

# 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)**

Graduate Student Researcher

Advisors: Bin Zhang, Ph.D.; Patrizia Casaccia, M.D., Ph.D.

Network biology of oligodendrocytes and myelin in Alzheimer's disease

### **Icahn School of Medicine at Mount Sinai (09/12 - 10/14)**

Medical Student Researcher, Tox-Tweet Group

Advisors: Nicholas Genes, M.D., Ph.D.; Alex Manini, M.D.

Mining social media to monitor emerging drug use

### **National Institute of Allergic and Infectious Diseases, Bethesda, MD (06/10 - 05/12)**

Research Trainee; Advisor: Stephen Leppla, Ph.D.

Toxin gene expression in *Bacillus anthracis*

### **Vassar College Psychology Department (09/08 - 05/10)**

Research Assistant; Advisor: J. Mark Cleaveland, Ph.D.

Choice behavior in *Columba livia* under interval reward schedules

## Research Articles

1. **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.
2. 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.
3. 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.
4. 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.
5. **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 CO<sub>2</sub> through an AtxA-dependent mechanism. *BMC Genomics.* 2014;15:229.
6. 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.
7. 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.
8. **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 CO<sub>2</sub> 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