

# Karen A. Schindler

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## **Research Interest:**

Research in my laboratory focuses on understanding the molecular genetic mechanisms that lead to aneuploidy in oocytes.

## **Education:**

Ph.D., Biochemistry and Molecular Biology (2005)  
Thomas Jefferson University, Philadelphia, PA  
Advisor: Edward Winter, Ph.D.

B.S., Biology (1999)  
Loyola University, Baltimore, MD

## **Professional Experience:**

### **Professor with tenure (2023-present)**

Rutgers, The State University of New Jersey  
Department of Genetics

### **Associate Professor with tenure (2018-2023)**

Rutgers, The State University of New Jersey  
Department of Genetics

### **Assistant Professor (2012-2018)**

Rutgers, The State University of New Jersey  
Department of Genetics

**Postdoctoral fellow (2005-2011)**

Department of Biology, University of Pennsylvania

Advisor: Richard M. Schultz, Ph.D.

Research focus: Understanding the integration of cell-cycle regulation their control of the meiotic chromosome divisions.

**Ph.D. Student (1999-2005)**

Department of Biochemistry and Molecular Pharmacology, Thomas Jefferson University

Thesis title: Regulation of the Meiosis-specific Ime2 Protein Kinase in *Saccharomyces cerevisiae*

**Awards and Honors:**

1. FASEB Excellence in Science Early-Career Investigator Award (2020)
2. Rutgers University Faculty-Scholar Teaching Award (2019)
3. Thomas Jefferson University “Distinguished Alumni Award” (2019)
4. Frontiers in Reproduction “Distinguished Alumna Award” (2019)
5. Rutgers University Board of Trustees Research Fellowship for Scholarly Excellence (2018)- Awarded to 5 Rutgers professors after evaluation of tenure packets
6. Society for the Study of Reproduction Virendra B. Mahesh New Investigator Award (2018)
7. Graduate Programs in Molecular Biosciences Directors’ Early Career Award (2018)
8. Rutgers Cancer Institute New Investigator award (2014)
9. Searle Scholar Award Nominee (2013)
10. Susan Heyner Award for excellence in research from the Center for Research on Reproduction and Women’s Health (2009)
11. Trainee Research Award for Platform Presentation-3<sup>rd</sup> place at the “Society for the Study of Reproduction” 41<sup>st</sup> Annual Meeting (2008)
12. Lalor Foundation Merit Award at the “Society for the Study of Reproduction” 41<sup>st</sup>Annual Meeting (2008)
13. NIH Loan Repayment Program recipient- Infertility and Contraception (2007-2010)
14. “Frontiers in Reproduction” student at the Marine Biological Laboratories (2007)
15. Thomas Jefferson University Sigma Xi Student Research Day presentation winner (2003)

16. Ralph Heimer Award for excellence in research and graduate studies (2002)
17. Thomas Jefferson University Alumni Travel Fellowship recipient (2002)
18. Thomas Jefferson University Foederer Fellowship recipient (1999)
19. Tri-Beta Biology Honor Society Member (1998)
20. NIH National Cancer Institute Werner H. Kirsten High School Student Intern (1994-1995)

### Peer-reviewed publications:

1. Biswas L, Tyc KM, Aboelenain M, Sun S, Dundovic I, Vukusic K, Liu J, Guo V, Xu M, Scott RS, Tao X, Tolic IM, Xing J, **Schindler K.** (2024). Maternal genetic variants in kinesin motor domains prematurely increase egg aneuploidy. *PNAS*. 121(45):e2414963121.
2. Blengini CS and **Schindler K.** (2024). Genetic interaction mapping of Aurora protein kinases in mouse oocytes. *Frontiers in Cell and Developmental Biology: Molecular and Cellular Reproduction*. 12:1455280.
3. Wood TWP, Henriques WS, Cullen HB, Romero M, Blengini CS, Sarathy S, Sorkin J, Bekele H, Jin C, Kim S, Chemiakine A, Khondker RC, Isola JVV, Stout MB, Gennarino VA, Mogessie B, Jain D, **Schindler K,** Suh Y, Wiedenheft B, Berchowitz LE. (2024). The retrotransposon-derived capsid genes *PNMA1* and *PNMA4* maintain reproductive capacity. bioRxiv. 4:2024.05.11.592987. Under review at *Nature Aging*.
4. Blengini CS, Vaskovicova M, Schier J, Drutovic D, **Schindler K.** (2024). Spatio-temporal requirements of Aurora kinase A in mouse oocyte meiotic spindle building. *iScience* 27(8):110451.
5. Kunitomi C, Romero M, Daldello EM, **Schindler K,** Conti M. (2024). Multiple intersecting pathways are involved in CPEB1 phosphorylation and regulation of translation during mouse oocyte meiosis. *Development*. 151(11):dev202712.
6. Ly J, Blengini CS, Cady SL, **Schindler K,** Cheeseman IM. (2024). A conserved germline-specific Dsn1 alternative splice isoform supports oocyte and embryo development. *Current Biology*. 34(18):4307-4317.e6.
7. Sun S, Defosse T, Boyd A, Sop J, Verderose F, Surray D, Aziz M, Howland M, Wu S, Changela N, Jang J, **Schindler K,** Xing J, McKim K. (2024). Whole Transcriptome and Functional Analyses Identify Novel Genes Involved in Meiosis and Fertility using *Drosophila melanogaster*. *Scientific Reports*. 14(1): 3602. doi: 10.1038/s41598-024-53346-z.
8. Mendola RJ, Biswas L, **Schindler K,** Walmsley RH, Russell H, Angle M, Garrisi GJ. (2024). Influx of Zwitterionic Buffer after Intracytoplasmic Sperm Injection (ICSI)

Membrane Piercing Alters the Transcriptome of Human Oocytes. *Journal of Assisted Reproduction and Genetics*. 41:1341-1356.

9. Manske G, Jorgensen K\*, Ma B\*, Tower C\*, Aboelenain M\*, Chakraborty S, Black B, **Schindler K\*\***, Chen X\*\*, Hammoud SS\*\*. Sex-specific differences in germline centromere strength are equalized via asymmetric CENP-A deposition in the early embryo. In revision.
10. Sun S, Aboelenain M, Ariad D, Haywood ME, Wageman CR, Duke M, Bag A, Viotti M, Katz-Jaffe M, McCoy RC, **Schindler K**, Xing J. (2023). Identifying risk genes for embryo aneuploidy using ultra-low coverage whole-genome sequencing from preimplantation genetic testing. *American Journal of Human Genetics*. 110(12): 2092-2102.
11. Jung GI, London-Vasquez D, Park SJ, Skop AR, Balboula AZ, **Schindler K**. (2023). A meiotic midbody structure is required for developmental competence of mouse oocytes. *Nature Communications*. 14(1):7419. doi: 10.1038/s41467-023-43288-x.
12. Kirsanov O, Johnson TA, Niedenberger BA, Malachowski TN, Hale BJ, Chen Q, Lackford B, Wang J, Singh A, **Schindler K**, Hermann BP, Hu GP, Geyer CB. (2023). Retinoic acid is dispensable for meiotic initiation but required for spermiogenesis in the mammalian testis. *Development*. 150(14):dev201638.
13. Briley SM, Ahmed AA, Steenwinkel TE, Jiang P, Hartig SM, **Schindler K**, Pangas SA. (2023). Global SUMOylation in mouse oocytes maintains oocyte identity and regulates chromatin remodeling and transcriptional silencing at the end of folliculogenesis. *Development*. 150(17):dev201535.
14. Cairo G, Greiwe C, Jung GI, Blengini CS, **Schindler K**, Lacefield S. (2023). Distinct Aurora B pools have different contributions to meiotic and mitotic chromosome segregation. *Journal of Cell Biology*. 34(5): ar43.
15. Blengini CS, Jung GI, Aboelenain M, **Schindler K**. (2022). A field guide to Aurora kinase inhibitors: an oocyte perspective. *Reproduction*. 164(4): V5-7.
16. Aboelenain M, **Schindler K**, Blengini CS. (2022). Methods to evaluate integrity of the spindle assembly checkpoint in mouse oocytes. *Journal of Visualized Experiments*. 187.
17. Sun S, Miller M, Wang Y, Tyc KM, Cao X, Scott RT, Tao X, Bromberg Y, **Schindler K** and Xing J. (2022). Predicting embryonic aneuploidy rate in IVF patients using whole-exome sequencing. *Hum Genet*. 141(10): 1615-27.

18. Kratka C, Drutovic D, Blengini CS, **Schindler K.** (2022). Using ZINC08918027 inhibitor to determine Aurora kinase-chromosomal passenger complex isoforms in mouse oocytes. *BMC Res Notes.* 15(1): 96.
19. Blengini CS and **Schindler K.** (2022). Acentriolar spindle assembly in mammalian female meiosis and the consequences of its perturbations on human reproduction. *Biology of Reproduction.* 106(2): 253-63.
20. Aboelenain M and **Schindler K.** (2021). Aurora kinase B negatively regulates Aurora kinase A to control maternal mRNA translation in mouse oocytes. *Development.* 148(21): dev.199560.
21. Blengini CS, Nguyen AL, Aboelenain M, **Schindler K.** (2021). Age-dependent integrity of the meiotic spindle assembly checkpoint in females requires Aurora kinase B. *Aging Cell.* 20(11): e13489.
22. Vazquez BN, Quartuccio SM, **Schindler K.** (2021). An analog-sensitive allele of Aurora kinase B is lethal in mouse. *microPublication.* 2021:10.17912/micropub.biology.000491.
23. Singh P, Fragoza R, Blengini CS, Tran TN, Pannafino G, Al-Sweel N, Schimenti KJ, **Schindler K,** Alani EA, Yu H, Schimenti JC. (2021) *MLH1/3* variants causing aneuploidy, pregnancy loss, and premature reproductive aging. *Nature Communications.* 12(1):5005.
24. Blengini CS, Ibrahimian P, Vaskovicova M, Drutovic D, Solc P, **Schindler K.** (2021). Aurora kinase A is essential for meiosis in mouse oocytes. *PLoS Genetics.* 17(4):e1009327.
25. Wartosch L, **Schindler K,** Schuh M, Gruhn JR, Hoffmann ER, McCoy RC, Xing J. (2021). Origins and Mechanisms Leading to Aneuploidy in Human Eggs. *Prenatal Diagnosis.* 41(5): 620-30. \* The author list was generated in random order; all authors contributed equally and are corresponding authors
26. Biswas L, Tyc K, El Yakoubi W, Morgan K, Xing J, **Schindler K.** (2021). Meiosis interrupted: the genetics of female infertility via meiotic failure. *Reproduction.* 161(2): R13-R35.
27. Tyc KM, Wong A, Scott RT, Tao X, **Schindler K,** Xing J. (2021). Analysis of DNA variants in miRNAs and miRNA 3'UTR binding sites in female infertility patients. *Laboratory Investigation.* 101(4): 503-12.
28. Wellard SR, **Schindler K,** Jordan PW. (2020). Aurora B and C kinases regulate prophase exit and chromosome segregation during spermatogenesis. *Journal of Cell Science.* 133(23): jcs248831.

29. Duncan FE, Schindler K, Schultz RM, Blengini CS, Stricker SA, Wessel GM, Williams CJ. (2020). Unscrambling the oocyte and the egg: clarifying terminology of the female gamete in mammals. *Molecular Human Reproduction*. 26(11): 797-800.
30. Vazquez BN, Vaquero A, **Schindler K**. (2020). Sirtuins in female meiosis and in reproductive longevity. *Molecular Reproduction and Development*. 87(12): 1175-87.
31. Tyc KM\*, El Yakoubi W\*, Bag A, Landis J, Zhan Y, Treff NR, Scott RT, Tao X, **Schindler K\*\***, Xing J\*\*. (2020). Whole exome sequencing implicates *CEP120* in human aneuploid conception risk. *Human Reproduction*. 35(9): 2134-48. \*/\*\* equal contribution
32. Balboula AZ, **Schindler K**, Kotani T, Takahasi M. (2020). Vitrification-Induced Activation of Lysosomal Cathepsin B Perturbs Spindle Assembly Checkpoint Function in Mouse Oocytes. *Molecular Human Reproduction*. 26(9): 689-701.
33. Tyc KM, McCoy RC, **Schindler K**, Xing J. Mathematical modeling of aneuploid conception risk. (2020). *Proceedings of the National Academy of Sciences USA*. 117(19): 10455-10464.  
\* Highlighted in a commentary "Oocyte aneuploidy- more tools to tackle an old problem."
34. Beard S, Pritchard N, Binder N, **Schindler K**, De Alwis N; Kaitu'u-Lino T, Tong S, Hannan N. (2020). Aurora Kinase mRNA expression is reduced with increasing gestational age and in severe early onset fetal growth restriction. *Placenta*. 95: 53-61.
35. Vazquez BN\*, Blengini CS\*, Hernandez Y, Serrano L, and **Schindler K**. (2019). SIRT7 promotes chromosome synapsis during prophase I of female meiosis. *Chromosoma*. 128: 369-383. \* equal contribution
36. Nguyen AL, Drutovic D, Vazquez B, El Yakoubi W, Gentilello AS, Malumbres M, Solc P, **Schindler K**. (2018). Genetic interactions between the Aurora kinases reveal new requirements for AURKB and AURKC during oocyte meiosis. *Current Biology*. 28(21): 3458-68.
37. Nguyen AL, Marin D, Scott R, **Schindler K**. (2018). A method to determine human gene function in meiosis using mouse oocytes. *Journal of Visualized Experiments*. (134): e57442.
38. Balboula AZ, Blengini C, Gentilello AS, Takahasi M, **Schindler K**. (2017). Maternal RNA regulates Aurora C kinase during mouse oocyte maturation in a translation-independent fashion. *Biology of Reproduction*. 96(6): 1197-1209. \*selected for cover art

39. Quartuccio SM, Dipali SS, **Schindler K.** (2017). Haspin inhibition reveals functional differences of interchromatid axis-localized AURKB and AURKC. *Molecular Biology of the Cell*. 8(17): 2233-2240.
40. Nguyen AL, Marin D, Zhou A, Smoak EM, Gentilello AS, Cao Z, Fedick A, Wang Y, Taylor D, Scott Jr. RT, Xing J, Treff N, **Schindler K.** (2017). Identification and characterization of Aurora Kinase B and C variants associated with maternal aneuploidy. *Molecular Human Reproduction*. 23(6): 406-16.
41. Nguyen AL and **Schindler K.** (2017). Specialize and divide (twice): Functions of 3 Aurora kinase homologs in mammalian oocyte meiotic maturation. *Trends in Genetics*. 33(5): 349-63.
42. Radford SJ, Nguyen AL, **Schindler K,** McKim KS. (2017). The chromosomal basis of meiotic acentrosomal spindle assembly and function in oocytes. *Chromosoma*. 126(3): 351-64.
43. Balboula AZ, Nguyen AL, Gentilello AS, Quartuccio SM, Drutovic D, Solc P, **Schindler K.** (2016). Haspin kinase regulates microtubule-organizing center clustering and stability through Aurora kinase C in mouse oocytes. *Journal of Cell Science*. 129(19): 3648-60.
44. Fellmeth JE, Ghanaim ES, **Schindler K.** (2016). Characterization of macrozoospermia-associated AURKC mutations in a mammalian meiotic system. *Human Molecular Genetics*. 25(13): 2698-711.
45. Quartuccio SM and **Schindler K.** (2015). Functions of Aurora kinase C in meiosis and cancer. *Frontiers in Cell and Developmental Biology*. 3: 50.
46. Fellmeth JE, Gordon D, Robins CE, Scott RT, Treff NR, **Schindler K.** (2015). Expression and characterization of three Aurora kinase C splice variants found in human oocytes. *Molecular Human Reproduction*. 21(8): 633-44.  
\*Selected for August's Editor Highlights in MHR
47. Balboula AZ, Stein P, Schultz RM, **Schindler K.** (2015). RBBP4 regulates histone deacetylation and bipolar spindle assembly during oocyte maturation in the mouse. *Biology of Reproduction*. 92(4): 105, 1-12.
48. Nguyen AL, Gentilello AS, Balboula AZ, Shrivastava V, Ohring J, **Schindler K.** (2014). Phosphorylation of threonine 3 on histone 3 by Haspin kinase is required for meiosis I in mouse oocytes. *Journal of Cell Science*. 127(23): 5066-78.  
\*Featured in "In This Issue" in *Journal of Cell Science*
49. Balboula AZ and **Schindler K.** (2014). Selective disruption of Aurora C kinase reveals distinct functions from Aurora B kinase during meiosis in mouse oocytes. *PLoS Genetics*, 10(2): e:1004194.

\*Featured in research highlight in *Biology of Reproduction*: Schubert C. 2014. Much Ado about Meiosis.

50. Balboula AZ, Stein P, Schultz RM, **Schindler K.** (2014). Knockdown of RBBP7 unveils a requirement of histone deacetylation for CPC function in mouse oocytes. *Cell Cycle*. 13(4): 600-11.  
\*Featured in News and Views in *Cell Cycle*: De La Fuente R. 2014. Histone deacetylation: Establishing a meiotic histone code. *Cell Cycle*. 13(6): 879-80.
51. Oh JS, Susor A, **Schindler K**, Schultz RM, Conti M. (2013). Cdc25A activity is required for the metaphase II arrest in mouse oocytes. *Journal of Cell Science*. 126 (Pt 5): 1081-5.
52. **Schindler K**, Davydenko O, Fram B, Lampson MA, Schultz RM. (2012). Maternally recruited Aurora C kinase is more stable than Aurora B to support mouse oocyte maturation and early development. *Proceedings of the National Academy of Sciences USA*. 109(33): E2215-22.  
\*Cover art issue 8/14/12
53. Stein P and **Schindler K.** (2011). Mouse oocyte microinjection, maturation and ploidy assessment. *Journal of Visualized Experiments*. 53: pii 2851.
54. Chiang T, Duncan FE, **Schindler K**, Schultz RM, Lampson MA. (2010). Weakened centromere cohesion is the primary cause of age-related aneuploidy in oocytes. *Current Biology*. 20(17): 1522-8.
55. Buffone MG,\* **Schindler K**,\* Schultz RM. (2009). Over-expression of CDC14B causes mitotic arrest and inhibits zygotic genome activation in mouse preimplantation embryos. *Cell Cycle*. 8: 3904-3914. \*equal contribution
56. Shuda K,\* **Schindler K**,\* Ma J, Schultz RM, Donovan PJ. (2009). Aurora Kinase B modulates chromosome alignment in mouse oocytes. *Molecular Reproduction and Development*. 76(11): 1094-105. \*equal contribution
57. **Schindler K**, and Schultz RM. (2009). The CDC14A phosphatase regulates oocyte maturation in mouse. *Cell Cycle*. 8(7): 1-9.
58. **Schindler K**, and Schultz RM. (2009). CDC14B acts through FZR1 (CDH1) to prevent meiotic maturation of mouse oocytes. *Biology of Reproduction*. 80(4): 795-803.
59. Moore M, Shin M, Bruning A, **Schindler K**, Vershon A, Winter E. (2007). Arg-Pro-X-Ser/Thr-Ala is a consensus phosphoacceptor sequence for the meiosis-specific Ime2 protein kinase in *Saccharomyces cerevisiae*. *Biochemistry*. 46(1): 271-8.



60. Krishnamoorthy T, Chen X, Govin J, Cheung WL, Dorsey J, **Schindler K**, Winter E, Allis CD, Guacci V, Khochbin S, Fuller MT, Berger SL. (2006). Phosphorylation of histone H4 Ser1 regulates sporulation in yeast and is conserved in fly and mouse spermatogenesis. *Genes and Development*. 20(18): 2580-92.
61. **Schindler K** and Winter E. (2006). Phosphorylation of Ime2p regulates meiotic progression in *Saccharomyces cerevisiae*. *Journal of Biological Chemistry*. 281(27): 18307-16.
62. **Schindler K**, Benjamin KR, Martin A, Boglioli A, Herskowitz I, Winter E. (2003). The Cdk-activating kinase Cak1p promotes meiotic S phase through Ime2p. *Molecular and Cellular Biology*. 23(23): 8718-28.
63. Lowe M, Madsen EL, **Schindler K**, Smith C, Emrich S, Robb F, Halden RU. (2002). Geochemistry and microbial diversity of a trichloroethene-contaminated Superfund site undergoing intrinsic in situ reductive dechlorination. *FEMS Microbiology and Ecology*. 40(2): 123-134.
64. Schaber M, Lindgren A, **Schindler K**, Bungard D, Kaldis P, Winter E. (2002). *CAK1* promotes meiosis and spore formation in *Saccharomyces cerevisiae* in a *CDC28*-independent fashion. *Molecular and Cellular Biology*. 22(1): 57-68.
65. Kapur R, Majumdar M, Xiao X, McAndrews-Hill M, **Schindler K**, Williams DA. (1998). Signaling through the interaction of membrane-restricted stem cell factor and c-kit receptor tyrosine kinase: genetic evidence for a differential role in erythropoiesis. *Blood*. 91(3): 879-889.

### Book Chapters:

1. Biswas L and **Schindler K**. Predicting Infertility: How Genetic Variants in Oocyte Spindle Genes Affect Egg Quality. Chapter in *Molecular mechanisms determining mammalian oocyte quality*. Ahmed Z. Balboula (Ed). *Advances in Anatomy, Embryology and Cell Biology*; Springer Nature; 2024. Chapter 1, 238.
2. Williams CJ, **Schindler K**. Meiosis, fertilization, and preimplantation embryo development. In: JF Strauss III, RL Barbieri, A Dokras, CJ Williams & Z Williams (eds.), *Reproductive Endocrinology: Physiology, Pathophysiology, and Clinical Management*", 9th ed. Philadelphia: W.B. Saunders; 2024. Chapter 9, pages 188-216.
3. Blengini CS and **Schindler K**. Method to detect protein localization via immunocytochemistry in mouse oocytes. A chapter in *Methods in Molecular Biology* by Marie H. Verlhac (Ed). 2018. 1818:67-76.

4. **Schindler K.** Protein kinases and protein phosphatases that regulate oocyte maturation. A chapter in *Cell Cycle and Development* by Jacek Kubiak (Ed). 2011. 53: 309-41.

### **Invited Reviews and Commentaries:**

1. Skop A, **Schindler K.** (2024) Localized translation in the embryo. *Nat Rev Mol Cell Biol.* 25(5):339. doi: 10.1038/s41580-024-00725-z.
2. Blengini CS and **Schindler K.** 2023. Follicular communication breakdown in aging ovaries. *Nature Aging.* 3(6): 636-7.
3. **Schindler K.** 2021. Inhibition of BIN2 extends reproductive lifespan. *Nature Aging* 1: 977-79.
4. Ohring J and **Schindler K.** A Scrambled Mess. *The Scientist.* May 2016.
5. **Schindler K.** Aurora kinase roles in idiosyncratic mitoses: The same, but different. 2011. Invited *News and Views* commentary on the role of Aurora kinases during early embryonic development. *Cell Cycle.* 10: 19.
6. **Schindler K.** Power lost, power gained. 2003. *The Scientist.* Sept. 8, 2003 17 (17): 72.

### **Funding:**

#### **Active:**

1. NIH R01-HD091331-06 (12/15/2017-04/30/2028)  
\$2,848,432 direct  
Association of the Maternal Exome with Risk of an Aneuploid Conception  
Role: Contact PI; MPI: Jinchuan Xing
2. NIH R35-GM136340 (09/01/2020-06/30/2025)  
\$1,250,000 direct  
Signaling Mechanisms that Control Chromosome Segregation during Female Meiosis  
Role: PI
3. NIH F30-HD107976 (09/01/2022-08/30/2026)  
\$195,632  
Functional evaluation of kinesin gene variants associated with female subfertility and egg aneuploidy  
Role: Mentor to MD/PhD student Leelabati Biswas

#### **Completed:**

1. American Society for Reproductive Medicine (04/01/2022-03/31/2024)

\$47,617 direct

Determining Sirtuin 7 mechanisms that protect age-related genome stability in oocytes

Role: PI

2. NIH R21-HD105963-01A1 (04/01/2022-03/31/2024)

\$31,400 (subaward)

Challenging the role of retinoic acid in meiotic initiation

Role: Subcontract PI (PI: Geyer)

3. Rutgers University Core Facility Utilization Voucher (04/01/2023-12/31/2023)

\$5,000

Internal grant to off-set costs associated with using the Rutgers Histology and Pathology Core facility

Role: PI

4. NIH R35-GM136340-S1 (05/01/2021-06/30/2023)

\$163,821

Diversity Supplement to Signaling Mechanisms that Control Chromosome Segregation during Female Meiosis

Role: Mentor for Mayra Romero

5. NIH R01-GM112801 (2015-2020)

\$1,150,000 direct

Control of mammalian meiosis I through protein kinase signaling

Role: PI

6. NIH R35-GM136340-S2 (07/01/2021-06/30/2022)

\$14,408

Equipment Supplement for -80 freezer to Signaling Mechanisms that Control Chromosome Segregation during Female Meiosis

Role: PI

7. Rutgers Core Facilities Grant Award (01/25/2022-12/31/2022)

\$79,614.72

Internal grant to acquire equipment for upgrading a microscope in HGINJ Imaging core.

Role: Co-PI (co-PI: Shivas)

8. Rutgers University Core Facility Utilization Voucher (05/01/2022-12/31/2022)

\$3,861

Internal grant to off-set costs associated with using the Rutgers Histology and Pathology Core facility

Role: PI

9. NIH R01-GM112801-05S1 (07/01/2019-06/30/2020)

\$ 22,192

Equipment Supplement to R01-GM112801 to purchase a live-cell imaging adapter system for existing confocal microscope  
Role: PI

10. NIH R01-GM112801-04S1 (07/01/2018-06/30/2017)  
\$135,280

Equipment Supplement to R01-GM112801 to purchase a super-resolution confocal microscope and Imaris imaging software package  
Role: Co-PI (coPI: McKim)

11. NIH R35-GM136340 S3 (09/01/2022-06/30/2023)  
\$119,078

Equipment Supplement for confocal microscope upgrades to Signaling Mechanisms that Control Chromosome Segregation during Female Meiosis  
Role: PI

12. NJ Cancer Commission (2017-2019)  
\$100,000

Determining why AURKC is oncogenic  
Role: Mentor to Postdoctoral fellow Suzanne Quartuccio Gantar

13. Burroughs Wellcome Fund 1018491 (2017-2018)  
\$15,000

Reproductive Scientists for Women's Health- from preconception to the cradle  
Role: Co-PI (co-PI: Friel)

14. NIH F31-HD089597 (2016-2018)  
\$111,558

Investigating the discrete functions of the aurora kinases in meiosis I.  
Role: Mentor for Ph.D. student Alexandra Nguyen

15. Rutgers Cancer Institute of NJ (2014-2016)  
New Investigator Award

\$50,000  
Role: PI

16. NIH R00-HD061657: K99/R00 (2009-2015)  
\$162,343: K99 phase at U. of Penn.;

\$712,610: R00 phase at Rutgers U.  
Role of CDC14B in mouse oocyte maturation  
Role: PI

17. Busch Biomedical Grant (2013-2015)  
\$25,000

Evaluation of AURKC as a biomarker of oocyte and embryo aneuploidy

Role: PI

18. American Society for Reproductive Medicine (2013-2015)  
\$35,000  
Determining if AURKC mutation is a genetic cause of aneuploidy in eggs  
Role: PI

19. Rutgers University Institute for Women's Leadership (2013-2014)  
\$2,000  
Rutgers University Women and Health Faculty Working Group  
Role: Co-PI

20. NIH HD055822: F32 Individual Training Postdoctoral Grant (2007-2009)  
\$96,472  
Determining the role of Cdc14 during meiosis in mouse oocytes  
Role: PI

21. NIH Institutional Training Grant (NRSA)  
Predoctoral (2003-2004): "Training program in Biomolecular Signal Transduction"  
Postdoctoral (2005-2006): "Training program in Developmental Biology"  
(2006-2007): "Research and training in Reproductive Biology"

### Interviews:

1. Interviewed in "Decoding Pregnancy Loss" by Molly Donovan. Resolve New England. 2023 Vol. 2 <https://publ.resolve-newengland.org/rne-magazine-2023-volume-2/decoding-pregnancy-loss-with-leela-biswas/index.html>
2. Interviewed in "What causes miscarriage, might be genetic" by Tom Avril. Philadelphia Inquirer. Jan. 14, 2023.
3. Interviewed in "Aneuploidy Could Explain Variability in Female Fertility: Study" by Catherine Offord. The Scientist. Jan/Feb. 2019.
4. An interview with Dr. Karen Schindler by Dr. Jodi Flaws. *Biology of Reproduction*, ioy209, <https://doi.org/10.1093/biolre/iy209>. October 2018
5. Featured interview in "Lift off: How to launch your career after a postdoc" by Rachel Nuwer. *New Scientist*, March 2014.

### Invited University seminars (last 5 years):

1. Brown University, Department of Molecular Biology, Cell Biology and Biochemistry. Providence, RI. April 2024.  
Title: Determining the genetic contributions to aneuploidy in eggs

2. Mt. Sinai Ichan School of Medicine, Department of Cell, Developmental and Regenerative Biology. NYC, NY. March 2024.  
Title: Determining the genetic contributions to aneuploidy in eggs
3. Southern Illinois University School of Medicine. Carbondale, IL. October 2023.  
Title: Determining the genetic contributions to aneuploidy in eggs
4. Rutgers University Robert Wood Johnson Medical School Department of OB/Gyn Grand Rounds, New Brunswick, NJ. September 2022.  
Title: Determining the genetics of recurrent aneuploidy. (Virtual)
5. University of California, Davis Reproductive Biology Supergroup. Davis, CA. May 2022  
Title: Understanding the genetic contributions to making a healthy egg. (Virtual)
6. Millersville University, Department of Biology. Millersville, PA. March 2022  
Title: Understanding the genetic contributions to making a healthy egg. (Virtual)
7. Texas A&M Interdisciplinary Faculty for Reproductive Biology. College Station, TX. January 2022  
Title: Understanding the genetic contributions to making a healthy egg. (Virtual)
8. University of Copenhagen, Denmark; Eva Hoffmann laboratory group meeting. October 2021  
Title: Understanding the genetic contributions to making a healthy egg. (Virtual)
9. Colorado State University Fall Webinar Series. Fort Collins, CO. October 2020  
Title: Understanding the genetic contributions to making a healthy egg. (Virtual)
10. Rutgers University Cancer Institute of New Jersey. New Brunswick, NJ. September 2020  
Title: Understanding the genetic contributions to making a healthy egg. (Virtual)
11. University of California, Davis, College of Biological Sciences. April 2020. Cancelled for Covid-19  
Title: Understanding how to make a healthy egg.
12. Centre de Recherche du CHUM. University of Montreal. Montreal, Canada. March 2020. Cancelled for Covid-19  
Title: Understanding how to make a healthy egg.
13. Johns Hopkins University, Department of Biology. Baltimore, MD. March 2020. Cancelled for Covid-19.  
Title: Understanding how to make a healthy egg.
14. Joseph Carreras Leukaemia Research Institute. Bardelona, Spain. January 2020

Title: Understanding how to make a healthy egg.

15. East Carolina University Brody School of Medicine, Department of Anatomy and Cell Biology. Greenville, NC. October 2019

Title: Determining the genetic contributions to making a healthy egg.

16. Washington University School of Medicine Centre for Reproductive Sciences. St. Louis, MO. October 2019.

Title: Determining the genetic contributions to making a healthy egg.

17. Rutgers University Endocrine and Animal Biosciences program. New Brunswick, NJ. October 2019.

Title: Understanding the genetic contributions to making a healthy egg.

18. University of Pittsburg, Magee-Womens Research Institute. Pittsburgh, PA. September 2019.

Title: Determining the genetic contributions to making a healthy egg.

19. Rowan University, College Office of Undergraduate Research Initiatives. Glassboro, NJ. June 2019.

Title: How to make a healthy egg.

20. National Institute of Environmental Health Sciences. Durham, NC. April 2019.

Title: Understanding how the Aurora kinases regulate Meiosis I to make a healthy egg.

21. Cornell University Department of Reproductive Physiology/Endocrinology Ithaca, NY. February 2019.

Title: Understanding how the Aurora kinases regulate Meiosis I to make a healthy egg.

22. Seton Hall University, Department of Biology. South Orange, NJ. February 2019.

Title: Understanding how the Aurora kinases regulate Meiosis I to make a healthy egg

23. University of Delaware, Department of Biology. Newark, DE. February 2019.

Title: Understanding how the Aurora kinases regulate Meiosis I to make a healthy egg.

24. Baylor College of Medicine, Department of Biochemistry and Molecular Biology. Houston, TX. January 2019.

Title: Understanding how the Aurora kinases regulate meiosis I in mouse oocytes.

### **Invited Conference Presentations (last 5 years):**

1. Gordon Research Conference on Meiosis. New London, NH. June 2024.  
Title: Decoding the egg: Identifying maternal genetic variants that contribute to egg quality.

2. 5<sup>th</sup> Annual International Congress, EBART. Barcelona, Spain. April 2024.  
Title: The expanding role of preconception genome medicine.
3. Origins of Aneuploidy Research Consortium. Florence, Italy. November 2023.  
Title: Determining the genetic contributions to aneuploidy in eggs
4. 19<sup>th</sup> Annual Gilbert S. Greenwald Symposium on Reproduction and Perinatal Research plenary speaker. University of Kansas Medical Center. Kansas City, KS. October 2022.  
Title: Determining the genetic contributions to aneuploidy in eggs
5. Reproductive Aging FASEB Conference. Palm Springs, CA. June 2022;  
rescheduled from May 2021 due to Covid.  
Title: Understanding the genetics behind age-related oocyte quality decline.
6. Tri-Institutional Symposium in Reproductive Biology and Infertility plenary speaker. Philadelphia, PA. April 2022.  
Title: Determining the genetic contributions to aneuploidy in eggs
7. American College of Clinical Geneticists Annual Conference. Speaker in “Hot topics in Reproductive Genetics” session. Nashville, TN. March 2022.  
Title: Association of the Maternal Exome with Risk of an Aneuploid Conception
8. Origins of Aneuploidy Research Consortium. Paris France. November 2022.  
Title: Genetic variants in kinesins associated with maternal aneuploidy
9. Society for the Study of Reproduction 54<sup>th</sup> Annual Meeting FASEB-SSR exchange lecturer. St. Louis, MO. December 2021.  
Title: Understanding the Genetic Contributions to Making A Healthy Egg
10. Invited talk for 2020 Gordon Conference on Meiosis. Conference cancelled for Covid-19, and instead gave seminar to virtual “Meiosis in Quarantine” conference with over 600 attendees worldwide. April 2020.  
Title: Identification and characterization of gene variants associated with egg aneuploidy in humans
11. Genome Integrity Meeting at the New York Academy of Sciences. New York City, NY. February 2020.  
Title: Non-overlapping functions of AURKB and AURKC in SAC regulation in oocytes
12. Fertility UK 2020. Edinburgh, UK. January 2020.  
Title: Genetics of female infertility: past, present and future.
13. Dynamic Kinetochore Workshop. Paris, France. August 2019.



- Title: Non-overlapping functions of AURKB and AURKC in regulating the spindle assembly checkpoint during oocyte meiosis.
14. Fertility UK 2019. Birmingham, UK. January 2019.  
Title: Determining how the Aurora kinases regulate meiosis to make a good egg.
  15. Association for Reproductive Medicine annual conference. Denver, CO. October 2018.  
Title: Aurora kinase B: A cell cycle regulator required to protect gamete euploidy during meiosis I.
  16. Origins of Aneuploidy Consortium annual meeting. Toronto, Canada. September 2018.  
Title: Association of the maternal exome with embryonic aneuploidy risk.
  17. Society for Developmental Biology, Northeast Regional Meeting. Woods Hole, MA. April 2018.  
Title: Understanding how the Aurora kinases regulate meiosis I in mouse oocytes.
  18. MidAtlantic Mitosis and Meiosis Meeting. Baltimore, MD. April 2018.  
Title: Understanding how the Aurora kinases regulate meiosis I in mouse oocytes.
  19. Undergraduate Research Symposium at William Paterson University. Wayne, NJ. April 2017.  
Title: My march to find a good egg
  20. NYC area Human Genetics Symposium. New York City, NY. January 2016.  
Title: Cause of elevated aneuploidy levels and human infertility- Role of a germ-cell specific Aurora kinase

## **Student Research Mentoring**

### ***Postdoctoral:***

1. Ahmed Balboula: (2012-2014) Assistant Professor at University of Missouri
2. Suzanne Quartuccio Gantar: (2014-2017) Assistant Professor at Seton Hall University; Lecturer at George Mason University
3. Zubing Cao: (2015) Assistant Professor Anhui Agricultural University
4. Evan Smoak: (2016) Senior Copywriter at Razorfish Health
5. Cecilia Blengini: (2016-present)
6. Berta Vazquez: (2017-2018) Assistant Professor at University of Barcelona
7. Warif El Yakoubi: (2018-2020) Research Associate at NIH
8. Mansour Aboelenain: (2018-2023) Research Assistant at U. of Edinburgh
9. Marcus Begley: (2023-present)

### ***Graduate:***

1. Jessica Fellmeth: (2012-2015) Ph.D. student; Assistant professor at Millersville University
2. Alexandra Nguyen: (2014-2018) Ph.D. student; funded via NIH F31; received Harvey Waterman Medal of Excellence award; Damon Runyon postdoctoral fellow MIT in Cheeseman lab; Assistant Professor at CU Anschutz
3. Daniel Jung: (2019-2023) Ph.D. student; RU-SAS TA award; Science Advisor at Goodwin Business Law
4. Leelabati Biswas: (2020-2024) M.D./Ph.D. student; NIH F30
5. Mayra Romero: (2020-present) Ph.D. student; Diversity supplement
6. Marlena Duke: (2022-present) Ph.D. student from Eastern Virginia Medical School
7. Patricia Ibrahimian: (2018-2020) Masters student; Pfizer vaccine team
8. Amritdeep Gill: (2021-2022) Masters student
9. Katie Morgan: (2018-2019) Masters student
10. Laura Morris: (2012) graduate student rotation
11. Lin-Ing Wang: (2013) graduate student rotation
12. David Goodrich: (2014) graduate student rotation
13. Victor Tan: (2015) graduate student rotation
14. Diego Marin: (2016) graduate student rotation
15. Christen Khella: (2016) graduate student rotation
16. Liam Turk: (2016) graduate student rotation
17. Kade Power: (2018) graduate student rotation
18. Angelica Barreto Galvez: (2018) graduate student rotation
19. Saai Suryanarayanan: (2020) graduate rotation student

***Undergraduate:***

1. Mariam Abass: (2021-2022) Genetics major; IMSD Summer Scholar
2. Abubakar Ahmed: (2015) Genetics major; Summer Undergraduate Research Fellow
3. Irene Ahmed: (2019-2020) Genetics major; Dental student at NYU
4. Erika Cook: (2012) Genetics major; currently lab manager at Rengenxbio
5. Shweta Dipali: (2015-2018) Genetics Honors major; Aresty Summer Fellow 2015; Aresty Research Fellowship 2016; F31 supported PhD student at Northwestern University; co-author on manuscript
6. Julia Einfeldt: (2022-2023) Genetics major; Summer Undergraduate Research Fellow
7. Amanda Gentilello: (2012-2013) Genetics major; (2013-2016 technician) currently Embryologist Reproductive Science Center; co-author on several manuscripts

8. Elena Ghanaim: (2014-2016) Genetics Honors major; Aresty Research Assistant 2013, Aresty Research Fellowship 2014; Policy Analyst at NIH NHGRI; co-author on manuscript
9. Kacey Griffin: (2016-2018) Genetics major; Graduate student at SUNY Albany in Public Health
10. Sara Khan: (2023) Douglas STEM fellow
11. Kelly King: (2016-2018) Genetics Honors major; Douglas STEM summer fellow 2016; attended Albert Einstein School of Medicine; Ob/Gyn resident at Long Island Jewish Hospital
12. Caroline Kratka: (2017-2020) Genetics Honors major; Aresty Research Assistant 2017; Summer Undergraduate Research Fellow 2018, 2019; Henry Rutgers Scholar; MD/PhD student at Northwestern University
13. Mustafa Ladha: (2015-2016) Genetics major; currently Senior safety specialist at Janssen Pharmaceutical
14. Erin Mallory: (2023-2024) Genetics major
15. Maya Minsky: (2024-present) Genetics major
16. Anika Mishra: (2024-present) Genetics major
17. Zinira Munshi: (2017) Genetics major; Medical student at NY Institute of Technology
18. Catalina Munoz: (2012) SEBS; Medical student PCOM
19. Matthew Nebenhaus: (2017-2019) MBB Honors major; SURF summer fellow 2017; 2019 Aresty research fellowship
20. Jacob Ohring: (2013-2016) Genetics major with IHT Honors; Aresty Summer Fellow 2013; currently Lab tech Austarpharma; co-author on 2 manuscripts
21. Cyanna Padmore: (2018, 2020-21) Biology major; Douglas STEM Summer Fellow 2018; Lewis Stokes Fellow
22. Dhara Patel: (2014-2016) Genetics Honors major; Douglas STEM Summer Fellow 2013, 2014; Aresty Research Fellowship 2014; Ph.D. student U of Montreal
23. Yasmin Ramadan: (2015-2017) Genetics Honors Major; Douglas STEM Summer Fellow 2015, Aresty Research Fellowship 2015; Ph.D. student at Columbia University
24. Lehna Reza: (2023-2024) Genetics major; SURF summer fellow 2023
25. Dayna Scapati: (2022-2023) Genetics major
26. Pooja Soni: (2012-2013) MBB major
27. Bridget Vaydovsky: (2022-2023) Genetics major
28. Dena Winchester: (2019-2020) Genetics major; Genetic Counseling graduate student at Icahn School of Medicine
29. Arielle Yeshua: (2012) Genetics major; Summer Undergraduate Research Fellow 2012; Medical student Hofstra; resident Lenox Hill Hospital

**Other:**

1. Dr. Patricia Melloy; Associate Professor at Fairleigh Dickinson University: Sabbatical stay (2017)
2. Dr. Mansour Aboelenain; Lecturer of Theriogenology at Mansoura University: Short term stay supported by Egyptian Science and Technology Development Fund (2018)
3. Dr. Soni Lacefield; Professor at Indiana University: Sabbatical stay (2019-2020)

**Teaching experience:**

**Peer-reviewed publications in pedagogy:**

1. Kolber BJ, Konsolaki M, Verzi MP, Wagner CR, McCormick JR, **Schindler K.** 2014. Sex-specific differences in meiosis: Real-world applications. CourseSource.

**Rutgers University:**

**Undergraduate**

1. **Social, Legal and Ethical Issues of the New Genetics** (01:447:354)  
Designed, coordinated and taught (Fall 2013, 2015-2020, 2022-present) (on leave 2014, sabbatical 2021)  
Coordinated movement of course into Active Learning Classroom (2018)  
Guest Lecture "Biology behind the ART" (Spring and Fall 2016)
2. **Honors Seminar in Genetics** (01:447:404:02)  
Co-designed, coordinated and taught course (Spring 2013)
3. **Mutant Isolation and Analysis** (01:447:465)  
Lecture on RNAi and the germline (Fall 2013, 2014)
4. **Effective Communication Skills in Genetics** (01:447:430)  
Lecture on how to present research in talks and posters (Fall 2013-2015, 2017)
5. **Research in the Disciplines** (01:355:201)  
Lecture to students in a writing course on how to approach ethical scenarios in medical writing (Fall 2017)

**Graduate**

1. **Molecular Biosciences Graduate Program: Minicourse on How to make a Good egg: A molecular perspective** (16:695:634:15915)  
Course co-designer and co-coordinator (Spring 2022-2024)

**2. Molecular Biosciences Graduate Program: Fundamentals of Molecular Biosciences (695:538)**

Course co-coordinator (2018-2020)

Lecture on meiotic chromosome segregation (Fall 2013)

Lecture on mitotic and meiotic chromosome segregation (Fall 2014; 2016; 2018)

**3. Molecular Biosciences Graduate Program: Experimental Methods in Molecular Biosciences (695:539)**

Expert facilitator for paper discussion on mitotic chromosome segregation (Fall 2014)

**4. Molecular Biosciences Graduate Program: Survival Skills (695:611:01)**

Lecture on how to present research in talks and posters (Fall 2012, Spring 2014-present)

**5. Topics in Biomedical Ethics (MSBS51303S)**

Lecture on Reproductive biology ethics (Spring 2015, 2016)

**6. Biological, Biomedical, and Social Aspects of Aging (16:761:610)**

Lecture on aging and the reproductive cell cycle (Spring 2016-present)

***Other relevant teaching and experience***

**1. Frontiers in Reproduction (FIR) course at Marine Biological Laboratories**

Director of Module 2: Gametogenesis and embryogenesis (2022-2026)

Coordinate oocyte maturation lab (2019, 2022, 2023)

Coordinate oocyte manipulation training (2022, 2023)

Lecturer on Signal transduction and folliculogenesis and oocyte maturation (2015-2016)

Lecturer on Molecular recognition of oocyte meiotic maturation and aneuploidy (2017-2023)

Note: course was cancelled 2020 and 2021 due to COVID.

**2. National Academies Education Fellow in the Life Sciences**

2012 National Academies Summer Institute on Undergraduate Education in Biology; Cambridge, MA

**3. University of Pennsylvania and Penn Fertility**

Instructor for “Oncofertility Saturday School”

Designed and led a molecular biology and genetics module for local high school girls to learn about oocyte meiotic development, sources of aneuploidies, paternity testing and DNA isolation. This program is was expanded to Philadelphia area classrooms. (2010-11)

**Trainee Committees**

*Postdoctoral*

Jessica Fellmeth: (2018-2021) INSPIRE Mentoring committee

Matthew Marcello: (2012-2014) INSPIRE Mentoring committee

Harita Menon: (2015-2017) INSPIRE Mentoring committee

*Graduate*

Kimberly Abt (2024) Brown University; PhD committee member

Saai Suryanarayanan (2021-2024) Rutgers University; Ph.D. committee member and chair

Lauren Chukrahalla: (2019-2023) Rutgers University; Ph.D. committee member and chair

Sara Coppola: (2022) Rutgers University; M.S. committee examiner

Sukunya Das: (2019-2023) Rutgers University; Ph.D. committee member and chair

Yanira Gonzalez-Rodriguez: (2019-2024) Rutgers University; Ph.D. committee member and chair

David Goodrich: (2015-2017) Rutgers University; Ph.D. committee member

Jessica Greaney: (2020) University of Queensland, Australia; Ph.D. thesis examiner

Mercedes Gyuricza: (2012-2017) Rutgers University; Ph.D. committee member

Rebecca Holton: (2019-2023) Drexel College of Medicine; Ph.D. committee member

Taylor Johnson: (2020-2022) East Carolina University; Ph.D. committee member

Christine McDonald: (2012) Thomas Jefferson University; MS thesis committee

Jinhee Park: (2015-2018) Rutgers University; Ph.D. committee member

Jennifer Schaefer: (2021-2023) Rutgers University; Ph.D. committee member

Michelle Seay: (2012) Newcastle University; Ph.D. thesis examiner

Anna Szydłowska-Bylicka: (2019) University of Vienna; Ph.D. thesis examiner

Maddy Terry: (2024-present) Rutgers University; Ph.D. committee member

Lin-Ing Wang: (2015-2019) Rutgers University; Ph.D. committee member

Siwen Wu: (2023-present) Rutgers University; Ph.D. committee member

*Undergraduate*

Rutgers University; Honor's thesis committee

Taseen Alam: (2021)

Nicole Baarack: (2015)

Aishee Bag: (2019)

Ayla Boyd: (2021)

Christie Chang: (2017)

Daniel DiSanto: (2013)

Laura Hegemann: (2019)

Anna Maria Hinman: (2017)  
Tranchau Hoang: (2013)  
Kathryn Landy: (2012)  
Justin Matthew: (2018)  
Aashka Parikh: (2016)  
Neil Patel: (2013)  
Anisha Persaud: (2023)  
Anushka Subrahmanian: (2023)  
Joanatta Shipiro: (2022)  
Natalie Toke: (2018)  
Mike Valdez: (2016)  
Mahek Virani: (2023)  
Victoria Wagner: (2014)  
Bailey Warder: (2018)  
Neha Yunus: (2021)

## **Service**

### ***Funding agencies***

1. NIH member for NIGMS MIRA study section ZRG1 CDB-L (55) (2024)
2. NIH member for Endocrinology, Metabolism, Nutrition and Reproductive Sciences Special Emphasis Panel (2024)
3. NIH member for Endocrinology, Metabolism, Nutrition and Reproductive Sciences Special Emphasis Panel (2023)
4. NIH member for Endocrinology, Metabolism, Nutrition and Reproductive Sciences Special Emphasis Panel (2021)
5. NIH Ad Hoc member for Nuclear and Cytoplasmic Structure/Function and Dynamics Study Section (2021)
6. NIH Ad Hoc member for National Centers for Translational Research in Reproduction and Infertility (P50 Clinical Trial Optional) Review Panel (2020)
7. NIH Ad Hoc member for Member Conflict: Topics in Endocrinology, Metabolism and Reproductive Biology Review Panel (2020)

8. NIH Ad Hoc member for Endocrinology, Metabolism, Nutrition and Reproductive Sciences Special Emphasis Panel (2020)
9. NIH Ad Hoc member for Reproduction, Andrology and Gynecology Special Emphasis Panel study section (2019)
10. NIH Ad Hoc member for Reproduction, Andrology and Gynecology study section (2019)
11. Ad Hoc reviewer for the NIH Center for Scientific Review study on grant review anonymity (2019)
12. Search committee member for Director of NIH Center for Scientific Review (2018)
13. NIH Ad hoc member for Cellular, Molecular and Integrative Reproduction study section (2018)
14. Ad Hoc Consultant for National Advisory General Medical Sciences Council (2017)
15. NIH Ad Hoc member of *Molecular Genetics A* study section (2016)
16. Ad Hoc grant reviewer for Busch Biomedical grants (Rutgers), MRC (UK), Wellcome Trust (UK), NSERC (Canada), FRM (France), and Lalor Foundation

### **Scientific journals**

1. *Reproduction*: co-Editor in Chief (2023-2025) Associate Editor (2017-2022)
2. *Frontiers in Cell and Developmental Biology*- Specialty section in *Molecular and Cellular Reproduction*: Associate Editor (2020-2022)
3. *Molecular Reproduction and Development*: Editorial Board member (2019-present)
4. *Biology of Reproduction*: Reviewing editors board member (2017-present)
5. Ad Hoc manuscript reviewer for *Nature*, *Current Biology*, *Science*, *PNAS*, *PLoS Genetics*, *Development*, *Journal of Cell Biology*, *Journal of Cell Science*, *Biology of Reproduction*, *Cell Cycle*, *Fertility and Sterility*, *Reproduction*, *Molecular Human Reproduction*, *PLoS One*, *Journal of Assisted Reproductive Genetics*, *Histochemistry and Cell Biology*, *Clinical Genetics*, *Aging Cell*, and *Molecular Reproduction and Development*

### **Meeting organization**

1. Origins of Aneuploidy consortium annual meeting: A consortium of clinical and basic researchers who meet yearly to discuss embryonic aneuploidy:  
<https://www.aneuploidy-research.org/>  
September 2021- virtual



November 2022- Paris, France  
November 2023- Florence, Italy

2. Preconception to the Cradle: A meeting focused on mid-career scientists to identify important research directions, establish new collaborations, and retain women in the academic pipeline. I assisted in obtaining conference funding from the Burroughs Wellcome Fund, organized the meeting, and presented. This one-of-a-kind meeting was held in November 2019 in Houston, TX.

### **Societies**

1. Society for the Study of Reproduction “Women in Reproductive Sciences” (WinRS), Committee- chair (2020-2024)
2. Society for the Study of Reproduction Awards Committee (2019-2020)
3. American Society for Cell Biology Nominations Committee member to identify candidates for President and Council (2019); Awards committee (2020)
4. Society for the Study of Reproduction “Trainee-Mentor Luncheon” (2015; 2018; 2021)
5. Society for the Study of Reproduction Trainee “Mock Study Section” panel member (2018)
6. Society for the Study of Reproduction “Career Consultant” (2017)
7. Society for the Study of Reproduction Bylaws Committee member (2016- 2019)
8. Women in Reproductive Sciences nominations committee member (2015)
9. Panel member for Society for the Study of Reproduction trainee forum on “The Science of Grantsmanship Around the Globe.” (2015)
10. Member of the American Society for Reproductive Medicine (2012-present)
11. Member of the Society for the Study of Reproduction (2008-present)
12. Member of the American Society of Cell Biology (2015-present)
13. Member of the Society of Reproduction and Fertility (2018-present)

### **Rutgers University**

1. Genetics department seminar committee- chair (2024-)
2. Molecular Biosciences Graduate Program, 1<sup>st</sup> year advisor (2022-)

3. DLS Postdoctoral Symposium faculty roundtable (2022)
4. Advisory committee for tenure and promotion member (2021-2022)
5. Genetics department awards committee- chair (2019-2024)
6. HGINJ Imaging Core faculty director (2020-present)
7. Panel member for “Women in Academic Biology” at Rutgers (2018)
8. Presentation for Association of Undergraduate Geneticists on the “Principles of Ethics.” (2017; 2019)
9. Established and organize Rutgers University “RU Repro” research group (2016-present)
10. Panel member for 5<sup>th</sup> Annual Rutgers Bioethics Symposium on “A CRISPR future: The ethics of genetic technology.” (2016)
11. Department of Genetics Faculty Search Committee member (2016; 2018)
12. Rutgers University Human Embryonic Stem Cell Oversight Committee member (2016-present)
13. Aresty Foundation Faculty Review Board for Undergraduate Research Fellowships (2015- present)
14. Panel member for Rutgers Postdoctoral Fellows on “How to obtain a Postdoctoral Research Grants in a tough funding climate: advice from postdoc grant recipients, reviewers, and mentors.” (2014)
15. Seminar to postdoctoral fellows on using scientific teaching techniques in the classroom (2013)
16. Department of Genetics Policy and Planning Committee (2014-present)
17. Honors Committee member for Department of Genetics (2013)
18. Rutgers University Molecular Biosciences Graduate School Curriculum Committee Design team (2013)
19. Seminar to Association of Undergraduate Geneticists on “Unwinding the mentor-mentee relationship.” (2013, 2014)
20. Rutgers University Department of Genetics Seminar Committee (2012-2019)

21. Rutgers University Molecular Biosciences Graduate School Admissions Committee (2012-2017)

**Community outreach**

1. External Advisory Board Member for Center for Reproductive Sciences at Northwestern University. 2022-2024.
2. Member of Board of Trustees for Rutgers-Livingston Day Care Center (2020-2021)
3. "How to find a good egg." Career seminar to The Brearley School research seminar class (High school Girls). NYC, NY. Feb. 2019.
4. "How to find a good egg." Career seminar to Dunellen High School Biology club students. Dunellen, NJ. March 2018.
5. Scholarship Review Board member and judge for O.Berk Company, LLC (2017-2018)
6. Parent advisory committee for KinderCare, Piscataway (2016)
7. Seminar and laboratory activity for 3<sup>rd</sup> Graders at San Mateo Elementary School (2014)
8. Board Member of *Repropedia* -- a reproductive biology lexicon (2011-2014)