Jill Ann Kreiling
Associate Professor (Research)
Associate Director of the Brown Center on the Biology of Aging

Address: Brown University Division of Biology and Medicine
Department of Molecular Biology, Cell Biology, and Biochemistry
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Education

1994 Ph.D. Medical Microbiology
West Virginia University, Morgantown, WV

1988 B.S. Biology
Kent State University, Kent, Ohio
Graduated Summa Cum Laude with Departmental Honors
Phi Beta Kappa, awarded in junior year, 1987

Postgraduate Training

Sep 1996 - Nov 1999 Postdoctoral Fellow
Marine Biological Laboratory
Woods Hole, Massachusetts

Feb 1995 - Aug 1996 Postdoctoral Fellow
Department of Physiology and Biophysics
Albert Einstein College of Medicine
Bronx, New York

Awards and Honors

Mentored Research Scientist Development Award (K01), NIA, 2011-2017.
NIA Summer Training Course in Experimental Aging Research, Buck Institute for Aging Research, CA, 2009.
Keck Fellowship. Albert Einstein College of Medicine, Bronx, NY, 1995.
Zeiss Summer Fellowship. Marine Biological Laboratory. Woods Hole, MA, 1993.
Scholarship Microbial Diversity Course, Marine Biological Laboratory, Woods Hole, 1993.
Invited participant at the NIH Conference on Lyme Disease, Cold Spring Harbor, NY. 1993.
American Society for Microbiology Allegheny Branch, 2nd place in research competition, 1992.
Graduated Summa Cum Laude with Departmental Honors, Kent State University, 1988.
Phi Beta Kappa, Kent State University. Awarded in junior year. 1987.

Academic Appointments

Jul 2018 – Present Associate Director of the Brown Center on the Biology of Aging,
Division of Biology and Medicine.
Providence, Rhode Island

Jul 2017 – Present Associate Professor (Research)
Brown University School of Medicine
Department of Molecular Biology, Cell Biology, and Biochemistry
Providence, Rhode Island

Jun 2016 – Jun 2018 Associate Director of the Brown Biology of Aging Initiative

Brown University Division of Biology and Medicine
Providence, Rhode Island

Jul 2006 – Jun 2017 Assistant Professor (Research)
Brown University School of Medicine
Department of Molecular Biology, Cell Biology, and Biochemistry
Providence, Rhode Island

Jan 2005 - Jun 2006 Adjunct Lecturer
Brown University School of Medicine
Department of Molecular Microbiology and Immunology
Providence, Rhode Island

Dec 1999 - Aug 2005 Investigator
Brown University School of Medicine
Department of Obstetrics and Gynecology
Women and Infants Hospital
Providence, Rhode Island

Publications

1. Original Peer Reviewed Publications

Petrashen, A., Lin, Y., Kun, B., **Kreiling, J.A.** (2023). A Cluster of X-linked miRNAs are De-repressed with Age in Mouse Liver and Target Growth Hormone Signaling. *In preparation.*

Del Rosario Hernandez, T.S., Joshi, N., Gore, S.V., **Kreiling, J.A.**, and Creton, R. (2023). An 8-cage imaging system for automated analyses of mouse behavior. *Submitted to Nat. Commun.*

Elias, E.A.; Nunez, T.A.; Kun, B.; **Kreiling, J.A**. (2023). primiReference: A Reference for Analysis of Primary-microRNA Expression in Single-Nucleus Sequencing Data. *J. Genet. Genomics. Journal of Genetics and Genomics* 50:112-125. PMID: 36371075.

Yao, H., Peterson, A.L., Rizal, S., Scaffa, A., Wallace, J., **Kreiling, J.A.**, Chang, J., De Paepe, M.E., Dennery, P.A. (2023). Timing and cell specificity of senescence drives postnatal lung development and injury. Nat Commun. 2023:273. PMID: 36650158.

Yang, J. ; Hayano, M.; Griffin, P.T.; Amorim, J.A.; Bonkowski, M.S.; Apostolides, J.K.; Blanchette, M.; Munding, E.M.; Bhakta, M.; Salfati, E.; Lu, Y.; Vera, D.L.; Ross, J.M.; Coppotelli, G.; Ching Chew, Y.; Guo, W.; Yang, X.; Meer, M.; Tian, X.; Dou, Z.; Xu, C.; Pippin, J.W.; Creswell, M.; Mitchell, S.J.; Das, A.; O'Connell, B.; Thakur, S.; Kane, A.E.; Su, Q.; Mohri, Y.; Nishimura, E.K.; Schaevitz, L.; Garg, N.; Balta, A.; Rego, M.A.; Gregory-Ksander, M.; Jakobs, T.C.; Zhong, L.; Wakimoto, H.; Mostoslavsky, R.; Wagers, A.J.; Tsubota, K.; Bonasera, S.J.; Palmeira, C.M.; Seidman, J.G.; Seidman, C.E.; Wolf, N.S.; **Kreiling, J.A.**; Sedivy, J.M.; Murphy, G.F.; Green, R.E.; Garcia, B.A.; Berger, S.L.; Oberdoerffer, P.; Shankland, S.J.; Gladyshev, V.N.; Ksander, B.R.; Pfenning, A.R.; Rajman, L.A.; Sinclair, D.A. (2023). Loss of epigenetic information as a cause of mammalian aging. *Cell.* 186:305-326. PMID: 36638792.

Tucker Edmister, Del Rosario Hernandez, T. S., Ibrahim, R., Brown, C., Gore, S., Kakodkar, R., **Kreiling, J.A.**, Creton R. (2022). Novel use of FDA-approved drugs identified by cluster analysis of behavioral profiles. *Scientific Reports*. 12(1): 6120. PMID: 35449173.

Tucker Edmister, S., Ibrahim, R., Kakodkar, R., **Kreiling, J.A.**, Creton R. (2022). A zebrafish model for calcineurin-dependent brain function. *Behav Brain Res*. 416:113544. PMID: 34425181.

Elias, A.E., Kun, B., Sabula, I.M., Golomb-Mello, G., Cespedes Zablah, A., **Kreiling, J.A.** 2019. The mir-465 family is upregulated with age and attenuates growth hormone signaling in mouse liver. *Aging Cell*. 18(2):e12892. PMID:30637918.

Ciocanel, M.V, **Kreiling, J.A.**, Gagnon, J.A., Mowry, K.L., Sandstede,B. 2017. Analysis of active transport by fluorescence recovery after photobleaching. *Biophys J.* 112(8):1714-1725.

Prowrie, E.A., Ciocanel, V., **Kreiling, J.A.**, Gagnon, J.A., Sandstede, B., Mowry, K.L. 2016. Using *in vivo* imaging to measure RNA mobility in *Xenopus laevis* oocytes. *Methods*. S1046-2023(15):30141-9.

Criscione, S.W., De Cecco, M., Siranosian, B., Zhang, Y., **Kreiling, J.A.**, Sedivy, J.M., Neretti, N. 2015. Reorganization of chromosome architecture in replicative cellular senescence. *Science Advances* 2: e1500882.

De Cecco, M., Criscione, S.W., Peterson, A.L., Neretti, N., Sedivy, J.M., **Kreiling, J.A.** 2013. Transposable elements become active and mobile in the genomes of aging mammalian somatic tissues. *Aging* (Albany NY) 5(12):867-83.

De Cecco, M., Criscione, S.W., Peckham, E.J., Hillenmeyer, S., Hamm, E.A., Manivannan, J., Peterson, A.L., **Kreiling, J.A.,** Neretti, N. and Sedivy, J.M. 2013. Genomes of replicatively senescent cells undergo global epigenetic changes leading to gene silencing and activation of transposable elements. *Aging Cell* 12: 247-256.

Gagnon J.A., **Kreiling J.A.,** Powrie E.A., Wood T.R., Mowry K.L. 2013. Directional transport Is mediated by a dynein-dependent step in an RNA localization pathway. *PLoS Biol* 11(4): e1001551.

Kreiling J.A., Tamamori-Adachi M., Sexton A.N., Jeyapalan J.C., Munoz-Najar U., Peterson A.L., Manivannan J., Rogers E.S., Pchelintsev N.A., Adams P.D., Sedivy J.M. 2011. Age-associated increase in heterochromatic marks in murine and primate tissues. *Aging Cell*. Apr;10(2):292-304.

Lopes S.S., Lourenço R., Pacheco L., Moreno N., **Kreiling J.A.** and Saúde L. 2010. Notch signalling regulates left-right asymmetry through ciliary length control. *Development.* 137(21):3625-32.

Messitt T.J., Gagnon J.A., **Kreiling J.A.**, Pratt C.A., Yoon Y.J., Mowry K.L. 2008. Multiple kinesin motors coordinate cytoplasmic RNA transport on a subpopulation of microtubules in Xenopus oocytes. *Dev Cell*. 15(3):426-36.

Kreiling J.A., Balantac Z.L, Toure J., Zchut S., Kochilas L., and Creton R. 2008. Suppression of the endoplasmic reticulum calcium pump during zebrafish gastrulation affects left-right asymmetry of the heart and brain. *Mech Dev*. 125(5-6):396-410.

Kreiling J.A., Prabhat, Williams G., and Creton R. 2007. Analysis of Kupffer's vesicle in zebrafish embryos using a cave automated virtual environment. *Dev Dyn*. 236(7):1963-9.

Kreiling J.A., Creton R.J., Reinisch C.L. 2007. Early embryonic exposure to PCBs disrupts heat shock protein 70 cognate expression in zebrafish embryos. *J Tox Envir Health*, part A. 70(12):1005-13.

Dewilde, S, B. Ebner, E. Vinck, K. Gilany, T. Hankeln, T. Burmester, **J. Kreiling**, C. Reinisch, J. Vanfleteren, L. Kiger, M.C. Marden, C. Hundahl, A. Fago, S. Van Doorslaer, L. Moens. 2006. The nerve hemoglobin of the bivalve mollusc *Spisula solidissima*: Molecular cloning, ligand binding studies and phylogenetic analysis. *J Biol Chem.* Mar 3;281(9):5364-5372.

Kreiling, J.A., R.E. Stephens, C.L. Reinisch. 2005. A mixture of environmental contaminants increases PKA-RII expression in *Spisula* embryos. *Environ Tox Pharm* 19: 9-18.

Jessen-Eller, K., **Kreiling, J.A.**, Begley, G.S., Steele, M.E., Walker, C.W., Stephens, R.E., Reinisch, C.L. 2002. A new invertebrate member of the p53 gene family is developmentally expressed and responds to polychlorinated biphenyls. *Environ Health Perspect* 110:377-85.

Kreiling J.A., K. Jessen-Eller, J. Miller, R.F. Seegal, C.L. Reinisch. 2001. Early development of the serotonergic and dopaminergic nervous system in *Spisula solidissima* (surf clam) Larvae. *Comp Biochem Physiol A Mol Integr Physiol* 130:341-51.

Kreiling, J.A., R. Stephens, A.M. Kuzirian, K. Jessen-Eller, C.L.Reinisch. 2000. Polychlorinated biphenyls are selectively neurotoxic to the developing *Spisula Solidissima Embryo. Tox Envir Health,* part A 61: 101-119.

Creton, R., **J. Kreiling**, L. Jaffe. 2000. Presence and roles of calcium gradients along the dorsal-ventral axis in *Drosophila* embryos. *Developmental Biology*. 217: 375-385.

Creton, R., **J. Kreiling**, L. Jaffe. 1999. Calcium imaging with luminescent indicators. *Microscopy Research and Technique* 46:390-397.

Kreiling, J., R. Duncan, M., Faggart, N. Cornell.1999. Comparison of the Beluga whale (*Delphinapterus leucas*) expressed genes for 5-aminolevulinate synthase with those in other vertebrates. *Comp Biochem Physio, part B* 123:163-174.

Srimal, S., **J. Kreiling**, J. Quigley, P. Armstrong, N. Wainwright. 1996. Antimicrobial activity of *Limulus* blood: role of C-reactive protein (CRP) and *Limulus* anti-lipopolysaccharide factor (LALF). *Biol Bull* 191: 300-301.

Goldstein, S., N. Charon, **J. Kreiling**. 1994. *Borrelia burgdorferi* swims with a planar waveform similar to those of eukaryotic flagella. *Proc Nat Acad Sci* 91: 3433-37.

Charon, N., S. Goldstein, S. Block, K. Curci, J. Ruby, **J. Kreiling**, R. Limberger. 1992. Morphology and dynamics of protruding spirochete periplasmic flagella. *J Bacteriol* 174: 832-840.

Stevenson, J., **J. Kreiling**, R. Taylor. 1989. Effects of corticosterone on responses of murine splenic B and T cells to phytohemagglutinin, concanavalin A, and lipopolysaccharide. *Immun Invest* 18: 951-960.

2. Review Articles and Other Peer Reviewed Publications

Bronikowski, A. M., Meisel, R. P., Biga, P. R., Walters, J. R., Mank, J. E., Larschan, E., Wilkinson, G. S., Valenzuela, N., Conard, A. M., de Magalhães, J. P., Duan, J, Elias, A. E., Gamble, T., Graze, R. M., Gribble, K. E., **Kreiling, J. A.**, & Riddle, N. C. (2022). Sex-specific aging in animals: Perspective and future directions. *Aging Cell*, 21(2):e13542. doi: 10.1111/acel.13542.

Gorbunova, V., Seluanov, A., Mita, P., McKerrow, W., Fenyo, D., Boeke, J.D., Linker, S.B., Gage, F.H., **Kreiling, J.A.**, Petrashen, A.P., Woodham, T.A., Taylor, J.R., Helfand, S.L., Sedivy, J.M. (2021). The role of retrotransposable elements in aging and age-associated diseases. *Nature*. 596(7870):43-53. PMID: 34349292.

Elias, A.E., and **Kreiling, J.A.** 2019. MicroRNA Dysregulation Influences Growth Hormone Signaling. *Aging (Albany NY)* 11(15): 5294-5295.

Sedivy, J.M., **Kreiling, J.A.,** Neretti, N., De Cecco, M., Criscione, S.W., Hofmann, J.W, Zhao, X., Ito, T., Peterson, A.L. 2013. Death by transposition – the enemy within? *BioEssays.* Dec;35(12):1035-43.

Tamamori-Adachi, M., Okazaki, T. **Kreiling, J.A**., Sedivy, J.M. 2013. Cellular senescence observed *in vivo*. The special issue, "The Frontier of Aging Research", *Experimental Medicine*, 31: 3327-3334.

3. Book Chapters

Kreiling, J.A., Jones, B.C., Wood, J.G., De Cecco, M., Criscione, S.W., Neretti, N., Helfand, S.L., Sedivy. J.M. 2017. Contribution of retrotransposable elements to aging, *in*: Human retrotransposons in health and disease. Cristofari, G. editor. *Springer International Publishing AG2017.* 297-322*.*

4. Non-Peer Reviewed Publications

Kreiling, J.A. and Reinisch, C.L. 2009. Visions: The brain on PCBs. *Mol Reprod Dev* 76:319.

5. Scientific Meeting Abstracts (2006-present)

Lin, Y. and **Kreiling, J.A.** 2022 The Roles of MicroRNAs in Neurogenesis Decline. Northeast Glenn Symposium of the Biology of Aging. Yale University, New Haven, CT.

Joshi, N. and **Kreiling, J.A.** 2022. Alzheimer's Disease in 3D. Northeast Glenn Symposium of the Biology of Aging. Yale University, New Haven, CT.

Lin, Y. and **Kreiling, J.A**. 2022. The mir-465 family has higher expression with age in mouse liver and targets growth hormone signaling. Mechanisms of Aging. Cold Spring Harbor Laboratories, Cold Spring Harbor, NY.

Petrashen, A.P., Lin, Y., and **Kreiling, J.A.** 2022. An age-associated upregulation of the mir-465 family results in attenuation of growth hormone signaling. Mechanisms of Aging. Cold Spring Harbor Laboratories, Cold Spring Harbor, NY.

Verde, E. and **Kreiling, J.A.** 2020. Age-Related loss of Function of Neural Stem Cells due to Transposable Elements. Annual Biomedical Research Conference for Minority Students. Virtual meeting.

Elias, A.E., Kun, B., Sabula, I.M.C., and **Kreiling, J.A.** 2020 Age-associated upregulation of a cluster of miRNAs on the X chromosome impacts PI3K-Akt signaling. Mechanisms of Aging. Cold Spring Harbor Laboratories, Cold Spring Harbor, NY.

Elias, A.E. and **Kreiling, J.A.** 2020. miRNA expression with Age in the Subventricular Zone. Mechanisms of Aging. Cold Spring Harbor Laboratories, Cold Spring Harbor, NY.

Petrashen, A.P., Verdesca, A.M, **Kreiling, J.A.**, and Sedivy, J.M. 2020. Post-transcriptional regulation of insulin-like growth factor 1 by MYC. Mechanisms of Aging. Cold Spring Harbor Laboratories, Cold Spring Harbor, NY

Kreiling, J.A. 2020. Extracellular Vesicles as Biomarkers for Alzheimer's Disease. Rhode Island NIH IDeA Symposium, Providence, RI.

Elias, A.E. and **Kreiling, J.A.** 2020. miRNA expression with Age in the Subventricular Zone: Future Targets for the Neurodegenerative Process. AGE virtual meeting. American Association of Aging.

Elias, A.E., and **Kreiling, J.A.** 2019. Brain Region-Specific miRNA expression with Age: Future Targets for the Neurodegenerative Process. Northeast Glenn Symposium of the Biology of Aging. University of Connecticut, Farmington, CT.

Elias, A.E., Kun, B., Sabula, I.M.C., and **Kreiling, J.A.** 2019. Growth hormone signaling is attenuated with age by upregulation of the mir-465 family. Stem Cells, Aging & Rejuvenation Cold Spring Harbor Asia Conference. Suzhou, China.

Elias, A.E., Kun, B., Cespedes Zablah, A., Sabula, I.M.C., and **Kreiling, J.A.** 2019. Growth hormone signaling is attenuated with age by upregulation of the mir-465 family. Biology of Aging Gordon Research Conference. Sunday River, ME.

Elias, A.E., Kun, B., Cespedes Zablah, A., Sabula, I.M.C., and **Kreiling, J.A.** 2019. A cluster of 18 miRNAs on the X-chromosome is upregulated with age and attenuates growth hormone signaling in mouse liver. Rhode Island NIH IDeA Symposium, Providence, RI.

Elias, A.E., Skvir, N., **Kreiling, J.A**., Sedivy, J.M., Neretti, N. 2019. Region-Specific Repetitive Element Dysregulation and Type I Interferon Inflammation May Underlie Alzheimer's Disease and Age-Associated Pathology in the Brain. Keystone Symposia: Neurodegenerative Diseases: New Insights and Therapeutic Opportunities. Keystone, CO.

Elias, A.E., Cespedes Zablah, A., Sabula, I.M.C., and **Kreiling, J.A**. 2019. The mir-465 family is upregulated with age and attenuates growth hormone signaling. 6th Annual Symposium on RNA Science and its Applications "The Language of RNA in Disease and Development" University at Albany, State University of New York.

Elias, A.E., Skvir, N., **Kreiling, J.A**., Sedivy, J.M., Neretti, N. 2018. Region-Specific Senescent Phenotypes in The Brains of Alzheimer's Patients: A Transcriptomic View into the Aged Human Brain. Mechanisms of Aging. Northeast Glenn Symposium of the Biology of Aging. Yale University, New Haven, CT.

Elias, A.E., Kun, B., Golomb-Mello, G., Cespedes Zablah, A., Sabula, I.M.C., Sedivy, J.M. and **Kreiling, J.A**. 2018. The mir-465 family is upregulated with age and attenuates growth hormone signaling. Mechanisms of Aging. Cold Spring Harbor Laboratories, Cold Spring Harbor, NY.

Elias, A.E., Skvir, N., **Kreiling, J.A**., Sedivy, J.M., Neretti, N. 2018. Region-Specific Senescent Phenotypes in The Brains of Alzheimer's Patients: A Transcriptomic View into the Aged Human Brain. Mechanisms of Aging. Cold Spring Harbor Laboratories, Cold Spring Harbor, NY.

Kun, B., Golomb-Mello, G., Cespedes Zablah, A., Sabula, I.M.C., Sedivy, J.M., **Kreiling, J.A**. 2018. The mir-465 family is upregulated with age and attenuates growth hormone signaling in mouse liver. Rhode Island NIH IDeA Symposium, Providence, RI.

Kreiling, J.A., and Sedivy, J.M. 2018. Retrotransposons and Aging: The Enemy Within. Preconditioning in Biology and Medicine: Mechanisms and Translational Research. University of Massachusetts, Amherst, MA.

Kreiling, J.A., Golomb-Mello, G., Sedivy, J.M. 2016. Members of the miR465 family increase expression with age in mouse liver and influence the growth hormone receptor pathway. Mechanisms of Aging, Cold Spring Harbor, NY.

De Cecco, M., Criscione, S., **Kreiling, J.A.**, Neretti, N., Sedivy, J.M. 2016 Architectural changes in genomes and derepression of transposable elements during replicative senescence of human fibroblasts. Mechanisms of Aging, Cold Spring Harbor, NY.

Kreiling, J.A. and Sedivy, J.M. 2015. De-repression of a cluster of miRNAs located in a highly heterochromatic region of the mouse X-chromosome in aged mouse liver. Biology of Aging Gordon Research Conference. Sunday River, ME.

Kreiling J.A., De Cecco M., Criscione S., Neretti N., and Sedivy J.M. 2014. Age-associated deregulation of a cluster of miRNAs located in a highly heterochromatic region of the mouse X-chromosome. Molecular Genetics of Aging, Cold Spring Harbor, NY.

Sedivy, J.M., **Kreiling, J.A.**, Neretti, N., De Cecco, M. and Criscione, S.W. 2014. Retrotransposable elements become active and mobile in the genomes of aging mammalian somatic tissues. Keystone Symposia Conference on Mobile Genetic Elements and Genome Evolution, Santa Fe, NM.

Kreiling J.A., De Cecco M., Criscione S.W., Neretti N., Sedivy J.M. 2013. Murine endogenous retrotransposons lose epigenetic silencing with age. Mobile Genetic Elements. Cold Spring Harbor Laboratories, NY.

De Cecco M., Criscione S.W., **Kreiling J.A.**, Neretti N., Sedivy J.M. 2013. Global epigenetic changes and derepression of transposable elements in replicative senescence. Mobile Genetic Elements. Cold Spring Harbor Laboratories, NY.

Criscione S.W., De Cecco M., Thompson W., **Kreiling J.A.**, Sedivy J.M., Neretti N. 2013. RepEnrich: A new method to estimate repetitive enrichment reveals age-associated changes in retrotransposon expression. Mobile Genetic Elements. Cold Spring Harbor Laboratories, NY.

Kreiling J.A., Hamm E., Sedivy J.M. 2012. Reorganization of chromatin structure during normal aging. Molecular Genetics of Aging, Cold Spring Harbor Laboratories, NY.

Tamamori-Adachi M., Ito T., Manivannan J., Sedivy J.M., **Kreiling J.A.** 2012. Age-associated reorganization of repressive heterochromatin. Biology of Aging Gordon Research Conference, Ventura, CA.

Kreiling J.A., Tamamori-Adachi M., Sexton A., Jeyapalan J.C., Munoz-Najar U., Peterson A., Manivannan J, Rogers E., Adams P.D., Sedivy J.M. 2010. Age-associated increase in heterochromatic marks in murine and primate tissues. Molecular Genetics of Aging, Cold Spring Harbor Laboratories, NY.

Tamamori-Adachi M., **Kreiling J.A.**, Adams P.D., Sedivy J.M. 2010. Age-associated increase in heterochromatic markers in cultured human diploid fibroblasts and murine tissues. 33rd Annual Meeting of the Molecular Biology Society of Japan. Kobe, Japan.

Colwill R.M., **Kreiling J.A.**, Creton R. 2010. Activity in zebrafish (*Danio rerio*) larvae: developmental patterns and effects of PCBs. Eastern Psychological Association Meeting, New York City, NY

Colwill R.M., Kambe C.J., **Kreiling J.A.**, Creton R 2010. Social behavior in larval zebrafish (Danio rerio): an animal model of autism. Eastern Psychological Association Meeting, New York City, NY

Kreiling J.A., Colwill R.M., Creton R. 2009. Modulators of calcium signaling induce developmental brain defects and behavioral changes. 6th European Zebrafish Genetics and Development Meeting, Rome, Italy.

Kreiling J.A., Colwill R.M., Creton R. 2009. Brain defects induced by modulators of calcium signaling. Society for Developmental Biology Northeast Regional Meeting, Woods Hole, Massachusetts.

James Gagnon, **Jill Kreiling**, Kimberly Mowry. 2009. Mechanisms directing localization of maternal determinants revealed by *in vivo* imaging in *Xenopus* oocytes. Society for Developmental Biology Northeast Regional Meeting, Woods Hole, Massachusetts.

Kreiling, J.A., Sexton, A., Munoz-Najar, U., Jeyapalan, J.C., Peterson, A., Sedivy, J.M. 2009. Age-associated heterochromatinization in primate and murine tissues. Biology of Aging Gordon Research Conference, Ventura, CA.

Lopes, S; Lourenco, R; Pacheco, L; Moreno, N; **Kreiling, J**; Saude, L. 2009. A novel role for notch signalling in left-right determination through ciliary length control. 16th International Society of Developmental Biologists Congress. Edinburgh, Scotland, U.K.

Mowry K.L, Gagnon, J.A., **Kreiling, J.A**., Messitt, T.J., Pratt, C.A., Yoon, Y.J. 2008. RNA transport in the oocyte cytoplasm: How to get there from here. Society for Developmental Biology Annual Meeting. Philadelphia, PA.

Kreiling, J.A. Early Embryonic Exposure to Aroclor 1254 Targets Hsc70 expression resulting in altered central nervous system development. 2008 Rhode Island Research Alliance. Providence, RI

Kreiling, J.A. Early Embryonic Exposure to Aroclor 1254 Targets Hsc70 expression resulting in altered central nervous system development. 2008 Northeast Regional Meeting of the Society for Developmental Biology. Woods Hole, MA.

Kreiling J.A., Balantac Z., Toure J., Zchut S., Kochilas L., Creton R. 2007. Calcium manipulation in Zebrafish embryos affects left-right asymmetry of the heart and brain. APS-SPR Annual Meeting, Toronto, Canada.

Kreiling J.A., Balantac Z.L., Crawford A., Toure J., Celik A., Kochilas L.K., Creton R. 2007. Inhibition of the endoplasmic reticulum calcium ATP-ase affects the early steps of left-right patterning in zebrafish embryos. American Heart Association, Orlando,FL.

Kreiling J.A., Balantac Z.L, Toure J., Zchut S., Kochilas L., and Creton R**.** 2006. Calcium manipulation in zebrafish embryos affects left-right asymmetry of the heart and brain. Northeast Regional Meeting of the Society for Developmental Biology. Woods Hole, MA.

Research Grants

a. Current

R01AG074284, Kreiling, J.A. and Peter Quesenberry (MPI) 6/1/22 – 3/31/27 $499,999/yr
NIH/NIA
Salivary Extracellular Vesicles as Biomarkers for Alzheimer's Disease and Related Disorders.
The goals of this project are to identify biomarkers in salivary vesicles for screening for preclinical Alzheimer's disease and related disorders.
Role: Principal Investigator, contact PI

R01GM136906-03S1, Creton, R.J. (PI) 7/1/22-6/30/23 $250,000
NIH/NIGMS
Emerging imaging technologies for automated analyses of calcineurin-dependent brain function
The goals of this project are to identify drugs that alter calcineurin-dependent brain function that may be used to treat Alzheimer's disease.
Role: Co-Investigator

P01AG051449, Sedivy, J.M. (PI) 3/1/22 – 12/31/26 $500,138/yr
NIH/NIA

Activation of Alternative L1 Lifecycles in the CNS with age and Alzheimer's Disease
The goals of this project are to investigate the role of LINE L1 derepression in the onset of Alzheimer's disease.
Role: Co-Investigator

RO1AG016694, Sedivy, J.M. (PI) 4/1/20 – 03/31/25 $377,535/yr
NIH/NIA
Effectors of Cellular Senescence Science
The goals of this project are to investigate the role of LINE L1 depression in cellular senescence.
Role: Co-Investigator

3P20GM119943-03S1, Quesenberry, P.J. (PI) 7/1/19 – 6/30/23 $250,000
NIH/NIGMS
COBRE Stem Cells and Aging Administrative Supplement
Retrotransposable Element Expression in Neural Stem Cell Senescence and Aging.
The goals of this project are to identify biomarkers in salivary vesicles for screening for preclinical Alzheimer's disease. This award is currently in a no-cost extension.
Role: Project Leader

P20GM119943, Quesenberry, P.J. (PI) 7/1/17 – 6/30/22 $142,800/yr
NIH/NIGMS
COBRE Stem Cells and Aging
Retrotransposable Element Expression in Neural Stem Cell Senescence and Aging.
The goals of this project are to determine the molecular mechanisms behind neural stem cell decline with age. This award is currently in a no-cost extension.
Role: Project Leader

b. Completed
P01AG051449, Sedivy, J.M. (PI) 9/1/16 – 8/31/22 $399,750/yr
NIH/NIA
Regulation of retrotransposable element activity in cellular senescence and aging.
The goals of this project are to investigate the connections between retrotransposable element expression and development of aging phenotypes. Role: Co-Investigator

OVPR Research Seed Awards (MPI: Dennery, P.A.; Kreiling, J.A.) 1/1/18 – 6/30/20 $50,000
Brown University
Mechanistic insights into the role of cellular senescence in neonatal hyperoxic lung injury.
The goal of this project is to look at the relationship between cellular senescence and DNA damage in neonatal hyperoxic lung injury.
Role: MPI

K01AG039410, Kreiling, J.A. (PI) 9/1/11-5/31/17 $116,605/yr
NIH/NIA
Regulation of Age-Associated Heterochromatin Formation.
The goals of this project were to identify the regulatory processes involved in age-associated heterochromatin formation.
Role: Principal Investigator

P30GM103410, Atwood, W.A. (PI) 6/1/13-3/31/14 $10,000
NIH/NIGMS
COBRE Center for Cancer Signaling Networks
Chromatin Structure and Repetitive Element Expression in Aging

Role: Lead Investigator of a Seed Funds Project

P30-4G038072, Barzilai, N. (PI) 1/1/13-12/31/13 $15,000
NIH/NIA
Einstein NIH Nathan Shock Center of Excellence
Repetitive Element Expression in Normal Aging
Role: Lead Investigator of a Pilot and Feasibility Project

R01 AG035328, Sedivy, J.M. (PI) 10/1/09-09/30/12 $200,000/yr
NIH/NIA
The Wnt-chromatin axis in aging.
Role: Co-investigator

P20 RR015578-10S1, Atwood, W.A. (PI) 8/1/09-8/31/12 $191,000/yr
NIH/NCRR
ARRA Administrative Supplement
Senescence-associated Heterochromatin Formation in Mitotic and Post-mitotic Tissues.
Role: Project Leader

P20RR016457, Ahmed, A.J. (PI) 1/1/08 – 4/30/08 $15,000
NIH/NCRR
RI-INBRE
The effects of early embryonic exposure to PCB on the developing nervous system.
Role: Lead Investigator of a Seed Funds Project

STAR-P3 R82935901, Reinisch, C.L. (PI) 9/1/01 – 8/31/05 $187,500/yr
EPA
Regulation of Embryonic Neuronal Development by Chemical Mixtures from Brick New Jersey.
Role: Co-investigator

R21 ESO12273, Reinisch, C.L. (PI) 1/1/03 – 12/31/05 $155,000/yr
NIH/NCRR
PCBs target p53 family expression in embryos.
Role: Co-investigator

Teaching

1. Courses

Synthetic Biology BIO1220. Brown University, Spring 2010.
Role in course: Guest Lecturer.

Introduction to Research in Pathobiology BIOL 2850. Brown University, Fall 2009.
Role in course: Guest Lecturer.

Undergraduate Independent Study. BIO196. Brown University, Spring 2008.
Role in course: Faculty Advisor.

Advanced Microbiology BIO264A. Brown-Pfizer Master of Arts Program, Fall 2006.
Role: Medical Bacteriology Instructor

Introductory Microbiology BIO051. Brown University, Spring 2006.
Role: Course Leader.

Introductory Microbiology BIO051. Brown University, Spring 2005.

Role: Course Leader.

2. Research Advisor

Graduate

2022 -	Yufei Lin, Ph.D. candidate in MCBGP	Primary Faculty Mentor
2022 -	Andrew Nunez, Ph.D. candidate in MCBGP	Thesis Committee Member
2022 -	Evan Magarychoff, Masters candidate in Biotechnology	Primary Faculty Mentor
2022 -	Daniel Zhu, Masters candidate in Bioengineering	Primary Faculty Mentor
2017-22	Amy Elias, Ph.D. graduated MCBGP	Primary Faculty Mentor
2022	Cameron Brown, graduated Masters in Pathobiology	Second Reader
2020	Trenton Woodham, Ph.D. graduated MCBGP	Dissertation Committee Member
2017-19	Constance Huang, graduated Sc.M. in Biotechnology	Primary Faculty Mentor

Undergraduate

2022	AJ Murphy	Volunteer	Faculty Advisor
	Rahma Ibrahim	Honors Thesis	Second Reader
2021	Emmanuel Verde	Bio1950/1960	Faculty Advisor
	Andrew Nunez	Bio1950/1960	Faculty Advisor
2020	Guilherme Barbosa	Bio1950/1960	Faculty Advisor
	Emmanuel Verde	Bio1950/1960	Faculty Advisor
	Ian Sabula	Bio1950/1960	Faculty Advisor
	Andrew Nunez	Bio1950/1960/UTRA	Faculty Advisor
2019	Andrea Cespedes Zablah,	Bio1950/1960	Faculty Advisor
	Guilherme Barbosa	Bio1950/1960/UTRA	Faculty Advisor
	Emmanuel Verde	Bio1950/1960	Faculty Advisor
	Ian Sabula	Bio1950/1960/UTRA	Faculty Advisor
	Andrew Nunez	Volunteer	Faculty Supervisor
2018	Andrea Cespedes Zablah	Bio1950/1960	Faculty Advisor
	Guilherme Barbosa	Bio1950/1960	Faculty Advisor
	Ian Sabula	Volunteer	Faculty Supervisor
	Emmanuel Verde	Volunteer	Faculty Supervisor
	Hailey Moriera	Summer Intern	Faculty Supervisor
2017	Andrea Cespedes Zablah	BIO195/196	Faculty Advisor
	Ian Sabula	UTRA	Faculty Advisor
2016	Andrea Cespedes Zablah	BIO195/196	Faculty Advisor
2015	Andrea Cespedes Zablah	BIO195/196	Faculty Advisor
2013	Marilyn Le	Leadership Alliance	Faculty Supervisor

2011	Riyad Seervai	UTRA	Faculty Supervisor
2010	Ben Lowell	BIO195/196	Faculty Supervisor
2009	Ben Lowell	BIO195/196	Faculty Supervisor
2008	Paul Monnes	BIO195/196	Faculty Advisor
	Charles Kambe	Volunteer	Faculty Supervisor
	Ben Lowell	Volunteer	Faculty Supervisor
2006	Andrew Crawford	UTRA	Co-Faculty Advisor
	Theresa McGowan	UTRA	Co-Faculty Advisor

Service to the University

Faculty Governance: Nominations Committee, Past-Chair	2022
Faculty Governance: Nominations Committee, Chair	2021
Faculty Governance: Nominations Committee, Vice Chair	2020
MCB Space Committee	2020 - 2022
MCB Graduate Program admissions committee	2020 - 2022
Sidney Frank Fellowship selection committee	2018 - 2022
Young Scholars Conference poster judge	2018
OVPR Seed Fund Reviewer	2018

Service to the Field

Reviewer for the ZRG1 F08-M (20) study section, National Institutes of Health, 2022.
Reviewer for Frontiers in Immunology, 2022.
Reviewer for the ZAG1 ZIJ-P (O2) study section, National Institutes of Health, 2022.
Reviewer for the ZAG1 ZIJ-5 (M1) Transposable Elements study section, National Institutes of Health, 2022.
Reviewer for Aging Cell, 2020.
Session Chair, Epigenetic and Genetic Instability session, Stem Cells, Aging & Rejuvenation Cold Spring Harbor Asia Conference. Suzhou, China, 2019.
Reviewer for Biogerontology, 2018
Reviewer for Mechanisms of Aging and Development, 2018.
Reviewer for King Abdullah Institute of Science and Technology Competitive Research Grants, 2016.
Reviewer for Cell Biology and Toxicology, 2014.
Reviewer for Chromosoma, 2014.
Reviewer for Nature Communications, 2014.
Reviewer for Nature 2013.
Reviewer for Plos One 2013.
Reviewer for Mechanisms of Aging and Development, 2011.
Reviewer for Molecular Reproduction and Development, 2010.
Reviewer for Toxicological Sciences, 2009.
Reviewer for Ecotoxicology and Environmental Safety, 2008.
Reviewer for Marine Environmental Research, 2007, 2009.
Reviewer for Toxicology and Applied Pharmacology, 2007.
Reviewer for W. W. Norton & Co., 2006.
Reviewer for Microscopy and Research Technique, 1999.
Reviewer for The Biological Bulletin, 1997.

Professional Memberships

2018-present American Aging Association.