

Andrew J. Holland

Associate Professor, Dept, of Molecular Biology and Genetics and Oncology
Johns Hopkins University School of Medicine

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EDUCATION

2002 MA University of Cambridge, UK
First class honors, Natural Sciences

2003 M.Res The University of Manchester, UK
Distinction, Molecular Biology and Biochemistry

2006 Ph.D. The University of Manchester, UK
Molecular and Cellular Biology

2007 – 2013 Postdoctoral fellowship
The Ludwig Institute for Cancer Research, University of California, San Diego, CA

ACADEMIC APPOINTMENTS

02/2013 – 12/2017 Assistant Professor of Molecular Biology and Genetics
The Johns Hopkins University School of Medicine, MD

06/2014 – 12/2017 Assistant Professor of Oncology
The Johns Hopkins University School of Medicine, MD

10/2013 – Member, Cancer Biology Program
Sidney Kimmel Comprehensive Cancer Centre
The Johns Hopkins University School of Medicine, MD

01/2016 – Member, Center for Cell Dynamics
The Johns Hopkins University School of Medicine, MD

01/2018 – Associate Professor of Molecular Biology and Genetics
The Johns Hopkins University School of Medicine, MD

01/2018 – Associate Professor of Oncology
The Johns Hopkins University School of Medicine, MD

AWARDS AND HONORS

2000 – 2001 John Bowyer Buckley natural science scholarship

2000 – 2001 Girton College Delf-Smith prize for biological sciences

2001 – 2002 John Bowyer Buckley natural science scholarship

2001 – 2002 Girton College Neal prize for biological sciences

2002 – 2003 Full MRC scholarship for MRes studies

2003 – 2006 Full MRC scholarship for PhD studies

2006 – 2006 Wellcome Trust VIP award

2007 – 2000 EMBO long-term fellowship

2011 – 2014 Leukemia and Lymphoma Society senior fellowship

2013 Basil O'Connor Starter Scholar Award

2014	Kimmel Scholar
2014	Pew-Stewart Scholar in the Biomedical Sciences
2015	Johns Hopkins Discovery Innovation Award
2015	R.R. Bensley Award in Cell Biology, American Association of Anatomists
2016	Johns Hopkins Catalyst Award
2017	American Cancer Society Research Scholar
2018	Keynote Speaker, Mid-Atlantic Mitosis and Meiosis Meeting
2019	Lee Hood Prize in Biomedical Science
2019	Keynote Speaker, NCI Chromosome Biology Workshop

PROFESSIONAL MEMBERSHIP AND ACTIVITIES

2005 –	Member of the American Society for Cell Biology
2012 –	Membership Committee, American Society for Cell Biology
2019 –	Co-organizer, EMBO Workshop Centrosomes and Spindle Pole Bodies Conference, Copenhagen, Denmark.
2019 –	Member of the AAAS

INVITED ORAL PRESENTATIONS

Johns Hopkins

01/2012	Seminar, Department of Molecular Biology and Genetics, The Johns Hopkins University School of Medicine, MD
02/2013	Seminar, Biochemistry and Molecular Biology Department, The Johns Hopkins Bloomberg School of Public Health, MD
10/2013	Seminar, BCMB Seminar, The Johns Hopkins University School of Medicine, MD
11/2013	Seminar, Carnegie Institution for Science, Baltimore, MD
05/2015	Invited Speaker, IBBS Genome Editing Symposium, The Johns Hopkins University School of Medicine, MD
10/2015	Seminar, Biology Department, The Johns Hopkins University, MD
12/2015	Seminar, Sidney Kimmel Comprehensive Cancer Center, The Johns Hopkins University School of Medicine, MD
11/2016	Invited Speaker, IBBS Center for Cell Dynamics Symposium, The Johns Hopkins University School of Medicine, MD
05/2017	Seminar, Breast and Ovarian Cancer Series, The Johns Hopkins University School of Medicine, MD
07/2017	Seminar, Sidney Kimmel Comprehensive Cancer Center, The Johns Hopkins University School of Medicine, MD
10/2017	Invited Speaker, Baltimore PKD symposium, The University of Maryland, MD
04/2019	Seminar, Sidney Kimmel Comprehensive Cancer Center, The Johns Hopkins University School of Medicine, MD
12/2019	Seminar, Sidney Kimmel Comprehensive Cancer Center, The Johns Hopkins University School of Medicine, MD

National

10/2011 Seminar, Department of Systems Biology, Harvard Medical School, MA
01/2012 Seminar, University of Pittsburgh Cancer Institute, University of Pittsburgh, PA
02/2012 Seminar, Oncological Sciences, Mount Sinai School of Medicine, NY
02/2013 Seminar, Center for Cancer Research, National Institutes of Health, MD
08/2014 Invited Speaker, EMBO USA Fellows Meeting, San Diego, CA
11/2016 Seminar, Cell Biology Program, Memorial Sloan Kettering Cancer Center, NY
03/2016 Seminar, Department of Biochemistry and Cell Biology, Dartmouth College, NH
04/2016 Invited Speaker, Experimental Biology Meeting, San Diego, CA
05/2017 Seminar, Department of Molecular Biology, University of Wyoming, WY
10/2017 Seminar, Department of Biochemistry and Biophysics, UCSF, CA
03/2018 Invited Speaker, Gordon Research Conference DNA Damage, Mutation and Cancer, Venture Beach, CA
04/2018 Keynote speaker, Mid-Atlantic Mitosis Meeting, Johns Hopkins University, MD.
05/2018 Seminar, Molecular and Cell Biology and Genetics Seminar Series, Drexel University, PA
05/2018 Seminar, Cancer Biology Seminar Series, University of Colorado, CO
11/2018 Seminar, National Institutes of Health, Bethesda, MD
05/2019 Seminar, Amgen, Thousand Oaks, CA
06/2019 Seminar, National Institutes of Health, Bethesda, MD
03/2020 Seminar, University of Arizona, Tucson, AZ (Cancelled due to COVID-19)
07/2020 Aneuploidy and CIN Zoom forum, eSymposium
04/2020 Seminar, Northwestern University, Chicago, IL
11/2020 UK Cilia network eSymposium
01/2021 Seminar, Boston University, Boston, MA

International

09/2011 Seminar, MRC Laboratory for Molecular Biology, University College London, UK
10/2011 Seminar, Gulbenkian Science Institute, Portugal
10/2011 Seminar, Division of Molecular and Clinical Cancer Sciences, The University of Manchester, UK
10/2011 Seminar, The Ludwig Institute for Cancer Research, University of Oxford, UK
10/2011 Seminar, Sir William Dunn School of Pathology, University of Oxford, UK
10/2011 Seminar, Wellcome Trust Sanger Institute, Cambridge, UK
10/2011 Seminar, Gurdon Institute, University of Cambridge, UK
02/2012 Seminar, MRC laboratory for Molecular Biology, University College

	London, UK
02/2012	Seminar, London Research Institute, UK
10/2013	Seminar, Princess Margaret Cancer Centre, University of Toronto, ON, Canada
10/2013	Invited Speaker, Aneuploidy Meeting, Titisee Conference, Germany
10/2013	Seminar, Curie Institute, Paris, France
06/2016	Invited Speaker, Causes and Consequences of Aneuploidy Meeting, France
01/2017	Seminar, Lunenfeld-Tanenbaum Research Institute, University of Toronto, ON, Canada
10/2017	Invited Speaker, EMBO Centrosomes and Spindle Pole Bodies Conference, Heidelberg, Germany
06/2018	Invited Speaker, Barcelona BioMed Conference on Centrosomes, Cilia and Cell Cycle in Development and Disease, Barcelona, Spain
05/2019	Invited Speaker, EMBO Chromosome Segregation and Aneuploidy Conference, Cascais, Portugal
11/2019	Invited Speaker, Workshop on the Molecular causes of primary microcephaly and related diseases, Baeza, Spain
02/2020	Invited Speaker, Chromopalooza: A festival to celebrate chromosome biology, Vienna BioCenter, Vienna

ORIGINAL RESEARCH PUBLICATIONS

1. Swanton E, **Holland A**, High S, Woodman P. Disease-associated mutations cause premature oligomerization of myelin proteolipid protein in the endoplasmic reticulum. *Proceedings of the National Academy of Sciences U S A*. 2005. Mar 22;102(12):4342-7.
2. **Holland AJ**, Taylor SS. Cyclin-B1-mediated inhibition of excess separase is required for timely chromosome disjunction. *Journal of Cell Science*. 2006. Aug 15;119(Pt 16):3325-36.
3. **Holland AJ**, Bottger F, Stemmann O, Taylor SS. Protein phosphatase 2A and separase form a complex regulated by separase autocleavage. *Journal of Biological Chemistry*. 2007. Aug 24;282(34):24623-32.
4. Silk AD, **Holland AJ**, Cleveland DW. Requirements for NuMA in maintenance and establishment of mammalian spindle poles. *Journal of Cell Biology*. 2009. Mar 9;184(5):677-90.
5. **Holland AJ**, Lan W, Niessen S, Hoover H, Cleveland DW. Polo-like kinase 4 kinase activity limits centrosome overduplication by autoregulating its own stability. *Journal of Cell Biology*. 2010. Jan 25;188(2):191-8.
6. Gurden MD, **Holland AJ**, van Zon W, Tighe A, Vergnolle MA, Andres DA, Spielmann HP, Malumbres M, Wolthuis RM, Cleveland DW, Taylor SS. Cdc20 is required for the post-anaphase, KEN-dependent degradation of centromere protein F. *Journal of Cell Science*. 2010. Feb 1;123(Pt 3):321-30.

7. Gassmann R, **Holland AJ**, Varma D, Wan X, Civril F, Cleveland DW, Oegema K, Salmon ED, Desai A. Removal of Spindly from microtubule-attached kinetochores controls spindle checkpoint silencing in human cells. *Genes and Development*. 2010. May;24(9):957-71.
8. Kim Y¹, **Holland AJ**¹, Lan W, Cleveland DW. Aurora kinases and protein phosphatase 1 mediate chromosome congression through regulation of CENP-E. *Cell*. 2010. Aug 6;142(3):444-55. ¹equal experimental contributions.
9. Hatch EM, Kulukian A, **Holland AJ**, Cleveland DW, Stearns T. Cep152 interacts with Plk4 and is required for centriole duplication. *Journal of Cell Biology*. 2010. Nov 15;191(4):721-9.
10. **Holland AJ**, Fachinetti D, Da Cruz S, Zhu Q, Vitre B, Lince-Faria M, Chen D, Parish N, Verma IM, Bettencourt-Dias M, Cleveland DW. Polo-like kinase 4 controls centriole duplication but does not directly regulate cytokinesis. *Molecular Biology of the Cell*. 2012. May;23(10):1838-45.
11. **Holland AJ**¹, Fachinetti D¹, Han JS, Cleveland DW. Inducible, reversible system for the rapid and complete degradation of proteins in mammalian cells. *Proceedings of the National Academy of Sciences U S A*. 2012. Dec 4;109(49):E3350-7. ¹equal experimental contributions.
12. **Holland AJ***, Fachinetti D, Zhu Q, Bauer M, Verma IM, Nigg EA, Cleveland DW. The autoregulated instability of Polo-like kinase 4 limits centrosome duplication to once per cell cycle. *Genes and Development*. 2012. Dec 15;26(24):2684-9. *corresponding author.
13. Han JS, **Holland AJ**, Fachinetti D, Kulukian A, Cetin B, Cleveland DW. Catalytic assembly of the mitotic checkpoint inhibitor BubR1-Cdc20 by a Mad2-induced functional switch in Cdc20. *Molecular Cell*. 2013. Jul 11;51(1):92-104.
14. Fachinetti D, Diego Folco H, Nechemia-Arbely Y, Valente LP, Nguyen K, Wong AJ, Zhu Q, **Holland AJ**, Desai A, Jansen LE, Cleveland DW. A two-step mechanism for epigenetic specification of centromere identity and function. *Nature Cell Biology*. 2013. Sep;15(9):1056-66.
15. Silk AD¹, Zasadil LM¹, **Holland AJ**, Vitre B, Cleveland DW, and Weaver BA. Chromosome missegregation determines whether aneuploidy promotes or suppresses tumors. *Proceedings of the National Academy of Sciences U S A*. 2013. Oct;110(44):E4134-41. ¹equal experimental contributions
16. **Holland AJ**, Reis RM, Niessen S, Pereira C, Andres DA, Spielmann HP, Cleveland DW, Desai A, Gassmann R. Preventing farnesylation of the dynein adaptor spindly contributes to the mitotic defects caused by farnesyltransferase inhibitors. *Molecular Biology of the Cell*. 2015. May 15;26(10):1845-56.
17. Moyer TC¹, Clutario KM¹, Lambrus BG, Daggubati V, **Holland AJ***. Binding to Plk4 activated kinase activity to promote centriole duplication. *Journal of Cell Biology*. 2015. Jun 22;209(6):863-78. ¹equal experimental contributions.
*corresponding author

- Highlighted in *Journal of Cell Biology* Biosights Podcast, June 22, 2015.
18. Lambrus BG, Clutario, KM, Daggubati V, Snyder M, **Holland AJ***. p53 protects against genome instability following centriole duplication failure. *Journal of Cell Biology*. 2015. Jul 6;210(1):63-77. *corresponding author
- Highlighted in *Journal of Cell Biology*. 2015. Jul 6;210(1):2.
 19. Vitre B¹, **Holland AJ¹**, Kulukian A¹, Shoshani O, Hirai M, Wang Y, Maldonado M, Cho T, Boubaker J, Swing DA, Tessarollo L, Evans SM, Fuchs E, Cleveland DW. Chronic centrosome amplification without tumorigenesis. *Proceedings of the National Academy of Sciences U S A*. 2015. Nov 17;112(46):E6321-30. ¹equal experimental contributions.
 20. Kulukian A, **Holland AJ**, Vitre B, Naik S, Cleveland DW, Fuchs E. Epidermal development, growth control, and homeostasis in the face of centrosome amplification. *Proceedings of the National Academy of Sciences U S A*. 2015. Nov 17;112(46):E6311-20.
 21. Zitouni S, Francia ME, Leal F, Montenegro Gouveia S, Nabais C, Duarte P, Gilberto S, Brito D, Moyer T, Kandels-Lewis S, Ohta M, Kitagawa D, **Holland AJ**, Karsenti E, Lorca T, Lince-Faria M, Bettencourt-Dias M. CDK1 Prevents Unscheduled PLK4-STIL Complex Assembly in Centriole Biogenesis. *Current Biology*. 2016. Apr 21;26(9):1127-37.
 22. Lambrus BG, Daggubati V, Uetake Y, Scott P, Clutario KM, Sluder G, **Holland AJ**. A UPS28-53BP1-p53-p21 signalling axis arrests cell growth following centrosome loss or prolonged mitosis. *Journal of Cell Biology*. 2016. Jul 18;214(2):143-53. *corresponding author
- Highlighted in *Journal of Cell Biology*. 2016. Jul 18;214(2):121.
- Highlighted in *Nature Reviews, Molecular Cell Biology* 2016. Sept 17;536(9):536.
 23. Levine MS, Bakker B, Boeckx B, Moyett J, Lu J, Vitre B, Spierings DC, Lansdorp PM, Cleveland DW, Lambrechts D, Fojier F, **Holland AJ***. Centrosome Amplification Is Sufficient to Promote Spontaneous Tumorigenesis in Mammals. *Developmental Cell*. 2017. Feb 06; 40(3):313-22. *corresponding author
- Highlighted in *Developmental Cell* 2017. Feb 06; 40(3):217-218.
- Highlighted in *Nature Reviews Cancer* 2017. Feb 23; 17(3):143.
 24. Heerma van Voss MR, Kammers K, Vesuna F, Brilliant J, Bergman Y, Tantravedi S, Wu X, Cole RN, **Holland A**, van Diest PJ, Raman V. Global Effects of DDX3 Inhibition on Cell Cycle Regulation Identified by a Combined Phosphoproteomics and Single Cell Tracking Approach. *Translational Oncology*. 2018 Jun;11(3):755-763.
 25. Leda M, **Holland AJ**, Goryachev AB. Autoamplification and Competition Drive Symmetry Breaking: Initiation of Centriole Duplication by the PLK4-STIL Network. *iScience*. 2018. Oct 11;8: 222-35.
 26. Moyer TC, **Holland AJ***. Plk4 Phosphorylates STIL to promote CPAP binding and procentriole formation. *eLIFE*. 2019. May 22;8. *corresponding author

27. Kodani A, Moyer T, Chen A, **Holland A**, Walsh CA, Reiter JF. SFI1 promotes centriole duplication by recruiting USP9X to stabilize the microcephaly protein STIL. *Journal of Cell Biology*. 2019. Jul 1;228(7):2185-2197.
28. Perez-Gonzalez N, Rochman N, Yao K, Tao J, Le MT, Flanary S, Sablich L, Toler B, Crentsil E, Takaesu F, Lambrus B, Huang J, Fu V, Chengappa P, Jones T, **Holland A**, An S, Wirtz S, Petrie R, Guan K, Sun S. YAP and TAZ Regulate Cell Volume. *Journal of Cell Biology*. 2019. Oct 7;218(10):3472-3488.
29. Bowler M, Kong D, Sun S, Nanjundappa R, Evans L, Farmer V, **Holland AJ**, Mahjoub M.R, Sui H, Loncarek J. High-resolution characterization of centriole distal appendage morphology and dynamics by correlative STORM and electron microscopy. *Nature Communications*. 2019. Mar 1;10(1):993.
30. Mercey O¹, Levine MS¹, LoMastro G, Rostaing P, Brotslaw E, Gomez V, Kumar A, Spassky N, Mitchell BJ, Meunier A*, **Holland AJ***. Massive centriole production can occur in the absence of deuterosomes in multiciliated cells. *Nature Cell Biology*. 2019. Dec; 21(12):1544-1552. ¹equal experimental contributions.
*corresponding authors
- Highlighted in *Trends in Cell Biology*. 2020. Apr; 30(4):259-262.
31. Park E, Scott PM, Clutario KM, Cassidy KB, Zhan KH, Gerber SA, **Holland AJ***. WBP11 is required for splicing the TUBGCP6 pre-mRNA to promote centriole duplication. *Journal of Cell Biology*. 2020. Jan 6;219. *corresponding author
32. Ardeljan D, Steranka JP, Liu C, Li Z, Taylor MS, Payer LM, Gorbounov M, Sarnecki JS, Deshpande V, Hruban RH, Boeke JD, Fenyö D, Wu PH, Smogorzewska A, **Holland AJ**, Burns KH. Cell fitness screens reveal a conflict between LINE-1 retrotransposition and DNA replication. *Nature Structure and Molecular Biology*. 2020. Feb;27(2):168-178.
33. Yeow ZY¹, Lambrus BG¹, Marlow R, Zhan KH, Durin M, Evans LT, Scott PM, Phan T, Park E, Ruiz LA, Moralli D, Knight EG, Badder LM, Novo D, Haider S, Green CM, Tutt ANJ, Lord CJ, Chapman JR*, **Holland AJ***. Targeting TRIM37-driven centrosome dysfunction in 17q23-amplified breast cancer. *Nature*. 2020. Sept;585(7825):447-452. ¹equal experimental contributions. *corresponding authors
- Highlighted in Crunkhorn S. *Nature Reviews Drug Discovery*. 2020. Sept 17.
- Highlighted in Haloupek N. *Cancer Discovery*. 2020. Sept 18.
34. Phan T, Maryniak AL, Boatwright CA, Lee J, Atkins A, Tijhuis A, Spierings DCJ, Bazzi H, Foijer F, Jordan PW, Stracker TH, **Holland AJ***. Centrosome defects cause microcephaly by activating the 53BP1-USP28-TP53 mitotic surveillance pathway. *The EMBO Journal*. 2020. In Press. *corresponding author
35. Evans LT, Anglen T, Scott P, Lukasik K, Loncarek J, **Holland AJ***. ANKRD26 recruits PIDD1 to distal appendages to activate the PIDDosome following centrosome amplification. *The EMBO Journal*. 2020. In Press. *corresponding author

REVIEW ARTICLES

1. Taylor SS, Scott MI, **Holland AJ**. The spindle checkpoint: a quality control mechanism which ensures accurate chromosome segregation. *Chromosome Research*. 2004. 12(6):599-616.
2. **Holland AJ**, Taylor SS. Many faces of separase regulation. *SEB Experimental Biology Series*. 2008. 59:99-112.
3. **Holland AJ**, Cleveland DW. Beyond genetics: surprising determinants of cell fate in antitumor drugs. *Cancer Cell*. 2008. Aug 12;14(2):103-5.
4. **Holland AJ**, Cleveland DW. Boveri revisited: chromosomal instability, aneuploidy and tumorigenesis. *Nature Reviews Molecular and Cell Biology*. 2009. Jul;10(7):478-87.
5. **Holland AJ**, Lan W, Cleveland DW. Centriole duplication: A lesson in self-control. *Cell Cycle*. 2010. Jul 15;9(14):2731-6.
6. **Holland AJ**, Cleveland DW. Losing balance: the origin and impact of aneuploidy in cancer. *EMBO Reports*. 2012. Jun;13(6):501-14.
7. **Holland AJ**, Cleveland DW. Chromoanagenesis and cancer: mechanisms and consequences of localized, complex chromosomal rearrangements. *Nature Medicine*. 2012. Nov;18(11):1630-8.
8. **Holland AJ**, Cleveland DW. The deubiquitinase USP44 is a tumor suppressor that protects against chromosome missegregation. *Journal of Clinical Investigation*. 2012. Dec 3;122(12):4325-8.
9. **Holland AJ***, Cleveland DW* Polo-like kinase 4 inhibition: a strategy for cancer therapy? *Cancer Cell*. 2014. Aug;26(2):151-3. *corresponding authors
10. Levine MS, **Holland AJ***. Polo-like kinase 4 shapes up. *Structure*. 2014. Aug;22(8):10713-3. *corresponding author
11. Moyer TC, **Holland AJ***. 2015. Generation of a conditional analog-sensitive kinase in human cells using CRISPR/Cas9-mediated genome engineering. *Methods in Cell Biology*. 2015. May 27;129:19-36. *corresponding author
12. Lambrus BG, **Holland AJ***. A New Mode of Mitotic Surveillance. *Trends in Cell Biology*. 2017. Feb 7;S0962-8924(17):30014-4. *corresponding author
13. Levine MS, **Holland AJ***. Cell cycle proteins moonlight in multiciliogenesis. *Science*. 2017. Nov 10;358(6364):716-8. *corresponding author
14. Nigg EA*, **Holland AJ***. Once and only once: mechanisms of centriole duplication and their deregulation in disease. *Nature Reviews Molecular Cell Biology*. 2018. May;19(5):297-312. *corresponding authors
15. Evans LT, **Holland AJ***. Pushed out of a tough crowd: centrosome aberrations promote invasiveness. *The EMBO Journal*. 2018. May 2;37(9). *corresponding author

16. Levine MS, **Holland AJ***. The impact of mitotic errors on cell proliferation and tumorigenesis. *Genes and Development*. 2018. May 01;32(9-10):620-638
*corresponding author
17. Lambrus BG, Moyer TC, **Holland AJ***. Applying the auxin-inducible degradation system for rapid protein depletion in mammalian cells. *Methods in Cell Biology*. 2017. Apr 5;144:107-135. *corresponding author
18. Breslow DK*, **Holland AJ***. Mechanism and regulation of centriole and cilium biogenesis. *Annual Reviews in Biochemistry*. 2019. Jan 20;88:691-724.
*corresponding authors
19. LoMastro GM, **Holland AJ***. The emerging link between centrosome aberrations and metastasis. *Developmental Cell*. 2019. May 6;49(3):325-331.
*corresponding author
20. Gliech CR, **Holland AJ***. Keeping Track of Time: The Fundamentals of Cellular Clocks. *Journal of Cell Biology*. 2020. Nov 2;219(11). *corresponding author

MEDIA RELEASES/INTERVIEWS

- | | |
|--------------------------------------|---|
| Johns Hopkins | Cellular Sentinel Prevents Cell Division When Danger Present.
(http://www.hopkinsmedicine.org/research/advancements-in-research/latest-in-research/cellular-sentinel-prevents-cell-division-when-danger-present) |
| Genetic Engineering and Biotech News | p53 Checks Centriole Number to Prevent Harmful Cell Divisions.
(http://www.genengnews.com/gen-news-highlights/p53-checks-centriole-numbers-to-prevent-harmful-cell-divisions/81251468) |
| Johns Hopkins | Trying to Tango with More Than 2: Extra Centrosomes Promote Tumor Formation in Mice.
(http://www.hopkinsmedicine.org/news/media/releases/trying_to_tango_with_more_than_2_extra_centrosomes_promote_tumor_formation_in_mice) |
| The Scientist | Extra Centrosomes Can Drive Tumor Formation in Mice. (http://www.the-scientist.com/?articles.view/articleNo/48906/title/Extra-Centrosomes-Can-Drive-Tumor-Formation-in-Mice/) |
| Johns Hopkins | Kimmel Scholars (https://vimeo.com/139485460) |
| J Cell Science | Cell Scientist to Watch – Andrew Holland. <i>Journal of Cell Science</i> . 2017. Feb 1; 130(3): 523-524. |
| Johns Hopkins | How Cells Learn to ‘Count’
(https://www.hopkinsmedicine.org/news/newsroom/news-releases/how-cells-learn-to-count) |
| Genetic Engineering and Biotech News | How Cells Make Just the Right Amount of Cilia.
(https://www.genengnews.com/news/how-cells-make-just-the-right-amount-of-cilia/) |

News 18	This is How Cells in the Human Body Learn How to Count. (https://www.news18.com/news/buzz/this-is-how-cells-in-the-human-body-learn-how-to-count-2441485.html)
Popular Mechanics	Mammalian Cells are More Mysterious Than We Thought. (https://www.popularmechanics.com/science/health/a30362677/human-cells-cilia/)
The Medical News	Study provides a better understanding of mechanisms that limit cilia number in cells. (https://www.news-medical.net/news/20191230/Study-provides-better-understanding-of-mechanisms-that-limit-cilia-number-in-cells.aspx)
American Cancer Society	Finding differences in cancer cells and normal cells that can be exploited. (https://soundcloud.com/user-378624011/finding-differences-in-cancer-cells-and-normal-cells-that-can-be-exploited)
Fierce Biotech	Blocking tumor cell division to stop breast cancer. (https://www.fiercebiotech.com/research/blocking-tumor-cell-division-to-stop-breast-cancer)
Medical Xpress	New way to target some rapidly dividing cancer cells, leaving healthy cells unharmed. (https://medicalxpress.com/news/2020-09-rapidly-cancer-cells-healthy-unharmed.html)
News Wise	Scientists Identify New Way To Target Some Rapidly Dividing Cancer Cells, Leaving Healthy Cells Unharmed. (https://www.newswise.com/articles/scientists-identify-new-way-to-target-some-rapidly-dividing-cancer-cells-leaving-healthy-cells-unharmed)
Oncology Central	Centrosomes, centrioles and cell division: new targets in experimental breast cancer treatment. (https://www.oncology-central.com/centrosomes-centrioles-and-cell-division-trim37-new-targets-in-experimental-breast-cancer-treatment/)
Verywell Health	New Approach to Breast Cancer Treatment Will Spare Healthy Cells, Scientists Say. (https://www.verywellhealth.com/breast-cancer-targeted-therapy-enzyme-research-5078363)
Cancer Discovery	The Frequently Amplified Gene <i>TRIM37</i> Mediates PLK4 Inhibitor Response. (https://cancerdiscovery.aacrjournals.org/content/early/2020/09/18/2159-8290.CD-RW2020-136)

TEACHING

2011	Invited Lecturer Inside the Cell Graduate Course Gulbenkian Science Institute, Portugal
2013	Lecturer Basic Science Methods Course The Johns Hopkins School of Medicine
2013 –	Lecturer Molecular Biology and Genomics Graduate Course

2013 – The Johns Hopkins School of Medicine
Lecturer
Genetics Graduate Course
The Johns Hopkins School of Medicine

2014 – Core discussion leader
Biochemistry, Cell and Molecular Biology (BCMB) Graduate Program
The Johns Hopkins School of Medicine

2015 – Core discussion leader
Cellular and Molecular Medicine (CMM) Predoctoral Program
The Johns Hopkins School of Medicine

2015 Panelist
A Conversation about Cancer
The Johns Hopkins School of Medicine

2016 – Coordinator of the CMM Core Discussion Program
The Johns Hopkins School of Medicine

2016 – Small Group Leader
Scientific Foundations of Medicine: Human Genetics
The Johns Hopkins School of Medicine

2017 Lecturer and Discussion Leader
Cytoskeleton Graduate Course
The Johns Hopkins School of Medicine

2017 Panelist
Casual Conversations Speakers Series
The Johns Hopkins School of Medicine

2020 – Lecturer
Cancer Biology
The Johns Hopkins School of Public Health

INSTITUTIONAL ADMINISTRATIVE APPOINTMENTS

2019 Chair, Molecular Biology and Genetics faculty search committee

2015, 2017, 2018 Molecular Biology and Genetics faculty search committee

2015 Molecular Biology and Genetics website redesign
Developed a new website for the MBG Department

2016 – BCMB Graduate Program admissions committee

2017 – Director, Young Investigator Day Program

2017 – BCMB Graduate Program policy committee

EDITORIAL ACTIVITIES

2017 Manuscript Editor, *Proceedings of the National Academy of Sciences USA*

2020 Manuscript Editor, *Proceedings of the National Academy of Sciences USA*

JOURNAL PEER REVIEW ACTIVITIES

2013 – Present Reviewed 115 papers for the following journals: *Nature, Science, Cell, Cancer Cell, Nature Reviews Cancer, eLIFE, The Journal of Cell Biology,*

Nature Communications, Nature Cell Biology, Nature Biotechnology, Nature Chemical Biology, Genes and Development, Proceedings of the National Academy of Sciences U S A, Molecular Cell, Developmental Cell, The EMBO Journal, Journal of Cell Science, Journal of Clinical Investigation, Journal of Clinical Investigation Insight, Structure, Oncogene, BMC Cell Biology, BMC Cancer, Molecular and Cellular Biology, Molecular Biology of the Cell, Development, Trends in Cell Biology, Cell Reports, Cancer Research, Scientific Reports, PLoS Biology, Biochimica et Biophysica Acta, Biochemistry, Biology Open, Biochemical Society Transactions, Cell Chemical Biology, Genes, Cell and Developmental Biology, Chromosomes and Cancer, Mutational Research, Life Science Alliance, Journal of Oncology and Cancer Research, Molecular Cancer Therapeutics.

OTHER PEER REVIEW ACTIVITIES

2014	Project Grant Reviewer The Dutch Fund for Research (NWO)
2015	Project Grant Reviewer Cancer Research UK
2015	Allegheny Health Network Grant Reviewer Sidney Kimmel Comprehensive Cancer Center Johns Hopkins School of Medicine
2015	Innovation Grant Reviewer Johns Hopkins School of Medicine
2016	Project Grant Reviewer Medical Research Council UK
2016	Reviewed Discovery grants Johns Hopkins School of Medicine
2017	Innovation Grant Reviewer Johns Hopkins School of Medicine
2018	Project Grant Reviewer Austrian Academy of Sciences
2018	Project Grant Reviewer Medical Research Council UK
2018	Project Grant Reviewer The Dutch Fund for Research (NWO)
2019	Project Grant Reviewer European Research Council
2019	Project Grant Reviewer Medical Research Council UK
2020	Project Grant Reviewer Cancer Research UK
2020	W.W. Smith Trust Grant Reviewer Johns Hopkins School of Medicine
2020	Project Grant Reviewer Wellcome Trust UK

2020 NSF Grant Reviewer

MENTORSHIP AND SUPERVISION OF TRAINEES

Graduate students

- 2014 – 2019 Brawell Lambrus, B.S.
Graduate student (BCMB program)
2015 NSF Graduate Research Fellowship
2015 Alicia Showalter Reynolds JHU Young Investigators Day Award
2016 Alan Hall Travel Award
2019 Weintraub Graduate Student Award
- 2014 – 2019 Tyler Moyer, B.S.
Graduate student (BCMB program)
2015 NSF Graduate Research Fellowship
2015 American Society for Cell Biology Travel Award
- 2014 – 2019 Michelle Levine, B.A.
Graduate student (BCMB program)
2014 ASCB Travel Award
2016 Ruth L. Kirschstein National Research Service Award, F31
2016 American Society for Cell Biology Travel Award
2016 American Society for Cell Biology poster prize – 1st place
2017 Hans Joaquim Prochaska JHU Young Investigators Day Award
2017 Johns Hopkins Graduate Student Associate poster prize – 2nd place
- 2015 – 2020 Elizabeth Park, B.S.
Graduate student (BCMB program)
2016 NSF Graduate Research Fellowship
- 2017 – Present Thao Phan, B.S.
Graduate student (BCMB program)
- 2017 – Present Lauren Evans, B.S.
Graduate student (HG program)
2017 NSF Graduate Research Fellowship
- 2018 Anoek Friskes, B.S.
Internship for M.S. Degree (University of Groningen, Netherlands)
- 2018 – Present Gina LoMastro, B.S.
Graduate student (CMM program)
- 2018 – Present Phillip Scott, B.S., M.S.
Graduate student (CMM program)
- 2018 – Present Colin Gliech, B.S., M.S.
Graduate student (BCMB program)
- 2019 Lorena Andrade Ruiz, B.S.
Internship for M.S. Degree (University of Groningen, Netherlands)

Research technicians

- 2013 – 2015 Kevin Clutario, B.S.
Research technician
Current position: Graduate student, University of California, Los Angeles
- 2015 – 2017 Phillip Scott, B.S., M.S.

Research technician
 Current position: Graduate student, Johns Hopkins School of Medicine
 2016 – 2019 Taylor Anglen, B.S.
 Current position: Graduate student, Duke University
 2019 – Present Aubrey Maryniak, B.S.
 Research technician
 2019 – 2019 Tula Raghavan, B.S.
 Research technician
 2020 – Present Chelsea Drown, B.S.
 Research technician

Undergraduate students

2013 – 2016 Vikas Daggubati
 Johns Hopkins University Student Researcher
 2015 Provost's Undergraduate Research Award (\$2,500 stipend)
 2016 Barry Goldwater Scholarship (\$7,500 stipend)
 2016 Dean's Undergraduate Research Award (\$3,000 stipend)
 Current position: MSTP student, University of California, San Francisco
 2015 – 2015 Michael Snyder
 Summer Internship Program Student Researcher
 Current position: Stanford University Graduate School of Business
 2013 – 2014 John Kuhn
 Johns Hopkins University Student Researcher
 2013 – 2014 Irene Lee
 Johns Hopkins University Student Researcher
 2014 – 2016 Julia Moyett
 Johns Hopkins University Student Researcher
 2014 – 2017 James Lu
 Johns Hopkins University Student Researcher
 2015 – 2015 Daymond Parrilla
 Summer Internship Program Student Researcher
 Current position: Graduate student, Johns Hopkins School of Medicine
 2016 – 2016 Shirley Chan
 Johns Hopkins University Student Researcher
 2016 – 2018 Chetan Kamath
 Johns Hopkins University Student Researcher
 2016 – 2018 Abhi Kumar
 Johns Hopkins University Student Researcher
 2016 Summer Training and Research Program Award (\$4,000 stipend)
 2017 – 2020 Kevin Zhan
 Johns Hopkins University Student Researcher
 2017 Summer Training and Research Program Award (\$4,000 stipend)
 2018 – 2019 Harmon Khela
 Johns Hopkins University Student Researcher
 2018 – 2020 Valerie Gomez
 Johns Hopkins University Student Researcher

2018 – Present	Junsu Lee Johns Hopkins University Student Researcher
2018 – Present	Christina Boatwright Johns Hopkins University Student Researcher
2019	Wen'Ang Xiao Summer Student, Southern University of Science and Technology, China
2020 – Present	Hanan Akbari Johns Hopkins University Student Researcher

Thesis committees

2014 – 2017	Siew Cheng Phua, B.S.
2014 – 2017	Alexandra Mims, B.S.
2014 – 2018	Jarret Smith, B.S.
2015 – 2018	Christine Lee, B.S.
2015 – 2018	Christina Viveló, B.S.
2015 – 2018	Orit Katarina Sirka, B.S.
2015 – 2018	Daniel Ardeljan, B.S.
2016 – 2018	Jessica Hopkins, B.S.
2016 – Present	Kester Coutinho, B.S.
2017 – 2018	Wahid Mulla, B.S.
2017 – 2019	Veena Padmanaban, B.S.
2017 – Present	Stephen Wellard, B.S.
2017 – Present	Tyler Jones, B.S.
2017 – Present	Helen Clark, B.S.
2017 – Present	Daniel Petkovich, B.S.
2017 – 2020	Tori Hoskins, B.S.
2017 – Present	Helen Clark, B.S.
2018 – 2020	Akshay Narkar, B.S.
2018 – Present	Molly Gordon, B.S.
2019 – Present	Tim Aikin, B.S.
2019 – Present	Beza Woldemeskel, B.S.
2020 – Present	Anna Westerhaus, B.S.
2020 – Present	Ariel Gershman, B.S.
2020 – Present	Alisa Atkins, B.S.

Graduate Board Oral Exam Committees

2014	Susan Liao, B.S.
2014	Hannah Little, B.S.
2014	Christine Lee, B.S.
2014	Grace Hwang, B.S.
2015	Ted Han, B.S.
2015	Jessica Hopkins, B.S.
2015	Will Aisenberg, B.S.
2015	Stefanie Krug, B.S.
2015	Karole D'Orazio, B.S.
2015	Corey White, B.S.
2015	Meiling May, B.S.
2015	Grace Hwang, B.S.
2016	Johanna Robertson, B.S.
2016	Brittany Avin, B.S.

2016	Elizabeth Ihms, B.S.
2016	Laura Cohen, B.S.
2017	Lisa Learman, B.S.
2017	McKinzie Garrison, B.S.
2017	Kathleen DiNapoli, B.S.
2018	Kamsi Odinammadu, B.S.
2018	Sara Nathan, B.S.
2018	Ljubica Mihaljevic, B.S.
2018	Ray Cheng, B.S.
2018	Samantha Scholes, B.S.
2018	Jiachen Chu, B.S.
2019	Andrew Aston, B.S.
2019	Shanda Hou, B.S.
2019	Rachael Sparklin, B.S.
2019	Ariel Gershman, B.S.
2020	Kayla Ingram, B.S.

Orals Proposal Advisor

2016	Danielle Bouchard, B.S. (BMB Program)
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External Thesis Examiner

03/2016	Sierra Cullati, Ph.D. Dartmouth College, NH
01/2017	Karineh Kazazian, Ph.D. University of Toronto, ON, Canada

Training Grant Participation

2013 – Present	Biochemistry, Cell and Molecular Biology (BCMB) Predoctoral Program The Johns Hopkins University School of Medicine (PI: Machmer) Role: Faculty mentor, oral examiner, core discussion leader, admission committee member, policy committee member
2014 – Present	Cellular and Molecular Medicine (CMM) Predoctoral Program (BCMB) Predoctoral Program The Johns Hopkins University School of Medicine (PI: Rao) Role: Faculty mentor, oral examiner, core discussion organizer, core discussion leader
2014 – Present	Human Genetics (HG) Predoctoral Program The Johns Hopkins University School of Medicine (PI: Valle) Role: Faculty mentor, oral examiner

RESEARCH FUNDING SUPPORT

Extramural Funding

Current:

Dates: 04/01/2015 – 03/31/2024

Title: Centrosome biogenesis and copy number control

Identification number: R01 GM114119

Sponsor: NIH (NIGMS)

Total direct costs: \$848,000

Your role, your percent effort: Principal Investigator, 30% effort (3.6 Calendar Months)

Dates: 02/01/2020 – 01/31/2021

R01 Diversity Supplement for GM114119

Sponsor: NIH (NIGMS)
Total direct costs: \$83,000

Dates: 08/01/2019 – 07/31/2023
Title: Molecular mechanism that suppresses the proliferation of cells with supernumerary centrioles

Identification number: R01 GM133897

Sponsor: NIH (NIGMS)
Total direct costs: \$1,053,416

Your role, your percent effort: Principal Investigator, 25% effort (3 Calendar Months)

Dates: 01/01/2017 – 12/31/2020

Title: The centrosome surveillance pathway and its role in tumor suppression

Identification number: RSG129742

Sponsor: American Cancer Society Scholar Grant

Total direct costs: \$660,000

Your role, your percent effort: Principal Investigator, 25% effort (3 Calendar Months)

Dates: 01/01/2020 – 12/31/2021

Title: Targeting a novel synthetic lethal interaction in breast cancer.

Identification number: MBG-19-173

Sponsor: American Cancer Society Mission Boost Grant

Total direct costs: \$200,000

Your role, your percent effort: Principal Investigator, 6% effort (0.6 Calendar Months)

Intramural Funding

Current:

Dates: 01/01/2019 – 12/31/2020 (2 years)

Title: Rethinking antimetabolic therapy.

Identification number: N/A

Sponsor: Allegheny Health Network Grant

Total direct costs: \$200,000

Your role, your percent effort: Principal Investigator, 10% effort (1.2 Calendar Months)