# Neuroscience Research Support

**at the**
**National Institute of Child Health and Human Development (NICHD)**

The National Institute of Child Health and Human Development (NICHD) is committed to supporting research in the neurosciences, particularly as it affects developing systems and rehabilitation. The NICHD spends approximately 25 percent of its research funds on basic, clinical, and/or behavioral research in this arena.

*For Administrative Use Only*
*September 2007*

*U.S. Department of Health and Human Services*
*National Institutes of Health*

# Neuroscience Research Support at the NICHD

## Child Development & Behavior (CDB) Branch

- Basic, developmental, behavioral, and cognitive neuroscience in humans and animal models
- Neuroanatomical and neuroendocrine bases of behavior
- Developmental behavioral neurotoxicology
- Neural basis of language, cognition, learning, memory, sensory, motor, and perceptual development
- Screening, diagnosis, and treatment of disabilities that affect learning, including reading disability and attention and language disorders
- Multidisciplinary approaches include behavioral and molecular genetics, behavioral and cognitive interventions, structural and functional neuroimaging, and electrophysiology

**Contact:** Lisa Freund
**Phone:** (301) 435-6879
**E-mail:** freundl@mail.nih.gov

## Developmental Biology, Genetics, & Teratology (DGBT) Branch

- Normal and abnormal development of central and peripheral nervous systems
- Neurogenesis, cell migration, differentiation, guidance, synapse formation, role of growth and other factors in neural development
- Neural tube formation/defects
- Neurodevelopmental teratogens
- Mechanisms underlying neural development
- Multidisciplinary approaches include animal models, genetics, genomics, and molecular and cell biology

**Contact:** Deborah Henken
**Phone:** (301) 496-5541
**E-mail:** henkend@mail.nih.gov

## Endocrinology, Nutrition, & Growth (ENG) Branch

- Nutritional effects on brain development
- Neurotropic growth factors in neuronal function, connectivity, and overall brain development
- Neuroendocrinology
- Sexual dimorphism of the nervous system
- Innervation of endocrine organs

**Contact:** Gilman Grave
**Phone:** (301) 496-5593
**E-mail:** graveg@mail.nih.gov

## Mental Retardation & Developmental Disabilities (MRDD) Branch

- Etiology and pathophysiology of abnormal nervous system development and function
- Screening, diagnosis, treatment, and management of MRDD
- Particular disorders include Down syndrome, Fragile X syndrome, Rett syndrome, autism, inborn errors of metabolism, self-injurious behavior, etc.
- Multidisciplinary, integrative, and translational studies of gene-behavior relationships
- Approaches include genetics, (pharmaco)genomics, proteomics, molecular and cell biology, animal models, imaging, gene therapy, and behavioral interventions

**Contact:** Ljubisa Vitkovic
**Phone:** (301) 496-1383
**E-mail:** vitkovil@mail.nih.gov

## National Center for Medical Rehabilitation Research (NCMRR)

- Pathophysiology and management of chronically injured nervous and musculoskeletal systems (including stroke, traumatic brain injury, spinal cord injury, and orthopedic conditions)
- Repair and recovery of motor and cognitive function, functional plasticity and adaptation, and windows of opportunity for rehabilitative interventions
- Rehabilitative strategies involving pharmaceutical approaches, genetics and genomics, exercise, motor training, bioengineering, and behavioral modifications
- Pediatric critical care and rehabilitation
- Secondary conditions associated with chronic disabilities
- Improved diagnosis, assessment, and outcome measures
- Development of orthotics, prosthetics, and other assistive technologies

**Contact:** Ralph M. Nitkin
**Phone:** (301) 402-2242
**E-mail:** nitkinr@mail.nih.gov

## To Learn More...

...About the NICHD's efforts in and support of neuroscience research, visit the NICHD Neuroscience Research Support Web site, at **http://www.nichd.nih.gov/neuroscience.cfm**.

## Pregnancy & Perinatology (PP) Branch

- Management of maternal neurologic and mental health disorders and their affects on pregnancy and infant outcomes
- Placenta, uterine blood flow, antenatal diagnosis, and their effects on fetal neurologic well-being
- Neurochemical control of labor; the fetal neuroendocrine system
- Pathogenesis and prevention of sequelae of preterm birth, intrauterine growth retardation, stillbirth, asphyxia of the term newborn, transplacental effects of toxicants
- Tools to assess fetal, neonatal, and infant neurologic and behavioral maturity
- Disorders of the newborn that can result in neurologic sequelae, including adaptation to extrauterine life, hyperbilirubinemia, asphyxia, respiratory disorders, metabolic disorders, anemia, and infection
- Assessing the effect of intensive care environment and caregiving practices on growth and maturation of the brain and special sensory apparatus
- Development and regulation of cardiovascular, thermal, and cardiorespiratory control and sleep states in infancy; neurolgic deficits in sudden infant death syndrome (SIDS)

**Contact:** Marian Willinger
**Phone:** (301) 496-5575
**E-mail:** willingm@mail.nih.gov

## Reproductive Sciences (RS) Branch

- Neuroendocrine control of reproduction including the cellular and molecular mechanisms within the brain governing gametogenesis, steriodogenesis, and ovulation
- Genetic basis and epigenetic modifications of reproductive neuroendocrine diseases and disorders
- Neural basis of reproductive behavior, sexual function, and sex differentiation
- Neuro-endocrine-immune and metabolic regulation of fertility
- Effects of photoperiod and circadian rhythms on reproduction
- Basic and clinical approaches include the development of animal models through genetic engineering, cell/tissue culture, imaging techniques, tissue transplantation

**Contact:** Charisee Lamar
**Phone:** (301) 496-6515
**E-mail:** lamarc@mail.nih.gov