

STEVEN W. LEVISON, PhD
CURRICULUM VITAE

DATE: March 27th, 2022

PRESENT TITLE: Professor of Neuroscience

OFFICE ADDRESS: NJMS-Cancer Center
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CITIZENSHIP: USA

EDUCATION:

A. Undergraduate Education: *University of Rochester, Rochester, NY, BS in Neuroscience, June, 1983.*

B. Graduate Education: *University of North Carolina at Chapel Hill
Chapel Hill, NC, Ph.D. in Neurobiology, 1990.
Thesis Title: "Purifying an Astroglial Inducing Molecule"
Advisor: Ken D. McCarthy, Ph.D.*

POSTGRADUATE TRAINING:

A. Internship and Residencies
None

B. Research Fellowships
*Dept. of Pathology
Columbia University, College of Physicians and Surgeons, NY, NY 1990 - 1993
Advisor: James E. Goldman, MD, PhD*

MILITARY: *None*

ACADEMIC APPOINTMENTS:

*Rutgers University-New Jersey Medical School
Dept. of Pharmacology, Physiology and Neuroscience
Newark, NJ 07103
Professor
7/1/2015 — present*

*Rutgers University-New Jersey Medical School
Dept. of Neurology and Neurosciences
Newark, NJ 07103
Professor
7/1/2013 — present*

*University of Medicine and Dentistry of New Jersey-New Jersey Medical School
Dept. of Neurology and Neurosciences
Newark, NJ 07103
Professor*

9/1/2004 — 2013

*Adjunct Professor
Federated Department of Biology
Rutgers-Newark and New Jersey Institute of Technology
Newark, NJ 07107
9/1/2005 — Present*

*The Pennsylvania State College of Medicine
Dept. of Neural and Behavioral Sciences
Hershey, PA 17033
Professor
9/1/2004 — 2005*

*The Pennsylvania State College of Medicine
Dept. of Neural and Behavioral Sciences
Hershey, PA 17033
Associate Professor with tenure
7/1/2003 — 8/31/2004*

*The Pennsylvania State College of Medicine
Dept. of Neuroscience and Anatomy
Hershey, PA 17033
Associate Professor with tenure
7/1/1999 — 6/31/2003*

*The Pennsylvania State University College of Medicine
Dept. of Neuroscience and Anatomy
Hershey, PA 17033
Assistant Professor
10/1/93 — 6/30/99*

CLINICAL RESPONSIBILITIES: None

GRANT SUPPORT: (Please list newest or most current first)

A. Principal Investigator

ACTIVE

NIH R01 NS116828-02 (Levison, PI) 25% Effort as PI
Title: “Intranasal LIF to improve neurological recovery from perinatal hypoxia-ischemia”
Dates: 4/1/2020 – 3/31/2025
Annual Direct Costs: \$260,423
Total costs: \$1,738,675

The goal of this grant is to determine whether LIF is both a crucial neuroprotective and regenerative cytokine in models of pre-term and term hypoxic-ischemic brain damage.

1R21 NS125201-01 (Kannurpatti, Levison and Hyder, Multiple PIs) 5% Effort
Title “Delayed white matter loss in concussive head injuries and its treatment”
Supported 10/2021- 9/2023
Direct Costs \$275,000
Total Costs \$372,470

The goal of this grant is to use high resolution multiple modality live animal MR imaging to determine the structural and functional changes in response to IN LIF Rx. We will complement the in vivo imaging with ex-vivo DTI studies and will correlate the findings with histological and neurological functional analyses.

COMPLETED

NIH R21 NS107772 (Levison, PI)

Title: "PDGF Responsive Progenitors of the Subventricular Zone"

15% Effort as PI

Dates: 7/01/2018-6/30/2021

Annual Direct Costs: \$150,000

Total costs: \$418,467

The goal of this proposal is to establish when a specific subset of platelet-derived growth factor dependent neural progenitors emerge during development, determine which types of brain cells they produce and to compare their transcriptional profiles to those of neural stem cells.

NJ Commission on Brain Injury Research CBIR17IRG019 (Levison, PI)

"Protecting Subcortical White Matter and Promoting Remyelination After TBI"

Dates 6/1/2017-6/30/2021

5.67% Effort

Direct Costs \$150,000/yr

Total Costs: \$540,000

The goal of this project is to test the hypothesis that subacute intranasal administration of leukemia inhibitory factor (LIF) after an adolescent closed head injury in mice will reduce the extent of damage and increase the production of new glia from precursors of the subventricular zone to restore axonal conduction.

Governor's Council for Medical Research and Treatment of Autism, CAUT17BSP010 (Levison, PI)

"Immune Regulation of Neural Stem/Progenitors"

Dates 7/1/2017-6/31/2021

8.33 % Effort

Direct Costs \$150,000/yr

Total Costs: \$399,996

The goal of this project is to test the hypothesis that perinatal systemic inflammation alters the composition of the neural stem/progenitors of the subventricular zone and the development of the gastrointestinal system leading to abnormalities in both systems as seen in autism spectrum disorders.

Rutgers BHI-RUN-NJIT Pilot Grants Program in Neuroscience (Levison, Wood, Dreyfus, co-PIs and Dhib-Jalbut, Collaborators)

"Delineating Oligodendrocyte Progenitor Subtypes and their Roles in CNS Remyelination"

12/1/2016-11/31/2017

10% effort

Direct Costs: \$40,000

Total Costs: \$40,000

The goal of this proposal is to test the hypothesis that endogenous oligodendrocyte lineage cells in the brain are heterogeneous and have distinct properties that influence their capacity for remyelination.

Fondation Leducq #10 CVD 01 (Ferriero, Gressens, PIs of Multi-Investigator Grant)

Title "Transatlantic Network on Newborn Stroke: Inflammatory Modulation of Neurovascular Injury"

Supported 10/1/2010-12/31/2016

10% Effort

Direct Costs: \$188,181/yr

Total Costs: \$974,004

The goal of this grant is to use four distinct animal models (stroke, hypoxia-ischemia, excitotoxic, LPS-hypoxia-ischemia), as well as in vitro models, to test the overall hypothesis that inflammation increases acutely after a stroke through specific signaling cascades and later these and other factors are responsible for repair.

NJ Commission on Brain Injury Research CBIR13IRG017 (Levison, PI)

"Enhancing Cell Replacement After Traumatic Brain Injury"

Dates 6/1/2013-6/31/2017

6.25% Effort

Direct Costs \$150,000/yr

Total Costs: \$540,000

The goal of this project is to test the hypothesis that intranasal administration of leukemia inhibitory factor (LIF) after traumatic brain injury will reduce the extent of damage and increase the production of new neurons and glia from precursors of the subventricular zone.

La Fondation Motrice Convention n° 2015/2 (Gressens, Levison, Co-PI)

“Reversing IL-1 β Induced Alterations to Hippocampal Neurogenesis and Cognitive Impairment”

Total Costs: 50,000 Euros

Awarded to INSERM U1141

Dates: 1/7/2015- 12/31/2015

The goal of this grant is to evaluate the effects of systemic inflammation on hippocampal neurogenesis and whether the neurological consequences could be reversed through intranasal IL-1Ra administration.

QED Program of the University Science Center

Title: “Tethered Growth Factors on Biocompatible Scaffolds for Stem Cell Propagation”

Dates: 1/01/2015 – 12/31/2014

5% Effort

Direct Costs: \$95,229

Total Costs: \$100,000

The goal of this application is optimize a multifunctional scaffold for propagating neural stem cells for clinical use and for commercialization.

Business Development Grant (Levison, PI)

Rutgers University Office of Technology Transfer

“StemTrix - Improved Growth Matrices For Stem Cell Propagation”

Supported: 1/31/2013-1/31/2017

3% effort

Direct Costs \$50,000

Total Costs \$50,000

The goal of this grant is to develop a multifunctional growth matrix for propagating adherent stem cells

R01 HD052064 (Levison, PI)

Title: “Glial Dysgenesis in the Injured Developing Brain”

Supported 5/1/2010-2/28/2014

20% Effort

Direct Costs: \$211,248/yr

Total Costs: \$1,129,696

The goal of this grant was to evaluate the roles of injury induced cytokines, especially TGF β 1, in the aberrant differentiation of SVZ glial progenitors after neonatal H/I.

Innovation Stage Funding Program (Levison, PI)

New Jersey Health Foundation

“Improved Growth Matrices For Stem Cell Propagation”

Supported: 5/1/2013-10/30/2013

3% effort

Direct Costs \$10,000

Total Costs \$10,000

The goal of this grant was to develop a multifunctional growth matrix for propagating adherent stem cells.

NJ Commission on Brain Injury Research #CBIR12FEL025 (Skop, PI; Levison, Sponsor)

“Delivering Neural Stem Cells Using a Multifunctional Microsphere Scaffold for Traumatic Brain Injury Repair”

Dates 6/1/2012-5/31/2015

3% Effort

Direct Costs \$33,500/yr

Total Costs: \$100,500

The goal of this project is to produce multifunctional microspheres to serve as a delivery vehicle to support neural stem cell derived regeneration of the neocortex after traumatic brain injury.

NIH F31NS076269 (Moore, L, PI, Levison, Canoll, Sponsors)

Title “PDGF Responsive Progenitors in Glioma”

3% Effort

Dates 1/1/2012-12/31/2014

Direct Costs: \$ 42,232/yr

Total Award: \$126,696

The goal of this project was to identify the cell of origin that is responsible for proneural glioblastomas.

NJ Commission on Brain Injury Research 08.001.BIR2 (S. Levison, PI of Multi-Investigator Grant)

Title: "Stimulating CNS Regeneration after Traumatic Brain Injury"

Dates: 6/1/2008-5/31/2013

7% Effort:

Direct Costs: \$600,000/yr

Total Costs: \$1,533,129

The goal of this multi-investigator grant was to enhance regeneration of the CNS after traumatic brain injury via endogenous and exogenous stem cells as well as through manipulating the neuroinflammatory response.

NIH R13NS083332 (Levison, PI)

Title "American Society for Neurochemistry 44th Annual Meeting"

Dates: 4/19/2013 – 4/26/2013

17% Effort

Direct Costs: \$22,000

Total Award: \$22,000

American Society for Neurochemistry 44th Annual Meeting

NIH T32 NS051157 (Townes-Anderson, PI) "Training for Integrative Neuroscience in Health and Disease"

6/1/07-5/31/12

Total Costs \$ 1,018,169

5% Effort as Co-Investigator

This is a training grant application for both predoctoral and postdoctoral fellows.

NIH R13NS79101 (Levison, PI)

Title "American Society for Neurochemistry 43rd Annual Meeting"

Dates 3/3/2012 - 3/7/2013

17% Effort

Direct Costs: \$25,000

Total Award: \$25,000

NIH – F31NS065607-01 (Ziegler, PI, Levison and Wood, Sponsors)

Title: IGF2 and neural stem cell homeostasis

Supported 2/12/09 – 2/11/12

Direct Costs: \$27,743/yr

Total Costs: \$90,465

The goal of this fellowship is to establish the role of IGF ligands and IGF and insulin receptors in neural stem cell proliferation and self-renewal.

NIH 2RO1 MH59950-10 (S. Levison, PI)

Title "Neural Stem Cell Responses to Perinatal Brain Damage"

Supported 5/2004 - 4/2010

30% Effort

Direct Costs: \$939,342

Total Award: \$1,465,582

The goal of this proposal was to establish the molecular mechanisms that underlie the increase in neural stem cells in the subventricular zone as a consequence of moderate perinatal hypoxia/ischemia and to determine how to amplify this response.

Foundation of UMDNJ (Levison/Wood Dual PIs) "IGF Receptor Stimulated Neural Stem Cell Expansion After Brain

Damage" 4/10/2008-4/9/2010 10% Effort

Direct Costs: No Cost Extension

National Multiple Sclerosis Society, RG 2829

Title "CNTF's Role in Remyelination"

Supported 4/15/1998 – 3/14/2007.

Direct Costs \$386,681

Total Award \$403,509

NIH MH05590 (Levison, PI)

Title "Cerebral Dysgenesis After Perinatal Hypoxia-Ischemia"

Supported: 8/1999-12/2003

15% Effort as PI

Direct Costs \$465,292

Total Award \$624,700

The goal of this project was to evaluate the vulnerability of the progenitors and stem cells of the subventricular zone to a moderate perinatal hypoxic ischemic insult.

NIH P01 HD30704 (Project 6, Levison, PI, Associate Director)

Title "Perinatal Hypoxic Ischemic Brain Damage: Cellular Differentiation"

Supported: 7/1999-12/2004

Direct Costs \$547,070

Total Award \$759,443

The goal of this project was to evaluate the vulnerability of the progenitors and stem cells of the subventricular zone to perinatal hypoxia/ischemia.

Juvenile Diabetes Research Foundation, 4-2002-455

Title "Pennsylvania State University/ Diabetic Retinopathy Center" (Project 5, Levison, PI) "Macrophage/Microglia-Mediated Inflammation in the Retina of diabetic rats"

Supported 8/2002 – 7/2007.

Direct Costs \$766,958

Total Award \$841,007

NIH R29 NS33251 (Levison, PI)

Title: "Determinants of Progenitor Cell Fate in the CNS".

Supported: 8/1994-7/1999.

Direct Costs: \$349,862

Total Award: \$503,426.

Dean's Feasibility Grant

Title: "Involvement of Ciliary Neurotrophic Factor in Multiple Sclerosis"

Supported 7/1997-6/1998

Direct Costs \$25,000

Total Costs: \$25,000

National Multiple Sclerosis Society, Pilot.

Title: "Molecular correlates of the gliotic response elicited by CNTF".

Supported: 12/1994-11/1995.

Direct Costs \$24,514

Total Costs: \$26,965

NIMH NRSA Predoctoral Fellowship # MH 9828.

Title: "Purifying an astroglial inducing molecule".

Supported: 2/1989-8/1990.

Direct Costs: \$25,000

Total Award \$34,343

B. Co-Investigator

Active

IREs 21-002946, Busch Biomedical Research Grants (Kannurpatti, PI, Levison, Collaborator)

Title: "Simultaneous multimodality translational imaging to advance treatments for Concussive Head Injuries "

Supported: 11/1/2020- 10/31/2022

Total cost: \$ 40,000

Description: The goal of this project is to use MRI imaging methodology to assess the efficacy of delayed intranasal LIF administration to prevent delayed neurodegeneration after a concussive head injury.

NIH F31NS110220, (Corrubio, PI; Santhakumar and Levison, Co-Sponsors)

Title: "Role of hippocampal adult-born granule cells in TBI-induced dentate gyrus circuit pathology and pattern separation deficit."

Supported dates: 9/1/2019-8/31/2022

Direct Costs: \$38,626/year

Total Award: \$ \$115,878

Description: The goal of this project is to use optogenetic manipulation of hippocampal adult-born granule cells generated in response to fluid percussion injury to assess the contribution of injury-induced aberrant neurogenesis to dentate gyrus network dysfunction and memory deficit in mice.

NJ Commission on Brain Injury Research CBIR19FEL014 (D'Mello, PI, Santhakumar and Levison, Co-Sponsors)

Title: "The role of hippocampal adult-born granule cells in TBI-induced dentate gyrus circuit"

Supported Dates: 9/1/2019-8/31/2021

Direct Costs: \$33,500/yr

Total Award: \$84,590.36

Description: The goal of this project is to assess the contribution of injury-induced aberrant neurogenesis to dentate gyrus network dysfunction and memory deficits in mice.

NJ Governor's Council on Autism CAUT22AFP009 (Velloso, PI; Levison, Sponsor)

Title: Perinatal Interleukin-6 induced neuroinflammation and SVZ progenitor Cell Dysgenesis"

Supported Dates: 7/1/2021- 6/30/2023

Direct Costs: \$65,000

Total Award: \$130,000

Description: The goal of this proposal is to investigate how IL-6 affects neural progenitors of the subventricular and subgranular zones and to subsequently establish how this alters the cellular composition and synaptic function in several late developing brain structures.

Completed

Rutgers BHI-RUN-NJIT Pilot Grants Program in Neuroscience (Dobrowolski, Levison, Kim, Collaborators)

"Proteotoxic Stress Pathways Induce Cell Death Following Brain Injury"

7/1/2018-6/30/2019

10% effort

Direct Costs: \$40,000

Total Costs: \$40,000

Neuronal injury inhibits autophagy leading to the buildup of abnormal proteins. The goal of this pilot project is to prevent the excessive expression of TFEB to reduce neuronal damage after a traumatic brain injury.

NIH 1R15NS087501 (Cho, PI)

Title: Engineering Multifunctional Microspheres for Brain Injury Repair

Supported: 4/1/14-3/31/17

5 % Effort as Co-investigator

Total direct costs: \$299,284

The goal of this proposal is to develop multifunctional microspheres to serve as neural stem cell/growth factor delivery system and to evaluate their function in an adult rat brain injury animal model.

NJ Commission on Brain Injury Research CBIR14IRG006 (Wilma Friedman, PI)

"Mechanisms of neuronal death following TBI"

Dates 6/1/2014-5/31/2017

5% Effort

Direct costs: \$150,000/yr

5% Effort as Co-Investigator

Total Costs: \$540,000

The goal of this grant is to evaluate the role of the P75 neurotrophin receptor in secondary cell death after CCI and to determine the extent of neuroprotection obtained using both a genetic and a novel pharmacotherapeutic approach.

NJ Commission on Brain Injury Research CBIR14PIL001 (Radek Dobrowolski, PI)

"Functional analysis and modulation of mTOR and Wnt signaling during regeneration after traumatic brain injury."

Dates: 5/30/2014 – 6/31/2017

3.75% Effort as Co-Investigator

Direct costs: \$90,000/yr

Total Costs: \$180,000

The goal of this study is to determine the efficacy of the autophagy and Wnt pathway integration after TBI and to test a novel and feasible therapeutic strategy combining state-of-the-art transplantation of genetically engineered NSCs post-injury.

NIH R21 #NS076874 (Levison, Wood, Dual PIs)

Title: "Insulin Receptor in Neural Stem Cells"

Dates: 09/15/2013 to 02/28/2017

5% Effort

Direct Costs: \$137,500/yr

Total Costs: \$437,250

The goal of this R21 application is to test the hypothesis that IGF-II is essential for neural stem cell homeostasis through its unique signaling through the insulin receptor.

NJ Commission on Brain Injury Research (Calderon, PI)

"Enhancement of Neural Stem Cell Survival and Transplantation Efficacy by Docosahexaenoic Acid and its derivative NPD1 in Traumatic Brain Injury"

Dates 6/1/2013-9/31/2016

5% Effort

Direct Costs \$150,000/yr

Total Costs: \$450,000

The goal of this grant is to evaluate the utility of dietary supplementation in reducing inflammation and promoting the retention of transplanted neural precursors in traumatic brain injury.

New Jersey Health Signature Initiatives Research Grant

Title: Defining Oligodendrocyte Progenitor Cell Heterogeneity and Roles in CNS Remyelination

Supported: 1/01/2015 - 12/31/2015

Total Direct Costs: \$100,000

The goal of this proposal is to bring together MS investigators at the new Rutgers Health Sciences campuses to investigate the properties of the endogenous progenitor cell types responsible for remyelination in the brain and spinal cord.

NJ Commission on Brain Injury Research (Akshay Gupta, PI, Santhakumar, Levison, Sponsors)

Title: "Role of semilunar granule cells in post-traumatic hyperexcitability"

Supported: 6/1/2011-5/31/2014

Direct Costs: \$58,280

Indirect Costs: \$11,656

The goal of this project is to determine how the excitability of the semilunar cells of the hippocampus are affected by traumatic brain injury.

New Jersey Commission on Spinal Cord Research #05-2913-SCR-E-0 (H-W Lin, PI; Levison, Sponsor)

Title: "Anti-Inflammatory Effects of CNTF on Microglia" 3% Effort as Sponsor

Supported 6/1/2006 - 5/31/2008

Direct Costs: \$30,000/yr

Total Award: \$60,000

NJ Commission on Brain Injury Research 07.005.BIR1 (Pintar, PI) "Role of IGF binding proteins in response to brain injury" 4/1/2007-3/31/2009 7% Effort

Direct Costs \$135,000/yr

Total Costs: \$300,000

5% Effort

The goal of this project is to determine the functional role of the IGF binding proteins in the response to TBI in mutant strains of mice that lack these proteins.

NIH F31 NS062629 (Bain (Nee Woodbury), PI, Levison, Sponsor)

Title: The role of VEGF in neonatal rat brain after perinatal hypoxic-ischemic damage" 3% Effort as Sponsor

Supported 9/15/08 - 8/31/09

Direct Costs: \$27751

Total Costs: \$43,292

NIH R01NS37560 (Wood, PI)

Title "Oligodendrocyte Generation: A Multi-Factorial Approach"

Supported 12/2002-11/2007

5% Effort as Collaborator

Direct Costs: \$ 1,250,000

Total Award \$1,865,327

American Heart Association, Beginning Grant in Aid #0365455U (Krady, PI)

Title "Mechanisms of Neuroprotection Afforded by IL-1RI deletion"

Supported 7/2003 – 6/2005

Direct Costs \$100,000

Total Award \$110,000

American Heart Association, Pre-doctoral Fellowship #0215196U (Romanko, PI) Title "Vulnerability of CNS Stem Cells to Perinatal Hypoxia/Ischemia"

Supported 7/2002-6/2004

Direct Costs \$40,000

Total Award \$44,000

Pennsylvania Tobacco Fund Grant (Henderson, PI)

Title "Macrophage and microglia cell dysfunction in central nervous system diseases"

Supported 7/2003 – 6/2005

Direct Costs: \$173,716

Total Award \$243,983

NIH F31 NS0469903 (Felling, PI)

Title "Reactive Neural Stem Cells in Perinatal Brain Damage"

Supported 7/2003 – 6/2006

Direct Costs: \$22,626

Total Award \$67,878

NIH R01NS37560 (Wood, PI)

Title: "Oligodendrocyte Generation: A Multi-Factorial Approach"

Supported 12/1998-11/2002

Direct Costs: \$540,669

Total Award \$759,366

Dean's Feasibility Grant (Polomano, PI)

Title "Novel Therapies to prevent and treat paclitaxel-(Taxol) induced peripheral neuropathy"

Dates of Support 7/2001 – 6/2002

Direct Costs \$27,951

Total Award \$27,951

WW Smith Charitable Trust (Kester, PI)

Title "Sphingolipid-derived second messengers in restenosis.

Supported 5/2000-4/2001
Direct Costs: \$287,903
Total Award \$319,892

PHS 2 R01 NS 22671 (Connor, PI)

Title "Dynamics of Cellular Iron Management in Brain".
Supported 9/1996-6/1998.
Direct Costs \$391,638
Total Award \$550,053

PENDING

1 R01 NS129152-01 (Levison, PI)

25% effort

Title "Developmental Consequences of Inflammation on Secondary Neural Progenitors"
Supported 10/01/2022 – 9/30/2027
Direct costs \$389,001/yr
Total Costs \$3,053,227
Goal: The goal of this proposal is to investigate how IL-6 affects neural progenitors of the subventricular and subgranular zones and to subsequently establish how this alters the cellular composition and synaptic function in several late developing brain structures.

1 I01 BX005936-01 (Levison, PI)

62.5% effort

Title "Novel therapeutic approaches to improve long-term outcomes after TBI"
Supported 11/01/2022 – 10/30/2026
Direct costs \$ 299,218/yr
Total Costs \$1,198,682
Goal: The goal of this proposal is to test the preclinical feasibility and long-term efficacy of delayed intranasal LIF treatment for promoting functional recovery after mTBI to improve neurological function.

NIH C06 (Gause, PI)

5% Effort

Title: "Building an Advanced Preclinical Imaging Laboratory at Rutgers-New Jersey Medical School for Transformative and Translational Biomedical Research in New Jersey"
Dates: 10/01/2022 09/30/2027
Total Costs: \$6,669,000
Goal: The goal of this proposal is to construct an Advanced Preclinical Imaging Laboratory within the Central Research Animal Facility at Rutgers Biomedical Health Sciences-New Jersey Medical School for Transformative and Translational Biomedical Research in New Jersey.

Eagles Autism Foundation (Levison, PI, Peng, Collaborator)

10% effort

Title: Immune Regulation of Secondary Neural Stem Cells and Progenitors
Total Costs: 399,805
Goal: The goal of this proposal is to establish how IL-6 affects human and mouse neural progenitors of the subventricular zone and to subsequently establish how this in turn alters the cellular composition and synaptic function of the frontal neocortex.

NIH T32 T32 AI165397-01-A1 (Yap, Levison, MPIs)

10% Effort

Title: Predoctoral Training in Integrative and Tissue Immunology Research
Dates: 9/01/2022-08/31/2027
Total Costs: 1,427,589
Goal: The goal of this program is to train a new generation of immunologists who have a strong fundamental understanding of tissue/organ level biology that will propel integrative immunology research.

1 R21 (Friedman, PI, Levison Collaborator)

5% Effort

Title: p75NTR regulates oligodendrocyte progenitor development in the Subventricular Zone of postnatal rats
Dates: 10/01/2022 – 9/30/2024

Total Costs: \$275,000

Goal: The goal of this application is to investigate the role of p75^{NTR} in regulating the development and differentiation of oligodendrocyte lineage cells from the SVZ.

1 R01 NS126471 (Hilfiker, PI, Levison Collaborator)

5% Effort

Title: Cellular consequences of the pathological LRRK2 signaling pathway

Dates: 09/01/2022 - 08/31/2027

Total Costs: \$2,796,069

Goal: The goal of this grant is to advance our understanding of the pathobiological actions of LRRK2 and to identify additional therapeutic targets for LRRK2-dependent Parkinsons Disease.

PUBLICATIONS:

H-Index = 45

1. Refereed Original Articles

1. **Steven W. Levison** and Ken D. McCarthy (1989). Schwann cells influence the expression of ganglioside GD₃ by rat dorsal root ganglion neurons. *Journal of Neuroimmunology* 24:223-232.
2. Atsushi Sasaki, **Steven W. Levison**, and Jenny P-Y. Ting (1989). Comparison and quantitation of Ia antigen expression on cultured macroglia and ameboid microglia from Lewis rat cerebral cortex: Analyses and implications. *Journal of Neuroimmunology* 25:63-74.
3. Atsushi Sasaki, **Steven W. Levison**, and Jenny P-Y Ting (1990). Differential suppression of interferon-gamma induced Ia antigen expression on cultured rat astroglia and microglia by second messengers. *Journal of Neuroimmunology* 29:213-222.
4. Faith A. Ashton, **Steven W. Levison**, and Ken D. McCarthy (1990). Anti-ganglioside antibodies reveal subsets of cultured rat dorsal root ganglion neurons. *Brain Research* 529:349-353.
5. **Steven W. Levison** and Ken D. McCarthy (1990). Partial purification and characterization of AIM: A plasma protein that directs the differentiation of bipotential glial progenitors. *Journal of Neurochemistry* 57:782-794.
6. **Steven W. Levison** and James E. Goldman (1993). Both oligodendrocytes and astrocytes develop from progenitors in the subventricular zone of postnatal rat forebrain. *Neuron*, 10: 201-212 (Cover photograph).
7. **Steven W. Levison**, Cathy Chuang, Bernetta J. Abramson, and James E. Goldman (1993). The migrational patterns and developmental fates of glial precursors in the rat subventricular zone are temporally regulated. *Development*, 119:611-623.
8. S. Apostolski, T. McAlarney, A. Quattrini, **Steven W. Levison**, G. Rosoklija, A. Lugaressi, M. Corbo, S.A. Sadiq, S. Lederman, A.P. Hays, and N. Latov (1994). The gp120 glycoprotein of HIV-1 binds to sensory ganglion neurons. *Annals of Neurology* 34:855-863.
9. Christopher G. Winter, Yas Saotome, **Steven W. Levison**, and David Hirsh (1995). A role for ciliary neurotrophic factor as an inducer of reactive gliosis, the glial response to central nervous system injury *Proceedings of the National Academy of Science USA* 92: 5865-5869.
10. Teresa L. Wood, Steven O'Donnell and **Steven W. Levison** (1995) Cytokines regulate IGF binding proteins in the CNS. *Progress in Growth Factor Research* 6:181-187.
11. Marielba Zerlin, Steven W. Levison and James E. Goldman (1995). Early patterns of migration, morphogenesis, and intermediate filament expression of subventricular zone cells in the postnatal rat forebrain. *Journal of Neuroscience* 15:7238-7249.

12. Greg M. Young and **Steven W. Levison** (1996). Persistence of multipotential progenitors in the juvenile rat subventricular zone. *Developmental Neuroscience* 18:255-265. PMID: [8911765](#)
13. **Steven W. Levison**, Melissa H. Ducceschi, Greg M. Young, and Teresa L. Wood (1996). Acute exposure to CNTF in vivo induces multiple components of reactive gliosis. *Experimental Neurology* 141:256-268.
14. **Steven W. Levison** and James E. Goldman (1997). Multipotential and lineage restricted precursors coexist in the perinatal mammalian subventricular zone. *Journal of Neuroscience Research* 48:83-94. PMID: [9130137](#)
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ACCEPTED MANUSCRIPTS

SUBMITTED MANUSCRIPTS

1. Shrvanthi Chidambaram, Fernando J. Velloso, Teresa L. Wood and **Steven W. Levison** (2022) Subventricular zone adult neural stem cell self-renewal requires the insulin receptor. Resubmitted to *Stem Cell Reports*, 2/22/2022. [bioRxiv 2020.03.10.985598](https://doi.org/10.1101/2020.03.10.985598) doi: <https://doi.org/10.1101/2020.03.10.985598>
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D. MANUSCRIPTS IN PROGRESS

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US Patent U.S. Patent Number **10,465,165**, "Growth Matrices for Stem Cell Propagation In Vitro and in Tissue Regeneration" Submitted 1/28/2015. Approved 8/21/2019. Issued Nov. 5, 2019. Inventors: Steven W. Levison, Nolan B. Skop, Chirag D. Gandhi, Frances Calderon and Cheul Cho.

European Patent Application Serial #4743406.2. "Growth Matrices for Stem Cell Propagation In Vitro and in Tissue Regeneration" Approved 4/8/2019. Inventors: Steven W. Levison, Nolan B. Skop, Chirag D. Gandhi, Frances Calderon and Cheul Cho.

Chinese Patent Application serial #2014800187590. "Growth Matrices for Stem Cell Propagation In Vitro and in Tissue Regeneration" Submitted 9/28/2015. Inventors: Steven W. Levison, Nolan B. Skop, Chirag D. Gandhi, Frances Calderon and Cheul Cho.

Provisional Patent: NJMS 10-04. "Optimized serum-free culture conditions for the growth and self-renewal of neural stem cells" Submitted 3/7/2011. Inventors: Steven W. Levison and Teresa L. Wood.

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78. HW Lin and **SW Levison** (2006) "Ciliary Neurotrophic Factor (CNTF), But Not IL-6, Induces Cyclooxygenase 2 (Cox-2) and Prostaglandin E2 (PGE2) Production in Murine Microglia" *J. Neurochem., Supplement*.
79. J. Lazovic, A. Basu, R.P. Rothstein and **SW Levison** (2006) Direct evidence that activating the interleukin 1 type I receptor enhances ischemic brain damage. *Abstracts, ISMRM 14th Scientific Meeting*.
80. MV Covey, CL Bitel, Z Yang, **SW Levison**. Roles of IL-6 and LIF in the amplification of the numbers of neural stem/progenitors in the subventricular zone after perinatal hypoxia/ischemia. *Fifth Hershey Conference on Developmental Brain Injury, Princeton, NJ, 2006*.
81. MV Covey, CL Bitel, Z Yang, **SW Levison**. Roles of IL-6 and LIF in the amplification of the numbers of neural stem/progenitors in the subventricular zone after perinatal hypoxia/ischemia. Program No. 24.1. *2005 Abstract Viewer/Itinerary Planner*. Washington, DC: Society for Neuroscience, 2005. Online.
82. E Sen, JM Woodbury, Z Yang, AN Ziegler and **SW Levison** (2007). Aberrant differentiation of Neural Stem/Progenitor Cells of the Subventricular Zone after Perinatal Hypoxia-Ischemia. *Abstracts ISN Myelin Satellite Conference Meeting, Aug 15-19, 2007 Chichen Itza Mexico*.
83. AN Ziegler, D Alagappan, W Tyler, C Bitel, **SW Levison** and TL Wood (2008). Neonatal hypoxia/ischemia expands the numbers of neural stem cells in the subventricular zone by enhancing EGFR and IGF-1R responsiveness. *Abstracts, Hershey Conference, June 4-7 2008 Paris, France*.
84. Zhengang Yang and **SW Levison** (2008) Neural stem/progenitor cells in the neonatal subventricular zone generate new calretinin-expressing interneurons in the striatum after brain injury. Presented at the Int. Soc. for Stem Cell Research Meeting.
85. AN Ziegler, AM Rowzee, WA Tyler, TL Wood and SW Levison (2009) Distinct actions of IGF system components on murine neural stem/progenitors. *Abstracts, SfN meeting, Washington, DC*.
86. MV Covey and SW Levison (2009) Neuroinflammation is required for the expansion of neural stem/progenitors in the rat subventricular zone after neonatal hypoxia/ischemia. *J. Neurochem. Suppl., South Korea*.

87. AN Ziegler, AM Rowzee, WA Tyler, TL Wood and SW Levison (2009) IGF1 and IGF2 have distinct effects on murine neural stem/progenitors. *Presented at IGF Gordon Conference.*
88. **SW Levison**, RJ Felling, Z Yang, A Ziegler, M Covey, D Alagappan, KD Buono and JM Bain (2009) Signals Coordinating CNS Regeneration From Resident Neural Stem Cells After Neonatal Hypoxia/Ischemia” *JCBFM Supplement*, 2009
89. KD Buono and **SW Levison** (2010) LIF sustains the self-renewal of tripotential SVZ precursors while inhibiting the production of lineage restricted progenitors. *Abstracts, Am. Soc. for Neurochemistry*, Santa Fe, NM.
90. AN Ziegler, AM Rowzee, B Forbes, TL Wood and **SW Levison** (2010) IGF2 promotes murine forebrain neural stem/progenitor cell self-renewal via the insulin receptor. *Society for Neuroscience*
91. KD Buono and **SW Levison** (2010) LIF expands and sustains self-renewal of neonatal mouse tripotential neural precursors” *Abstracts, Int. Soc. for Stem Cell Research*, San Francisco, CA.
92. M Siriwardane, W He, SW Levison, A Crawford, N Skop, A Maniker and CD Gandhi (2010) “Evaluation of Acute and Subacute Neural Stem Cell Delivery for Traumatic Brain Injury” *Neurotrauma Society Meeting*
93. JM Bain, A Ziegler, Z Yang, **SW Levison*** and E Sen* (2010) “TGFβ1 stimulates the over-production of white matter astrocytes at the expense of oligodendrocytes in a rodent model of neonatal encephalopathy” *7th Hershey Conference.*
94. KD Buono, D Vadlamuri and **SW Levison** (2011) “Flow Cytometric Analysis of Leukemia Inhibitory Factor Effects on Mouse SVZ Neural Precursor Population Dynamics” *American Society for Neurochemistry Meeting.*
95. L Moore and **SW Levison** (2011) “Spheroids: an in vitro model to study quaterpotential, PDGFα responsive, progenitors of the rat subventricular zone” *American Society for Neurochemistry Meeting*
96. AN Ziegler, JS Schneider, D Fraidenaich, TL Wood and **SW Levison** (2011) “IGF2 promotes murine neural stem/progenitor cell growth but is dispensable for murine ES cell self-renewal.” *American Society for Neurochemistry Meeting*
97. N Skop, C Cho, CD Gandhi and **SW Levison** (2011) “Optimizing a Tissue Engineered Scaffold to Promote Regeneration Using Neural Stem Cells After Traumatic Brain Injury” *American Society for Neurochemistry Meeting*
98. AN Ziegler, WA Tyler, TL Wood and **SW Levison** (2011) IGF-II promotes stemness of neural restricted precursors. *Presented at IGF Gordon Conference.*
99. AN Ziegler, WA Tyler, TL Wood and **SW Levison** (2011) Insulin receptor activation promotes murine neural precursor stemness. *Presented at International Society for Stem Cell Research Conference.*
100. N Skop, M Siriwardane, F Calderon, Y Jiang, C Cho, **SW Levison** and CD Gandhi (2011) Engineering a micro scaffold to Improve Neural Stem Cell Transplantation for Traumatic Brain Injury Repair. *Presented at Neurotrauma Meeting*
101. M Siriwardane, N Skop, **SW Levison**, F Calderon and CD Gandhi (2011) Characterization of Controlled Cortical Impact Trauma and Evaluation of Acute and Sub-acute Neural Stem Cell Delivery. *Presented at Neurotrauma Meeting*
102. KD. Buono, D. Vadlamuri and **SW Levison** (2011) Flow Cytometric Analyses of Mouse SVZ Neural Precursors. Presented at the 7th NJ Stem Cell Symposium, Bridgewater, NJ.
103. LM Moore and **SW Levison** (2012) Spheroids: an in vitro system to study quaterpotential, PDGF-AA-responsive progenitors of the subventricular zone. Presented at the 43rd Annual Meeting of the American Society for Neurochemistry, St. Louis, MO.

104. KD. Buono, D. Loporchio, D. Vadlamuri, Y. Jiang and **SW Levison** (2012) Mechanisms of Mouse Neural Precursor Expansion after Neonatal Hypoxia/Ischemia. Presented at the 43rd Annual Meeting of the American Society for Neurochemistry, St. Louis, MO
105. **SW Levison**, KD Buono and D. Vadlamuri (2011) Leukemia Inhibitory Factor is Required for Forebrain Oligodendrocyte Progenitor Cell Development. Presented at the 2011 SfN Meeting, Washington, DC.
106. KD Buono, D. Vadlamuri and **SW Levison** (2011) Leukemia Inhibitory Factor is Required for Forebrain Oligodendrocyte Progenitor Cell Development. Presented at the 23rd Biennial Meeting of the International Society for Neurochemistry Meeting, Athens, Greece.
107. AN. Ziegler, TL. Wood and **SW Levison**. (2012) Insulin Receptor Promotes SVZ Cell Self-Renewal. Presented at the 44th Annual Meeting of the American Society for Neurochemistry, Baltimore, MD March 4-7th, 2012.
108. N Skop, M Siriwardane, F Calderon, Y Jiang, C Cho, **SW Levison** and CD Gandhi (2012) Multifunctional Microsphere Scaffold to Improve Neural Stem Cell Transplantation for Traumatic Brain Injury Repair. Presented at the 44th Annual Meeting of the American Society for Neurochemistry, Baltimore, MD March 4-7th, 2012.
109. LM Moore and **SW Levison** (2012) Spheroids: an in vitro system to study quaterpotential, PDGF-AA-responsive progenitors of the subventricular zone. Presented at the 44th Annual Meeting of the American Society for Neurochemistry, Baltimore, MD March 4-7th, 2012.
110. MT. Goodus, A. Guzman, Y. Jiang, FC Calderon and **SW Levison** (2012) Proliferative Response of Neural Stem/Progenitor Cells after Traumatic Brain Injury. Presented at the 44th Annual Meeting of the American Society for Neurochemistry, Baltimore, MD March 4-7th, 2012.
111. KD. Buono, D. Loporchio, D. Vadlamuri, Y. Jiang and **SW Levison** (2012) Mechanisms of Mouse Neural Precursor Expansion after Neonatal Hypoxia/Ischemia. Presented at the 44th Annual Meeting of the American Society for Neurochemistry, Baltimore, MD March 4-7th, 2012.
112. S. Simonishvili, Y. Jiang, **SW Levison** and TL. Wood (2012) Mechanisms of Bax-Mediated Death in Oligodendrocyte Progenitors after Excitotoxicity or Hypoxia-Ischemia, Presented at the 8th Hershey Conference on Developmental Brain Injury, June 5-8th, 2012.
113. MG Clausi, Z. Ren, D. Giannakidis and **SW Levison** (2013) ALK5 inhibition prevents Astrogliosis, Microgliosis and promotes myelination subsequent to Neonatal Hypoxia-ischemia. Submitted to ISN/ASN Joint Meeting, April 20th, 2013, Cancun, Mexico.
114. D Giannakidis, Z Ren, MG Clausi and **SW Levison** (2013) ALK5 inhibition prevents Astrogliosis and promotes myelination subsequent to Neonatal Hypoxia-ischemia. Submitted to American Academy of Neurology 65th Annual Meeting, San Diego, CA.
115. LM, Moore, L. Lei, B. Amendolara, **SW Levison** and PD Canoll (2013) Sorting out the Cellular Composition of Proneural Glioblastoma. Submitted to ISN/ASN Joint Meeting, April 20th, 2013, Cancun, Mexico.
116. MT Goodus and **SW Levison** (2013) Neural Stem Cell Proliferation and Cytokine Production in the Developing Subventricular Zone Following Pediatric Traumatic Brain Injury. Submitted to ISN/ASN Joint Meeting, April 20th, 2013, Cancun, Mexico.
117. AE Chaudhari , N Makar, **SW Levison**, T Norment, M Sotogreene and D Palmeri “Inspiring students from disadvantaged urban centers through mentoring and tutoring for the Brain Bee competition.” Presented at the 2013 SfN Meeting, San Diego, CA.

118. MG. Clausi, Z Ren, D Giannakidis and **SW Levison** (2013) Antagonizing the TGF- β 1 Receptor ALK5 reduces gliosis after neonatal hypoxia-ischemia. Presented at Euroglia, Berlin, Germany
119. MG. Clausi and **SW Levison** (2014) ALK5 inhibition prevents astrogliosis and promotes myelination leading to restoration of sensorimotor function subsequent to neonatal hypoxia-ischemia. Presented at the 44 annual meeting of the American Society for Neurochemistry, Long Beach CA.
120. S. Veerasammy, Fleiss B., Gressens P., and **Levison SW** (2014) Interleukin-1 β reduces the expansion of neonatal murine hippocampal-derived neural precursors by negatively regulating proliferation. Ninth Hershey Conference on Developmental Brain Injury (St. Michaels, MD, June 6, 2014).
121. Goodus MT, Ahmed N, Levison SW (2014) Leukemia Inhibitory Factor Haplodeficient Mice Sustain More Severe Neurological Impairment Correlating with Less Gliosis After Mild Closed-Head Pediatric Brain Injury. National Neurotrauma Society (NNS), San Francisco, CA.
122. Goodus MT, Levison SW (2014) Leukemia Inhibitory Factor Haplodeficient Mice Have Increased Vulnerability to Mild Traumatic Brain Injury. American Society for Neurochemistry, Long Beach, CA.
123. Guardia Clausi, M and SW Levison (2015) "LIF Haplodeficient Mice are More Vulnerable to Injury and Sustain Greater Sensorimotor Deficits after Perinatal Brain Injury" International Society for Neurochemistry, 25th Biennial joint meeting, Cairns, Australia, August 23-27.
124. Guardia Clausi, M and SW Levison (2015) "ALK5 Inhibition Prevents Astrogliosis and Promotes Myelination Leading to Restoration of Sensorimotor Function Subsequent to Neonatal Hypoxia-Ischemia" Satellite Meeting on Understanding the Function of Glia in the Healthy and Diseased CNS in conjunction with the 25th ISN Biennial Meeting, Manly Beach, Sydney, August 19-22.
125. S. Veerasammy, Fleiss B., Gressens P., and **SW Levison**. Perinatal inflammation reduces the proliferation of Tbr2+ hippocampal neural precursors but does not deplete stem cells. Fusion Neurogenesis Conference (Cancun, MX, March 2016).
126. E. Kumari, Azadeh Nasuhidehnavi, KD Buono and **SW Levison** (2018) IL-6 enhances the production of multipotential progenitors at the expense of neural stem cells. American Society for Neurochemistry, Riverside, CA.
127. Ekta Kumari, Azadeh Nasuhidehnavi, Vibha H. Savanur, Krista D. Buono and Steven W. Levison (2018) Systemically elevating Interleukin-6 in neonatal male mice enhances the production of multipotential progenitors at the expense of neural stem cells. Society for Neuroscience Meeting, San Diego, CA.
128. Michelle Frondelli, Matthew T. Goodus and **Steven W. Levison** (2018) LIF Haplodeficiency Differentially Alters Proliferative Responses in the SVZ and SGZ Following a Closed Head Injury. Presented at Int. Neurotrauma Soc. Meeting, Aug. 8, 2018, Toronto, CA.
129. Michelle Frondelli and **Steven Levison** (2018) Leukemia Inhibitory Factor Deficiency Dis-inhibits Progenitor Cell Proliferation Following a Traumatic Brain Injury. Presented at the Brain Health Institute Research Symposium. Nov. 30th, 2018.
130. Vincent Dodson, Malini Subramaniam, Neil Majmundar, Vanessa Swantic, Aakash Shah and **Steven Levison** (2019) Leukemia Inhibitory Factor in Mouse Model for Pediatric Traumatic Brain Injury. AANS meeting.
131. Fernando J. Velloso, Ekta Kumari, Rosamaria Dias and **Steven W. Levison** (2019) Elevated neonatal interleukin-6 drives behavioral phenotypes reminiscent of ASD in juvenile mice. Autism New Jersey meeting, 10/17/19, Atlantic City, NJ.

132. Michelle Frondelli and **Steven W. Levison** (2019) Exaggerated Proliferative Responses in the SVZ Following Closed Head Injury in LIF Haplodeficiency Mice. National Neurotrauma Society Meeting.
133. Michelle Frondelli and **Steven W. Levison** (2019) LIF Suppresses the Proliferative Response of Subventricular Zone Progenitors To Brain injury. International Society for Neurochemistry Meeting, August 5, 2019.
134. Veera D'Mello, Malini Subramaniam, Vincent Dodson, Aditya Paul Bhalla and **Steven W. Levison** (2021) Intranasal administration of leukemia inhibitory factor ameliorates gliosis and improves sensorimotor function after pediatric traumatic brain injury. American Society for Neurochemistry Meeting, June 25, 2021.
135. Fernando J. Velloso, Ekta Kumari, Rosamaria Dias and Steven W. Levison (2019) Elevated neonatal interleukin-6 drives behavioral phenotypes reminiscent of ASD in juvenile mice. Poster presented at the Autism New Jersey meeting, 10/17/19, Atlantic City, NJ.
136. Fernando J. Velloso, Ekta Kumari, Rosamaria E. Dias and Steven W. Levison (2019). Elevated neonatal interleukin-6 drives behavioral phenotypes reminiscent of ASD in juvenile mice. Poster presented at Brain Health Institute Symposium, 09/27/19, Murray Hill, NJ.
137. Fernando J. Velloso (2020) Interleukin-6 affects neuronal stem cells and progenitors in neonate mice, leading to phenotypes reminiscent of neurodevelopmental disorders. Invited talk at NUCEL, University of Sao Pau, Brazil, 10/29/2020
138. Fernando J. Velloso, Ekta Kumari and Steven W. Levison (2020) Modeling the effects of prenatal infections on neural development and behavior. Invited talk for the Brain Health Institute Symposium, 11/20/2021.
139. Anna Wadhwa, Fernando J Velloso and Steven W Levison (2021) Sex-Dependent Behavioral Changes in a Mouse Model of Autism Spectrum Disorder. Poster presented at the Chicago Area Undergraduate Research Conference, April, 2021. Winner of Top Poster Presentation.
140. Fernando J. Velloso, Anna Wadhwa, Ekta Kumari and Steven W. Levison (2021) Perinatal inflammation driven by interleukin-6 disturbs secondary germinal zone neurogenesis and gliogenesis producing deficits in sociability in mice. Poster presented at the Presented at the American Society for Neurochemistry Meeting, June 28th, 2021.
141. Fernando Janczur Velloso, Sidra Ali, Cynara Sepulveda, Anna Wadhwa and Steven W. Levison (2022) Elevated perinatal interleukin-6 modifies neurogenesis and gliogenesis producing ASD-like behavioral phenotypes. Poster presented at the Presented at the American Society for Neurochemistry Meeting, April 10th, 2022.

J. Reports - None

PRESENTATIONS:

Invited Speaker at International or National Meetings Since 2001

A. International

Invited Presentation "Perinatal Hypoxia-Ischemia Affects Neural Stem Cells: Consequences for Brain Development" Satellite Meeting to Cerebral Blood Flow and Metabolism, June 8, 2001, Taipei, Taiwan

Invited Presentation at Symposium on Hypoxic-Ischemic Injury to the Immature Brain: Impact on Development; "Neural Stem Cells and Ischemic Brain Damage: Assessing Their Vulnerability and Therapeutic Potentials." Cerebral Blood Flow and Metabolism Meeting, June 9, 2001, Taipei, Taiwan

Invited Platform Presentation "Abrogated interleukin-1 response confers lasting protection to mice from ischemic brain damage" International Society for Cerebral Blood Flow and Metabolism, Calgary, Canada, 7/3/2003

Invited Presentation “Stem cell response to hypoxia/ischemia” Berzelius Symposium on Perinatal Brain Injury, Goteborg Sweden, 9/8/03.

Invited Presentation “Abrogated interleukin-1 response confers lasting protection to mice from ischemic brain damage” IL-1 2003 Conference, Manchester, UK, Oct. 26 2003

Invited Presentation “Neuronal Plasticity After Stroke” Spring School on Regenerative Medicine, “Use of stem cells in neurodegenerative diseases – basics and applications”, University of Rostock, Rostock, Germany, April 26-May 1, 2004.

Invited Presentation “Progenitor Cell Loss as a Contributing Factor in Periventricular Leukomalacia” Myelin Gordon Conference, Il Ciocco, Barga, Italy. May 26, 2004.

Invited Presentation “Pathophysiological Concepts of Perinatal Brain Injury and Prospects for Repair from Resident Neural Stem Cells” 25th anniversary IPOKRATES conference, entitled, “New Frontiers in Neonatology 2005”. Innsbruck, Austria. Feb. 28th, 2005.

Invited Presentation “Neonatal hypoxic/ischemic brain injury initiates and sustains neocortical and striatal neuronal replacement from the SVZ subsequent to neural stem cell expansion” Magdeburg-International Conference on Neuroprotection and Neurorepair, Magdeburg, Germany, May 3-6, 2006.

Selected Presentation “Aberrant differentiation of neural stem/progenitor cells of the subventricular zone after perinatal hypoxia-ischemia.” Chichen Itza, Yucatan, Mexico, August 16, 2007.

Invited Presentation as Ross Abbott Lecturer “Compensatory responses of somatic neural stem cells to perinatal brain damage” Perinatal Research Society Meeting, Savannah Georgia, Sept. 28-30, 2007.

Invited Presentation “Compensatory Repair From Resident Neural Stem Cells After Brain Injuries” Grass Lecturer, University of Manitoba, Winnipeg, Canada Nov 29th, 2007.

Invited Presentation “IGF-1R and EGF-R cooperativity is necessary for neural stem cell propagation” IGF-OZ 2008, The IGF system and related proteins in development and disease, May 15-16 2008, Adelaide, Australia.

Invited Presentation “Neuroinflammation is required for the expansion of neural stem/progenitors in the rat subventricular zone after neonatal hypoxia/ischemia” 6th Hershey Conference on Developmental Brain Injury, June 4-7th 2008, Ecquevilly, France.

Invited Presentation “Signals Coordinating CNS Regeneration From Resident Neural Stem Cells After Neonatal Hypoxia/Ischemia” 2nd Shanghai Neonatal Forum, April 9-12, 2009, Shanghai, China.

Invited Presentation “Compensatory Repair From Resident Neural Stem cells After Brain Injuries” Fudan University, Institute of Brain Science, April 8, 2009, Shanghai, China.

Invited Presentation “Signals Coordinating CNS Regeneration From Resident Neural Stem Cells After Neonatal Hypoxia/Ischemia” International Society for Cerebral Blood Flow and Metabolism, Chicago, IL, June 29-July 3rd, 2009.

Invited Presentation “Neuroinflammation is required for SVZ neural stem/progenitor cell expansion after neonatal hypoxia/ischemia” International Society for Neurochemistry, Pusan, S. Korea, Aug 23-28, 2009.

Invited Presentation “IGF-II promotes stemness of neural restricted precursors”, Fudan University, Institute of Brain Science, April 7, 2011, Shanghai, China.

Invited Presentation “Intriguing effects of neuroinflammation on CNS repair after neonatal hypoxic/ischemic brain injury” 3rd Shanghai Neonatal Forum, April 7-10, 2011, Shanghai, China.

Invited Presentation “Mechanisms Underlying CNS Regeneration From SVZ Neural Precursors After Neonatal Hypoxia/Ischemia” presented at Oxford University, 6/11/2012.

Invited Presentation “Insulin-like Growth Factor II is Required for Adult Neurogenesis” Fudan University, Institute of Brain Science, April 9, 2013, Shanghai, China.

Invited Presentation “Neural stem cells, Progenitors and Nutrients” 4th Shanghai Neonatal Forum, April 4/10/13, Shanghai, China.

Invited Presentation “LIF is required for immature oligodendrocyte development and in neural precursor amplification during recovery from neonatal brain injury”. Myelin Satellite Meeting to the ISN/ASN conference, Iberostar Paraiso Maya Hotel. 4/17/2013.

Invited talk “Sustained IGF-II production is necessary for adult neurogenesis” 7th International Congress of the Growth Hormone and IGF Society, Singapore, Oct. 145-18th, 2014.

Invited talk “Breaching the immature immune response to preserve brain structure and function after neonatal hypoxia-ischemia”, INSERM 1141, L’Hopital Robert Debre, Paris, France January 29th, 2015.

Invited Presentation “Breaching the immature immune response to preserve brain structure and function after neonatal hypoxia-ischemia” 5th Shanghai Neonatal Forum, April 4/9/2015, Shanghai, China.

Invited Presentation “Insulin and IGF receptor signaling in Neural and Intestinal stem-cell homeostasis” International Course on “Novel mechanisms of signal transduction involved in cancer chemoresistance- focus on IGF signaling integration and cross-talk”, University of Catanzaro, Italy, May 6-8th, 2015.

Invited Presentation “IL-1 β Induced Alterations to Hippocampal Neurogenesis” INSERM 1141, L’Hopital Robert Debre, Paris, France, June 1, 2015.

Invited Presentation “Desynchronizing Glial Reactivity Prolongs Damage And Worsens Functional Deficits After Concussive Brain Injury” Oxford University, July 9th, 2015.

Invited Presentation “TGF β : Friend or Foe During the Resolution of Perinatal Brain Injury” King’s College, London, July 10, 2015

Invited talk “Developmental Origins of CNS Macroglial Heterogeneity” Glial Satellite Meeting of the ISN meeting, Sydney, Australia, 19-21 August 2015.

I cancelled my attendance due to death in the family.

Invited talk, “Modifying SVZ neural precursor responses after developmental brain injury to promote myelination”, Myelin Satellite Meeting of the 205 ISN meeting, Fitzroy Island, Australia, August 28th-31st, 2015.

I cancelled my attendance due to death in the family.

Invited Presentation “Insulin-Like Growth Factor II Is an Essential Adult Stem Cell Niche Constituent in Brain and Intestine” Growth Hormone and Insulin-Like Growth Factor Society Meeting, Tel Aviv, Israel, Nov. 8, 2016.

Invited Presentation “Targeting the Subacute Phase of Perinatal Brain Injury to Improve Neurological Outcome” 6th Shanghai Neonatal Forum, Shanghai, China, 4/14/2017.

Invited Presentation “Best practices for writing scientific papers for prestigious biomedical journals” ZhengZhou University, Zhengzhou, China, 4/12/2017.

Invited Presentation “TGF β -Stimulated Astrocytes Exacerbate Perinatal Brain Injury” Fudan University, Shanghai, China, 4/18/17.

Invited Presentation “LIF Deficiency Disturbs the Timing of the Glial Response to a Concussive Brain Injury, Exacerbating White Matter Injury and Sensorimotor Functional Deficits” Myelin Satellite Meeting of the 2017 ISN meeting, Isles Des Embiez, France 8/28/17.

Invited Presentation "Cell Replacement After Traumatic Brain Injuries: Contributions of Resident vs. Transplanted Neural Stem Cells" 6th International Symposium on Regenerative Rehabilitation", Pittsburgh, PA 11/1/17

Invited Presentation "Neuroregenerative and protective functions of Leukemia Inhibitory Factor after perinatal hypoxic-ischemic brain injury" 7th Shanghai Neonatal Forum, Shanghai, China, June 13-16, 2019.

B. National

2000

Colloquium Participant "Roles of cytokines in astrogliosis and recovery from CNS injury" American Society for Neurochemistry Meeting (Session organizer), March 26, 1999

2001

Panel "Cell death after perinatal brain insults: which cells are most susceptible and how do they respond?" Winter Conference on Brain Research, Jan 20-27, 2001

2002

Invited Presentation, Spring 2002 Conversations at Kern Series "Stem cells and cell replacement therapy: prospects, pitfalls and politics" Pennsylvania State University, State College, PA, January 23, 2001.

Invited Presentation "Responses of stem cells to brain damage" Pennsylvania State University Neuroscience Day, Hershey, PA May 4, 2002.

Workshop Organizer and Participant "Microglial activators and inactivators" American Society for Neurochemistry Meeting, Palm Beach, FL, June 22, 2002

Invited Presentation "Perinatal hypoxia-ischemia affects neural stem cells: consequences for brain development" 3rd Conference on Perinatal Cerebral Blood Flow and Metabolism, Hershey, PA. 6/7/02.

2003

Workshop organizer and participant "To turn or not to turn: extrinsic and intrinsic regulators of stem-cellness." Winter Conference on Brain Research, Salt Lake City, UT 1/29/2003

Workshop Organizer and Participant "Regenerative responses of neural stem cells to injury and disease" American Society for Neurochemistry Meeting, Newport Beach, CA, 5/4/03

Invited Presentation "Roles of ciliary neurotrophic factor in recovery from demyelinating diseases," Americas Committee for Treatment and Research in Multiple Sclerosis Meeting (ACTRIMS), San Francisco, California, Oct. 19, 2003.

2004

Workshop organizer and participant "Excitatory amino acids in neonatal brain injury." Winter Conference on Brain Research, Steamboat, CO, January 29 2004.

Invited Presentation "'Interleukin-1 receptor 1 deletion reduces neuroinflammation and confers permanent protection from ischemic brain damage." Experimental Biology, Washington DC, April 17-21, 2004.

Invited Presentation "Neurogenesis and gliogenesis from the subventricular zones." 4th Hershey Conference on Developmental Brain Injuries, Asilomar, CA, June 10, 2004.

Invited Presentation "CNTF as a pro-regenerative cytokine" FASEB meeting on "Neuro-Immune Interactions: Physiological and Pathological Relevance." Omni Tuscon National Golf Resort & Spa, Tucson Arizona, Aug. 7-12, 2004.

2005

Invited Presentation "Pathophysiological Concepts of Perinatal Brain Injury and Prospects for Repair from Resident Neural Stem Cells" 25th anniversary IPOKRATES conference, entitled, "New Frontiers in Neonatology 2005". Innsbruck, Austria, Feb. 28th, 2005.

Invited Presentation "Regenerative properties of cytokine activated glial cells" Neuron-Glia Gordon Conference, Ventura CA, March 13-18 2005.

Invited Presentation "Pathophysiological Concepts of Perinatal Brain Injury and Prospects for Repair from Resident Neural Stem Cells" Universidad Central del Caribe, Bayamon, Puerto Rico April 14th, 2005.

Invited Presentation "Regenerative Responses of Resident Neural Stem Cells to Developmental Brain Injuries" American Society for Neurochemistry Meeting, Madison, WI, June 23, 2005.

Invited Presentation "Prospects of regeneration after brain injuries using endogenous and exogenous neural stem cells" Conemaugh International Symposium, "Finding a Cure for Brain Injury: Improving Outcomes" Oct 13-16, 2005 Johnstown, PA.

2006

Invited Presentation "Cell replacement from the endogenous neural stem cells of the subventricular zone after perinatal brain injuries and the signaling cascades that regulate their expansion" January 20th, 2006, University of Colorado, Denver.

Invited Presentation "Signaling cascades that regulate the expansion and specification of neural stem cells" Dept. of Biochemistry, UMDN-NJMS, Feb. 2, 2006.

Invited Presentation "Neuronal and Glial Cell Replacement From The Resident Neural Stem Cells of the SVZ after a Developmental Brain Injury", Institute of Molecular Medicine and Genetics and Institute of Neuroscience, Medical College of Georgia, Augusta, GA. April 19th, 2006.

Invited Presentation "Signaling cascades that regulate the expansion and specification of neural stem cells" Developmental Biology Program, The Children's Hospital of Philadelphia. December 5th, 2006.

"Signaling cascades that regulate the expansion and specification of neural stem cells and their relevance to cancer" Tumor Board Conference, UMDNJ-NJMS, 12/ 4/2006.

Invited Presentation "Workshop W03. Are Astrocytes Neural Stem Cells (or are Neural Stem Cells Astrocytes?)" ASN meeting, March 2006.

2007

Invited Presentation "Prospects For Regeneration From Neural Stem Cells After Neonatal Asphyxia" Stem Cell Therapies for Pediatric Diseases and Injuries: A Critical Evaluation Orange, CA. Children's Hospital of Orange County, CA March 14, 2007.

Invited Presentation "Signaling cascades that mediate the expansion of neural stem/progenitors subsequent to pediatric brain injury" University of California, San Francisco, April 10, 2007

Invited Presentation "Neuronal and glial cell replacement after a developmental brain injury" Drew University, Madison, NJ, Nu Rho Psi Honor Society Induction Ceremony, April 30, 2007.

Invited Presentation "Compensatory Repair From Resident Neural Stem Cells After Brain Injury" New Jersey Institute For Technology, Sept. 14th, 2007.

Invited Presentation "Compensatory Repair From Resident Neural Stem Cells After Brain Injuries" U. of Cincinnati, Depts. of Pharmacology and Neuroscience, Oct. 14th, 2007.

2008

Invited Presentation "Neuroinflammation is required for the expansion of neural stem/progenitors in the rat subventricular zone after neonatal hypoxia/ischemia" Atlantic Health Care Neonate Research Institute, Morristown, NJ, August 18, 2008.

Invited Presentation " Inflammation exerts opposite effects on the proliferation of neural stem cells vs. progenitors of the subventricular zone" Chicago Myelin Afficionado Group, Aug. 26th, 2008.

Invited Presentation "Compensatory Repair From Resident Neural Stem Cells After Brain Injuries" University of California, Los Angeles Oct 31st, 2008.

2009

Invited Presentation "Intriguing effects of neuroinflammation on CNS repair after neonatal hypoxic/ischemic brain injury" Intellectual and Developmental Disabilities Research Center (IDDRC) Seminar series, Children's Research Institute, Children's National Medical Center, Washington DC. Nov. 5th, 2009.

Invited Presentation "Neural Differentiation of hESCs: Rationale and Methodological Considerations" Rutgers University Stem Cell Training Course, New Brunswick, Oct. 28th, 2009.

Invited Presentation "Opposite effects of neuroinflammation on stem/progenitors of the rat SVZ vs hippocampal SGZ" UC Riverside 3rd annual symposium on Glial-Neuronal Interactions in Health and Disease, Nov 13th 2009.

Invited Presentation "Signals Coordinating Forebrain Cell Replacement From Resident Neural Stem Cells After Injury" University of North Dakota, 12/4/2009.

2010

Invited Presentation, "Opposite effects of neuroinflammation on CNS stem cells vs progenitors in brain injury " Columbia University, Feb. 19th, 2010.

Invited Presentation, "Signals Coordinating Forebrain Cell Replacement From Resident Neural Stem Cells After Injury" Seton Hall University, Feb. 24th, 2010.

Invited Presentation "Neuroinflammation exerts opposite effects on neural stem cells vs progenitors after neonatal hypoxic/ischemic brain damage" American Society for Neurochemistry Meeting, Santa Fe, NM, March 10, 2010.

Invited Presentation "Neuroinflammation is necessary for SVZ neural stem cell expansion after from stroke" presented at "Cutting Edge Neuroscience: From the Bench to Publishing." Biennial meeting of the NJ Chapter SfN, May 14, 2010.

Invited Presentation "Neuroinflammation is necessary for SVZ neural stem cell expansion after from stroke" IGERT program on the Integrated Science and Engineering of Stem Cells, Rutgers University, New Brunswick, July 15th 2010.

2011

Invited Presentation, "Signals Coordinating Forebrain Cell Replacement From Resident Neural Stem Cells After Injury" Emory University, April 19th, 2011.

Invited Presentation, "Insights into CNS stem/progenitor cell biology obtained using the Vannucci Model of HIE" NND/CP Workshop organized by California Institute for Regenerative Medicine, June 7-9th, 2011.

Invited Presentation "Recruiting Neural Stem cells to Regenerate the Central Nervous System after Brain Injury" presented at NJIT, 9/16/2011.

Invited Presentation "Flow Cytometric Analyses of Mouse SVZ Neural Precursors" presented at the 5th Annual NJ Stem Cell Research Symposium, 9/21/2011.

2012

Invited Presentation "Recruiting Neural Stem cells to Regenerate the Central Nervous System after Brain Injury" presented to NJMS Dept. of Neurology and Neuroscience, 4/25/2012.

2013

Invited Presentation "Signals Coordinating Forebrain Cell Replacement From Resident Neural Stem Cells After Injury" Presented to Department of Department of Physiology and Neurobiology at UConn, Storrs, Ct, 2/20/13.

Invited presentation "Recruiting Neural Stem cells to Regenerate the Central Nervous System after Brain Injury". Presented to the NJMS Summer Students. July 25th, 2013.

2014

Invited Presentation "Multifunctional Microsphere Scaffold to Improve Neural Precursor Transplantation for Traumatic Brain Injury Repair" American Society for Neurochemistry Meeting, Long Beach, CA 3/8/14

Discussion Leader "Workshop on Glia/Immune Cell Interactions, Pathophysiological Mechanisms of Neurodegeneration and Targets for Therapeutics" American Society for Neurochemistry Meeting, Long Beach, CA, March 8, 2014.

Invited Talk "Insulin-like Growth Factor II is Required for Adult Neurogenesis" Department of Cell Biology and Anatomy, Maria Fareri Children's Hospital-New York Medical College, Valhalla, NY 10595. April 2, 2014.

Discussion Leader "Role of Non-Neuronal Cells in Injury and Recovery", 9th Hershey Conference on Developmental Brain Injuries", Harbortowne Resort, St. Michaels, Maryland, June 5, 2014.

2015

Invited talk "IGF-II is an intestinal stem cell niche factor" IGF Gordon Conference, Ventura, CA, March 8-13th, 2015.

Invited talk "Neurogenesis and Gliogenesis after Neonatal Hypoxic-Ischemia Brain Injury" Department of Neurology, New Jersey Medical School, Dec. 2, 2015.

2016

Panel Presentation "Astrocytes Participate Differently In Outcome Of Stroke In The Immature Vs. The Adult Brain" Winter Conference on Brain Research, Breckenridge, CO, Jan. 29th, 2016.

Panel Presentation "Heterogeneity of Subventricular Zone Cells and Differential Responsivity to CNS injury and injury-induced Cytokines." Winter Conference on Brain Research, Breckenridge, CO, Jan. 29th, 2016.

Invited talk "Neurogenesis and Gliogenesis after Neonatal Brain Injuries" Department of Biology, Rutgers-Newark, April 23, 2016.

2018

"Invited talk "Neural Stem Cell and Progenitor Cell Responses to Pediatric Brain Injuries" George Washington University 2/8/2018

Invited Presentation "TIPs on NRSA's" YIAC/YSSC workshop "Finding the Right Fit: Academia", American Society for Neurochemistry Meeting, Riverside, CA 3/25/18'

Invited Presentation "Cell Replacement After Traumatic Brain Injuries: Contributions of Resident vs. Transplanted Neural Stem Cells" East Orange Veteran's Administration Research Day, East Orange, NJ 5/14/18

Invited Presentation, "Stimulating Cell Replacement From Resident Stem Cells After Perinatal Brain Injury" U. Maryland, Oct. 22nd, 2018.

2019

Invited Presentation, "Neuroregenerative and protective functions of LIF after pediatric brain injury" Symposium in honor of Jean de Vellis, UCLA, March 8, 2019.

2020

Invited talk "Neuroregenerative and protective functions of LIF after neonatal hypoxic-ischemia brain injury" Department of Neurology, New Jersey Medical School, April 29th, 2020.

Invited Talk “Modeling the effects of prenatal infections on neural development and behavior” Brain Health Institute Symposium, 11/20/2020.

2021

Invited Talk “ Neuroregenerative and protective functions of Leukemia Inhibitory Factor in perinatal hypoxic-ischemic brain injury. Presented to the Newborn Brain Society, 2/25/2021.

Invited Talk "Neuroprotective Functions of LIF after Concussive Head Injuries” Presented at the Virtual Meeting of the American Society for Neurochemistry, June 30th, 2021.

2022

Invited Talk “Cell replacement after neonatal stroke: Contributions of resident progenitors and limitations of transplantation. Virtual Seminar presented to the U Conn Health Sciences Center, 1/13/2022.

HOSPITAL APPOINTMENTS: *None*

OTHER EMPLOYMENT OR MAJOR VISITING APPOINTMENTS:

2000 -2004	<i>Associate Director, Neuroscience Graduate Program, Pennsylvania State University College of Medicine</i>
2002- 2004	<i>Associate Director, Program Project Grant on Perinatal Hypoxia/Ischemia, Pennsylvania State University College of Medicine</i>
2004 – Present	<i>Director, Laboratory for Regenerative Neurobiology, UMDNJ-New Jersey Medical School</i>
2004 - Present	<i>Member Rutgers University Biology Graduate Program</i>
2004 – 2009	<i>Co-Director, Integrative Neuroscience Graduate Program, University of Medicine and Dentistry of New Jersey- Graduate School of Biomedical Sciences</i>
2014-2015	<i>Visiting Scientist, Research Unit 1141 “Neuroprotection of the developing brain” Inserm, U676, Hôpital Robert Debré, 48 Boulevard Sérurier, 75019 Paris, France</i>

PRIVATE PRACTICE: *None*

LICENSURE: *None*

DRUG LICENSURE:

CDS: None

DEA: None

CERTIFICATION: *None*

MEMBERSHIPS, OFFICES AND COMMITTEE ASSIGNMENTS IN PROFESSIONAL SOCIETIES:

Society for Neuroscience, member, 1987 - Present
Central PA Chapter Society for Neuroscience, member, 1994- 2004
President, Central PA Chapter Society for Neuroscience, 1999 - 2002
American Society for Neurochemistry, Member, 1986 – Present
Pennsylvania Congressional Liaisons, member, 1998- 2004
International Society for Neuroimmunology, member, 1998 - 2006
International Society for Cerebral Blood Flow and Metabolism, 2003 - 2013
International Society for Developmental Neuroscience, 2003- Present
International Society for Neurochemistry, member 2007- Present
International Society for Stem Cell Research, member, 2003 – Present
Jordi Folch-Pi Award Committee, ASN, 1999 - 2002
Councilor, COM Faculty Organization, Pennsylvania State University, 2000 - 2003
Councilor, ASN, 2001 – 2006
Publicity and Public Outreach Committee for ASN, 1999 – 2006
Program Committee, ASN, 2005-2008
President, New Jersey Chapter Society for Neuroscience, 2005 – 2009
Secretary for the American Society for Neurochemistry, 2006 – 2009

Exhibits Chair for Winter Conference on Brain Research 2005 – 2008
Board of Directors for Winter Conference on Brain Research 2009-2013
President-Elect American Society for Neurochemistry, 2009 – 2011
President American Society for Neurochemistry, 2011 – 2013
Chair, American Society for Neurochemistry Journal Oversight Committee, 2013 – 2015
Member, American Society for Biochemistry and Molecular Biology 2014 –
Chair, American Society for Neurochemistry Nominating Committee 2015 –
Member, National Neurotrauma Society 2018 – Present
Co-Organizer, NY-NJ Glial Symposium 2019, Newark, NJ
Member, American Association for the advancement of Science 2019 -

HONORS AND AWARDS:

Graduated with High Distinction, University of Rochester, Rochester, NY (1983)
NRSA Pre-doctoral Fellowship Award #MH 9828 (1987-1990)
Postdoctoral Training Grant Fellow, grants #MH15174, #AG00189 (1990-1992)
Fellow, Winter Conference on Brain Research (1995)
Smitty Steven's Award, Winter Conference on Brain Research (1999, 2004)
"Best of the Block" Medical Student Teaching Award (2002)
Service Award, Central PA Chapter, National M.S. Society (2004)
Grass Traveling Lecturer, Winnipeg Chapter SfN (2007)
Medical Excellence Award, Foundation of UMDNJ (2008)
Excellence in Research Award, Foundation of UMDNJ (2010)
Excellence in Teaching Award, Foundation of UMDNJ (2013)
Dean's Outstanding Educator Award, Rutgers Graduate School of Biomedical Sciences (2015)
Nominated for Golden Apple Teaching Award by NJMS Medical Students (2018)
Nominated for Golden Apple Teaching Award by NJMS Medical Students (2019)

BOARDS OF DIRECTORS/TRUSTEES POSITIONS: *None*

SERVICE ON NATIONAL GRANT REVIEW PANELS, STUDY SECTIONS, COMMITTEES:

1994 *Ad Hoc Member, NINDS, NLS 1 Study Section*
 1995 *Ad Hoc Member, Neurology B-2 Study Section*
 1998; 2001,02 *Ad Hoc Reviewer, Department of Veterans Affairs*
 2000, 2003 *Ad Hoc Reviewer National Science Foundation*
 2001-2007 *NINDS F03A, Neuroscience Fellowship Review Group*
 2002-2007 **Chair**, *NINDS F03A, Neuroscience Fellowship Review Group*
 2002 *Member NINDS ZRG1 SSS-P MDCN Neuroscience Review Group*
 2003 **Chair**, *NINDS MDCN-5 (02) Special Emphasis Panel*
 2005 *Member NINDS, BDCN (02) (03) Review Group*
 2004-2007 **Chair**, *NINDS F03A, Neuroscience Fellowship Review Group*
 2007 *Member, NASA Space Radiation Biology/Panel 1 CNS Review Group*
 2008 *Second Chair, AIBS Study Section for NYSTEM grants*
 2008 *Member, ZRG1 MDCN D (03) Study Section*
 2010- 2012 *Ad Hoc, Veteran's Administration, Neurobiology C Study Section*
 2011 **Chair**, *ZRG1 BDCN Q (03), Neonatal Hypoxic Brain Injury Study Section*
 2012 *AIBS Study Section for NYSTEM grants*
 2012 **Chair**, *ZRG1 BDCN Q (02), Neonatal Hypoxic Brain Injury Study Section*
 2012-2014 *Ad hoc Reviewer, NIH ETTN-12 Study Section (Second Chair, 2014)*
 2013 **Chair**, *Neurobiology 2, AIBS Study Section for NYSTEM*
 2016 *Ad hoc Reviewer, NSD-B Study Section*
 2018 *Ad hoc Reviewer for PA Department of Health Grants*
 2018 *Ad hoc Reviewer for MDCN N02 Study Section*
 2019 *Ad hoc Reviewer for MDCN N02 Study Section*
 2019 *Ad hoc Reviewer for DBD Study Section*
 2019 *Reviewer for Florida Department of Health Biomedical Research Grants*
 2020 *Ad Hoc Reviewer for ANIE Study Section*

- 2020 Reviewer for PA Department of Health Grants
- 2020 Ad hoc Reviewer for DBD NIH Study Section
- 2020 Reviewer for Florida Department of Health Biomedical Research Grants
- 2021 Chair, ZRG1 MDCN-G (05) NIH Study Section
- 2021 Permanent member of NIH DBD Study Section (2021-2027)

CONSULTING

- 1998 Consultant for Dr. Douglas H. Baird, Ph.D., Department of Neurobiology and Anatomy, MCP-Hahnemann School of Medicine, Allegheny University of the Health Sciences, Philadelphia, PA on proposal "Semaphorin Function during Cerebellar Axon Guidance"
- 1999 Consultant for Dr. Regina Armstrong, Dept. Anatomy, Uniformed Services University of the Health Sciences, Bethesda, MD on Grant #NS 039293-01, "PDGF-A and FGF2: In vivo Roles During CNS Remyelination"
- 2005 Consultant for core facility for neuronal, glial and organotypic cultures at the Universidad Central del Caribe, Puerto Rico
- 2005,2007 Consultant for UTMB Program Project "Brain Cell Death Mechanisms after Perinatal Ischemia", Galveston, Tx.
- 2009 - Consultant for U of Maryland Program Project "Metabolic & Developmental Aspects of Mental Retardation"
- 2011 Editor-in-Chief Search Committee for Neurochemical Research
- 2015 Consultant for Dr. Sridhar Kannurpatti, Department of Radiology Rutgers-New Jersey Medical School for grant from the NJCBIR entitled "Mitochondrial Facilitation Treatment in Mild Traumatic Brain Injury and its Integrated Translatable Monitoring".
- 2017 - External Advisory Board Meeting for the PO1 "Effect of Perinatal Hypoxia Ischemia on the Developing Cerebellum With and Without Inflammation" U of Maryland.

SERVICE ON MAJOR COMMITTEES:

- A. International
 - 1994 - Ad Hoc Reviewer, US-Israel Bi-National Science Foundation
 - 2006 - Reviewer for ELA, Fondation de Recherche National
 - 2013 - Reviewer for Fondation ARSEP - French MS Research Society
 - 2013 - Reviewer for Auckland Medical Research Foundation
 - 2015,2016 – Reviewer for Agence National de la Recherche
 - 2016 - Reviewer for Fondation pour la Recherche sur les Accidents Vasculaires Cérébraux
 - 2016 – Reviewer for Marsden Fund Royal Society of New Zealand
 - 2017 – Reviewer for Czech Science Foundation
 - 2020 – Reviewer for the Swiss National Science Foundation
- B. Medical School/University
 - 1994 – 2004 Neuroscience Seminar Committee
 - 1994 – 2004 Neuroscience Candidacy Exam evaluator
 - 1995 – 2004 Prospective medical student interviewer, ~21 students/year.
 - 1995 - 2004 Cell and Molecular Biology Program
 - 1995 - 2004 Master's Degree in Anatomy Program Committee
 - 1995 – 2004 Neuroscience Program Curriculum Committee
 - 1996 - 2004 CMB Program Candidacy Exam examiner
 - 1996 - 2004 Professional skills presentation evaluator
 - 1994 - 2004 Graduate Student Research Forum evaluator
 - 1999 - 2004 Neuroscience Program Recruiting Committee
 - 1998 - 2002 Course Committee: Cellular and Molecular Basis of Medical Practice
 - 2000 – 2003 Councilor, COM Faculty Organization, Penn State University
 - 2000 – 2004 Chair, Neuroscience Curriculum Committee, Penn State University
 - 2000 - Present Member MD/PhD Program
 - 2001 - 2004 Neuroscience Retreat Planning Committee, Penn State University
 - 2001 - 2004 BIOS Neuroscience Option Steering Committee, Penn State University
 - 2002 Neuroscience Advisory Committee, Pennsylvania State University
 - 2002 – 2003 Faculty Organization Task Force on P & T

2003 *Co-Chair, Space Utilization Committee, Department of Neural and Behavioral Sciences, Penn State University College of Medicine*

2004 - 2009 *Co-Director, Integrative Neuroscience Graduate Program*

2004 - 2009 *GSBS Executive Council*

2007 - 2008 *Faculty GSBS Transition Team*

2008 - 2010 *Chair, GSBS-Website Committee*

2008 - 2011 *Chair, GSBS Recruitment Committee*

2008 – Present *Faculty Advisor and right defenseman for the Medwings Hockey Team*

2010 – 2011 *NJMS Faculty Committee on Appointments and Promotion (FCAP)*

2010 *FUMDNJ Bridge Grant Review Committee*

2010– Present *GSBS-N CBNP track oversight committee*

2011– Present *CBNP Oversight and Website committee*

2012 *FUMDNJ Bridge Grant Review Committee (Alternate Chair)*

2013 *FUMDNJ Bridge Grant Review Committee (Alternate Chair)*

2013 - Present *Member, GSBS Working Group*

2014 *FUMDNJ Bridge Grant Review Committee (Chair)*

2014 *BME Strategic Plan Workgroup for RBHS*

2014 *Neuroscience Strategic Plan Workgroup for RBHS*

2014 *Regenerative Medicine Strategic Plan Workgroup for RBHS*

2016 – *Autism Research Center Director Search Committee Member*

2017 – *NJMS Research Recognition Committee (RRC)*

2018 – 2019 *Member, BHI Neurodegenerative Diseases Faculty Search Committee*

2019 – *Faculty mentoring committee for Carrie Esopenko in the School of Health Professions.*

2020 – *Reviewer for CCRP2 COVID-19 grant proposal*

2020 – *Reviewer of 2020 NJ ACTS Fellowship proposals*

2021 – *Reviewer of 2021 NJ ACTS Fellowship proposals*

B. Hospital (Name, Inclusive Dates)

2011 – 2012 *NJMS Strategic Planning Steering Committee, Brand and Image workgroup*

C. Department

2003 – 2004 *Co-Chair Neural and Behavioral Sciences Space Committee*

2005 – 2015 *Appointments and Promotions Committee, Dept. of Neurology and Neuroscience*

2012 – 2015 *Chair, Appointments and Promotions Committee, Dept. of Neurology and Neuroscience*

D. Editorial Boards

2001 – 2008 *Senior Editor, Developmental Neuroscience*

2005 – Present *Editorial Board, Journal of Neuroscience Research*

2005 – Present *Editorial Board, Int. Journal of Developmental Neuroscience*

2008 – Present *Editorial Board, ASN NEURO*

2009 – 2019 *Editor in Chief, Developmental Neuroscience*

2009 – Present *Editorial Board, Frontiers in Neurogenesis*

E. Ad Hoc Reviewer

1994 - present *Reviewer: Annals of Neurology, Cell Stem Cell; Journal of Neuroscience; Glia; Journal of Neurotrauma; Neuroscience; Journal of Neurochemistry; Genes and Development, Molecular Biology of the Cell, Stroke, Experimental Neurology; PLoS One, Developmental Biology, Developmental Neuroscience; Journal of Cerebral Blood Flow and Metabolism, Neurobiology of Disease, Journal of Cell Sciences, Journal of Neurobiology; Journal of Neuroscience Research; Journal of Comparative Neurology; Cerebral Cortex, J. Neuropathology and Experimental Neurology, Developmental Dynamics; Neuroscience Letters; Neurochemistry International, Investigative Ophthalmology & Visual Science, Pediatric Research, Journal of Anatomy, Neuroimaging*

1999 *Invited editor for Special Issue of Developmental Neuroscience “Neuroepithelial Stem Cells and Neural Progenitors”*

2000 *Invited editor for Special Issue of Developmental Neuroscience “Perinatal Brain Injury”*

2001 *Invited editor for Special Issue of Developmental Neuroscience “Developmental Brain Injury”*

- 2004 *Invited editor for Special Issue of Developmental Neuroscience “Developmental Brain Injury”*
- 2007 *Invited editor for Special Issue of Developmental Neuroscience “Bench to Bedside in Fetal and Neonatal Brain Injuries”*
- 2009 *Invited editor for Special Issue of Developmental Neuroscience “Progress in Fetal and Neonatal Brain Injury Research”*
- 2015 *Editor for Special Issue of Developmental Neuroscience “Cell Death and Plasticity in the Developing Brain”*
- 2016 *Editor for Special Issue of Developmental Neuroscience “Cutting edge Concepts in Perinatal Brain Damage”*
- 2018 *Editor for Special Issue of Developmental Neuroscience “Mechanisms of Developmental Brain Injuries”*
- 2021 *Editor for Special Issue of Developmental Neuroscience “Challenges and Opportunities in Developmental Brain Injuries”*

SERVICE ON GRADUATE SCHOOL COMMITTEES:

(Member of 52 thesis Committees 1995 — 2011):

- 1995-2000 *Doctoral committee member for Stanley Hulet, Neuroscience Graduate Program*
- 1996-2000 *Doctoral committee member for Steven O'Donnell, Neuroscience Graduate Program*
- 1996-2000 *Doctoral committee member for FengJun Jiang, Neuroscience Graduate Program*
- 1996-2001 **Doctoral student advisor** for Phillip Albrecht, Neuroscience Graduate Program
- 1996-1998 **Master's student advisor** for Stacy Hudgins, Anatomy
- 1996-2000 *Doctoral committee member for Poonlarp Cheepsunthorn, Neuroscience Graduate Program*
- 1997-1998 *Master's Committee member for Vicki Rager, Anatomy*
- 1998-1999 **Master's student advisor** for Michael Cicchese, Anatomy
- 1998-2001 *Doctoral committee member for Nicole Bourbon, Pharmacology*
- 1998-2001 *Doctoral committee member for Ridwan Lin, Neuroscience Graduate Program*
- 1998-2000 *Doctoral committee member for Nuray Erin, Pharmacology*
- 1999-2000 **Master's student advisor** for Christopher Kuhlow, Anatomy Graduate Program
- 1999-2003 *Doctoral committee member for Michael Allar, Anatomy*
- 1999-2003 **Doctoral student advisor** for Christine Brazel, Cell and Molecular Biology
- 1999- 2004 **Doctoral student advisor** for Michael Romanko, IBIOS Molecular Medicine
- 1999-2002 *Doctoral committee member for Jennifer K. Ness, Cell and Molecular Biology*
- 1999-2001 *Doctoral committee member for Jake Dahl , Pharmacology*
- 1999-2001 *Master's committee member for Rastafa Geddes, Neuroscience Graduate Program*
- 2000-2003 *Doctoral Committee member for Crystal Anglen, Neuroscience Graduate Program*
- 2000-2003 *Doctoral Committee member for Robert Wheeler, Neuroscience Graduate Program*
- 2000-2001 **Master's student advisor** for Matthew Snyder, Anatomy
- 1999-2000 **Intern supervisor** for Crystal Barnhart (Messiah College undergraduate student)
- 1999-2000 **Intern supervisor** for Olivia Stoltzfus (Elizabethtown College undergraduate student)
- 2000-2000 **Intern Supervisor** for Jason Cromer, (LSC Summer Fellow)
- 2000-2004 *Doctoral committee member for Terra Frederick, Cell and Molecular Biology*
- 2000-2001 *Doctoral Committee member for Thomas Coates, Neuroscience Graduate Program*
- 2000-2001 **Intern supervisor** for Chris Michealis (Messiah College undergraduate student)
- 2001-2004 *Doctoral Committee member for Alicia Binda, Cell and Molecular Biology*
- 2001-2004 *Doctoral Committee member for Collin Davidson, Neuroscience Graduate Program*
- 2002-2005 **Doctoral advisor** for Ryan Felling, MD/PhD Program, Neuroscience Option
- 2002-2006 *Doctoral Committee member for Robert Romanelli, CMB Graduate Program*
- 2002-2002 **Intern supervisor** for Cindy Gilbert (York College undergraduate student)
- 2002-2003 *Doctoral Committee member for Rastafa Geddes, Neuroscience Graduate Program*
- 2002-2004 *Doctoral Committee member for Robert Twining, Neuroscience Graduate Program*
- 2002-2002 *External Thesis Examiner for Leonie Herx, University of Calgary, Calgary Canada, 6/10/02*
- 2003-2007 *Doctoral Committee member for William Tyler, CMB Graduate Program*
- 2003-2004 *Doctoral Committee member for Miguel Barthelery, Molecular Medicine Graduate Program*
- 2003-2004 *Doctoral Committee member for Aji Nair, Neuroscience Graduate Program*
- 2004-2008 **Doctoral Advisor** for Dhivyaa Alagappan, Molecular Medicine Graduate Program
- 2002-2004 **Doctoral Advisor** for Christine Liberto, CMB Graduate Program
- 2004-2004 *External Thesis Examiner for Maj Hedtjörn, Dept. Physiology, Göteborg University, Sweden*
- 2004-2008 **Doctoral Advisor** for Hsiao-Wen Lin, INS Graduate Program

2004-2008 **Master's Advisor** for Vamsi Alli, GSBS
2005-2009 *Doctoral Committee Member for Jungsoo Min, CMB Graduate Program*
2006-2009 **Doctoral Advisor** for Jennifer Bain, MD/PhD Graduate Program
2010 *External Examiner for Sarah Kohe, PhD Student, Otago School of Medical Sciences*
2006- 2011 **Doctoral Advisor** for Krista Buono, Biomedical Sciences, PhD Graduate Program
2007- 2012 **Doctoral Advisor** for Amber Ziegler, INS Graduate Program
2005-2008 *Doctoral Committee member for Christa Patterson, INS Graduate Program*
2007 *Qualifying Exam Committee member for Ru Chen, Biomedical Sciences Graduate Program*
2007-2010 *Thesis Committee for Zayaou Sun, Biomedical Sciences Graduate Program*
2008 -2011 *Doctoral Thesis Committee for Audrey Le, INS Graduate Program*
2009-2010 *Doctoral Thesis Committee member for Yangyang Huang, R-N Biology Graduate Program*
2009- 2013 **Doctoral Advisor** for Nolan Skop, Biomedical Engineering Graduate Program
2009- **Doctoral Advisor** for LisaMarie Moore, Biomedical Sciences Graduate Program
2009-2010 **Master's Thesis Advisor** for Julie Oh, GSBS-N
2010 - 2011 **Master's Thesis Advisor** for Dean Loporchio, GSBS-N
2010 - 2012 *Doctoral Thesis Committee member for Mevan Swiridame, NJIT, Biomedical Engineering*
2010 - 2013 *Doctoral Thesis Committee member for Joseph Vitale, NJIT, Biomedical Engineering*
2011 *Doctoral Thesis Committee member for Frank Kung, Biomedical Engineering*
2011 *Doctoral Thesis Examining Committee member for Paolo Lizano, MD, PhD Program*
2011- 2016 *Doctoral Thesis Committee Member for Eric Neuberger, Biomedical Sciences Graduate Program*
2011 *Qualifying Exam for Chunxue Zhou, Pharmacology/Physiology Graduate Program*
2011 - 2013 **Master's Thesis Advisor** for Alanna Guzman, GSBS-N
2011 - 2013 **Master's Advisor** for Bonnie Buechel GSBS-N
2011-2016 **Doctoral Advisor** for Matthew Goodus, Biomedical Sciences Graduate Program
2012 *Doctoral Thesis Examination member for Neeraja Syed, RU-N Biology Graduate Program*
2013-2017 **Doctoral Advisor** for Stephanie Veerasammy, Biomedical Sciences Graduate Program
2013-2016 **Doctoral Advisor** for Shravanthi Chidabaram, Biomedical Sciences Graduate Program
2013 *Master's rotation advisor for Randall Christopher, GSBS-N*
2013 **Faculty Mentor** for Abdulazziz Alaythan, MD
2013- 2019 **Doctoral Advisor**, Ekta Kumari, Biomedical Sciences Graduate Program
2014 - 2015 **Master's Thesis Advisor** for Faisal Choudhury, GSBS-N
2015 - 2018 **Doctoral Advisor** for Brian H. Kim, MD,PhD program, GSBS-N
2014 - *Qualifying exam for Luyu Liu, Biomedical Sciences Graduate Program*
2014 - *Qualifying exam for Archana Produttor, Biomedical Sciences Graduate Program*
2015 - *Doctoral Thesis Committee Member for Sushil Kumar.*
2016 - *Qualifying exam member for Ersilia Mirabelli, CBNP track, GSBS*
2016 - *Doctoral Thesis Committee member for Anna Giarratana, Rutgers RWJMS*
2016- *Qualifying exam member for Daniel Younger, BME track, GSBS*
2016- *Qualifying exam member for Yimeng Cheng, BME track, GSBS*
2016 *Qualifying exam member for Raghavendra Rao, I3 track, GSBS*
2017 *Qualifying exam member for Kevin Spiegler, BME track, GSBS*
2017 *Qualifying exam member for Lucas Corrubia, CBNP track, GSBS*
2017- 2020 **Doctoral Advisor** for Michelle Frondelli, Biomedical Sciences Graduate Program, BME track
2017-2018 *Doctoral Thesis Committee Member for Courtney Veilleux, I3 track, GSBS*
2017 -2018 **Master's Thesis Advisor** for Malini Subramaniam, SGS
2018 *External Examiner for Onome Okpe, PhD Student, Otago School of Medical Sciences*
2018 *Doctoral Thesis Committee for Henri Antikainen, PhD student, Rutgers, Newark*
2018 *Doctoral Thesis Committee for Lucas Corrubio, PhD student, CBMP track*
2018- 2019 **Master's Thesis advisor** for Hur Dolunay Kanal, SGS
2019- 2020 *Master's Thesis advisor for Fatemah Iman Dewji, SGS*
2018 - *Doctoral Thesis Committee for Azadeh Nasuhidehnavi, CBMP track, SGS*
2021- *Doctoral Thesis Committee for Hunter Lanovoi, CBMP Track SGS*
2021 **Doctoral Advisor for Da Lu, CBMP track, SGS**

Service on Other Graduate School Committees

Neuroscience Seminar Committee
Interdepartmental Neuroscience Graduate Program

Pennsylvania State University College of Medicine, 1994-2000

*Master's Degree in Anatomy Program Committee
Department of Neuroscience and Anatomy,
Pennsylvania State University College of Medicine, 1995-2000*

*Neuroscience Program Curriculum Committee
Interdepartmental Neuroscience Graduate Program
Pennsylvania State University College of Medicine, 1995 – 2004*

*Neuroscience Program Recruiting and Admissions Committee
Interdepartmental Neuroscience Graduate Program
Pennsylvania State University College of Medicine, 1999 — 2004
Chair, Neuroscience Program Curriculum Committee,
Interdepartmental Neuroscience Graduate Program
Pennsylvania State University College of Medicine, 2000 — 2004*

*Associate Director, Neuroscience Graduate Program,
Interdepartmental Neuroscience Graduate Program
Pennsylvania State University College of Medicine, 2000 — 2004*

*Member IBIOS Neuroscience Option Steering Committee,
Pennsylvania State University, 2001 —2004*

*Member Hershey Neuroscience Advisory Committee,
Interdepartmental Neuroscience Graduate Program
Pennsylvania State University College of Medicine, 2002 — 2004*

*Member Neuroscience Advisory Committee
Interdepartmental Neuroscience Graduate Program
Pennsylvania State University University, 2002 — 2004*

*Co-director, Integrative Neuroscience Graduate Program
University of Medicine and Dentistry, New Jersey Medical School, 2004- 2009*

Co-Organizer of the International Symposium on Neuroprotection and Neurorepair held at the Delta Dental Educational Conference Center, March 13-15th, 2007.

Organized the Symposium: Cultivating Neuroscience in the Garden State (CNgS) held at the Delta Dental Educational Conference Center, April 8th, 2008.

GSBS Website Committee (Chair) and consultant 2008 – 2010; 2011 -

GSBS Recruitment Committee (Chair) 2008 – 2011

*First Year Advisor, Integrative Neuroscience Graduate Program
University of Medicine and Dentistry, New Jersey Medical School, 2009 – 2010*

Program Coordinator, Concentration and Certificates in Neuroscience, 2009 – Present

Member, MD/PhD Track Oversight Committee 2012- Present

Member Biological, Biomedical & Health Sciences Academic Cluster Committee for the SGS

Member, SGS-N Hearing Body, 2020 - Present

SERVICE ON HOSPITAL COMMITTEES: *None*

SERVICE TO THE COMMUNITY:

- 1995 — *MS Bike Tour*
1996 — *MS Bike Tour*
1997 — *Participant, Medical Center/High School Mentor Program, 2/5/97.*
1997 — *Participant Night of Scientific Discovery, North Side Elementary School, Harrisburg, PA, 2/24/97; 2/23/98; 2/28/99*
1997 — *Brain Awareness Community Outreach Program. Presentation to Ben Franklin Elementary School, Harrisburg. 3/18/97.*
1997 — *MS Bike Tour*
1998 — *Brain Awareness Community Outreach Program. Presentation to Lincoln Elementary School, Harrisburg. 3/30/98.*
1998 — *MS Bike Tour*
1999 — *Presentation to York MS patient support group 9/13/99*
1999 — *Presentation to Lebanon MS patient support group 10/12/99*
1999 — *Presentation to Harrisburg MS patient support group 11/6/99*
1999 — *Presentation at "Reach for the Stars" Harrisburg, PA, NMSS 6/*
2000 — *Southside Elementary School, Harrisburg 3/9/00*
2000 — *Lincoln Elementary School, Harrisburg 4/26/00*
2000 — *Presentation at "Reach for the Stars" Lancaster, PA, NMSS 6/7/00*
2000 — *Presentation to Lebanon MS patient support group 6/13/00*
2000 — *MS Bike Tour*
2000 — *Assistant Coach B & B Peewee Hockey Team (League Champions!)*
2001 — *Organizer of Mind Your Brain event at Whitaker Center 3/17/01*
2001 — *Presenter, East Hanover Elementary School Science Fair, 3/27/01*
2001 — *MS Bike Tour*
2002 — *Mind Your Brain Organizer, Whitaker Center 3/16/02*
2002 — *Presentation to Lebanon MS patient support group 9/10/2002*
2002 — *MS Bike Tour*
2003 — *Mind Your Brain Organizer, Activity at Whitaker Center 3/15/03*
2003 — *Presentation to Lebanon MS patient support group 10/14/2003*
2003 — *Lecture on Multiple Sclerosis Waynesboro Hospital, 12/19/03*
2003 — *MS Bike Tour*
2005 — *YPO/WPO Stem Cell Education Event Participant, 10/3/2005*
2006 — *Survival Skills Facilitator, Sfn Meeting, Atlanta*
2008 — *NJ Brain Bee Organizer*
2009 — *UMDNJ Regional Brain Bee Organizer*
2010 — *UMDNJ Regional Brain Bee Organizer*
2011 — *UMDNJ Northern NJ Brain Bee Organizer*
2010 — *Summer Youth Scholars Program Speaker*
2010 — *MS Bike Tour*
2011 — *Summer Youth Scholars Program Speaker*
2012 — *UMDNJ Northern NJ Brain Bee Organizer*
2012 — *Summer Youth Scholars Program Speaker*
2013 — *UMDNJ Northern NJ Brain Bee Organizer*
2013 — *Summer Youth Scholars Program Speaker*
2014 — *Northern NJ Brain Bee Organizer*
2014 — *Bring your Child to Work Event at Newark Beth Israel*
2016 — *Northern NJ Brain Bee Organizer*
2017 — *Northern NJ Brain Bee Organizer*
2018 — *Newark NJ Brain Bee Organizer*
2019 — *Newark NJ Brain Bee Organizer*
2020 — *Newark NJ Brain Bee Organizer*
2021 — *Newark NJ Brain Bee Organizer*
2020 — *Judge for 7th Annual Video Challenge for High School Students, PDB, RCSB.org*
2021 — *Judge for 8th Annual Video Challenge for High School Students, PDB, RCSB.org*

Newspaper, Television Radio Interviews:

- 2001 — Interview, “Stem Cells” WGAL-TV Evening News 7/11/01
2001 — Interview “Stem Cells” WHTM-TV Evening News 7/12/01
2001 — Interview “Stem Cells” WLYH-TV Evening News 7/16/01
2001 — Interview “Stem Cells” WGAL-TV Evening News 8/10/01
2001 — Interview “Stem Cells” WHTM-TV Morning News (Live) 8/14/01
2001 — Interview with Sylvia Moss, “Stem Cells” Clear Channel Radio 8/22/01
2003 — Interview “MS Research in Central PA” WLYH-TV 9/25/03

Interviewed by Angela Steward for article in Star Ledger, April 26th 2006 on brain repair from neural stem cells.

Interviewed by Patrick Regan for Report broadcast on NJN News, May 17th, 2006 on brain repair from neural stem cells.

Interviewed by Patrick Regan for Report broadcast on NJN News, May 14th, 2007 on the symposium on Neuroprotection and Neurorepair.

Interviewed on HealthLink Radio—The University Hospital's weekly radio program produced in conjunction with WFDU (89.1 FM), June 23rd 2008.

Interviewed by Patrick Regan for Sounds of Science, broadcast on NJN Radio, July 28th, 2008 on neurogenesis and brain repair from neural stem cells.

SPONSORSHIP OF CANDIDATES FOR POSTGRADUATE DEGREE:**1. Doctoral Students:**

- Phillip J. Albrecht, PhD Student
1996-2001*
*Christine Y. Brazel, PhD Student
1999-2003*
*Michael J. Romanko, PhD Student
1999 – 2004*
*Hsiao-Wen Lin, PhD Student
2002 – 2008*
*Ryan P. Felling, MD/PhD Student
2002 — 2005*
*Dhivyaa Alagappan, PhD Student
2004 – 2008*
*Jennifer M. Bain, MD, PhD Student
2006 — 2009*
*Krista D. Buono, PhD Student
2006 – 2011*
*Amber M. Ziegler, PhD Student
2007 – 2012*
*Lisamarie Moore, PhD Student
2009 – 2015*
*Nolan B. Skop, PhD Student,
2009 – 2013*
*Matthew T. Goodus, PhD Student
2011 – 2015*
*Shravanthi Chidambaram, PhD Student
2012 - 2016*
*Stephanie Veerasammy, PhD Student
2012 – 2017*
*Ekta Kumari, PhD Student
2013-2019*
*Brian H. Kim, MD, PhD Student
2015- 2018*
Michelle Frondelli, PhD Student

2017–2020
Jie Lin, MD, PhD Student
2017 – 2020

2. Master's Students

Hudgins, Stacy, M.S. Thesis Student
1996-1997
Cicchese, Michael, M.S. Thesis Student
1998-1999
Kuhlow, Christopher, M.S. Thesis Student
1999-2000
Snyder, Matthew, M.S. Thesis Student
2000 – 2001
Christine Liberto, Ph.D. Thesis Student
2003 – 2005 (graduated with Master's degree)
Robert Rosti, M.S. Thesis Student
2003 - 2006
Vamsi Alli, M.S. Student
2004- 2008
Nidhi Shah, M.S. Student
2006-2006
Viet Hoang, M.S. Student
2009-2009
Julie Oh, M.S. Thesis Student
2008-2010
Dean Loporchio, M.S. Thesis Student
2010-2011
Alana Guzman, M.S. Thesis Student
2011- 2012
Bonnie Buechel M.S. Thesis Student
2011- 2013
Faisal Choudhury MS Thesis Student
2014 – 2015
Malini Subramaniam, MS Thesis Student
2017 – 2018
Dolunay Hur, MS Thesis Student
2018 –2019
Iman Fatemah Dewji, MS Thesis Student
2019 –

3. Summer Medical Students

Peter Li (2009)
Deepa Cherla (2010)
John Ohm (2011)
Christine Mau (2012)
Ruchika Talwar (2012)
Sheena Rastoga (2013)
Kai Deshpande (2014)
Aakash Shah (2017)
Vincent Dodson (2018)

4. Medical Residents and Fellows

Dimitry Zilberman (2011)
Eric Vernier (2012)
Dimitrios Giannadakis (2012)

Abdulazziz Alaythan (2013)
Sabrina Malik (2015)
Neil J. Majmundar, M.D. (2016 –)
Nevedh (Nivi) Rajan (2016)

5. Undergraduates and High School students (since 2004)

Jason Cromer (Summer 2000)
Amber Ziegler (2001-2003)
Charles Druckman (2000-2001)
Jon Enterline (Fall 2002-2003)
Qasim Husain (Summer 2007)
Rachel Cohen (Winter 2009)
Nasza Baker (Summer 2009)
Daimler Vadlamuri (Summers 2009, 2010, 2011)
Hershita Kaushik (Summer 2010 - 2011)
Ruchika Talwar (Summer 2012)
Steven Polischak (Summers 2012 and 2013)
Shivangi Goel (Summer 2012)
Marina Frayberg (Spring/Summer 2013)
Diana Payamps (Summer 2013)
Aafreen Azmi (Summer 2013, 2014)
Sereena Tharakan (2013-2014)
Ishani Khatiwala (Summer 2014)
Erica Wu (Summer 2016)
Nathalee Martinez (Summer 2016)
Carina Carolos (Summer 2017)
Sophia Lukac (Summer 2018)
Siddhant Kumarapuramganapath (Summers 2018 and 2019)
Bailey Mikytuck (Summer 2018)
Abigail Klausner (Summer 2019)
Rosamaria Dias (2019)
Gonzalo Alarcon (2019)

SPONSORSHIP OF POSTDOCTORAL FELLOWS:

J. Kyle Krady, Ph.D. (Research Assistant Professor)
1999 – 2004
Anirban Basu, Ph.D. (Postdoctoral Fellow)
1999- 2004
Yang, Zhengang, Ph.D. (Postdoctoral Fellow)
2004 – 2006
Ellora Sen, Ph.D. (Postdoctoral Fellow)
2004 – 2006
Mathew J. Covey, Ph.D. (Postdoctoral Fellow)
2004 – 2008
Frances Calderon, PhD (Assistant Professor, Research)
2010 – Present
Qiong Gan, PhD (Postdoctoral Fellow)
2011 – 2012
Zhihua Ren, PhD (Postdoctoral Fellow)
2011 – 2012
Mariano Guardia-Clausi (Postdoctoral Fellow)
2013 - 2016
Amber N. Ziegler (Postdoctoral Fellow)
2013 – 2015
Nolan B. Skop (Postdoctoral Fellow)
2014 – 2015
Lisamarie Moore (Postdoctoral Fellow)

2015-2016
 Yusuke Niimi, MD, PhD (Visiting Scientist)
 2016 – 2017
 Fernando Velloso, PhD (Postdoctoral Fellow)
 2018 —
 Veera D'Mello, PhD (Postdoctoral Fellow)
 2018 —

TEACHING RESPONSIBILITIES:

Lectures or Course Directorships:

Developmental Neurobiology course lecturer, University of North Carolina at Chapel Hill, 1989
Growth and Development course lecturer, Columbia University, 1991

Penn State University College of Medicine Courses

Neurobiology 511 lecturer, 1996 – 1997
Basic Sciences Course for Neurology Residents, 1995, 1997
Cellular and Molecular Basis of Medical Practice (Histology) 1993 – 2004
Director of Laboratories for Medical Histology (Anat 505/506), 1999 – 2002
Cellular and Molecular Neuroscience (Course Director), 1994 - 2004
Seminars in Neuroscience (Course Director, 1995 – 1999)
Seminars in Neuroscience (Facilitator) 1995 - 2002
Cell Biology lecturer 1995 - 2004
Biomedical Ethics Course Lecturer, 2001 – 2002
Professional Skills Course 2004

Pennsylvania State University, University Park Lectures

Lecturer Biol. 469, University Park, Pennsylvania State University 2000 – 2004

Governor's Institute For Life Science Educators

Instructor and Team Leader, 2000 – 2001

New Jersey Medical School

<i>Foundations in Neuroscience Course — Lecturer</i>	<i>2004 — 2009</i>
<i>Developmental Neurobiology Course — Lecturer</i>	<i>2004 — 2007</i>
<i>Stem Cell Biology Course — Lecturer</i>	<i>2005</i>
<i>Mind, Brain and Behavior Course — Lecturer, Lab,</i>	<i>2005 — 2014</i>
<i>Ethics Training for Graduate Students — Facilitator</i>	<i>2005 — 2008</i>
<i>Core: Systems Biology Course — Lecturer</i>	<i>2007 — 2009</i>
<i>Introduction to Biomedical Sciences — Lecturer</i>	<i>2009 — 2017</i>
<i>Topics in Neuroscience — Course Director</i>	<i>2009</i>
<i>Professional Skills Course I — Course Director</i>	<i>2007 — Present</i>
<i>Evening Core, Cell and Mol. Biol. II — Lecturer</i>	<i>2008 — 2009</i>
<i>Fundamentals of Neuroscience — Course Director</i>	<i>2009 — Present</i>
<i>Cellular, Developmental Neuroscience – Co-Director</i>	<i>2011 — Present</i>
<i>Regenerative Medicine – Course Director</i>	<i>2012 — Present</i>
<i>Basic Science Lectures for Neurology Residents</i>	<i>2014</i>
<i>Neurology and Psychiatry Course — Lecturer, Lab</i>	<i>2016 — Present</i>
<i>Professional Skills II – Proposal Evaluator</i>	<i>2015 — 2018t</i>
<i>Systems Neuroscience – Lecturer</i>	<i>2016 — Present</i>
<i>AC13 Course — Lecturer</i>	<i>2017</i>
<i>Professional Skills II – Course Faculty</i>	<i>2019 — Present</i>