Curriculum Vitae
Sean P. Curran

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Davis School of Gerontology
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Research Experience

2010 – Present	University of Southern California – Assistant Professor Davis School of Gerontology Keck School of Medicine, Biochemistry and Molecular Biology Dornsife College of Letters, Arts, and Sciences, MCB
2004 – 2010	Postdoctoral research: Functional genomic and genetic identification of shared mechanisms of development and lifespan regulation in *C. elegans.* Advisor: Gary Ruvkun Department of Genetics, Harvard Medical School Department of Molecular Biology, Massachusetts General Hospital
1999-2004	Doctoral Research: Mitochondrial biogenesis: biochemical characterization of the mechanisms regulating protein import in *S. cerevisiae.* Advisor: Carla M. Koehler Department of Chemistry and Biochemistry, University of California, Los Angeles
1998-1999	Lab Technician: Transcriptional responses during fulminant hepatic failure in the brain of *R. norvegicus* and *M. musculus*. Advisor: Jody E. Margulies Department of Surgery, Cedars-Sinai Medical Center, Los Angeles

Education

1999-2004	Ph.D., Biochemistry and Molecular Biology, University of California, Los Angeles
1995-1999	B.S., Biochemistry, University of California, Los Angeles

Fellowships, Awards & Honors:

2012	USC Mellon Mentoring Award
2012	Outstanding Faculty Award - USC Davis School of Gerontology
2011	Ellison Medical Foundation – Young Scholar in Aging
2009	Glenn Award for research in the biological mechanisms of lifespan regulation
2009	National Institutes of Health - K99 AG032308
2005	National Institutes of Health - National Research Service Award F32 AG026207
2003	Dissertation year fellowship, UCLA
2003	John M. Jordan Memorial Award
2002	Jacobs Award, UCLA
2001	Regents award, UCLA
2000	Excellence in teaching award, UCLA
2000	USPHS National Research Service Award GM07185
1998	Gold Family Foundation Scholarship in Biochemistry
1991	Eagle Scout

Publications

Research Articles:

13. Tacutu R, Shore DE, Budovsky A, de Magalhaes JP, Ruvkun G, Fraifeld VE, and **Curran SP**. Prediction of *C. elegans* longevity genes by human and worm longevity networks (In Press) 10.1371/journal.pone.0048282

12. Paek J, Lo JY, Narasimhan SD, Nguyen TN, Glover-Cutter K, Robida-Stubbs S, Suzuki T, Yamamoto M, Blackwell TK, **Curran SP**. Mitochondrial SKN-1/Nrf Mediates a Conserved Starvation Response. Cell Metab. 2012 Oct 3;16(4):526-37

11. Pang S, **Curran SP**. 2012. Longevity and the long arm of epigenetics: acquired parental marks influence lifespan across several generations. Bioessays 34(8): 652-654

10. **Curran SP,** Wu X, Riedel C and Ruvkun G. A soma-to-germline transformation in long-lived *Caenorhabditis elegans* mutants. Nature. 2009 Jun 25;459(7250):1079-84
* Featured in *The New York Times,* **"**In Worms, Genetic Clues to Extending Longevity", Nicholas Wade, June 06, 2009
* Preview in Cell Metabolism 2009 Aug 6(10): 78-79, "Walk the (Germ) Line", D. Leanne Jones
* Selected Faculty of 1000 "Recommended"

9. **Curran SP** and Ruvkun G (2007) Lifespan regulation by evolutionarily conserved genes essential for viability. PLoS Genet Apr 6;3(4):e56.
* Selected Faculty of 1000 "Must Read"

8. Likic VA, Perry A, Hulett J, Derby M, Traven A, Waller RF,Keeling PJ, Koehler CM, **Curran SP,** Gooley PR, Lithgow T. Patterns that define the four domains conserved in known and novel isoforms of the protein import receptor Tom20. J. Mol Biol. 2005 Mar 18;347(1):81-93

7. **Curran SP**, Leverich EP, Koehler CM, and Larsen PL. Defective mitochondrial protein translocation precludes normal *Caenorhabditis elegans* development. J Biol Chem. 2004 Dec 24;279(52):54655-62

6. **Curran SP**, Leuenberger D, Leverich EP, Hwang DK, Beverly K, and Koehler CM. The role of Hot13p and redox chemistry in the mitochondrial TIM22 import pathway. J Biol Chem. 2004 Oct 15;279(42):43744-51

5. Leuenberger D, **Curran SP**, Wong D, and Koehler CM. The role of Tim9p in the assembly of the TIM22 import complexes. Traffic 2003 Mar; 4(3): 144-152

4. **Curran SP**, Leuenberger D, Schmidt E and Koehler CM. The role of the Tim8p-Tim13p complex in a conserved import pathway for mitochondrial polytopic inner membrane proteins. J Cell Biol. 2002 Sep 16;158(6):1017-1027
* Selected Faculty of 1000 "Reccomended"

3. Roesch K, **Curran SP**, Tranebjaerg L, and Koehler CM. Human deafness dystonia syndrome is caused by a defect in assembly of the DDP1/TIMM8a-TIMM13 complex. Hum. Mol.Genet. 2002 Mar 1;11(5):477-486

2. **Curran SP**, Leuenberger D, Oppliger W, and Koehler CM. The Tim9p-Tim10p complex binds to the transmembrane domains of the ADP/ATP carrier. EMBO J. 2002 Mar 1;21:942-953

1. Murphy MP, Leuenberger D, **Curran SP**, Oppliger W, and Koehler CM. The essential function of the small Tim proteins in the Tim22 import pathway does not depend on formation of the soluble 70-kilodalton complex. Mol Cell Biol. 2001 Sep 15;21(18):6132-6138

Book Chapters

Curran SP. Conserved Mechanisms of lifespan regulation and extension in *C. elegans* in Sell, Christian; Lorenzini, Antonello; Brown-Borg, Holly M. (Eds.) 2009 *Life Span Extension: Single Cell Organisms to Man.* Humana Press Inc, Aging Medicine 2009

Ruvkun, G.; Samuelson, A.V.; Carr, C.E.; **Curran, S.P**.; and Shore, D.E. "Signaling Pathways that Regulate C. elegans Life Span". Research and Perspectives in Endocrine Interactions. 2009; 69-84.

Curran SP and Koehler CM. 2004. Mitochondrial Biogenesis. Protein import into and across the inner membrane. Koehler, C. and Bauer, M. (eds.) *Topics in Current Genetics*. Springer Verlag, Heidelberg, 2004

Leuenberger D, **Curran SP**, and Koehler CM. 2004. Mitochondrial biogenesis in Mullins, C. (ed.) *The Biogenesis of Cellular Organelles.* Landes Bioscience, Georgetown 2004

Teaching and Mentoring Experience:

2012, Sp	Gero440, Bisc 441
2011, Su	Freshman Colloquim Series
2011, Sp	Gero510
2011-Present	Founder and Mentor of USC iGEM team (Undergraduate research team)
2007 – 2010	Mentor graduate student David E. Shore, Harvard Medical School, BBS program, Boston, MA.
2007	Mentor visiting student Rachel Davidowitz from Cornell University, Ithica, NY
2005, 2006, and 2008	Faculty, Marine Biological Laboratory, Woods Hole, MA Ellison Foundation, Molecular Biology of Aging Course
2003	Invited Instructor, Ivanhoe Elementary School Science Course
2002, 2003	CARE/NIH Summer Enrichment program, University of California, Los Angeles
1999-2000	Teaching Assistant, Department of Chemistry and Biochemistry, University of California, Los Angeles
1998	Teaching Assistant, School of Public Health, University of California, Los Angeles

Invited Talks

2012 2nd International Conference – Genetics of Aging and Longevity – Moscow, Russia "A conserved starvation response mediated by non-canonical SKN-1/Nrf2 signaling"

2011 Cold Spring Harbor Asia – Inaugural Meeting on Development – Suzhou, China, "A conserved starvation response mediated by non-canonical SKN-1/Nrf2 signaling

Gerontological Society of America National Meeting, Boston, MA "A conserved starvation response mediated by non-canonical SKN-1/Nrf2 signaling"

2010 C. elegans "Topics" Meeting, covering Aging, Metabolism, Pathogenesis, Stress, and Small RNAs "A germline character of somatic cells in *C. elegans* longevity mutants"

2009 17th International *C. elegans* Conference, "A soma-to-germline transformation in long-

lived *Caenorhabditis elegans* mutants"

2008 Cold Spring Harbor, Molecular Genetics of Aging "A soma-to-germline transformation phenotype in endocrine signaling mutants"

2007 Buck Institute Symposium on Nutrient Signaling and Aging, "Soma-to-germline transformation as a mechanisms of lifespan extension"

16th International *C. elegans* Conference, Plenary Speaker, "Lifespan regulation by evolutionarily conserved genes essential for viability"

2004 American Society for Biochemistry and Molecular Biology Annual Meeting, "How defective mitochondrial biogenesis leads to developmental defects in *Caenorhabditis elegans"*

2001 EuroConference on Structural and Mechanistic Aspects of Protein Translocation, "Characterization of the Tiny Tims - "Molecular Chaperones of the IMS?"

3rd Cell Biology Symposium of the MDC on Protein Transport and Stability "Characterization of small Tim proteins in the mitochondria of yeast and mammals"