



YOSEF BERLOW

Oregon Health & Science University

Degrees:

B.A. in Psychology, Lehigh University

B.S. in Behavioral Neuroscience, Lehigh University

Scholar Donors:

Lynn and Steven Pratt

About the Scholar:

Yosef has been working with William Rooney at the Advanced Imaging Research Center to develop MRI analysis techniques to investigate changes in brain tissue composition that occur in healthy aging and in neurological and psychiatric disorders. Using quantitative relaxographic imaging techniques, he has developed methods to evaluate regional abnormalities in water proton relaxation characteristics. Yosef has used this approach to investigate patterns of brain iron accumulation and white matter pathology in healthy aging, neurodegenerative dementias, Multiple Sclerosis and substance abuse.

Benefits to Society:

The development of quantitative MRI analysis techniques provides novel noninvasive methods to visualize and understand the brain in health and in pathological conditions. This work could potentially lead to neuroimaging biomarkers of disease processes that would assist in the diagnosis and treatment of neurological and psychiatric conditions.

Awards and Honors:

Presidential Scholar, Lehigh University

MD/PhD Scholarship, Oregon Health & Science University

ARCS Scholar, Achievement Rewards for College Scientists Foundation, Portland Chapter

Travel Scholarship, Gordon Research Conference for In Vivo Magnetic Resonance

Ashworth Graduate Training Award, Oregon Health & Science University

Educational Stipend, 19th and 21st Annual ISMRM meetings

Magna Cum Laude Merit Award for the 20th Annual ISMRM meeting

Outstanding Student Poster Presentation at OHSU Research Week

National Research Service Award, National Institute of Drug Abuse

Publications and Posters:

Berlow YA, Pollaro J, Krisky C, Snodgrass M, Kohout K, Lewis MS, Wilmington D, Hutter M, Casiana L, Fitzpatrick M, Lilly DJ, Fausti S, Folmer R, Bourdette D, and *Rooney WD*. MRI Correlates of Dichotic Listening Performance in Multiple Sclerosis. *Seminars in Hearing*. 2012; 33(3):283-294.

Folmer RL, Hutter MM, Lilly DJ, Shannon J, Casiana L, Wilmington D, Lewis MS, Billings CJ, Krisky C, **Berlow YA**, Pollaro J, *Rooney WD*, and Bourdette D. Electrophysiological Measures of Auditory Processing in Patients with Multiple Sclerosis. *Seminars in Hearing*. 2012; 33(3):274-282.

Berlow YA, Wells WM, Ellison JM, Sung YH, Renshaw PF, & Harper DG. Neuropsychiatric correlates of white matter hyperintensities in Alzheimer's disease. *Int J Geriatr Psychiatry*, 2010; 25(8): 780-8.

Forester, B.P.; **Berlow, YA**; Harper, D.G.; Jensen, J.E.; Lange, N. Froimowitz, M.P.; Ravichandran, C.; Iosifescu, D.V.; Lukas, S.E.; Renshaw, P.F. & Cohen, B.M. Age-related changes in brain energetics and phospholipid metabolism. *NMR Biomed*, 2010, 23, 242-250.

Forester, B.P.; Streeter, C.C.; **Berlow, YA**; Tian, H.; Wardrop, M.; Finn, C.T.; Harper, D.; Renshaw, P.F. & Moore, C. M. Brain lithium levels and effects on cognition and mood in geriatric bipolar disorder: a lithium-7 magnetic resonance spectroscopy study. *Am J Geriatr Psychiatry*, 2009, 17, 13-23

Forester BP, Finn CT, **Berlow YA**, Wardrop M, Renshaw PF, Moore CM. Brain lithium, N-acetyl aspartate and myo-inositol levels in older adults with bipolar disorder treated with lithium: a lithium-7 and proton magnetic resonance spectroscopy study. *Bipolar Disord* 2008; 10: 691-700.

Ellison JM, Harper DG, **Berlow YA**, Zeranski L. Beyond the "C" in MCI: noncognitive symptoms in amnesic and non-amnesic mild cognitive impairment. *CNS Spectr*. 2008 Jan;13(1):66-72.

Lawrence JM, Davidoff DA, Katt-Lloyd D, Connell A, **Berlow YA**, Savoie JA. Is large-scale community memory screening feasible? Experience from a regional memory-screening day. *J Am Geriatr Soc*. Aug 2003;51(8):1072-1078.

Reviews, Chapters, and Editorials:

Sivrioglu EY, **Berlow YA**, Ellison JM. Recognition and management of late-life depression in primary care. *Primary Psychiatry* 2004; 11(1): 56-58, 61-65.

Lawrence JM, Davidoff DA, **Berlow YA**: Diagnosing depression in later life, in *Depression in Later Life*. Edited by Ellison J, Verma S. New York, Marcel Dekker, Inc., 2003

Abstracts and Poster Presentations:

Berlow YA, Sammi MK, Selzer AH, Bourdette D, and Rooney WD. Quantitative Volumetrics of Multiple Sclerosis Brain from 7T MRI. *Proceedings of the International Society for Magnetic Resonance in Medicine*. 21: 3603 (2013)

Berlow YA, Kohama S, Pollaro J, Sammi MK, and Rooney WD. Brain Iron Levels Across the Japanese Macaque Lifespan. *Proceedings of the International Society for Magnetic Resonance in Medicine*. 20:6615 (2012)

Sammi MK, **Berlow YA**, Barbara TM, Selzer AH, Grinstead JW, Kim E, Bourdette D, and Rooney WD. A 7T Combined 31P Spectroscopy and 1H MRI Study in Multiple Sclerosis. *Proceedings of the International Society for Magnetic Resonance in Medicine*. 20:1561 (2012)

Berlow YA, Sammi, M.K., Pollaro, J., Selzer, A.H., Bourdette, D., Rooney, W.D. A novel non-invasive measurement of iron levels in human brain using magnetic resonance data acquisition and its validation at 3T: A potential clinical biomarker for Multiple Sclerosis. Presented at the Americas Committee for Treatment and Research in Multiple Sclerosis (ACTRIMS) Meeting. San Diego, CA. May 30-June 2, 2012

Sammi MK, **Berlow YA**, Barbara TM, Selzer AH, Grinstead JW, Kim E, Bourdette D, and Rooney WD. Decreased Cellular Energetics in Multiple Sclerosis Gray Matter: a 7T Phosphorus Spectroscopy Study. To be presented at the 64th Annual Meeting of the American Academy of Neurology. New Orleans, Louisiana. April 21-28, 2012

Earl E, Glynn C, Kohama SG, Bahjat FR, West GA, **Berlow YA**, Rooney WD, Stenzel-Poore M. Novel Quantitative Lesion Analysis Methods in a Non-Human Primate Ischemic Stroke Model. Poster at the Eighteenth Annual Blood-Brain Barrier Consortium Meeting, Stevenson, WA, March 22-24, 2012

Berlow YA, Lahna DL, Schwartz DL, Mitchell AD, Stevens AA, Rooney WD, and Hoffman WF. Increased striatal iron accumulation in human methamphetamine users. *Proceedings of the International Society for Magnetic Resonance in Medicine*. 19:2520 (2011)

Sammi MK, **Berlow YA**, Barbara, T, Grinstead J, Bourdette D., & Rooney WD. ³¹P Magnetic Resonance Spectroscopy and Imaging at 7T and signal Dependence on Brain Tissue Types. *Proceedings of the International Society for Magnetic Resonance in Medicine*. 18:3375 (2010)

Roalf DR, **Berlow YA**, Lebow MR, Young LA, Salat DH, & Janowksy JS. The effect of androgen deprivation on prefrontal white matter. *Human Brain Mapping*. San Francisco 2009.

Forester BP, **Berlow YA**, Jensen JE, Cooper T, Iosifescu DV, Lukas SE, Renshaw PF, Cohen BM: Age-related changes in adult brain energy metabolites, Poster at American Association for Geriatric Psychiatry Annual Meeting. New Orleans, Louisiana, 2007

Berlow YA, Zollei L, Ellison JE, Rohan M, Wells WM, Harper DG: Behavioral and psychological symptoms in Alzheimer's disease and measures of brain tissue composition, Poster at the Society for Neuroscience's 36th Annual Meeting. Atlanta, 2006

Harper DG, **Berlow YA**, Zollei L, Ellison JE, Rohan M, Wells WM: Transverse relaxation time maps show association with behavioral disturbance in Alzheimer's disease, Poster at the 12th Annual Meeting of the Organization for Human Brain Mapping. Florence, Italy, 2006

Berlow YA, Wells WM, Rohan ML, Olson MA, Harper DG: Behavioral symptoms and global measures of brain atrophy in Alzheimer's disease, Poster at the Society for Neuroscience's 35th Annual Meeting. Washington, DC, 2005