Curriculum Vitae

Eric Lieberman Greer

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Education

07/2010-05/2013	Post-doctoral training, Dr Yang Shi's laboratory, Harvard Medical School, MA
01/2010-06/2010	Post-doctoral training, Dr Anne Brunet's laboratory, Stanford University, CA
09/2004-01/2010	Ph.D. Cancer Biology Program, Stanford University, CA
09/2000-06/2004	B.A. Case Western Reserve University, Cleveland OH Major: Biochemistry; Minor: History

Research Experience

10/2014-	Principal Investigator, Division of Newborn Medicine, Boston Children's Hospital
05/2013-	Instructor in Pediatrics, Harvard Medical School, MA *Mechanisms of transgenerational epigenetic inheritance*
05/2013-09/2014	Associate Research Staff, Boston Children's Hospital, Boston, MA *Mechanisms of transgenerational epigenetic inheritance*
07/2010-05/2013	Post-doctoral fellow, Yang Shi laboratory, Harvard Medical School, Boston, MA *Mechanisms of transgenerational epigenetic inheritance*
01/2010-06/2010	Post-doctoral fellow, Anne Brunet laboratory, Stanford University, Palo Alto, CA *Chromatin regulation in C. elegans longevity*
09/2004-01/2010	Graduate student, Anne Brunet laboratory, Stanford University, Palo Alto, CA *Dietary restriction pathways and chromatin regulation in C. elegans longevity*
2005	Graduate rotation, Andrew Fire laboratory, Stanford University, Palo Alto, CA
06/2001-09/2004	Undergraduate research student, Sanford Markowitz laboratory, Case Western Reserve University School of Medicine, Cleveland, OH *Genome-wide analysis of misregulated genes in colon cancer progression in human siblings.*
06/2001-09/2004	Undergraduate research student, Mark Fleming and Nancy Andrews' laboratories, Harvard Medical School, Boston MA *Identification of novel iron metabolism pathways in mouse models*
09/1997-09/2000	High School research student, Judy Lieberman laboratory, Harvard Medical School, Boston, MA

Characterization of the cell death pathway induced by the cytotoxic T cell protease, granzyme A

Awards and Honors

2013-2018 NIH Pathway to Independence Award K99/R00
2011-2013 Helen Hay Whitney Fellowship
2010 Life Science Research Foundation Fellowship Finalist (declined)
2010 Runner up for the Aging Cell Best paper prize for 2009
2006-2009 National Science Foundation (NSF) Graduate Research Fellowship (GRF) award
2003 Gamma Sigma Alpha Honor Society
2003 National Dean's List
2002 Mortar Board National Honor Society
2001 Dean's Honor List CWRU (Fall and Spring)
2000 Dean's High Honor List CWRU (Fall)
2000-2004 Provost's Scholarship, CWRU

Teaching and Mentoring Experience

2013-2014 Supervision of post-doctoral fellow (David Aristizábal Corrales)
2011-2013 Supervision of post-doctoral fellow (Ruggero Spadafora)
2008-2010 Supervision of undergraduate student (Anna Hauswirth)
2008 Supervision of graduate rotation student (Dena Leeman)
2007 Supervision of graduate rotation student (Dara Dowlatshahi)
2002, 2003 Teaching Assistant, Biology 215: Cells and Proteins, Case Western Reserve University

Ad hoc reviewer: PLoS Genetics, PLoS One, Experimental Gerontology, Aging Cell, Nucleic Acids Research, Integrative and Comparative Biology, BMC Genetics

Publications

Peer reviewed articles

Greer EL, Beese-Sims SE, Brookes E, Spadafora R, Zhu Y, Rothbart SB, Aristizábal-Corrales D, Chen S, Badeaux AI, Jin Q, Wang W, Strahl BD, Colaiacovo MP, and Shi Y, A histone methylation network regulates transgenerational epigenetic memory in *C. elegans*, **Cell Reports** 7(1):113-26 (2014)

Greer EL, Maures TJ, Ucar D, Hauswirth AG, Mancini E, Lim JP, Benayoun BA, Shi Y, and Brunet A. Transgenerational Epigenetic Inheritance of Longevity in *C. elegans*, **Nature** 479(7373):365-71 (2011). (Commented on in **Nature** 479(7373):302-3 (2011), **Nature News** doi:10.1038/news.2011.602 (2011), Research Highlight, **Cell** 147(5):957 (2011) Leading Edge Select, **Nat Rev Genet** 12(12):806-7 (2011), Preview **Cell Metab** 15(1):6-7 (2012), **Bioessays** 34(8):652-4 (2012))

Maures TJ, **Greer EL**, Hauswirth AG, and Brunet A. The H3K27 Demethylase UTX-1 Regulates *C. elegans* Lifespan in a Germline-Independent, Insulin-Dependent, Manner **Aging Cell** 10(6):980-90 **(**2011)

Greer EL, Maures TJ, Hauswirth AG, Green EM, Leeman DS, Maro GS, Han S, Banko MR, Gozani O, and Brunet A. Members of the H3K4 Trimethylation Complex Regulate Lifespan in a Germline-dependent Manner in *C. elegans*. **Nature** 466(7304):383-7 (2010). (Preview, **Cell Metab** 2010 12(3):209-10)

Greer EL and Brunet A, Different Dietary Restriction Regimens Extend Lifespan by both Independent and Overlapping Genetic Pathways in *C. elegans*, **Aging Cell** 8(2):113-27 **(**2009) (Runner up for Aging Cell Best paper prize for 2009).

Greer EL, Dowlatshahi D, Banko MR, Villen J, Hoang K, Blanchard D, Gygi SP, and Brunet A, An AMPK-FOXO pathway mediates longevity induced by a novel method of dietary restriction in *C. elegans*, **Curr Biol** 17(19):1645-56 (2007)

Greer EL, Oskoui PR, Banko MR, Maniar JM, Gygi MP, Gygi SP, and Brunet A, The energy sensor AMP-activated protein kinase directly regulates the mammalian FOXO3 transcription factor, **J Biol Chem** 282(41):30107-19 (2007)

Pondarré C Antiochos BB, Campagna DR, Clarke SL, **Greer EL**, Deck KM, McDonald A, Han AP, Medlock A, Kutok JL, Anderson SA, Eisenstein RS, and Fleming MD, The mitochondrial ATP-binding cassette transporter Abcb7 is essential in mice and participates in cytosolic iron-sulfur cluster biogenesis, **Hum Mol Genet** 15(6):953-64 (2006)

Ohgami RS, Campagna DR, **Greer EL**, Antiochos B, McDonald A, Chen J, Sharp JJ, Fujiwara Y, Barker JE and Fleming MD, Identification of a ferrireductase required for efficient transferring-dependent iron uptake in erythroid cells, **Nat Genet** 37(11):1264-9 (2005)

Gunshin H, Starr CN, Direnzo C, Fleming MD, Jin J, **Greer EL**, Sellers VM, Galica SM, and Andrews NC, Cybrd1 (duodenal cytochrome b) is not necessary for dietary iron absorption in mice, **Blood** 106(8):2879-83 (2005)

Beresford PJ, Zhang D, Oh D, Fan Z, **Greer EL**, Russo M, Jaju M and Lieberman J, Granzyme A Activates an Endoplasmic Reticulum-associated Caspase-independent Nuclease to Induce Single-stranded DNA Nicks, **J Biol Chem** 276; 43285-43293, (2001)

Reviews

Greer EL and Shi Y, What's the *Mtrr* with your grandparents? **Cell Metab** 18(4):457-9 (2013)

Greer EL and Shi Y, Histone methylation: a dynamic mark in health, disease, and inheritance **Nat Rev Genet** 13(5):343-57 (2012)

Greer EL, Banko MR, and Brunet A, AMP-activated protein kinase and FoxO transcription factors in dietary restriction induced longevity, **Ann N Y Acad Sci** 1170:688-92 (2009)

Greer EL and Brunet A, Signaling networks in aging, **J Cell Sci** 121:407-12 (2008)

Greer EL and Brunet A, FOXO transcription factors in ageing and cancer, **Acta Physiol** 192(1):19-28 (2008)

Greer EL and Brunet A, FOXO transcription factors at the interface between longevity and tumor suppression, **Oncogene** 24(50):7410-25 (2005)

Book Chapter
Greer EL and Brunet A, The Genetic Network of Longevity by Dietary Restriction for the **Handbook on the Biology of Aging** 7th Edition (2010)

Scientific presentations

Talks
3rd International Symposium of the TRR81 "Chromatin changes in differentiation and malignancy" Sept 14th-16th 2015 "Heritable Epigenetics of Complex Traits in *C. elegans*" (Invited talk)

The XXIII North American Testis Workshop "Healthy Sperm-Healthy Children" April 15th-18th 2015 "Heritable Epigenetics of Complex Traits in *C. elegans*" (Invited talk)

Epigenetics Lunch Conference Harvard Medical School Sept 11th 2014 "Heritable Epigenetics of Complex Traits in *C. elegans*" (Invited talk)

Eight Annual Division of Aging Biology New Investigators Forum June 10th 2014 "Identifying the Molecular Mechanisms of Transgenerational Epigenetic Inheritance" (Invited talk)

Keystone Symposium on Epigenetic Programming and Inheritance Apr 7th 2014 "A Histone Methylation Network Regulates Transgenerational Epigenetic Memory in *C. elegans*" (Selected talk)

Keystone Symposium on Chromatin Mechanisms and Cell Physiology Mar 27th 2014 "A Histone Methylation Network Regulates Transgenerational Epigenetic Memory in *C. elegans*" (Selected talk)

Harvard Medical School's Gene Expression and RNA Series Dec 12th 2013 "Mechanisms of transgenerational epigenetic inheritance in *C. elegans*" (Invited talk)

National Cancer Institute Center of Excellence in Integrative Cancer Biology and Genomics (NIH) Seminar Series April 12th 2013 "Chromatin Modifiers in Transgenerational Inheritance of Complex Traits in *C. elegans*" (Invited talk)

Department of Medicine **Children's Hospital Boston Chief's of Medicine Conference** Nov 15th 2012 "Mechansisms of Transgenerational Epigenetic Inheritance in *C. elegans*"

Age UK speaker **Ageing and Basic Bioscience Conference** Sept 20th-21st 2012 "Transgenerational epigenetic inheritance of longevity induced by chromatin modifiers in *C. elegans*" (Invited talk)

FASEB Conference on Transcriptional Regulation During Cell Growth, Differentiation, and Development July 15th-20th 2012 "Transgenerational epigenetic inheritance of extended longevity in *C. elegans*" (Selected talk)

Keynote speaker **4th Australian Scientific Conference: Epigenetics 2012** May 7th-9th 2012 "Transgenerational epigenetic inheritance of longevity induced by chromatin modifiers in *C. elegans*" (Invited Keynote talk)

Abcam Conference on Chromatin: Structure & Function 2011 Dec 5th-8th 2011 "Transgenerational epigenetic inheritance of longevity induced by chromatin modifiers in *C. elegans*" (Selected talk)

Cell Symposium: Epigenetics and the Inheritance of Acquired States Oct 30th-Nov 1st 2011 "Transgenerational epigenetic inheritance of extended longevity induced by chromatin modifiers in *C. elegans*" (Selected talk)

Cell and Molecular Biology seminar series of the Department of Biology Stanford University Oct 14, 2008. "An AMPK-FoxO pathway mediates dietary restriction induced longevity in *C. elegans*" (Invited talk)

Cold Spring Harbor Laboratory Meeting "Molecular Genetics of Aging" Sept 24-28, 2008. "Different methods of dietary restriction evoke independent, but overlapping, genetic pathways in *C. elegans*." (Selected talk)

Cold Spring Harbor Laboratory Meeting "Molecular Genetics of Aging" Oct 4-8, 2006. "The energy sensor AMP-activated protein kinase mediates caloric restriction-induced longevity by regulating FOXO transcription factors" (Selected talk)

Current Issues in Genetics seminar series of the Department of Genetics at Stanford University May 5th, 2005
"AMPlifying lifespan: Control of FOXO by AMPK