

Daniela Cimini
Virginia Tech
Department of Biological Sciences & Fralin Life Sciences Institute
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Education

Ph.D., Genetics and Molecular Biology *March 2001*
University of Rome “La Sapienza,” Center for Evolutionary Genetics
Dissertation title: Cellular mechanisms of aneuploidy induction in mammalian cells:
role of mitotic spindle and mitotic checkpoint.
Advisor: Dr. Francesca Degrossi

Specialty degree (Highest honors), Applied Genetics *October 1997*
University of Rome “La Sapienza”
Thesis title: Study of chromosome malsegregation mechanisms by means of *in situ*
hybridization on anaphases and binucleate cells.
Advisors: Prof. Caterina Tanzarella and Dr. Francesca Degrossi

Degree (Laurea, Highest honors) in Biology *November 1993*
University of Rome “La Sapienza”
Thesis title: Use of CREST staining and *in situ* hybridization for the analysis of
micronuclei induced by 5-azacytidine in human fibroblast cultures.
Advisors: Prof. Caterina Tanzarella and Dr. Francesca Degrossi

Positions

Virginia Tech, Dept. of Biological Sciences
Professor, *Jul 2017 – Present*

Virginia Tech, Biocomplexity Institute – Fralin Life Sciences Institute
Biology Fellow, *Nov 2013 – Present*

Virginia Tech, Health Sciences
Faculty of Health Sciences, *Nov 2013 – Present*

University Roma Tre (Rome, Italy)
Visiting Faculty, *Jun 3-22, 2013*

Virginia Tech, Dept. of Biological Sciences
Associate Professor, *Jul 2012 – Jun 2017*

Virginia Tech, Dept. of Biological Sciences
Assistant Professor, *Dec 2005 – Jun 2012*

University of North Carolina at Chapel Hill, Department of Biology
Postdoctoral Fellow (Advisor Dr. E.D. Salmon), *May 2002 – Dec 2005*
Visiting Researcher, *Jan 2000 – Apr 2001*

Center for Evolutionary Genetics (Italian National Research Council), Rome, Italy
Research Fellow, Italian Federation for Cancer Research (FIRC), *Jan – Dec 2001*

Center for Evolutionary Genetics (Italian National Research Council), Rome, Italy
Graduate Research Assistant, *Nov 1997 – Oct 2000*

Center for Evolutionary Genetics (Italian National Research Council), Rome, Italy
Research Associate, *Jul 1997 – Apr 1998*

Institute for Research in Molecular Biology (IRBM), Pomezia, Italy
Research Fellow, *Dec 1996 – Jul 1997*

Center for Evolutionary Genetics (Italian National Research Council), Rome, Italy
Research Fellow, *Dec 1994 – Nov 1996*

Center for Evolutionary Genetics (C.N.R.) / Italian Superior Institute of Health, Rome, Italy
Collaborator/Consultant, *Jan 1995 – Dec 1996*

University of Rome “La Sapienza,” Dept. of Genetics and Mol. Biol., Rome, Italy
Trainee, *Jan 1992 – Dec 1994*

Honors and Awards

Virginia Tech Scholar of the Week, *October 17-21, 2016*

Recognized through the Virginia Tech National Distinction Program, *2016*

Department of Biological Sciences Outstanding Research Award, *2016*

The Triangle Cytoskeleton Meeting Keynote Speaker, *2014*

Department of Biological Sciences Outstanding Research Award, *2010*

Biography included in “Who’s Who in Science and Engineering,” *2008*

Cell Dance Festival Award, American Society for Cell Biology, *2005*

Honorable Mention, Olympus BioScapes Digital Imaging Competition, *2005*

Postdoctoral Award for Research Excellence, University of North Carolina at Chapel Hill, *2003*

Young Scientist Award, European Environmental Mutagen Society, *2001*

Graduate Student Full Scholarship, Univ. of Rome “La Sapienza,” *Nov 1997 – Oct 2000*

Best Poster Award, European Environmental Mutagen Society, *1996*

Three-year Full Scholarship for top three Specialty School of Applied Genetics applicants, *Nov 1994*
Declined due to incompatibility with previously awarded fellowship

Memberships

American Association for the Advancement of Science (AAAS), *since 2018*

American Society for Cellular and Computational Toxicology (ASCCT), *2016 – 2018*

International Chromosome and Genome Society (ICGS), *2009 – 2010*

Sigma Xi, *since 2006*

American Society for Cell Biology (ASCB), *since 2000*

Italian Society of Environmental Mutagenesis (SIMA), *1994 – 1999*

Italian Genetics Association (AGI), *1993 - 1999*

Publications

(*Google Scholar: h-index, 37; i10-index, 50; total citations, 6,228*).

*Corresponding author; ^PPostdoc, ^GGraduate student, ^UUndergraduate student, or ^Mother lab member in the Cimini lab.

Primary research articles

1. Baudoin N.C.^G, Nicholson J.M.^G, Soto K.^U, Martin O.^U, Chen J.*^{*}, **Cimini D.*** (2020). Asymmetric clustering of centrosomes defines the early evolution of tetraploid cells. *eLife*, 9, e54565.
2. He B.^G, Gnawali N.^U, Hinman A.W.^U, Mattingly A.J.^U, Osimani A.^G, **Cimini D.*** (2019). Chromosomes

- missegregated into micronuclei contribute to chromosomal instability by missegregating at the next division. *Oncotarget*, 10: 2660-2674.
3. Schoenle L.A.^{*}, Moore I.T., Dudek A.M., Garcia E.B.[¶], Mays M., Haussmann M.F., **Cimini D.**, Bonier F. (2019). Exogenous glucocorticoids amplify the costs of infection by reducing resistance and tolerance, but effects are mitigated by co-infection. *Proceedings of the Royal Society B: Biological Sciences*, 286: 20182913.
 4. Garcia E.B.[¶], Alms C.^U, Hinman A.W.^U, Kelly C.^U, Smith A.^U, Vance M., Loncarek J., Marr L.C., **Cimini D.*** (2019). Single-cell analysis reveals that chronic silver nanoparticle exposure induces cell division defects in human epithelial cells. *International Journal of Environmental Research and Public Health*, 16: 2061.
 5. Tan Z., Chan Y.J.A., Chua Y.J.K., Rutledge S.D.[¶], Pavelka N., **Cimini D.**, Rancati G.^{*} (2019). Environmental stresses induce karyotypic instability in colorectal cancer cells. *Molecular Biology of the Cell*, 30: 42-55.
 6. Wangsa D., Quintanilla I.^M, Torabi K., Vila-Casadesús M., Ercilla A., Klus G., Yuce Z., Galofré C., Cuatrecasas M., Lozano J.J., Agell N., **Cimini D.**, Castells A., Ried T., and Camps J.^{*} (2018). Near-tetraploid cancer cells show chromosome instability triggered by replication stress and exhibit enhanced invasiveness. *FASEB Journal*, 32: 3502-3517.
 7. Hyler A.R., Baudoin N.C.[¶], Brown M.S., Stremler M.A., **Cimini D.***, Davalos R.V.^{*}, Schmelz E.M.^{*} (2018). Fluid shear stress impacts ovarian cancer cell viability, subcellular organization, and promotes genomic instability. *PLoS ONE*, 13: e0194170.
 8. Coluzzi E., Buonsante R.^M, Leone S., Asmar A.J.^U, Miller K.L.^U, **Cimini D.***, and Sgura A.^{*} (2017). Transient ALT activation protects human primary cells from chromosome instability induced by low chronic oxidative stress. *Scientific Reports*, 7: 43309.
 9. Cojoc G.[^], Roscioli E.^{PA}, Zhang L., García-Ulloa A., Shah J.V., Berns M.W., Pavin N., **Cimini D.***, Tolić I.M.^{*}, and Gregan J.^{*} (2016). Laser microsurgery reveals conserved viscoelastic behavior of the kinetochore. *The Journal of Cell Biology*, 212: 767-776. [Highlighted in commentary by Cabello, Gachet, and Tournier published in the same issue] [^]Equal contribution
 10. Rutledge S.D.[¶], Douglas T.A., Nicholson J.M.[¶], Vila-Casadesús M., Kantzler C.L., Wangsa D., Barroso-Vilares M., Kale S.D., Logarinho E., and **Cimini D.*** (2016). Selective advantage of trisomic human cells cultured in non-standard conditions. *Scientific Reports*, 6: 22828.
 11. Pampalona J.^M, Roscioli E.^P, Silkworth W.T.[¶], Bowden B.^M, Genescà A., Tusell L., and **Cimini D.*** (2016). Chromosome bridges maintain kinetochore-microtubule attachments throughout mitosis and rarely break during anaphase. *PLoS ONE*, 11: e0147420.
 12. Kajtez J., Solomatina A., Novak M., Polak B., Vukušić K., Rüdiger J., Cojoc G., Milas A., Šumanovac Šestak I., Risteski P., Tavano F., Klemm A.H., Roscioli E.^P, Welburn J., **Cimini D.**, Glunčić M., Pavin N., and Tolić I.M.^{*} (2016). Overlap microtubules link sister k-fibres and balance the forces on bi-oriented kinetochores. *Nature Communications*, 7: 10298.
 13. Ye A.A., Deretic J., Hoel C.M., Hinman A.W.^U, **Cimini D.**, Welburn J.P., and Maresca T.J.^{*} (2015). Aurora A kinase contributes to a pole-based error correction pathway. *Current Biology*, 25: 1842-1851. [Highlighted in a commentary by Monda and Cheeseman published in the same issue]
 14. Saverot S.E., Reese L.M., **Cimini D.**, Vikesland P.J., and Bickford L.R.^{*} (2015). Characterization of conventional one-step sodium thiosulfate facilitated gold nanoparticle synthesis. *Nanoscale Research Letters*, 10: 940.
 15. Nicholson J.M.[¶], Macedo J.C., Mattingly A.J.^U, Wangsa D., Camps J., Lima V., Gomes A.M., Dória S., Ried T., Logarinho E.^{*}, and **Cimini D.*** (2015). Chromosome mis-segregation and cytokinesis failure in trisomic human cells. *eLife*, 4: e05068.
 16. Bakhoum S.F., Silkworth W.T.[¶], Nardi I.K.^U, Nicholson J.M.[¶], Compton D.A.^{*}, and **Cimini D.*** (2014). The mitotic origin of chromosomal instability. *Current Biology*, 24: R148-149.
 17. Park S.W., Li W., Viehhauser A., He B.[¶], Kim S., Nilsson A.K., Andersson M.X., Kittle J.D., Ambavaram M.M.R., Luan S., Esker A.R., Tholl D., **Cimini D.**, Ellerström M., Coaker G., Mitchell T.K., Pereira A., Dietz K.J., and Lawrence C.B.^{*} (2013). Cyclophilin 20-3 relays a 12-oxo-phytyldienoic acid signal during stress responsive regulation of cellular redox homeostasis. *Proceedings of the National Academy of Sciences of the United States of America*, 110: 9559-9564.

18. Civelekoglu-Scholey G.^{*^}, He B.[^], Shen M.[^], Wan X., Roscioli E.[^], Bowden B.[^], and **Cimini D.*** (2013). Dynamic bonds and polar ejection force distribution explain kinetochore oscillations in PtK1 cells. *The Journal of Cell Biology*, 201: 577-593. [Highlighted in a commentary on the same issue; recommended by F1000Prime]
19. Wan X., **Cimini D.**, Cameron L.A., and Salmon E.D. (2012). The coupling between sister kinetochore directional instability and oscillations in centromere stretch in metaphase PtK1 cells. *Molecular Biology of the Cell*, 23: 1035-1046.
20. Silkworth W.T.[^], Nardi I.K.[^], Paul R., Mogilner A., and **Cimini D.*** (2012). Timing of centrosome separation is important for accurate chromosome segregation. *Molecular Biology of the Cell*, 23: 401-411.
21. Creekmore A.L., Silkworth W.T.[^], **Cimini D.**, Jensen R.V., Roberts P.C., and Schmelz E.M.* (2011). Changes in gene expression and cellular architecture in an ovarian cancer progression model. *PLoS ONE*, 6(3): e17676.
22. Paul R., Wollman R., Silkworth W.T.[^], Nardi I.K.[^], **Cimini D.**, and Mogilner A.* (2009). Computer simulations predict that chromosome movements and rotations accelerate mitotic spindle assembly without compromising accuracy. *Proceedings of the National Academy of Sciences of the United States of America*, 106: 15708-15713.
23. Silkworth W.T.[^], Nardi I.K.[^], Scholl L.M.[^], and **Cimini D.*** (2009). Multipolar spindle pole coalescence is a major source of kinetochore mis-attachment and chromosome mis-segregation in cancer cells. *PLoS ONE*, 4(8): e6564.
24. DeLuca J.G.* , Gall W.E., Ciferri C., **Cimini D.**, Musacchio A., and Salmon E.D. (2006). Kinetochore microtubule dynamics and attachment stability are regulated by Hec1. *Cell*, 127: 969-982. [Cited in Faculty of 1000]
25. **Cimini D.***, Wan X., Hirel C.B., and Salmon E.D. (2006). Aurora kinase promotes turnover of kinetochore microtubules to reduce chromosome segregation errors due to merotelic kinetochore orientation. *Current Biology*, 16: 1711-1718. [Highlighted in a commentary by Zhang and Walczak published in the same issue]
26. Cameron L.A.* , Yang G., **Cimini D.**, Canman J.C., Kisurina-Evgenieva O., Khodjakov A., Danuser G., and Salmon E.D.* (2006). Kinesin 5-independent poleward flux of kinetochore microtubules in PtK1 cells. *The Journal of Cell Biology*, 173: 173-179. [Cover article; Cited in Faculty of 1000]
27. Kapoor T.M., Lampson M.A., Hergert P., Cameron L., **Cimini D.**, Salmon E.D., McEwen B.F., and Khodjakov A.* (2006). Chromosomes can congress to the metaphase plate before biorientation. *Science*, 311: 388-391. [Cover article; Highlighted in a Comment by Rebecca Heald published in the same issue; Cited in Faculty of 1000]
28. De Antoni A., Pearson C.G., **Cimini D.**, Canman J.C., Sala V., Nezi L., Mapelli M., Sironi L., Faretta M., Salmon E.D., and Musacchio A.* (2005). The Mad1/Mad2 complex as a template for Mad2 activation in the spindle assembly checkpoint. *Current Biology*, 15: 214-225. [Cited in Faculty of 1000]
29. **Cimini D.***, Cameron L.A., and Salmon E.D. (2004). Anaphase spindle mechanics prevent mis-segregation of merotelically oriented chromosomes. *Current Biology*, 14: 2149-2155. [Highlighted in a Dispatch by Tarun M. Kapoor in Curr. Biol., 14: R1011-R1013; Research Roundup article by William A. Wells in J. Cell Biol., 168: 10; Cited in Faculty of 1000]
30. **Cimini D.***, Moree B., Canman J.C., and Salmon E.D. (2003). Merotelic kinetochore orientation occurs frequently during early mitosis in mammalian tissue cells, and error correction is achieved by two different mechanisms. *Journal of Cell Science*, 116: 4213-4225. [Cited in Faculty of 1000]
31. **Cimini D.**, Mattiuzzo M., Torosantucci L., and Degrossi F.* (2003). Histone hyperacetylation in mitosis prevents sister chromatid separation and produces chromosome segregation defects. *Molecular Biology of the Cell*, 14: 3821-3833.
32. **Cimini D.**, Fioravanti D., Salmon E.D., and Degrossi F.* (2002). Merotelic kinetochore orientation versus chromosome mono-orientation in the origin of lagging chromosomes in human primary cells. *Journal of Cell Science*, 115: 507-515.
33. **Cimini D.**, Howell B., Maddox P., Khodjakov A., Degrossi F., and Salmon E.D.* (2001). Merotelic

kinetochore orientation is a major mechanism of aneuploidy in mitotic mammalian tissue cells. *The Journal of Cell Biology*, 153: 517-527. [Cover article; Highlighted in "In Brief" by William A. Wells on the same issue of *The Journal of Cell Biology*]

34. **Cimini D.**, Tanzarella C., and Degraffi F.* (1999). Differences in chromosome malsegregation rates obtained by scoring ana-telophases or binucleate cells. *Mutagenesis*, 14: 563-568.
35. Pittoggi C., Renzi L., Zaccagnini G., **Cimini D.**, Degraffi F., Giordano R., Magnano A.R., Lorenzini R., Lavia P., and Spadafora C.* (1999). A fraction of mouse sperm chromatin is organized in nucleosomal hypersensitive domains enriched in retroposon DNA. *Journal of Cell Science*, 112: 3537-3548.
36. Carere A.*, Antoccia A., **Cimini D.**, Crebelli R., Degraffi F., Leopardi P., Marcon F., Sgura A., Tanzarella C., and Zijno A. (1999). Analysis of chromosome loss and non-disjunction in cytokinesis-blocked lymphocytes of 24 male subjects. *Mutagenesis*, 14: 491-496.
37. Rizzuto G., Gorgoni B., Cappelletti M., Lazzaro D., Gloaguen I., Poli V., Sgura A., **Cimini D.**, Ciliberto G., Cortese R., Fattori E., and La Monica N.* (1999). Development of animal models for adeno-associated virus site-specific integration. *Journal of Virology*, 73: 2517-2526.
38. **Cimini D.**, Fioravanti D., Tanzarella C., and Degraffi F.* (1998). Simultaneous inhibition of contractile ring and central spindle formation in mammalian cells treated with cytochalasin B. *Chromosoma*, 107: 479-485.
39. Pieroni L., Fipaldini C., Monciotti A., **Cimini D.**, Sgura A., Fattori E., Epifano O., Cortese R., Palombo F., and La Monica N.* (1998). Targeted integration of adeno-associated virus-derived plasmids in transfected human cells. *Virology*, 249: 249-259.
40. Carere A.*, Antoccia A., **Cimini D.**, Crebelli R., Degraffi F., Leopardi P., Marcon F., Sgura A., Tanzarella C., and Zijno A. (1998). Genetic effects of petroleum fuels. II. Analysis of chromosome loss and hyperploidy in peripheral lymphocytes of gasoline station attendants by fluorescence in situ hybridization techniques. *Environmental and Molecular Mutagenesis*, 32: 130-138.
41. **Cimini D.**, Antoccia A., Tanzarella C., and Degraffi F.* (1997). Topoisomerase II inhibition in mitosis produces numerical and structural chromosomal aberrations in human fibroblasts. *Cytogenetics and Cell Genetics (renamed Cytogenetic and Genome Research)*, 76: 61-67.
42. **Cimini D.**, Tanzarella C., and Degraffi F.* (1996). Effects of 5-azacytidine on the centromeric region of human fibroblasts studied by CREST staining and *in situ* hybridization on cytokinesis-blocked cells. *Cytogenetics and Cell Genetics (renamed Cytogenetic and Genome Research)*, 72: 219-224.

Review articles, commentaries, and book chapters (many peer-reviewed#)

43. #Kojima S. and **Cimini D.*** (2019). Aneuploidy and gene expression: is there dosage compensation? *Epigenomics*, 11: 1827-1837.
44. Baudoin N.C.^G and **Cimini D.*** (2018). Chromosome segregation: the bigger they come, the harder they fall. *Current Biology*, 28: R665–R667.
45. #Baudoin N.C.^G and **Cimini D.*** (2018). A guide to classifying mitotic stages and mitotic defects in fixed cells. *Chromosoma*, 127: 215-227.
46. #Rutledge S.D.^G and **Cimini D.*** (2016). Consequences of aneuploidy in sickness and in health. *Current Opinion in Cell Biology*, 40: 41-46.
47. #He B.^G and **Cimini D.*** (2016). Using photoactivatable GFP to study microtubule dynamics and chromosome segregation. *Methods in Molecular Biology*, 1413: 15-31.
48. Guarguaglini G.* and **Cimini D.*** (2016). The centrosome: a multifaceted cellular weapon against chromosome instability. *Chromosome Research*, 24: 1-4. [Introduction to special issue]
49. #Russo A.*, Pacchierotti F.*, **Cimini D.**, Ganem N.J., Genescà A., Natarajan A.T., Pavanello S., Valle G., and Degraffi F. (2015). Genomic instability: crossing pathways at the origin of structural and numerical chromosome changes. *Environmental and Molecular Mutagenesis*, 56: 563-580.
50. Nicholson J.M.^G and **Cimini D.*** (2015). Link between aneuploidy and chromosome instability. *International Review of Cell and Molecular Biology*, 315: 299-317.
51. #Civelekoglu-Scholey G.* and **Cimini D.*** (2014). Modeling chromosome dynamics in mitosis: a

- historical perspective on models of metaphase and anaphase in eukaryotic cells. *Interface Focus*, 4: 20130073.
52. Nain A. and **Cimini D.*** (2013). MISP: the missing link between extracellular matrix and astral microtubules. *Cell Cycle*, 12: 1821.
 53. [#]Nicholson J.M.^G and **Cimini D.*** (2013). Cancer karyotypes: survival of the fittest. *Frontiers in Oncology*, 3: 148.
 54. Nicholson J.M.^G and **Cimini D.*** (2012). Doubling the deck: tetraploidy induces chromosome shuffling and cancer. *Cell Cycle*, 18: 3355.
 55. Silkworth W.T.^G and **Cimini D.*** (2012). Transient defects of mitotic spindle geometry and chromosome segregation errors. *Cell Division*, 7: 19.
 56. [#]Gregan J.*, Polakova S., Zhang L.M., Tolić-Nørrelykke I., and **Cimini D.** (2011). Merotelic kinetochore attachment: causes and effects. *Trends in Cell Biology*, 21: 374-381.
 57. [#]Nicholson J.M.^G and **Cimini D.*** (2011). How mitotic errors contribute to karyotypic diversity in cancer. *Advances in Cancer Research*, 112: 43-75.
 58. Sgura A.^{M*} and **Cimini D.** (2009). Telomere and Chromosome Segregation. In “*Telomeres: Function, Shortening and Lengthening*.” Leonardo Mancini, ed. Nova Science Publishers. pp. 253-273.
 59. [#]**Cimini D.*** (2008). Merotelic kinetochore orientation, aneuploidy, and cancer. *Biochimica et Biophysica Acta – Reviews on Cancer*, 1786: 32-40.
 60. **Cimini D.*** (2007). Detection and correction of merotelic kinetochore orientation by Aurora B and its partners. *Cell Cycle*, 6: 1558-1564.
 61. [#]**Cimini D.**, Degraffi F.* (2005). Aneuploidy: a matter of bad connections. *Trends in Cell Biology*, 15: 442-451.
 62. [#]Salmon E.D.*, **Cimini D.**, Cameron L.A., and DeLuca J.G. (2005). Merotelic kinetochores in mammalian tissue cells. *Philosophical Transactions of the Royal Society B: Biological Sciences*, 360: 553-568.
 63. [#]Parry J.M.*, Parry E.M., Boumer R., Doherty A., Ellard S., O'Donovan J., Hoebee B., de Stoppelaar J.M., Mohn G.R., Önfelt A., Renglin A., Schiltz N., Soderpalm-Bemdes C., Jensen K.G., Kirsch-Volders M., Elhajouji A., Van Hummelen P., Degraffi F., Antoccia A., **Cimini D.**, Izzo M., Tanzarella C., Adler I.-D., Kliesch U., Scriver-Schwemmer G., Gasser P., Crebelli R., Carere A., Andreoli C. Benigni R., Leopardi P., Marcon F., Zijno A., Natarajan A.T., Boei J.J.W.A., Kappas A., Voutsinas G., Zarani F.E., Patrinely A., Pacchierotti F., Tiveron C., Hess P. (1996). The detection and evaluation of aneugenic chemicals. *Mutation Research – Fundamental and Molecular Mechanisms of Mutagenesis*, 353: 11-46.

Conference Talks and Seminars

Invited departmental seminars

1. Aneuploidy, tetraploidy, and centrosomes: a numbers game. *Dept. of Biology and Biotechnology, Worcester Polytechnic Institute*. February 25, **2020**, Worcester, MA, USA.
2. Aneuploidy, tetraploidy, and centrosomes: a numbers game. *Dept. of Genetics, Albert Einstein College of Medicine*. June 20, **2018**, Bronx, NY, USA.
3. Aneuploidy, tetraploidy, and centrosomes: a numbers game. *National Heart, Lung, and Blood Institute, NIH*. May 10, **2018**, Bethesda, MD, USA.
4. Causes and consequences of chromosome mis-segregation and aneuploidy. *Dept. of Pathology & Cell Biology, Columbia University Medical Center*. March 6, **2017**, New York, NY, USA.
5. Causes and consequences of chromosome mis-segregation and aneuploidy. *Dept. of Biology, Roanoke College*. October 26, **2016**, Roanoke, VA, USA.
6. Causes and consequences of chromosome mis-segregation and aneuploidy. *Institute of Molecular Biology and Pathology of the Italian National Research Council*. July 18, **2016**, Rome, Italy.
7. Causes and consequences of chromosome mis-segregation and aneuploidy. *Dept. of Biological Sciences, University of Vermont*. November 23, **2015**, Burlington, VT, USA.
8. Causes and consequences of chromosome mis-segregation. *Dept. of Biology – Center for Genomics and Systems Biology, New York University*. October 26, **2015**, New York, NY, USA.

9. Mechanisms and consequences of chromosome mis-segregation and aneuploidy. *Dept. of Biology, Georgia State University*. April 10, **2015**, Atlanta, GA, USA.
10. Mechanisms and consequences of chromosome mis-segregation and aneuploidy. *School of Biology, Georgia Tech*. April 9, **2015**, Atlanta, GA, USA.
11. Mechanisms and consequences of chromosome mis-segregation and aneuploidy. *Dept. of Science, University Roma Tre*. June 13, **2013**, Rome, Italy.
12. Chromosome segregation, aneuploidy, and disease. *Dept. of Science, University Roma Tre*. June 6, **2013**, Rome, Italy.
13. Mechanisms and consequences of chromosome mis-segregation and aneuploidy. *Biochemistry Dept., Geisel School of Medicine at Dartmouth*. April 30, **2013**, Hanover, NH, USA.
14. Mechanisms and effects of chromosome mis-segregation and aneuploidy. *NICHD, NIH*. December 7, **2012**, Bethesda, MD, USA.
15. Mechanisms of formation and correction of kinetochore mis-attachment. *Institute for Cell and Molecular Biology, University of Porto*. February 3, **2012**, Porto, Portugal.
16. Mitotic spindle geometry, kinetochore attachment and chromosome segregation. *Dept. of Biochemistry and Molecular Biology, Mayo Clinic*. February 15, **2011**, Rochester, MN, USA.
17. Mechanisms of chromosome mis-segregation and aneuploidy. *Dept. of Cell and Dev. Biology, Vanderbilt University Medical School*. October 12, **2009**, Nashville, TN, USA.
18. Mechanisms of chromosome mis-segregation. *Dept. of Biochemistry and Mol. Genetics, University of Virginia*. March 12, **2009**, Charlottesville, VA, USA.
19. Mechanisms of chromosome mis-segregation. *Medical Sciences, Indiana University*. February 9, **2009**, Bloomington, IN, USA.
20. Mechanisms of chromosome mis-segregation. *Dept. of Physiology and Biophysics, Albert Einstein College of Medicine*. March 6, **2008**, Bronx, NY, USA.
21. Mechanisms of chromosome mis-segregation. *Dept. of Pathology and Cell Biology, Columbia University*. March 4, **2008**, New York, NY, USA.
22. Mechanisms of chromosome mis-segregation. *Dept. of Pharmacology and Physiology, University of Medicine and Dentistry of New Jersey*. March 3, **2008**, Newark, NJ, USA.
23. Inducing and preventing chromosome mis-segregation: role of the mitotic spindle and its mechanics. *Istituti via degli Apuli, University of Rome "La Sapienza"*. December 20, **2004**, Rome, Italy.
24. Inducing and preventing chromosome mis-segregation: role of the mitotic spindle and its mechanics. *European Institute of Oncology*. October 4, **2004**, Milano, Italy.

Invited conference talks

1. The possible fates of newly formed tetraploid cells. Forbeck Fall Scholar Retreat. October 10-13, **2019**, Lake Geneva, WI, USA.
2. Assessing the role of centromere stiffness on chromosome and microtubule dynamics. *Conference on "Mitotic spindle: from living and synthetic systems to theory"*. March 24-27, **2019**, Split, Croatia.
3. The fate of newly formed tetraploid cells: evolution of centrosome and chromosome number. *Third conference on "Aneuploidy and cancer: clinical and experimental aspects"*. January 26-29, **2017**, Berkeley, CA, USA.
4. When and how do changes in chromosome number confer a selective advantage? *William Guy Forbeck Research Foundation 32nd Annual Forum on "Chromosomal Instability/Aneuploidy"*. November 10-13, **2016**, Hilton Head Island, SC, USA.
5. The fate of newly formed tetraploid cells: evolution of centrosome and chromosome number. *EMBO workshop on "Chromosome segregation and aneuploidy"*. June 25-29, **2016**, Galway, Ireland.
6. Dissecting the role of Kif2a in correction of kinetochore mis-attachment and chromosome segregation. *Dynamic Kinetochore EMBO Workshop*. May 18-21, **2015**, Copenhagen, Denmark.
7. Causes and effects of karyotype alterations. *13th FISV Congress*. September 24-27, **2014**, Pisa, Italy.
8. Keynote talk: From aneuploidy to the mitotic spindle and back. *The Triangle Cytoskeleton Meeting*. September 12, **2014**, Research Triangle Park, NC, USA.
9. Mechanisms and consequences of chromosome mis-segregation and aneuploidy. *Virginia Tech High*

- Performance Computing & Bioinformatics Research Day*. April 11, **2014**, Blacksburg, VA, USA.
10. Mechanisms and effects of chromosome mis-segregation and aneuploidy. *108th Internat. Titisee Conference on "Causes and consequences of aneuploidy."* October 23-27, **2013**, Titisee, Germany.
 11. Mechanisms and effects of karyotype alterations. *Symposium on "Meiosis and chromosome segregation – a mammalian perspective."* August 28-31, **2013**, Stockholm, Sweden.
 12. Defining the kinetochore mechanical properties important for regulation of mitotic chromosome dynamics in PtK1 cells. *International Conference on Computational Cell Biology*. August 14-16, **2013**, Blacksburg, VA, USA.
 13. Effects of aneuploidy on chromosome segregation and cellular phenotype. *SIMA Workshop on "Chromosome Instability: Mechanisms and Health Effects."* July 3-4, **2013**, Padova, Italy.
 14. Aneuploidy as a cause of chromosome mis-segregation. *CNIO Frontiers Meeting (CFM): Chromosome instability and aneuploidy in cancer: from mechanisms to therapeutics*. May 27-29, **2013**, Madrid, Spain.
 15. Investigating the mechanical properties of the kinetochore by combining laser microsurgery and confocal microscopy. *Dynamic Kinetochore Workshop*. May 15-18, **2013**, Porto, Portugal.
 16. The effects of aneuploidy on chromosome segregation. *Special Interest Subgroup meeting on "Aneuploidy: causes and consequences"*, *ASCB Annual Meeting*. December 15, **2012**, San Francisco, CA, USA.
 17. Aneuploidy causes chromosome mis-segregation and karyotype-dependent phenotypes. *FASEB Science Research Conference on "Mitosis: Spindle Assembly and Function."* August 5-10, **2012**, Steamboat Springs, CO, USA.
 18. The role of chromatin bridges in the origin of aneuploidy. *MEXT International Workshop "Mitosis: Cell Proliferation Control."* November 8, **2010**, Tokyo, Japan.
 19. Effects of mitotic spindle geometry on kinetochore attachment and chromosome segregation. *MEXT Priority Research Project "Cell Proliferation Control" International Symposium on Cell Cycle and Cell Differentiation from A to Z*. November 4-6, **2010**, Nagoya city, Japan.
 20. Mechanisms of chromosome mis-segregation in cancer cells. *10th International Conference on Environmental Mutagens*. August 20-25, **2009**, Florence, Italy.
 21. Mechanisms of chromosome mis-segregation and aneuploidy in cancer cells. *17th International Chromosome Conference*. June 23-26, **2009**, Boone, NC, USA.
 22. Chromosome segregation and kinetochore-microtubule alliance. *"Mitosis: Spindle Assembly and Function" FASEB summer research conference*. June 9-14, **2007**, Indian Wells, CA, USA.
 23. Role of mitotic spindle mechanics in preventing mis-segregation of mis-attached chromosomes. *"Chromosome Dynamics" Gordon conference*. July 31-August 5, **2005**, Colby-Sawyer College, New London, NH, USA.
 24. Role of mitotic spindle mechanics in preventing mis-segregation of merotelically-oriented chromosomes. *Special Interest Subgroup Meeting on "Mitotic Spindle Morphogenesis and Chromosome Movement"*, *ASCB Annual Meeting*. December 4, **2004**, Washington, DC, USA.
 25. Merotelic kinetochore orientation and chromosome mis-segregation in mammalian tissue cells. *Special Interest Subgroup meeting on "Mitotic Defects in Cancer Cells"*, *ASCB Annual Meeting*. December 14, **2002**, San Francisco, CA, USA.
 26. Cellular mechanisms of aneuploidy induction in mammalian cells. *Young Scientist Award Lecture, 31st EEMS Meeting*. September 1-5, **2001**, Ghent, Belgium.

Conference talks selected from abstracts (not including talks presented by lab members)

1. Aneuploidy confers selective advantage by promoting karyotypic heterogeneity. *ASCB annual meeting*. December 12-16, **2015**, San Diego, CA, USA.
2. Investigating the mechanical properties of the kinetochore by combining laser microsurgery and confocal microscopy. *13th HFSP Awardees Meeting*. July 7-10, **2013**, Strasbourg, France.
3. The countless fates of a chromatin bridge. *EMBO Workshop on Chromosome Segregation and Aneuploidy*. June 19-23, **2010**, Edinburgh, UK.
4. Role of mitotic spindle mechanics in promoting accurate segregation of mis-oriented chromosomes. *6th International Workshop on "Chromosome segregation and aneuploidy."* September 18-22, **2004**,

Cortona, Italy.

5. Prolonging metaphase decreases kinetochore merotelic orientations. *5th International Workshop on "Chromosome segregation and aneuploidy."* July 7-11, **2001**, Chartres, France.
6. Merotelic attachment of single kinetochores to microtubules from opposite poles is not detected by the mitotic spindle checkpoint and induces chromosome loss during mitosis. *ASCB Annual Meeting*. December 9-13, **2000**, San Francisco, CA, USA.
7. Induction of aneuploidy in human cells: influence of the mitotic checkpoint. *7th S.I.M.A. Annual Meeting*. October 6-8, **1999**, Cortona, Italy.
8. Chromosome loss occurs in anaphase after release from a mitotic block. *1st F.I.S.V. Meeting*. October 2-6, **1999**, Riva del Garda, Italy.
9. Evaluation of chromosome mis-segregation in anaphases and binucleate cells. *Joint A.G.I.-S.I.M.A. Meeting*. September 23-26, **1997**, Orvieto, Italy.

Grants and Fellowships

Extramural funding

National Institute of Health – R21, *June 2019 – May 2021*

Project title: A method to insert locked cis- and trans-proline analogues in full-length proteins.

P.I.: Felicia Etzkorn; Co-I.: Daniela Cimini. \$405,999 (\$45,409 to Cimini lab)

National Science Foundation REU supplement, *June 12 – July 7, 2017*

P.I.: Daniela Cimini. \$1,600

American Society for Cell Biology Grant, *Sept 1 – Dec 31, 2016*

Project title: Cell Division in Health and Disease

P.I.: Daniela Cimini. \$1,000

National Science Foundation Grant, *July 2015 – June 2020*

Project title: Dissecting the interplay between forces and dynamics of the mitotic apparatus and kinetochore attachments.

P.I.: Daniela Cimini. \$577,691

National Science Foundation Training Grant (IGERT), *July 2010 – June 2017*

Project title: Multi-Scale Transport in Environmental and Physiological Systems (MultiSTEPS)

P.I.: Mark Stremler; Co-P.I.s: Rafael Davalos, Shane Ross, David Schmale (2014-17), Daniela Cimini (2014-17). \$3,000,000

Human Frontier Science Program Grant, *Nov 2010 – Oct 2014*

Project title: Molecular architecture and mechanical properties of the kinetochore: a biophysical approach. \$1,050,000, equally distributed between the Cimini, Gregan (University of Vienna) and Tolic-Norrelykke (Max Plank Institute, Dresden) labs

National Science Foundation Grant, *June 2009 – Sept 2013*

Project title: Experimental and computational analysis of merotelic kinetochore formation, dynamics, and correction. P.I.: Daniela Cimini; Co-P.I.: Esma-Gul Civelekoglu-Scholey. \$943,737 (\$852,537 to Cimini lab)

Thomas F. Jeffress and Kate Miller Jeffress Memorial Trust Grant, *Jan 2007 – Dec 2009*

Project title: Live cell analysis of chromosome instability in colorectal cancer cells.

P.I.: Daniela Cimini. \$45,000

Research Fellowship, Italian Federation for Cancer Research, *Jan – Dec 2001*

Project title: Mitotic checkpoint, aneuploidy, and neoplastic transformation

£25,000,000 (~\$12,500)

Research Fellowship, Italian National Research Council, *Dec 1994 – Nov 1996*

Project title: The detection and evaluation of aneugenic chemicals

£32,000,000 (~\$16,000)

Intramural funding

ICTAS Center for Engineered Health Seed Grant, Oct 2019 – May 2020

Project title: Determine the effects of the physico-chemical microenvironment on the evolution of 4N cells. P.I.: Daniela Cimini; Co-P.I.s: Scott Verbridge, Eva Schmelz. \$15,000

ICTAS Center for Engineered Health, *April 2019*

Discretionary funds for RNAseq service. P.I.: Daniela Cimini. \$4,035

Virginia Tech Provost Office Grant, Sept 2018 – Aug 2019

Project title: Faculty Writing Group. P.I.: Daniela Cimini. \$2,000

ICTAS Center for Engineered Health Seed Grant, *Dec 2017 – June 2018*

Project title: Extra chromosomes as drivers of tumorigenesis and adaptation to microenvironment perturbations. P.I.: Daniela Cimini; Co-P.I.s: Eva Schmelz and Scott Verbridge. \$15,000

Dean's Doscovery Fund, *July 2017 – June 2018*

Project title: Tetraploidy as a driver of tumor evolution. P.I.: Daniela Cimini. \$20,000

ICTAS Center for Engineered Health Seed Grant, *Jan – June 2017*

Project title: Interplay between microenvironment, chromosomal instability, and tumor chemotherapy response. P.I.: Daniela Cimini; Co-P.I.: Scott Verbridge. \$15,000

ICTAS Center for Engineered Health Seed Grant, *Jan – June 2017*

Project title: Microenvironment peritoneal cavity: importance of biomechanics cues. P.I.: Eva Schmelz; Co-P.I.s: Daniela Cimini and Rafael Davalos. \$15,000

Fralin Cancer Biology Focus Group Seed Grant, *Apr – May 2013*

Project title: Mechanisms of micronucleus formation in mouse ovarian surface epithelial (MOSE) cells. P.I.s: Daniela Cimini and Eva Schmelz. \$3,000

Fralin Cancer Biology Focus Group Seed Grant, *Mar – May 2012*

Project title: Lagging chromosomes and micronuclei formation in ovarian cancer progression. P.I.s: Daniela Cimini and Eva Schmelz. \$5,000

Mentoring and Advising***Graduate Students Mentored***

Mathew Bloomfield, PhD student, Jan 2019 – present.

Ellen Garcia, PhD student, May 2015 – present. Honors and awards: Graduate Student Association (GSA) travel award, 2016; Tox21 award from the American Society for Cellular and Computational Toxicology, 2016; best poster award, VT-BI symposium, 2016; Edward Carney Predictive Toxicology Poster Award from the American Society for Cellular and Computational Toxicology, 2017; GSA travel award, 2017; Graduate Student Service Excellence Award, 2018; GSDA scholarship, fall 2018.

Nico Baudoin, PhD, May 2020. Honors and awards: GSA travel award, 2016; ASCB travel award, 2016; GSA travel award, 2017; selected for oral presentation at ASCB annual meeting 2017; invited speaker at departmental research day, 2019; Robert and Marion Patterson Scholarship for excellence in research, 2019; GSDA scholarship, fall 2019.

Samuel Rutledge, MS, June 2015.

Joshua Nicholson, PhD, May 2015. Awards: 3rd place poster award at 2012 ILSB (Integrated Life Sciences Building) research symposium; GRDA fellowship (for merit), spring 2013; best poster award in MCB category at 10th departmental research day, 2013; runner-up for round-table "Make a difference" award, 2013; best oral presentation at 11th departmental research day, 2014; COS Outstanding Doctoral Student, 2014. Started publishing company while completing PhD in Biol. Sci. and subsequently joined the company full time. Currently CEO of scite.ai

Bin He, PhD, April 2015. Awards: American Society for Cell Biology “Cell Dance” contest, outreach category winner, 2011; best poster in MCB Biology category at 9th departmental research day, 2012; 1st place poster award at 2012 ILSB (Integrated Life Sciences Building) research symposium; 3rd place poster award at 2013 ILSB research symposium; GRDA fellowship (for merit), spring 2015. Enrolled in Computer Science M.S. program while pursuing PhD in Biological Sciences. Currently working as an Applied Scientist in Artificial Intelligence at Zillow.

William Silkworth, PhD, June 2012. Awards: 1st poster prize at 7th departmental research day, 2010; “2010” graduate scholarship (for merit), 2010/11; Robert and Marion Patterson scholarship, 2010/11; Best oral presentation at 8th departmental research day, 2011; College of Science Roundtable award finalist, spring 2011; “2010” graduate scholarship (for merit), fall 2011. Currently, postdoc and instructor at UCLA.

Muyao Shen, MS, May 2011.

Undergraduate Students Mentored

| Name | Period of research training | Current position (if known) |
|-------------------------------|------------------------------------|-------------------------------------|
| Alexandra Bridgeland | Fall 2019 – present | |
| Kaylie Fluet | Fall 2019 – present | |
| Andrew McCaffrey | Fall 2019 – present | |
| Aaron Hayes | Summer 2018 – Fall 2019 | |
| Danielle Foutz | Spring 2018 – Spring 2019 | Intern at Landos Biopharma |
| Rameen Hashmi | Fall 2017 – Spring 2018 | |
| Uulen Batzul ¹² | Fall 2017 – Summer 2018 | |
| Lowrey Peyton | Fall 2017; Fall 2018 – May 2020 | Postbac fellow at NIH |
| Kasey Chiuchiolo | Spring 2017 – Spring 2018 | |
| Annmarie Taheny ¹¹ | Fall 2016 – Spring 2019 | MS student at VCU |
| Joseph Roesch | Summer 2016 – Summer 2017 | |
| Olga Sharakhova | Summer 2016 – Summer 2017 | Research Assistant |
| Adam Smith | Summer 2016 – Summer 2017 | |
| Mary Rose Lunde ¹⁰ | Fall 2016 – Spring 2017 | |
| Conor Kelly | Fall 2015 – Summer 2016 | |
| Kimberly Soto ⁹ | Spring 2015 – Summer 2016 | Research Assistant at WRAIR |
| Sarah Mount ⁸ | Fall 2014 – Spring 2017 | Clinical Tech at VA Hospital Center |
| Alex Winemiller | Summer 2014 – Spring 2016 | Research Assistant at VTCRI |
| Heather Bomberger | Fall 2013 – Spring 2016 | PhD student at Univ. of Minnesota |
| Zachary Jenkins | Fall 2013 – Fall 2014 | |
| Stefanie Karangelen | Spring 2013 – Fall 2013 | |
| Samuel Rutledge | Summer 2012 – Fall 2012 | |
| Clay Johnson | Summer 2012 – Fall 2013 | Vet school, Virginia Tech |
| Nisha Gnawali | Fall 2012 – Spring 2013 | Health Administration Resident |
| Albert Hinman ⁷ | Fall 2011 – June 2015 | PhD student at Stanford University |
| Aaron Mattingly ⁶ | Fall 2010 – Spring 2013 | PhD student at UCSF |
| Apoorva Mishra ⁵ | Fall 2010 – Spring 2013 | PhD student at Univ. of Moscow |
| Katherine Geroe | Summer 2010 – Spring 2011 | |
| Brooke Wehausen ⁴ | Spring 2010 – Spring 2011 | |
| Natalie Hisdahl ³ | Fall 2009 – Spring 2011 | |
| Anthony Asmar | Spring 2009 – Spring 2010 | Postdoc at NIH |
| Nicole Robertson | Spring 2008 – Spring 2009 | |
| Lindsey Scholl | Summer 2008 | |
| Isaac Nardi ² | Spring 2008 – Summer 2010 | |
| Kelley Miller ¹ | Fall 2007 – Spring 2010 | PharmD |
| Derrick Brown | Spring 2007 – Spring 2008 | High school science teacher |
| Anton Dawson | Fall 2006 – Spring 2008 | Technology Transfer Liaison for HJF |
| Jamie Squibbs | Fall 2006 – Spring 2008 | |

¹Departmental undergraduate research award, fall 2009

²Fralin Summer Undergraduate Research Fellowship, 2008 and 2009; ACC research fellowship, 2010; departmental outstanding senior researcher award, 2010

³Departmental undergraduate research award, fall 2010

⁴Fralin Summer Undergraduate Research Fellowship, 2010

⁵Fralin Summer Undergraduate Research Fellowship, 2012

⁶Departmental outstanding senior researcher award, 2013

⁷Departmental undergraduate research award, spring 2013; Fralin Summer Undergraduate Research Fellowship, 2013; Phi Sigma undergraduate research award, fall 2013; IMSD scholar, 2013-15; Arthur Buikema and M. Alison Galway Outstanding Senior Award, 2015

⁸Departmental undergraduate research award, spring 2016

⁹IMSD scholar, Feb 2015 – Aug 2016; Fralin Summer Undergraduate Research Fellowship, 2015

¹⁰IMSD scholar, Sept 2016 – Spring 2017

¹¹Leonard and Melva Harris Scholarship, Fall 2017; Deborah Ayers Koller Scholarship, Fall 2018

¹²IMSD scholar, Sept 2017 – Spring 2018

Postdocs Mentored

Emanuele Roscioli, *May 2011 – October 2014*

Honors Thesis Committees

Maureen Farrell, Biological Sciences, 2012

Graduate Advisory Committees

Swagatika Paul, Neuroscience, 2020 – present

Semen Bondarenko, Entomology, 2020 – present

Leanne Aakjar, Chemistry, 2019

Xiaochu Li, Biological Sciences, 2018 – present

Temple Douglas, Biomedical Engineering/MultiSTEPS, 2017 – 2018

Ben Heithoff, Biological Sciences, 2017 – present

Reem Masri, Entomology, 2017 – present

Jeffrey McGuire, Mechanical Engineering, 2016 – 2020

Daniel Sweeney, Biomedical Engineering/MultiSTEPS, 2016 – 2018

Anastasia Naumenko, Entomology, 2015 – 2017

Nick Kinney, GBCB, 2013 – 2016

Katherine Prokop, Biomedical Engineering and Sciences, 2013

Kevin Sheets, Biomedical Engineering, 2012 – 2014

Sean Mury, Microbiology/Biological Sciences, 2010 – 2017

Nimisha Khanduja, CDB/Biological Sciences, 2009 – 2013

Priscilla Krai, Biochemistry, 2009 – 2013

Zhanghan Wu, GBCB, 2009 – 2011

Sihui Zhang, CDB/Biological Sciences, 2008 – 2013

Tracy James, CDB/Biological Sciences, 2008 – 2012

Phillip George, Entomology, 2008 – 2014

Sarah Learman, Biological Sciences, 2008

External PhD examiner

Lilian Kabeche, Dartmouth College, *PhD 2013*

Chanelle Case, George Washington University, *PhD 2012*

Other mentoring activities

Gary Fortenberry. Student from Virginia Tech Bridge to Baccalaureate program, summer 2017.

Tiffany Hunter. High School teacher in RET program on “Biomechanics from molecular to organismal scales,” summer 2017.

Isabel Quintanilla. Visiting scholar (PhD student) from Hospital Clinic, Barcelona, Spain, April – December 2015.

Cynthia Alms. MAOP summer student; summer 2015.

Courtney Kantzler. Volunteer (as post-bac), summer 2014 and (as medical student) summer/fall 2017.

Cedric Revell. MAOP summer student; summer 2014.

Kevin Hughes. VT-PREP student; August 2013 – June 2014. Currently in PhD program at Yale Univ.

Nisha Gnawali. MAOP summer student; summer 2012.

Rossella Buonsante. Visiting scholar (PhD student) from University “Roma Tre”, Rome, Italy, February – August 2012.

Snider Desir. VT-PREP student; August 2011 – July 2012. Earned a PhD from Univ. of Minnesota and is now employed as a cell biologist at GlaxoSmithKline.

Alyssa Osimani. MAOP summer student; summer 2011.

Erica Arroyo. VT-PREP student; August 2010 – July 2011. Earned a PhD from UCLA.

Alyssa Osimani. High school student involved in a research project in the Cimini lab during spring 2010. Participated to the regional science fair and was awarded first prize for her sub-discipline.

Judit Pampalona. Visiting scholar (PhD student) from Universitat Autònoma de Barcelona, Bellaterra, Spain, January – July, 2009.

Teaching

Cancer Biology (BIOL 4874, 3 credits)

Dept. of Biological Sciences, Virginia Tech, *spring 2012* (112 students), *spring 2014* (98 students), *spring 2016* (77 students), *spring 2018* (77 students); *spring 2020* (118 students)

Interdisciplinary Research Engineering-Biology Interface (GRAD 5134)

Virginia Tech, *fall 2013* (7 students)

Cytogenetics (BIOL 4854/5854G, 3 credits)

Dept. of Biological Sciences, Virginia Tech, *spring 2008* (4 students), *fall 2009* (18 students), *every fall 2011 – 2019* (27, 23, 21, 19, 14, 10, 15, 15, 23 students)

Cell and Molecular Biology (BIOL 2104, 3 credits)

Dept. of Biological Sciences, Virginia Tech, *fall 2006* (121 students), *fall 2007* (110 students), *fall 2008* (128 students), *spring 2010* (52 students)

Fluorescence in Situ Hybridization Workshop (co-instructor and co-organizer)

Graduate Program in Genetics and Mol. Biol., University of Rome “La Sapienza,” Rome, Italy, *June 1998*

Lectures on “Aneuploidy”

Specialty School of Applied Genetics, University of Rome “La Sapienza,” Rome, Italy, *1997*

Cytogenetics Laboratory

Undergraduate School of Biology, University “RomaTre,” Rome, Italy, *1996*

University Service

Co-chair, search committee for systems biology faculty position, 2019/20

Member, search committee for FLSI executive director, 2019/20

Mentoring session on FAR preparation for Biological Sciences junior faculty, Spring 2019

Chair of Target of Talent recruiting committee, Dept. of Biological Science, 2018/19

Coordinator and convener of Faculty Writing Group, 2018 – 2020
Mentoring session on P&T for Neuroscience “Assistant Professor School,” Spring 2018
Mentoring session on P&T for Biological Sciences junior faculty, Spring 2018
Chair of VT-PREP/IMSD advisory committee, 2018 – present
College of Science P&T committee, 2017/18
BIOTRANS graduate program co-director and rotation coordinator, 2017/18, 2018/19
Graduate commencement, Marshall with regalia, 2017
Departmental research day oral presentation judge, 2017
Future Faculty Development Program host, 2017, 2018
Work-in-progress seminar series co-organizer, 2016 – 2018, 2019-2020
Departmental leadership taskforce, fall 2016
Microbiome Systems Biology faculty search committee member, 2016/17
Mentor to Biological Sciences junior faculty Silke Hauf (2014-2018), Shihoko Kojima (2015-present), and Jing Chen (2016-present)
Chair, Department of Biological Sciences Molecular Cell Biology faculty search committee, 2012/13 and 2013/14
MultiSTEPS graduate program executive committee member, 2012 – 2015
Department of Biological Sciences graduate review committee member, 2011 – present
Department of Biological Sciences undergraduate curriculum revision committee member, 2011 – 2013
Summer Undergraduate Research Fellowship (SURF) application reviewer, 2011, 2015
Department of Biological Sciences CDB seminar series coordinator, every spring 2009 – 2011
Department of Biological Sciences executive/personnel committee member, 2008/09, 2014/15, 2015/16, 2017/18, 2018/19
Virginia Tech Postdoctoral Association faculty advisor, 2008 – 2014
Departmental commencement participant, 2007 – 2014, 2016, 2018
Departmental research day poster judge, 2007 – 2010, 2012, 2013, 2015, 2018, 2019
Cell and Developmental Biology graduate program university representative, 2007 – 2012
Department of Biological Sciences graduate selection committee member, 2006/07, 2007/08, 2009/10
Department of Biological Sciences curriculum committee member, 2006 – 2012, 2015 – 2016

Professional Service

Editorial boards:

The Journal of Cell Biology, January 2018 – present
Oncotarget – Chromosome section, April 2015 – present
PLoS ONE, January 2010 – present

Grant review panels:

Internal Virginia Tech competition for CHRB Grants, 2017
ICTAS (Virginia Tech) Junior Faculty Collaborative BioMed/Health, 2014
NSF – MCB review panel, 2009, 2016, 2017, 2019

Ad-hoc grant proposal reviewer:

- 2020 Virginia Tech COVID Rapid Response Fund, 9 proposals
NSF Division of Molecular and Cellular Biosciences, 1 proposal
Dutch Research Council (NWO), 1 proposal
- 2019 ERC (European Research Council), 1 proposal
Inserm (Institut national de la santé et de la recherche médicale), 1 proposal
Wellcome Trust, 2 proposals
- 2018 GWIS (Graduate Women in Science), 1 proposal
KWF Kankerbestrijding (Dutch Cancer Society), 1 proposal
NSF, 1 proposal
Wellcome Trust, 2 proposals
- 2017 Wellcome Trust, 1 proposal
UK Biotechnology and Biological Sciences Research Council, 2 proposals
- 2016 Human Frontiers Science Program, 1 proposal
UK Biotechnology and Biological Sciences Research Council, 1 proposal
UK Medical Research Council, 1 proposals
- 2015 The Netherlands Organisation for Health Research and Development (ZonMw), 1 proposal
UK Biotechnology and Biological Sciences Research Council, 1 proposal
- 2014 UK Medical Research Council, 1 proposal
- 2013 Collaborative Research Grants for Children's National Medical Center, George Washington University, and Virginia Tech Faculty, 2 proposals
- 2012 The Netherlands Organisation for Health Research and Development (ZonMw), 1 proposal
Wittgenstein Award, Austrian Science Fund, 1 nomination
- 2010 NSF Division of Molecular and Cellular Biosciences, 4 proposals
Research Committee of the University of Crete, 2 proposals
Singapore National Medical Research Council, 1 proposal

Conference session chair: Commonwealth of Virginia Cancer Research Conference, University of Virginia, Sept 22-23, 2017; Mid-Atlantic Mitosis Meeting (M³) "from Kinetochores to Cancer," Bethesda, MD, May 1-2, 2017; Third conference on "Aneuploidy and cancer: clinical and experimental aspects," Berkeley, CA, Jan 26-29, 2017; Forbeck Annual Forum on "Chromosomal Instability and Aneuploidy," Hilton Head Island, SC, Nov 10-13, 2016; Minisymposia on "Chromosome Segregation" and "Centrosomes and Spindles," ASCB annual meeting, San Diego, Dec 12-16, 2015; FASEB workshop "Mitosis: Spindle Assembly and Function," Steamboat Springs, CO, Aug 5-10, 2012; EMBO workshop "Chromosome Segregation and Aneuploidy," Edinburgh, June 19-23, 2010; MEXT International Workshop "Mitosis: Cell Proliferation Control," Tokyo, Nov 8, 2010.

Ad-hoc manuscript reviewer for: Cell; Cell Reports; Nature; Nature Cell Biology; PNAS; Science; The Journal of Cell Biology; and others, including: Basic & Clinical Pharmacology & Toxicology; BBA-Reviews on Cancer; Biology; Blood; Cancer Research; Cancers; Cell Cycle; Cells; Cellular and Molecular Life Sciences; Cell Motility and the Cytoskeleton; Current Biology; Cytogenetics and Genome Research; eLife; Environmental and Molecular Mutagenesis; Epigenomics; Genes, Chromosomes and Cancer; Human Molecular Genetics; International Journal of Cancer; iScience; Molecular Biology of the Cell; Mutation Research; Nature Communications; Nucleic Acid Research; Oncogene; Oncotarget; PeerJ; PLoS Biology; PLoS ONE; Science Signaling; Scientific Reports; Stress; Toxicological Sciences; Trends in Cell Biology.

Other:

Outside reviewer for nominations to academic positions (both domestic and international): April 2018; November 2018; December 2018.

Leader of "Aneuploidy" Science Discussion Table – ASCB annual meeting, San Diego, CA, December 12-16, 2015.

ASCB annual meeting working group for selection of oral presentations from abstracts submitted in the area of "Cell cycle, cell division, and cell death," 2015.

Guest editor for a special issue of Chromosome Research on “Centrosomes and Chromosome Stability,” 2015-16.

Co-organizer and co-chair: special interest subgroup meeting on “Mechanics and Dynamics of Mitosis” – ASCB meeting, New Orleans, LA, December 14, 2013.

Outside reviewer for academic promotion cases (both domestic and international): February 2014; September 2014; November 2014; August 2016; April 2017; October 2017; April 2018; September 2018; May 2019.

Organizer and chair: special interest subgroup meeting on “Aneuploidy: causes and consequences” – ASCB meeting, San Francisco, CA, December 15, 2012.

Outreach

The Cimini lab was part of the SEEDS-Blacksburg Nature Center Spring Festival, April 2019.

Quoted in editorial of “The Scientist” April 2018 issue, <https://www.the-scientist.com/?articles.view/articleNo/52087/title/Chromosomal-Instability-Drives-Cancer-Metastasis/>

Interview with Nature writer David Cyranoski about case of scientific mis-conduct at the University of Tokyo (Japan), July 2017.

The Cimini Lab set up a permanent exhibit, designed to teach students (grades 1-8) about cell division through the use of microscopes and videos, at the Blacksburg SEEDS Nature Center, Summer 2017.

The Cimini Lab was selected in the Celldance competition of the American Society for Cell Biology to create the video “Cell division: live & up close” (<https://www.youtube.com/watch?v=rd9gMbtNaZ8>), December 2016.

The Cimini Lab presented the “It’s a Small World!” exhibit at the Virginia Tech MOSS Art Center for the Virginia Science Festival, September 26, 2015 and at Kids Tech University, February 27, 2016.

Interview for local evening news on WSLS10, July 24, 2015.

Speaker at the International panel of the “Entering mentoring” workshop. Virginia Tech, March 6, 2015.

Developed outreach activity “Cells alive! - How one cell becomes two, four, many” to teach children about cell division using videos and displayed at the SEEDS – Blacksburg Nature Center for the Virginia Science festival. October 4, 2014.

Co-author of poster on “Graduate and Faculty Community: ‘Strategies for Effective Interactions’ Sessions” presented at the Advancing Diversity at Virginia Tech Workshop, January 14, 2014.

Provided information and images to Dr. Robert Weinberg for second edition of the textbook “The biology of cancer.” 2012/13.

Speaker/facilitator for Biology Graduate Student Sessions on “Strategies for effective interaction.” December 3 and 10, 2012; November 14, 2014; April 6, 2016; October 23, 2017; October 22, 2018.

AdvanceVT Graduate Student Lunch Seminar “Tips for Pursuing Postdoctoral Positions.” October 17, 2011.

Panel speaker at the “Virginia Tech Future Faculty Program” discussion on “Getting off to a good start.” January 12, 2011.

Research mentor for high school student (Alyssa Osimani). Academic year 2009-2010.

Presentation on “Chromosome missegregation and aneuploidy in cancer cells” to representatives of the Virginia Breast Cancer Foundation. October 30, 2009.

Organizer of VTPA seminar series and speaker for seminar on “Making the most out of your postdoc: the steps that will take you from your postdoc to the job market.” October 17, 2008.

Panel speaker at the AdvanceVT graduate student seminar on “Your first year as a professor.” March 17, 2008.

Contributor for the image and video library of the American Society for Cell Biology, 2006.