

Group Leader**Wellcome Trust Senior Research Fellow, EMBO Young Investigator**

Department of Biochemistry, University of Oxford, UK

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Date of birth: 1981 April 5

Nationality: Japanese

Degrees: Ph.D. University of Washington 2010

B.S. University of Tokyo 2004

Professional Positions

2013–present	Group Leader, Department of Biochemistry, University of Oxford, UK
2010–2013	Postdoctoral Fellow, Sir William Dunn School of Pathology, University of Oxford, UK (Advisor: Professor Keith Gull)
2005–2010	Graduate Research Assistant, Fred Hutchinson Cancer Research Center, Seattle, USA (Advisor: Dr. Sue Biggins)
2004–2010	Molecular and Cellular Biology Graduate Student, University of Washington, Seattle, USA
2003–2004	Research Assistant, Department of Biophysics and Biochemistry, University of Tokyo, Japan (Advisor: Professor Masayuki Yamamoto)

Professional Experiences

2021	Co-organizer, The Dynamic Cell IV, Bristol, UK
2019	Co-chair, ASCB Minisymposium, Washington DC, USA
2019	Co-organizer, Dynamic Kinetochore Workshop, Paris, France
2018, 2019	Co-organizer, Microtubule Meeting UK (4th and 5th), Edinburgh, UK
2018–2020	Royal Society Research Grant Board: Biological Sciences (£20K Grants Panel)
2017–2021	Biochemical Society Committee (Research Area IV: Cells)
2017	ASCB Ambassador

Research Fellowships and Grants

2018–2023	Wellcome Trust Senior Research Fellowship (£1,890,493)
2018	John Fell Fund, Oxford University Press (£21,107)
2018	EMBO Young Investigator program small grant (€10,000)
2017–2019	EMBO Young Investigator program (€15,000)
2017–2018	EPA Cephalosporin Fund (£20,907)
2016–2018	Wellcome Trust Enhancement Grant (£178,556)
2013–2018	Wellcome-Beit Prize Fellowship (£25,000)
2013–2018	Wellcome Trust and Royal Society Sir Henry Dale Fellowship (£1,013,112)
2011–2013	Human Frontier Science Program Long Term Fellowship (£54,750)
2010–2011	EMBO Long Term Fellowship (£30,524)

Honors and Awards

2017	EMBO Young Investigator program
2016	Biochemical Society's Early Career Research Award (Cells)
2015	R.R. Bensley Award in Cell Biology (AAA Young Investigator Award)
2013	Wellcome-Beit Prize
2010	Harold M. Weintraub Graduate Student Award
2007	Best Poster Award, Basic Sciences Division, Fred Hutchinson Cancer Research Center

Institutional responsibilities

2019–present	Equality & Diversity Self-Assessment Team
2016	Graduate Admissions

Teaching Experiences

2014–present Tutorials to Wellcome Trust Chromosome and Developmental Biology DPhil program students
2014 Lectures to third year undergraduate students, University of Oxford
2005–2006 Science Education Partnership (SEP) Program, Fred Hutchinson Cancer Research Center
2005 Teaching Assistant, Genetics 371, University of Washington

Preprint

Marcianò G*, Nerusheva OO*, Ishii M*, and **Akiyoshi B#**. (2019) Unconventional kinetochore kinases KKT2 and KKT3 have a unique zinc finger that promotes their kinetochore localization. *bioRxiv* doi.org/10.1101/2019.12.13.875419

Ishii M, and **Akiyoshi B#**. (2019) Unconventional kinetochore kinases KKT10/19 promote the metaphase to anaphase transition in *Trypanosoma brucei*. *bioRxiv* doi.org/10.1101/806224

Publications

Nerusheva OO, Ludzia P, and **Akiyoshi B#**. (2019) Identification of four unconventional kinetoplastid kinetochore proteins KKT22–25 in *Trypanosoma brucei*. *Open Biology* 9: 190236

Akiyoshi B#. (2019) Evolution: A Mosaic-Type Centromere in an Early-Diverging Fungus. *Current Biology* 29: R1184–R1186

Llauró A*, Hayashi H*, Bailey M*, Wilson A, Ludzia P, Asbury CL#, and **Akiyoshi B#**. (2018) The kinetoplastid kinetochore protein KKT4 is an unconventional microtubule tip-coupling protein. *Journal of Cell Biology* 217 (11) 3886–3900

Hayashi H and **Akiyoshi B#**. (2018) Degradation of cyclin B is critical for nuclear division in *Trypanosoma brucei*. *Biology Open* 7: bio031609

Drinneberg IA# and **Akiyoshi B#**. (2017) Evolutionary lessons from species with unique kinetochores. *Progress in Molecular and Subcellular Biology*, 56: 111–138

Akiyoshi B# (2016) The unconventional kinetoplastid kinetochores: from discovery toward functional understanding. *Biochemical Society Transactions* 44: 1201–1217

Nerusheva OO and **Akiyoshi B#**. (2016) Divergent polo box domains underpin the unique kinetoplastid kinetochore. *Open Biology* 6: 150206

Kim J, Ishiguro K, Nambu A, **Akiyoshi B**, Yokobayashi S, Kagami A, Ishiguro T, Pendas AM, Takeda N, Sakakibara Y, Kitajima TS, Tanno Y, Sakuno T, and Watanabe Y. (2015) Meikin is a conserved regulator of meiosis I-specific kinetochore function. *Nature* 517: 466–471

Akiyoshi B# and Gull K. (2014) Discovery of unconventional kinetochores in kinetoplastids. *Cell* 156 (6): 1247–58 (#corresponding author)

Akiyoshi B# and Gull K. (2013) Evolutionary cell biology of chromosome segregation: insights from trypanosomes. *Open Biology* 3: 130023 (#corresponding author)

Akiyoshi B, Nelson CR, and Biggins S. (2013) The Aurora B kinase promotes inner and outer kinetochore interactions in budding yeast. *Genetics* 194: 785–9

Sarangapani KK, **Akiyoshi B**, Duggan NM, Biggins S and Asbury CL. (2013) Phosphoregulation promotes release of kinetochores from dynamic microtubules via multiple mechanisms. *PNAS* 110 (18): 7282–7

Akiyoshi B, Nelson CR, Duggan N, Ceto S, Ranish JA, and Biggins S. (2013) The Mub1/Ubr2 ubiquitin ligase

complex regulates the conserved Dsn1 kinetochore protein. *PLoS Genetics* 9 (2): e1003216

Gonen S*, **Akiyoshi B***, Iadanza MG*, Shi D, Duggan N, Biggins S and Gonen T. (2012) The structure of purified kinetochores reveals multiple microtubule attachment sites. *Nature Structural and Molecular Biology* 19: 925–929 (*equal contribution)

Akiyoshi B# and Biggins S. (2012) Reconstituting the kinetochore-microtubule interface: what, why, and how. *Chromosoma* 121: 235–250 (#corresponding author)

Unnikrishnan A, **Akiyoshi B**, Biggins S, and Tsukiyama T. (2012) An efficient purification system for native minichromosome from *Saccharomyces cerevisiae*. *Methods in Molecular Biology* 833: 115–23

Akiyoshi B*, Sarangapani KK*, Powers AF*, Nelson CR, Reichow SL, Arellano-Santoyo HS, Gonen T, Ranish JA, Asbury CL, and Biggins S. (2010) Tension directly stabilizes reconstituted kinetochore-microtubule attachments. *Nature* 468: 576–9 (*equal contribution)

Akiyoshi B and Biggins S. (2010) Cdc14-dependent dephosphorylation of a kinetochore protein prior to anaphase in *Saccharomyces cerevisiae*. *Genetics* 186: 1487–91

Akiyoshi B, Nelson CR, Ranish JA, and Biggins S. (2009) Quantitative proteomic analysis of purified yeast kinetochores identifies a PP1 regulatory subunit. *Genes and Development* 23: 2887–99

Akiyoshi B, Nelson CR, Ranish JA, and Biggins S. (2009) Analysis of Ipl1-mediated phosphorylation of the Ndc80 kinetochore protein in *Saccharomyces cerevisiae*. *Genetics* 183: 1591–5

Talks and Seminars

Invited talk at the ASCB/EMBO meeting, Washington DC, USA 2019

Invited talk at the London Parasitology Club, London, UK 2019

Invited talk at the Cell Cycle meeting, Trieste, Italy 2019

Seminar at the University of Edinburgh, Edinburgh, UK (hosted by Keith Matthews and Robin Allshire) 2019

Seminar at the University of York, York, UK (hosted by Daniel Jeffares) 2019

Invited talk at the Gordon Research Conference: Centromere Biology, Mount Snow, USA 2018

Invited talk at the International Congress of Cell Biology, Hyderabad, India 2018

Seminar at the Cancer Institute of JFCR, Tokyo, Japan (hosted by Norihisa Shindo) 2017

Seminar at the Tohoku University, Sendai, Japan (hosted by Asako Sugimoto) 2017

Seminar at the RIKEN, Wako, Japan (hosted by Tatsuya Hirano) 2017

Invited talk at the Kinetoplastid Breeders' Club Meeting (KBC4), Lancaster, UK 2017

Invited talk at the EMBO Dynamic kinetochore workshop, Edinburgh, UK 2017

Short talk at the Kinetoplastid Molecular Cell Biology Meeting, Woods Hole, USA 2017

Seminar at the University of Dundee, Dundee UK (hosted by Inke Näthke) 2017

Seminar at the Institut Curie, Paris, France (hosted by Ines Drinnenberg) 2017

Seminar at the University of Tokyo, Tokyo, Japan (hosted by Yoshinori Watanabe) 2016

Invited talk at an ASCB meeting special interest subgroup, San Francisco, USA 2016

Invited lecture at the Biozentrum, Basel, Switzerland (hosted by Erich Nigg) 2016

Talk at the BSP Trypanosomiasis and Leishmaniasis Seminar, České Budějovice, Czech Republic 2016

Invited talk at the EMBO Conference Series: Microtubules: Structure, Regulation and Functions, Heidelberg, Germany 2016

Cells Early Career Research Award Medal Lecture at Cilia, Cytoskeleton and Cancer, Edinburgh 2016

Seminar at the Hubrecht Institute, Utrecht, Netherlands (hosted by Geert Kops) 2016

Seminar at the University of Glasgow, Glasgow (hosted by Jeremy Mottram) 2015

Seminar at the MRC LMB, Cambridge (hosted by Andrew Carter) 2015

Seminar at the Francis Crick Institute, Mill Hill (hosted by Eva Frickel) 2015

Seminar at the Nagoya University, Nagoya, Japan (hosted by Tomomi Kiyomitsu) 2015

Seminar at the Cancer Institute of JFCR, Tokyo, Japan (hosted by Toru Hirota) 2015

Invited talk at the Gordon Research Conference: Motile & Contractile Systems, New London, US 2015

R.R. Bensley Award Lecture at the Experimental Biology 2015, Boston, US 2015
 Invited talk at the Mazelet November meeting, Mazelet, France 2014
 Seminar at the University of Tokyo, Tokyo, Japan (hosted by Yoshinori Watanabe) 2014
 Seminar at the National Institute of Genetics, Mishima, Japan (hosted by Tatsuo Fukagawa) 2014
 Invited talk at the 20th International Chromosome Conference (ICC), University of Kent, Canterbury, UK 2014
 Seminar at the University of Dundee, Dundee UK (hosted by Mike Ferguson) 2014
 Seminar at the London School of Hygiene & Tropical Medicine, London, UK (hosted by John Kelly) 2013
 Seminar at the RIKEN, Wako, Japan (hosted by Tatsuya Hirano) 2013
 Seminar at the RIKEN CDB, Kobe, Japan (hosted by Tomoya Kitajima) 2013
 Seminar at the Harvard Medical School, Boston, USA (hosted by Jonathan Higgins) 2013
 Talk at the Kinetoplastid Molecular Cell Biology Meeting, Woods Hole, USA 2013
 Seminar at the University of Tokyo, Tokyo, Japan (hosted by Yoshinori Watanabe) 2012
 Invited Talk at the 106th International Titisee Conference: Reconstituting Chromatin: From Self-Assembly to Self-Organization, Black Forest, Germany 2012
 Talk at the EMBO Workshop on: Structures, Function & Regulation of Centromeres and Kinetochores, Barcelona, Spain 2012
 Invited Talk at the UK-Japan Mechanochemical Cell Biology Symposium, Warwick, UK 2012
 Seminar at the Max Planck Institute for Molecular Physiology, Dortmund, Germany (hosted by Andrea Musacchio) 2012
 Seminar at the University of Edinburgh, UK (hosted by David Leach) 2012
 Seminar at the University of Edinburgh, UK (hosted by Robin Allshire) 2012
 Talk and poster presentation at the BSCB Meeting Spring Conference, Warwick, UK 2012
 Seminar at the University of Oxford, UK (hosted by the Biochemistry Department) 2011
 Seminar at the Cancer Research UK Clare Hall Laboratories, UK (hosted by John Diffley) 2011
 Talk and poster presentation at the 6th UK-Japan Cell Cycle Workshop, Windermere, UK 2011
 Seminar at the University of Oxford, UK (hosted by Kim Nasmyth) 2010
 Seminar at the Cancer Institute of JFCR, Tokyo, Japan (hosted by Toru Hirota) 2010
 Seminar at the University of Tokyo, Tokyo, Japan (hosted by Yoshinori Watanabe) 2010
 Talk and poster presentation at the CSHL Cell Cycle meeting, Cold Spring Harbor, New York, USA 2010
 Seminar at the University of Oxford, UK (hosted by Keith Gull) 2009
 Seminar at the Cambridge University, UK (hosted by Mark Field) 2009
 Seminar at the Kyoto University, Kyoto, Japan (hosted by Mitsuhiro Yanagida) 2009
 Seminar at the University of Tokyo, Tokyo, Japan (hosted by Yoshinori Watanabe) 2009
 Seminar at the University of California, San Diego, San Diego, USA (hosted by Arshad Desai) 2008
 Seminar at the Institute for Systems Biology, Seattle, USA (hosted by Jeff Ranish) 2008
 Seminar at the Rockefeller University, New York, USA (hosted by Tarun Kapoor) 2007
 Seminar at the Friedrich Miescher Laboratory of the Max Planck Society, Tuebingen, Germany (hosted by Silke Hauf) 2007

Poster presentations:

Poster at the Evolution of Biomolecular networks: rules of the game, Leiden: Netherlands 2018
 Poster presentation at the EMBO Conference Series: Microtubules: Structure, Regulation and Functions, Heidelberg, Germany 2012
 Poster presentation at the FASEB meeting, Mitosis: Spindle Assembly and Function, Lucca, Italy 2009
 Poster presentation at the ASCB meeting, Washington DC, USA 2007
 Poster presentation at the FASEB meeting, Mitosis: Spindle Assembly and Function, Indian Wells, USA 2007

Current trainees

Gabriele Marcianò	2016 March–	Postdoc (funded by Wellcome Trust)
Hanako Hayashi	2016 Sep–	Postdoc (Uehara Memorial Foundation Fellowship, EPA Cephalosporin Fund, John Fell Fund, Wellcome Trust)
Midori Kanazawa	2017 April–	Postdoc (Toyobo Biotechnology Foundation Fellowship, Wellcome Trust)
Patryk Ludzia	2017 Oct–	DPhil student, Boehringer Ingelheim Fonds PhD fellowship

Past trainees

Alex Wilson	2015 June–2016 Feb	BBSRC summer internship, Part II undergraduate project student
Fiona Donnan	2016 June–July	Biochemistry Department summer internship student
Patryk Ludzia	2016 July–Sep	Erasmus program summer student
Worada Wayrojpitak	2016 Sep–2017 Feb	Part II undergraduate project student
Joris Treep	2016 Sep–2017 May	Visiting master student from Utrecht University
Patryk Ludzia	2017 Aug–Sep	Erasmus program summer student
Olga Nerusheva	2014 Jan–2018 Sep	Postdoc (funded by Wellcome Trust)