1. Name, position, academic department

Nicola Neretti

Associate Professor of Biology
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3. Education

Laurea (Master) with Honors, Physics Department of Physics, Università di Bologna, Bologna, Italy	1991-1996
M.S., Physics Department of Physics, Brown University, Providence RI	1997-1999
Ph.D., Physics Department of Physics, Brown University, Providence RI	1997-2001

4. Professional appointments

Teaching Assistant Department of Physics, Università di Bologna, Bologna, Italy	1994-1995
Research Assistant Department of Physics, Brown University, Providence RI	1997-2001
Postdoctoral Research Fellow Brain Sciences Program, Brown University, Providence RI	2001-2003
Assistant Professor for Brain and Neural Science (Research Track) Institute for Brain and Neural Systems, Brown University, Providence RI	2003-2011
Assistant Professor of Biology (Tenure Track) Department of Molecular Biology, Cell Biology, and Biochemistry Brown University, Providence RI	2011-2019

Core Member of the Center for Computational Molecular Biology   2012-Present
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Core Member of the Center on the Biology of Aging   2018-Present

Brown University, Providence RI

Associate Professor of Biology   2019-Present
Department of Molecular Biology, Cell Biology, and Biochemistry
Brown University, Providence RI

5. Publications and invited talks

Refereed journal articles

1. **N. Neretti**, M. I. Sanderson, N. Intrator, and J. A. Simmons, "Time-frequency Model for Echo-delay Resolution in Wideband Biosonar," J. Acoust Soc. Am., vol. 113, pp. 2137-2145, 2003.
2. M. I. Sanderson, **N. Neretti**, N. Intrator, and J. A. Simmons, "Evaluation of an Auditory Model for Echo Delay Accuracy in Wideband Biosonar," J. Acoust Soc. Am., vol. 114, pp. 1648-1659, 2003.
3. **N. Neretti**, N. Intrator, and L. N Cooper, "Adaptive pulse optimization for improved sonar range accuracy," IEEE Signal Processing Letters, 11 (4): 409 – 412, April 2004.
4. J. A. Simmons, **N. Neretti**, N. Intrator, R. A. Altes, M. J. Ferragamo, and M. I. Sanderson, "Delay accuracy in bat sonar is related to the reciprocal of normalized echo bandwidth, or Q," Proc. Natl. Acad. Sci. USA, 101(10): 3638-43, 2004.
5. K. Kim, **N. Neretti**, and N. Intrator, "Mosaicing of Acoustic Camera Images". IEE Proc. Radar, Sonar & Navigation, 152 (4), 263-270 (2005).
6. D. Remondini, B. O'Connell, N. Intrator, J. M. Sedivy, **N. Neretti**, G. C. Castellani and L. N. Cooper, "Targeting c-Myc-activated genes with a correlation method: detection of global changes in large gene expression network dynamics". Proc. Natl. Acad. Sci. USA, 102(19): 6902-6, 2005.
7. L. Yu, **N. Neretti**, and N. Intrator, "Multiple ping sonar accuracy improvement using robust motion estimation and ping fusion", J Acoust Soc Am. 2006 Apr; 119(4):2106-13.
8. **N. Neretti**, D. Remondini, M. Tatar, J. M Sedivy, M. Pierini, D. Mazzatti, J. Powell, C. Franceschi and G. C. Castellani, "Correlation analysis reveals the emergence of coherence in the gene expression dynamics following system perturbation", BMC Bioinformatics 2007, 8(Suppl 1):S16
9. D. Remondini, **N. Neretti**, J.M. Sedivy, C. Franceschi, L. Milanesi, P. Tieri, G. Castellani, "Networks from gene expression time series: characterization of correlation patterns". Int. J. Bif. Chaos, July 2007, Volume 17, Issue 7.

10. E. McKee, **N. Neretti**, L. Carvalho, C. A. Meyer, E. A. Fox, A. S. Brodsky, P. A. Silver, "Exon expression profiling reveals stimulus-mediated exon use in neural cells", Genome Biology 2007, 8(8):R159

11. F. Morrish, **N. Neretti**, J. M. Sedivy and D. M. Hockenbery , "The oncogene c-Myc coordinates regulation of metabolic networks to enable rapid cell cycle entry", Cell Cycle, April 2008, 7(8).

12. K. Kim, **N. Neretti**, N. Intrator, "MAP fusion method for superresolution of images with locally varying pixel quality", 18 (4), International Journal of Imaging Systems and Technology, p. 242-250, 2008.

13. Y. Liu, F. Li, J. Handler, C. R. Huang, Y. Xiang, **N. Neretti**, J. M. Sedivy, K. I. Zeller, C. V. Dang "Global Regulation of Nucleotide Biosynthetic Genes by c-Myc", PLoS ONE 3(7): e2722 doi:10.1371/journal.pone.0002722, 2008. PMID: 18628958.

14. Francesconi M, Remondini D, **Neretti N**, Sedivy JM, Cooper LN, Verondini E, Milanesi L, Castellani G., "Reconstructing networks of pathways via significance analysis of their intersections." BMC Bioinformatics. 2008 Apr 25;9 Suppl 4:S9. PMID: 18460182.

15. **Neretti N.**, Wang P. Y., Brodsky A. S., Nyguyen H. H., White K. P., Rogina B., Helfand S. L., "Long-lived Indy induces reduced mitochondrial reactive oxygen species production and oxidative damage", Proc Natl Acad Sci U S A. 2009 Feb 17;106(7):2277-82. PMID: 19164521.

16. Wang PY, **Neretti N**, Whitaker R, Hosier S, Chang C, Lu D, Rogina B, Helfand SL., "Long-lived Indy and calorie restriction interact to extend life span.", Proc Natl Acad Sci U S A. 2009 Jun 9;106(23):9262-7. PMID: 19470468.

17. Jimenez RH, Lee JS, Francesconi M, Castellani G, **Neretti N**, Sanders JA, Sedivy J, Gruppuso PA. "Regulation of gene expression in hepatic cells by the mammalian Target of Rapamycin (mTOR).", PLoS One. 2010 Feb 5;5(2):e9084.

18. Bauer J, Antosh M, Chang C, Schorl C, Kolli S, **Neretti N**, Helfand SL., "Comparative transcriptional profiling identifies takeout as a gene that regulates life span." Aging. 2010 May;2(5):298-310. N.Neretti co-corresponding author.

19. Wood J.S., Hillenmeyer S., Lawrence C., Chang C., Hosier S., Lightfoot W., Mukherjee E., Jiang N., Schorl C., Brodsky A.S., **Neretti N**. and Helfand S.L., "Chromatin remodeling in the aging genome of Drosophila." Aging Cell, 2010. 2010 Jul;2(7):387-9. N. Neretti, co-corresponding author

20. Antosh M, Whitaker R, Kroll A, Hosier S, Chang C, Bauer J, Cooper L, **Neretti N**, Helfand SL. "Comparative transcriptional pathway bioinformatic analysis of dietary restriction, Sir2, p53 and resveratrol life span extension in Drosophila.", Cell Cycle. 2011 Mar 15;10(6). N. Neretti, co-corresponding author

21. Yap, C.S., Peterson, A.L., Castellani, G., Sedivy, J.M. and **Neretti, N.** (2011). Kinetic profiling of the c-Myc transcriptome and bioinformatic analysis of repressed gene promoters. Cell Cycle, 2011 Jul 1;10(13).

22. Antosh M, Fox D, Helfand SL, Cooper LN, & **Neretti N** "New comparative genomics approach reveals a conserved health span signature across species". Aging, 2011, 3 (6). N. Neretti, corresponding author

23. Reich A, **Neretti N**, Freiman RN, Wessel GM., "Transcriptome variance in single oocytes within, and between, genotypes", Mol Reprod Dev. 2012 Aug;79(8):502-3.

24. Chamseddin KH, Khan SQ, Nguyen ML, Antosh M, Morris SN, Kolli S, **Neretti N**, Helfand SL, Bauer JH, "takeout-dependent longevity is associated with altered Juvenile Hormone signaling", Mech Ageing Dev. 2012 Nov-Dec;133(11-12):637-46

25. De Cecco M, <u>Criscione SW</u>, Peckham EJ, Hillenmeyer S, Hamm EA, Manivannan J, Peterson AL, Kreiling JA, **Neretti N***, Sedivy JM, "Genomes of replicatively senescent cells undergo global epigenetic changes leading to gene silencing and activation of transposable elements", Aging Cell. 2013 Apr;12(2):247-56. <u>N. Neretti, co-corresponding author</u>

26. Antosh M, Fox D, Cooper LN, **Neretti N***, "CORaL: comparison of ranked lists for analysis of gene expression data", J Comput Biol. 2013 Jun;20(6):433-43. <u>N.Neretti corresponding author.</u>

27. Sedivy JM, Kreiling JA, **Neretti N**, De Cecco M, <u>Criscione SW</u>, Hofmann JW, Zhao X, Ito T, Peterson AL, "Death by transposition - the enemy within?", Bioessays. 2013 Dec;35(12):1035-43.

28. Jiang N, Du G, Tobias E, Wood JG, Whitaker R, **Neretti N**, Helfand SL, "Dietary and genetic effects on age-related loss of gene silencing reveal epigenetic plasticity of chromatin repression during aging", Aging (Albany NY). 2013 Nov;5(11):813-24.

29. De Cecco M, <u>Criscione SW</u>, Peterson AL, **Neretti N**, Sedivy JM, Kreiling JA, "Transposable elements become active and mobile in the genomes of aging mammalian somatic tissues", Aging (Albany NY). 2013 Dec;5(12):867-83.

30. Whitaker R, <u>Gil MP</u>, <u>Ding F</u>, Tatar M, Helfand SL, **Neretti N***, "Dietary switch reveals fast coordinated gene expression changes in Drosophila melanogaster", Aging, 2014. <u>N.Neretti senior corresponding author.</u>

31. <u>Ding F</u>, <u>Gil MP</u>, Franklin M, <u>Ferreira J</u>, Tatar M, Helfand SL, **Neretti N***, "Transcriptional response to dietary restriction in Drosophila melanogaster", J Insect Physiol. 2014 Oct;69:101-6. <u>N.Neretti corresponding author.</u>

32. Lamming DW, Demirkan G, Boylan JM, Mihaylova MM, Peng T, <u>Ferreira J</u>, **Neretti N**, Salomon A, Sabatini DM, Gruppuso PA., "Hepatic signaling by the mechanistic target of rapamycin complex 2 (mTORC2)", FASEB J. 2014 Jan;28(1):300-15.

33. <u>Criscione SW</u>, <u>Zhang Y</u>, Thompson W, Sedivy JM, **Neretti N***, "Transcriptional landscape of repetitive elements in normal and cancer human cells.", BMC Genomics. 2014 Jul 11;15:583. <u>N.Neretti corresponding author.</u>

34. Antosh M, Fox D, Hasselbacher T, Lanou R, **Neretti N**, Cooper LN, "Drosophila melanogaster show a threshold effect in response to radiation", Dose Response. 2014 May 5;12(4):551-81.

35. Hofmann JW, Zhao X, De Cecco M, Peterson AL, Pagliaroli L, Manivannan J, Hubbard GB, Ikeno Y, Zhang Y, Feng B, Li X, Serre T, Qi W, Van Remmen H, Miller RA, Bath KG, de Cabo R, Xu H, **Neretti N**, Sedivy JM, "Reduced expression of MYC increases longevity and enhances healthspan", Cell. 2015 Jan 29;160(3):477-88.

36. Antosh MP, Wijesinghe DD, Shrestha S, Lanou R, Huang YH, Hasselbacher T, Fox D, **Neretti N**, Sun S, Katenka N, Cooper LN, Andreev OA, Reshetnyak YK, "Enhancement of radiation effect on cancer cells by gold-pHLIP", Proc Natl Acad Sci U S A. 2015 Apr 28;112(17):5372-6.

37. Boylan JM, Sanders JA, **Neretti N**, Gruppuso PA, "Profiling of the fetal and adult rat liver transcriptome and translatome reveals discordant regulation by the mechanistic target of rapamycin (mTOR)", Am J Physiol Regul Integr Comp Physiol. 2015 Jul 1;309(1):R22-35.

38. Criscione SW, De Cecco M, Siranosian B, Zhang Y, Kreiling JA, Sedivy JM, **Neretti N***, "Reorganization of chromosome architecture in replicative cellular senescence", Sci Adv. 2016 Feb 5;2(2):e1500882. N.Neretti corresponding author.

39. Criscione SW, Theodosakis N, Micevic G, Cornish TC, Burns KH, **Neretti N***, Rodić N, "Genome-wide characterization of human L1 antisense promoter-driven transcripts", BMC Genomics. 2016 Jun 14;17:463. N. Neretti, co-corresponding author

40. Nelson DM, Jaber-Hijazi F, Cole JJ, Robertson NA, Pawlikowski JS, Norris KT, Criscione SW, Pchelintsev NA, Piscitello D, Stong N, Rai TS, McBryan T, Otte GL, Nixon C, Clark W, Riethman H, Wu H, Schotta G, Garcia BA, **Neretti N**, Baird DM, Berger SL, Adams PD, "Mapping H4K20me3 onto the chromatin landscape of senescent cells indicates a function in control of cell senescence and tumor suppression through preservation of genetic and epigenetic stability", Genome Biol. 2016 Jul 25;17(1):158.

41. Wood JG, Jones BC, Jiang N, Chang C, Hosier S, Wickremesinghe P, Garcia M, Hartnett DA, Burhenn L, **Neretti N**, Helfand SL, "Chromatin-modifying genetic interventions suppress age-associated transposable element activation and extend life span in Drosophila", Proc Natl Acad Sci U S A. 2016 Oct 4;113(40):11277-11282.

42. Criscione SW, Teo YV, **Neretti N***, "The Chromatin Landscape of Cellular Senescence", Trends Genet. 2016 Nov;32(11):751-761. N.Neretti corresponding author.

43. Bryner D, Criscione S, Leith A, Huynh Q, Huffer F, **Neretti N***, "GINOM: A statistical framework for assessing interval overlap of multiple genomic features", PLoS Comput Biol. 2017 Jun 15;13(6):e1005586. N.Neretti corresponding author.

44. Ito T, <u>Teo YV</u>, <u>Evans SA</u>, **Neretti N**, Sedivy JM., "Regulation of Cellular Senescence by Polycomb Chromatin Modifiers through Distinct DNA Damage- and Histone Methylation-Dependent Pathways", Cell Rep. 2018 Mar 27;22(13):3480-3492.

45. <u>Evans SA</u>, <u>Horrell J</u>, **Neretti N***, "The three-dimensional organization of the genome in cellular senescence and age-associated diseases", Semin Cell Dev Biol. 2018 Jul 27. pii: S1084-9521(17)30596-7. <u>N.Neretti corresponding author.</u>

46. Gruppuso PA, Boylan JM, Zabala V, **Neretti N**, Abshiru NA, Sikora JW, Doud EH, Camarillo JM, Thomas PM, Kelleher NL, Sanders JA, "Stability of histone post-translational modifications in samples derived from liver tissue and primary hepatic cells", PLoS One. 2018 Sep 7;13(9):e0203351.

47. <u>Teo YV</u>, Capri M, Morsiani C, Pizza G, Caetano Faria AM, Franceschi C, **Neretti N***, "Cell-free DNA as a biomarker of aging", Aging Cell. 2019; 18(1):e12890. https://doi.org/10.1111/acel.12890, <u>N.Neretti corresponding author.</u>

48. De Cecco M, Ito T, Elias AE, <u>Skvir NJ</u>, <u>Criscione SW</u>, Caligiana A, Brocculi G, Adney EM, Boeke JD, Ambati J, Ambati K, Simon M, Seluanov A, Gorbunova V, Slagboom PE, Helfand SL, **Neretti N**, Sedivy JM, "LINE-1 elements are derepressed in senescent cells and elicit a chronic Type-I Interferon response", Nature 2019 Feb 7; 566:73-78.

49. Simon M, Van Meter M, Ablaeva J, Ke Z, Gonzalez RS, Taguchi T, De Cecco M, Leonova KI, Kogan V, Helfand SL, **Neretti N**, Roichman A, Cohen HY, Meer MV, Gladyshev VN, Antoch MP, Gudkov AV, Sedivy JM, Seluanov A, Gorbunova V, "LINE1 Derepression in Aged Wild-Type and SIRT6-Deficient Mice Drives Inflammation", Cell Metab. 2019 Apr 2;29(4):871-885.e5.

50. <u>Teo YV</u>, Rattanavirotkul N, Olova N, Salzano A, Quintanilla A, Tarrats N, Kiourtis C, Müller M, Green AR, Adams PD, Acosta JC, Bird TG, Kirschner K, **Neretti N**, Chandra T. "Notch Signaling Mediates Secondary Senescence", Cell Rep. 2019 Apr 23;27(4):997-1007.e5. <u>N.Neretti co-corresponding author.</u>

51. Foster S, <u>Teo YV</u>, **Neretti N**, Oulhen N, Wessel GM., "Single cell RNA-seq in the sea urchin embryo show marked cell-type specificity in the Delta/Notch pathway.", Mol Reprod Dev. 2019 Aug;86(8):931-934.

52. Rosenthal M, Bryner D, Huffer F, <u>Evans S</u>, Srivastava A, **Neretti N**, "Bayesian Estimation of Three-Dimensional Chromosomal Structure from Single-Cell Hi-C Data", J Comput Biol. 2019 Nov;26(11):1191-1202. <u>N.Neretti corresponding author.</u>

53. Batista MA, Calvo-Fortes F, Silveira-Nunes G, Camatta GC, Speziali E, Turroni S, Teixeira-Carvalho A, Martins-Filho OA, **Neretti N**, Maioli TU, Santos RR, Brigidi P,

Franceschi C, Faria AMC. "Inflammaging in Endemic Areas for Infectious Diseases.", Front Immunol. 2020 Nov 12;11:579972.

54. Ogrodnik M, Evans SA, Fielder E, Victorelli S, Kruger P, Salmonowicz H, Weigand BM, Patel AD, Pirtskhalava T, Inman CL, Johnson KO, Dickinson SL, Rocha A, Schafer MJ, Zhu Y, Allison DB, von Zglinicki T, LeBrasseur NK, Tchkonia T, **Neretti N**, Passos JF, Kirkland JL, Jurk D., "Whole-body senescent cell clearance alleviates age-related brain inflammation and cognitive impairment in mice", Aging Cell. 2021 Feb;20(2):e13296.

55. Lagnado A, Leslie J, Ruchaud-Sparagano M, Victorelli S, Hirsova P, Ogrodnik M, Collins A, Vizioli M, Habiballa L, Saretzki G, Evans SA, Salmonowicz H, Hruby A, Geh D, Pavelko KD, Dolan D, Reeves HL, Grellscheid S, Wilson CH, Pandanaboyana S, Doolittle M, von Zglinicki T, Oakley F, Gallage S, Wilson C, Birch J, Carroll B, Chapman J, Heikenwalder M, **Neretti N**, Khosla S, Masuda CA, Tchkonia T, Kirkland JL, Jurk D, Mann D, Passos JF, "Neutrophils induce paracrine telomere dysfunction and senescence in ROS-dependent manner", EMBO J. 2021 May 3;40(9):e106048

56. Soto C, Bryner D, **Neretti N**, Srivastava A, "Towards A 3D Chromosome Shape Alphabet", J Comput Biol. J Comput Biol. 2021 Jun;28(6):601-618

57. Rocha A, Dalgarno A, **Neretti N**, "The functional impact of nuclear reorganization in cellular senescence", Briefings in Functional Genomics, 2021

58. Audesse AJ, Karashchuk G, Gardell ZA, Lakis NS, Maybury-Lewis SY, Brown AK, Leeman DS, Teo Y, **Neretti N**, Anthony DC, Brodsky AS, Webb AE, "FOXO3 regulates a common genomic program in aging and glioblastoma stem cells", Aging and Cancer, 2021. https://doi.org/10.1002/aac2.12043

59. Soto C, Dalgarno A, Bryner D, McLaughlin B, **Neretti N**, Srivastava A, "Representation of Chromosome Conformations Using a Shape Alphabet Across Modeling Methods", Proceedings of the 2021 IEEE International Conference on Bioinformatics and Biomedicine (BIBM), 2021, DOI: 10.1109/BIBM52615.2021.9669716

60. C. Soto, D. Bryner, A. Dalgarno, **N. Neretti** and A. Srivastava, "TADBay: A Bayesian Construction of Topologically Associated Domains," 2022 IEEE International Conference on Bioinformatics and Biomedicine (BIBM), Las Vegas, NV, USA, 2022, pp. 233-240, doi: 10.1109/BIBM55620.2022.9995248.

61. Rocha A, Dalgarno A, **Neretti N.** "The functional impact of nuclear reorganization in cellular senescence.", Brief Funct Genomics. 2022 Jan 25;21(1):24-34. doi: 10.1093/bfgp/elab012.

62. Hajdarovic KH, Yu D, Hassell LA, Evans S, Packer S, **Neretti N**, Webb AE., "Single-cell analysis of the aging female mouse hypothalamus.", Nat Aging. 2022 Jul;2(7):662-678. doi: 10.1038/s43587-022-00246-4. Epub 2022 Jul 4.

Abstracts/Poster presentations

- Q. Huynh, N. Neretti, N. Intrator, and G. J. Dobeck, "Image Enhancement and Feature Extraction for Pattern Recognition." Proceedings of the SPIE. Orlando, FL. April 1998.
- Q. Huynh, N. Neretti,and N. Intrator, "An Integrated Approach to Discrimination and Target Recognition." USA-Italy Conference on Applied Neural and Cognitive Science. Boston, MA. October 1999.
- Q. Huynh, Jo E. Wilbur, N. Intrator, and N. Neretti, "Target reconstruction from broadband acoustic backscatter", J. Acoust. Soc. Am. 110, 2778 (2001).
- N. Neretti and N. Intrator, "An Adaptive Approach to Wavelet Filters Design", Proc. of the IEEE Inter. Workshop on Neural Networks for Signal Processing, Martigny (CH), 2002.
- N. Neretti, N. Intrator, and L. N Cooper, "Pulse-Train Based Time-Delay Estimation Improves Resiliency To Noise", Proc. of the IEEE Int. Workshop on Machine Learning for Signal Processing, São Luís, Brazil, Sep. 2004.
- N. Intrator, N. Neretti, and Q. Huynh, "Sonar Object Discrimination via Spectral Density Analysis". Proceedings of Oceans'04 MTS/IEEE Techno-Ocean'04, Kobe, Japan, Nov. 2004.
- K. Kim, N. Neretti, and N. Intrator, "Acoustic Camera Image Mosaicing and Super-Resolution". Proceedings of Oceans'04 MTS/IEEE Techno-Ocean'04, Kobe, Japan, 2004.
- N. Neretti, N. Intrator, et al., "Sonar image enhancement via acoustic color", J. Acoust. Soc. Am. 115, 2547 (2004).
- Neretti, N., G.C. Castellani, and M. Tatar. "Characterizing caloric restriction at multiple scales: from genes to pathways co-regulation". in Proc. of the Sixth International Conference on Systems Biology., Boston, MA, Oct. 2005.

- Vitali S, Criscione SW, Sala C, Giampieri E, Do Valle I, Castellani G, and Neretti N, "Community ecology model of LINE evolution reveals deviation from neutrality and a role of chromatin in shaping their genomic landscape", Mobile Genetic Elements, Marine Biological Laboratory, Woods Hole, MA, September 3-5, 2015 (Poster presentation).

- Criscione S.W., De Cecco M., Sedivy J.M., Chandra T., Neretti N., "Changes in nuclear organization in different forms of cellular senescence", Nuclear Organization & Function CSH Meeting, 05/03/2016 (Poster presentation).

- Leith A., Criscione S.W, Neretti N., "Expression of transposable elements in human aging", Mechanisms of Aging CSH Meeting, 09/26/2016 (Poster presentation).

- Teo Y., Krishner K., Green A., Neretti N., Chandra, T., "Single-cell transcriptomics of oncogene-induced senescence", Frontiers in single cell genomics, Cold Spring Harbor Conferences Asia, Nov. 7-11, 2016. (Teo Y. Talk)

- Bryner D., Michael Rosenthal M., Huffer F., Srivastava A., Neretti N., "Inference and Validation of Chromosomes 3D Structure via Statistical Shape Analysis of Elastic Curves Models", 4D Nucleome Annual Meeting, Bethesda, Sep. 17-20, 2017(Poster presentation).

- Horrell J.C., Evans S., Neretti N., "Senescence-associated chromatin instability leads to aberrant cytosolic DNA", Nuclear Organization & Function CSH Meeting, May 1-5, 2018. (Poster presentation).

- Horrell J.C., Evans S., Neretti N., "Senescence-associated chromatin instability leads to aberrant cytosolic DNA", Epigenetics & Chromatin CSH Meeting, Sep. 11-15, 2018. (Poster presentation).

- Dalgarno A, Soto C, Bryner D, Boninsegna L, Alber F, Srivastava A, Neretti N. "Characterizing the variability of chromosome 3D structures via Shape Alphabets", Epigenetics & Chromatin CSH Meeting. Sep. 15-18, 2020 (Poster presentation, virtual meeting).

- Clark K, Evans S, Neretti N, "A Hi-C map of the senescent genome at kilobase resolution reveals novel associations between chromatin changes and gene expression", Sep. 22-25, 2020 (Poster presentation, virtual meeting).

- Skvir N, Neretti N, "Deconstructing the epigenetic clock", Sep. 22-25, 2020 (Poster presentation, virtual meeting).

- Evans S, Teo YV, Clark C, Ito T, Sedivy, J, Neretti N, "Single cell transcriptomics reveals TGF-beta and HMGA1 as global markers of transcriptional diversity in cellular senescence", Sep. 22-25, 2020 (Poster presentation, virtual meeting)

- Soto C, Dalgarno A, Bryner D, McLaughlin B, Neretti N, Srivastava A, "Representation of Chromosome Conformations Using a Shape Alphabet Across Modeling Methods", 2021 IEEE International Conference on Bioinformatics and Biomedicine (BIBM), 9-12 Dec. 2021

Book Chapters

1. Kreiling, Jill A. and Jones, Brian C. and Wood, Jason G. and De Cecco, Marco and Criscione, Steven W. and Neretti, Nicola and Helfand, Stephen L. and Sedivy, John M., "Contribution of Retrotransposable Elements to Aging", in "Human Retrotransposons in Health and Disease", Springer International Publishing, 2017

Invited lectures/talks

1. "The sonar signal processing of bats and dolphins", Department of Computer Science, Yale University, 09/09/03
2. "Exon Arrays: a new platform to measure gene expression and exon use.", Department of Pediatric Oncology, Sant'Orsola Hospital, Bologna, Italy, 03/15/07
3. "Long-lived Indy induces reduced mitochondrial ROS production and oxidative damage", Divison of Aging Biology, New Investigators Forum (NIH/NIA), Boulder, CO, 05/29/08
4. "Systems and synthetic biology: a novel approach to the study and design of biological systems", Workshop on Research Efforts and Future Directions in Neuroergonomics and Neuromorphics, Army Research Office, University of Maryland, College Park, MD, 10/24/08
5. "New Statistical and Computational Challenges in Next-Generation DNA and RNA Sequencing", 24th New England Statistics Symposium, Harvard University, 04/17/10
6. "Computational Biology of Transcriptional Networks in Aging", Center for Computational & Integrative Biology, Rutgers University, 12/21/10
7. "A Systems Biology Approach to the Study of Aging", Department of Biochemistry, Molecular Biology and Biophysics, University of Minnesota, 01/26/11
8. "Computational Biology of Transcriptional Networks and Epigenomics in Aging", Warren Alpert Medical School of Brown University, 02/13/12
9. "A novel experimental design to characterize the regulatory network mediating the response to dietary restriction in Drosophila", Nutritional Homeostasis Workshop, LIMES Institute, University of Bonn, Germany, 05/02/13
10. "Genome-wide transcriptional landscape of repetitive elements and their role in mammalian cellular senescence and aging", Mobile Genetic elements CSH Meeting, 10/25/13
11. "Genome-wide transcrip1onal landscape of repetitive elements in humans", Genome Informatics CSH Meeting, 10/31/13
12. "A genome-wide survey of the transcriptional landscape of repetitive elements and their age-associated expression changes", Nathan Shock Center Retreat, Albert Einstein College of Medicine, New York City, NY, 01/23/14
13. "Transposable elements and genomic instability in aging and disease", Galvani Interdepartmental Center for Biophysics, Bioinformatics and Biocomplexity, Università di Bologna, Bologna, Italy, 06/30/14
14. "Changes in nuclear organization in cellular senescence", Molecular Genetics of Aging CSH Meeting, Cold Spring Harbor, 10/01/14
15. "Nuclear reorganization in replicative senescence", Gordon Research Conference, Biology of Aging, Sunday River, Newry, ME 07/21/2015
16. "Reorganization of chromosome architecture in cellular senescence", Genome Informatics CSH Meeting, 10/29/2015
17. "Changes in chromosome architecture and transcriptional landscape in cellular senescence", Mechanisms of Aging CSH Meeting, 09/28/2016
18. "Changes in chromosome structure in cellular senescence", The Pairing Meeting, Harvard, 10/28/2016

19. "The Role of Genomic Instability in Cellular Senescence and Aging", 2017 RI NIH IDeA Symposium, 06/02/2017

20. "Inference and Validation of Chromosomes 3D Structure via Statistical Shape Analysis of Elastic Curves Models", 4D Nucleome Annual Meeting, Bethesda, Sep. 17-20, 2017

21. "The bioinformatics of liquid biopsies: cell-free DNA as a biomarker of disease and aging", CHARGE Epigenetics of Aging and Disease Initiative workshop, 09/26/2017

22. "Single-cell transcriptomics of oncogene-induced senescence", 3rd Annual NGS and Clinical Diagnostics Congress, Boston (MA), 10/23/2017

23. "The bioinformatics of liquid biopsies — Cell-free DNA as a biomarker of disease and aging", Genome Informatics CSH Meeting, 11/04/2017

24. "The bioinformatics of liquid biopsies: cell-free DNA as a biomarker of disease and aging", Oncology IScience, AstraZeneca, Waltham MA, April 6, 2018.

25. "Bayesian Estimation of 3D Chromosomal Structure from Single Cell Hi-C Data", 4D Nucleome JAWG/DAWG Meeting, May 10, 2018 (Webinar)

26. "The bioinformatics of liquid biopsies: cell-free DNA as a biomarker of disease and aging", International Symposium on Genomic Medicine 2018, Samsung Medical Center, Seoul, Korea, May 25, 2018

27. "Inference and Validation of Chromosomes' 3D Structure", 4D Nucleome Scientific Webinar Series, June 22, 2018 (Webinar)

28. "Genomic and Epigenomic Instability in Cellular Senescence and Aging", MRC Institute of Genetics & Molecular Medicine, The University of Edinburgh, July 10, 2018

29. "Cell-free DNA as a biomarker of aging", Mechanisms of Aging CSH Meeting, 10/02/2018

30. "Inference and Validation of Chromosomes 3D Structure via Statistical Shape Analysis of Elastic Curves Models", 4D Nucleome Annual Meeting, San Diego, CA, Dec. 5-6, 2018

31. "Integration of Hi-C and Superresolution Microscopy for the Study of the 3D Structure of Chromosomes", Telluride Workshop on Physical Genomics and Transcriptional Engineering, Telluride, CO - February 26, 2019

32. "Genomic and Epigenomic Instability in Cellular Senescence and Aging", UW Nathan Shock Center of Excellence, University of Washington, Seattle, WA, May 8, 2019

33. "Genomic and Epigenomic Instability in Cellular Senescence and Aging", International School for Advanced Studies (SISSA), Trieste, Italy, July 15, 2019

34. "Genomic and Epigenomic Instability in Cellular Senescence and Aging", Center for Computational Molecular Biology, Brown University, Providence, RI, September 11, 2019

35. "Genomic and Epigenomic Instability in Cellular Senescence and Aging", RegenAge 2019, MDI Biological Laboratory, Bar Harbor, ME, October 5, 2019

36. "Epigenomic Instability in Cellular Senescence and Aging", Chromosome Territories & Nuclear Architecture, Institute for Molecular Biology, Mainz, Germany, October 31, 2019

37. "The role of genetic instability in aging", WEARABLE TECH + DIGITAL HEALTH + NEUROTECH BOSTON, Harvard Medical School, Boston, MA, November 14, 2019

38. "Imaging TADs at super-resolution along the human chromosome 9 via OligoSTORM", 2019 4D Nucleome Annual Meeting, Washington DC, December 4, 2019

39. "Chromosome structure reorganization and tissue specific markers of cellular senescence", Mechanisms of Aging CSH Meeting, 09/24/2020 (Virtual Meeting).

40. "Genomic and Epigenomic Instability in Cellular Senescence and Aging", Brown Cancer Biology Program Meeting, October 16, 2020 (Virtual Meeting).

41. "Cell-free DNA as a predictor of nucleosome positioning and a biomarker of aging", Invited talk at the 2021 ASHG meeting (Virtual Meeting)., 10/20/2021

42. "Genomic and Epigenomic Instability in Cellular Senescence and Aging", Invited talk at Brandeis University, 12/13/2021.

43. "A leisurely walk across "super-clouds", Invited talk at the Center for Genomic Imaging, Harvard Medical School (Virtual Meeting), 11/9/2021

44. "Spatial omics technologies to map the senescent cell microenvironment", Invited talk at the NIH SenNet consortium kickoff meeting (Virtual Meeting), 11/4/2021.

45. "Single Cell Transcriptomics Reveals Global Markers for Different Forms of Cellular Senescence.", Mechanisms of Aging CSHL Meeting 09/28/2022.

46. "A Hi-C map of the senescent genome at kilobase resolution reveals novel associations between chromatin loops and senescence-associated gene expression", Genome Organization & Nuclear Function, 05/06/2023.

47. "Spatial omics technologies to map the senescent cell microenvironment", SenNet Annual meeting, Rockville, MD, 09/16/2022.

6. Research Grants

Current Grant Support

2T32AG041688-11 (PI: John Sedivy)   05/2022 – 04/2027 0.4 calendar
NIH/NIA $1,807,187
Title: Brown University Training Program in the Molecular Biology of Aging
Major Goals: This is a grant supporting the training of graduate students in the
Molecular Biology of Aging.

Role: Co-PI

R01CA270335 (PI: David Gilbert)   04/2022 – 03/2027 0.36 calendar
NIH/NCI $637,900 (Neretti portion)
Title: Oncogenic pathway-induced fragile sites: a new paradigm for understanding genome instability in cancer.
Major Goals: The major goal of this project is to characterize the mechanisms leading to the formation of fragile sites in the genomes of cancer cells.

UM1 HG011593 (PI: Ma)   09/01/2020-08/31/2025   0.47 calendar
NIH $1,352,025 (Neretti Portion)
Title: "Multi-Scale Analysis of 4D Nucleome Structure and Function by Comprehensive Multimodal Data Integration"
The goal of this project is to design OligoPaint libraries to image, in the selected cell lines and conditions, selected DNA regions as part of the integrative modeling effort of the Center. The Neretti lab, in collaboration with the Wu lab, will perform OligoPaint confocal imaging of chromosome territories and OligoSTORM to image selected regions at super-resolution.
Role: Co-I

R01AG050582-01A1   09/15/2017– 09/14/2022   2.9 calendar
NIH/NIA $220,000
Title: "The role of somatic transposition in age-associated genomic instability"
The major goal of this project is to study the activation of transposable elements in mammalian senescence and aging.
Role: Communicating PI; (John Sedivy Co-PI)

1UG3CA268202   12/2021-11/2025   0.6 calendar
NIH/NCI
Title: Spatial omics technologies to map the senescent cell microenvironment
Major Goals: The major goal of this application if to develop spatial multi-omics technologies to identify and characterize senescent cells in tissues.
Project Number: 1UG3CA268202

1U54AG076041-01   12/2021-11/2026   0.24 calendar
NIH/NIA $68,808
Title: Minnesota Tissue Mapping Center of Cellular Senescence
Major Goals: The major goal of this project is to map senescent cells in healthy human tissues.
Role: Key personnel (PI: Niedernhofer, L.)

<u>Completed</u>

R01AG053269-01A1   9/30/2017-5/30/2022   1.2 calendar
NIH/NIA $40,618
Title: "Activation of Endogenous Transposable Elements by Myc during Aging"
The aim of this project is to study the role of MYC in modulating longevity and activity of transposable elements in fruit flies.
Role: Co-PI; (Communicating PI: Secombe, J.)

NIDDK   06/15/2019-06/14/2022   0.5 Academic 0.12 summer months
Subcontract from University of Southern California $338,665 (Neretti Portion)
Title: "Integration of super-resolution imaging with genomics data for 3D structure characterization of genomes"
The goal of this project is to integrate genomics (Hi-C) with imaging data (OligoSTROM) of individual cells to improve the accuracy of integrative genome 3D structure modeling.
Role: Communicating Principal Investigator

Transformative Collaborative Project Award (TCPA) 09/01/17-08/31/21   1.2 calendar
NIH/4D Nucleome Consortium $324,000
Title: "Inference and Validation of Chromosomes 3D Structure via Statistical Shape Analysis of Elastic Curves Models"
The goal of this project is to adopt tools from elastic shape analysis of 3D curves for estimation and analysis of 3D chromosomes structures from chromosome conformation capture (3C) technologies.
Role: Communicating PI (Anuj Srivastava, Chao-Ting Wu Co-PIs)

P20 GM109035-01A1 (PI: Rand, D.) 06/01/2016-02/28/2021   0.5 calendar
NIH/NIGMS $175,000
COBRE: Center for computational biology of human disease
The major goal of this grant is to establish and build the COBRE Center for the Computational Biology of Human Disease at Brown University and affiliated hospitals.
Role: Mentor

R01 ES008786 NIH/NIEHS (PI: Zhitkovich, A.)   4/1/2015 – 3/31/2020   0.5 calendar
Title: "Genotoxicity of Chromium Compounds." $225,000
The major objective of this project is to determine the mechanisms of DNA double-strand breakage by chromium-DNA adducts.
Role: Collaborator (key personnel)

P01 AG051449-01 (PI: Sedivy, J.M.)   7/1/2016 – 6/30/21   1.0 calendar
NIH/NIA $50,000(Admin Core);
$2,010,203 (P01)
Title: "Somatic activation of retrotransposition: A new molecular mechanism of aging?"
This multicomponent Program Project Grant includes 3 projects and 3 cores. Project 1: Regulation of retrotransposable element activity in cellular senescence and aging.
Project 2: Regulation of retrotransposable element activity in Drosophila. Project 3:

Repression of retrotransposable elements by the longevity gene SIRT6. Core 1: Administrative. Core 2: Retrotransposons engineering and genomics core. Core 3: The mouse intervention and aging core.
Role: Co-investigator (statistical analysis in Administrative Core)

R01DK100301-01 (PI: Gruppuso, P.)   5/1/2014 – 2/28/2018
NIH/NIDDK $49,618 s/b
Title: "The Fetal Hepatocyte Phenotype and Cell-Based Therapy for Liver Disease."
The goal of the proposed research is to elucidate mechanisms by which the phenotype of late gestation fetal rat hepatocytes is maintained in the adult liver microenvironment, thus allowing these cells to repopulate an injured adult liver.
Role: Collaborator (key personnel)

Brown-Brazil Collaborative Research Fund (GFT640009)   06/01/2014 – 05/30/2018
Role: Communicating PI; (Sedivy J., Castellani G. Co-PIs)
Amount: $118,000

1R56AG050582-01   9/15/2015 – 8/31/2017
NIH/NIA $356,074
Title: "The role of somatic transposition in age-associated genomic instability"
The major goal of this project is to study the activation of transposable elements in mammalian senescence and aging.
Amount: $356,074
Role: Communicating PI; (Sedivy J. Co-PI)

1R56AG053269-01   09/30/2016 – 09/14/2017
NIH/NIA $39,932
Title: "Activation of Endogenous Transposable Elements by MYC During Aging"
The aim of this project is to study the role of MYC in modulating longevity and activity of transposable elements in fruit flies.
Amount: $39,932
Role: Co-PI (Secombe J., Communicating PI)

R56HD065445 (PI: Freiman, R.)   02/08/16 - 1/31/17
NIH/NICHD
Ovarian-Specific Transcription Networks Regulated by the TFIID Subunit TAF4b
The primary goal of this project is to understand the precise molecular underpinnings of TAF4b in regulating the healthy oocyte-to-primordial follicle transition in the mouse.
Amount: $198,896
Role: Collaborator

N61331-14-P-7201   9/1/2014 – 9/30/2016
Naval Surface Warfare Center Panama City Division

Title: "Point Process Estimation with Missing Data"
Amount: $60,454
Role: PI

NIH/NIGMS R01 GM41690-18 (PI: Sedivy, J.M.)   07/01/03-06/30/07
Title: "Genetic studies of c-myc gene function in the cell cycle."
Role: Collaborator (Biostatistics and Modeling)

N61331-9-P-2757, Naval Surface Warfare Center, Panama City Division
                                                                5/13/2009 –
12/31/2010
Title: "Application of Bio-inspired Computing to the Improvement of Target
Identification."
Amount: $50,000.
Role: PI

Einstein Nathan Shock Aging Center   06/01/2011-05/31/2012
Title: "Changes in Nuclear Organization in the Aging Genome"
Amount: $25,000
Role: PI

Center for Computational Molecular Biology, Brown University, Seed Grant
              2011
Title: "Development of a customized bioinformatics platform for the life sciences
community"
Amount: $5,000
Role: PI

NIH/NIA K25AG028753   08/01/2007-07/31/2013
Title: "Computational Biology of Transcriptional Networks in Aging"
Amount: $585,000.
Role: PI

NIH/NIA K25AG028753-03S1   10/01/2009-08/31/2012
Title: "Computational Biology of Transcriptional Networks in Aging"
ARRA supplement to the K25AG028753 grant to add new personnel to the research
project.
Amount: $108,000.
Role: PI

COBRE Center for Cancer Signaling Networks Pilot Project Funds
                                                    04/01/2012-03/31/2013
Title: "Changes in Spatial Organization in the Aging Genome"
Amount: $25,000
Role: PI

Brown University Richard B. Salomon Faculty Research Awards 03/01/2012-06/30/2014
Title: "A large-scale drug screen for healthspan-extending interventions"
Amount: $15,000
Role: PI

COBRE Center for Cancer Signaling Networks Pilot Project Funds 06/01/2013-03/31/2014
Title: "Spatial organization of repetitive elements in cell senescence and aging"
Amount: $10,000
Role: PI

7. Service

To the University

- Member of the faculty sponsors for Brown University's iGEM (international Genetically Engineered Machine competition) team (2006-2007)
- Organized "Modeling in Systems Biology" Journal club (Spring 2007)
- Sophomore Advisor (2009-present)
- Brown Genomics Core Steering Committee member (2012-Present)
- Chair of the MCB Graduate Program Retreat (August 2013)
- Member of the "Bioinformatics" faculty search committee (2014)
- Served on MCB Curriculum Committee (2015)
- Served on MCB Graduate Program Admission Committee (2016)
- Served on MCB Curriculum Committee (2018)
- Served on the Carney Institute Microscopy Committee (2019-2020)
- Served on the Carney Zimmerman Innovation Awards in Brain Science review panel (2021)

To the profession

- Judge for the poster session at the eighteenth annual New England Science Symposium at The Harvard Medical School Joseph B. Martin Conference Center, April 6, 2019.

Study section
- Ad hoc reviewer, Division of Environmental Biology, Molecular Population Studies (NSF), 2011
- Ad hoc reviewer for European Research Council (ERC), 2015
- Ad hoc reviewer for the French National Alliance for Life and Health Sciences (AVIESAN) jointly with the French National Cancer Institute (INCa), 2015

- Ad hoc reviewer, Biotechnology and Biological Sciences Research Council (BBSRC), UK, 2017
- Ad hoc reviewer, NIH/NIA, Epigenetics and Aging, ZAG1 ZIJ-5 (J1), 2017.
- Ad hoc reviewer, NIH, Cognitive Systems Analysis of Alzheimer's Disease Genetic and Phenotypic Data (U01), 2020, 2021.
- Ad hoc reviewer, Carney Zimmerman Innovation Awards in Brain Science, Brown University, 2021.
- Ad hoc reviewer, Competitive Research Grants (CRG) program, King Abdullah University of Science and Technology, 2021
- Ad hoc reviewer, NIH, Cellular Mechanisms in Aging and Development Study Section (CMAD), 2021.
- Ad hoc reviewer, NIH, Cellular Mechanisms in Aging and Development Study Section (CMAD), 2022.
- Ad hoc reviewer for RFA-AG-22-022 study section, 2022
- Chair for ZAG1 ZIJ-Y (J1) study section, 2022.
- Chair for ZAG1 ZIJ-5 O2 study section, 2022

Ad hoc reviewer for the following journals
- *Molecular Reproduction and Development*
- *PLoS Genetics*
- *Bioinformatics*
- *Molecular BioSystems*
- *BMC Genomics*
- *F1000*
- *Nature Partner Journal Aging and Mechanisms of Disease*
- *Briefings in Functional Genomics*
- *Genome Biology*
- *Genome Research*
- *Cell Reports*
- *Science Advances*
- *Nature Communications*
- *Nature Protocols*
- *JCB*
- *BMC Bioinformatics*
- *PNAS*

Review editor for the following journals
- *Aging Biology (Supervising Editor)*

To the Community
- Supervised summer project at Brown of Allison Lambert (Provo High School, Utah)

8. Academic honors, fellowships, honorary societies

- Rotary Award for Academic Excellence   1989
- Member of Sigma Xi, The Scientific Research Society   1998
- Burroughs Wellcome/Brown Brain Sciences Postdoctoral Fellowship   2001-2003
- Mentored Quantitative Research Development Award (K25), NIH/NIA   2007-2012
- Assistant Professorship, Vartan Gregorian Assistant Professor of Biology   2016

9. Teaching

- Instructor: "Wavelets in the Brain Sciences", Spring 2003 (Brain Sciences Interdisciplinary seminar series).
- Member of the faculty sponsors for Brown University's iGEM (international Genetically Engineered Machine competition) team (2006-2007)
- Sophomore Advisor (2009-2010)
- Guest lecturer: Systems in Synthetic Biology BIOL0194t (MCB Department): Topic: Deterministic Models in Synthetic Biology. (Fall 2007 & Fall 2008).
- Guest lecturer; Quantitative Approaches in Biology BIOL2010 (MCB Department): 2009, 2010, 2011.
- Guest lecturer: The Biology of Aging BIOL0232 (MCB department): 2009, 2010, 2012.
- Co-Instructor: The Biology of Aging BIOL0232 (MCB department): Spring 2011.
- Co-instructor: Quantitative Approaches in Biology BIOL2010 (MCB Department): Spring 2013.
- Instructor: Quantitative Approaches in Biology BIOL2010 (MCB Department): Spring 2014, Spring 2015.
- Instructor: Introduction to Statistical Analysis of Data (Biomed Initiative to Maximize Student Development): Summer 2015
- Co-Instructor: Introduction to Computational Biology BIOL0980 (MCB Department): Fall 2015.
- Co-instructor: Quantitative Approaches in Biology BIOL2010 (MCB Department): Spring 2016.
- Co-instructor: Current topics in Functional Genomics BIOL1222A/BIOL2222B (MCB Department), Fall 2016
- Co-instructor: Quantitative Approaches in Biology BIOL2010 (MCB Department): Spring 2017.
- Instructor: Quantitative Approaches in Biology BIOL2010 (MCB Department): Spring 2018.
- Instructor: Quantitative Approaches in Biology BIOL2010 (MCB Department): Spring 2019.
- Instructor: Quantitative Approaches in Biology BIOL2010 (MCB Department): Spring 2020.
- Instructor: Introduction to Data Science in Molecular Biology BIOL2010b (MCB Department): Spring 2022.

Current lab members

- Miiko Sokka (Instructor)
- Jeremy Horrell (Postdoc)
- Azucena Rocha (MCB PhD student)
- Audrey Dalgarno (MCB PhD student)

Undergraduate students independent studies
- Christina Hahn (2012)
- Jonathan Ferreira (2013)
- Benjamin Siranosian (2014, 2015)
- Yue Zhang (2014)
- Alan Huang (2015)
- Kelly Clark (2020-2021)
- Nomin Baatarkhuu (2020-2021)
- Rashi Visaria (2021)
- Victoria Cao (2021)
- Carolyn Lai (2021)
- Kikuyo Shaw (2021)
- Ahmad Alkhatib (2021)

Undergraduate students concentration advising
- Eric Zhong (2016)
- Julia Marcus (2017)
- Maigre McDougal (2017)
- Eric Mi (2018)
- Alexander Morris (2018)
- Michelle Zhu (2019)
- Laney Kong (2020)
- Celeste Ng (2020-221)

Undergraduate students first year advising
- Bryce Li (2021)
- Cameron Sikich (2021)
- Erica Simmons (2021)
- Liam Wilson (2021)
- Nadia Vondeling (2021)

Graduate Student Thesis
- Steve Criscione ("The chromatin and transcriptional landscape of senescent cells") (MCB PhD student), 2016
- Yee Voan Teo ("Epigenomic and Transcriptional Changes in Cellular Senescence and Aging"), (MCB PhD student), 2019
- Shane A. Evans ("Cellular Senescence, Genome Folding, and Neurodegeneration - Aging at the Cellular and Molecular Level") (Comp. Bio. PhD student), 2021

- Nicholas Skvir, 2022
- Jeremy Horrell, 2022

Senior Thesis
- Benjamin Siranosian ("A Mult-scale Ensemble Model of Chromatin Conformation"), (Spring 2015, Advisor)
- Eric Zhong (Spring 2019, second reader)
- Adrian Turcu (Spring 2019, second reader)
- Kelly Clark ("A HiC map of the senescent genome at kilobase resolution reveals novel associations between chromatin changes and gene expression"), (Spring 2021, Advisor)

Graduate student rotations

- Steven Crisione (MCB) (2012)
- Kamil Cygan (CCMB) (2013)
- Allison Taggart (MCB) (2013)
- Ryan (Yun) Xu (Pathobiology) (2014)
- Yee Voan Teo (MCB) (2015)
- Andrew Leith (CCMB) (2016)
- Nicholas Skvir (CCMB) (2016)
- Shane Evans (CCMB) (2017)
- Amy Elias (MCB) (2017)
- Jeremy Horrell (MCB) (2017)
- Kaileigh Ahlquist (MCB) (2018)
- Roy Hsu (MCB) (2018)
- Jeremy Bigness (CCMB) (2018)
- Azucena Rocha (MCB) (2019)
- Doudou Yu (MCB) (2020)
- Audrey Dalgarno (MCB) (2020)
- Maxfield Kelsey (MCB) (2020)
- Samuel Hinthorn (MCB) (2021)
- Yufei Lin (MCB) (2021)

Graduate thesis committees

Past:

- Michael Antosh, Physics PhD student in the Cooper Lab, graduated in 2011
- Rachel Whitaker, MCB PhD student in the Helfand Lab, graduated in 2013
- Marcela Soruco, MCB PhD student in the Larschan lab, graduated in 2014
- Kathryn Coser, MCB PhD student in the Gruppuso lab (until 2013)
- Matthew Hirakawa, MMI PhD student in the Bennett lab, graduated in 2017
- Jennifer Johnson, MCB PhD student in the Larschan lab, graduated in 2016

- Brian Jones, MCB PhD student in the Helfand lab, graduated in 2017
- Judson Belmont, MCB PhD student in the Salomon lab, graduated in 2017
- Allison Taggart, MCB PhD student in the Fairbrother lab, graduated in 2017
- Kamil Cygan, CCMB PhD student in the Fairbrother lab, graduated in 2018
- Stephanie Post, MCB PhD student in the Tatar lab, graduated in 2018
- Xiaotian (Kevin) Wu, Biostatistics PhD student in the Wu lab, graduated in 2019
- Damien Cabral, MMI PhD student in the Belenky lab, graduated in 2019
- Sun Maybury-Lewis, MCB PhD student in the Webb lab, graduated 2020

Current:

- Ethan Fitzgerald, MCB PhD student in Jamieson lab
- Stephanie Foster, MCB PhD student in the Wessel lab
- Corinne Hutfilz, MCB PhD student in the Tatar lab
- Alexandra D'Ordine, MCB PhD student in the Sedivy lab
- Jeremy Biggness, CCMB PhD student in the Singh lab