

Patricia Denise Hurn, Ph.D.
Professor and Dean
University of Michigan

Business: Office of the Dean
 University of Michigan School of Nursing
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Education

<u>Degree</u>	<u>Institution</u>	<u>Field</u>
Post-Doctoral	Johns Hopkins University	Biomedical Engineering
PhD	Johns Hopkins University	Physiology
MN	University of Washington	Nursing, Minor in Business Administration
BSN	University of Florida	Nursing

Professional Experience

- 2016- Professor and Dean of Nursing, School of Nursing; Professor of Molecular, Cellular, and Developmental Biology, School of Literature, Science and the Arts (LSA); Professor of Molecular and Integrative Physiology, School of Medicine; University of Michigan, Ann Arbor, Michigan
- Chief executive for the UM School of Nursing with approximately 1000 students, 150 faculty and staff; Joint appointments in physiology and molecular biology for teaching and research activities
- 2011-2016 Vice Chancellor for Research and Innovation, The University of Texas (U.T.) System; previously Associate Vice Chancellor for Health Research, U.T. System Austin, Texas
- Executive officer of U.T. System, the highest level executive group, tasked with managing diverse education and research issues. Acts as research counsel for the U.T. Board of Regents to provide expertise, strategic planning and resource acquisition in a broad range of innovation initiatives relevant to the 14 universities of the System. Line responsibility for the U.T. System Office of Technology which supports discovery commercialization, industry and community partnerships, strategic investments in all university campuses, and business and financial oversight of the two investment funds.
- 2011-2012 Research Professor of Neuroscience, College of Natural Sciences, University of Texas at Austin Austin, Texas
- Academic appointment for research and teaching
- 2007-2011 Associate Dean for Faculty Development and Faculty Affairs; School of Medicine; Oregon Health and Science University Portland, Oregon

Leadership for faculty development, promotion and tenure, contracts and other faculty affairs business, operations and management for research space

2003-2011 Professor and Vice Chairman, Anesthesiology and Perioperative Medicine, Professor of, Physiology and Pharmacology, and Neurology School of Medicine, Oregon Health and Science University
Portland, Oregon

Development and execution for research arm of clinical department, laboratory head and lead researcher for an NIH funded 40 person laboratory based research group in stroke pathobiology and therapy

2002-2003 Professor, Anesthesiology/Critical Care Medicine; Director, Core Molecular Laboratories, Anesthesiology/Critical Care Medicine, School of Medicine, Johns Hopkins University
Baltimore, Maryland

Lead researcher in women's cerebrovascular health, leadership of core molecular laboratories for clinical department

1993-2002 Associate Professor, (1993-1997) Assistant Professor, Anesthesiology/Critical Care Medicine, School of Medicine, Johns Hopkins University
Baltimore, Maryland

Research and teaching

1989-1993 Research Fellow, Biomedical Engineering, School of Engineering, Johns Hopkins University
Baltimore, Maryland

Research Trainee in microvascular physiology

1981-1987 Staff, Critical Care Recovery Unit, Maryland Institute of Emergency Medical Services and Systems (MIEMSS), University of Maryland
Baltimore, Maryland

Patient Care

1981-1985 Instructor and Faculty Program Coordinator, Graduate Program in Trauma and Critical Care Nursing, School of Nursing, University of Maryland

Didactic and clinical teaching, Curriculum design, faculty training

Health Boards

2021- Board Member, MidMichigan Health, Midland, MI

2016- Founding Board Member, Executive Board of the University of Michigan Health System (UMHS) and Michigan Medicine (MM)
University of Michigan, Ann Arbor, Michigan

Service to Profession and Community

- 2018- Member, National Advocacy Coordinating Committee, American Heart Association
- 2017- Founding Member, Executive Board of the University of Michigan Health System, Ann Arbor MI
- 2016- Member, Council on Councils, National Institutes of Health
- 2014-2019 Member, Oversight Committee American Stroke Association/Bugher Foundation Centers of Excellence in Stroke
- 2011-2012 Advisory Council to the Director, Data and Informatics Working Group, National Institutes of Health
- 2008-2010 Chair, International Stroke Conference, American Heart Association/American Stroke Association
- 2008-2010 Member, American Stroke Association Long Range Planning Committee
- 2008-2010 Co-chairman, Stroke Treatment Academic Industry Roundtable (STAIR)
- 2006-2008 Co-Chair, International Stroke Conference, American Stroke Association
- 2005-2007 XXIII International Symposium on Cerebral Blood Flow, Metabolism and Function; VII International Conference on Quantification of Brain Function with PET Program Planning Committee
- 2004 Member, American Heart Association, Leadership Committee, Council on Cardiovascular Nursing
- 2002-2012 International Symposium Stroke and Cerebrovascular Disease Program Planning Committee, American Stroke Association
- 2007 Program committee, 28th International Symposium on Cerebral Blood Flow and Metabolism, Brain '07
- 2006 NIH NINDS Stroke Progress Review Group II.
- 2004 American Heart Assn Research Committee
- 2000 Co-Chairman, 29th International Scientific and Educational Symposium, Society for Critical Care Medicine
- 1997 Scientific Advisory Board, 18th International Symposium on Cerebral Blood Flow and Metabolism, Brain '97
- 1994-1998 International Educational Program Planning Committee, Society for Critical Care Medicine

Awards and Honors

- 2020 Member, The Johns Hopkins Society of Scholars
- 2017 Fellow, American Academy of Nursing
- 2014 Thomas Willis Lecture Award, American Stroke Association/American Heart Association
- 2011 Oregon Health and Science University Technology Innovation Award; Recombinant Molecules for Stroke
- 2010 Oregon Health and Science University Faculty Senate Distinguished Faculty Award for Outstanding Collaboration
- 2009 Alpha Omega Alpha Honor Society, Member
- 2002 Virenda B Mahesh Lecturer in Physiology, Medical College of Georgia
- 2001 Fellow, American Heart Association
- 2001 Fellow, American College of Critical Care Medicine
- 2001 Norma J. Shoemaker Award for Excellence in Critical Care Nursing, Society for Critical Care Medicine
- 2000 Presidential Citation, Society for Critical Care Medicine
- 1999 Presidential Citation, Society for Critical Care Medicine
- 1998 Presidential Citation, Society for Critical Care Medicine
- 1997 Presidential Citation, Society for Critical Care Medicine

- 1996 Fellow, Cardiovascular Section of the American Physiological Society
- 1993 Sigma Theta Tau International Honor Society, Nu Beta Chapter, Community Leader
- 1992 Fellow, Stroke Council of the American Heart Association
- 1991 The Jonathan Witherspoon Fellow for Stroke, Maryland Affiliate of the American Heart Association
- 1988 Research Award, Foundation for Nursing of Maryland
- 1981 Research Award and Scholarship, American Lung Association

Editorial Activities

- 2010-2013 Consulting Editor, Stroke
- 2006-2019 Editorial Board, Restorative Neurology and Neuroscience
- 2005-2012 Editorial Board, Journal of Cerebral Blood Flow Metabolism
- 2000-2007 Assistant Editor for Basic Science, Stroke
- 1999-2005 Consulting Editor, American Journal of Physiology: Heart and Circulatory Physiology
- 1994-2000 Editorial Board, Stroke

RESEARCH LEADERSHIP

- 2017-2018 Member Executive Board, National Clinical Scholars Program
- 2016-2017 External Advisory Board, Institute for Integration of Medicine and Science, University of Texas Health Science Center San Antonio, NIH funded Clinical and Translational Award, San Antonio
- 2013 Chair, Review Panel American Stroke Association/Bugher Foundation Centers of Excellence in Stroke
- 2012-2018 External Advisory Board, Center for Clinical and Translational Sciences, University of Texas Health Science Center at Houston, NIH funded Clinical and Translational Award, Houston
- 2011- External Advisory Board, Institute for Translational Sciences, University of Texas Medical Branch, NIH funded CTSA Galveston
- 2009-2013 Charter Member, Acute Neural Injury and Epilepsy (ANIE) Study Section, CSR, National Institutes of Health
- 2009-2010 OHSU Limited Submission Review Committee
- 2007-2010 OHSU Strategy Planning for Research Committee
- 2007-2010 Advisory Board, K12 Building interdisciplinary Careers in Women’s Health
- 2007-2010 Oregon Academy Clinical and Translational Research, Oregon Clinical and Translational Research Institute (OCTRI)
- 2004-2006 Strategic Advisory Committee, OHSU General Clinical Research Center
- 2004 Member, American Heart Association National Research Committee
- 2003-2004 Chairman, Brain 1 Study Section, American Heart Association
- 2001-2003 Co-chair, Brain 1 Study Section, American Heart Association
- 2001 Bugher Foundation Awards Review Committee, American Heart Association
- 2000- Medical Advisory Board, Hazel K. Goddess Fund for Stroke Research in Women
- 1998-2002 Johns Hopkins School of Medicine Clinical Research Review
- 1998-1999 Member, BDCN-1 Study Section, National Institute of Neurological Diseases and Stroke, National Institutes of Health
- 1995-1998 Member, Neurology B-1 Study Section, National Institute of Neurological Diseases and Stroke, National Institutes of Health

ACADEMIC LEADERSHIP:

- 2016- All Deans and Executive Officers Academic Progress Group, University of Michigan

2016- Member, Executive Committee, Michigan Institute for Data Science (MIDAS, University of Michigan)

2012 Chair, University of Texas Blue Ribbon Panel for Professionalism and Citizenship

2011-2017 External Advisory Board, NIH K12 Oregon Multidisciplinary Training Program in Emergency Medicine, Oregon Health and Sciences University

2008-2010 OHSU Academic and Student Affairs Council

2008-2010 OHSU SOM Women in Academic Medicine, ex officio

2008 Chair, OHSU SOM Faculty Performance Evaluation Task Force

2006 Chair, OHSU SOM Faculty Engagement Task Force

2001-2003 Johns Hopkins School of Medicine Promotions and Tenure Committee

2001-2003 Johns Hopkins School of Medicine Women's Leadership Council

1999-2002 Johns Hopkins University Institutional Animal Care and Use Committee
Molecular, Cellular, and Developmental Biology
School of Literature, Science and the Arts
University of Michigan

Teaching

2017- Faculty, Undergraduate, Molecular, Cellular and Developmental Biology, School of Literature, Science and the Arts, University of Michigan

2011-2016 Faculty, Graduate Neurosciences, School of Natural Sciences University of Texas at Austin

2006-2011 Faculty, Neuroscience Graduate Program, OHSU

2010 Lecturer, Society for Women's Health Research, Washington, DC

2008 Lecturer, Speaking of Women Lecture Series, Center for Women's Health, OHSU

2003- 2007 Lecturer, Brain Awareness Series, Public Relations, OHSU

2004 Neuroscience 625, Cell and Molecular Neurobiology, OHSU

2000-2003 Preceptor, Pikesville High School Science Internship Program, Baltimore, MD

1999-2002 Lecturer and laboratory teaching coordinator, Organ System Physiology, School of Medicine, Johns Hopkins University

994-1997 Instructor, Pathophysiological Basis for Advanced Nursing Practice, School of Nursing, Johns Hopkins University

1989-1994 2nd Year Pathophysiology Core, School of Medicine, Johns Hopkins University

1992 Lecturer Animal Models in Nursing Research, Research Concepts Course, Doctoral Program, School of Nursing, University of Maryland

1986-1987 Instructor, Physiology and Clinical Assessment of Ventilation and Perfusion, Therapeutic Concepts in Trauma/Critical Care (Graduate: N601), School of Nursing, University of Maryland

1981-1985 Instructor, Faculty Program Coordinator, Masters Program in Trauma and Critical Care Nursing, School of Nursing, University of Maryland

Patents

OHSU Tech ID 1279

US Non-Provisional Patent Application 13/924,275

Title: Compositions and Methods Using Recombinant MHC Molecules for the Treatment of Stroke

Filed: June 21, 2013

Trainees and Students

Full time postdoctoral fellows:

Yoshio Asano, M.D. (1994-96), Fellow Anesthesiology/Critical Care Medicine (A/CCM), Johns Hopkins School of Medicine; Stipend support through Saitama Medical School, research costs supported by NS-20020, NR03521, NS33668

Nabil Alkayed, M.D., Ph.D. (1995-98), Fellow Anesthesiology/Critical Care Medicine, Johns Hopkins School of Medicine; Stipend support and research costs NS33668

Kenji Sampei, M.D. (1996-98), Fellow Anesthesiology/Critical Care Medicine, Johns Hopkins School of Medicine; Stipend support through Tokyo Medical School, research costs supported by NS-20020, NR03521, NS33668

Masahiko Sawada, M.D. (1996-98), Anesthesiology/Critical Care Medicine (A/CCM), Johns Hopkins School of Medicine; Stipend support through Saitama Medical School, research costs supported by NS-20020, NR03521, NS33668

Izumi Harukuni, M.D. (1995-1999), Fellow Anesthesiology/Critical Care Medicine (A/CCM), Johns Hopkins School of Medicine; Stipend support through A/CCM departmental funds and pharmaceutical industry contracts, research costs supported by NS-20020, NR03521, NS33668

Yuki Watanabe, M.D., Ph.D. (1997-1999), Fellow Anesthesiology/Critical Care Medicine (A/CCM), Johns Hopkins School of Medicine; Stipend support through Gifu Medical School, research costs supported by NS-20020, NR03521, NS33668

Kimihiko Hattori, M.D. (1998- 2000), Fellow Anesthesiology/Critical Care Medicine (A/CCM), Johns Hopkins School of Medicine; Stipend support through Saitama Medical School, research costs supported by NS-20020, NS33668

Shozo Goto (1998-2000), Fellow Anesthesiology/Critical Care Medicine (A/CCM), Johns Hopkins School of Medicine; Stipend support through Tokyo Medical School, research costs supported by NS-20020, NS33668

Stephanie Murphy, Ph.D., V.M.D. (1998-2000), Fellow Comparative Medicine and Anesthesiology/Critical Care Medicine (A/CCM), Johns Hopkins School of Medicine; supported by the MD Affiliate of AHA

Nobio Sugo, M.D. (1999-2001), Fellow Anesthesiology/Critical Care Medicine (A/CCM), Johns Hopkins School of Medicine; supported by NS39148

Louise McCullough, M.D., Ph.D. (2000-2002) Fellow Anesthesiology/Critical Care Medicine (A/CCM), Johns Hopkins School of Medicine; supported by MD Affiliate of AHA and NS20020

Takashi Otsuka, M.D. (2001- 2003) Fellow Anesthesiology/Critical Care Medicine (A/CCM), Johns Hopkins School of Medicine; Fellowship supported by NS39148

Yun Xu, M.D. (2002-2003) Fellow Anesthesiology/Critical Care Medicine (A/CCM), Johns Hopkins School of Medicine; Supported by NR03521

Zhizheng Zhang, M.D. (2003-2004) Fellow Anesthesiology and Perioperative Medicine, OHSU. Fellowship supported by NS 33668

Sharon Graham, D.V.M. (2003-2006) Fellow Anesthesiology and Perioperative Medicine, OHSU, Fellowship supported by NS 20020

Ruediger Noppens, M.D. (2003-2006) Fellow Anesthesiology and Perioperative Medicine, OHSU. Fellowship supported by NS 20020

Ines Koerner, M.D. (2003-2006) Fellow Anesthesiology and Perioperative Medicine, OHSU. Fellowship supported by NS 20020

Hideto Kitano, M.D. (2004-2006) Fellow Anesthesiology and Perioperative Medicine, OHSU, supported by NS33668

Jian Cheng, Ph.D. (2003-09) Fellow Anesthesiology and Perioperative Medicine, OHSU. Fellowship supported by NR03521

Wenri Zhang, M.D. (2004-6) Fellow Anesthesiology and Perioperative Medicine, OHSU, Fellowship supported by NS 20020

Noriko Taguchi, M.D. (2005-6) Fellow Anesthesiology and Perioperative Medicine, OHSU, Fellowship supported by NS 49210

Lan Wang, M.D. (2005-07) Fellow Anesthesiology and Perioperative Medicine, OHSU, Fellowship supported by NS 49210

Bing Zhang, M.D., Ph.D. (2005-08) Fellow Anesthesiology and Perioperative Medicine, OHSU

Masayoshi Uchida, M.D. (2006-2010) Fellow Anesthesiology and Perioperative Medicine, OHSU, Fellowship supported by NS 33668

Kozaburo Akiyoshi, M.D. (2008-2011) Fellow Anesthesiology and Perioperative Medicine, OHSU, Fellowship supported by NS 49210

Suzan Dziennis, Ph.D. (2008-2011) Fellow Anesthesiology and Perioperative Medicine, OHSU, Fellowship supported by NS 49210

Takeru Shimizu, M.D., Ph.D. (2010-2011) Fellow Anesthesiology and Perioperative Medicine, OHSU, Fellowship supported by NR003521

Xuefang Ren, M.D., Ph.D. (2010-2011) Fellow Anesthesiology and Perioperative Medicine, OHSU, Fellowship supported by NR003521

Jie Pan, M.D. (2012-2015) Fellow in Neurobiology, University of Texas at Austin. Supported by NR003521

Clinical trainees: (under sponsor's direct supervision and support of research costs, training stipends according to departmental funds)

Dean Moutos, M.D., Fellow, Obstetrics and Gynecology (1993-94) Johns Hopkins School of Medicine

Mary Sturaitis, M.D., Fellow, Neuroanesthesiology, A/CCM (1994) Johns Hopkins School of Medicine

Steven Davis, M.D., Fellow, Pediatric Critical Care, A/CCM (1995-97) Johns Hopkins School of Medicine

Diane Lipscomb, M.D., Fellow, Pediatric Critical Care, A/CCM (1996-97) Johns Hopkins School of Medicine

Renata Rusa, M.D., Fellow, Neurology and A/CCM (1996-98) Johns Hopkins School of Medicine

Mikael Eliasson, M.D., Ph.D., Medical Student, JHU (1997-98) Johns Hopkins University School of Medicine

Michael Wang, M.D., Ph.D., Fellow, Neurology (1998-2000) Johns Hopkins University School of Medicine

Louise McCullough, M.D., Ph.D., Resident, Neurology (1998-2000) Johns Hopkins University School of Medicine

Alex Barrocas, M.D., Intern, Internal Medicine (2000-2001) Johns Hopkins University School of Medicine

Lauren Anderson, Johns Hopkins Undergraduate in Neurosciences (2000-2001) Johns Hopkins University School of Medicine

Anise Ardelt, M.D., Ph.D., Resident, Neurology (2000- 2003) Johns Hopkins University School of Medicine

Stacey Fairbanks, M.D., Medical Student (2005), Resident (2009- 2011) Anesthesiology, Oregon Health & Science University, Supported by T32 GM082770-03

Justin Ortiz, M.D., Ph.D., Resident Anesthesiology (2008-2011) Oregon Health & Science University, Supported by T32 GM082770-03

Lee-Lee Nguyen, M.D., Resident Anesthesiology (2009-2011) Oregon Health & Science University, Supported by T32 GM082770-03

Junior Faculty with mentored award, Hurn as mentor:

Mark Rossberg, M.D., Lily Women's Health Fund, Lily Pharmaceuticals (2000) Johns Hopkins University School of Medicine

Michael Wang, M.D., Ph.D., Burroughs Wellcome Fund Career Award (2000-2003); Richard S Ross Clinical Scientist Award; KO8, NINDS (2000-2005) Johns Hopkins University School of Medicine

Stephanie Murphy, V.M.D., Ph.D. (2000-2005) KO1 SERCA, NIH, Johns Hopkins University School of Medicine

Louise McCullough, M.D., Ph.D. (2002-2005) Goddess Scholar Award; American Stroke Assn Fellow to Faculty Award Johns Hopkins University School of Medicine

Tonya Palermo, Ph.D. (2004-2005) NIH K08 Assistant Professor, Fellow Anesthesiology and Perioperative Medicine, Oregon Health & Science University

Matthias Merkel, M.D. (2004-2010:) Assistant Professor, Fellow Anesthesiology and Perioperative Medicine, Oregon Health & Science University

Paco Herson, Ph.D. (2004-2007) Building Integrative Research Careers in Women's Health Award, Assistant Professor, Anesthesiology and Perioperative Medicine, Oregon Health & Science University

Kirk Lalwani, M.D. (2005-2007) OHSU Anesthesiology Research and Education Scholar, Assistant Professor, Anesthesiology and Perioperative Medicine, Oregon Health & Science University

Mingyue Liu, M.D., Ph.D. (2005-2009) AHA Scientist Development Award, Assistant Professor, Anesthesiology and Perioperative Medicine, Oregon Health & Science University

Kamila Vagnerova, M.D. (2005-2008) OHSU Anesthesiology Research and Education Scholar, Assistant Professor, Anesthesiology and Perioperative Medicine, Oregon Health & Science University

Michael Hutchens, M.D. (2005- 2011) KO8, NIGMS, Assistant Professor, Anesthesiology and Perioperative Medicine, Oregon Health & Science University

Beth Darnall, Ph.D. (2007-2010) Building Integrative Research Careers in Women's Health Award, Assistant Professor, Anesthesiology and Perioperative Medicine, Oregon Health & Science University

Ines Koerner, M.D., Ph.D. (2006-2010) OHSU Anesthesiology Research and Education Scholar, Assistant Professor, Anesthesiology and Perioperative Medicine, Oregon Health & Science University

Jian Cheng, Ph.D. (2009-2011) OHSU Anesthesiology Research and Education Scholar, Assistant Professor, Anesthesiology and Perioperative Medicine, Oregon Health & Science University

Sue Ann Bell Ph.D. R.N. (2017-) K23 NIH Assistant Professor, School of Nursing, University of Michigan

Sheria Robinson-Lane Ph.D. R.N. (2017-) Assistant Professor, School of Nursing, University of Michigan

Lenette Jones Ph.D. R. N. (2018-) Assistant Professor, School of Nursing, University of Michigan

Graduate Students and Ph.D. Thesis Committees:

Liqun Zhang, Ph.D., Neuroprotective effect of estrogen in diabetic stroke. Department Neuroscience, College of Medicine, Pennsylvania State University (2003)

Amy Ross, R.N., Ph.D., Immunomodulation of Clinical TIA. School of Nursing, OHSU (2004-2006)

Melissa Hernandez, Ph.D., GABAergic mechanisms of neuroprotection. Neuroscience Graduate Program, Oregon Health and Sciences University (2007-2011)

Jeffrey Iliff, Ph.D., Role of P450 Epoxyeicosanoids in Cerebral Extrinsic Perivascular vasodilator nerve function. Physiology and Pharmacology, Oregon Health and Sciences University (2009)

Nitish Mittal Department of Psychology, College of Liberal Arts, University of Texas at Austin (2014-2016)

Clinical Activities

2016- Active Registered Nurse, Michigan State Board of Nursing, 4704324952
2012- Active Registered Nurse, Texas State Board of Nursing, 824899

Completed Grant Support

NIH 2 RO1 NR03521-18

Estrogen as Immunoprotectant in Cerebral Ischemia

Patricia D. Hurn, Ph.D., 15% effort

\$ 1,250,000 Total Direct Costs (12/01/09-11/30/2015)

The specific aims of the project are to determine if estrogen deficiency in young and aging female mice enhances post-stroke immunosuppression and if estrogen or G1 replacement improves immune function in correlate with decreased brain injury.

Role: PI

Institutional Ruth L. Kirschstein NRSA (NIH GMS)

T32 GM082770-03

Integrated and Translational Training in Anesthesiology Research

Patricia D. Hurn, Ph.D., 10% effort

\$ 1,017,444 Total Direct Costs (7/01/2007 – 6/30/2012)

The goal of this program is to provide basic and clinical scientific training to academic anesthesiologists as an integral component of their postgraduate clinical training program. This training will allow anesthesiologists to establish independent investigative careers devoted to improving care of the anesthetized/critically ill patient by advancing knowledge in the field. The training program involves a two year continuum where trainees work under close supervision of a faculty member in research areas of neuroscience, gender biology, lung biology, cardiovascular, kidney, metabolism, and pain. Initially, the trainee will learn research skills, and later emphasis will be directed towards independent hypothesis generation, experimental design, data analysis, presentation of research findings, and competition for external funding. Research opportunities are offered by faculty members with proven records of success in the training of postdoctoral fellows, both from within Anesthesiology as well as from other collaborating basic science and clinical departments: neurology, medicine, neuroscience, pediatrics, neurosurgery, pathology, and physiology & pharmacology. This program is designed to produce academic anesthesiologists who will provide academic leadership throughout this century.

Role: PI

National Institutes of Neurological and Communicative Disorders and Stroke

PO1 NS-049210

Sex, Sex Steroids and Neuroprotection

Patricia D. Hurn, Ph.D., Principal Investigator, 25% total effort

\$5,000,000 Total Direct Costs (3/1/05-2/28/10)

The overall goal of this program project is to examine mechanisms of sex differences and sex steroids as neuroprotectants in experimental stroke and multiple sclerosis. Program includes 3 projects and 3 supporting cores.

National Institutes of Neurological and Communicative Disorders and Stroke
PO1 NS-20020: Mechanisms of Regulation of Cerebral Blood Flow
Patricia D. Hurn, Ph.D., Principal Investigator/Program Director
\$ 754,611 Total Direct Costs (6/01/03-5/31/09)

Project 2: Gender Differences in Stroke

(Patricia D. Hurn, PI, 10% effort)

Purpose of this project is to examine gender-specific mechanisms of ischemic injury in focal stroke.

Core A: Administration (Patricia D. Hurn, PI)

The purpose of this core is to provide administrative and financial structure for the PPG.

National Institutes of Neurological and Communicative Disorders and Stroke
2RO1 NS33668

Cerebral Ischemia in the Female and Male

Patricia D. Hurn, Ph.D., Principal Investigator, 25% effort

\$ 1,250,000 Total Direct Costs (4/1/05-3/31/10)

This grant examines mechanisms by which experimental stroke is sexually dimorphic, the role of pre-natal steroid exposure in determining the male “ischemia sensitive” phenotype in cerebrovascular disease and neuroprotection.

R01 NS054684 (Murphy, Stephanie PI)

National Institute of Neurological Diseases and Stroke

Patricia D. Hurn, Ph.D., 5% effort

(4/01/2006 – 6/30/2011)

Perioperative Stroke and Cerebral Conditioning in the Female

This grant focuses on how female gender and estradiol-specific effects lead to a detrimental response in APC female ischemic brain using a mouse isoflurane preconditioning (IsoPC) model. Our findings will elucidate the mechanisms by which female stroke outcomes are worsened by preischemic isoflurane exposure.

Role: Co-Investigator

1 R41 NS65515 (Offner, Halina PI)

National Institute of Neurological Diseases and Stroke

Patricia D. Hurn, Ph.D., 5% effort

5/15/2009-7/31/2010

A Novel Intervention Strategy for Stroke with RTL Therapy

Human stroke results in multi-organ systemic disease, rather than in solely a brain lesion. While patients may survive the initial brain insult, many succumb to stroke induced immunodepression caused by an initial over reaction of the immune system. We seek to develop a stroke therapy that would block the initial immune system over activation and thus be highly beneficial to stroke survivors.

Role: Collaborator

American Heart Association Bugher Foundation Award

0575058N

Sex specific Ischemic Cell Signaling

Patricia D. Hurn, Ph.D., Principal Investigator

\$400,000 Total Direct Costs (1/01/06-12/31/09)

The goal of these studies is to elucidate the mechanisms behind activation of poly (ADP-ribose) polymerase in the male and interactions with male sex steroid signaling.

National Institute for Nursing Research

2 RO1 NR03521

Estrogen and Testosterone as Neuroprotectants in Cerebral Ischemia

Patricia D. Hurn, Ph.D., Principal Investigator, 25% effort

\$ 1,250,000 Total Direct Costs (6/01/04-5/31/09)

The overall goal of this study is to examine mechanisms of estrogen's neuroprotection in stroke in experimental ischemia. Mechanisms include estrogen receptor alpha mediated regulation of cerebral blood flow and enhancement of angiogenesis. Testosterone's role as a regulator of intra-ischemic cerebral blood flow is also evaluated.

National Institute for Nursing Research

1 RO1 NR04943-05

Estrogen/Platelet Interaction in Cerebral Ischemia

Marguerite L Kearney Ph.D. R.N., Principal Investigator

Patricia D. Hurn, Ph.D., R.N., Co-investigator, 5% effort

\$ 1,371,112 Total Direct Costs (03/01/00-02/29/06)

Purpose of these studies is to determine effect and mechanisms of estrogen treatment on platelet reactivity during global cerebral ischemia. Whole blood aggregometry, flow cytometry, intravital microscopy and immunocytochemistry are employed in rabbit.

Veteran's Administration Merit Award

Gender differences in Opioid-mediated cardiac adaptation to stress

Donna Van Winkle, Ph.D., Principal Investigator, Portland VA Medical Center

Patricia D. Hurn, Ph.D., Co-Investigator, 3% effort

National Heart, Lung & Blood Institute

1 RO1 HL071854-01

Gender Differences in Cardiac Arrest/CPR

Patricia D. Hurn, Ph.D., Co-Investigator, 5% effort

\$237,500 Total Direct Costs (09/30/02 - 06/30/07)

This grant has the title "Gender Differences in Cardiac Arrest/CPR". The purpose of this proposal is to determine if there are inherent sex-linked injury mechanisms in experimental cardiac arrest/CPR, and if 17 β -estradiol, the principal biologically active estrogen in mammals, plays a key role in salvaging brain tissue following cardiac arrest/CPR.

National Institutes of Neurological and Communicative Disorders and Stroke

2RO1 NS33668

Cerebral Ischemia in the Female

Patricia D. Hurn, Ph.D., Principal Investigator, 25% effort

\$ 668,662 Total Direct Costs (4/1/99-4/1/05)

This study focuses on estrogen and progesterone as a neuroprotective team in experimental stroke in rodents. The overall hypothesis is that estrogen and progesterone improve ischemic outcomes in vivo by reducing excitotoxicity in a manner unique to the female animal. Transgenic mouse strains are employed to examine the importance of NMDA stimulated nNOS toxicity. Role of GABAergic inhibitory transmission as mechanisms of steroid neuroprotection.

National Institutes of Neurological and Communicative Disorders and Stroke

1 PO1 NS39148-01

Project III: PARP in focal cerebral ischemia; Patricia D. Hurn, Ph.D., Principal Investigator (15% effort)

Program Project Grant: Poly (ADP-ribose) polymerase in neuronal injury

Valina L. Dawson, Ph.D., Principal Investigator

\$ 958,219 Total Direct Costs (07/01/99-06/30/04)

Purpose of this project is to examine PARP mechanisms of ischemic injury in focal stroke in transgenic and virally transfected mice.

National Institutes of Neurological and Communicative Disorders and Stroke

RO1 NS-40267-01

Sociobiological Factors in Experimental Stroke Outcome

A. Courtney Devries, Ph.D., Principal Investigator

Patricia D. Hurn Co-investigator (10% effort)

\$ 750,000 Total Direct Costs (07/01/00-06/30/03)

Purpose of this project is to examine role of stress and corticosteroids in stroke outcome in mouse histology and behavioral measures.

National Institute for Nursing Research

2 RO1 NR03521

Estrogen as Neuroprotectant in Cerebral Ischemia

Patricia D. Hurn, Ph.D., R.N., Principal Investigator, 25% effort

\$ 750,000 Total Direct Costs (6/01/01-5/31/05)

American Diabetes Association

Estrogen as a Neuroprotectant in Diabetic Stroke

Susan J Vannucci, Ph.D., Principal Investigator, School of Medicine

Pennsylvania State University

Patricia D. Hurn, Ph.D., Consultant

\$300,000 (01/01-12/03)

National Institutes of Neurological and Communicative Disorders and Stroke

PO1 NS-20020

Project II: Gender Differences in Stroke; Patricia D. Hurn Principal Investigator (20% effort)

Program Project Grant: Mechanisms of Regulation of Cerebral Blood Flow; Richard J. Traystman, Ph.D., Principal Investigator

\$ 754,611 Total Direct Costs (12/01/97-11/30/02)

Purpose of this project is to examine gender-specific mechanisms of ischemic injury in focal stroke.

National Institute for Nursing Research

RO3 NR03816 (5% effort)

Post-ischemic Platelet Function: Young vs Adult

Marguerite L. Kearney, D.NSc., R.N., Principal Investigator

\$ 595,339 Total Direct Costs (06/01/95-05/31/96)

National Institutes of Neurological and Communicative Disorders and Stroke

5 PO1 NS-20020 (20% effort)

Program Project Grant: Mechanisms of Regulation of Cerebral Blood Flow

Richard J. Traystman, Ph.D., Principal Investigator

Project I: Role of Nitric Oxide in the Control of Cerebral Blood Flow in Global and Focal Ischemia

\$ 551,409 Total Direct Costs (12/01/92-11/30/97)

National Institutes of Neurological and Communicative Disorders and Stroke

1RO1 NS33668

Cerebral Ischemia in the Female

Patricia D. Hurn, Ph.D., Principal Investigator, 40% effort

\$ 668,662 Total Direct Costs (2/1/95-2/1/99)

Purpose of this work is to determine if cerebral recovery after global ischemia is different in female animals relative to males and if exogenous estrogen alters mechanisms of ischemic and reperfusion injury.

RO1 NR03521

pH-Mediated Mechanisms of Injury in Cerebral Ischemia

Patricia D. Hurn, Ph.D., R.N., Principal Investigator, 30% effort

\$ 595,339 Total Direct Costs (12/01/93-11/30/98)

This work investigates mechanisms of cerebral ischemic injury related to altered brain pH and buffering capacity, free-radical generation and iron catalysis. Employs magnetic resonance techniques, electrophysiology.

Publications

Peer-reviewed Journals:

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