

Arshad Desai

curriculum vitae

Ludwig Institute for Cancer Research
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Research & Mentoring Statement:

The research in my group is focused on understanding the mechanisms that ensure transmission of the genome with high fidelity during cell division. Errors in this process result in aneuploidy, a widely prevalent feature of cancer cells that contributes to tumorigenesis and is associated with therapeutic resistance in the clinic. To understand the causes underlying the dysregulation of chromosome segregation in cancer and to develop potential new therapeutic opportunities, we have been invested in understanding the mechanics of chromosome-spindle microtubule interactions, the interplay between mechanics and fidelity pathways that ensures accuracy of segregation, the epigenetic basis of centromere identity, and the role of centrosomes (the major microtubule-organizing centers in animal cells) in segregation fidelity and cell cycle progression. The advances emerging from these studies are leading us to develop new project areas focused on phosphatase-kinase signaling in chromosome segregation, control of cell cycle transitions, specialization of cell division mechanisms in different human cell types, and development of new division-focused therapeutic strategies for cancer.

In parallel to pursuing my research agenda, I have emphasized mentoring of postdoctoral fellows and graduate students for independent scientific leadership roles in academia and industry. Since starting my lab in 2003, I have directly supervised 6 students and 18 postdoctoral fellows; I have also co-mentored (with Karen Oegema as their primary supervisor), an additional 4 students and 14 postdoctoral fellows. From the 27 trainees (9 students; 18 postdocs) that have left our two groups, 16 are independent investigators in tenure track positions (at institutions such as Whitehead/MIT, UNC Chapel Hill, Columbia University, Yale University, University of Wisconsin, Max Perutz Labs in Vienna, Pomona College, etc.), 5 have senior scientist or postdoctoral positions in academia, and 5 are in scientist positions in companies including Seattle Genetics, Calico Biosciences, and Union Biometrica. I also served as Vice Chair & and Chair of the Biomedical Sciences umbrella graduate program at UC San Diego. In this capacity, I initiated a major program reorganization, led a 9-year external review of the program, and promoted a number of efforts to improve diversity and inclusion in graduate education, including elimination of the GRE as a requirement for admission. I additionally provide mentorship to students campus-wide by serving on ~60 thesis committees of students from Biomedical Sciences, Biological Sciences, Chemistry & Biochemistry, and Bioinformatics & Systems Biology graduate programs.

Academic Appointments:

2010 – present	Professor, Dept. of Cellular and Molecular Medicine University of California, San Diego
2011 – present	Member & Head, Laboratory of Chromosome Biology; Ludwig Institute for Cancer Research, San Diego Branch
2008 - 2009	Associate Professor, Dept. of Cellular and Molecular Medicine University of California, San Diego
2008 – 2010	Associate Member & Head, Laboratory of Chromosome Biology; Ludwig Institute for Cancer Research, San Diego Branch
Nov. 2002 – 2007	Assistant Professor, Dept. of Cellular and Molecular Medicine University of California, San Diego
Nov. 2002 – 2007	Assistant Member & Head, Laboratory of Chromosome Biology; Ludwig Institute for Cancer Research, San Diego Branch

Education:

1998	Ph.D. Cell Biology, University of California, San Francisco
1991	B.S. Biology, California State University, Hayward (East Bay)

Research Experience:

1992–1998	Graduate student with Dr. T.J. Mitchison: UCSF (1993-97), Harvard Medical School (1997-1998)
1998–2002	Postdoctoral fellow with Dr. A. Hyman: European Molecular Biology Laboratory, Heidelberg, Germany (until February, 2001); Max Planck Institute for Cell Biology and Genetics, Dresden, Germany (February 2001 – November 2002)
1994, 1996, 1999, 2000 (summers)	Woods Hole Marine Biological Laboratory Cell Division Group

Awards & Honors:

1991-1992	University of California Regents Fellowship
1992-1997	Howard Hughes Medical Institute Predoctoral Fellowship
1997-1998	Non-Resident Tuition Fellowship, UCSF
1998-2000	EMBO Long Term Postdoctoral Fellowship
2000-2002	American Cancer Society Postdoctoral Fellowship
2004-2007	Scholar Award, Damon Runyon Cancer Research Foundation
2007	Porter Fellow, Keith R. Porter Endowment for Cell Biology
2007	Alumnus Speaker, Damon Runyon Cancer Research Foundation Retreat
2008	Early Career Life Scientist Award, American Society for Cell Biology
2018	Lifetime Fellow, American Society for Cell Biology

Current Funding:

Agency: NIH (Grant #: R01GM074215)

Principal Investigator: Desai, Arshad

Project Title: Kinetochore Specification and Function

Duration: 5/05 – present

Agency: Ludwig Institute for Cancer Research (ongoing core support)

Principal Investigator: Desai, Arshad

Duration: 11/1/02 – present

Company: Sierra Oncology, Inc.

Principal Investigator: Desai, Arshad

Duration: 11/18 – 05/19

Professional Society Activities:

1993 - present Member, American Society for Cell Biology (ASCB)
 2015 - present Member, Genetics Society of America
 2004 Minisymposium Chair, 44th ASCB Annual Meeting
 2006 Local Arrangements Committee Chair, 46th ASCB Annual Meeting
 2006 Member, ASCB Evolution Taskforce
 2009 Minisymposium Chair, 49th ASCB Annual Meeting
 2012-2013 Program Committee Chair, ASCB 2013 Annual Meeting
 2013 Member, ASCB Stem Cell Taskforce
 2014,15 Member, Kaluza Prize Selection Committee, ASCB
 2015 Chair, Early Career Award Selection Committee, ASCB
 2016 Member, ASCB Executive Director Search Committee
 2017-18 Member, Non-Scientific Program Committee, ASCB Annual Meeting
 2018 Chair, Nominations Committee, ASCB
 2019 Member, Nominations Committee, ASCB

Editorial Boards:

2007 – 2016 Editorial Board, *Journal of Cell Biology*
 2016 – present Senior Editor, *Journal of Cell Biology*

Reviewing Service:

NIH:

2005 Ad-hoc reviewer “*Nuclear Dynamics & Transport*” Study Section
 2010 “Cell Biology and Development” Fellowship Review Panel-Stage 1
 2011 Intramural Review Panel member, Laboratory of Metabolism, NCI
 2012 Ad-hoc reviewer “*NCSD*” Study Section
 2012 Reviewer for RFA “Macromolecular Interactions in Cells”
 2013 Intramural Review Panel, Laboratory of Molecular Pharmacology, NCI
 2014 Ad-hoc reviewer “*NCSD*” Study Section
 2015-present Standing member, “*NCSD*” Study Section
 2017-present Chair, “*NCSD*” Study Section

European Research Council:

2012 LS3 Starting Grant Panel Member
 2013, 2105 LS3 Shadow Panel Member
 2013, 2015 Advanced Grant Reviewer
 2014, 2016, 2018 Chair, LS3 Consolidator Grant Panel

India Alliance:

2018 – present India Alliance Intermediate & Senior Fellowship Review Panel

Other Grant Reviews:

1998, 1999, 2001 2004, 2005	National Science Foundation (USA)
1999	University of Oklahoma Biotechnology Seed Program
2004	Medical Research Council, United Kingdom
2004, 2005, 2007 2010, 2016	Wellcome Trust, United Kingdom
2005	Human Frontiers Science Program
2006	Austrian Science Fund
2006	Netherlands Organization for Health Research and Development
2010	UC Discovery Grant Review Panel

Ad hoc Manuscript Reviewer for:

Cell, Journal of Cell Biology, Current Biology, EMBO Journal, Journal of Cell Science, Molecular Biology of the Cell, Molecular Cell Biology, Genes & Developments, Nature, Nature Cell Biology, Nature Chemical Biology, Nature Structural & Molecular Biology, Science, Trends in Cell Biology, Molecular Cell, Developmental Cell, eLife & others

Textbook Review: Expert reviewer for Chapter on Mitosis in *Molecular Biology of the Cell* by Alberts et al, 5th ed. (Garland), Chapter on Cytoskeleton in *Molecular Biology of the Cell* by Alberts et al, 6th ed. (Garland), and *The Cell Cycle* by D. Morgan (New Science Press)

Invited Presentations:

1. American Society for Cell Biology annual meeting. Minisymposium on Regulating the Polymers of the Cytoskeleton (December, 1997).
2. Gordon Conference on Motile and Contractile Systems (June, 1998).
3. 3rd Workshop on Molecular Motors and New Microscopy Techniques. Heidelberg, Germany (October, 1998).
4. SFB Nr.413, Munich, Germany (January, 1999).
5. University of Dundee, Scotland (June, 1999).
6. American Society for Cell Biology annual meeting. Minisymposium on Spindles & Spindle Poles (December, 1999).
7. Physics/Biology interaction workshop, Max Planck Institute for the Physics of Complex Systems, Dresden, Germany (March, 2001).
8. University of North Carolina, Chapel Hill (April, 2001).
9. EMBO Fellows Meeting, Heidelberg, Germany (June, 2001).
10. Workshop on Chromosome Segregation and Aneuploidy, Chartres, France (July, 2001).
11. The Scripps Research Institute (November, 2001).
12. University of California, San Diego (November, 2001).
13. Memorial Sloan Kettering Cancer Research Center, New York (December, 2001).
14. Johns Hopkins University, Baltimore (January, 2002).
15. The Salk Institute, San Diego (January, 2002).
16. Stanford University, Palo Alto (January, 2002).
17. University of California, San Francisco (January 2002).
18. University of Washington, Seattle (January 2002).
19. University of North Carolina, Chapel Hill (January 2002).
20. Harvard University (February 2002).
21. EMBO Light Microscopy Course, Heidelberg, Germany (May 2002).
22. Annual San Diego Cell Biology meeting (April, 2003).
23. Indiana University, Bloomington (April, 2003).
24. UCSD, Division of Biological Sciences (May, 2004).
25. Workshop on Chromosome Segregation and Aneuploidy, Cortona, Italy (September, 2004).
26. University of Pennsylvania (April, 2005).

27. Wadsworth Center, New York (April, 2005).
28. Gordon Research Conference on Chromosome Dynamics (July, 2005).
29. University of California Berkeley, Frontiers in Chromosome Research Conference (March, 2006).
30. UCSD, Cellular & Molecular Medicine (April, 2006).
31. Cold Spring Harbor Laboratory, *C. elegans* course (August, 2006).
32. Cold Spring Harbor Laboratory, Imaging course (November, 2006).
33. University of California, Davis (February, 2007).
34. University of Utah, Salt Lake City (March, 2007).
35. FASEB Chromosome Segregation Conference, Indian Wells (June, 2007).
36. Dartmouth University (June, 2007).
37. Cell Cycle Meeting, Salk Institute (July, 2007).
38. Cold Spring Harbor Laboratory, *C. elegans* course (August, 2007).
39. Damon Runyon Cancer Research Foundation Retreat (October, 2007).
40. UCSD Moores Cancer Center Luncheon (December, 2007)
41. Japan Molecular Biology Society Annual Meeting, Yokohama, Japan (December, 2007).
42. Institute of Cell and Molecular Biology, Tokyo University, Japan (December, 2007)
43. National Institute of Genetics, Mishima, Japan (December, 2007)
44. Rockefeller University, New York (April, 2008)
45. Oklahoma Medical Research Foundation, Oklahoma City (April, 2008)
46. University of North Carolina, Chapel Hill (April 2008)
47. San Diego State University, San Diego (May 2008)
48. Mechanisms and Control of Mitosis Conference (Abcam), Worcester (May 2008)
49. Gordon Research Conference on Molecular Cell Biology (June 2008)
50. Cold Spring Harbor Laboratory, *C. elegans* course (August 2008)
51. EMBO Workshop on Centromeres & Kinetochores, Arcachon, France (September 2008)
52. University of Virginia, Charlottesville (November 2008)
53. Friedrich Miescher Institute, Basel Worm Meeting, Basel Switzerland (November 2008)
54. European Molecular Biology Laboratory, Heidelberg, Germany (November 2008)
55. ASCB Annual Meeting, Mitosis & Meiosis Minisymposium (December 2008)
56. University of Texas Southwestern Medical Center, Dallas (March 2009)
57. Emory University (March 2009)
58. Physiology Course, Marine Biological Laboratory, Woods Hole (July, 2009)
59. FASEB Mitosis meeting, Italy (September 2009) *invited but could not attend*
60. Frontiers in Biology Seminar Series, Stanford University (October, 2009)
61. Microtubules, Motors, Tracks & Transport Workshop, Pondicherry, India (January 2010)
62. Temasek Life Sciences Laboratory, Singapore (January, 2010)
63. 2nd Young Investigators Meeting, Kolkata, India (February 2010)
64. National Cancer Institute, Maryland (March 2010)
65. Fred Hutchinson Cancer Research Center, Seattle (April 2010)
66. Columbia University, New York (April 2010)
67. EMBO Workshop on Microtubules, Heidelberg, Germany (June 2010)
68. University of Rochester, New York (October 2010)
69. Max Planck Institute, Dresden, Germany (October 2010)
70. Institute of Molecular Pathology, Vienna, Austria (October 2010)
71. Curie Institute, Paris, France (May 2011)
72. University Medical Center Utrecht, Netherlands (May 2011)
73. Sloan Kettering Institute, New York (May 2011)
74. IRIC/University of Montreal, Canada (September 2011)
75. University of Ottawa, Canada (September 2011)
76. Ludwig Institute Symposium, Oxford, England (October 2011)
77. Vanderbilt University, Tennessee (October 2011)
78. London Research Institute, London, England (February 2012)

79. Gulbenkian Institute, Lisbon, Portugal (April 2012)
80. University of California, Santa Cruz (May 2012)
81. East Asia Worm Meeting, Taipei (June 2012)
82. IBMC, Porto, Portugal (September 2012)
83. EMBO Workshop on Centromeres, Barcelona, Spain (September 2012)
84. Max Planck Institute, Dortmund, Germany (December 2012)
85. University of Pennsylvania (March 2013)
86. Keynote, Bay Area Worm Meeting (April 2013)
87. ASCB Stem Cell Taskforce workshop, Bethesda (November 2013)
88. CICESE, Ensanada, Mexico (November 2013)
89. University of Colorado Health Sciences, Denver (March 2014)
90. National Center for Biological Sciences, Bangalore, India (March 2014)
91. Gordon Conference on Meiosis (June 2014)
92. Gordon Conference on Centromeres (August 2014)
93. Jacques Monod Conference on the Cell Cycle, Roscoff, France (October 2014)
94. Bay Area Centromere Meeting, Santa Cruz (January 2015)
95. University of Michigan, Ann Arbor (February 2015)
96. University of California, San Francisco (March 2015)
97. University of California, Los Angeles (April 2015)
98. Keynote Speaker, Gordon Research Seminar "Cell Growth & Proliferation" (July 2015)
99. Gordon Conference on Cell Growth & Proliferation (July 2015)
100. NIH Cell Biology Seminar Series (March 2016)
101. Causes & Consequences of Aneuploidy, Nice, France (July 2016)
102. Keynote Speaker, Gordon Research Seminar, "Centromeres" (August 2016)
103. Gordon Conference on Centromeres (August 2016)
104. ETH, Zurich, Switzerland (October 2016)
105. Max Planck Institute, Dortmund, Germany Student Symposium (October 2016)
106. 3rd International Conference on Chromosome Stability, Kerala, India (December 2016)
107. Distinguished Lecture, Regional Center for Biotechnology, Faridabad, India (December 2016)
108. UC San Diego Genetics Program Retreat (May 2017)
109. UNC Chapel Hill (May 2017)
110. Cold Spring Harbor Symposium on Quantitative Biology (June 2017)
111. Harvard Medical School (November 2017)
112. MIT Biophysics (November 2017)
113. University of Oregon (May 2018)
114. CBIO Training Grant Retreat, UC San Diego (July 2018)
115. Mitchison Symposium, Harvard Medical School (July 2018)
116. Gordon Conference on Centromeres (July 2018)
117. 6th International Conference on Cellular Dynamics and Chemical Biology, Heifei, China (October 2018)
118. 4th International Conference on Chromosome Stability, Bangalore, India (December 2018) – *unable to attend*
119. University of Chicago (January 2019)
- 120.

Supervised Personnel:

Postdoctoral Fellows: (directly supervised)

Name	Funding Source (Dates Supervised)
Iain Cheeseman	Jane Coffin Childs Memorial Fund fellowship (January 2003 – August 2007)

	<u>Current Position</u> : Professor, Whitehead Institute / Dept. of Biology, MIT
Paul Maddox	Damon Runyon Cancer Research Foundation fellowship (April 2003 – August 2007) <u>Current Position</u> : Assistant Professor, University of North Carolina, Chapel Hill
Susan Kline	American Cancer Society fellowship (June 2004 – November 2006) <u>Current Position</u> : Medical writer, SusanChangConsulting.com
Julien Dumont	EMBO Long Term fellowship (Feb 2007 – Feb 2010) <u>Current Position</u> : Group Leader, Jacques Monod Institute, Paris
Julien Espeut	Extramural grant funding (May 2008 – Dec 2010) <u>Current Position</u> : Research Scientist, Sys2Diag, Montpellier
Karen Yuen	The Croucher Foundation (Hong Kong) fellowship (Sep 2007 – May 2011) <u>Current Position</u> : Assistant Professor, Hong Kong University
Reto Gassmann	Swiss National Science Foundation fellowship (June 2005 – Mar 2012) <u>Current Position</u> : Group Leader, IMCB, Porto, Portugal
Christopher Campbell	Damon Runyon Cancer Research Foundation fellowship (Mar 2008 – Apr 2015) <u>Current Position</u> : Group Leader, Max Perutz Institute, Vienna
Diego Folco	Ludwig Institute core support (March 2009 – May 2012) <u>Current Position</u> : Staff Scientist, National Cancer Institute (NCI)
Christian Degroot	DFG Fellowship (Germany) (Feb 2010 – Feb 2014) <u>Current Position</u> : Scientist, La Jolla Institute for Allergy & Immunology
Adina Gerson	EMBO Long Term fellowship (September 2011 – Jan 2017) <u>Current Position</u> : Small Molecule Development Program, Ludwig Institute
Dhanya Cheerambathur	Extramural grant funding (Nov 2008 – Feb 2018) <u>Current Position</u> : Group Leader, Wellcome Trust Centre Edinburgh UK
Sadanori Watanabe	Japanese Society for the Promotion of Science fellowship (April 2016 – September 2018) <u>Current Position</u> : Researcher, DSP Cancer Institute, Sumitomo Dainippon Pharma
Taekyung Kim	Extramural grant funding (May 2011 – Dec 2018) <u>Current Position</u> : Assistant Professor, Dept. of Biology Education, Pusan University, South Korea
Neil Hattersley	Extramural grant funding (Nov 2010 – present)
Pablo Gonzalez	Pew Latin American fellowship

(February 2013 – present)
 Ruth Kabeche American Cancer Society fellowship
 (October 2015 – present)
 Bram Prevo Extramural grant funding
 (July 2015 – present)

PhD Students:(UCSD Biomedical Sciences Graduate Program)

Name	Funding Source (Dates Supervised)
Joost Monen	UCSD Genetics Training Grant (June 2003 – November 2008) <u>Current Position:</u> Associate Professor, Ramapo College of New Jersey
Sharsti Sandall	NCI Cancer Cell Biology Training Grant (August 2003 – September 2008) <u>Current Position:</u> Scientist, Seattle Genetics
Anthony Essex	UCSD Genetics Training Grant (July 2004 – November 2009) <u>Current Position:</u> CSO, PhenoVista Biosciences
Deanna Martin*	NCI Cancer Cell Biology Training Grant & UCSD Genetics Training Grant (June 2008 – April, 2013) *Deanna passed away in March 2018
Mark Moyle	NCI Cancer Cell Biology Training Grant & UCSD Genetics Training Grant (June 2009 – July 2014) <u>Current Position:</u> Postdoctoral fellow, Yale University
Amelia Richardson	NCI Cancer Cell Biology Training Grant (July 2012 – June 2018)

Master's Students & International Student Interns:

	<u>Current Position</u>
Jia Sheng-Hu	Postdoctoral fellow, UCSF
Lenno Krenning	Postdoctoral fellow, Hubrecht Institute, Utrecht Netherlands
Sebastian Hoffmann	PhD student, Curie Institute, Paris
Zhou, Qiuxia	PhD student, Hong Kong University of Science & Technology
Ziyan Wang	currently in the lab (2018 fall)
Yanchi Li	currently in the lab (2018 fall)

Research Associates/Lab Managers:

Current: Tiffany Chow, Jeffrey Hendel

Former:	<u>Current Position</u>
Francie Barron	Nanomediical Diagnostics (San Diego)
Avanti Ghanekar	Optometrist (OD, UC Berkeley)
Ksenia Sniegowski	Psychiatrist (University of Washington, Seattle)
Kim Laband	Postdoctoral fellow (Hubrecht Institute, Utrecht)
Andrew Muroyama	Postdoctoral fellow (Stanford University)
Tiffany Su	PhD student (Max Perutz Institute, Vienna)
Brian Cook	PhD student (UC Davis)
Ronald Biggs	PhD student (Northwestern University)
Kira Turnbull	MD student (UC Irvine)

Zhiling Zhao PhD student (UCSF)

Undergraduate Students: (co-supervised with Dr. Karen Oegema)

Current: Jennifer Harrison, Stephanie Ogrey

Former (partial list): Current Position

Hayley Pemble	Regulatory Affairs Associate, BioMarin Pharmaceuticals
Jennifer Hsien	Research Sales Representative, Thermo Fisher Scientific
Emerald Butko	Scientist at Advanced Cell Diagnostics
Kelly Zhang	PhD student in Political Science at Stanford University
Doug Wilcox	MD/PhD student at Northwestern University
Ben Gould	Graduate student, Environmental engineering, UC Berkeley
Harriet Hu	Product Performance Engineer at Abbott
Ashley Kroll	PhD student in Nanoengineering, UCSD
Brenden Zounes	BS student in Bioengineering, UCSD
Jose Mendoza	BS student in Neuroscience, UCSD
Jasmin Russ	BS student in Biology, UCSD
Evan Santos	BS student in Bionengineering, UCSD

High School Students:

2011, 2012	Nicholas Pogliano (graduated UC Berkeley)
2013	Ishan Goyal (UC San Diego)
2018	Sofia Pogliano

Teaching & Other Instructional Activities:

UCSD Biomedical Sciences (BMS) Graduate Program:

2005-2015	SPAC Advisor (mentor 1 to 3 first year students)
2007-2011	Admissions Committee Chair/Co-Chair
2013-2016	Vice-Chair, Biomedical Sciences Graduate Program
2016-2019	Chair, Biomedical Sciences Graduate Program

Teaching:

2003-2006	Reading Group Workshop on Regenerative Medicine (SOM 204; 18hr)
2003-2007	Fall Survey course for BMS graduate students (BIOM 200; 6hr)
2003-2007	Modern Techniques of Biomedical Research (MED 260; 1hr)
2003-2007	Directed Reading; Research Propositions Abstract Review (BMS 296)
2004-present	CBB Cell Biology for Medical/Pharmacy Students (SOM 204; 2hr)
2006-2018	MCB for BMS graduate students (BIOM 254; 30hr; course director)
2008	Cell Biology course for Biology graduate students (BGGN222; 2 hr)
2011-present	Light Microscopy, Fall core course BMS program (BIOM200; 8 hr)

Other:

2000, 2002	EMBO Light Microscopy Course, Heidelberg, Germany
2003-2010	Cell Division Lectures, Scripps Research Institute, Cell Biology Course
2007-2010	Lecture on Centromeres & Telomeres, Scripps Research Institute, Molecular Biology Course
2006-2008	Co-Director, Cold Spring Harbor Laboratory <i>C. elegans</i> Course
2009	Module leader, Physiology course, Woods Hole Marine Biological Laboratory

Publications:

Google Scholar Profile: Arshad Desai (Jan 2019 citations: 17845; h-index: 65; i10-index: 123)

NCBI MyBibliography URL:

<https://www.ncbi.nlm.nih.gov/sites/myncbi/arshad.desai.1/bibliography/40623384/public/?sort=date&direction=descending>

1994 -1999:

1. Wang PC, Vancura A, **Desai A.**, Carmel G, Kuret J. 1994. Cytoplasmic forms of fission yeast casein kinase-1 associate primarily with the particulate fraction of the cell. **J. Biol. Chem.** 269:12014-23.
2. Salmon ED, Inoue T, **Desai A**, Murray AW. 1994. High resolution multimode digital imaging system for mitosis studies in vivo and in vitro. **Biol. Bull.** 187:231-2.
3. Smith DL, **Desai A**, Johnson AD. 1995. DNA bending by the a1 and alpha 2 homeodomain proteins from yeast. **Nucleic Acids Research.** 23:1239-43.
4. **Desai A**, Mitchison TJ. 1995. A new role for motor proteins as couplers to depolymerizing microtubules. **J. Cell Biol.** 128:1-4.
5. Walczak CE, Mitchison TJ, **Desai A.** 1996. XKCM1: a *Xenopus* kinesin-related protein that regulates microtubule dynamics during mitotic spindle assembly. **Cell.** 84:37-47.
6. Murray AW, **Desai A**, Salmon ED. 1996. Real time observation of anaphase in vitro. **Proc. Natl. Acad. Sci. USA.** 93:12327-32.
7. **Desai A**, Deacon HW, Walczak CE, Mitchison TJ. 1997. A method that allows the assembly of kinetochore components onto chromosomes condensed in clarified *Xenopus* egg extracts. **Proc. Nat. Acad. Sci. USA.** 94:12378-12383.
8. **Desai A**, Mitchison TJ. 1997. Microtubule polymerization dynamics. **Annu. Rev. Cell and Dev. Biol.** 13: 83-117.
9. **Desai A**, Maddox PS, Mitchison TJ, Salmon ED. 1998. Anaphase A chromosome movement and poleward spindle microtubule flux occur at similar rates in *Xenopus* extract spindles. **J. Cell Biol.** 141:703-13.
10. Waterman-Storer C, **Desai A**, Bulinski JC, Salmon ED. 1998. Fluorescent speckle microscopy: visualizing the movement, assembly, and turnover of macromolecular assemblies in living cells. **Curr. Biol.** 8:1227-30
11. **Desai A**, Mitchison TJ. 1998. Tubulin and FtsZ structures: functional and therapeutic implications. **Bioessays** 20:523-7.
12. **Desai A**, Mitchison TJ. 1998. Preparation and characterization of caged fluorescein tubulin. **Methods Enzymol.** 298:125-32.
13. Oegema K, **Desai A**, Wong ML, Mitchison TJ, Field CM. 1998. Purification and assay of a septin complex from *Drosophila* embryos. **Methods Enzymol.** 298:279-95.
14. **Desai A**, Verma S, Mitchison TJ, Walczak CE. 1999. Kin I kinesins are microtubule-destabilizing enzymes. **Cell.** 96: 69-78.
15. **Desai A**, Murray AW, Mitchison TJ, Walczak CE. 1999. The use of *Xenopus* egg extracts to study mitotic spindle assembly and function in vitro. **Methods Cell Biol.** 61:385-412.
16. Waterman-Storer C, **Desai A**, Salmon ED. 1999. Fluorescent speckle microscopy. **Methods Cell Biol.** 61:155-73.

17. Maddox P, **Desai A**, Salmon ED, Mitchison TJ, Oegema K, Kapoor T, Matsumoto B, Inoue S. 1999. Dynamic confocal imaging of microtubule poleward flux in *Xenopus* extract spindles. **Biol Bull.** 197:263-5.
18. **Desai A**, Hyman AA. 1999. Microtubule cytoskeleton: no longer an also ran. **Curr. Biol.** 9:R704-R707.

2000-2002:

19. **Desai A**. 2000. Kinetochores. **Curr. Biol.** 10:R508.
20. Oegema K*, **Desai A***, Rybina S, Kirkham M, Hyman AA. 2001. Functional analysis of kinetochore assembly in *Caenorhabditis elegans*. **J. Cell Biol.** 153: 1209-1226. (**equal contribution*)
21. Kinoshita K, Arnal I, **Desai A**, Drechsel D, Hyman AA. 2001. Reconstitution of physiological microtubule dynamics using purified components. **Science** 294:1340-1343.
22. Wittman T, Hyman AA, **Desai A**. 2001. The spindle: a dynamic assembly of microtubules and motors. **Nat. Cell Biol.** 3:E28-34.
23. Cheeseman IM, Brew C, Wolyniak M, **Desai A**, Anderson S, Muster N, Yates JR, Huffaker TC, Drubin DG, Barnes G. 2001. Implication of a novel multi-protein Dam1p complex in outer kinetochore function. **J. Cell Biol.** 155:1137-1145.
24. **Desai A**, Walczak CE. 2001. Assays for microtubule-destabilizing kinesins. **Methods Mol. Biol.** 164:109-21.
25. Maddox P*, **Desai A***, Oegema K, Mitchison TJ, Salmon ED. 2002. Poleward microtubule flux is a major component of spindle dynamics and anaphase A in mitotic *Drosophila* embryos. **Curr. Biol.** 12:1670-1674. (**equal contribution*)
26. **Desai A**. 2002. The (theoretical) yin and yang of spindle mechanics. **Dev. Cell** 3:465-7.
27. Walczak CE, Gan EC, **Desai A**, Mitchison TJ, Kline-Smith S. 2002. The microtubule-destabilizing kinesin XKCM1 is required for chromosome positioning during spindle assembly. **Curr. Biol.** 12:1885-9.

2003-2004:

28. **Desai A**, Rybina S, Müller-Reichert T, Shevchenko A, Shevchenko A, Hyman A, Oegema K. 2003. KNL-1 directs assembly of the microtubule-binding interface of the kinetochore in *C. elegans*. **Genes Dev.** 17:2421-35.
29. Dammermann A, **Desai A**, Oegema K. 2003. The minus end in sight. **Curr. Biol.** 13:R614-24.
30. Cheeseman I, Niessen S, Anderson S, Hyndman F, Yates J, Oegema K, **Desai A**. A conserved protein network controls assembly of the outer kinetochore and its ability to sustain tension. 2004. **Genes Dev.** 18:2255-68.
31. Cheeseman I, **Desai A**. 2004. Cell Division: AAAacking the mitotic spindle. **Curr. Biol.** 14:R70-2.
32. Cheeseman I, **Desai A**. 2004. Are you feeling tense? **Nature** 428:32-3. (*News & Views*)
33. Dammermann A, Pelletier L, Müller-Reichert T, **Desai A**, Oegema K. 2004. Centriole assembly requires both centriolar and pericentriolar material proteins. **Dev. Cell** 7:815-29.
34. Maddox P, Oegema K, **Desai A**, Cheeseman I. 2004. "Holo"er than thou: chromosome segregation and kinetochore function in *C. elegans*. **Chromosome Res.** 12:641-53.

35. Kline-Smith S, **Desai A**. 2004. Kinesins as microtubule disassembly enzymes. **Encyclopedia of Biological Chemistry**. Vol. 2. 517-521
36. Mitchison TJ, Maddox P, Groen A, Cameron L, Perlman Z, Ohi R, **Desai A**, Salmon ED, Kapoor TM. 2004. Bipolarization and poleward flux correlate during *Xenopus* extract spindle assembly. **Mol. Biol. Cell** 15:5603-15.

2005:

37. Mitchison TJ, Maddox P, Gaetz J, Groen A, Shirasu M, **Desai A**, Salmon ED, Kapoor TM. Roles of polymerization dynamics, opposed motors and a tensile element in governing the length of *Xenopus* extract meiotic spindles. 2005. **Mol. Biol. Cell** 16:3064-76.
38. Cheeseman I, MacCleod I, Yates J, Oegema K, **Desai A**. 2005. The CENP-F like proteins HCP-1 and HCP-2 target CLASP to kinetochores to mediate chromosome segregation. **Curr. Biol.** 15:771-7.
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