CURRICULUM VITAE

PERSONAL

Name: Marc Whitney Halterman, M.D., Ph.D.

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Spouse: Jill S. Halterman, M.D., M.P.H.

Place of Birth: Bethesda, Maryland
Citizenship: USA

EDUCATION

1992	B.S., Chemistry, Georgetown University, Washington, D.C.
1999	M.S., Microbiology & Immunology, University of Rochester, Rochester, NY
2002	Ph.D., Microbiology & Immunology, University of Rochester, Rochester, NY
2002	M.D. with Distinction in Research, University of Rochester, Rochester, NY
2002-2003	Intern, Internal Medicine, University of Rochester, Rochester, NY
2003-2005	Resident, Neurology, University of Rochester, Rochester, NY
2005-2006	Chief Resident, Neurology, University of Rochester, Rochester, NY
2007-2008	Post-doctoral Fellow, Departments of Neurology & Pediatrics, University of Rochester

LICENSURE AND CERTIFICATIONS

2005	Medicine & Surgery, New York State, License # 236125
2007-2017	American Board of Psychiatry & Neurology, Certificate # 54049

POSITIONS

2017-	Associate Professor with Tenure, Neurology, Neuroscience & Pediatrics
2016-	Associate Professor of Neuroscience
2014-	Attending, Neurology, Strong Memorial Hospital (5 weeks of service/year)
2012-2017	Associate Professor of Neurology & Pediatrics
2007-2012	Assistant Professor of Neurology & Pediatrics
2007-	Member, Center for Neurotherapeutic Discovery
2007-2014	Attending, Neurology, Rochester General (6 weeks/year; 30 outpatient sessions/year).
2006-2007	Senior Instructor in Neurology

HONORS AND AWARDS

2002	Doctor of Medicine with Distinction in Research
2001	Alpha Omega Alpha Medical Honors Society
1994	Gilbert B. Forbes Prize in Pediatric Research, University of Rochester
1992	Sigma Xi Scientific Research Society
1990	Phi Eta Sigma National Honor Society

COMMITTEE ACTIVITY

National:

2017	NIH/NINDS Study Section: SEP / SRG ZNS1 SRB-M(02), July 5-7, Chair.
2017	NIH/NINDS Study Section: SEP / SRG ZNS SRB-L(09), April 10, Chair.
2016	NIH/NINDS Study Section: SEP / ZNS1 SRB-N(13), December 7-9, Ad hoc.
2012-2015	NIH/NINDS Study Section: NST-2 (F30, F31, F32). Standing member.
2011	NIH Study Section: Special Emphasis Panel (ZNS1 SRB-M), Ad Hoc.
2011	NIH Study Section: Neural Oxidative Metabolism and Cell Death (NOMD). Ad Hoc.
2010	NINDS/AUPN/ANA Student Workshop, Washington, D.C., Mentor.

Institutional:

2017	Faculty search committee, Division Chief in Nephrology, Member
2016-	U Rochester Research Compliance Committee, Member
2016	UR Board of Trustees Academic Affairs Committee Meeting, Session Leader
2015-	Co-Director, Undergraduate Research Placement Program (UR-UPP)
2014-2017	Executive Committee, CTSI Academic Research Track, Member
2014-	MSTP Admissions Committee, Member
2014-	MSTP Program Leadership, Associate Director
2013-2015	UR Alumni Faculty Council, Member
2010	URMC Medical Faculty Council (MFC) Travel Awards, Reviewer
2009-2014	Medical Scientist Training Program (MSTP), Interviewer
2009-2013	Medical Faculty Council, CNDD Representative
2009-2013	Institutional Biosafety Committee (IBC), Member
2007-2011	Faculty Mentor, Strong Children's Research Program (SCRC)

Departmental:

2013-6	Department of Neurology Pilot Grants Program, Co-Chair.
2013-6	Department of Neurology Research Committee, Co-Chair.
2013-6	Annual Steven Schwid Research Symposium, Faculty Organizer.
2013-6	Associate Chair for Basic Research, Department of Neurology
2013-2014	Post-graduate MSTP, Department of Neurology, Director.

SOCIETY MEMBERSHIPS

2015-	American Academy of Neurology
2014-	American Heart Association
2011-	Society for Neuroscience
2002	AOA, Medical Honors Society
1998-2000	American Society for Gene Therapy
1992	Sigma Xi, National Academy of Scientific Research

JOURNAL REVIEW ASSIGNMENTS

American Journal of Respiratory and Critical Care Medicine
Brain Research Bulletins
Experimental Neurology
Experimental Cell Research
Journal of Neuroscience Methods
Journal of Neuroinflammation
Molecular and Cellular Neuroscience
Neurology
Neurology Genetics
Neurobiology of Aging

EDUCATIONAL CONTRIBUTIONS

A. TEACHING

2017	IND395 / Independent Research (S. Bandowski), Faculty Mentor.
2016	IND395 / Independent Research (C. Walker), Faculty Mentor.
2016-	MSTP Longitudinal Clerkship", Course Director (24 hours/year).
2016-	Neuroinflammation (ANA513), Lecturer (2 hours/year).
2014-2017	Academic Research Track, "Introduction & Psychometrics" and "Measurements III: measuring physical properties", Lecturer (2 hours/year).
2013	IND395 / Independent Research (H. Bazarian), Faculty Mentor.
2012-2013	IND395 / Independent Research (A. Wayland), Faculty Mentor.
2012-2017	Neurology & Psychiatry Clerkship, "Stroke: Mechanisms and Emerging Therapeutic Targets", Lecturer (4 hours/year).
2011-	Biology of Neurological Disease (NSC525), Lecturer (2 hours/year).
2011-	PCC230 / MSTP Scientific Reasoning in Medicine, Course Director (32 hours/year).
2008	IND395 / Independent Research (E. Cho), Faculty Mentor.

B. UNDERGRADUATE MENTEES

2008-2009 **Eugenia Cho**, undergraduate student (U Rochester), technician/Halterman lab and student enrolled in BIO395. Project: "Systems-based Analysis of Stroke Transcriptional Networks". Role: Course Director. Current Position: Research technician, Department of Pathology, Johns Hopkins University.

2009-2010 **Jonathan Schor**, undergraduate student (Stanford University). Project: "C/EBP-β is required for INF-γ induced expression of VEGF in cultured neurons". *Mr. Schor was selected as a runner up in the 2010 Intel Science Talent Search competition for his work on this project.* Current Position: Medical Scientist Training Program, UC San Francisco, CA.

2010 **Greg Tsang**, Undergraduate program in Neuroscience (U Rochester). and REMS scholar. Project: "Unsupervised image analysis of nuclear pyknosis using Cell Profiler". Role: Faculty mentor.

2011 **Joseph Thomas**, Undergraduate program in Neuroscience (U Rochester). Rotation project: "Molecular Dissection of Epitopes Governing CHOP-10 Nuclear

Localization, Stability and Cytotoxicity". Current Position: Staff Scientist, University of Maryland School of Pharmacy.

2011-2013 **Alaina Wayland**, Undergraduate program in Neuroscience (U Rochester). Project #1: "Assessment of CA1 Degeneration After Global Ischemia Using Supervised 2D Analyses of Nuclear Pyknosis". Note: *This work was supported by a grant to Ms. Wayland from the Xerox REACH program. The student was included as co-author on published work.* Role: Faculty mentor
Project #2: "Genetic interactions between hypoxia and lipid droplet homeostasis". *Work performed in fulfillment of Bio 395 requirements and senior honors thesis.* Current Position: Outreach coordinator, Native American Community Services, Buffalo, NY.

2011 **Korey Buresh**, Undergraduate program in Neuroscience (U Rochester). Project: "Mining the Mouse Genome for Hypoxia-regulated Proteins Using CD-tagging and Automated Image Analyses". Role: Faculty Mentor.

2012 **Emma Holloway**, Laboratory volunteer, Allendale Columbia High School, Brighton, NY. Current Position: Undergraduate, University of Michigan.

2013 **Alyssa Abel**, Undergraduate program in Neuroscience (U Rochester). Project: "Adaptive Stress Regulation of Carbonic Anhydrase 6 in Mouse Neuronal Cell Culture Models". Role: committee member. Advisor: Keith Nehrke Ph.D. Role: thesis committee member. *Work performed in fulfillment of senior honors research project.* Current Position: Albany Medical College.

2013 **Hannah Bazarian**, Undergraduate program in Neuroscience (U Rochester). Project: "Neutrophil transmigration to the CNS after global cerebral ischemia". *Work performed in fulfillment of Bio 395 requirements.* Role: Faculty Mentor.

2013-2016 **Max Sims**, Undergraduate program in Neuroscience (U Rochester). Project: "Crowdsourcing medical expertise in near realtime." *Recipient of REACH funding (Xerox) in support of his work on these projects and first author on two peer reviewed manuscripts related to our work on medical crowdsourcing.* Role: Faculty Mentor. Current Position: Laboratory technician, Mahon Lab, UR Department of Brain and Cognitive Science.

2014 **Megan Betancourt**, Volunteer, Our Lady of Mercy High School. Role: Faculty Mentor. Current Position: Ms. Betancourt was accepted to the U Rochester Early admissions Medical Scholars program (REMS).

2014 **Melissa Holloway**, Undergraduate program in Neuroscience (U Rochester). Project: "Neutrophil trafficking in models of global ischemia". Role: Faculty Mentor. Current Position: Legislative Intern, Lewis-Burke Associates, LLC, Washington D.C.

2016 **George Albert**, Undergraduate program in Neuroscience (U Rochester). UR-UPP Fellow. Project: "Understanding the relationship between ER-dependent transcription and neuronal differentiation and development." Role: Faculty Mentor. Note: Recipient of Discover Grant Funding, 2016.

2016 **Sam Lawyer**, Undergraduate program in Neuroscience (U Rochester). UR-UPP Fellow. Project: "Transgenic colony screening by PCR and Gel Electrophoresis". Role: Faculty Mentor.

2016 **Olivia Denny**, Undergraduate program in Neuroscience (U Rochester). UR-UPP Fellow. Project: "Examining of Chemotherapeutic effects on DUSP 1 expression in GB stem cells." Role: Faculty Mentor.

2016 **Casey Howard**, Undergraduate program in Neuroscience (U Rochester). UR-UPP Fellow. Project: "Hif-1α modification through Cloning and PCR techniques". Role: Faculty Mentor. Recipient UR Reach funding 2016.

2016 **Stephanie Bandoski**, Undergraduate program in Neuroscience (U Rochester). UR-UPP Fellow. Project: "Tetracyclines in ischemia reperfusion." Role: Faculty Mentor.

2016 **Jeffrey Hrebenach**, Computer Science Program, University of Rochester. Project: Development of an e-commerce mobile app. Recipient of UR REACH funding. Role: Faculty Mentor.

2016 **Hamza Ahmed**, University of Buffalo. Project: "comparison of high content, image-based screening tools for neuroscience research. Mentor: Seth Perry. Role: Faculty Co-Mentor.

2016 **Christopher Walker**, Undergraduate program in Neuroscience (U Rochester). UR-UPP Fellow. Project: "Comparison of high content, image-based screening tools for neuroscience research". Role: Faculty Mentor.

C. MEDICAL STUDENT MENTEES

2007 **Alliya Qazi**, Medical Student (U Rochester) and Strong Children's Research Scholar. Project: "Regulated Expression of the p75 Intracellular Domain is Protective Against Oxidant Injury in HN33 Hippocampal Cells." Role: Co-advisor. Current position: Attending in General Surgery, UC Irvine.

2011 **Aditi Mulgund, B.S**., medical student (Northeast Ohio Medical University) and fellow of the Strong Children's Research Scholar. Project: "The master Regulator of HIF-1α Undergoes Physiologically-Regulated Cleavage". Role: Faculty mentor. Current Position: Resident Physician, University of Cincinnati.

2016 **Joseph Van Galen**, B.S., Medical Student, University of Rochester. Project: Pro-survival, Anti-inflammatory properties of novel 4th generation substituted tetracyclines. Role: Faculty Mentor.

2016-pres **Gianluca DiMaria, B.S**. Visiting Scholar (Sapienza University of Rome). Project: "Anti-inflammatory actions of non-antibacterial tetracycline derivatives". Role: Rotation advisor.

D. PRE-DOCTORAL MENTEES

2007-2009 **Chris De Jesus, B.S**., laboratory technician. Current Position: Albert Einstein Graduate Program in Neuroscience.

2009-2010 **Molly Gill, B.S., M.S.**, Neuroscience Graduate Program (U Rochester). Project title: "Defining the Biological Role of Growth Factor-induced ER Stress Signaling". *MS degree awarded 12/2010.* Role: thesis advisor. Current position: Research Technician, Ken McCarthy, UNC Chapel Hill.

2011-2013 **Laura Yunes-Medina B.S, M.S.,** Neuroscience Graduate Program (U Rochester). Project title: "Defining CHOP-10 Dependent Adaptive ER Stress Pathways in Neurons". Recipient of F31 award (NS084672). Role: Ph.D. Thesis Advisor.

2012-2017 **Bradley Mills B.S., Ph.D.,** Pathology Graduate Program (U Rochester). Rotation project: "Determination of the HIF-1α cleavage site". F31-A0 recipient (F31 CA180358). Title: MKP-1 Effects on HIF-1α and Glycolytic metabolism in Glioblastoma Multiforme. Role: Ph.D. Thesis Advisor. Current Position: Postdoctoral Fellow, Department of Surgery, University of Rochester.

2010-2012 **Arthur Totten, B.S.** Technician. Laboratory project: "MKP1 antagonizes C/EBP-β activity and lowers the apoptotic threshold in models of CNS ischemia." Current Position: Graduate Student, University of Alabama.

2010-2012 **Aric Rininger, B.S**., Technician. Project: "Assessment of CA1 degeneration after global ischemia using supervised 2D analyses of nuclear pyknosis." Current Position: Graduate Student, University of Washington, Seattle, WA.

2013 **Aleta Steevens, B.A.,** Neuroscience Graduate Program (U Rochester). Project: "Role of TrpC3 in BDNF-CHOP coupling." Role: Rotation Advisor.

2013-2017 **Nguyen Mai, B.S., Ph.D.,** MSTP program, NGP (U Rochester). Project: "The role of lung-brain coupling on neutrophil priming and reperfusion injury following global cerebral ischemia." Role: thesis advisor. Current Position: Third year medical student.

2014 **David Richardson, B.A.,** Medical Scientist Training Program, (U Rochester). Project: "Role of MAPK in HIF-1α proteolytic processing." Role: Rotation Advisor

2014-2015 **NIH/CAI Neuro Start Up Challenge.** Graduate Students: Jennifer Stripay, Ryan Dawes & Heather Natola, Neuroscience Program (U Rochester). Project Title: Biomarker discovery for Glioblastoma Multiforme. Role: Faculty Mentor.

2015-pres **Humberto Mestre, M.D.,** graduate student, Neuroscience Graduate Program (U Rochester). Rotation Project: "Testing anti-inflammatory and cytoprotective properties of novel semisynthetic TC derivatives in models of ischemia-reperfusion injury." Role: Rotation Advisor & Chair, Thesis Qualifying Exam.

2016-2017 **Zheng Sun, B.S., M.S.,** Graduate Program in Biology, U. Rochester). Project: "Association between ER stress-dependent transcription and neuronal development and differentiation." Role: Masters thesis advisor.

2016-pres **Jonathan Bartko**, **B.S**. Medical Scientist Training Program / Pathology, U. Rochester. Project: "TBD". Role: Thesis Mentor.

2016 **Kathleen Gates, B.S**., Neuroscience Graduate Program (U Rochester). Project: "Mechanism underlying neuroprotection of lung-specific ECSOD expression in models of cerebral ischemia". Role: Rotation advisor.

E. THESIS COMMITTEE ACTIVITY

2012-2013 **Veena Ganeshan, B.S**. Neuroscience Graduate Program, Rochester. Advisor: Nina Schor, M.D., Ph.D. Role: Thesis committee member. Current Position: Senior Laboratory Engineer, Department of Biomedical Engineering, U Rochester. **Role:** Member.

2012-2017 **Julianne Feola, B.S.** Neuroscience Graduate Program, Rochester. Role: Thesis committee member. Advisor: Gail Johnson-Voll, Ph.D. **Role:** Member.

2012-2017 **Salvador Pena, B.S.** Medical Scientist Training Program, Neuroscience Graduate Program, Rochester. Advisor: Keith Nerhke Ph.D. **Role:** Member.

2013-2016 **Jennifer Stripay, B.S.** Neuroscience Graduate Program, Rochester. Project: "Restoring c-Cbl function: a novel therapeutic approach for glioblastoma multiforme". Mentor: Mark Noble. **Role:** Member.

2015-2016 **Kyle Koster, B.S.** Graduate Program in Microbiology & Immunology, Rochester. Project "Mechanisms and consequences of secondarily necrotic neutrophil efferocytosis in inflamed tissues" Mentor: M. Elliot. **Role:** Member.

2015-2017 **Stephanie Syc, B.S.** Medical Science Training Program / Neuroscience Graduate Program, Rochester. Project "Endothelin-1 and cell death in optic neuropathy". Mentor: Rick Libby. **Role:** Member.

2015-2016 **Emily Walters, B.S.**, Medical Scientist Training Program, Department of Biomedical Genetics, Rochester. Project: "Non-Mutated Mediator Genes in Diverse Epithelial Cancer Types". Mentor: Helene McMurray. **Role:** Chair.

2015-2016 **Alex Hajduczok**, B.S. Medical Scientist Training Program, Pharmacology & Physiology, Rochester. Project: "Defining the Group VI Adhesion G Protein Coupled Receptor mechanism of Activation and Therapeutic Potential for melanoma Treatment". Mentor: Greg Tall. **Role:** Member.

2016-pres **Patrick Miller-Rhodes**, B.S. Neuroscience Graduate Program, Rochester. Project: "HIV-1 Associated Neurocognitive Disorders: Prevalence, Pathophysiology, & Experimental Models ". Mentor: Harris Gelbard. **Role:** Chair.

2016-pres **Josh Hinkle, B.S**. Neuroscience Graduate Program, Rochester. Project: "Cranial irradiation causes dendritic spine loss that is microglial complement receptor-3-dependent and associated with cognitive impairment". Mentor: Kerry O'Banion. **Role:** Member.

2016-pres **Alissa Trzeciak, B.S., M.S.** Microbiology & Immunology Graduate Program, Rochester. Project: "Sepsis-Induced Neuroinflammation". Mentor: Minsoo Kim. **Role:** Member.

2017-pres **Humberto Mestre, M.D.** Neuroscience Graduate Program, Rochester. Project: "Paravascular Basis of Small Vessel Disease". Thesis Advisor: Maiken Nedergaard. **Role:** Chair.

2017 Matthew Kavanaugh, B.S. Neuroscience Graduate Program, Rochester. Project: "Properties of training-induced visual recovery in cortical blindness". Mentor: Krystel Huxlin. **Role:** Chair.

F. POST-DOCTORAL & JUNIOR FACULTY MENTEES

2012-2014 **Jeanne Hansen, Ph.D.,** Post-doctoral Research Fellow, Pediatric Neurology, University of Rochester. Project Title: "Mechanistic evaluation of HIF-1a endoproteolytic cleavage." Role: Mentor. Current Position: Post-doctoral fellow in the laboratory of Dr. Nina Schor.

2014-2015 **Alex Paciorkowski, M.D.,** Assistant Professor, Pediatric Neurology, University of Rochester. Project Title: "Biology of Developmental Encephalopathies Presenting with Infantile Spasms" (NINDS / K08-NS078054).

2015 **Trey Smith, M.D.,** Clinical Fellow, Department of Neurology, University of Rochester. Role: Assisted with funded fellowship grant application to National MS Society Sylvia Lawry Fellowship.

2015-pres **Rupal Mehta, M.D.,** Assistant Professor, Department of Pathology, University of Rochester. Project title: "Alpha-Endosulfine in Post-Ischemic Neuronal Apoptosis.

2015-2017 **Ania Busza, M.D., Ph.D**. Instructor, Department of Neurology, Stroke Division. Project Title: "Can Transcranial Direct Current Stimulation Improve Contrast Sensitivity in Chronic Stroke Patients with partially Recovered Visual Field Defects?".

2016-pres **Scott James Cameron, M.D., Ph.D.** Senior Instructor, Department of Medicine, University of Rochester. Project Title: "Platelet ERK5 regulates myocardial infarct expansion". (K08HL128856).

RESEARCH FUNDING

A. KEYWORDS

Neuroprotection, blood brain barrier, ischemia reperfusion injury (IRI), cerebral ischemia, cardiac arrest, endoplasmic reticulum stress, hypoxia-inducible factor-1-alpha, tetracyclines, focal stroke, systemic inflammation, neuroinflammation, apoptosis, selective vulnerability, programmed cell death.

B. FELLOWSHIP AWARDS

Award Number: F30 MH12305 Project Dates: 12/1998 – 3/2002
"Sensing hypoxia in the CNS using herpes vectors"
Sponsor: NIH/NIMH Direct Costs: $111,301
PI: Halterman

Award Number: N/A Project Dates: 7/2007 - 6/2008

Title: "Defining Neurotherapeutic targets in hypoxia-induced CHOP-10 Signaling Networks"
Sponsor: Buswell Fellowship Direct Costs: $12,500
Award Number: NS07338 Project Dates: 7/2006-12/2006
Title: Experimental Therapeutics Fellowship
Sponsor: NIH/NINDS
PI: Griggs Role: Trainee

Award Number: K99 NS060764 Project Dates: 4/2008- 3/2010
"Defining Neurotherapeutic targets in hypoxia-induced CHOP-10 Signaling Networks"
Sponsor: NIH/NINDS Total Costs: $248,436
PI: Halterman

C. ACTIVE PROJECTS

Award Number: PR150522 Project Dates: 9/2016 - 8/2019
"Neuroprotectant Therapeutic Interventions to Prevent Neurological Consequences in Combat"
Sponsor: DoD Total Costs: $2,300,000
PI: Halterman
Note: Awarded as an A0 application

Award Number: R01-NS092455 Project Dates: 4/2015 - 3/2020
"Mechanisms of lung-dependent neutrophil priming in global cerebral ischemia reperfusion injury".
Sponsor: NIH/NINDS Total Costs: $2,375,261
PI: Halterman
Note: Awarded as an A0 application

Award Number: 046870-071 Project dates: 4/1/14-12/31/16
"Lung-brain coupling in neutrophil-dependent injury after global ischemia".
Sponsor: Schmitt Program on Integrative Brain Research Total Costs: $50,000
PI: Halterman

Award Number: R01-NS076617 Project dates: 9/2011 - 8/2017
"Targeting phosphatase regulated cleavage of HIF-1-α in ischemic brain injury"
Sponsor: NIH/NINDS Total Costs: $2,155,680
PI: Halterman, M
Note: Awarded as an A0 application / score 20 (2nd percentile)

Award Number: T32-GM007356 Project dates: 11/2016-6/2019
"Medical Scientist Training Program Grant"
Sponsor: NIH/NIGMS Total Costs: $715,485
PI: O'Banion
Role: Key Personnel

D. COMPLETED PROJECTS

Award Number: R00-NS060764 Project Dates: 4/2010- 3/2013
"Defining Neurotherapeutic targets in hypoxia-induced CHOP-10 Signaling Networks"
Sponsor: NIH/NINDS Total Costs: $725,373
PI: Halterman

Award Number: 046870-077 Project dates: 5/1/15-12/31/15
"The effects of arousal on microglial behavior during stroke".

Sponsor: Schmitt Program on Integrative Brain Research Total Costs: $40,000
PI: Majewska Role: Co-Investigator

E. TRAINEE AWARDS

Grant Number: F31-CA180358 Project Dates: 7/2013 – 6/2017
"MKP-1 Effects on HIF-1α and Glycolytic Metabolism in Glioblastoma Multiforme"
Sponsor: NIH/NCI Total Costs: $172,480
PI: Bradley Mills, B.S., M.S. Role: Ph.D. Mentor
Note: Awarded as an A0 application

Grant Number: F31-NS084672 Project Dates: 08/2013 – 07/2017
"Defining CHOP-10 Dependent Adaptive ER Stress Pathways in Neurons"
Sponsor: NIH/NINDS Total Costs: $170,704
PI: Laura Yunes-Medina, B.S., M.S. Role: Ph.D. Mentor
Note: Awarded as an A0 application

Grant Number: F30-NS092168 Project Dates: 04/2015 – 03/2019
"Role of Lung-Brain coupling on Neutrophil Priming & Reperfusion Injury Following Global Cerebral Ischemia"
Sponsor: NIH/NINDS Total Costs: $194,304
PI: Nguyen Mai, B.S., M.S. Role: Ph.D. Mentor
Note: Awarded as an A0 application

SCHOLARLY ACTIVITY

A. PATENTS

1. 60/442,030 / "Production and limited toxicity of Herpesvirus amplicon particles for gene delivery". *Awarded January 23, 2003.*

2. 10/543,216 / "Herpes amplicon particles". *Awarded December 7, 2005.*

3. 61/250,281 / "Methods of Treatment and Screening Assays for HIF-1-Alpha Regulation". *Awarded December 8, 2015*

4. 61/391,457 / "An Improved Method for the Study of Apoptosis-Related Genes Using 9-TB Regulated Expression from the TET-On System".

5. 61/466,906 / "Crowdsourcing Medical Expertise", medical software application facilitating collaborative decision-making and medical education at the point of care.

B. PEER-REVIEWED RESEARCH ARTICLES

1. Parry S, Holder J, **Halterman MW**, Weitzman MD, Davis AR, Federoff HJ, Strauss JF. (1998) Transduction of human trophoblast cells by replication-deficient recombinant viral vectors: the state of cellular differentiation governs virus entry. Am. J. Pathol. 152:1521-1529.
2. Brooks AI, **Halterman MW**, Chadwick CA, Davidson BL, Haak-Frendscho M, Radel C, Porter C, Federoff HJ. (1998) Reproducible and efficient murine CNS gene delivery using a microprocessor-controlled injector. J. Neurosci Meth. 80(2):137-147.

3. Kutubuddin M, Federoff HJ, Challita-Eid PM, **Halterman M**, Day B, Atkinson MA, Planelles V, Rosenblatt J. (1999) Eradication of pre-established lymphoma using HSV amplicon vectors. Blood. 93(2):643-54.

4. Carew JF, Federoff H, **Halterman M**, Kraus DH, Savage H, Sacks PG, Schantz SP, Shah JP, Fong Y. (1998) Efficient gene transfer to human squamous cell carcinomas by the herpes simplex virus type 1 amplicon vector. Am J Surg. 176(5):404-8.

5. Brooks AI, **Halterman MW**, Federoff HJ. (1998) Focal hippocampal gain of NGF function elicits specific septal cholinergic reorganization. Neuroreport. 10, 337-344.

6. White SM, Renda M, Nam NY, Klimatcheva E, Zhu YH, Fisk J, **Halterman M**, Rimel BJ, Federoff H, Pandya S, Rosenblatt JD, Planelles V. (1999) Lentivirus vectors using human and simian immunodeficiency virus elements. J. Virology. 73(4):2832-2840.

7. D'Angelica M, Karpoff H, **Halterman M**, Ellis J, Klimstra D, Edelstein D, Brownlee M, Federoff H, Fong YM. (1999) *In vivo* interleukin-2 gene therapy of established tumors with herpes simplex amplicon vectors. Cancer Immunology, Immunotherapy. 47(5):265-271.

8. Carew JF, Kooby DA, **Halterman MW**, Federoff HJ, Fong YM. (1999) Selective infection and cytolysis of human head and neck squamous cell carcinoma with sparing of normal mucosa by a cytotoxic herpes simplex virus type 1 (G207). Human Gene Therapy. 10(10);1599-1606.

9. **Halterman MW**, Miller CC, and Federoff HJ. (1999) Hypoxia inducible factor-1α mediates hypoxia-induced delayed neuronal death that involves p53. J. Neuroscience. 19(16);6818-6824.

10. Kooby DA, Carew JF, **Halterman MW**, Mack JE, Bertino JR, Federoff HJ, Fong YM. (1999) Oncolytic viral therapy for human colorectal cancer and liver metastasis using a multi-mutated herpes simplex virus type-1 (G207). FASEB J. 13, 1325-1334.

11. D'Angelica M, Tung C, Allen P, **Halterman M**, Delman K, Delohery T, Klimstra D, Brownlee M, Federoff H, Fong Y. (1999) Herpes simplex virus (HSV)-mediated ICAM-1 gene transfer abrogates tumorigenicity and induces anti-tumor immunity. Mol Med. 5(9):606-616.

12. Bennett JJ, Kooby DA, Delman K, McAuliffe P, **Halterman MW**, Federoff H, Fong Y. (2000) Antitumor efficacy of regional oncolytic viral therapy for peritoneally disseminated cancer. J Mol Med. 78(3):166-74.

13. Bowers WJ, Howard DF, Brooks AI, **Halterman MW**, Federoff HJ. (2001) Expression of vhs and VP16 during HSV-1 helper virus-free amplicon packaging enhances titers. Gene Therapy. 8(2):111-120.

14. Carew JF, Kooby DA, **Halterman MW**, Kim SH, Federoff HJ, Fong Y.A (2001) A Novel Approach to Cancer Therapy Using an Oncolytic Herpes Virus to Package Amplicons Containing Cytokine Genes. Mol Ther. 4(3): 250-6.

15. Tolba KA, Bowers WJ, Hilchey SP, **Halterman MW**, Howard DF, Giuliano RE, Federoff HJ, Rosenblatt JD. (2001) Development of herpes simplex virus-1 amplicon-based immunotherapy for chronic lymphocytic leukemia. Blood. 98(2):287-95.

16. Zager JS, Delman KA, Malhotra S, Ebright MI, Bennett JJ, Kates T, **Halterman M**, Federoff H, Fong Y. (2001) Combination vascular delivery of herpes simplex oncolytic viruses and amplicon mediated cytokine gene transfer is effective therapy for experimental liver cancer. Mol Med 7(8):561-8.

17. Delman KA, Zager JS, Bennett JJ, Malhotra S, Ebright MI, McAuliffe PF, **Halterman MW**, Federoff HJ, Fong Y. (2002) Efficacy of multiagent herpes simplex virus amplicon-mediated immunotherapy as adjuvant treatment for experimental hepatic cancer. Ann Surg; 236(3):337-42.

18. Detrait ER, Bowers WJ, **Halterman MW**, Giuliano RE, Bennice L, Federoff HJ, Richfield EK. (2002) Reporter gene transfer induces apoptosis in primary cortical neurons. Mol Ther;5(6):723-30.

19. Abeysinghe HR, Pollock SJ, Guckert NL, Veyberman Y, Keng P, **Halterman M**, Federoff HJ, Rosenblatt JP, Wang N. (2004) The role of the THY1 gene in human ovarian cancer suppression based on transfection studies. Cancer Genet Cytogenet;149(1):1-10.

20. **Halterman MW**, Giuliano RE, Bowers WJ, and HJ Federoff. (2006) Improved HSV-1 amplicon packaging using virion host shutoff mutants lacking mRNAse activity. J. Gene Med;8(11):1320-8.

21. **Halterman MW**, Vates GE, and GH Riggs. (2007) Tremor in aqueductal stenosis and response to endoscopic third ventriculostomy. Neurology; 68(19):E29-31.

22. **Halterman MW**, Dejesus C, Rempe D, Schor NF and HJ Federoff. (2008) Loss of c/EBP-β activity promotes the adaptive to apoptotic switch in hypoxic cortical neurons. Mol. Cell Neurosci. 38(2):125-37.

23. **Halterman MW**, Giuliano R, Schor NF. (2009) In-tube protocol modification improves transfection rates in murine neuronal cultures. J. Neurosci Meth. 177(2):348-354.

24. **Halterman MW**, Gill, M, Dejesus C, Giuliano R, Ogihara M, Schor NF and HJ Federoff. (2010) The ER stress response Factor, CHOP-10, protects against hypoxia induced neuronal death. J. Biol. Chem. 285(28):21329-40. PMID: 20448044.

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B. REVIEWS & BOOK CHAPTERS

1. **Halterman MW** and Federoff HJ. (1997) Molecular Modification of neural networks: altering synaptic function through the use of viral mediated gene transfer. In "The Synapse in Development, Health and Disease" B.W. Festoff ed. JAI Press, Greenwich, CT.
2. Federoff HJ, **Halterman MW**, Brooks AI. (1997) Use of the herpes amplicon system as a vehicle for somatic gene transfer. Advanced Drug Delivery Reviews. 27(1): 29-39.
3. Van De Water TR, Staecker H, **Halterman MW** and HJ Federoff. (1999) Gene therapy in the inner ear: Mechanisms and clinical implications. Ann NY Acad Sci. 884:345-60.
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C. ABSTRACTS

1. Mills B, and **M Halterman**. HIF-1α Cleavage in Cerebral Ischemic Injury. Pathology Research Day, University of Rochester Medical Center, Rochester, NY, May 2012.
2. Mills B, Hansen J, and **M Halterman**. MKP-1 Effects on HIF-1α in Glioblastoma Multiforme. University Day in Genetics, University of Rochester Medical Center, Rochester, NY, April 2013.
3. Mills B, Hansen J, and **M Halterman**. MKP-1 Effects on HIF-1α in Glioblastoma Multiforme. HHMI Peer Cluster Meeting, University of Rochester Cardiovascular Research Institute, Rochester, NY, June 2013.
4. Mills B, Hansen J, and **M Halterman**. MKP-1 Effects on HIF-1α in Glioblastoma Multiforme. Sensing and Signaling of Hypoxia Symposium, Beaver Run Resort, Breckenridge, CO, January 2014.
5. Mills B, Hansen J, and **M Halterman**. MKP-1 Effects on HIF-1α and Cell Survival in Glioblastoma Multiforme. Pathology Research Day, University of Rochester Medical Center, Rochester, NY, June 2014.
6. Mills B, Hansen J, and **M Halterman**. Mitogen-Activated Protein Kinase Phosphatase 1 Exerts an Anti-Proliferative and Pro-Apoptotic Bias in GBM. James P Wilmot Cancer Center Symposium, University of Rochester Medical Center, Rochester, NY, November 2014.
7. Mills B, Hansen J, and **M Halterman**. Mitogen-Activated Protein Kinase Phosphatase 1 Exerts an Anti-Proliferative and Pro-Apoptotic Bias in GBM. 10th Annual Steven R. Schwid Research Symposium, University of Rochester Medical Center, Rochester, NY, April 2015.
8. Mills B, Hansen J, and **M Halterman**. Mitogen-Activated Protein Kinase Phosphatase 1 Exerts an Anti-Proliferative and Pro-Apoptotic Bias in GBM. 2015 Annual Neuroscience Retreat, Memorial Art Gallery, Rochester, NY, April 2015.
9. Mills B, Hansen J, and **M Halterman**. Mitogen-Activated Protein Kinase Phosphatase 1 Exerts an Anti-Proliferative and Pro-Apoptotic Bias in GB. 20th Annual Scientific Meeting and Education Day of the Society for Neuro-Oncology, Marriott Rivercenter Hotel, San Antonio, TX, November 2015.
10. **Halterman MW**, et al. “Expression analysis of hypoxia-induced neuron loss reveals distinct roles for the bZIP factors CHOP-10 and ATF4”. Society for Neuroscience, Washington, D.C. (2009).
11. **Halterman MW**, et al. “Molecular dissection of the cis elements governing the bZIP factor Gadd153/CHOP-10”. Society for Neuroscience, Washington, D.C. (2009). Poster presentation.
12. **Halterman MW**, et al. .“DUSP1/MKP-1 Potentiates Hypoxic Cellular Injury and Alters Oxygen-dependent Gene Expression Via Combinatorial Post-Translational Processing of HIF-1a”. American Neurological Association, 134th Annual meeting (2009), Baltimore, MD.
13. **Halterman MW**, et al. “Mining the Mouse Genome for Hypoxia-regulated Proteins Using CD-tagging and Automated Image Analyses ”Biomedical Imaging Conference, Howard Hughes Medical Institute, Janelia Farms (2009).
14. **Halterman MW**, et al. “Tet-regulated Expression of the p75 Intracellular Domain is Protective Against Oxidant Injury in the HN33 Hippocampal Cell Line. ”American Neurological Association, 132nd Annual meeting (2007), Washington, D.C.

15. Mai N, Prifti L, Bazarian H, Rininger A, Nelson ML, **Halterman MW**. 9-tert-butyl-doxycycline inhibits neuronal injury and neutrophil trafficking after global ischemia. 2014. Medical Scientist Research Symposium. Rochester, NY.
16. Mai N, Prifti L, O'Reilly **M, Halterman MW**. Neutrophil Priming and Brain-Lung Coupling in Cerebral Ischemia-Reperfusion Injury (*poster prize). 2014. Tri-Institutional MD/PhD Conference. Rochester, NY.
17. Mai N, Prifti L, **Halterman MW**. Neutrophil activation as a marker for systemic inflammation and CNS disease burden in a novel model of post-cardiac arrest syndrome. 2015. International Stroke Conference. Nashville, TN.
18. Mai N, Prifti L, **Halterman MW**. Neutrophil activation as a marker for systemic inflammation and CNS disease burden in post-cardiac arrest syndrome. 2015. Steven R. Schwid Resident and Fellow Research Symposium. Rochester, NY.
19. Mai N, Prifti L, **Halterman MW**. Priming effect of endotoxemia on neutrophil activation and systemic injury following transient global cerebral ischemia. 2015. National MD/PhD Student Conference. Keystone, CO.
20. Mai N, Prifti L, **Halterman MW**. Priming effect of endotoxemia on neutrophil activation and systemic injury following transient global cerebral ischemia (*poster prize). 2015. American Physician Scientists Association North East Regional Meeting. Syracuse, NY.
21. Mai N, Prifti L, **Halterman MW**. 9-tert butyl doxycycline inhibits neuronal injury and neutrophil trafficking after global ischemia. 2016. International Stroke Conference. Los Angeles, CA.
22. Mai N, Prifti L, **Halterman MW**. Systemic immune responses and neutrophil activation in the propagation of neuroinflammation after cerebral ischemia-reperfusion (*poster prize). 2016. Steven R. Schwid Resident and Fellow Research Symposium. Rochester, NY.
23. Trzeciak A, Lerman Y, Mai N, **Halterman M**, and Kim M. Chronic brain dysfunction driven by acute systemic inflammation. Keystone Symposia on neuroinflammation: Concepts, Characteristics, Consequences, Keystone, June 19-23, 2017.
24. Gates K, Mai N, Prifti L, and **Halterman MW**. Lung redox sate modulates neutrophil priming during systemic inflammation. Keystone Symposia on Neuroinflammation: Concepts, Characteristics, Consequences, Keystone, June 19-23, 2017.

D. INVITED LECTURES & PRESENTATIONS

2017 "Targeting immune-mediated cerebral reperfusion injury in the post cardiac arrest syndrome (PCAS)", Departments of Neurology & Neuroscience, Georgetown University, Washington, D.C. June 5-6, 2017.

2017 "Priming effects of endotoxemia on neutrophil activation, neuroinflammation and reperfusion injury following transient global ischemia", American Society for Neural Therapy and Repair, Clearwater Beach, FL. April 27-30, 2017.

2016 "Therapeutic Potential of Novel Tetracycline Derivatives in Cerebrovascular Disease" Echelon Biosciences Inc, Salt Lake City, UT.

2016 "Immune interventions in stroke". Stroke Fellows Lecture Series, Department of Neurology, University of Rochester, Rochester, NY

2015 "Development of 4th Generation Tetracyclines for Neuroprotection in Cerebrovascular Disease", Board Presentation Echelon Biosciences, Inc., Salt Lake City, UT.

2015 "Perspectives on building a career as an academic neurologist". Resident Lecture Series, Department of Neurology, University of Rochester.

2015 "The Enemy Within: Neutrophils and the Post Cardiac Arrest Syndrome". Neurosurgery Grand Rounds, University of Rochester.

2014 "The Enemy Within: Neutrophils and the Post Cardiac Arrest Syndrome". Research in Progress Series (RIPS), Department of Microbiology and Immunology, U Rochester.

2014 "Putting the Brakes on HIF-dependent transcription". HHMI Med into Grad Fellowship Program. CVRI, University of Rochester, Rochester, NY

2014 "F30 Applications: From Good to Great". Tri-Institutional MSTP Symposium, University of Rochester, Rochester, NY.

2013 "Perspectives on building a career as an academic neurologist". Resident Lecture Series, Department of Neurology, University of Rochester.

2013 "DocCHIRP Mobile App for use in Accountable Care Networks". Presentation to IT Services. University of Rochester Medical Center, Rochester, NY.

2013 "Molecular dissection of HIF-1 dependent signaling in glioblastoma multiforme". Resident Lecture Series, Department of Neurosurgery, Rochester, NY

2012 "Therapeutic target discovery for global ischemic brain injury." Annual Neuroscience Retreat, University of Rochester, Rochester, NY.

2012 "From Gene Chips to bZIPs: Using Functional Genomics to Identify Disease-Modifying Genes in Post-Cardiac Arrest Syndrome". Neurology Grand Rounds, University of Rochester, NY,

2011 "From Gene Chips to bZIPs: Using Functional Genomics to Define Therapeutic Targets in Global Ischemia." (2011) National Institutes of Drug Abuse, Baltimore, MD.

2011 "From Gene Chips to bZIPs: Using Functional Genomics to Define Therapeutic Targets in Global Ischemia." (2011) Department of Neurology, Mt. Sinai School of Medicine, NY.

2009 "Pathways to Independence – Implementing your vision for an independent research career". MD/PhD Training Program, U of R School of Medicine.

2008 "GBS spectrum disorders", Rochester General Hospital, Internal Medicine Residency program.

2008 "Posterior Circulation Stroke", Emergency Medicine Lecture for departmental faculty, Rochester General Hospital.

2006 "Hypoxia-induced Gene Expression Controls Delayed Neuron Loss in Culture Models of Stroke". Hope Center for Neurological Disorders, Washington Univ., St. Louis, MO.

2006 "Temporal Analysis of Gene Expression in a Model of Hypoxia-induced Neuronal Apoptosis." ICE Institute, Johns Hopkins University, Baltimore, MD.

2006 "Hypoxia-induced gene expression controls delayed neuron loss in culture models of stroke",

Department of Neurology, Univ. Michigan, Ann Arbor, MI

2006 "Defining Neurotherapeutic Targets in Hypoxia-induced Signaling Networks." Department of Neurology, Univ. Cincinnati, Cincinnati, OH.