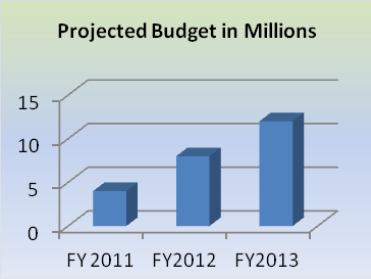
NIH Director's Early Independence Award (EIA) — A Grand Experiment in Catalyzing the Biomedical Workforce

The **NIH Director's Early Independence Award (EIA),** part of the NIH Common Fund's High Risk-High Reward program, is testing a new approach to stimulate the biomedical workforce — by providing the opportunity and resources for exceptional junior scientists to begin making contributions earlier in their career and allowing institutions to invigorate their academic environments by incorporating these young scientists into their departments.



The Common Fund (CF) provided $4 million in FY2011 to establish the first cohort of ten EIA recipients. Each award represents a "match" between a young scientist and a "host" institution. Budgets may be up to $250,000 in direct costs per year for up to 5 years. CF support for the program is expected in FY12-FY13. ICs may support additional awards.

ABOUT THE PROGRAM

Requirements for Young Scientists:

- Evidence of scientific creativity and productivity, leadership ability
- Research plan in area relevant to NIH mission
- Strong letters of recommendation
- Review includes an interview

Requirements for "Host" Institutions:

- Appointment may be contingent upon receipt of award
- Tenure track appointment not required, and in fact, not encouraged; pressure from a tenure "clock" may be a disadvantage
- Must integrate candidate into local scientific community, provide adequate resources, and allow scientific independence

MANAGEMENT

- "OD" awards managed by the Office of Strategic Coordination (OSC)/DPCPSI
- Grants management by NIDCR for OSC
- IC-specific "Associate Program Officer" with relevant expertise
- Host/Scientist "site visit" in year 1

EVALUATION

- Evaluation by independent consultant
- Process evaluation in first few years of award
- Outcome evaluation to assess output/impact
- Evaluations to inform program and transition to ICs

FY2011 NIH Director's EIA Recipients

Nicole E. Basta, Ph.D.
University of Washington
Antibody persistence after conjugate meningococcal group A vaccination in Mali

Christoph Lepper, Ph.D.
Carnegie Institute of Washington, DC
Molecular mechanisms of muscle stem cells transitioning to quiescence

John Calarco, Ph.D.
Harvard University
Investigating the role of alternative splicing regulatory networks in nervous system development and function

Carissa Perez Olsen, Ph.D.
Fred Hutchinson Cancer Research Center
Defining the impact of lipid synthesis and turnover on aging in C. elegans

James S. Fraser, Ph.D.
University of California, San Francisco
The impact of mutation on the conformations and recognition of ubiquitin

Rodney C. Samaco, Ph.D.
Baylor College of Medicine
The genetic and neuroanatomical origin of social behavior

Randall Halfmann, Ph.D.
University of Texas SW Medical Center
Contributions of protein aggregation to gene regulation and phenotypic diversity

Harris H. Wang, Ph.D.
Harvard University Medical School
Functional metagenomic reprogramming of the human microbiome through microbilome engineering

Jeffrey M. Kidd, Ph.D.
University of Michigan
Characterizing the global architecture of genomic diversity

Daniela Witten, Ph.D.
University of Washington
High-dimensional unsupervised learning with applications to genomics

(More about the FY2011 EIA Scientists on reverse side)

The NIH Common Fund

NATIONAL INSTITUTES OF HEALTH

NIH Director's Early Independence Award Scientists

Nicole E. Basta, Ph.D., University of Washington
Antibody persistence after conjugate meningococcal group A vaccination in Mali
Dr. Basta aims to understand the transmission dynamics of infectious diseases, to assess the direct and indirect effects of vaccination, and to determine optimal strategies for disease prevention and control. IC Associate Program Officer: Dr. Chris Taylor, NIAID

John Calarco, Ph.D., Harvard University
Investigating the role of alternative splicing regulatory networks in nervous system development and function
Dr. Calarco is studying how alternative pre-mRNA splicing, a key gene regulatory step in metazoans, contributes to development and function of the nervous system. He has applied numerous genome-wide and directed approaches to investigate this topic, resulting in several interesting observations regarding the evolution and impact of alternative splicing regulation in the nervous system. IC Associate Program Officer: Bob Riddle, NIDDK

James S. Fraser, Ph.D., University of California, San Francisco
The impact of mutation on the conformations and recognition of ubiquitin
Dr. Fraser has developed new experimental and computational methods to investigate protein conformational dynamics by X-ray crystallography. In his EIA project, he is focusing on the role of protein motions in catalysis, ligand binding, and allostery. IC Associate Program Officer: Ward Smith, NIGMS

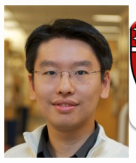
Randal Halfmann, Ph.D., University of Texas Southwest Medical Center
Contributions of protein aggregation to gene regulation and phenotypic diversity
Dr. Halfmann has been exploring the ability of certain proteins to form protein-based elements of inheritance, or prions. In his EIA project, he is expanding this work to elucidate the contributions of prion-like protein aggregation to gene regulation and phenotypic diversity. IC Associate Program Officer: Janna Wehrle, NIGMS

Jeffrey M. Kidd, Ph.D., University of Michigan
Characterizing the global architecture of genomic diversity
Dr. Kidd has characterized genomic structural variation among humans, giving insight into the mutational mechanisms that alter the content and organization of the human genome. For his EIA project, he is applying approaches from genomics and population genetics to understand how the past history of human populations impacts the variation observed around the world today. IC Associate Program Officer: Donna Krasnewich, NIGMS

Christoph Lepper, Ph.D., Carnegie Institute of Washington, DC
Molecular mechanisms of muscle stem cells transitioning into quiescence
Dr. Lepper has discovered that adult quiescent muscle stem cells undergo a previously unknown developmental transition from their embryonic and neonatal active muscle progenitors, and consequently differ in their genetic requirements. He will continue elucidating the molecular mechanisms underlying this fundamental maturation of muscle stem cells with his EIA project. IC Associate Program Officer: Amanda Boyce, NIAMS

Carissa Perez Olsen, Ph.D., Fred Hutchinson Cancer Research Center
Defining the impact of lipid synthesis and turnover on aging in C. elegans
Dr. Olsen has been studying the genetic regulation of *de novo* fatty acid synthesis. In her EIA project, she is seeking to define how genetic regulation of membrane composition influences membrane aging. IC Associate Program Officer: David Finkelstein, NIA

Rodney C. Samaco, Ph.D., Baylor College of Medicine
The genetic and neuroanatomical origin of social behavior
Dr. Samaco has been focusing on understanding the role of the transcriptional modulator, MeCP2, in the regulation of molecular pathways underlying the neuropsychiatric features of Rett syndrome and related disorders. With his EIA project, he is focusing on studying the key neuroanatomical and molecular determinants of social behavior using mouse models of autism spectrum disorders. IC Associate Program Officer: Andrea Beckel-Mitchener, NIMH



Harris H. Wang, Ph.D., Harvard University Medical School
Functional metagenomic reprogramming of the human microbiome through mobilome engineering
Dr. Wang is developing foundational technologies in genome engineering to rapidly program cells of the human microbiome with new traits. IC Associate Program Officer: Bob Karp, NIDDK

Daniela Witten, Ph.D., University of Washington
High-dimensional unsupervised learning with applications to genomics
Dr. Witten is developing statistical tools for the analysis of large-scale biological data sets, such as gene expression, DNA copy number, and DNA sequencing data. IC Associate Program Officer: Peter Good, NHGRI

Visit http://commonfund.nih.gov/earlyindependence/ for more information