Department of Defense

Neurofibromatosis Research Program

1999 Awards Book

September 2000

Headquarters, U.S. Army Medical Research and Materiel Command
MCMR-PLF, 1077 Patchel Street
Fort Detrick, Maryland 21702-5024

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INTRODUCTION

The U.S. Army Medical Research and Materiel Command is pleased to present the award list of funded projects for the fiscal year 1999 (FY99) Neurofibromatosis Research Program. Award negotiations were completed on September 30, 2000. The awards listed in this document were selected by a competitive two-tiered review process. Funding decisions were based upon scientific excellence evaluated in the first tier of review, followed by programmatic relevance judged 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, as well as the enhancement of the quality of life for persons with the disease.

Congressional direction for FY99 specified $11.5 million for neurofibromatosis research. Following the receipt of funds, a programmatic strategy was developed, proposals were solicited and evaluated, and award recommendations were made. The FY99 programmatic strategy called for Idea Awards, New Investigator Awards (NIAs), Investigator-Initiated Research Awards (with or without Nested Postdoctoral Traineeships), and Clinical Trial Awards (CTAs). Idea Awards are intended to encourage innovative approaches to neurofibromatosis research. The intent of the NIAs is to prepare new, independent investigators for careers in neurofibromatosis and to attract established investigators new to the neurofibromatosis field. Idea awards and NIAs do not require preliminary or pilot data. The intent of the Investigator-Initiated Research Awards is to sponsor basic research leading to clinical trials relevant to neurofibromatosis. CTAs are intended to sponsor clinical pharmacologic or gene therapy clinical trials that focus on novel therapeutic approaches to the treatment of NF1 or NF2. A total of 21 studies was funded.

As the funded scientists embark on these projects, the U.S. Army gratefully acknowledges the participation of their scientific advisors, people living with neurofibromatosis, and the neurofibromatosis advocacy community. The expertise, vision, and diversity of perspectives of all individuals who contributed to this program were vital to developing a sound investment strategy on behalf of all persons living with neurofibromatosis. It is with great anticipation and excitement that we await the outcomes of this research.

FY99 Neurofibromatosis Research Program

FUNDED AWARDS

FY99 Neurofibromatosis Research Program

Idea Awards

Log Number	Principal Investigator		Institution	Award Amount	Proposal Title
	Last Name	First Name			
NF990003	Bannerman	Peter	Children's Hospital, Philadelphia	$175,000	The Functional Role(s) of Neurofibromin during Neural Crest Cell Development
NF990027	Barald	Kate	Michigan, University of	$293,290	Role of the Neurofibromatosis 1 Gene in Neuronal Development and Survival
NF990015	Bernards	Andre	Massachusetts General Hospital	$341,849	DNA Repair and Checkpoint Genes as NF1 Modifiers
NF990036	Jaaskelainen	Juha	Helsinki, University of	$127,797	Boron Neutron Capture Therapy (BNCT) of Schwannomas and Meningiomas in Severe Form of Neurofibromatosis-2 (NF2): A Feasibility Study
NF990008	Kurtz	Andreas	Massachusetts General Hospital	$309,760	Mitochondrial Polymorphism in Neurofibromatosis Type 1
NF990020	Sherman	Larry	Cincinnati, University of	$274,774	Role of CD44 in Malignant Peripheral Nerve Sheath Tumor Growth and Metastasis

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New Investigator Awards

Log Number	Principal Investigator		Institution	Award Amount	Proposal Title
	Last Name	First Name			
NF990044	Cutting	Laurie	Kennedy Krieger Institute	$469,078	Magnetic Resonance Spectroscopy Imaging and Functional Magnetic Resonance Imaging of Neurofibromatosis Type 1: in Vivo Pathophysiology, Brain-Behavior Relationships, and Reading Disabilities
NF990040	Foster	Rosemary	Massachusetts General Hospital	$384,750	Functional Analysis of Neurofibromin: Clues from *Drosophila* Applied to Mammalian Systems
NF990038	Joe	Harry	British Columbia, University of	$199,001	Statistical Methods for Analysis of NF Clinical Data
NF990035	Mattingly	Raymond	Wayne State University	$285,300	Signal Transduction Targets for Pharmacological Intervention in Type 1 Neurofibromatosis
NF990022	Scheffzek	Klaus	European Molecular Laboratory	$345,000	Structure-Based Investigation of Neurofibromin Functions
NF990033	Scoles	Daniel	Cedars-Sinai Medical Center	$453,458	Characterization of Schwannomin Role in Protein Translation
NF990001	Shields	Janiel	North Carolina, University of, Chapel Hill	$225,222	Aberrant Gene Expression in NF1-Mediated Oncogenesis

FY99 Neurofibromatosis Research Program

Investigator-Initiated Research Awards with a Nested Postdoctoral Traineeship

Log Number	Principal Investigator		Institution	Award Amount	Proposal Title
	Last Name	First Name			
NF990010	Dumanski	Jan P.	Uppsala, University of	$1,208,524	Identification of Elements Controlling the Expression of the NF2 Gene and Analysis of Candidates for the Neurofibromatosis Type 2 Modifier Gene
NF990024	Rodenhiser	David	London Regional Cancer Centre	$199,379	Transcriptional Regulation and Targeting of NF1 Gene Expression
NF990031	Stephens	Karen	Washington, University of	$762,231	Genetic Factors That Affect Tumorigenesis in NF1

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Investigator-Initiated Research Awards without a Nested Postdoctoral Traineeship

Log Number	Principal Investigator		Institution	Award Amount	Proposal Title
	Last Name	First Name			
NF990013	Breakefield	Xandra	Massachusetts General Hospital	$1,009,421	Preclinical Evaluation of Gene Therapy for NF2 Lesions in Mouse Models Using Amplicon Vectors and Prodrug Activation
NF990043	Carpen	Olli	Helsinki, University of	$535,896	Molecular Interactions and Biological Functions of Merlin -- Parallels and Differences in Comparison to the ERM Protein Ezrin
NF990047	Muir	David	Florida, University of	$475,670	NF1 Tumor-Specific Therapeutic Modeling
NF990007	North	Kathryn	The New Children's Hospital	$117,325	Profile of the Neurofibromatosis Type 1 (NF1) Phenotype: Natural History, Neuropsychological, and Psychosocial Aspects
NF990018	Shannon	Kevin	California, University of, San Francisco	$1,250,000	Preclinical Mouse Models of Neurofibromatosis

FY99 Neurofibromatosis Research Program Participants

FY99 Neurofibromatosis Research Program Peer Reviewers

Peer Reviewer	Degree	Institution/Affiliation
Ahn, Chul	Ph.D.	Clinical Epidemiology/Internal Medicine, University of Texas Health Sciences Center
Barald, Kate	Ph.D.	Department of Anatomy and Cell Biology, University of Michigan Medical School
Brem, Steven	M.D.	Neuro-Oncology, H. Lee Moffit Cancer Center
Brown, Truman	Ph.D.	Department of Nuclear Magnetic Resonance, Fox Chase Cancer Center
Clapp, D. Wade	M.D.	Department of Pediatrics, Microbiology, and Immunology, Indiana University School of Medicine
Duffy, Brenda	M.A.	Neurofibromatosis , Inc.
Fehon, Richard	Ph.D.	Department of Zoology/Developmental, Cell, and Molecular Biology, Duke University
Feldman, Doreen		Member of Neurofibromatosis, Inc.
Fernandez-Valle, Cristina	Ph.D.	Department of Molecular Biology and Microbiology, University of Central Florida
Fisch, Gene	Ph.D.	Biostatistics, Epidemiology, and Public Health, Yale University
Gobel, Stephen	D.D.S.	Executive Secretary
Gutmann, David	M.D., Ph.D.	Department of Neurology, Washington University
Haber, Roberta	Ph.D.	Executive Secretary
Kurtz, Andreas	Ph.D.	Department of Neurosurgery, Georgetown University Lombardi Cancer Center
MacCollin, Mia	M.D.	Neuroscience Center, Massachusetts General Hospital East
Mangoura, Dimitra	M.D., Ph.D.	Department of Pediatrics, University of Chicago School of Medicine
Moore, Bartlett	Ph.D.	Division of Pediatrics, University of Texas M. D. Anderson Cancer Center
Mulvihill, John	M.D.	Section of Genetics, Children's Hospital
O'Day, Michie Stovall		National Neurofibromatosis Foundation
Parada, Luis	Ph.D.	Center for Developmental Biology, University of Texas Southwestern Medical Center
Price, Kathryn Lynn		Illinois Neurofibromatosis, Inc.
Redpath, John Leslie	Ph.D.	Department of Radiation Oncology, University of California at Irvine
Robison, Leslie	Ph.D.	University of Minnesota

Peer Reviewer	Degree	Institution/Affiliation
Rouleau, Guy	M.D., Ph.D.	Department of Neurology, Montreal General Hospital/McGill University
Rutkowski, Julia Lynn	Ph.D.	Neurology Research Labs, Children's Hospital of Philadelphia
Scoles, Daniel	Ph.D.	Neurogenetics Laboratory, Cedars-Sinai Medical Center/University of California at Los Angeles School of Medicine
Skuse, Gary	Ph.D.	Department of Biological Sciences, Rochester Institute of Technology
Taylor, June	Ph.D.	Department of Diagnostic Imaging, St. Jude Children's Research Hospital
Van Meir, Erwin	Ph.D.	Winship Cancer Center, Emory University
Viskochil, David	M.D., Ph.D.	Department of Pediatrics, University of Utah
Welling, Duane Bradley	M.D.	Department of Otolaryngology, Ohio State University

FY99 Neurofibromatosis Research Program Integration Panel (IP) Members

IP Member	Degree	Institution/Affiliation
Adamson, Peter	M.D.	Division of Clinical Pharmacology and Therapeutics, Children's Hospital of Philadelphia
Bellermann, Peter		The National Neurofibromatosis Foundation
Copeland, Neal	Ph.D.	Mammalian Genetics Laboratory, National Cancer Institute, Frederick Cancer Research Center
Fischbeck, Kurt	M.D.	Neurogenetics Branch, National Institutes of Health, National Institute of Neurological Disorders and Strokes
Gusella, James (Chair Emeritus)	Ph.D.	Molecular Neurogenetics Unit, Massachusetts General Hospital East
Hall, Zach	Ph.D.	Research, University of California, San Francisco
Murray, Robert, Jr.	M.D.	Division of Medical Genetics, Department of Pediatrics and Child Health, Howard University College of Medicine
Pleasure, David (Chair)	M.D.	Neurology and Neuroscience Research, The Children's Hospital of Philadelphia
Rubenstein, Allen	M.D.	Mount Sinai Neurofibromatosis Research and Treatment Center, Department of Neurology, Mount Sinai Hospital
Vézina, Louis-Gilbert	M.D.	Department of Diagnostic Imaging and Radiology and the Pediatric Imaging Center, Children's National Medical Center
Wilson, Mary Ann		Neurofibromatosis, Inc.

GLOSSARY OF TERMS

Glossary of Terms

Idea Award: The intent of this award mechanism is to encourage innovative approaches to neurofibromatosis research. These proposals may represent a new paradigm in the study of neurofibromatosis, challenge existing paradigms, or look at an existing problem from a new perspective. The proposed studies may be untested, but have a high probability of revealing new avenues of investigation. Although this research is inherently risky in nature, the research plan must demonstrate solid scientific judgment and rationale. Preliminary or pilot data is not required for this award mechanism.

***New Investigator Award*:** The intent of this award mechanism is to prepare new, independent investigators (Assistant Professor or equivalent with no more than 6 years of experience in the field of neurofibromatosis) for careers in neurofibromatosis and to present an opportunity to attract established investigators new to the neurofibromatosis field. The proposed studies may be untested, but have a high probability of revealing new avenues of investigation. Although this research is inherently risky in nature and does not require preliminary or pilot data, these proposals nonetheless should be based on a sound scientific rationale that is established through critical review and analysis of the literature and/or logical reasoning.

Investigator-Initiated Research Award: The intent of this award mechanism is to sponsor basic research leading to clinical trials relevant to neurofibromatosis. These grants are intended to fund independent investigators (at least Assistant Professor or equivalent) across a broad spectrum of disciplines for up to 3 years. Preliminary data is required for these awards. Nested Postdoctoral Traineeships are being offered as an optional part of Investigator-Initiated Research Award proposals. The intent of the Nested Postdoctoral Traineeship is to enable doctoral degree graduates to either extend ongoing research related to neurofibromatosis or broaden the scope of their research to include work relevant to neurofibromatosis under the guidance of a designated mentor who is participating in the proposal.

Clinical Trial Award: The intent of this award mechanism is to sponsor clinical pharmacologic or gene therapy studies that look at toxicities (Phase 1) or investigate the efficacy (Phase 2) of any novel therapeutic approach for NF1 or NF2. Applicants must include preliminary data to support the feasibility of their hypotheses and approaches, along with a detailed plan to conduct a Phase 1 or 2 clinical trial during the course of the award. Ultimately, the goal of this award mechanism is to sponsor novel research that will substantially improve today's approach to the treatment of neurofibromatosis.