fellowship (n=26)	11 (42%)	4 (15%)	11 (42%)
Totals across programs (n=41)	20 (49%)	6 (15%)	19 (46%)

Residency Training

Program	Not local (n, %)	Georgetown (n, %)	GW (n, %)	Hopkins (n, %)	U Maryland (n, %)
PGY4 Residency (n=12)	5 (42%)	3 (25%)	4 (33%)	n/a	n/a
Combined Children's NIMH Fellowship (n=3)	n/a	1 (33%)	1 (33%)	n/a	1 (33%)
NIMH Clinical Fellowship (n=26)	18 (69%)	n/a	n/a	7 (27%)	1 (4%)
Totals across programs (n=41)	23 (56%)	4 (10%)	5 (12%)	7 (17%)	2 (5%)

Trainee Education

Program	MD PhD (n, %)	MD/DO (n, %)*
PGY4 Residency (n=2)	3 (25%)	9 (75%)
Combined Children's NIMH Fellowship (n=3)	1 (33%)	2 (67%)
NIMH Clinical Fellowship (n=26)	6 (23%)	20 (77%)
Totals across programs (n=41)	10 (24%)	31 (76%)

* Some MDs have additional degrees, e.g. MA, JD

Research Electives

- Resident Electives – NIMH IRP can accept trainees from psychiatry residency program for elective rotations; a PLA must be executed between the sending program and NIH CC
- 4th Year Medical Students – electives in adult and child psychopharmacology and psychosomatic medicine are offered; other electives can be arranged, e.g. neuroimaging

Medical Research Scholars Program MRSP)

- One year research enrichment program for medical students (usually bet. 3rd and 4th yr)
- Competitive selection process
- Paired with NIH research mentor in area of interest
- Residential program – housed on NIH campus and receive a stipend
- Eligible to apply for graduate partnership programs (PhD) if desired

NIMH Commitment to Training

- Outstanding Resident Award Program (ORAP) – nomination process to kick off next week
- NIMH Brain Camp – intensive scientific retreat
- R25 grants for research track residencies
- T32 fellowships and individual mentored K award training grants
- Supplements to help MD PhD residents transition to research careers

Brain Camp Demographics

Program	All residents (n=72)	ORAP residents (n=57)	NIMH Fellows (n=41)
Female (n, %)	18 (25%)	12 (21%)	20 (49%)
MD PhD (n, %)	54 (75%)	46 (81%)	10 (25%)
Underrepresented Minority (n, %)	4 (6%)	3 (5%)	6 (15%)
Ethnic Minority (n, %)	20 (28%)	16 (28%)	19 (46%)

Bibliography

Insel T and Quirion R: Psychiatry as a Clinical Neuroscience Discipline. JAMA, volume 294 (17), pp. 2221-2224. November 2, 2005.

Chung J and Insel T: Mind the Gap: Neuroscience Literacy and the Next Generation of Psychiatrists. *Academic Psychiatry*, volume 38(2), pp. 121-123. April 2014.

Chung J and Pao M: Stepping Stones for Psychiatry Residents who Pursue Scientific Research Careers. *International Review of Psychiatry*, volume 25(3), pp 284-290, June 2013.