

## Xiaofei Bai, Ph.D., M.Sc.

**My Bibliography:** <https://www.ncbi.nlm.nih.gov/myncbi/xiaofei.bai.1/bibliography/public/>

**Google Scholar:** <https://scholar.google.com/citations?user=WLfCuMAAAAJ&hl=en>

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### Education

- 08/2013 – 05/2018 **Ph.D. in Cell Biology and Biochemistry**  
Department of Biochemistry & Cellular and Molecular Biology.  
The University of Tennessee, Knoxville, TN, USA.  
(Mentor: Joshua N. Bembenek, Ph.D.)  
[Thesis: Investigating the roles of master cell cycle regulators during cytokinesis and embryonic development in \*Caenorhabditis elegans\*](#)
- 09/2009 – 07/2012 **M.Sc. in Plant Molecular Biology**  
Department of Life Science, Inner Mongolia Agricultural University, Hohhot, Inner Mongolia, China. (Mentor: Guojing Li, Ph.D.)  
[Thesis: Establishment of an agrobacterium-mediated transformation system in soybean](#)
- 09/2005 – 07/2009 **B.E. Bioengineering Major**  
Department of Life Science, Inner Mongolia Agricultural University, Hohhot, Inner Mongolia, China. (Mentor: Guojing Li, Ph.D.)

### Professional Experience

- 06/2018 – 06/2023 **Post-doctoral Fellow**  
National Institute of Diabetes and Digestive and Kidney Diseases, NIH. Bethesda, MD, USA. (Mentor: Andy Golden, Ph.D.)  
[Modeling genetic diseases in the nematode model \*C. elegans\*.](#)
- 10/2012 – 07/2013 **Research Assistant**  
Chinese Academy of Agricultural Science, Beijing, China.  
(Mentor: Tianfu Han, Ph.D.)  
[Developing a quick molecular assay to evaluate the biosafety of genetically modified soybeans to the natural environment.](#)

### Funding and Fellowship

- 2022 – Current **NIH Pathway to Independence Award (K99/R00), NIGMS.**  
**Project Title:** Modeling PIEZO associated diseases in *Caenorhabditis elegans*: from genetics to mechanism.
- 2020 – 2023 **Nancy Nossal Fellowship Award, NIDDK, NIH**

### Academic/Professional Honors

- 2022 NIH Fellows Award for Research Excellence (awarded to the top 25% of applicants)
- 2022 1<sup>st</sup> Place for Postdoc Presentation Award for Mid-Atlantic SDB meeting
- 2022 Best Oral Presentation Award for 17<sup>th</sup> Annual NIDDK/NIH Scientific Conference
- 2021 DeLill Nasser Travel Award for Professional Development in Genetics, Genetics Society of America

2021	Disease Models & Mechanisms Conference Travel Grant, the Company of Biologists Limited
2020	NIDDK Employee Appreciation Director's Award (Scientific, Group)-Fellows Advisory Board
2020	NIH Fellows Award for Research Excellence (awarded to the top 25% of applicants)
2019	NIH Summer Research Mentor Award
2017	ASCB U.S. Graduate Students Travel Awards
2016, 2017	The Graduate Student Senate Travel Awards. The University of Tennessee, Knoxville
2005 – 2009	Undergraduate Scholarship (awarded to top 25% of undergraduates annually for excellence in both academic performance and student activities), Department of Life Science, Inner Mongolia Agricultural University, Hohhot, Inner Mongolia, China

## **Publications**

### **Peer-reviewed Publications**

- (14) Alexandre Toulmay, Fawn Whittle, Jerry Yang, **Xiaofei Bai**, Jessica Diarra, Subhrajit Banerjee, Ashley Ferguson, Tim Levine, Andy Golden, William Prinz. Vps13-like proteins provide phosphatidylethanolamine for glycosylphosphatidylinositol anchor synthesis in the ER. *Journal of Cell Biology*, 2022; 221,3. <https://doi.org/10.1083/jcb.202111095>.
- (13) Kiley Hughes<sup>§</sup>, Ashka Shah<sup>§</sup>, **Xiaofei Bai**, Adams Jessica, Rosemary Bauer, Janelle Jackson, Chance Bainbridge, Emily Harris, Alyson Ficca, Ploy Freebairn, Shawn Mohammed, Eliana Fernández, Marcela Brocco, Wolfgang Stein, Andres Vidal-Gadea. Distinct mechanoreceptor *pezo-1* isoforms modulate food intake in the nematode *Caenorhabditis elegans*. *G3: Genes, Genomes, Genetics*, 2022. <https://doi.org/10.1093/g3journal/jkab429>. (<sup>§</sup> Contributed equally to this manuscript).
- (12) Elodie Mailler, Carlos Guardia, **Xiaofei Bai**, Michal Jarnik, Chad Williamson, Yan Li, Nunziata Maio, Andy Golden and Juan S. Bonifacino. The autophagy protein ATG9A enables lipid mobilization from lipid droplets at sites of phagophore formation. *Nature Communications*. 2021. 12:6750. <https://www.nature.com/articles/s41467-021-26999-x>
- (11) Todd Starich, **Xiaofei Bai**, David Greenstein. Gap junctions deliver malonyl-CoA from soma to germline to support embryogenesis in *Caenorhabditis elegans*. *eLife*. 2020. Jul 31;9. <https://elifesciences.org/articles/58619>
- (10) **Xiaofei Bai**, Leng-Jie Huang, Sheng-Wen Chen, Benjamin Nebenfuehr, Brian Wysolmerski, Jui-Ching Wu, Sara K. Olson, Andy Golden, Chao-Wen Wang. Loss of the seipin gene perturbs eggshell formation in *Caenorhabditis elegans*. *Development*. 2020. Oct 16; 147(20). <https://pubmed.ncbi.nlm.nih.gov/32820022/>
- (9) Lindsay Rathbun, Abrar Aljiboury, **Xiaofei Bai**, Julie Manikas, Jeffrey Amack, Lilianna Solnica-Krezel, Joshua Bembenek, Heidi Hehnly. PLK1- and PLK4-mediated asymmetric mitotic centrosome size and positioning in the early zebrafish embryo. *Current Biology*. 2020 Sep 3; S0960-9822(20)31264-1.
- (8) **Xiaofei Bai**, Jeff Bouffard, Avery Lord, Katherine Brugman, Paul Sternberg, Erin Cram, Andy Golden. *Caenorhabditis elegans* PIEZO channel coordinates multiple reproductive tissues to govern ovulation. *eLife*. 2020;9. Epub 2020/06/04. (Faculty Opinions Recommendation: <https://facultyopinions.com/prime/738065203>). <https://elifesciences.org/articles/53603>
- (7) **Xiaofei Bai**, David Woodbury and Andy Golden. The *fasn-1(g14ts)* allele is a Gly1830Arg missense mutation in *C. elegans* FASN-1. *microPublication Biology*. 2020. PMID: 32550489.
- (6) **Xiaofei Bai**, Michael Melesse, Christopher G. Sorensen Turpin, Dillon E. Sloan, Chin-Yi Chen, Wen-Cheng Wang, Po-Yi Lee, James R. Simmons, Benjamin Nebenfuehr, Diana Mitchell, Lindsey R. Klebanow, Nicholas Mattson, Eric Betzig, Bi-Chang Chen, Dhanya Cheerambathur, Joshua N. Bembenek. Aurora B functions at the apical surface after specialized cytokinesis during morphogenesis in *C. elegans*. *Development*. 2020. Jan 8; 147 (1). (\*Research Highlight “AIR-2 in atypical apical

polarization”. Development, 2020 147: e0101. \*The Company of Biologists Featured Movie).  
<https://pubmed.ncbi.nlm.nih.gov/31806662/>

(5) Michael Melesse, Dillon E Sloan, Joseph T Benthall, Quincey Caylor, Krishen Gosine, **Xiaofei Bai**, Joshua N Bembenek. Genetic identification of separate regulators in *Caenorhabditis elegans*. **G3: Genes, Genomes, Genetics**. 2018, 8 (2): 695-705.

(4) **Xiaofei Bai**, Joshua Bembenek. VISIONS: The ART OF SCIENCE: Orchestrating early embryonic divisions. **Molecular Reproduction and Development**. 2017.

(3) **Xiaofei Bai**, Joshua Bembenek. Protease dead separate inhibits chromosome segregation and RAB-11 vesicle trafficking. **Cell Cycle**, 2017, 16(20):1902-1917. <https://pubmed.ncbi.nlm.nih.gov/28820333/>

(2) Qingmei Han, Shi Sun, Wensheng Hou, Cunxiang Wu, **Xiaofei Bai**, Yang Yu, Yanfeng Zhou, Tianfu Han. Identification and genetic stability analysis of transgenic soybean with enhanced level of methionine. **Chinese Journal of Oil Crop Science**. 2015, 37(6): 789-796. (\* Chinese Academic Peer Reviewed Core Journal).

(1) Qi Yang, **Xiaofei Bai**, Yang Gao, Lijiang Yi, Jingyu Cong, Ruigang Wang, Guojing Li. cDNA cloning of CBF/DREB1 transcription factor of *Ammopiptanthus mongolicus* and its sequence analysis. **Genomics and Applied Biology**. 2009, 28 (6): 1043. (\* Chinese Academic Peer Reviewed Core Journal).

## **Conference, Symposium and Professional Meeting**

### **Oral Presentations**

2022 *C. elegans* 2022 Development Cell Biology & Gene Expression. “Modeling Congenital Generalized Lipodystrophy in *Caenorhabditis elegans*”. University of Wisconsin-Madison, WI.

2022 17<sup>th</sup> Annual NIDDK Scientific Conference ONLINE. “Modeling Congenital Generalized Lipodystrophy in *Caenorhabditis elegans*”.

2021 Mid-Atlantic Regional Meeting of the Society for Developmental Biology ONLINE. “Deciphering the Cellular and Molecular Mechanisms of Congenital Generalized Lipodystrophy in *Caenorhabditis elegans*.”

2019 Mid-Atlantic Regional Meeting of the Society for Developmental Biology. “Modeling Genetic Diseases of PIEZO Dysfunctions in *C. elegans*.” Penn State University, PA.

2017 21<sup>st</sup> International *C. elegans* Conference. “Programmed Variation of Cytokinesis Contribute to Morphogenesis in the *C. elegans* embryo.” UCLA, Los Angeles, CA.

2017 The ASCB Triangle Cytoskeleton Meeting. “Programmed Variation of Cytokinesis Contribute to Morphogenesis in the *C. elegans* embryo.” Saxapahaw NC.

2017 The Southeastern Regional Society for Developmental Biology Meeting. “A potential role for the midbodies in developing tissues of *C. elegans*” Kennesaw State University, GA.

2016 Comparative & Experimental Medicine Research Symposium. “The Protease Activity of Separase is Required for Both Chromosome Segregation and Membrane Trafficking during Anaphase” The University of Tennessee, Knoxville, TN.

### **Poster Presentations**

2022 ASCB Meeting 2022. “Deciphering the Cellular and Molecular Mechanisms of Congenital Generalized Lipodystrophy in *Caenorhabditis elegans*”.

2022 Mid-Atlantic SDB meeting. “Modeling Congenital Generalized Lipodystrophy in *Caenorhabditis elegans*”. Lehigh University, Bethlehem, PA.

2021 Cell Bio 2021 (ASCB/EMBO Meeting) ONLINE. “Deciphering the Cellular and Molecular Mechanisms of Congenital Generalized Lipodystrophy in *Caenorhabditis elegans*”.

2021 SDB 80<sup>th</sup> Annual Meeting ONLINE. “Deciphering the Cellular and Molecular Mechanisms of Congenital Generalized Lipodystrophy in *Caenorhabditis elegans*”.

2021 23<sup>rd</sup> International *C. elegans* Conference ONLINE. Deciphering the functional roles of PIEZO mechanosensors in reproduction”.

2021 16<sup>th</sup> Annual NIDDK Scientific Conference ONLINE. “Deciphering the functional roles of PIEZO mechanosensors in reproduction”.

2021 47<sup>th</sup> Annual Meeting of the Texas Genetics Society ONLINE. “Deciphering the functional roles of PIEZO mechanosensors in reproduction”.

2020 ASCB/EMBO Meeting ONLINE. “*Caenorhabditis elegans* PIEZO Channel Coordinates Multiple Reproductive Tissues to Govern Ovulation”.

2020 SDB 79<sup>th</sup> Annual Meeting ONLINE. “*Caenorhabditis elegans* PIEZO Channel Coordinates Multiple Reproductive Tissues to Govern Ovulation”.

2020 TAGC Virtual meeting. “*Caenorhabditis elegans* PIEZO Channel Coordinates Multiple Reproductive Tissues to Govern Ovulation”.

2019 ASCB/EMBO Meeting. “*Caenorhabditis elegans* PIEZO Channel Coordinates Multiple Reproductive Tissues to Govern Ovulation”. Washington D.C.

2019 Mechanobiology Across Length Scales Symposium. “A PIEZO-Like Channel Functions as a Mechanosensitive and Signaling Regulator that Governs Ovulation in *Caenorhabditis elegans*”. NIH, Bethesda, MD.

2019 22<sup>nd</sup> International *C. elegans* Conference. “Modeling Genetic Diseases of PIEZO Dysfunction in *C. elegans*”. UCLA, CA.

2019 Mid-Atlantic Regional Meeting of the Society for Developmental Biology. “Modeling Genetic Diseases of PIEZO Dysfunction in *C. elegans*.” Penn State University, PA.

2019 14<sup>th</sup> Annual NIDDK Scientific Conference. “Modeling Genetic Diseases of PIEZO Dysfunction in *C. elegans*.” NIH, Bethesda, MD.

2017 ASCB/EMBO Meeting, Philadelphia, PA. “Programmed Variation of Cytokinesis Contribute to Morphogenesis in the *C. elegans* embryo”.

2016 ASCB Annual Meeting. “The protease activity of separase is required for both chromosome segregation and membrane trafficking.” San Francisco, CA.

2016 ASCB Annual Meeting. “A potential role for midbodies in developing tissues of *C. elegans*.” San Francisco, CA.

2016 The Allied Genetics Conference (TAGC). “The protease activity of separase is required for both chromosome segregation and membrane trafficking during anaphase.” Orlando, FL.

2016 The Allied Genetics Conference (TAGC). “A potential role for midbodies in developing tissues of *C. elegans*.” Orlando, FL.

2016 Cell Dynamics Symposium. “A potential role for midbodies in developing tissues of *C. elegans*.” Vanderbilt University, Nashville, TN.

2016 Cell Dynamics Symposium. “The protease activity of separase is required for both chromosome segregation and membrane trafficking during anaphase.” Vanderbilt University, Nashville, TN.

2015 The Triangle Cytoskeleton Meeting- ASCB. “The protease activity of separase is required for both chromosome segregation and regulation of membrane trafficking during mitotic and meiotic exocytosis.” Saxapahaw, NC.

2015 The 20th *C. elegans* International Meeting. “The protease activity of separase is required for both of chromosome segregation and regulation of membrane trafficking during cytokinesis.” UCLA, CA.

2014 The Triangle Cytoskeleton Meeting-ASCB. “The protease activity of separase is required for both of chromosome segregation and regulation of membrane trafficking during cytokinesis.” Duke University, Durham, NC.

## **Career Training**

2022	GENETICS Peer Review Training Program fellow.
2021	“Becoming a Responsible Scientist”- Ethics in Research Training for Postdocs, NIH.
2021	The Racial Equity Institute (REI) Groundwater Training, NIH.
2021	MaxQuant Summer School ONLINE, Computational analysis of proteomics data generated by modern mass spectrometers.

2021 Translational Science Training Program, NIH.  
 2021 MATLAB Fundamentals Training Course, MathWorks.  
 2020 Grant writing workshop  
 (Five series workshops for K99/R00 grant writing and application), NIH/NIAID.  
 2019 NIH FAES Scientific Writing Class (Six weeks classes for manuscript writing), NIH.  
 2019 “Scientists Teaching Science 9-week Pedagogy Course”, NIH.  
 2019 Management Bootcamp, NIH.  
 2019 Workplace Dynamics Series Workshop (Five Weeks), NIH.  
 2019 Academic Job Interviews workshop. NIH.  
 2018 Grant Writing Workshop  
 (Six weeks training for K99/R00 grant writing and application), NIH/NIDDK.  
 2018 CVs and Resume workshop: Essential Job Search Documents, NIH.

### **Scientific Community Service and Professional Memberships**

2019 – 2022 Chair of Facilities & Resources Committee, NIDDK Fellows Advisory Board (FAB).  
 2022 Co-Moderator for Mid-Atlantic SDB meeting  
 2022 Judge for NIH Postbac Poster Day.  
 2022 Judge for the 17<sup>th</sup> Annual NIDDK Scientific Conference Award Competition.  
 2022 Judge for the NIH FARE 2023 Travel Award Competition.  
 2022 Poster Judge for 18th Annual Graduate Student Research Symposium, NIH.  
 2022 Co-Organizer of 17<sup>th</sup> Annual NIDDK Scientific Conference.  
 2021 Poster Judge for 23<sup>rd</sup> International *C. elegans* Conference.  
 2021 Judge for NIH Postbac Poster Day.  
 2021 Co-Organizer of 16<sup>th</sup> Annual NIDDK Scientific Conference.  
 2021 Poster Judge for the 47<sup>th</sup> Annual Meeting of the Texas Genetics Society ONLINE.  
 2021 Judge for the 16<sup>th</sup> Annual NIDDK Scientific Conference Award Competition.  
 2021 Judge for the NIH FARE 2022 Travel Award Competition.  
 2019 Co-Organizer of NIDDK/LBG branch seminar.  
 2019 Judge for the NIH FARE 2020 Travel Award Competition.  
 2019 Lead Judge for NIH Annual Post-bac Poster Day.  
 2017 Organizer of UTK SPAC CRISPR/Cas9 Workshop.  
 2016 Volunteer at ASCB Annual Meeting.  
 2022 – present Registered Reviewer for Communications Biology (Springer Nature).  
 2022 – present Early Career Reviewer (ECR) at GENETICS (two-year period).  
 2021 – present Registered Reviewer for Developmental Biology.  
 2017 – Present Member, Society for Developmental Biology.  
 2016 – Present Member, American Society for Cell Biology.  
 2014 – Present Member, Genetics Society of America.

### **Teaching Experience**

2014 – 2017 Teaching Assistant of the Advanced Cell Biology Class, at the University of Tennessee, Knoxville.  
 2013 – 2014 Teaching Assistant of the Botany and Plant Physiology Class, at the University of Tennessee, Knoxville.

### **Mentoring**

#### **National Institute of Diabetes and Digestive and Kidney Diseases, NIH**

2022- 2023 Postbaccalaureate fellow, Sydney Kelly, NIH.  
 2022 Postbaccalaureate fellow, Kerry Larkin, NIH.  
 2019 Summer research intern, Kyle Wilson, University of Maryland, College Park.  
 2018 Summer research intern, Davy Woodbury, Muhlenberg College.