
BIOGRAPHICAL SKETCH

NAME

Diego Mastroeni

POSITION TITLE

Assistant Research Professor

EDUCATION/TRAINING

INSTITUTION AND LOCATION	DEGREE	MM/YY	FIELD OF STUDY
Northern Arizona University Flagstaff, AZ. USA	BS	12/03	Extended major Microbiology
		12/03	Chemistry
	Certificate	12/03	Medical Technology
Maastricht University Maastricht, Netherlands	PhD	05/13	Neuroscience (emphasis on epigenetics)
Postdoctoral Fellowship Banner Sun Health Research Institute Sun City, AZ. USA		5/15	Neuroepigenetics

A. Positions and Honors

2004-2006 Research Associate I, II, III, Banner Sun Health Research Institute
2007-2009 Research Associate IV and Lab Manager/ Predoc, Banner Sun Health Research Institute
2010-2012 Research Specialist/Predoc, Banner Sun Health Research Institute
2013-2015 Postdoctoral Fellow and Associate Scientist Banner Sun Health Research Institute
2015 Assistant Research Professor, Arizona State University

Adjunct Position (current):

- I) Traveling Scientist Appointment, Maastricht University Department of Psychiatry and Neuropsychology, School for Mental Health and Neuroscience (MHeNS)The Netherlands

- II) Associate Scientist Appointment, Banner Sun Health Research Institute

B. Publications

1. Mastroeni D, Delvaux E, Nolz J, Tan Y, Grover A, Oddo S, Coleman PD. Aberrant intracellular localization of H3k4me3 demonstrates an early epigenetic phenomenon in Alzheimer's disease. *Neurobiol Aging*. 2015 Dec;36(12):3121-9. 2015.08.017. Epub 2015 Sep 10.
2. Lardenoije R, Iatrou A, Kenisa G, Kompotis K, Steinbusch H, Mastroeni D, Coleman P., Lemered C, Hof P, van den Hove D, Rutten B (2015). The Epigenetics of Aging and Neurodegeneration. *Progress in Neurobiology*, Jun 11, 2015
3. Mastroeni D*, Khdour O*, Arce P, Hecht S, Coleman PD (2015). Novel antioxidants protect mitochondria from the effects of oligomeric amyloid Beta and contribute to the maintenance of epigenome function *ACS Chem Neurosci*. Apr 15;6(4):588-98. *Joint first authors
4. Fitzsimons et al. (2014). Epigenetic regulation of adult neural stem cells: implications for Alzheimer's disease. *Mol Neurodegener*. Jun 25;9:25 *J Molecular Neurodegeneration*. REVIEW
5. Nural-Guvener HF, Zakharova L, Nimlos J, Popovic S, Mastroeni D, Gaballa MA (2014) HDAC class I inhibitor, Mocetinostat, reverses cardiac fibrosis in heart failure and diminishes CD90+ cardiac myofibroblast activation. *Fibrogenesis Tissue Repair* Jul 2;7:10.
6. Mastroeni D, Chouliaras L, Grover A, Liang WS, Hauns K, et al. (2013) Reduced RAN Expression and Disrupted Transport between Cytoplasm and Nucleus; A Key Event in Alzheimer's Disease *Pathophysiology*. *PLoS One* 8: e53349.
7. Lucin KM, O'Brien CE, Bieri G, Czirr E, Mosher KI, Mastroeni, D. et al. (2013) Microglial beclin 1 regulates retromer trafficking and phagocytosis and is impaired in Alzheimer's disease. *Neuron* 79: 873-886.
8. Chouliaras L*, Mastroeni D*, Delvaux E, Grover A, Kenis G, et al. (2013) Consistent decrease in global DNA methylation and hydroxymethylation in the hippocampus of Alzheimer's disease patients. *Neurobiol Aging* 34: 2091-2099. *joint first author
9. Takahashi R, Giannini C, Sarkaria JN, Schroeder M, Rogers J, Mastroeni D et al. (2012) p53 isoform profiling in glioblastoma and injured brain. *Nature Publishing Group, Oncogene*.
10. Webster J, Reiman EM, Zismann VL, Joshipura KD, Pearson JV, Mastroeni D et al. (2011) Whole genome association analysis shows that ACE is a risk factor for Alzheimer's disease and fails to replicate most candidates from Meta-analysis. *Int J Mol Epidemiol Genet* 1: 19-30.
11. Rogers J, Mastroeni D, Grover A, Delvaux E, Whiteside C, et al. (2011) The epigenetics of Alzheimer's disease--additional considerations. *Neurobiol Aging* 32: 1196-1197.
12. Mastroeni D, Grover A, Delvaux E, Whiteside C, Coleman PD, et al. (2011) Epigenetic mechanisms in Alzheimer's disease. *Neurobiol Aging* 32: 1161-1180.
13. van den Berge SA, Middeldorp J, Zhang CE, Curtis MA, Leonard BW, Mastroeni, D et al. (2010) Longterm quiescent cells in the aged human subventricular neurogenic system specifically express GFAP-delta. *Aging Cell* 9: 313-326.
14. Corneveaux JJ, Liang WS, Reiman EM, Webster JA, Myers AJ, Mastroeni D, et al. (2010) Evidence for an association between KIBRA and late-onset Alzheimer's disease. *Neurobiol Aging* 31: 901-909.

15. Zakharova L, Mastroeni D, Mutlu N, Molina M, Goldman S, et al. (2010) Transplantation of cardiac progenitor cell sheet onto infarcted heart promotes cardiogenesis and improves function. *Cardiovasc Res* 87: 40-49.
16. Mastroeni D, McKee A, Grover A, Rogers J, Coleman PD (2009) Epigenetic differences in cortical neurons from a pair of monozygotic twins discordant for Alzheimer's disease. *PLoS One* 4: e6617.
17. Mastroeni D, Grover A, Leonard B, Joyce JN, Coleman PD, et al. (2009) Microglial responses to dopamine in a cell culture model of Parkinson's disease. *Neurobiol Aging* 30: 1805-1817.
18. Leonard BW*, Mastroeni D*, Grover A, Liu Q, Yang K, et al. (2009) Subventricular zone neural progenitors from rapid brain autopsies of elderly subjects with and without neurodegenerative disease. *J Comp Neurol* 515: 269-294. *joint first author
19. Mastroeni D, Grover A, Delvaux E, Whiteside C, Coleman PD, et al. (2008) Epigenetic changes in Alzheimer's disease: decrements in DNA methylation. *Neurobiol Aging* 31: 2025-2037.
20. Liang WS, Reiman EM, Valla J, Dunckley T, Beach TG, Mastroeni D, et al. (2008) Alzheimer's disease is associated with reduced expression of energy metabolism genes in posterior cingulate neurons. *Proc Natl Acad Sci U S A* 105: 4441-4446.
21. Liang WS, Dunckley T, Beach TG, Grover A, Mastroeni D, et al. (2008) Neuronal gene expression in non-demented individuals with intermediate Alzheimer's Disease neuropathology. *Neurobiol Aging*.
22. Liang WS, Dunckley T, Beach TG, Grover A, Mastroeni D, et al. (2008) Altered neuronal gene expression in brain regions differentially affected by Alzheimer's disease: a reference data set. *Physiol Genomics* 33: 240-256.
23. Rogers J, Mastroeni D, Leonard B, Joyce J, Grover A (2007) Neuroinflammation in Alzheimer's disease and Parkinson's disease: are microglia pathogenic in either disorder? *Int Rev Neurobiol* 82: 235-246.
24. Reiman EM, Webster JA, Myers AJ, Hardy J, Dunckley T, Mastroeni D, et al. (2007) GAB2 alleles modify Alzheimer's risk in APOE epsilon4 carriers. *Neuron* 54: 713-720.
25. Liang WS, Dunckley T, Beach TG, Grover A, Mastroeni D, et al. (2007) Gene expression profiles in anatomically and functionally distinct regions of the normal aged human brain. *Physiol Genomics* 28: 311-322.
26. Rogers J, Li R, Mastroeni D, Grover A, Leonard B, et al. (2006) Peripheral clearance of amyloid beta peptide by complement C3-dependent adherence to erythrocytes. *Neurobiol Aging* 27: 1733-1739.
27. Dunckley T, Beach TG, Ramsey KE, Grover A, Mastroeni D, et al. (2006) Gene expression correlates of neurofibrillary tangles in Alzheimer's disease. *Neurobiol Aging* 27: 1359-1371.
28. Strohmeyer R, Kovelowski CJ, Mastroeni D, Leonard B, Grover A, et al. (2005) Microglial responses to amyloid beta peptide opsonization and indomethacin treatment. *J Neuroinflammation* 2: 18.
29. Synapses and Epigenetics in the Alzheimer's Brain. Mastroeni D, Berchtold, Coleman P. Society for Neuroscience 2012

Ongoing Research Project:

R01 AG 036400 (PI: Coleman, Mastroeni Role: Postdoc; previously Research Specialist/Predoc)
DNA methylation in Alzheimer's disease and normally aging brain. 2009-2016

Recently Awarded Grants and Honors:

Alzheimer's Disease Core Center (ADCC): (PI: Mastroeni) 2014-2015: Are Microglia the Same in Different Brain Regions or Poles Apart?

Alzheimer's Disease Core Center (ADCC): (Co-PI: Mastroeni) 2014-2015: Long-Term Consequences of Repetitive Brain Injury in Athletes: A Longitudinal Study with Eventual Brain Donation

Arizona Biomedical Research Commission, ABRC: (PI: Mastroeni) 2014-2017 A Novel Compound to Protect Mitochondria against Oligomeric Abeta Toxicity, Implications for the Synapse.

Alzheimer's Association New Investigator Research Grant, NIRG (PI: Mastroeni) 2014-2016 Profiling the Gliome in Alzheimer's disease.

Keystone Symposia Early Career Investigator Award 2015.

2015 Arizona Business Magazine's Generation Next Cover Story. Top 40 Arizona business leaders under the age of forty.

Contributing author in the book 'Neurodegenerative Diseases: Unifying Principles'. Chapter 12: Epigenetics and Neurodegenerative Diseases; which will be published in 2015 by Oxford University Press.

Alzheimer's Drug Discovery Foundation Young Investigator Award 2014.

Featured in the HBO documentary: The Alzheimer's Project, Momentum in Science 2009.

Completed Research Projects:

R21 AG 030429 (PI: Coleman, Mastroeni Role: Research Specialist/Predoc 2008-2010)

Peripheral biomarkers in familial Alzheimer's disease

Arizona Alzheimer's Research Center (PI: Coleman, Mastroeni Role: Research Specialist/Predoc 2011)

Model Synthesizing roles of epigenetic and nuclear transport in Alzheimer's and Parkinson's diseases.

Arizona Alzheimer's Research Center (PI: Coleman, Mastroeni Role Co-PI; Postdoc 2013)

A Novel Therapeutic Directed at Mitochondrial energetics and epigenetics

Patent:

Method to diagnose and evaluate progression of Alzheimer's disease

J Rogers, R Li, D Mastroeni, A Grover, M Sabbagh
US Patent App. 11/371,667, 2006

Method and System to Detect, Diagnose, and Monitor the Progression of Alzheimer's disease
D Mastroeni, J Rogers, A Grover, PD Coleman
US Patent App. 12/797,591, 2010

Journal Reviewer:

- 1) Neurobiology of Aging
- 2) Journal of Comparative Neurology
- 3) Journal of Alzheimer's and Dementia
- 4) Journal of Alzheimer's Disease
- 5) *PLOS*one
- 6) Epigenetics & Chromatin
- 7) Journal of Neuroepigenetics
- 8) Journal of Molecular Neurodegeneration
- 9) Epigenomics Journal
- 10) Translational Neurodegeneration
- 11) Journal of Neuroscience

Grant Reviewer:

- 1) Dutch association ISAO

Academic Activities:

Graduate student supervisor 2012-15, Maastricht University
Summer youth program supervisor 2005-2014, Banner Sun Health Research Institute
Lecturer, Maastricht University
Lecturer, Marley Park
Lecturer, Rosefield Charter School
Lecturer, Barry Goldwater High School
Lecturer, Arizona State University
Lecturer, Glendale Community College
Lecturer, University of Arizona

Scientific Talks and presentations:

Keystone Symposium- 2015
Alzheimer's Alzheimer's Consortium Retreat- 2015
Arizona Alzheimer's Association Meeting- 2015
Alzheimer's Drug Discovery Foundation - 2014
Arizona Alzheimer's Consortium- 2005-2014
ASU symposium - 2014
Epigenetic Regulation in Aging and Alzheimer's Disease Symposium - 2013
Arizona Bioscience Leadership Symposium - 2006
Arizona Alzheimer's Association meeting - 2006
Neuroscience Meeting - 2004, 2005
Flynn Foundation – 2005