

CURRICULUM VITAE

Harry T. Whelan MD

**Professor
Department of Neurology
Division of General**

OFFICE ADDRESS:

Children's Corporate Center
999 N 92 St
Milwaukee, WI 53226

EDUCATION:

1971 - 1972 General Motors Institute
1972 - 1975 B.A., University of Wisconsin--Milwaukee
1975 - 1979 M.D., University of Wisconsin--Madison

POSTGRADUATE TRAINING AND FELLOWSHIP APPOINTMENTS:

1979 - 1981 Intern/Resident, Department of Pediatrics, University of Florida, Gainesville, FL
1981 - 1984 Fellow, Pediatric Neurology, University of Minnesota, Minneapolis, MN
1990 - 1984 NeuroOncology American Cancer Society Clinical Oncology Career Development Award,
Vanderbilt University, TN

MILITARY SERVICE:

Diving Medical Officer, NR Navy Experimental Diving Unit, Deep Submergence Unit
Deputy Chief, Bureau of Medicine and Surgery, UNITED STATES NAVY
Captain, United States Navy RET
Senior Research Officer, Future Plans & Strategy, UNITED STATES NAVY
Senior Medical Officer, Readiness Command - Midwest, UNITED STATES NAVY

FACULTY APPOINTMENTS:

07/01/1984 - 09/30/1988 Assistant Professor of Neurology and Pediatrics, Vanderbilt University, Nashville,
TN
10/01/1988 - 1996 Associate Professor of Neurology and Pediatrics, The Medical College of Wisconsin,
Milwaukee, WI
05/01/1992 - 1997 Chief of Neurology, Children's Hospital of Wisconsin, Milwaukee, WI
07/01/1996 - Present Professor of Neurology, Bleser Endowed Professor, The Medical College of Wisconsin,
Milwaukee, WI

SPECIALTY BOARDS AND CERTIFICATION:

<u>Board Certified</u>	<u>Issue Date</u>	<u>Expiration</u>
Neurology with Special Qualification in Child Neurology (American Board of Psychiatry and Neurology)	1986	None
Board Certified in Undersea & Hyperbaric Medicine (American Board of Preventive Medicine)	2009	None

<u>Licensure</u>	<u>Number</u>	<u>Issue Date</u>	<u>Expiration</u>
State of Wisconsin	28456		None
State of Michigan	4301063981		None

AWARDS AND HONORS:

1973 B.A. with Honors, cum laude (University of Wisconsin-Milwaukee)
 1974 Travel in USSR; University Soviet Seminar 1974
 06/1976 - 09/1976 NIMH Research Fellowship
 1979 NIH Clinical Research Elective
 1987 - 1990 American Cancer Society--Clinical Oncology Career Development Award
 09/1994 United States Navy--Officer Training School First in Class Award, Pensacola Naval Air Station
 05/1995 United States Navy--Diving Casualties School First in Class Award, Naval Diving & Salvage Training Ctr
 10/21/1995 NAVY ACHIEVEMENT MEDAL, Research
 02/01/1996 United States Navy--Direct Presidential Commission as Lieutenant Commander, Promotion to Commander
 04/1996 Diving Medical Officer, Naval Diving & Salvage Training Ctr
 07/25/1997 NAVY & MARINE CORPS COMMENDATION MEDAL, Professional School Liaison Officer
 10/1997 Naval Special Warfare Group TWO
 04/2000 Inducted into NASA-Space Technology Hall of Fame
 2001 Discover Magazine Award for Technological Innovation
 2001 Institute for Space and Nuclear Power Studies Outstanding Paper Award, at the Space Technology & Applications International Forum, "NASA Light Emitting Diode Medical Applications from Deep Space to Deep Sea"
 06/01/2002 United States Navy--Promotion to Captain
 07/2004 Distinguished Research Professorship, Nat'l Defense University
 2008 - Present Bleser Endowed Chair in Neurology, Bleser Foundation
 2009 - 2010 Elected to: "Best Doctors in America"
 2013 Top-Rated Doctor , M Magazine
 2014 Legion of Merit Award, United States Marine Corps
 2014 Top-Rated Doctor , M Magazine
 2014 - Present Legion of Merit, United States Armed Forces
 2015 Top-Rated Doctor 2015, M Magainze

MEMBERSHIPS IN HONORARY AND PROFESSIONAL SOCIETIES:

Child Neurology Society
 American Academy of Neurology
 Pediatric Oncology Group Neuroscience Committee
 UDT-SEAL Association (Associate Member-DMO)
 Naval Submarine League--Life Member
 United States Naval Institute
 Association of Medical Corps Officers of the Navy - founding member (plank owner)
 Undersea & Hyperbaric Medical Society

EDITORSHIPS/EDITORIAL BOARDS/JOURNAL REVIEWS:

Editorship
 Journal Medical Gas Research
 Frontiers in Neurology
 Photodermatology, Photoimmunology & Photomedicine
 Journal Review
 Experimental Neurology
 Children's Cancer Study Group
 Developmental Pharmacology and Therapeutics
 Pediatric Neurology

Archives of Neurology
Southern Medical Journal
Clinical Pediatrics
Pediatric Dermatology
Radiation Research
Journal of Photomedicine and Laser Surgery
Neurology
World Neurology Journal

LOCAL/REGIONAL APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

2002 Endowed Professorship, Bleser Foundation
2004 - Present Honorary Professorship, University of Illinois, Chicago
2004 - Present Honorary Professorship, University of Wisconsin, Milwaukee

NATIONAL ELECTED/APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

08/01/2015 - Present International Board Member-CAPT U.S. Navy (ret), Undersea Medicine Inc. (IBUM) Medical Devices, Inc, Chief Scientific officer, Board of Directors
International Affairs Committee of the Child Neurology Society Neuroscience Committee, Pediatric Oncology Group
Distinguished Research Professor, Institute for Technology and National Security Policy, National Defense University
Neuroscience Committee, Children's Oncology Group.
Study Committee of CCG-105N - "Neuropsychologic Function in Four-Year Survival of ALL".
Chairman of Central Nervous System Germ Cell Tumor Study, Pediatric Oncology Group. "Lymphoblastic Leukemia and Its Therapy"
Study Committee of CCG-923 - "Good Prognosis Medulloblastoma: A Study of Reduced Neuraxis Radiation in Newly Diagnosed Children"
Craniopharyngioma Protocol, Ped Oncology Group. Program Director. Innate Immunity for Biodefense. Center for Technology and National Security Policy
National Defense University, Washington D.C.
Associated Military Surgeons of the United States (AMSUS)
DARPA, NASA, National Defense University Progress Report
Research Grant Reviewer for Office of Naval Research
Study Committee of CCG-105NP - "A Longitudinal Study of the Neuropsychological Effects of Acute Committee.

RESEARCH GRANTS/AWARDS/CONTRACTS/PROJECTS:

Active

Peer Review

Title: Bleser Foundation - Endowed Professorship
Dates: 01/01/2004 - Present
Direct Funds: \$1,000,000 (as eternal endowed trust for Dr. Whelan to provide ~\$70-100,000/yr. (indexed for inflation) INCREASED TO \$2,000,000 in 2008. ENDOWED CHAIR in 2008)

Title: Hyperbaric Oxygen Therapy for Stroke
Source: CTSI
Role: PI
Dates: 2007 - 2013

Title: Electrophysiological Effects of Underwater Voltage Gradient Defense System

Source: US Navy Experimental Diving Unit
Dates: 2007 - 2014

Title: Near-infrared Light (NIR) Therapy for
Diabetic Macular Edema: A Pilot Study
Source: CTSI
Role: PI
Dates: 2007 - 2013

Title: Long-Wavelength, low-intensity photon
therapy (LLPT) for traumatic brain
injuries
Source: DARPA Contract 56482-LS-DRP
Role: P.I.
Dates: 2009 - 2014
Direct Funds: \$2,150,000 (\$150,000 for 1st year,
\$1,000,000 each for 2nd and 3rd years)

Title: Mechanisms of antimicrobial effect of
blue light on MRSA
Source: NIH CTSI
Dates: 04/01/2012 - 03/13/2014

Title: PDT for Brain Tumor Dispersal
Source: Pinnacle Biologics, Inc
Role: PI
Dates: 2012 - 2017

Title: Cerebral oxygen saturation in children
with epilepsy: A pilot study
Source: Covidien
Role: PI
Dates: 2012 - 2017

Title: Photodynamic Therapy for Childhood
Brain Tumors
Source: NIH/CTSI
Role: PI
Dates: 2012 - 2014

Title: Hyperbaric Oxygen Therapy (HBO2T)
for Migraine Headache
Source: Froedtert Hospital Foundation
Role: PI
Dates: 2014 - 2015
Direct Funds: \$20,000

Title: Neurology Research Program in Brain
Blood Flow
Source: Bleser Family Foundation
Role: PI
PI: Harry Whelan
Dates: 01/01/2019 - 12/31/2022
Direct Funds: \$1,000,000 (The overall purpose of this
project is to capitalize on our expertise in
photobiology and clinical neurology in
order to utilize the power of near-

infrared light in the diagnosis and treatment of children with neurologic problems.)

Title: Neurobiological and physiological measurements from free swimming marine mammals
Source: Office of Naval Research
Role: PI
Dates: 04/01/2019 - 03/31/2022
Direct Funds: \$100,000 (Objective: Investigation and characterization of light propagation through marine mammal tissue)

Non-Peer Review

Title: Chad Baumann Research Foundation Endowment
Source: Endowed Research Fund
Dates: 01/01/2004 - Present
Direct Funds: \$1,000,000 (as eternal endowed trust for Dr. Whelan to provide ~\$7-10,000/yr. (indexed for inflation))

Prior

Peer Review

Title: Studies on the Role of Trophic Factors in Brain Tumor Biology
Source: Vanderbilt Children's Hospital Research Fund
Role: P.I.
Dates: 1984 - 1985
Direct Funds: \$35,000

Title: Studies of CNS Regeneration in an Amphibian Model System
Source: Vanderbilt University Research Council
Role: P.I.
Dates: 1984 - 1985
Direct Funds: \$5,000

Title: Evaluation of Substances Found in Fetal Lung for Neurotropic and Neurotrophic Activity
Source: N.I.H. (BRSG)
Role: P.I.
Dates: 1986 - 1987
Direct Funds: \$15,000

Title: Studies on the Role of Trophic Factors in Brain Tumor Biology
Source: American Cancer Society Clinical Oncology Career Development Award
Role: P.I.
Dates: 1987 - 1990
Direct Funds: \$90,000

Title: Photodynamic Therapy for Brain Tumors
Source: Midwest Athletes Against Childhood Cancer Fund
Role: P.I.
Dates: 1988 - 1995
Direct Funds: \$90,000

Title: Studies on the Role of Trophic Factors in Brain Tumor Biology
Source: Cancer Center Seed Grant
Role: P.I.
Dates: 1988 - 1989
Direct Funds: \$7,500

Title: MR Imaging with MR Spectroscopy in Pediatric Brain Tumors
Source: MCW - Clinical Research Center
Role: P.I.
Dates: 1990 - 1991
Direct Funds: \$7,500

Title: MR Imaging with MR Spectroscopy in Pediatric Brain Tumors
Source: MCW - Clinical Research Center
Role: P.I.
Dates: 1990 - 1991
Direct Funds: \$7,500

Title: The Role of Growth Factors in Pediatric Brain Tumor Biology
Source: The Cancer Research Foundation of America
Role: P.I.
Dates: 1991 - 1992
Direct Funds: \$30,000

Title: Pre-Clinical Evaluation of Feasibility of Photodynamic Therapy (PDT) in Pediatric and Adult Brain Tumors
Source: American Cancer Society
Role: P.I.
Dates: 1991 - 1993
Direct Funds: \$84,000

Title: Synthesis of a Toxic Growth Factor Conjugate for Brain Tumors
Source: Children's Hospital Foundation
Role: P.I.
Dates: 1991 - 1992
Direct Funds: \$30,000

Title: Clinical Trials and Laboratory Studies of Photodynamic Therapy/Gallium Therapy for Brain Tumors
Source: Children's Hospital Foundation
Role: P.I.

Dates: 1992 - 1997
Direct Funds: \$250,000

Title: Comparison of Toxic Growth Factor
Conjugates with Gallium for Brain
Tumor Therapy

Source: Children's Hospital Foundation
Role: P.I.
Dates: 1992 - 1993
Direct Funds: \$35,360

Title: Gallium Nitrate for Brain Tumors
Source: MCW - Clinical Research Center
Role: P.I.
Dates: 1993 - 1998
Direct Funds: \$10,000

Title: Photodynamic Therapy for Brain
Tumors
Source: MCW - Clinical Research Center
Role: P.I.
Dates: 1993 - 1998
Direct Funds: \$10,000

Title: Laser purchase for Human
Photodynamic Therapy Protocol
Source: Children's Hospital Foundation
Role: P.I.
Dates: 1994
Direct Funds: \$75,000

Title: Light Emitting Diode for Photodynamic
Therapy
Source: Children's Hospital Foundation
Role: P.I.
Dates: 1995 - 1999
Direct Funds: \$480,000 (\$40,000 1st year, \$189,000
2nd year, \$251,000 3rd year)

Title: NASA/CHW Light-Emitting
Diode/Hyperbaric Medical Program
Source: Children's Hospital Foundation
Role: P.I.
Dates: 1998 - 2001
Direct Funds: \$180,000

Title: Light-Emitting Diodes and Hyperbaric
Oxygen for Wound Healing Phase-2
Source: Children's Hospital Foundation
Role: P.I.
Dates: 2000 - 2002
Direct Funds: \$251,000

Title: NASA Light-Emitting Diodes as
Source: NASA/Quantum Devices
Role: P.I.
Dates: 2001 - 2002

Direct Funds: \$314,500 (\$70,000 1st year, \$244,5000 remaining years)

Title: LED Treatment, Healing, Post Retinal Laser Injury

Source: DARPA

Role: P.I.

Dates: 2001 - 2006

Direct Funds: \$983,900 (\$383,900 for 1st year, rest thereafter)

Title: LED Treatment, Healing, Post Corneal Laser Injury

Source: DARPA

Role: P.I.

Dates: 2002 - 2005

Direct Funds: \$367,524

Title: Distinguished Research Professorship Appointment, National Defense University

Source: Office of the Secretary of Defense, Center for Technology and National Security Policy, National Defense University

Role: P.I.

Dates: 2004 - 2006

Direct Funds: \$250,000

Title: LED Treatment, Healing, Post Corneal Laser Injury

Source: DARPA

Role: P.I.

Dates: 2004 - 2006

Direct Funds: \$8,749,997

Title: Light Emitting Diode Therapy for Oral Mucositis

Source: NASA Contract # NNM 05AB48C

Role: P.I.

Dates: 2005 - 2009

Direct Funds: \$133,200

Title: NIR-LED Treatment for Parkinson's Disease

Source: NIH Grant 1R21AT003002-01A1

Role: P.I.

Dates: 2006 - 2009

Direct Funds: \$389,331

Title: Electrophysiological Effects of Underwater Voltage Gradient Defense System

Source: NIH Grant 1R21AT003002-01A1

Role: P.I.

Dates: 2007 - 2010

Direct Funds: \$100,000

Title: Near-infrared Light (NIR) Therapy for Diabetic Macular Edema-A Pilot Study
Source: Clinical and Translational Science Institute
Role: P.I.
Dates: 2007 - 2010
Direct Funds: \$100,000

Title: Near Infrared Light Therapy
Source: Hanger Orthopedics
Role: P.I.
Dates: 2010 - 2012
Direct Funds: \$100,000

INVITED LECTURES/WORKSHOPS/PRESENTATIONS:

Local

Chemotherapy of Childhood Brain Tumors. Presented at the Medical College of Wisconsin, Milwaukee, Wisconsin, 09/05/1986
Faculty CME-Course, Pediatric Neurology, Milwaukee, Wisconsin, 08/19/1989
Advances in Therapy of Childhood Brain Tumors. Presented at the Milwaukee Neuro-Psychiatric Society. University Club, Milwaukee, Wisconsin, 11/15/1989
Effects of Gallium Nitrate on Human Brain Tumor Cells. Presented at the Midwest Neuro-Oncology Conference. University of Wisconsin, Madison, Wisconsin, 08/02/1990
Tumors of the Central Nervous System. Department of Neurosurgery CME Symposium. Froedtert Memorial Lutheran Hospital, 09/25/1992
Medical College of Wisconsin CME course in Hyperbaric Medicine. Central Nervous System Oxygen Toxicity Oxygen Toxicity Suppression, 09/08/1997
Children's Hospital Grand Rounds. Photobiomodulation of Mitochondrial Energy Metabolism, 12/2007
Harry Whelan MD, Edit Olasz MD, Brendan Quirk PhD, Photodynamic Therapy for Benign Dermal Neurofibromas, Children's Research Institute Research Conference, Children's Hospital of WI, 01/29/2016
Harry Whelan, Edit Olasz, Brendan Quirk, Donald Basel, Photodynamic Therapy for Benign Dermal Neurofibromas, Children's Hospital of Wisconsin, Children's Research Institute Research Conference, Milwaukee, WI, 01/19/2018
Harry Whelan, Edit Olasz, Teju Deshmukh, Jack Vo, Donald Basel, Brendan Quirk, Photodynamic Therapy for Benign Neurofibromas, Children's Research Institute Conference, Children's Hospital of Wisconsin, 01/19/2018
Harry Whelan, Brendan Quirk, Wei-Liang Chen, Near-Infrared Spectroscopy for Childhood Epilepsy, Neurology Grand Rounds, Medical College of Wisconsin, 02/09/2018

Regional

Agnesis of the Corpus Callosum (Neurologic Causes of Failure to Thrive). Visiting Professor, Pediatric Grand Rounds. University of Minnesota, 11/21/1984
Meningeal Gliomatosis. Presented at the Children's Cancer Study Group Meeting. Chicago, Illinois, 10/28/1985
Meningeal Gliomatosis. Presented at the Children's Cancer Study Group Meeting, Chicago, Illinois, 10/28/1985
The Role of Growth Factors in the Biology of a Brain Tumor Cell Line. Presented at the American Academy of Neurology Meeting, Chicago, Illinois, 04/16/1989
Growth Factors in Brain Tumors. Photodynamic Therapy for Childhood Brain Tumors. Visiting Professor, Neurology Grand Rounds. University of Minnesota, 02/05/1992 - 02/06/1992
Wisconsin Center for Space Automation & Robotics-Madison/NASA. Light Emitting Diode for Photodynamic Therapy, 12/01/1994
Great Lakes Naval Hospital. Neurologic Aspects of Undersea Medicine, 02/16/1995
Wisconsin Boiler Inspectors Association (WBIA) The Uses and Indications of Hyperbaric Medicine CME,

04/2009

Hemodynamic Response Associated with Interictal and Ictal Epileptiform Discharges Using Simultaneous Video Electroencephalography (vEEG) /Near Infrared Spectroscopy (NIRS), Wisconsin Neurologic Society, 10/2013

Photodynamic Therapy for Benign Dermal Neurofibromas, Neurofibromatosis Therapeutic Acceleration Program at Johns Hopkins, Chicago, IL, 08/01/2016

National

Primary Diffuse Meningeal Gliomatosis in Children. Presented at the Child Neurology Society Meeting, Phoenix, Arizona, 10/11/1984

Neurotrophic Effects of Adult Amphibian Explant Conditioned Medium. Presented at the Society for Neuroscience Meeting, Anaheim, California, 10/12/1984

The Vanderbilt Experience with Primitive Neuroectodermal Tumors and Anaplastic Astrocytomas. Presented at the Children's Cancer Study Group Meeting, Seattle, Washington, 04/25/1985

The Vanderbilt Experience with Primitive Neuroectodermal Tumors and Anaplastic Astrocytomas. Presented at the Children's Cancer Study Group Meeting, Seattle, Washington, 04/25/1985

Recent Advances in the Treatment of Pediatric Brain Tumors Physicians Radio Network, Stanford, Connecticut, 10/03/1985

In Vitro Studies of Fetal and Adult CNS Regeneration. Presented at the Child Neurology Society Meeting, Memphis, Tennessee, 10/10/1985

Nuclear Magnetic Resonance Brain Tumor Imaging Using an Adult Canine Glioma Model. Presented at the American Academy of Neurology Meeting, New Orleans, Louisiana, 04/29/1986

Recent Advances in Chemotherapy for Childhood Brain Tumors. Cable News Network, 05/29/1986 - 05/30/1986

Central Nervous System Germ Cell Tumors. Presented at the Children's Cancer Study Group Meeting, Seattle, Washington, 03/1987

The Role of Growth Factors in the Biology of a Brain Tumor Cell Line. Presented at the American Academy of Neurology Meeting, New York, New York, 04/09/1987

Neurologic Complications of Cancer Therapy. Presented at the Tenth Annual Symposium Contemporary Clinical Neurology. Hilton Head, South Carolina, 07/20/1987 - 07/24/1987

Management of Childhood Brain Tumors. Presented at the Tenth Annual Symposium Contemporary Clinical Neurology. Hilton Head, South Carolina, 07/20/1987 - 07/24/1987

Comparison of X-Ray CT and Magnetic Resonance Brain Tumor Imaging Using an Adult Canine Glioma Model. Presented at the Child Neurology Society Meeting, San Diego, California, 10/22/1987

Faculty - National Neurology Board Review Course. Pediatric Neurology, 02/07/1988

Faculty - National Neurology Board Review Course. Phacomatoses, 02/08/1988

Faculty - National Neurology Board Review Course. Neuromuscular Disorders, 02/08/1988

Recent Advances in Therapy of Childhood Brain Tumors. Presented at the University of Alabama in Huntsville, Huntsville, Alabama, 06/03/1988

Primary CNS Germ Cell Tumors in Children. Presented at the Pediatric Oncology Group Meeting, St. Louis, Missouri, 10/16/1988

Primary Central Nervous System Germ Cell Tumors in Children. Presented at the Pediatric Oncology Group Meeting. Sand Key Island, Florida, 04/15/1989

The Use of MR-Imaging with MR-Spectroscopy in the Study of Medulloblastoma. Presented at the Child Neurology Society Meeting, San Antonio, Texas, 10/13/1989

Medulloblastoma Secretes Platelet-Derived Growth Factor. Presented at the American Academy of Neurology Meeting, Miami, Florida, 05/02/1990

Effects of Gallium on Human Brain Tumor Cells In Vitro. Presented at the Child Neurology Society Meeting, Atlanta, Georgia, 10/18/1990

Faculty Symposium on Frontiers in Cancer Biology at MCW Cancer Center, 04/06/1991

Increasing Cyclic AMP with Forskolin Decreases Growth Factor Dependent Proliferation of Brain Tumor Cells. Presented at the American Academy of Neurology Meeting, Boston, Massachusetts, 04/23/1991

Photodynamic Therapy for Childhood Brain Tumors. Presented to the American Cancer Society, 09/27/1991

Interactions of Merocyanine-540 with Human Brain Tumor Cells: Preferential Binding In Vivo and Dye-Sensitized Photoinactivation In Vitro. Presented at the Child Neurology Society Meeting, Portland, Oregon, 10/04/1991

Intracellular Growth Factor Metabolism in Proliferation of a Brain Tumor Cell Line. Presented at the

American Academy of Neurology Meeting, San Diego, California, 05/06/1992

The Role of Photodynamic Therapy in Posterior Fossa Brain Tumors: A Pre-Clinical Study in a Canine Glioma Model. Presented at the Child Neurology Society Meeting, New Orleans, Louisiana, 10/23/1992

Selective uptake of ¹¹¹In-Photofrin in brain tumors. Presented at the Child Neurology Society Meeting, Orlando, Florida, 10/14/1993

Gallium Nitrate for Malignant Solid Tumors of Childhood. Pediatric Oncology Group, Ft. Lauderdale, FL, 04/1994

Selective Incorporation of ¹¹¹In-Labeled PHOTOFRIN by Glioma Tissue in vivo. Presented at the Pediatric Neuro-Oncology Sixth International Symposium, Houston, Texas, 05/1994

Gallium Nitrate Delays the Progression of Microscopic Disease in a Human Medulloblastoma Model. Presented at the Pediatric Neuro-Oncology Sixth International Symposium, Houston, Texas, 05/1994

American Cancer Society - Wisconsin Chapter & EXCALIBUR CLUB. Photodynamic Therapy for Child Brain Tumors, 07/1994 - 08/1994

A simple and Rapid Method for Determination of Felbamate. Presented at the American Association of Clinical Chemistry, Washington, DC, 07/1994

President's Council for Children's Hospital. Photodynamic Therapy for Childhood Brain Tumors, 02/15/1995

Use of cytochrome P450 inhibitors to alter seizures caused by CNS-oxygen toxicity. Presented at the Undersea & Hyperbaric Medical Society, Palm Beach, Florida, 06/1995

Association of Military Surgeons of the United States. Neurologic Aspects of Undersea Medicine, 11/01/1995

Neuronal culture model of CNS-oxygen toxicity. Presented at the Society for Neuroscience, San Diego, California, 11/1995

Space Technology Applications International Forum. Light Emitting Diodes for Brain Tumor Photodynamic Therapy, 11/11/1996

International Society on Oxygen Transport to Tissue. Hyperbaric Oxygen: Some Unanswered Questions Despite Clinical Usefulness, 08/22/1997

Hyperbaric oxygen enhancement of radiation therapy via central nervous system oxygen toxicity suppression. Presented at the Society for Neuroscience, New Orleans, Louisiana, 10/29/1997

Physiological stress measurements in US Navy SEALs. Special Operations Medical Conference, Tampa, Florida, 12/05/1997 - 12/13/1997

Space Technology & Applications International Forum. Benzoporphyrin Derivative and Light-emitting Diode for Use in Photodynamic Therapy: Applications of Space Light-emitting Diode Technology, 01/1998

Space Technology Applications International Forum. Medical Applications of Space Light-Emitting Diode Technology: Space Station & Beyond, 01/1999

NASA Program Meeting, NASA LED-Medical Program, 05/1999

NASA Technology - East Division Space. Space Applications of NASA LED-Medical Program, 11/1999

Medical Aspects of Special Warfare Automated Mission Planning System. Special Operations Medical Conference, Tampa, Florida, 12/1999

Space Technology & Applications International Forum. NASA Light-Emitting Diode Medical Program - Progress in Space - Flight and Terrestrial Applications, 01/2000

Space Technology & Applications International Forum. NASA Light-Emitting Diode Medical Program - Progress in Space - Flight and Terrestrial Applications, 01/2000

Space Technology & Applications International Forum. NASA-LED Medical Applications - Deep Space to Deep Sea, 02/2001

Space Technology & Applications International Forum. NASA-LED Medical Applications - Deep Space to Deep Sea, 02/2001

NASA-LED Technology: Applications for Battlefield Self-Care. Defense Advanced Research Projects Agency - Self-Care Workshop, 04/2001

Light-Emitting Diode (LED) Treatment Healing Post-Retinal Laser Injury. Defense Advanced Research Projects Agency - Self-Care Workshop, 05/2001

NASA-LED Near-IR Technology for Biostimulation. NASA/DARPA Photobiology Workshop, 06/2001

Society for Neuroscience Annual Meeting. San Diego, 11/01/2001

SOMA - Special Operations Medical Conference. Tampa, FL, 12/2001

Photonics West. San Jose CA, 01/2002

Effects of near-infrared light on methanol-induced mitochondrial dysfunction in the retina. Lasers on the Modern Battlefield Conference. Brooks Air Force Base, TX, 02/2002

NIH Presentation to NCMRR Advisory Board. Washington DC, 05/01/2002 - 05/02/2002

Association for Research in Vision and Ophthalmology Annual Meeting. Ft. Lauderdale, FL, 05/04/2002 - 05/10/2002

DARPA DSO Technology 2002 Symposium. DARPA Photobiomodulation Research. Anaheim, CA, 07/29/2002 - 08/02/2002

DARPA DSO. Persistence in Combat (PIC) DARPA Photobiomodulation Research, St. Petersburg, FL, 09/05/2002 - 09/08/2002

SOMA - Special Operations Medical Conference. DARPA Photobiomodulation Research. Tampa, FL, 12/2002

Defense Advanced Research Projects Agency 2002. 22nd Systems and Technology Symposium, 2002 Lasers on the Modern Battlefield Conference. Photobiomodulation for Treatment for Acute Traumatic Neurological Injury with Light-Emitting Diode (LED) Brooks AFB. San Antonio, TX, 02/2003

Lasers on the Modern Battlefield Conference. Photobiomodulation for Treatment for Acute Traumatic Neurological Injury with Light-Emitting Diode (LED). Brooks AFB, San Antonio, TX, 02/2003

DARPA Photobiomodulation Research. San Diego, CA, 03/2003

DARPA Photobiomodulation Research. San Diego, CA, 03/2003

Third Congress of the North American Association for Laser Therapy (NAALT) Uniformed Services University of the Health Sciences. DARPA Photobiomodulation Research. Bethesda, MD, 04/2003

US Navy Bureau of Medicine and Surgery (BUMED) DARPA Photobiomodulation Research. Washington, DC, 04/2003

Commander, Naval Medical Center Portsmouth. DARPA Photobiomodulation Research, Portsmouth, VA, 05/2003

Naval Special Warfare Development Group. DARPA Photobiomodulation Research. Norfolk, VA, 05/2003

Naval Special Warfare Group TWO. DARPA Photobiomodulation Research, Norfolk, VA, 05/2003

Naval Medical Research Center. DARPA Photobiomodulation Research. Silver Spring, MD, 05/2003

ElectroMed 2003. Third International Symposium, DARPA Photobiomodulation Research, San Antonio Texas, 06/2003

Persistence in Combat/ReGenesis Review Meeting. DARPA Photobiomodulation Research, Arlington, VA, 06/2003

BIO 2003 Annual Convention. DARPA Photobiomodulation Research, Arlington VA, 06/2003

Advanced Technology Application For Combat Casualty Care (ATACCC), DARPA Photobiomodulation Research, St. Petersburg, FL, 08/2003

SOMA - Special Operations Medical Conference. DARPA Persistence in Combat program, Tampa, FL, 12/2003

SOMA - Special Operations Medical Conference. DARPA Persistence in Combat program, Tampa, FL, 12/2003

Lasers in the Modern Battlefield XXV Annual Conference. Treatment for Acute Traumatic Neurological Injury with Light-Emitting Diode (LED) San Antonio, TX, 02/2004

Lasers in the Modern Battlefield XXV Annual Conference. Treatment for Acute Traumatic Neurological Injury with Light-Emitting Diode (LED). San Antonio, TX, 02/2004

Beyond Genome. Photobiology in Biological Systems: Low-Level Energy Therapy for Treatment for Acute Traumatic Neurological Injury with Light-Emitting Diode (LED), San Francisco, 06/2004

Beyond Genome. Photobiology in Biological Systems: Low-Level Energy Therapy for Treatment for Acute Traumatic Neurological Injury with Light-Emitting Diode (LED). San Francisco, CA, 06/2004

NAVY Experimental Diving Unit. DARPA and National Defense University Research, Panama City, FL, 08/2004

DARPA/DSO. Soldier Self Care Principal Investigator Meeting, Arlington, VA, 08/2004

Associated Military Surgeons of the United States (AMSUS). DARPA, NASA, National Defense University Progress Report. Denver, CO, 11/2004

Innate Immunity for Biodefense. Center for Technology and National Security Policy, National Defense University Senior Seminar Series. Program Director., Washington, DC, 11/2004

Office of the Secretary of Defense. Presentation to OSD-Chemical/Biological Defense, Innate Immunity for Biodefense, Washington DC, 01/2005

FDA. Innate Immunity for Biodefence, Washington DC, 01/2005

Lasers in the Modern Battlefield XXVIth Annual Conference. LED Countermeasures for laser Eye Injury. Brooks AFB, San Antonio, TX, 02/2005

Lasers in the Modern Battlefield. LED Countermeasures for laser Eye Injury. San Antonio, TX, 02/2005

Lasers in the Modern Battlefield. DARPA Program Update: Near Infrared Treatment for Laser Eye Injury.

San Antonio, TX, 02/2006
Lasers in the Modern Battlefield. DARPA Program Update: Near Infrared Treatment for Laser Eye Injury.
San Antonio, TX, 02/2006
Lasers in the Modern Battlefield. Near Infrared Treatment for Laser Eye Injuries. San Antonio, TX, 02/2007
American Heart Association. International Pediatric Stroke Study. History of TPA in Childhood Stroke,
02/2007
Lasers in the Modern Battlefield. Near Infrared Treatment for Laser Eye Injuries, San Antonio, TX, 02/2007
Undersea & Hyperbaric Medical Society Annual Scientific Meeting. Lightweight, Faster Decompression and
Portable Alternative to U.S. Navy Mixed Gas Diving, 06/2007
Undersea & Hyperbaric Medical Society Annual Scientific Meeting. Hyperbaric Oxygen for Acute Ischemic
Stroke: Need for a Better Study, 06/2007
Child Neurology Society 36th Annual Meeting. Photodynamic Therapy for Dermal NF1 Tumors, 10/2007
MITRE - CIA. Intelligence Community Interactions with Scientist Consultants in Counter-Terrorism,
01/2008
Lasers in the Modern Battlefield. Near-infrared light (NIR-LED) treatment of laser-induced retinal injury,
02/2008
Lasers in the Modern Battlefield. Near-infrared light (NIR-LED) treatment of laser-induced retinal injury. San
Antonio, TX, 02/2008
NASA Spinoff Day on the Hill. Testifying to Congress. Medical Applications of Quantum Devices' Light-
Emitting Diodes (LED's) Washington DC, 04/2008
The North American Association for Laser Therapy (NAALT) Keynote Speaker. Introduction to laser and
laser therapy, 06/2008
UHMS. Advantages of Trimix Rebreathers over Conventional "Bounce" Diving. Salt Lake City, UT, 06/2008
The North American Association for Laser Therapy (NAALT) Keynote Speaker. Introduction to laser and
laser therapy. Palm Beach, FL, 06/2008
Undersea & Hyperbaric Medical Society. New Method for Saturation Diving Lighter, Faster Decompression
and Portable Alternatives to U.S. Navy Mixed Gas Diving, 06/2008
Hyperbaric Medicine Symposium - Neurologic Aspects of Hyperbaric Medicine. Corse Co-director.
Sponsored by United States Congress, NASA, and the Canadian Ministry Defence. Synergy of
Hyperbaric Oxygen with Near Infrared (NIR) Light for Treatment of Traumatic Brain Injury, 10/2008
Naval Diving Salvage and Training Center, US Navy. New Developments in Submarine Rescue - Diving
Medical Perspective. Hyperbaric Oxygen Therapy for Acute Stroke. Near Infrared (NIR) Light
Therapy for Neurologic Aspects of Undersea Medicine, 10/2008
Hyperbaric Medicine Symposium - Neurologic Aspects of Hyperbaric Medicine. Corse Co-director.
Sponsored by United States Congress, NASA, and the Canadian Ministry Defence. Synergy of
Hyperbaric Oxygen with Near Infrared (NIR) Light for Treatment of Traumatic Brain Injury, 10/2008
Naval Diving Salvage and Training Center, US Navy. New Developments in Submarine Rescue - Diving
Medical Perspective Hyperbaric Oxygen Therapy for Acute Stroke Near Infrared (NIR) Light Therapy
for Neurologic Aspects of Undersea Medicine, 10/2008
Child Neurology Society 37th Annual Meeting. Harnessing the Cell's Own Ability to Repair and Prevent
Neurodegenerative Disease, 11/2008
Child Neurology Society 37th Annual Meeting. Harnessing the Cell's Own Ability to Repair and Prevent
Neurodegenerative Disease, 11/2008
Mechanisms for Low Light Therapy IV SPIE. Near-infrared Light as a Possible Treatment Option for
Parkinson's disease and Laser Eye Injury, 01/2009
GE Translational Institute Medical Symposium. Photobiomodulation as Applied to Cardiac Disease, 01/2009
Mechanisms for Low Light Therapy. Near-infrared Light as a Possible Treatment Option for Parkinson's
disease and Laser Eye Injury, 01/2009
The American Society for Laser Medicine and Surgery (ASLMS) Near-Infrared Light as a Possible Treatment
Option for Parkinson's Disease and Laser Eye Injury, 04/2009
The American Society for Laser Medicine and Surgery (ASLMS). Near-Infrared Light as a Possible
Treatment Option for Parkinson's Disease and Laser Eye Injury, 04/2009
Undersea & Hyperbaric Medical Society. Neurologic Aspects of Hyperbaric Medicine, 06/2009
The North American Association for Laser Therapy (NAALT) Near-Infrared Light as a Possible Treatment
Option for Parkinson's disease and Laser Eye Injury, 06/2009
Undersea & Hyperbaric Medical Society. Neurologic Aspects of Hyperbaric Medicine, 06/2009
The North American Association for Laser Therapy (NAALT) Near-Infrared Light as a Possible Treatment

Option for Parkinson's Disease and Laser Eye Injury, 06/2009

The Society for Laparoendoscopic Surgeons (SLS) Photobiomodulation of Mitochondrial Mechanisms in Neurodegenerative Disease, 09/2009

Society of Laparoendoscopic Surgeons. Controlling Molecules With Light, 09/2009

Society for Neuroscience. Near-infrared light treatment in an in vitro model of traumatic brain injury, 10/2009

Society for Neuroscience. Near-infrared Photobiomodulation is Neuroprotective in a Transgenic Mouse Model of Parkinson's Disease, 10/2009

Conscious Life Expo. Near-infrared photobiomodulation is neuroprotective in a transgenic mouse model of Parkinson's disease, 02/2010

ASLMS. Near-infrared light treatment in an in vitro model of traumatic brain injury, 04/2010

ARVO. Treating and Preventing the Devastating Effects of Age-Related Macular Degeneration (AMD), 04/2010

Undersea & Hyperbaric Medical Society Mid-West Chapter Comprehensive Forum. DSRV. Infrared Light and Wound Care, 10/2010

American Academy of Neurology (AAN) Long-Wavelength, Low-Intensity Photon Therapy (LLPT) for Traumatic Brain Injury, 04/2011

Ayn Rand Center. Presentation for Strategies Enhancing Medical Innovation, 08/2011

The North American Association for Laser Therapy (NAALT) Effects of Near-Infrared Light on the Enzyme Kinetics of Cytochrome Oxidase, 09/2011

The North American Association for Laser Therapy (NAALT) Effects of Near-Infrared Light on the Enzyme Kinetics of Cytochrome Oxidase, 09/2011

The Use of Hyperbaric Oxygen for Treating Delayed Radiation Injuries in Gynecologic Malignancies: A Review of Literature and Report of Radiation Injury Incidence, Undersea & Hyperbaric Medical Society, Phoenix, 06/2012 - Present

Ketogenic Diet to Decrease Central Nervous System Oxygen Toxicity Symptoms in Divers, Undersea & Hyperbaric Medical Society (UHMS), 06/2013

Photodynamic Therapy for Brain Tumors, Society for Neuro-Oncology (SNO), 11/2013

Photodynamic Therapy (PDT) of Brain Tumors & Hemodynamic response associating with both interictal and ictal epileptiform activities using simultaneous video Electro-encephalography (EEG)/Near Infrared spectroscopy (NIRS), American Academy of Neurology (AAN), 04/2014

Hyperbaric oxygen treatment for post-radiation central nervous system injury: A retrospective case series, Undersea & Hyperbaric Medical Society (UHMS), 06/2014

Basic principle of Near Infrared Spectroscopy and Application in monitoring cerebral oxygenation, Undersea & Hyperbaric Medical Society (UHMS), 06/2015

In Water Recompression for Undersea Diving, Undersea & Hyperbaric Medical Society Annual Scientific Meeting, Las Vegas, NV, 06/08/2016 - 06/11/2016

Ketogenic Diet for Prevention of Central Nervous System Oxygen Toxicity in Closed-Circuit Oxygen Rebreather Diving, Conference on Nutritional Ketosis and Metabolic Therapeutics: Epigenix Foundation, Tampa, FL, 02/02/2017 - 02/04/2017

Harry Whelan, Ketosis as a Neuroprotective Mechanism to CNS Toxicity in Divers Exposed to High Partial Pressure of Oxygen (PO₂), Undersea & Hyperbaric Medical Society Annual Scientific Meeting, Orlando, FL, 06/28/2018

Neurobiological and Physiological Measurements From Free Swimming Marine Mammals, Undersea & Hyperbaric Medical Society Annual Scientific Meeting, San Juan, Puerto Rico, 06/27/2019 - 06/29/2019

International

Transforming Growth Factor Beta in Brain Tumor Biology. Presented at the Society for Neuroscience Meeting, Toronto, Canada, 11/17/1988

Photodynamic therapy for childhood brain tumors. International Symposium Pediatric Neurosurgery, Santiago, Chile, 09/1995

Futura 2002 Conference. 3rd International Nearfield Optical Analysis. Photobiology Workshop Conference, Sao Paulo, Brazil, 06/2002

10th Annual International Child Neurology Congress Photobiomodulation of Cytochrome Oxidase. Montreal, Canada, 06/2006

Canadian Defense Ministry Diving Medicine Advance. Neurological Conditions and Diving. Current Perspective -02 Toxicity/HBO/DSRV Experience, 04/2009

Canadian Defense Ministry Diving Medicine Advance. Neurological Conditions and Diving. Current Perspective -02 Toxicity/HBO/DSRV Experience, 04/2009

Canadian Defense Ministry Diving Medicine Advance. Neurological Conditions and Diving, 04/2010

Operation Pacific Reach - Singapore Navy. Advances in Submarine Rescue Medicine, 04/2010

Canadian Defense Ministry Diving Medicine Advance. Neurological Conditions and Diving. Current Perspective -02 Toxicity/HBO/DSRV Experience, 04/2010

Hyperbaric Oxygen for Acute Ischemic Stroke: Need for a Better Study. Near-Infrared Light Therapy: A Phenomenon in Search of a Mechanism, 2nd Polish-American Pediatric Meeting, 05/2010

Multinational Association of Supportive Care in Cancer/International Society of Oral Oncology Symposium. Amelioration of Oral Mucositis Pain by NASA Near Infra Red Light Emitting Diodes in Bone Marrow Transplant Patients, 06/2010

Canadian Defense Ministry Diving Medicine Advance. Neurological Conditions and Diving. Current Perspective -02 Toxicity/HBO/DSRV Experience, 04/2011

Canadian Defense Ministry Diving Medicine Advance. Neurological Conditions and Diving, Current Perspective -02 Toxicity/HBO/DSRV Experience, 04/2011

Harry T. Whelan, M.D., Photodynamic Therapy of Brain Tumors, International Photodynamic Medicine Symposium at OSUCCCC-James, Ohio, 05/2011 - Present

El Salvador Defense Ministry. Sr. Medical Advisor to Command Counter Terrorism Medicine, 06/02/2011

Near-Infrared Pulsating Converging Beam Device for Photodynamic Therapy of Brain Tumors, International Symposia on the Science and Technology of Lighting (LS13), Albany, 06/2012 - Present

Neurological Aspects of Diving Medicine, Canadian Defense Ministry Diving Medicine Advance, 06/2013

Neurological Conditions and Diving Current Perspective -02 Toxicity/HBO/DSRV Experience, Canadian Defense Ministry Diving Medicine Advance, 05/2014

Neurological Conditions and Diving, Canadian Defense Ministry Diving Medicine Advance, 06/2015

Neurologic Aspects of Tactical Combat Casualty Care in Special Operations Diving, Canadian Forces Environmental Medicine Establishment, Toronto, ON, 06/01/2016 - 06/03/2016

Neurological DCI, Canadian Defense Ministry Diving Medicine Advance, Toronto, ON, 05/31/2017 - 06/02/2017

Harry Whelan, Neurological Conditions and Diving & Neurological DCI, Canadian Defense Ministry Diving Medicine Advance, Toronto, Canada, 05/31/2018

PROGRAMMATIC DEVELOPMENTS:

Research Programs

Biostimulation with Light-Emitting Diodes (LED)

Effects of Near-Infrared light on Cytochrome Oxidase Activity

Therapeutic effects of Near-Infrared Light on Neurologic and Visual System Disorders (i.e. Parkinsons, Leber's Hereditary Optic Atrophy, Laser Eye Injury, Neuronal Apoptosis, Cyanide & Methano Intoxication)

Photodynamic Therapy for Brain Tumors

FDA - approved human studies. Photodynamic Therapy for Brain Tumors; Light-Emitting Diode Wound Healing

In Vitro/ In Vivo Studies of Brain Tumor Biology (Growth Factors, Neuroimaging)

CNS effects of Hyperbaric Pressure and Oxygen

Innate Immunity for Biodefense

NCI-approved human study. Gallium Nitrate for Malignant Solid Tumors of Childhood

Investigation of the therapeutic effects of Near-Infrared Light on Mucositis in Children with Cancer Receiving Bone Marrow Transplant Treatment Protocol

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Refereed Journal Publications/Original Papers

1. Light being used to treat cancer. CNN. October 1, 1998

2. Major Breakthrough in Treating Children with Brain Cancer: NASA Spin-off Technology Makes it Happen. NASA Satellite Interviews. September 24, 1999
3. First Brain Cancer Surgeries Using New Space-Age Probe Are Successful. NASA News. September 30, 1999
4. Clotting Blood In Zero-G. SpaceDaily. September 23, 1999
5. Space technology may speed healing. MSNBC. October 22, 1999
6. LED's Developed by NASA Used to Ablate Brain Tumors. Oncology News International. January, 2000
7. Healing Rays. Health & Physical Science/Current Science. February 11, 2000
8. From growing plants to killing tumors. Aerospace America. April, 2000
9. NASA-Space Technology Hall of Fame. United States Space Foundation. April 6, 2000
10. Reserve doctor brings life to space age technology. Great Lakes Bulletin. June 2, 2000
11. Navy Medicine takes on NASA for benefits. The Journal National Naval Medical Center. Bethesda, MD. June 15, 2000
12. NASA Space Technology Shines Light on Healing. NASA News. December 18, 2000
13. Medicine-Treatments / Head Light. Beyond 2000. December 20, 2000
14. 2001 The Body in Space - Surviving the Odyssey. National Geographic. January, 2001
15. The Use of NASA Light-Emitting Diode Near-Infrared (IR) Technology for Biostimulation. Futura 2002 Conference. 3rd International Nearfield Optical Analysis. Photobiology Workshop Conference. June 2002
16. Mauk AG, **Whelan HT**, Taketa F: Holly wreath morphology of feline erythrocytes - the effects of cyanate and 4,4'-dipyridyldisulfide. Proceedings of Society for Experimental Biology & Medicine 1974;145:578-585.
17. Mauk AG, **Whelan HT**, Putz GR, Taketa F: Anemia in domestic cats: Effects of hemoglobin components and whole blood oxygenation. Science 1974;185:447-449.
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