

CURRICULUM VITAE

Brian D. Schmit

Marquette University
Department of Biomedical Engineering
P.O. Box 1881
Milwaukee, WI 53201-1881
(414) 288-6125
e-mail: brian.schmit@marquette.edu

16420 Alverno Drive
Brookfield, WI 53005
(262) 938-0683

EDUCATION

Doctorate in Biomedical Engineering, Case Western Reserve University, Cleveland, OH.
Graduation: August, 1995. Dissertation: "Electrical Activation of the Diaphragm for Ventilatory Assist". Research Advisor: J. Thomas Mortimer.

Master of Science in Biomedical Engineering, Case Western Reserve University, Cleveland, OH.
Graduation: May, 1992.

Bachelor of Science in Engineering, (Major: Biomedical Engineering) Marquette University,
Milwaukee, WI. Graduation: May, 1988, Summa Cum Laude.

WORK EXPERIENCE

2020 – present	Hammes Family Endowed Professor Department of Biomedical Engineering, Marquette University and Medical College of Wisconsin
2017 - present	Associate Dean for Research OPUS College of Engineering, Marquette University
2012 – present	Adjunct Professor Department of Physical Medicine and Rehabilitation, Medical College of Wisconsin
2011 - present	Professor Department of Biomedical Engineering, Marquette University and Medical College of Wisconsin
2005 - 2011	Associate Professor Department of Biomedical Engineering, Marquette University
2000 – 2018	Adjunct Assistant Professor Department of Physical Medicine and Rehabilitation, Northwestern University
2000 – 2012	Adjunct Assistant Professor Department of Physical Medicine and Rehabilitation, Medical College of Wisconsin
2000 - 2005	Assistant Professor Department of Biomedical Engineering, Marquette University
1999 - 2000	Associate Director, Sensory Motor Performance Program Sensory Motor Performance Program, Rehabilitation Institute of Chicago
1998 - 2000	Research Assistant Professor Department of Physical Medicine and Rehabilitation, Northwestern University
1996 - 2000	Lab Manager Sensory Motor Performance Program, Rehabilitation Institute of Chicago
1995 - 1998	Research Associate

1995 - 1998 Sensory Motor Performance Program, Rehabilitation Institute of Chicago
Post-Doctoral Fellow
Department of Physical Medicine and Rehabilitation, Northwestern University

GRANTS

- Co-Investigator, “Locomotor Recovery and Compensation Post-stroke” NINDS R01-NS118009, funded February 1, 2021 to January 31, 2026.
- Co-Investigator, “Effects of visual feedback on balance control in people with multiple sclerosis”, Alvin and Marion Birnschein Foundation, December 1, 2019 to November 30, 2020.
- Co-Investigator, “Ischemic conditioning and improved motor function post stroke”, NICHD R01-HD099340, funded July 1, 2019 to June 30, 2024.
- Co-Investigator, “Ischemic conditioning improves walking function post stroke”, American Heart Association 19AIREA34450250, funded January 1, 2019 to July 11, 2019.
- Co-Investigator, “Mechanisms and efficacy of high intensity variable stepping training in patients with incomplete SCI”, DoD W81XWH1810796, funded September 30, 2018 to September 29, 2022.
- Co-Investigator, “Advanced diffusion MRI as a prognostic marker of human spinal cord injury”, Craig H. Neilson Foundation, funded July 1, 2018 to June 30, 2020.
- Co-Investigator, “Advanced MRI of spinal cord injury”, VA RR&D Merit Review I01 RX002751-01, funded April 1, 2019 to March 31, 2023.
- Co-Investigator, “Translating novel diffusion MRI markers of chronic spinal cord injury”, Advancing a Healthier Wisconsin funded April 1, 2018 to March 31, 2019.
- Principal Investigator, “Dynamic balance training in multiple sclerosis” Greater Milwaukee Foundation, funded January 1, 2017 to December 31, 2019.
- Principal Investigator, “Graduate Assistance in Areas of National Need” US Department of Education P200A150271, funded September 1, 2015 to August 31, 2018.
- Co-Investigator “Optimizing functional outcomes of stroke survivors through translational research” Advancing a Healthier Wisconsin funded December 1, 2015 to November 30, 2020.
- Principal Investigator “Dynamic balance training in multiple sclerosis” National Multiple Sclerosis Society PP-1506-04668, funded January 1, 2016 to December 31, 2016.
- Co-Investigator, “Diffusion tensor imaging of the injured spinal cord”, VA RR&D Merit Review I01 RX001497, funded October 1, 2014 to September 30, 2018.
- Consultant, “Impaired blood flow and neuromuscular fatigue post stroke”, NINDS R21-NS088818, funded July 1, 2014 to June 30, 2016.
- Consultant, “Neural mechanisms of neuromuscular fatigue post stroke”, NIH-NINDS R15-NS084130, funded April 1, 2014 to March 30, 2017.
- Principal Investigator, “Sympathetic-somatomotor coupling in human SCI”, NINDS R01-NS079751, funded August 15, 2013 to May 31, 2020.
- Co-Investigator, “Robotic gait training improves locomotor function in children with cerebral palsy” NICHD #R21-HD66261, funded August 1, 2011 to July 31, 2013.
- Co-Investigator, “Monoaminergic modulation of motor function in subacute incomplete SCI” DoD CDMRP SC100265 funded July 1, 2011 to June 30, 2015.
- Lead Investigator, “Rehabilitation Engineering Research Center on Technologies for Children with Orthopedic Disabilities” NIDRR H133E100007, Funded October 1, 2010 to September 30, 2015.
- Key Function Leader, “Clinical and Translational Science Award”, NIH U54 RR025221, Funded July 1, 2010 to June 30, 2015.
- Co-Investigator, “Leg muscle fatigue and motor function post stroke”, AHA 10CRP2580011, funded January 1, 2010 to December 31, 2011.
- Co-Principal Investigator. “Diffusion tensor imaging of the injured spinal cord”, VA RR&D Merit Review, I01 RX000113, Funded October 1, 2009 to September 30, 2012.

Principal Investigator. "Reflex regulation of motor function in human SCI", NINDS #R01-NS062982, Funded September 20, 2009 to August 31, 2012.

Co-Principal Investigator, "Locomotor adaptation in individuals post stroke", NICHD #R21-HD0582967, Funded May 15, 2009 to April 30, 2011.

Co-Investigator. "Improving delivery of intensive gait training in the clinical setting to augment community ambulation" a subproject of "RRTC on Enhancing the Functional and Employment Outcomes of Individuals who Experience a Stroke", NIDRR Rehabilitation Research and Training Center H133B080031, Funded October 1, 2008 to September 30, 2013.

Principal Investigator. "Diffusion tensor imaging in spinal cord injury", Way-Klingler Fellowship, Marquette University, Funded July 1, 2008 to June 30, 2011.

Co-Principal Investigator "Motor adaptation in human SCI", Paralyzed Veterans of America Spinal Cord Research Foundation, Funded June 1, 2008 to May 31, 2010.

Co-Investigator. "Enhanced motor recovery using serotonergic agents", NIDRR Field-Initiated Research Grant, Funded October 1, 2006 to September 30, 2009.

Co-Principal Investigator. "Novel technologies for spinal regeneration and assessment of motor function" BTA research grant, Funded May 1, 2006 to April 30, 2007.

Co-Investigator, "Diffusion tensor imaging of the spinal cord" a subproject of "Engineering for Neurological Rehabilitation" NICHD #R24-HD050821, Funded September 23, 2005 to May 31, 2008.

Principal Investigator. "Multi-joint sensorimotor dysfunction of the stroke arm", NINDS #R01-NS52509, Funded September 1, 2005 to May 31, 2009.

Principal Investigator. "Reflex control of motor coordination in stroke", American Heart Association, National Center Research Program Bugher Stroke Award, Funded July 1, 2005 to June 30, 2009 (resigned August 31, 2005).

Principal Investigator, "Reflex control of motor coordination in stroke", American Heart Association, Greater Midwest Affiliate Grant in Aid, Funded January 1, 2005 to December 31, 2007 (resigned on July 1, 2005).

Consultant, "Effects of baclofen on muscle strength in cerebral palsy", NINDS #R01-NS043143, Funded January 1, 2004 through June 30, 2006.

Co-Principal Investigator, "Enhanced upper limb motor control by reduced synergistic muscle patterns and spasticity after chemodenervation", NIDRR, Field Initiated Research Project, Funded September 1, 2002 through August 31, 2005.

Principal Investigator, "Role of interneuronal circuits in human spinal cord injury", NINDS #R01-NS40901, Funded September 28, 2000 through August 31, 2006.

Co-Investigator, "Muscle activity initiation during hemiparetic locomotion", NICHD #R01-HD39406, Funded September 10, 2000 through May 31, 2004.

Principal Investigator, "Monitoring the neuromuscular status of the spinal motor system in chronic spinal cord injury: Mechanical and Electrical Measurements", Whitaker Foundation, Funded, May 1, 1999 through April 30, 2002.

Co-Investigator, "The effects of botulinum toxin in the upper extremity in children with CNS dysfunction", Buchanan Family Fellowship in Occupational Therapy, Funded July 1, 1999 through June 30, 2000.

Co-Principal Investigator, "Spasticity in spinal cord injury: novel roles for muscle and skin mechanoreceptors", American Paralysis Association/Christopher Reeve Paralysis Foundation, Funded December 15, 1998 through December 14, 2000.

Co-Investigator, "Development of a rehabilitator for arm therapy after brain injury", NIDRR Field Initiated Research Project. Funded March 1, 1998 through February 28, 2001.

NRSA Post-Doctoral Fellowship, "Effects of cutaneous stimulation on spasticity", NIH, NINDS. Funded July 1, 1996 through June 30, 1998.

Co-Investigator, "Electrical activation of the diaphragm for ventilatory assist", VA Merit Review.
Funded October 1, 1993 through September 30, 1996.

U.S. PATENTS

Brian D. Schmit and J. Thomas Mortimer, "Laparoscopic Vacuum Delivery Apparatus for Diaphragm Pacer", US5472438
Ming Wu, Brian D. Schmit, T. George Hornby, "Treadmill Training Device Adapted to Provide Targeted Resistance to Leg Movement", US9713439
Sheila Schindler-Ivens, Brian D. Schmit, Domenic Busa, "Motor assisted split-crank pedaling device", US10569125

GRADUATE STUDENTS

Robert E. Steldt, MS, August 2003, Michael F. McDonald, MS, August 2003, Kelly K. Heglund, MS, December 2003, Richard J. Ivnik, MS, December 2003, Yahya Y. Bahlool, MS, August 2005, Tiffany L. Kline, MS, August 2005, M. Kevin Garrison, PhD, December 2005, Debjani Chaudhuri, MS, May 2006, David R. Cotey, MS, August 2006, Mukta Joshi, MS, August 2006, Vaidehi Chaukulkar, MS, December 2006, Matthew Cole, PhD, December 2006, Tanya Onushko, MS, May 2007, Andrew Starsky, PhD, May 2007, Benjamin M. Ellingson, PhD, May 2008, Samir Sangani, PhD, August 2008, Jay Mehta, MS, December 2008, Vijayasarathy Govindarajan, MS, December 2008, Megan Conrad, PhD, May 2009, Sanket Jain, MS, December 2009, Robin Mottackel, MS, December 2010, Tanya Onushko, PhD, May 2011, Bani Gadhoke, MS, August 2011, Kakanand Srungboonmee, PhD, August 2011, Henry Kuhnen, MS, August 2012, Michael Jirjis, PhD, May 2013, Matthew Chua, PhD, May 2013, Ryan McKindles, PhD, December 2013, Eric Walker, PhD, December 2013, Benjamin Kalinosky, PhD, May 2016, Joseph Lee, PhD, December 2016, Jacob VanDehy, MS, December 2017, Alice Motovylyak, PhD, December 2018, Kelsey Tynes, MS, December 2019, Kaleb Vinehout, PhD, May 2020, Miguel Sotelo, PhD, May 2020, Dylan Snyder, PhD, May 2020, Lara Riem, PhD, May 2021.

POST-DOCTORAL FELLOWS

T. George Hornby, PhD (50% with W. Zev Rymer, November 2000 to October 2002)
Ming Wu, PhD (100% April 2002 to April 2007)
Katherine M. Deutsch, PhD (50% with W. Zev Rymer, November 2003 to October 2004)
Renee D. Theiss, PhD (50% with W. Zev Rymer, September 2005 to July 2009)
Keith Gordon, PhD (50% with W. Zev Rymer, July 2006 to July 2009)
Krishnaj Gourab, MD (50% with T. George Hornby, July 2006 to July 2009)
Gilles Hoffmann, PhD (50% with Derek G. Kamper and W. Zev Rymer, September 2006 to September 2010)
Allison Hyngstrom, PhD (100% October 2007 to August 2008)
Virginia Chu, PhD (100% October 2009 to July 2012)

PROFESSIONAL SOCIETIES

BMES, Member
IEEE EMBS Society, Member
Society for Neuroscience, Member
Alpha Sigma Nu, Jesuit Honor Society, Member
Sigma Xi, Member

ACADEMIC AND PROFESSIONAL HONORS

Awarded Hammes Family Endowed Chair in Biomedical Engineering, Marquette University and Medical College of Wisconsin, 2020
Awarded Outstanding Graduate Educator, Medical College of Wisconsin Graduate School 2019
Inducted American Institute for Medical and Biological Engineering (AIMBE) College of Fellows, 2018
Awarded Outstanding Researcher Award, Marquette University, College of Engineering, 2017
Awarded Way-Klingler Science Fellowship, Marquette University, 2008
Awarded Outstanding Researcher Award, Marquette University, College of Engineering, 2005
Awarded Institutional NRSA Post-Doctoral Fellowship, Northwestern University, 1995-1996
Awarded Second Place, IEEE Engineering in Biology and Medicine Student Paper Competition, 1994
Awarded National Science Foundation Graduate Student Fellowship, 1989-1993
Awarded NIH Traineeship Grant, Case Western Reserve University, 1988-1989
Graduated Summa Cum Laude, Marquette University, 1988

SELECT MARQUETTE SERVICE ACTIVITIES

Co-Director, Stroke Rehabilitation Center of Southeast Wisconsin (SRC), 2014-present. Worked to found the SRC, a collaborative center for research, education, clinical services and community outreach for the rehabilitation of stroke survivors.
Chair, Faculty in Biomedical Engineering Search Committee, 2019
Chair, Faculty in Biomedical Engineering Search Committee, 2017-2018
Member, Faculty in Biomedical Engineering Search Committee, 2017
Member, Faculty in Biomedical Engineering Search Committee, 2016-2017
Member, Chair of Biomedical Engineering Search Committee, 2013-2016
Member, Faculty in Physical Therapy Search Committee, 2016-2017
Member AHPRC Faculty Workgroup, 2016-2017
Member, Dean of Graduate School Search Committee, 2014
Director of Graduate Studies, Department of Biomedical Engineering, 2011-2016
Key Function Leader, Clinical Translational Science Institute, 2010-2015
Member, University Committee on Research, 2008-2011, 2017-present
Member, Department of Biomedical Engineering Graduate Curriculum Committee 2000-present

MANUSCRIPT REVIEWER

Annals of Biomedical Engineering, Archives of Physical Medicine and Rehabilitation, Brain, Brain Connectivity. Brain Research, Clinical Neurophysiology, Experimental Brain Research, Frontiers in Neuroscience, IEEE Transactions on Biomedical Engineering, IEEE Transactions on Neural Systems and Rehabilitation Engineering, Journal of Biomechanics, Journal of Rehabilitation Research and Development, Journal of Neural Engineering, Journal of Neurophysiology, Journal of Neuroscience Methods, Journal of Neurotrauma, Journal of Physiology, Lancet-Neurology, Medical and Biological Engineering and Computing, Muscle and Nerve, Neuroimage, Neuroimage: Clinical, Neurorehabilitation and Neural Repair, Neuroscience, Neuroscience Letters, Neurotrauma, NMR in Biomedicine, PLoS One, Sensors and Actuators, Spinal Cord, Stroke, Brain Connectivity

GRANT REVIEWER

Paralyzed Veterans of America, Association Francaise contre les Myopathies (AFM), Health Research Board Ireland, New York State Spinal Cord Injury Research Program, Craig H. Neilson Foundation, Austrian Science Fund (FWF), National Institutes of Health (as hoc reviewer for MRS, MFSR, MOSS and ANIE study sections), Alberta Heritage Fund, Ontario Research Fund, Alberta Ingenuity Fund, US Department of Defense (SCIRP reviewer and Section Chair; NP Section Chair),

US Air Force, American Heart Association, Missouri Spinal Cord Injury/Disease Research Program,
Canada Foundation for Innovation, New Jersey Commission on Spinal Cord Research.

BIBLIOGRAPHY

Original Research Papers (SCI H index: 30; Google Scholar h-index: 39; i10-index: 116)

* designates student author

143. *Riem L, Beardsley SA, Schmit BD. The effect of visual field manipulations on standing balance control in people with multiple sclerosis. *Gait Posture*. 2021 Aug 14;90:92-98. doi: 10.1016/j.gaitpost.2021.08.010. Epub ahead of print. PMID: 34419916.
142. *Snyder DB, Schmit BD, Hyngstrom AS, Beardsley SA. Electroencephalography resting-state networks in people with Stroke. *Brain Behav*. 2021 May;11(5):e02097. doi: 10.1002/brb3.2097. Epub 2021 Mar 23. PMID: 33759382; PMCID: PMC8119848.
141. *Lee S, Wilkins N, Schmit BD, Kurpad SN, Budde MD. Relationships between spinal cord blood flow measured with flow alternating arterial spin labeling (FAIR) and neurobehavioral outcomes in rat spinal cord injury. *Magn Reson Imaging*. 2021 Feb 5:S0730-725X(21)00016-3. doi: 10.1016/j.mri.2021.02.004. Epub ahead of print. PMID: 33556483.
140. Fahey M, Brazg G, Henderson CE, Plawecki A, Lucas E, Reisman DS, Schmit BD, Hornby TG. Special Communication: The value of high intensity locomotor training applied to patients with acute-onset neurological injury. *Arch Phys Med Rehabil*. 2020 Dec 28:S0003-9993(20)31339-3. doi: 10.1016/j.apmr.2020.09.399. Epub ahead of print. PMID: 33383032.
139. Hyngstrom AS, Nguyen JN, Wright MT, Tarima SS, Schmit BD, Gutterman DD, Durand MJ. Two weeks of remote ischemic conditioning improves brachial artery flow mediated dilation in chronic stroke survivors. *J Appl Physiol* (1985). 2020 Dec 1;129(6):1348-1354. doi: 10.1152/jappphysiol.00398.2020. Epub 2020 Oct 22. PMID: 33090908.
138. *Richerson WT, Umfleet LG, Schmit BD, Wolfgram DF. Changes in Cerebral Volume and White Matter Integrity in Adults on Hemodialysis and Relationship to Cognitive Function. *Nephron*. 2021;145(1):35-43. doi: 10.1159/000510614. Epub 2020 Oct 13. PMID: 33049742; PMCID: PMC7785532..
137. *Sotelo MR, Kalinosky BT, Goodfriend K, Hyngstrom AS, Schmit BD. Indirect Structural Connectivity Identifies Changes in Brain Networks After Stroke. *Brain Connect*. 2020 Oct;10(8):399-410. doi: 10.1089/brain.2019.0725. Epub 2020 Sep 24. PMID: 32731752.
136. Lotter JK, Henderson CE, Plawecki A, Holthus ME, Lucas EH, Ardestani MM, Schmit BD, Hornby TG. Task-Specific Versus Impairment-Based Training on Locomotor Performance in Individuals With Chronic Spinal Cord Injury: A Randomized Crossover Study. *Neurorehabil Neural Repair*. 2020 Jul;34(7):627-639. doi: 10.1177/1545968320927384. Epub 2020 Jun 1. PMID: 32476619; PMCID: PMC7329565.
135. Wilkins N, Skinner NP, Motovylyak A, Schmit BD, Kurpad S, Budde MD. Evolution of Magnetic Resonance Imaging as Predictors and Correlates of Functional Outcome after Spinal Cord Contusion Injury in the Rat. *J Neurotrauma*. 2020 Mar 15;37(6):889-898. doi: 10.1089/neu.2019.6731. Epub 2020 Feb 5. PMID: 31830856; PMCID: PMC7071026.
134. *Snyder DB, Beardsley SA, Schmit BD. Role of the cortex in visuomotor control of arm stability. *J Neurophysiol*. 2019 Nov 1;122(5):2156-2172. doi: 10.1152/jn.00003.2019. Epub 2019 Sep 25. PMID: 31553682
133. *Kalinosky BT, *Vinehout K, *Sotelo MR, Hyngstrom AS, Schmit BD. Tasked-Based Functional Brain Connectivity in Multisensory Control of Wrist Movement After Stroke. *Front Neurol*. 2019 Jun 13;10:609. doi: 10.3389/fneur.2019.00609. eCollection 2019. PMID: 31263444
132. Shabani S, Kaushal M, Budde M, Schmit B, Wang MC, Kurpad S. Comparison between quantitative measurements of diffusion tensor imaging and T2 signal intensity in a large series of cervical spondylotic myelopathy patients for assessment of disease severity and prognostication of recovery. *J Neurosurg Spine*. 2019 Jun 7:1-7. doi: 10.3171/2019.3.SPINE181328. [Epub ahead of print] PMID: 31174184
131. *Murphy S, Durand M, Negro F, Farina D, Hunter S, Schmit B, Gutterman D, Hyngstrom A. The Relationship Between Blood Flow and Motor Unit Firing Rates in Response to Fatiguing Exercise Post-stroke. *Front Physiol*. 2019 May 10;10:545. doi: 10.3389/fphys.2019.00545. eCollection 2019. PMID: 31133877

130. *Vinehout K, Schmit BD, Schindler-Ivens S. Lower Limb Task-Based Functional Connectivity Is Altered in Stroke. *Brain Connect.* 2019 May;9(4):365-377. doi: 10.1089/brain.2018.0640. Epub 2019 Mar 23. PMID: 30799641
129. Onushko T, Boerger T, Van Dehy J, Schmit BD. Dynamic stability and stepping strategies of young healthy adults walking on an oscillating treadmill. *PLoS One.* 2019 Feb 13;14(2):e0212207. doi: 10.1371/journal.pone.0212207. eCollection 2019. PMID: 30759162
128. Onushko T, Mahtani GB, Brazg G, Hornby TG, Schmit BD. Exercise-Induced Alterations in Sympathetic-Somatomotor Coupling in Incomplete Spinal Cord Injury. *J Neurotrauma.* 2019 Sep 15;36(18):2688-2697. doi: 10.1089/neu.2018.5719. Epub 2019 Mar 28. PMID: 30696387
127. Durand MJ, Boerger TF, Nguyen JN, Alqahtani SZ, Wright MT, Schmit BD, Gutterman DD, Hyngstrom AS. Two weeks of ischemic conditioning improves walking speed and reduces neuromuscular fatigability in chronic stroke survivors. *J Appl Physiol (1985).* 2019 Mar 1;126(3):755-763. doi: 10.1152/jappphysiol.00772.2018. Epub 2019 Jan 17. PMID: 30653420
126. Seo NJ, Lakshminarayanan K, Lauer AW, Ramakrishnan V, Schmit BD, Hanlon CA, George MS, Bonilha L, Downey RJ, DeVries W, Nagy T. Use of imperceptible wrist vibration to modulate sensorimotor cortical activity. *Exp Brain Res.* 2019 Mar;237(3):805-816. doi: 10.1007/s00221-018-05465-z. Epub 2019 Jan 3. PMID: 30607471
125. *Murphy SA, Negro F, Farina D, Onushko T, Durand M, Hunter SK, Schmit BD, Hyngstrom A. Stroke increases ischemia-related decreases in motor unit discharge rates. *J Neurophysiol.* 2018 Dec 1;120(6):3246-3256. doi: 10.1152/jn.00923.2017. Epub 2018 Oct 31. PMID: 30379629
124. Ardestani MM, Henderson CE, Salehi SH, Mahtani GB, Schmit BD, Hornby TG. Kinematic and Neuromuscular Adaptations in Incomplete Spinal Cord Injury after High- versus Low-Intensity Locomotor Training. *J Neurotrauma.* 2019 Jun 15;36(12):2036-2044. doi: 10.1089/neu.2018.5900. Epub 2019 Feb 1. PMID: 30362878
123. McPherson JG, Stienen AHA, Schmit BD, Dewald JPA. Biomechanical parameters of the elbow stretch reflex in chronic hemiparetic stroke. *Exp Brain Res.* 2019 Jan;237(1):121-135. doi: 10.1007/s00221-018-5389-x. Epub 2018 Oct 23. PMID: 30353212
122. *Motovylyak A, *Skinner NP, Schmit BD, Wilkins N, Kurpad SN, Budde MD. Longitudinal In Vivo Diffusion Magnetic Resonance Imaging Remote from the Lesion Site in Rat Spinal Cord Injury. *J Neurotrauma.* 2019 May 1;36(9):1389-1398. doi: 10.1089/neu.2018.5964. Epub 2018 Nov 19. PMID: 30259800
121. *Walker ER, Hyngstrom AS, Onushko T, Schmit BD. Locomotor adaptations to prolonged step-by-step frontal plane trunk perturbations in young adults. *PLoS One.* 2018 Sep 20;13(9):e0203776. doi: 10.1371/journal.pone.0203776. eCollection 2018. PMID: 30235250
120. *Skinner NP, Lee SY, Kurpad SN, Schmit BD, Muftuler LT, Budde MD. Filter-probe diffusion imaging improves spinal cord injury outcome prediction. *Ann Neurol.* 2018 Jul;84(1):37-50. doi: 10.1002/ana.25260. Epub 2018 Jul 3. PMID: 29752739
119. Chu VWT, Hornby TG, Schmit BD. Stepping responses to treadmill perturbations vary with severity of motor deficits in human SCI. *J Neurophysiol.* 2018 Aug 1;120(2):497-508. doi: 10.1152/jn.00486.2017. Epub 2018 Apr 18. PMID: 29668389
118. Holleran CL, Hennessey PW, Leddy AL, Mahtani GB, Brazg G, Schmit BD, Hornby TG. High-Intensity Variable Stepping Training in Patients With Motor Incomplete Spinal Cord Injury: A Case Series. *J Neurol Phys Ther.* 2018 Apr;42(2):94-101. doi: 10.1097/NPT.0000000000000217. PMID: 29547484
117. Rao A, Soliman H, Kaushal M, *Motovylyak O, Vedantam A, Budde MD, Schmit B, Wang M, Kurpad SN. Diffusion Tensor Imaging in a Large Longitudinal Series of Patients With Cervical Spondylotic Myelopathy Correlated With Long-Term Functional Outcome. *Neurosurgery.* 2018 Oct 1;83(4):753-760. doi: 10.1093/neuros/nyx558. Erratum in: *Neurosurgery.* 2018 Jun 1;82(6):905. PMID: 29529304
116. Hyngstrom AS, *Murphy SA, Nguyen J, Schmit BD, Negro F, Gutterman DD, Durand MJ. Ischemic conditioning increases strength and volitional activation of paretic muscle in chronic stroke: a pilot study. *J Appl*

- Physiol (1985). 2018 May 1;124(5):1140-1147. doi: 10.1152/jappphysiol.01072.2017. Epub 2018 Feb 8. PMID: 29420152
115. Budde MD, *Skinner NP, Muftuler LT, Schmit BD, Kurpad SN. Optimizing Filter-Probe Diffusion Weighting in the Rat Spinal Cord for Human Translation. *Front Neurosci*. 2017 Dec 19;11:706. doi: 10.3389/fnins.2017.00706. eCollection 2017. PMID: 29311786
114. Lee JJ, Schmit BD. Effect of sensory attenuation on cortical movement-related oscillations. *J Neurophysiol*. 2018 Mar 1;119(3):971-978. doi: 10.1152/jn.00171.2017. Epub 2017 Nov 29. PMID: 29187547
113. Brazg G, Fahey M, Holleran CL, Connolly M, Woodward J, Hennessy PW, Schmit BD, Hornby TG. Effects of Training Intensity on Locomotor Performance in Individuals With Chronic Spinal Cord Injury: A Randomized Crossover Study. *Neurorehabil Neural Repair*. 2017 Oct-Nov;31(10-11):944-954. doi: 10.1177/1545968317731538. Epub 2017 Oct 30. PMID: 29081250
112. *Kalinovsky BT, Berrios Barillas R, Schmit BD. Structurofunctional resting-state networks correlate with motor function in chronic stroke. *Neuroimage Clin*. 2017 Jul 29;16:610-623. doi: 10.1016/j.nicl.2017.07.002. eCollection 2017. PMID: 28971011
111. Kaushal M, Oni-Orisan A, Chen G, Li W, Leschke J, Ward D, *Kalinovsky B, Budde M, Schmit B, Li SJ, Muqet V, Kurpad S. Large-Scale Network Analysis of Whole-Brain Resting-State Functional Connectivity in Spinal Cord Injury: A Comparative Study. *Brain Connect*. 2017 Sep;7(7):413-423. doi: 10.1089/brain.2016.0468. Epub 2017 Aug 30. PMID: 28657334
110. Wu M, Kim J, Gaebler-Spira DJ, Schmit BD, Arora P. Robotic Resistance Treadmill Training Improves Locomotor Function in Children With Cerebral Palsy: A Randomized Controlled Pilot Study. *Arch Phys Med Rehabil*. 2017 Nov;98(11):2126-2133. doi: 10.1016/j.apmr.2017.04.022. Epub 2017 May 30. PMID: 28576629
109. Kaushal M, Oni-Orisan A, Chen G, Li W, Leschke J, Ward BD, Kalinovsky B, Budde MD, Schmit BD, Li SJ, Muqet V, Kurpad SN. Evaluation of Whole-Brain Resting-State Functional Connectivity in Spinal Cord Injury: A Large-Scale Network Analysis Using Network-Based Statistic. *J Neurotrauma*. 2017 Mar 15;34(6):1278-1282. doi: 10.1089/neu.2016.4649. Epub 2017 Jan 27. PMID: 27937140
108. *Jirjis MB, Valdez C, Vedantam A, Schmit BD, Kurpad SN. Diffusion tensor imaging as a biomarker for assessing neuronal stem cell treatments affecting areas distal to the site of spinal cord injury. *J Neurosurg Spine*. 2017 Feb;26(2):243-251. doi: 10.3171/2016.5.SPINE151319. Epub 2016 Sep 30. PMID: 27689421
107. Wu M, Landry JM, Kim J, Schmit BD, Yen SC, McDonald J, Zhang Y. Repeat Exposure to Leg Swing Perturbations During Treadmill Training Induces Long-Term Retention of Increased Step Length in Human SCI: A Pilot Randomized Controlled Study. *Am J Phys Med Rehabil*. 2016 Dec;95(12):911-920. PMID: 27149587
106. *Skinner NP, Kurpad SN, Schmit BD, Tugan Muftuler L, Budde MD. Rapid in vivo detection of rat spinal cord injury with double-diffusion-encoded magnetic resonance spectroscopy. *Magn Reson Med*. 2017 Apr;77(4):1639-1649. doi: 10.1002/mrm.26243. Epub 2016 Apr 15. PMID: 27080726
105. Vedantam A, Rao A, Kurpad SN, *Jirjis MB, Eckardt G, Schmit BD, Wang MC. Diffusion Tensor Imaging Correlates with Short-Term Myelopathy Outcome in Patients with Cervical Spondylotic Myelopathy. *World Neurosurg*. 2017 Jan;97:489-494. doi: 10.1016/j.wneu.2016.03.075. Epub 2016 Mar 30. PMID: 27046013
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