Department of Defense
US Army Medical Research and Materiel Command

Fiscal Year 2004 (FY04)
Neurofibromatosis Research Program (NFRP)
Funded Awards List

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Introduction

The US Army Medical Research and Materiel Command (USAMRMC) is pleased to present the awards list of funded projects for the fiscal year 2004 (FY04) Neurofibromatosis Research Program (NFRP). Award negotiations were completed on September 30, 2005. The awards listed in this document were selected in a competitive, two-tier review process. Funding decisions were based on evaluations of scientific excellence in the first tier, followed by determinations of programmatic relevance in the second tier. These projects represent a diverse portfolio of scientific research directed toward the program's overall goal of promoting studies toward the understanding, diagnosis, and treatment of neurofibromatosis (NF) and the related disorder Schwannomatosis, as well as the enhancement of the quality of life for persons with those diseases.

Congressional direction for FY04 specified $20 million for NF research. Following the receipt of funds, a programmatic strategy was developed, proposals were solicited and evaluated, award recommendations were made, and contract negotiations were completed. A total of 20 awards was made.

The FY04 programmatic strategy called for Concept, New Investigator, Investigator-Initiated Research (with or without Nested Postdoctoral Traineeships), Therapeutic Development, Clinical Trial Development, and Clinical Trial Awards. The Concept Award, offered for the first time in FY04, is designed to fund the exploration of untested, high-risk questions or theories that could give rise to testable hypotheses. The intent of the New Investigator Award is to help investigators at early stages of their careers become established in NF research. Concept Awards and New Investigator Awards do not require preliminary or pilot data. The intent of the Investigator-Initiated Research Award is to sponsor research that will elucidate the molecular mechanisms underlying the development of NF and related diseases and improve current approaches to the diagnosis and/or treatment of those diseases. Nested Postdoctoral Traineeships, offered as an optional component of the Investigator-Initiated Research Award, are intended to enable doctoral degree graduates to either extend ongoing research related to NF or broaden the scope of their research to include work relevant to NF. The intent of the Therapeutic Development Award is to sponsor the development of therapeutic agents and tools for their evaluation in preclinical model systems of NF1, NF2, and/or Schwannomatosis. The Clinical Trial Development Award is designed to provide support to establish the necessary collaborations and develop the necessary infrastructure for the foundation of a multi-institutional NF- or Schwannomatosis-related clinical trial. The Clinical Trial Award is intended to sponsor clinical studies that determine the toxicity (Phase 1) or investigate the efficacy (Phase 2) of any novel therapeutic approach for NF1, NF2, and/or Schwannomatosis.

As the funded investigators embark on these projects, the Department of Defense and the US Army gratefully acknowledge the participation of their scientific, clinical, and consumer advisors. The expertise, vision, and diversity of perspective of all individuals who contributed to this program were vital to developing a sound investment strategy on behalf of all persons affected by NF and Schwannomatosis. It is with great anticipation and excitement that we await the outcomes of this body of research.

Concept Awards

Log Number	PI Last Name	PI First Name	PI Institution	Proposal Title	Final Budget
NF043061	Sherman	Larry	Oregon National Primate Research Center	c-Met Induction in the Hippocampus of NF1-Null Mice	$100,000
NF043067	Kirschner	Lawrence	The Ohio State University	Protein Kinase A and Its Role as a Mediator of Both NF1 and NF2-Associated Schwann Cell Tumorigenesis	$100,000
NF043070	Ding	Vivianne	University of California, San Francisco	An Essential Function of the N-Terminus of Ira/Neurofibromin	$99,995
NF043080	Chen	Mingkui	University of Maryland School of Medicine	Potassium Channels in Neurofibromatosis-1	$100,000
NF043084	Yu	Qin	University of Pennsylvania	Merlin Exerts Its Tumor Suppressor Function by Inhibiting the Intracellular Cleavage of E-Cadherin	$100,000
NF043102	Scheffzek	Klaus	European Molecular Biology Laboratory	Large-Scale Isolation of Full-Length Neurofibromin from the Fruit Fly Drosophila Melanogaster	$100,000
NF043103	Schmale	Michael	University of Miami	Development of a Zebrafish Model of NF1	$99,995
NF043107	Mattingly	Raymond	Wayne State University	Does Subcellular Re-localization Control Neurofibromin Function?	$100,000
NF043126	Tiffany-Castiglioni	Evelyn	Texas Agricultural Experiment Station	The Function of Neurofibromin in Astrocytes	$100,000

Investigator-Initiated Research Awards

Log Number	PI Last Name	PI First Name	PI Institution	Proposal Title	Final Budget
NF043008	Carpen	Olli	University of Helsinki	Novel Molecular Interactions and Biological Functions of the Neurofibromatosis 2 Tumor Suppressor Protein, Merlin	$630,000
NF043015	Pulst	Stefan	Cedars-Sinai Medical Center	Mouse Models of Hrs-Nf2 Interaction	$1,035,244
NF043040	McClatchey	Andrea	Massachusetts General Hospital	Molecular Function of the NF2 Tumor Suppressor, Merlin	$830,034
NF043043	Ip	Wallace	University of Cincinnati College of Medicine	Regulation of Merlin Function	$1,446,167
NF043050	Shannon	Kevin	University of California, San Francisco	Preclinical Mouse Models of Neurofibromatosis	$4,501,783
NF043064	Cichowski	Karen	Brigham and Women's Hospital	Elucidating the Role of Phosphorylation in NF1 Tumor Suppressor Function	$799,983
NF043090	Zhong	Yi	Cold Spring Harbor Laboratory	Functional Analysis of Human NF1 in Drosophila	$1,338,044
NF043115	Kurtz	Andreas	Robert Koch-Institute	Identification of Surrogate Serum Markers for Tumors in NF-1	$586,743

New Investigator Awards

Log Number	PI Last Name	PI First Name	PI Institution	Proposal Title	Final Budget
NF043019	Ingram	David	Indiana University	Function of Neurofibromin in Endothelial Cells	$677,250
NF043032	Yang	Feng-Chun	Indiana University	Identification of the Biochemical Mechanisms Underlying the Pathological Increase in de Novo Cytokine Production in Murine Nf1+/- and Human NF1 Mast Cells	$677,250
NF043037	Peterson	Jeffrey	Institute for Cancer Research	High Throughput Screening for Allosteric, Chemical Inhibitors of Pak1	$500,000

Fiscal Year 2004 Neurofibromatosis Research Program
Peer Reviewers

Peer Reviewers	Degree	Institution/Affiliation
Ahn, Chul	Ph.D.	University of Texas Medical School at Houston
Avgeropoulos, Nicholas	M.D.	Florida Hospital
Baraban, Scott	Ph.D.	University of California, San Francisco
Bidichandani, Sanjay	M.D., Ph.D.	University of Oklahoma Health Sciences Center
Bissler, John	M.D.	Cincinnati Children's Hospital Medical Center
Carpenter, Philip	M.D.	University of California, Irvine
Carroll, William	M.D.	New York University-Mount Sinai
Chugani, Diane	Ph.D.	Wayne State University, Children's Hospital of Michigan
Curtis, Mary	M.D.	University of Arkansas for Medical Sciences
Derewenda, Zygmunt	Ph.D.	University of Virginia
Fernandez-Valle, Cristina	Ph.D.	University of Central Florida
Field, Jeffrey	Ph.D.	University of Pennsylvania School of Medicine
Gambello, Michael	M.D., Ph.D.	University of Texas Medical School at Houston
Greenwood, Robert	M.D.	University of North Carolina School of Medicine
Helekar, Santosh	M.D., Ph.D.	Baylor College of Medicine
Ingram, David	M.D.	Indiana University School of Medicine
Kaminski, Henry	M.D.	Case Western Reserve University
King, Peter	M.D.	University of Alabama at Birmingham
Kwiatkowski, David	M.D., Ph.D.	Brigham and Women's Hospital
Lessing, Miguel		Neurofibromatosis, Inc.
Luo, Guangbin	Ph.D.	Case Western Reserve University
Mahacek, Rhonda		Neurofibromatosis, Inc.
Mastbaum, Celia		Tuberous Sclerosis Alliance
Miller, Douglas	M.D., Ph.D.	New York University School of Medicine
Moore, Bartlett	Ph.D.	University of Texas MD Anderson Cancer Center
Newburgh, M. Janet	Ph.D.	Scientific Review Administrator
Parker, Sandra		Texas Neurofibromatosis Foundation
Reilly, Karlyne	Ph.D.	NCI-Frederick
Rizvi, Tilat	Ph.D.	University of Cincinnati
Rojiani, Amyn	M.D., Ph.D.	USF-H Lee Moffitt Cancer Center and Research Institute
Shad, Aziza	M.D.	Georgetown University Hospital, Lombardi Cancer Center

Peer Reviewers	Degree	Institution/Affiliation
Sheffield, Patrick		Tuberous Sclerosis Alliance
Sherman, Lawrence	Ph.D.	Oregon Health Sciences University
Short, Marion Priscilla		The National Neurofibromatosis Foundation
Sims, Katherine	M.D.	Massachusetts General Hospital and Harvard Medical School
Singh, Karan	Ph.D.	University of North Texas Health Science Center
Stern, Michael	Ph.D.	Rice University
Stonberg, Naomi		Neurofibromatosis, Inc. New England
Stubbs, John	Ph.D.	Howard University College of Medicine
Viskochil, David	M.D., Ph.D.	University of Utah
Vogel, Kristine	Ph.D.	University of Texas Health Science Center at San Antonio
Welling, D. Bradley	M.D., Ph.D.	The Ohio State University
Zubairi, Yameen	Ph.D.	Scientific Review Administrator

Fiscal Year 2004 Neurofibromatosis Research Program
Integration Panel Members

IP Reviewers	Degree	Institution/Affiliation
Adamson, Peter	M.D.	University of Pennsylvania School of Medicine
Bellermann, Peter	M.P.A.	The National Neurofibromatosis Foundation, Inc.
Duffy, Brenda	M.A.	Neurofibromatosis, Inc.
Finkelstein, Robert	Ph.D.	National Institute of Neurological Disorders and Stroke
Fisher, Nancy	R.N., M.D., M.P.H.	Washington State Health Care Authority
Gibbs, Jackson (Chair-Elect)	Ph.D.	Merck Research Laboratories
Johnson, William	M.D.	University of Medicine and Dentistry of New Jersey, Robert Wood Johnson Medical School
Korf, Bruce (Chair)	M.D., Ph.D.	University of Alabama, Birmingham
Legius, Eric	M.D., Ph.D.	Catholic University of Leuven, Belgium
Perry, Arie	M.D.	Washington University School of Medicine
Poussaint, Tina Young	M.D.	Harvard Medical School
Small, Judy (Chair Emeritus)	Ph.D.	The National Neurofibromatosis Foundation, Inc.

Fiscal Year 2004 Neurofibromatosis Research Program
Ad Hoc Members

Ad Hoc Reviewers	Degree	Institution/Affiliation
Cichowski, Karen	Ph.D.	Harvard Medical School
Coffin, Cheryl	M.D.	University of Utah
Epstein, Jonathan	M.D.	University of Pennsylvania School of Medicine
Terrill, Robert	M.D.	The Texas Neurofibromatosis Foundation

Glossary of Terms

Clinical Trial Award: The intent of this award mechanism is to sponsor clinical studies that determine the toxicity (Phase 1) or investigate the efficacy (Phase 2) of any novel therapeutic approach for neurofibromatosis (NF) 1, NF2, or Schwannomatosis. Proposals must include preliminary data, a clinical protocol, consent/assent forms, and detailed clinical trial management plans. The ultimate goal of this award mechanism is to sponsor novel research that will substantially improve today's approach to the treatment and management of NF1, NF2, and/or Schwannomatosis.

Clinical Trial Development Award (CTDA): The intent of this award mechanism is to provide support to establish the necessary collaborations and develop the necessary infrastructure, including a coordination core, for the foundation of a multi-institutional NF- or Schwannomatosis-related clinical trial. The goal of the CTDA is the development of clinical trials with the potential to have a major impact on the treatment of NF1, NF2, and/or Schwannomatosis. Applicants from all academic levels are eligible to submit proposals. Products of the CTDA mechanism include a detailed clinical trial protocol and a Clinical Trial Award submission in the following fiscal year (pending receipt of funds by the Neurofibromatosis Research Program).

Concept Award: The intent of this award mechanism is to fund the exploration of an initial concept or theory that could give rise to a testable hypothesis. This award is intended to encourage the exploration of untested, high-risk questions relevant to NF1, NF2, and/or Schwannomatosis and is not intended to support the next step in an established research project. Presentation of preliminary data is not consistent with the intent of this mechanism. Concepts from complementary areas of science such as chemistry, biophysics, mathematics, and engineering are encouraged as are research proposals involving consumer-scientist collaborations.

Investigator-Initiated Research Award: The intent of this award mechanism is to sponsor basic and clinical research that will (1) provide insight into the molecular mechanisms underlying the development of NF and related diseases; (2) result in substantial improvement(s) over today's approach to the diagnosis and treatment of NF1, NF2, and/or Schwannomatosis; and (3) enhance the quality of life for persons with those diseases. These awards are intended to fund independent investigators across a broad spectrum of disciplines. Preliminary data relevant to NF or Schwannomatosis research, as well as a clear statistical plan of analysis, are required for these awards. Nested Postdoctoral Traineeships are offered as an optional part of the Investigator-Initiated Research Award. The intent of the Nested Postdoctoral Traineeship is to enable doctoral degree graduates to either extend ongoing research related to NF or broaden the scope of their research to include work relevant to NF under the guidance of a designated mentor who is participating in the proposal.

New Investigator Award: The intent of this award mechanism is to help investigators at early stages of their careers become established NF researchers. This research may represent a new paradigm, challenge existing paradigms, or look at an existing problem from a new perspective. A new investigator is defined as an independent investigator below the level of associate professor (or equivalent) with access to appropriate research facilities. Preliminary or pilot data are not required for this award mechanism.

Therapeutic Development Award: The intent of this award mechanism is to sponsor the development of therapeutics and tools for their evaluation in preclinical model systems of NF1, NF2, and/or Schwannomatosis. The overall goal of this award mechanism is to allow investigators to develop the means to analyze preclinical efficacy of novel and existing agents and/or to generate the preclinical data necessary to conduct clinical trials after completion of the proposed research. The proposed studies are expected to be empirical in nature and product-driven, but may have a hypothesis-driven approach provided the focus is on therapeutics. It is anticipated that the agents, model systems, or data generated from these awards will lead to the advancement of therapeutics novel to NF1, NF2, and/or Schwannomatosis and to the development of a broad platform on which to test future therapies. Submissions from multi-institutional consortia and from biotechnology and pharmaceutical companies are encouraged. Preliminary data relevant to NF/Schwannomatosis and the proposed project are required.