

## CURRICULUM VITAE

**Name:** Yamini Dalal, Ph.D.

**Languages:** English (native), Hindi, Gujarati, German, Marathi

### Education:

2003 Ph.D. (Biological Sciences), Purdue University, W. Lafayette, Indiana  
1995 B.Sc. (Biochemistry and Life Sciences), St. Xavier's College, Mumbai, India

### Brief Chronology of Employment:

2012-Current Affiliate Professor, Department of Biological Sciences, University of Maryland, College Park, MD  
2008-Current Group Director/Investigator, National Cancer Institute, National Institutes of Health, Bethesda, MD  
2007-2008 Adjunct Research Associate, Fred Hutchinson Cancer Research Center, Seattle, WA  
2007-2008 Visiting Guest Lecturer, Western Washington University, Bellingham, WA  
2003-2007 Post-doctoral Fellow, Fred Hutchinson Cancer Research Center, Seattle, WA (with Steve Henikoff)  
1998-2003 Graduate Research & Teaching Assistant, Department of Biological Sciences, Purdue University, W. Lafayette, IN (with Arnold Stein and Minou Bina)

### Societies:

Faculty of 1000 (since 2010): 71 recommendations published.

### Editorial Boards

Scientific Reports (since 2015)  
Chromosoma (since 2014)  
F1000 Research (since 2013)  
Public Library of Science One (since 2011)

### Research Interests

Chromosome Biology, Cancer Biology, Epigenetics, Evolutionary Biology, Developmental Biology

### Highlights of Dalal Lab Research in the Press

1. A long noncoding RNA helps cells divide. *Science*, *Editor's Choice*, 2014
2. Centromere chromatin: a loose grip on the nucleosome? *Nature Struct Mol Bio*, 2014
3. Nucleosomal Dynamics at Centromeres. *Nature Rev Mol Cell Bio* 2012; *Nature Rev Gen.* 2012
4. The Split Personality of CENP-A nucleosomes. *Cell*, 2012
5. Supercoil Me Up. *Journal of Cell Biology*, 2009
6. Sign of Four. *Science*, *Editor's Choice*, 2007

## Bibliography

### **Independent Lab 9/2008-current**

1. Delphine Quenet, David Sturgill, **Yamini Dalal** (2016) Identifying non-coding RNAs associated with histone dynamics in vivo. *Methods in Enzymology*, In press, January 2016. Special Issue: Epigenetics, Ed. Ronen Marmostein
2. David Winogradoff, Haiqing Zhao, **Yamini Dalal**\* and Garegin Papoian\* (2015) Shearing of the CENP-A dimerization interface mediates plasticity in the octameric centromeric nucleosomes. *Scientific Reports*, 5: 17038. \*co-corresponding
3. Daniel P Melters, Jonathan Nye, Haiqing Zhao and **Yamini Dalal** (2015) Chromatin Dynamics In vivo: A game of musical chairs. *Genes (Basel)*, 7:751-756. Special Issue Chromatin Dynamics, Ed. Jessica Tyler.

4. Rajbir K. Gill-Athwal, Marcin P. Walkiewicz, Songjoon Baek, Song Fu, Minh Bui, Jordi Camps, Thomas Reid, Mia Sung and **Yamini Dalal** (2015) CENP-A nucleosomes occupy transcription factor hotspots and sub-telomeric sites in human cancer cells. *Epigenetics and Chromatin*, 8:1-3
5. Delphine Quenet and **Yamini Dalal** (2014) A long non-coding RNA is required for CENP-A recruitment to human centromeres. *eLife* 3:e03254
6. Catherine Volle and **Yamini Dalal** (2014) Histone variants: the tricksters of the chromatin world. *Current Opinions Genetics and Development* 25:8-14,138
7. Marcin Walkiewicz, Emiliios K. Dimitriadis and **Yamini Dalal** (2014) CENP-A octamers do not confer a reduction in height by AFM. *Nature Structural Molecular Biology* 21:9-10
8. Marcin Walkiewicz, Minh Bui, Delphine Quenet and **Yamini Dalal** (2014) Biophysical and biochemical analysis of histone variant structures in vivo. *Methods Molecular Biology* (Cell Cycle Regulation, Elsevier) 1170:589-615
9. **Yamini Dalal** and James McNally (2013) Now you see it, now you don't: A biochemist's primer to advances in microscopy. *Physics of Life Reviews* (Elsevier) S1575: 00184-X
10. Minh Bui, Marcin P. Walkiewicz, Emiliios K. Dimitriadis and **Yamini Dalal** (2013) The Shape-Shifting Nature of the CENP-A nucleosome. *Nucleus* 4 (1)
11. Delphine Quenet, James McNally and **Yamini Dalal** (2012) Through Thick and Thin: the conundrum of chromatin fiber folding in vivo. *EMBO Reports* 13:943-4
12. Delphine Quenet and **Yamini Dalal** (2012) The CENP-A nucleosome: a dynamic structure and role at the centromere. *Chromosome Research* 20:465-79
13. Minh Bui M, Emiliios K. Dimitriadis, Christian Hoischen, Eunkyung An, Delphine Quenet, Sandy Giebe, Alexsandra Nita-Lazar, Stephan Diekmann, and **Yamini Dalal** (2012). Structural transitions in the centromeric CENP-A nucleosome are accompanied by histone modifications *in vivo*. *Cell* 150:317-26
14. Delphine Quènet, Emiliios K. Dimitriadis and **Yamini Dalal** (2012) Atomic Force Microscopy of Chromatin *AFM methods*, InTech Open Science.
15. Delphine Quènet, Marcin Walkiewicz and **Yamini Dalal** (2012) Chromatin at the Intersection of Disease and Therapy, *ToxicoEpigenomics* Wiley Press.
16. Emiliios K. Dimitriadis, Christian Weber, Rajbir Gill, Stephan Diekmann and **Yamini Dalal** (2010) Tetrameric organization of vertebrate centromeric nucleosomes. *Proceedings of the National Academy of Science* 107: 20317-22
17. Gayane Ambartsumyan, Rajbir K Gill, Sylvia Perez, D Conway, J Vincent, **Yamini Dalal** and Amander Clark (2010). *Human Molecular Genetics* 19: 3970-82
18. **Yamini Dalal** and Minh Bui (2010) Down the Rabbit Hole of Centromere Assembly and Dynamics. *Current Opinion in Cell Biology* 22(3): 392-402
19. **Yamini Dalal** (2010) Alternative Nucleosome Structure. *McGraw-Hill Encyclopedia of Science and Technology*.
20. **Yamini Dalal** (2009) Epigenetic specification of centromere inheritance. *Biochemistry and Cell Biology* 87:273-282
21. Hongda Wang\*, **Yamini Dalal\***, Steven Henikoff and Stuart Lindsay (2008) Single Epitope Imaging of Native Chromatin. *Epigenetics & Chromatin* 1:10 (\*co-corresponding and co-first authors).

#### Postdoctoral Work 9/2003-9/2007

1. **Yamini Dalal**, Takehito Furuyama, Danielle Vermaak and Steven Henikoff (2007) Structure, Dynamics and Evolution of Centromeric Nucleosomes, *Proceedings of the National Academy of Science*, 104:15974-81
2. **Yamini Dalal**, Hongda Wang, Stuart Lindsay and Steven Henikoff (2007) Tetrameric Structure of Centromeric nucleosomes in Interphase Drosophila Cells, *PLoS Biology* 5(8)e218
3. Takehito Furuyama, **Yamini Dalal** and Steven Henikoff (2006) Chaperone mediated assembly of centromeric chromatin in vitro, *Proceedings of the National Academy of Science*, 103: 6172–6177
4. Steven Henikoff and **Yamini Dalal** (2005) Centromeric Chromatin: what makes it unique? *Current Opinion in Genetics and Development*, 15 (2) 177-84

#### Graduate Work 8/1998-8/2003

1. Yamini Dalal (2003) Signals in DNA that influence chromatin structure in vivo and in vitro. Ph.D. Thesis Dissertation, Purdue University Press.
2. **Yamini Dalal**, TJ Fleury, Alfred Cioffi, and Arnold Stein (2005) Long-range Oscillations in a Periodic DNA Sequence Motif May Influence Nucleosome Array Formation, *Nucleic Acids Research*, 33: 934-945
3. Alfred Cioffi, **Yamini Dalal** and Arnold Stein (2004) DNA sequence alterations affect nucleosome array formation of the chicken ovalbumin gene, *Biochemistry*, 43: 6709-6714
4. Arnold Stein, **Yamini Dalal** and TJ Fleury (2002) Circle ligation of in vitro assembled chromatin indicates a highly flexible structure, *Nucleic Acids Research*, 30: 5103-5107
5. Arnold Stein and **Yamini Dalal** (1999) Conservation of Sequence and Structure Flanking the Mouse and Human b-globin Loci: the b-globin Genes Are Embedded Within an Array of Odorant Receptor Genes. *Chemtracts Biochemistry and Molecular Biology*, 12, 945

### **Service on Grant Review Panels and Committees (2009-2016)**

1. IndoUS Brain Trust	2016
2. NIH study section MGA A panelist	2016
3. NSF Epigenetic Inheritance MCB panelist, declined, time conflict	2016
4. NSF Epigenetic Inheritance MCB Ad-hoc reviewer	2016
5. UNCF-Merck Panelist	2016
6. Marsha-Rivkin Foundation Panelist	2016
7. NIH Stadman committee, Chromosome Biology	2015
8. NIH MGA study section	2015
9. UNCF-Merck Panelist	2015
10. NSF Epigenetic Inheritance MCB Panelist	2015
11. Marsha-Rivkin Foundation Panelist, declined, time conflict	2015
12. UNCF-Merck Foundation Panelist	2015
13. European Research Council Wellcome Trust/DBT India Alliance Grants	2014
14. French National Cancer Institute (INCa), France grants	2014
15. Wellcome Trust UK-DBT DBT Alliance grants	2014
16. French National Research Agency ANR, France grants	2014
17. Deutsche Forschungsgemeinschaft (DFG) grants	2014
18. VNCI- DBT India Alliance Grants	2014
19. NSF Epigenetic Inheritance MCB Panelist	2014
20. Marsha-Rivkin Innovative Research Grant (Panelist)	2014
21. Member, Steering Committee, Center for Excellence in Chromosome Biology/NCI	2013
22. Czech Science Foundation (CSF), Czech Republic	2013
23. NSF Molecular and Cell Biology-Genetics	2013
24. NSF Epigenetics and RNA Regulation (Panelist, invitation declined)	2013
25. Wellcome Trust UK/DBT India Alliance Grants	2013
26. Member, Cancer Advisory Board for the Director of the CCR	2014-2016
27. United Kingdom BBSRC Cancer Research Grants	2013
28. Laboratory of Cell and Molecular Biology Faculty Search Committee	2012
29. NIH Earl Stadtman Faculty Search Committees	2010-2013
30. NIH Director's Challenge Review Committee	2011
31. French National Research Agency, Programme Blanc (ANR)	2009, 2010
32. Netherlands Organization for Scientific Research Physics Panel (NWO)	2009
33. National Institutes of Health, AARA Challenge Grants	2009
34. NSF Genomes, Genes, Genetics Molecular Biology Special Emphasis Panel	2010, 2012

### **Sabbatical invitations**

1. TU-Delft, Netherlands. Project: Single molecule applications of AFM (from Cees Dekker, Director). Declined
2. LMU-Munich, Germany. Project: Histone variants in cancer and evolution (from Peter Becker, Director). Accepted Summer 2017

## Teaching/Mentoring

1. 6 postdoctoral fellows, 6 summer interns, 2 post-baccalaureate fellows 2008-2015
2. Lecturer, NIH/FAES 2010
3. Mentor, Graduate Student Partnership Program (GPP, NIH) 2009-2012
4. Visiting Professor, Dept. of Biology, Western Washington University, WA 2007-2008
5. HHMI Future Faculty Fellow Lecturer, University of Washington, WA 2007
6. Graduate Teaching Assistant, Biological Sciences, Purdue University, IN 1998-2003

## Invited Seminars and Conference Chairs 2013-2016 (for the full list of 45+ seminars, please see our CCR website)

1. Co-organizer, speaker “Evolving the Epigenetic Code Symposium”, **Fred Hutch Cancer Res. Center**, Seattle, August 2016
2. **Gordon Research Conference**, Centromeres and Kinetochores, July 2016
3. **Gordon Research Conference**, Chromatin structure, May 2016, declined.
4. “Twisting the dragon’s tail: chromatin dynamics” **University of Geneva**, May 2016
5. “Twisting the dragon’s tail: lessons learned from studying histone variants in cancer cells” **Colorado State University**, Ft. Collins, April 2016
6. “Twisting chromatin loops: CENP-A on spring break” **Carnegie Institute**, Baltimore MD, March 2016, resch. Dec 2016
7. “Twisting chromatin loops: CENP-A on spring break” **Penn State University** Medical Campus, Hershey PA, February 2016
8. “Twisting chromatin loops: a tale of deviant histones” **Ludwig-Maximilian Universitat**, Munich, Germany February 2016
9. “Structural transitions in CENP-A nucleosomes driven by octamer plasticity” **TU-Delft**, Netherlands May 2015
10. “Centromeric histone H3 variant dynamics in colorectal cancer cells” **EMBO Dynamic Kinetochore Workshop**, Copenhagen, May 2015
11. “Non-coding RNAs drive histone assembly in vivo” **NCI/CECB** symposium on chromatin, DNA methylation, lncRNAs and disease (co-organizer, Chair), April 2015
12. “A novel lncRNA isLong non coding RNAs are required for CENP-A histone variant assembly at human centromeres” **Cold Spring Harbor conference on Epigenetics and Chromatin** (9/2014, S. Berger, F. Winston & J. Mueller, Chairs), CSHL, NY, September 2014
13. “A novel lncRNA regulates CENP-A assembly at human centromeres” **\*Gordon Conference on Centromere Structure** (8/2014, B. Sullivan & R. O’Neill, Chairs), declined due to maternity leave, replaced with Delphine Quenet
14. “A novel lncRNA regulates CENP-A assembly at human centromeres” **\*Gordon Conference on Chromosome Biology** (6/2014, S. Grewal & W. Bickmore, Chairs), declined due to maternity leave, replaced with Delphine Quenet
15. “Chromatin variants drive chromosome defects”, **Memorial Sloan Kettering Cancer Center**, New York, NY, March 2014
16. “Single molecule analysis of variant nucleosomes in human tumors” **The Ohio State University**, Cleveland, Ohio, August 2013
17. “Structurally distinct CENP-A nucleosomes invade ectopic locations in human cancers” **EMBO workshop on Kinetochores and Centromeres**, Porto, Portugal, May 2013
18. “Histone variant dynamics in colorectal cancer” **United States Uniformed Services University**, Chevy Chase, MD 20892, March 2013
19. “Histone variant dynamics in colorectal cancer” **Laboratory of Cancer Biology and Genetics**, National Cancer Institute, Bethesda MD 20892, March 2013
20. “Histone variant dynamics in colorectal cancer cells” **National Cancer Institute** Research Highlights at the Annual Retreat, Washington DC, January 2013

## Service as Reviewer (2001-current)

Biochemie, BBA, Cell, Cell Reports, Current Biology, Chromosoma, Chromosome Research, eLife, EMBO, EMBO Reports, Epigenetics and Chromatin, Genetics, Genome, Genome Biology, Genome Research, JCB, JBC, JMB, Molecular Cell, Molecular Biology of the Cell, Nature, NSMB, Nature Comm, NAR, PLoS One, PloS Genetics, PNAS, Science, Scientific Reports.