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ADVISOR

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Technical Advisor Maha Saber has experience with patent applications across a wide range of technology areas in life sciences, including small molecule pharmaceuticals, pharmaceutical formulations, antibodies, protein therapeutics, CRISPR and diagnostic and therapeutic methods in molecular and cellular biology, immunology, microbiology, biochemistry, plant-based therapeutics, and neuroscience methods.

Before joining the firm, Maha completed an Evelyn F. McKnight post-doctoral research fellowship in Neurobiology of Aging and Alzheimer's Disease in the Translational Neurotrauma Research Program at the University of Arizona and Phoenix Children's Hospital. Her research focused on brain injury-induced peripheral inflammation and its role in neurodegeneration and peripheral organ damage. Maha's Ph.D. research investigated neuroinflammation in brain injury and Alzheimer's disease. In addition, her undergraduate research studied the role of oxytocin in stress and social behavior. Maha has won several awards during her time in academic research, including the Nancy Hirshberg memorial grant (2011), Howard Hughes Research Fellowship (2012-13), Neurotrauma Travel grant for the Neurotrauma society (2015), Graduate Service Award (2016), Broadening Horizons Travel Award, Arizona Alzheimer's Consortium (2017), Travel Award, 3rd Joint Symposium of the International and National Neurotrauma Societies and AANS/CNS (2018), TEAM-Visa international Travel award (2019), University of Arizona Sursum Fellowship (2019), T32 fellowship award (2018-2020), Burroughs Wellcome Collaborative Fund (2019), International travel award international Neurotrauma Society (2020).

Related Practice Areas

- [Patent Preparation and Prosecution](#)

Publications

- Peer-Reviewed Publications
 - Kokiko-Cochran O, Ransohoff L, Veenstra M, Lee S, Saber M, Sikora M, Teknipp R, Xu G, Bemiller S, Wilson G, Crish S, Bhaskar K, Lee YS, Ransohoff RM, Lamb BT. "Altered Neuroinflammation and Behavior after Traumatic Brain Injury in a Mouse Model of Alzheimer's Disease". *Journal of Neurotrauma*, April 2016. PMID: [26414955](#)
 - Yee JR, Kenkel WM, Frijling JL, Dodhia S, Onishi KG, Tovar S, Saber M, Lewis GF, Liu W, Porges SW, Carter CS. "Oxytocin promotes functional coupling between paraventricular nucleus and both sympathetic and parasympathetic cardioregulatory nuclei." *Hormones and Behavior*, April 2016. PMID: [26836672](#)
 - Saber M, Kokiko-Cochran ON, Puntambekar S, Lathia J, Lamb B. "TREM2 deficiency alters acute macrophage distribution and improves recovery after TBI". *Journal of Neurotrauma*, Jan 2017 PMID: [26976047](#)
 - Kokiko-Cochran O, Saber M, Bemiller S, Katsumoto A, Puntambekar S, Bhaskar K, Ransohoff R, Lamb B. "Traumatic Brain Injury in hTau Model Mice: Enhanced Acute Macrophage Response and

- Altered Long-Term Recovery” *Journal of Neurotrauma*, Jan 2018 PMID: [28859549](#)
- Puntambekar S*, Saber M*, Lamb B, Kokiko- Cochran ON. “Cellular Players that Shape Evolving Pathology and Neurodegeneration Following Traumatic Brain Injury” *Brain, Behavior, and Immunity* , 2018 PMID: [29601944](#) *indicates co-authorship
 - Saber M, Giordano KR, Hur Y, Ortiz JB, Morrison H, Lifshitz J, Rowe RK “Acute peripheral inflammation and post-traumatic sleep differ between sexes after experimental diffuse brain injury”, *European Journal of Neurosciences*, 2019 PMID: [31677290](#)
 - Saber M, Pathak K, McGilvery M, Garcia-Mansfield K, Harrison J, Rowe RK, Lifshitz J, Pirrotte P “Proteomic analysis identifies plasma correlates of remote ischemic conditioning in the context of experimental traumatic brain injury.” *Scientific reports*, July 2020 PMID: [25593060](#)
 - Saber M, Rice AD, Christie I, Roberts RG, Knox, KS, Nakaji P, Rowe RK, Wang T, Lifshitz J. “Remote ischemic conditioning reduces traumatic brain injury-induced acute lung injury in the mouse.” *SHOCK*, August 2020 PMID: [32769821](#)
 - Saber M, Murphy, SM, Cho Y, Lifshitz J, and Rowe RK “Experimental diffuse brain injury and a model of Alzheimer's disease exhibit disease-specific changes in sleep and incongruous peripheral inflammation.” *Journal of Neuroscience Research*, December 2020 PMID: [33319441](#)
- Published Abstracts
 - Kokiko-Cochran O, Ransohoff L, Veenstra M, Lee S, Saber M, Sikora M, Teknipp R, Xu G, Bemiller S, Wilson G, Crish S, Bhaskar K, Lee YS, Ransohoff RM, Lamb BT. "Altered Neuroinflammation and Behavior after Traumatic Brain Injury in a Mouse Model of Alzheimer's Disease". Society for Neuroscience 2014
 - Saber M, Kokiko-Cochran ON, Teknipp R, Miller C, Lamb BT. " The Role of TREM2 in Traumatic Brain Injury-Induced Neuroinflammation and Neurodegeneration" CCLCM, Neurological institute research day, 06/2014
 - Saber M, Kokiko-Cochran ON, Teknipp R, Miller C, Lamb BT. " The Role of TREM2 in Traumatic Brain Injury-Induced Neuroinflammation and Neurodegeneration" CCLCM, Society for Neuroscience, 11/2014
 - Saber M, Kokiko-Cochran ON, Teknipp R, Hales J, Lamb BT. "The Role of TREM2 in Traumatic Brain Injury-Induced Neuroinflammation and Neurodegeneration" CCLCM, LRI retreat, 05/2015
 - Kokiko-Cochran O, Saber M, Bemiller S, Katsumoto A, Puntambekar S, Bhaskar K, Ransohoff R, Lamb B. “Presence of wild-type human tau enhances acute macrophage response to TBI and alters long-term recovery in mice.” National Neurotrauma Society (2016)
 - Saber M, Kokiko-Cochran O, Lathia J, Lamb BT. "The Role of TREM2 in Traumatic Brain Injury-Induced Neuroinflammation and Neurodegeneration" NNS, Kentucky (2016)
 - Saber M, Branca C, Oddo S, Lifshitz J, Rowe RK. “Age-at-injury affects chronic diffuse traumatic brain injury and Alzheimer’s disease related behaviors and pathologies.” NNS, Utah (2017)
 - Saber, M, Hur Y, Giordano KR, Christie I, Rowe RK, Lifshitz J “Remote Ischemic Conditioning Attenuates the Peripheral Component of Neuroinflammation in Diffuse Brain-Injured Female Mice”. Brain injury Summit (2018)
 - Law M, Griffith D, Saber M, Lifshitz J. A new rehabilitation tool for injury induced cognitive deficits. Brain injury Summit and National Neurotrauma society, Colorado and Toronto (2018)
 - Hur Y, Saber M, Giordano KR, Ortiz B, Rowe RK “Sexual dimorphism in acute inflammation and post-traumatic sleep following diffuse traumatic brain injury in the mouse” The 3rd Joint Symposium of the International and National Neurotrauma Societies, Toronto, Ontario, Canada. International Neurotrauma Society Symposium, (2018)
 - Saber M, Y Hur, KR Giordano, I Christie, RK Rowe, J Lifshitz. (2018) “Remote Ischemic Conditioning Attenuates the Peripheral Component of Neuroinflammation in Diffuse Brain-Injured Female Mice.” The 3rd Joint Symposium of the International and National Neurotrauma Societies, Toronto, Ontario, Canada. *J. Neurotrauma* 35: A-222 DOI: 10.1089/neu.2018.29013.abstracts
 - Saber M, Hur Y, Kokiko-Cochran ON, Rowe RK, Lifshitz J “Traumatic brain injury and Alzheimer’s disease in aged mice leads to similar increases in sleep and peripheral Cd115 expression” Arizona Alzheimer’s Consortium, Tempe (2019)
 - Saber M, Ortiz JB, Rojas LM, Moschonas EH, Ma X, Tallent BR, Adelson PD, Qiu S, Rowe RK, Lifshitz J “Mice born to mothers with gestational traumatic brain injury have distorted brain circuitry and differential immune responses” National Neurotrauma Society, Pittsburg (2019)
 - Christie I, Saber M, Rice AD, Rowe RK, Wang T, Lifshitz J. “Remote ischemic conditioning prevents traumatic brain injury-induced acute lung injury” National Neurotrauma Society, Pittsburg (2019)

- Saber M, Pathak KV, McGilvrey M, Mansfield KG, Harrison JL, Sharma R, Tallent BR, Rowe RK, Pirrotte P, Lifshitz J. “Dissecting molecular mechanism and therapeutic impact of remote ischemic conditioning in a mouse model of diffuse traumatic brain injury” National Neurotrauma Society, Pittsburg (2019)
- Saber M, Hur Y, Kokiko-Cochran ON, Rowe RK, Lifshitz J. “Traumatic brain injury and Alzheimer’s disease in aged mice leads to similar increases in sleep and peripheral Cd115 expression” National Neurotrauma Society, Pittsburg (2019)
- Giordano KR, Green TRF, Ortiz JB, Saber M, Hur Y, Morrison HW, Lifshitz J, Rowe RK. “Microglia elimination recovers peripheral inflammation-induced sleep but prolongs TBI-induced sleep in mice” National Neurotrauma Society, Pittsburg (2019)
- Hur Y, Saber M, Lifshitz J, Sierks M, Rowe RK “Diffuse brain injury induced biomarkers associated with toxic protein variants found in Alzheimer’s disease and related dementias” National Neurotrauma Society, Pittsburg (2019)
- Ortiz JB, Hur Y, Saber M, Melvin JC, Szabo L, Polt R, Lifshitz J, Rowe RK “A novel glycosylated pituitary adenylate cyclase-activating peptide attenuated functional deficits following experimental TBI” National Neurotrauma Society, Pittsburg (2019)
- Giordano KR, Green TRF, Ortiz JB, Saber M, Hur Y, Morrison HW, Lifshitz J, Rowe RK. “Microglia elimination recovers peripheral inflammation-induced sleep but prolongs TBI-induced sleep in mice” Society for Neuroscience, Chicago (2019)
- Saber M, Hur Y, Kokiko-Cochran ON, Rowe RK, Lifshitz J. “Traumatic brain injury and Alzheimer’s disease in aged mice leads to similar increases in sleep and peripheral Cd115 expression” Society for Neuroscience, Chicago (2019)
- Saber M, Hur Y, Giordano KR, Young C, Murphy SM, Rowe RK, Lifshitz J. “Remote ischemic conditioning acutely attenuates peripheral inflammation and microglial activation after diffuse brain injury with long-term impact on behaviour and inflammation in both sexes of mice.” International Neurotrauma Society, Melbourne, Australia (2020)

Professional Activities

- TEAM National Neurotrauma Society Social Media Committee Chair (June 2018 - Present)
- Lungevity Fundraiser Organizer and American Heart Association Team Leader (June 2013 - 2016)

Memberships

- National Neurotrauma Society

Honors & Awards

- Howard Hughes Fellow (2012-2013)
- Graduate Service award (2016)
- Sursum Fellow (2019)

Education

- Ph.D., Molecular Medicine (focus in Neuroimmunology), 2016, Case Western Reserve University School of Medicine
- B.S., Neuroscience, 2012, University of Illinois at Chicago