

Yamini Dalal, Ph.D.

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**Education**

- Postdoctoral Associate, Basic Sciences Division, Fred Hutch Cancer Res. Center 2007
 “Unusual Features of Centromeric Nucleosomes”. Advisor: **Steven Henikoff**
- Ph.D. Molecular and Cellular Biology, Purdue University 2003
 “Signals in DNA that influence chromatin structure in vitro and in vivo”. Advisor: **Arnold Stein**
- B.Sc. (First Class with Honors) Double Major: Life Sciences and Biochemistry,
 St. Xavier's College, University of Bombay, India 1995

Research Experience

- Postdoctoral Research Associate, Fred Hutchinson Cancer Research Center 9/2003-8/2007
- Graduate Research Assistant, Biological Sciences, Purdue University 9/1998-8/2003

Teaching Experience

- Visiting Lecturer, Dept. of Biology Western Washington University, WA 9/2007-5/6008
- Howard Hughes Future Faculty Fellow Lecturer, University of Washington, WA
 Senior Seminar Series “Chromatin, Epigenetics and Disease” 3/2007-5/2007
- Graduate Teaching Assistant, Biological Sciences, Purdue University 9/1998-9/2003

Publications

1. **Yamini Dalal**, Takehito Furuyama, Danielle Vermaak and Steven Henikoff (2007) Structure, Dynamics and Evolution of Centromeric Nucleosomes, *Proceedings of the National Academy of Sciences*, 104: 15974-15981
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 Sciences*, 103 (16) 6172–6177
4. Steven Henikoff and **Yamini Dalal** (2005) Centromeric Chromatin: what makes it unique? *Current Opinions in Genetics and Development*, 15 (2) 177-84. Review
5. **Yamini Dalal**, TJ Fleury, Alred Cioffi, and Arnold Stein (2005) Long-range Oscillations in a Periodic DNA Sequence Motif May Influence Nucleosome Array Formation, *Nucleic Acids Research*, 33 (3) 934-945
6. Alfred Cioffi, **Yamini Dalal** and Arnold Stein (2004) DNA sequence alterations affect nucleosome array formation of the chicken ovalbumin gene, *Biochemistry*, 43 (21) 6709-6714

7. Arnold Stein, **Yamini Dalal** and TJ Fleury (2002) Circle ligation of in vitro assembled chromatin indicates a highly flexible structure, *Nucleic Acids Research*, 30 (23) 5103-5107
8. 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. Review
9. Hongda Wang*, **Yamini Dalal***, Steven Henikoff and Stuart Lindsay (2008) A novel application of atomic force microscopy on native chromatin extracts and immunopurified centromeric chromatin. (*these authors contributed equally to this work) *Manuscript in preparation*
10. **Yamini Dalal** (2008) Epigenetic specification of centromere inheritance (Invited Review, CSBMB, "Chromatin" Issue) *Manuscript in preparation*

Collaborative Research

- Collaboration with Christopher Woodcock and Arthur Skoultchi 2003
(Linker histone H1 knockout effects on chromatin structure, resulting in publication in Cell, 2005)
- Postdoctoral Collaboration with Takehito Furuyama 2006
(In vitro assembly of centromeric chromatin, resulting in publication in PNAS 2006)
- Postdoctoral Collaboration with Stuart Lindsay 2008
(Atomic Force Measurements and Recognition Imaging of centromeric nucleosomes)
- Ongoing Collaboration with Gabriel Varani and Tom Leeper 2008
(NMR solution structure of CenH3/H4 dimers vs. H3/H4 dimers)

Fellowships and Grants

- Howard Hughes Future Faculty Fellow, University of Washington, WA 2007
- Research grant awarded for Electron Microscopy, Dept. of Biological Sciences, Purdue University. 2002

Selected Presentations

- Invited speaker, "Structure, Dynamics and Evolution of Centromeric Nucleosomes" National Cancer Institute (National Institutes of Health), MD, March 2008
- Invited speaker "Structure, Dynamics and Evolution of Centromeric Nucleosomes", Epigenetics and Chromatin CSBMB conference, Banff, AB, March 2008
- Invited speaker, "How the Centromere gets its Groove", Columbia University, Department of Biochemistry, Molecular Biology and Biophysics, NY, February 2008
- Invited speaker, "Evolution, Structure, Dynamics of Centromeric Nucleosomes", Columbia University, Department of Genetics and Development, NY, January 2008
- Invited speaker "How the Centromere got its Groove", Department of Biological Sciences, Florida State University, FL, January 2008
- Invited speaker "How the Centromere got its Groove" Department of Biochemistry and Molecular Biology, Colorado State University, CO, January 2008
- Invited speaker, "How the centromere got its groove", Chromatin and Chromosomes, Asilomar,

Pacific Grove CA, December 2007

- Invited speaker, "Analysis of centromeric chromatin reveals a highly unusual structure in vivo", Eukaryotic Transcription: 'From Chromatin to mRNA' Keystone symposium, Taos NM, April 2006
- Poster presentation "Signals in genomic DNA that influence chromatin structure" Chromatin Structure and Function Keystone symposium, MT, January 2003
- Invited speaker "Signals in genomic DNA that influence chromatin structure" 7th Annual Biophysics and Cell Biology Symposium, Purdue University, December 2001

Service on Committees

- Graduate representative on Graduate Admissions Committee, Dept. of Biological Sciences, Purdue University
- Graduate representative on Alumni Advisory Committee, Dept. of Biological Sciences, Purdue University.

Membership Information

American Chemical Society

Service for Journals as Expert Reviewer

Current Biology, Genome Research, Genetics, Genome

References

1. **Steven Henikoff**, Ph.D. Seattle, WA
(Postdoctoral Advisor) Email: sbiggins@fhcrc.org
Member,
Basic Sciences Division,
Fred Hutchinson Cancer Research Center,
Seattle, WA
Email: steveh@fhcrc.org
2. **Arnold Stein**, Ph.D. (Thesis Advisor)
Assistant Professor,
Dept. of Biological Sciences,
Purdue University,
W. Lafayette, IN
Email: astein@bilbo.bio.purdue.edu
3. **Susan Biggins**, Ph.D. Associate Member,
Basic Sciences Division,
Fred Hutchinson Cancer Research Center,
4. **Minou Bina**, Ph.D. Professor,
Dept. of Chemistry,
Purdue University
W. Lafayette, IN
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5. **Stuart Lindsay**, Ph.D. Professor and Director,
BioDesign Institute,
Arizona State University,
Tempe, AZ
Email: Stuart.Lindsay@asu.edu