Andrew Thomas McKenzie

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Education

Icahn School of Medicine at Mount Sinai (2012 - Present)
MD/PhD Candidate

Vassar College, Poughkeepsie, NY (2006 - 2010)
BA, General Honors
Major: Neuroscience & Behavior (Award Winner), *Minor*: Math

Grants and Awards

Ruth L. Kirschstein NRSA Pre-doctoral Fellowship (2015 - Present)
National Institute of Aging, NIH
Mentors: Bin Zhang, Ph.D.; Patrizia Casaccia, M.D., Ph.D.

Post-baccalaureate Intramural Research Trainee (2010 - 2012)
National Institute of Allergic and Infectious Disease, NIH
Mentor: Stephen Leppla, Ph.D.

Research Experience

Icahn School of Medicine at Mount Sinai (06/13 - Present)
Thesis: Multiscale modeling of oligodendrocytes and myelin in Alzheimer's Disease
Advisors: Bin Zhang, Ph.D.; Patrizia Casaccia, M.D., Ph.D.

Icahn School of Medicine at Mount Sinai (09/12 - 10/14)
Mining social media to monitor emerging drug use
Advisors: Nicholas Genes, M.D., Ph.D.; Alex Manini, M.D.

National Institute of Allergic and Infectious Diseases, Bethesda, MD (06/10 - 05/12)
Toxin gene expression in *Bacillus anthracis*
Research Trainee; Advisor: Stephen Leppla, Ph.D.

Vassar College Psychology Department (09/08 - 05/10)
Choice behavior in *Columba livia* under interval reward schedules
Research Assistant; Advisor: J. Mark Cleaveland, Ph.D.

Research Articles

1. **McKenzie AT**, Moyon S, Wang M, Katsyv I, Song WM, Zhou X, Dammer EB, Duong DM, Aaker J, Zhao Y, Beckmann N, Wang P, Zhu J, Lah JJ, Seyfried NT, Levey AI, Katsel P, Haroutunian V, Schadt EE, Popko B, Casaccia P, Zhang B. Multiscale network modeling of oligodendrocytes reveals molecular components of myelin dysregulation in Alzheimer's disease. Mol Neurodegener. 2017 12(1):82.
2. Huang KL, Marcora E, Pimenova AA, Di Narzo AF, Kapoor M, Jin SC, Harari O, Bertelsen S, Fairfax BP, Czajkowski J, Chouraki V, Grenier Boley B, Bellenguez C, Deming Y, **McKenzie AT**, Raj T, Renton AE, Budde J, Smith A, Fitzpatrick A, Bis JC, DeStefano A, Adams HHH, Ikram MA, van der Lee S, Del-Aguila JL, Fernandez MV, Ibañez L; International Genomics of Alzheimer's Project.; Alzheimer's Disease NeuroimagingInitiative., Sims R, Escott-Price V, Mayeux R, Haines JL, Farrer LA, Pericak-Vance MA, Lambert JC, van Duijn C, Launer L, Seshadri S, Williams J, Amouyel P, Schellenberg GD, Zhang B, Borecki I, Kauwe JSK, Cruchaga C, Hao K, Goate AM. A common haplotype lowers PU.1 expression in myeloid cells and delays onset of Alzheimer's disease. Nat Neurosci. 2017.
3. **McKenzie AT**, Katsyv I, Song WM, Wang M, Zhang B. DGCA: A comprehensive R package for Differential Gene Correlation Analysis. BMC Syst Biol. 2016;10(1):106.
4. Wang M, Roussos P, **McKenzie AT**, Zhou X, Kajiwara Y, Brennand KJ, De Luca GC, Crary JF, Casaccia P, Buxbaum JD, Ehrlich M, Gandy S, Goate A Katsel P, Schadt E, Haroutunian V, Zhang B. Integrative network analysis of nineteen brain regions identifies molecular signatures and networks underlying selective regional vulnerability to Alzheimer's disease. Genome Med. 2016;8(1):104.
5. Kajiwara Y, **McKenzie AT**, Dorr N, Gama Sosa MA, Elder G, Schmeidler J, Dickstein DL, Bozdagi , Zhang B, Buxbaum J. The human-specific CASP4 gene product contributes to Alzheimer-related synaptic and behavioural deficits. Hum Mol Genet. 2016;pii: ddw265.
6. Chary M, Park EH, **McKenzie AT**, Sun J, Manini AF, Genes N. Signs & symptoms of Dextromethorphan exposure from YouTube. PLoS ONE. 2014;9(2):e82452.
7. **McKenzie AT**, Pomerantsev AP, Sastalla I, Martens C, Ricklefs SM, Virtaneva K, Anzick S, Porcella SF, Leppla SH. Transcriptome analysis identifies Bacillus anthracis genes that respond to CO2 through an AtxA-dependent mechanism. BMC Genomics. 2014;15:229.
8. Sastalla I, Crown D, Masters SL, **McKenzie AT**, Leppla SH, Moayeri M. Transcriptional analysis of the three Nlrp1 paralogs in mice. BMC Genomics. 2013;14:188.
9. Wein AN, Liu S, Zhang Y, **McKenzie AT**, Leppla SH. Tumor therapy with a urokinase plasminogen activator-activated anthrax lethal toxin alone and in combination with paclitaxel. Invest New Drugs. 2013;31(1):206-12.

10. **McKenzie AT**, Cleaveland JM. A further application of the active time model to multiple concurrent variable-interval schedules. Behav Processes. 2010;84(1):470-5.

Review Articles

1. Chary M, Genes N, **McKenzie AT**, Manini AF. Leveraging social networks for toxicovigilance. J Med Toxicol. 2013;9(2):184-91.

Conference Presentations

1. **McKenzie AT**, Wang M, Katsyv I, Song WM, Xianxiao Z, Popko B, Aaker J, Del Tredici K, Nave KA, Zhu J, Schadt EE, Casaccia P, Zhang B. Oligodendrocyte-Enriched Gene Networks Reveal Novel Pathways and Key Targets in the Pathogenesis of Alzheimer's Disease. (2016) Alzheimer's Association International Conference, Toronto, Canada. Oral Presentation.
2. **McKenzie AT**, Wang M, Song WM, Zhu J, Nave KA, Popko B, Casaccia P, Zhang B. Network Modeling of Myelin Dysregulation in Alzheimer's Disease. (2015) Society for Neuroscience, Chicago, Illinois. Poster presentation.
3. **McKenzie AT**, Pomerantsev AP, Leppla SH. (2011) Iterative motif searching for DNA elements regulating the CO2 response of Bacillus anthracis. NIH Post-baccalaureate Research Festival, Bethesda, Maryland. Poster presentation.
4. **McKenzie AT**, Cleaveland JM. (2010) Curve fitting active time functions and the impact of a change over delay. Society for Quantitative Analyses of Behavior, San Antonio, Texas. Poster presentation.
5. **McKenzie AT**, Cleaveland JM. (2009) An Active Time Account of Belke's 1992 Result. Society for Quantitative Analyses of Behavior, Phoenix, Arizona. Poster presentation.

Teaching Experience

Poughkeepsie High School
TA for AP Biology, 2009

Icahn School of Medicine at Mount Sinai
TA for Brain & Behavior, 2014, 2015
TA for Summer School in Computational Genomics, 2016
Instructor for CREEDS RNA-Seq and Genomics Courses, 2017