

CURRICULUM VITAE FOR ACADEMIC PROMOTION

The Johns Hopkins University School of Medicine

NAME: Seth Blackshaw

Updated: January 12th, 2022

Current Appointments

- 3/04 -5/11 Assistant Professor, Departments of Neuroscience, Neurology, and Ophthalmology, and Assistant Investigator, Institute for Cell Engineering and Center for High-Throughput Biology, Johns Hopkins University School of Medicine, Baltimore, MD 21287
- 5/11-10/15 Associate Professor, Departments of Neuroscience, Neurology, and Ophthalmology, and Associate Investigator, Institute for Cell Engineering and Center for High-Throughput Biology, Johns Hopkins University School of Medicine, Baltimore, MD 21287
- 10/15-present Professor, Departments of Neuroscience, Neurology, and Ophthalmology, and Investigator, Institute for Cell Engineering and Kavli Neuroscience Discovery Institute, Johns Hopkins University School of Medicine, Baltimore, MD 21287

Personal Data

Solomon H. Snyder Department of Neuroscience
MRB 339
733 N. Broadway Avenue
Baltimore, MD 21287
Tel 443-287-5609
Fax: 410-502-1872
Email: sblack@jhmi.edu

Education and Training

- 1991 Bachelor of Arts, Biology, University of Chicago, Chicago, IL
- 1991 Master of Science, Biochemistry, University of Chicago, Chicago, IL
- 1997 PhD, Neuroscience, Johns Hopkins University School of Medicine, Baltimore, MD
- 1997-1999 Postdoctoral fellow, laboratory of Dr. Solomon Snyder, Department of Neuroscience, Johns Hopkins University School of Medicine, Baltimore, MD
- 1999-2004 Postdoctoral fellow, laboratory of Dr. Connie Cepko, Department of Genetics, Harvard Medical School, Boston, MA

Publications:

Original Scientific Publications

1. Li X-J, **Blackshaw S**, Snyder SH. Expression and localization of amiloride-sensitive sodium channel indicates a role for non-taste cells in taste perception. *Proc Natl Acad Sci USA* 1994 91:1814-1818.
2. O'Brien R, Mammen AL, **Blackshaw S**, Ehlers MD, Rothstein JD, Haganir RL The development of excitatory synapses in cultured rat spinal cord. *J Neurosci* 1997 17:7339-7350.
3. Eliasson MJL, ***Blackshaw S***, Schell MJ, Snyder SH. Alternative splice forms of neuronal nitric oxide synthase: prominent neuronal localizations. *Proc Natl Acad Sci USA* 1997 94:3396-3401. (* indicates equal contribution by both authors).
4. **Blackshaw S**, Snyder SH. Parapinopsin, a novel catfish opsin localized to the parapineal organ, defines a new gene family. *J Neurosci* 1997 17:8083-8092.
5. **Blackshaw S**, Snyder SH. Developmental expression pattern of phototransduction components in mammalian pineal implies a light-sensing function. *J Neurosci* 1997 17:8074-8082.
6. Wolosker H, Kline D, Bian Y, **Blackshaw S**, Cameron AM, Fralich TD, Schnaar RL, Snyder SH. Molecularly cloned mammalian glucosamine 3-phosphate deaminase localizes to transporting epithelium and lacks oscillin activity. *FASEB J* 1998 12:91-101.

7. Walensky L D, Gascard P, Fields ME, **Blackshaw S**, Conboy JG, Mohandas N, Snyder SH. Immunophilin FKBP13 interacts with a novel homologue of the erythrocyte membrane cytoskeletal protein 4.1. *J Cell Biol* 1998 141:143-153.
8. Walensky L D, Ruat M, Bakin RE, **Blackshaw S**, Ronnett GV, Snyder SH. Two novel odorant receptor families expressed in spermatids undergo 5'-splicing. *J Biol Chem* 1998 273:9378-9387.
9. Lai MM, Burnett PA, Wolosker H, **Blackshaw S**, Snyder SH. Cain: a novel physiologic protein inhibitor of calcineurin. *J Biol Chem* 1998 273:18325-18332.
10. Burnett P E, **Blackshaw S**, Lai MM, Quereshi IA, Burnett AF, Sabatini DM, Snyder SH. Neurabin is a synaptic protein linking p70 S6 kinase and the neuronal cytoskeleton. *Proc Natl Acad Sci USA* 1998 95:8351-56
11. Walensky LD, Zheng TS, **Blackshaw S**, DeVries AC, Demas GD, Gascard P, Nelson R J, Conboy J G, Rubin E M, Snyder SH, Mohandas N. Focal neurobehavioral deficits in mice lacking the erythrocyte membrane cytoskeletal protein 4.1. *Curr Biol* 1998 8:1296-72.
12. Kriegsfeld, LJ, Eliasson MJL, Demas GE, **Blackshaw S**, Dawson TM, Nelson RJ, Snyder SH. Nocturnal motor coordination deficits in neuronal nitric oxide synthase knock-out mice. *Neuroscience* 1999 89:311-15.
13. Pieper AA, Brat D, Krug D, Watkins C, **Blackshaw S**, Gupta A, Verma A, Snyder SH. PARP-deficient mice are resistant to streptozocin-induced diabetes. *Proc Natl Acad Sci USA* 1999 96:3059-64.
14. Sabatini DM, Barrow RK, **Blackshaw S**, Fields M, Kirsch J, Betz H, Snyder SH. Interaction of RAFT1 with the clustering protein gephyrin required for rapamycin-sensitive signaling. *Science* 1999 294:1161-64.
15. Walensky LD, **Blackshaw S**, Liao D, Watkins C, Weier H-UG, Huganir RL, Conboy J G, Mohandas N, Snyder SH. A novel neuron-enriched homologue of the erythrocyte membrane cytoskeletal protein 4.1 is associated with synapses. *J Neurosci* 1999 19:6457-6467.
16. Demas GE, Kriegsfeld LJ, **Blackshaw S**, Nelson RJ, Snyder SH. Elimination of aggression in mice lacking endothelial nitric oxide synthetase. *J Neurosci* 1999 RC30,1-5.
17. Wolosker H, **Blackshaw S**, and Snyder SH. Serine racemase: a glial enzyme synthesizing D-serine to regulate glutamate-NMDA neurotransmission. *Proc Natl Acad Sci USA* 1999 96:13409-14.
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19. Borjigin J, Deng J, Wang MM, Li, X, **Blackshaw S**, Snyder SH. Circadian rhythm of patched1 transcription in the pineal regulated by adrenergic stimulation and cAMP. *J Biol Chem* 1999 274: 35012-35016.
20. **Blackshaw S**, Snyder SH. Encephalopsin: A novel mammalian extraretinal opsin with discrete localizations in brain. *J Neurosci* 1999 19:3681-90.
21. Dore S, Sampi K, Goto S, Alkayed NJ, **Blackshaw S**, Gallagher M, Traysman RJ, Hurn PD, Guastella D, Koehler RC, Snyder SH. Heme oxygenase-2 is neuroprotective in focal cerebral ischemia. *Mol Med* 1999; 5:656-663.22.
22. Sohocki M M, Bowne SJ, Sullivan LS, **Blackshaw S**, Cepko CL, Payne AM, Bhattacharya SS, Khaliq S, Qasim Mehdi S, Birch DG, Harrison WR, Elder FF, Heckenlively JR, Daiger SP. Mutations in a new photoreceptor-pineal gene on 17p cause Leber's congenital amaurosis. *Nat Genet* 2000 24:79
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24. **Blackshaw S**, Sawa A, Snyder SH, Khan A. Type 3 inositol 1,4,5-triphosphate receptor modulates cell death. *FASEB J* 2000 14:1375-1379.
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25. Pieper AA, **Blackshaw S**, Clements EE, Brat DJ, Krug DK, White AJ, Pinto-Garcia P, Favitt A, Conover JR, Snyder SH, Verma A. Poly(ADP-ribosylation basally activated by DNA strand breaks reflects glutamate-nitric oxide neurotransmission. *Proc Natl Acad Sci USA* 2000 97:1845-50
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30. Browne SJ, Sullivan LS, Blanton SH, Cepko CL, **Blackshaw S**, Birch DG, Hughbanks-Wheaton D, Heckenlively JR, Daiger SP. Mutations in the inosine monophosphate dehydrogenase 1 gene (IMPDH1) cause the RP10 form of autosomal dominant retinitis pigmentosa. *Hum Mol Genet* 2002 11:559-568.
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46. Xie Z, Hu S, **Blackshaw S**, Zhu H, Qian J. hPDI: a database of experimental human protein-DNA interactions. *Bioinformatics* 2010 26:287-89.
47. Rapicavoli N, Poth E, **Blackshaw S**. The long noncoding RNA RNCR2 directs mouse retinal cell specification. *BMC Dev Biol* 2010 10:49.
48. Shimogori T, Lee DA, Miranda-Angulo A, Yang Y, Yoshida A, Jiang L, Kataoka A, Wang H, Mashiko H, Avetisyan MA, Qi L, Qian J, and **Blackshaw S**. A genomic atlas of mouse hypothalamic development. *Nat Neurosci* 2010 13:767-75.
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Inventions, Patents, Copyrights

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Extramural Sponsorship

CURRENT:

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|-----------------|--|
| 1/1/14-2/28/22 | Transcriptional regulation of retinal cell specification and differentiation.
R01EY020560-04
NIH/NEI
\$1,250,000
Role: PI; 18% |
| 4/01/17-3/31/22 | Use of systems pharmacology to prevent rod and cone photoreceptor degeneration
R24 EY027283-01
NIH/NEI |

	\$650,00 Role: co-PI, 5%
10/01/18-9/30/22	Identifying the mechanism by which Lhx2 and Sox9 control differentiation of retinal pigmented epithelium and Muller glia cells Israel Binational Science (Blackshaw) \$160,000 Role: co-PI, 3%
7/1/19-6/30/22	Evaluating subsets of RPE cells affected by macular degeneration Research Grant Foundation Fighting Blindness \$300,000 Role: Co-PI, 3%
1/1/20-12/31/21	Photoreceptor replacement in mouse and human by targeted reprogramming of Muller glia. Stein Innovation Award Research to Prevent Blindness \$300,000 Role: PI, 10%
7/01/20 – 6/30/25	Identification of gene regulatory networks that control proliferation and neurogenic competence in Muller glia R01EY031685 NIH/NEI \$1,595,000 Role: PI, 10%
8/01/20 – 7/31/23	Generation of viral vectors that use alternative splicing to drive cell-type specific expression in the central nervous system R01MH123327 NIH/NIMH \$1,075,000 Role: PI, 10%
12/01/20 – 11/30/22	Identifying gene regulatory networks controlling photoreceptor specification by transcriptomic and epigenomic analysis of retinal development in cone-dominant retina. R21EY032281 NIH/NEI \$137,500 Role: PI, 8%
4/01/21 – 3/31/26	Development and function of hypothalamic Lhx6-positive neurons. R01MH126676 NIH/NIMH \$1,000,000 Role: PI (10%)
8/1/21-7/31/24	Gene regulatory networks controlling aging and rejuvenation in retinal glia. Milky Way Research Foundation \$2,500,000 Role: PI (25%)

COMPLETED:

7/1/05-6/30/07	Transcriptional regulation of retinal cell fate specification. Sloan Scholar Award/ Alfred P. Sloan Foundation \$80,000 Role: PI; 5%
7/1/05-6/30/08	The role of non-protein coding, mRNA-like transcripts in mouse retinal development. Research Grant/Whitehall Foundation \$225,000 Role: PI; 15%
2/1/06-1/30/08	Cell specification and regeneration in mammalian hypothalamus Basil O'Connor Starter Scholar March of Dimes \$200,000 Role: PI; 10%
7/1/06-6/30/09	The molecular basis of cell specification and regeneration in neuroendocrine hypothalamus Young Investigators Award Klingenstein Fund \$150,000 Role: PI; 10%
7/1/06-6/30/11	The molecular basis of retinal cell fate specification. WM Keck Distinguished Young Scholar in Medical Research Award /WM Keck Foundation \$1,000,000 Role: PI; 20%
4/1/07-3/31/12	The role of PIAS3 in retinal development. R01EY017015 NIH/NEI \$1,250,000 Role: PI
7/1/07-6/30/09	The role of tanyocytes in hypothalamic plasticity and regeneration: relevance in molecular mechanisms of depression Young Investigators Award National Association for Research in Schizophrenia and Depression \$60,000 Role: PI; 5%
7/1/07-6/30/10	Functional analysis of non-protein-coding mutations that lead to age-related macular degeneration. Research Award/The Ruth and Milton Steinbach Fund \$300,000 Role: PI; 15%
9/1/09-8/31/11	Genetic analysis of hypothalamic tanyocyte function R21NS067393 NIH/NINDS \$275,000 Role: PI; 10%
7/1/10-6/30/11	Antigen-microarray validated monoclonal antibody library for analysis of brain-expressed transcription factors implicated in human mental illness 1R41MH088008

	NIH/NIMH \$125,000 Role: PI; 5%
12/1/10-12/1/13	Transcriptional regulation of retinal cell specification and differentiation. R01EY020560 NIH/NEI \$750,000 Role: PI; 20%
1/13-2/28/15	Mapping the genomic landscape of developmental competence in retina 1R21EY023448-01 NIH/NEI \$243,000 Role: PI; 10%
10/1/10-9/30/15	Three-Dimensional Atlas Based Gene Expression Mapping in the Developing Mouse Brains. R01NS070909-04 NIH/NINDS \$375,000 Role: PI; 5%
4/1/11-3/31/15	Global analysis of DNA binding preferences of conventional and unconventional DNA binding proteins. R01GM076102-03 NIH/NIGMS \$170,000
9/1/11-7/31/16	High-throughput generation of monospecific monoclonal antibodies against human transcription factors. U54HG006434-03 NIH/NIHGR \$1,325,000 Role: PI; 15%
9/1/15-7/31/18	Intrabody-dependent activation of cell-specific gene expression in CNS U01MH109102-01 NIH/NIMH \$850,000 Role: PI; 18%
10/1/12-9/30/18	The role of PIAS3 in retinal development. 2R01EY017015-07 NIH/NEI \$1,000,000 Role: PI; 18%
11/30/15-12/1/19	The function and regulation of tanyocyte-derived hypothalamic neurogenesis. R01DK108230-01 NIH/NIDDK \$1,250,000 Role: PI; 15%
9/1/16-4/30/20	Comparative transcriptomic and epigenomic analyses of Muller glia reprogramming 1U01EY027267-01

NIH/NEI
\$550,000
Role: PI; 10%

5/15/16 – 2/28/21 Molecular and Cellular Mechanisms Underlying the Circadian Timing of Sleep
R01NS094571
NIH/NINDS
\$250,000
Role: PI; 5%

EDUCATIONAL ACTIVITIES

Books edited:

1. Wray SW and **Blackshaw S**. Developmental Neuroendocrinology. Springer Nature, 2020.

Editorials (not peer-reviewed):

1. **Blackshaw S**, Livesey FJ. Applying genomic technologies to neural development. *Current Opinion in Neurobiology*. 2002 6:110-14.
2. **Blackshaw S**. "SAGE" for Ergito.com, Virtual Text, Cambridge, MA 2002.
3. **Blackshaw S**, Cepko C L. Stem cells that know their place, *Nature Neuroscience* 2002 5:1251-2.
4. **Blackshaw S**. We contain multitudes: the protean face of retinoblastoma. *Cancer Cell* 2011 20:137-138.
5. **Blackshaw S**. and Zhu, H. Commercial antibodies: alternative grading for research. *Nature* 2020 586, 500.
6. **Blackshaw S**. and Sanes, JR. Turning lead into gold: reprogramming cells to cure blindness. *J. Clin. Invest.* 2021, 131:e146134.

Book chapters (not peer-reviewed):

1. Hwang PM, **Blackshaw S**, Li X-J, Snyder SH. Molecular mechanisms of taste receptor cell signal transduction. In *Olfaction and Taste XI*, Springer-Verlag, 1994:77-81
2. Cepko CL, **Blackshaw S**, Livesey FJ. A comparison of SAGE and microarray technologies. In *DNA microarrays: the new frontier in gene discovery and gene expression analysis*. Soc Neuroscience Press 2001.
3. Kim JB, **Blackshaw S**. One-Step Enzymatic Purification of PCR Products for Direct Sequencing. *Current Protocols in Human Genetics*, Unit 7.13 2001.
4. **Blackshaw S**, Kim JB, St. Croix B, Polyak K. Serial Analysis of Gene Expression. *Current Protocols in Human Genetics*, Unit 11.6 2001.
5. **Blackshaw S**, Kim, JB, St. Croix B, Polyak K. Serial Analysis of Gene Expression. *Current Protocols in Molecular Biology*, Unit 25B.6 2002.
6. **Blackshaw S**. "SAGE," in *Encyclopedia of Genetics, Genomics, Proteomics and Bioinformatics*, (Quackenbush, J, Little P, eds), John Wiley/ Sons 2005.
7. **Blackshaw S**. "Developmental Genomics," in *Mechanisms of Retinal Development*, (Sernagor E, Eglén S, Harris W, Wong R. eds), Cambridge University Press 2006.
8. **Blackshaw S**, Kim JB, St. Croix B, Polyak K. Serial Analysis of Gene Expression. *Current Protocols in Molecular Biology*, Unit 25B.6 2007.
9. **Blackshaw S**, Kim JB, St. Croix B, Polyak K. Serial Analysis of Gene Expression. *Current Protocols in Human Genetics*, Unit 11.6 2007.
10. Hu S, Xie Z, **Blackshaw S**, Qian J, Zhu H. Characterization of protein-DNA interactions using protein microarrays. *Cold Spring Harb Protoc*, 2011 pii.pdb.prot5614.

Teaching:

Classroom instruction

- | | |
|--------------|--|
| 2004-present | Neuroscience and Cognition, 5 lectures (Neurotechniques I, Neurotechniques II, Neural Cell Fate Specification, Hypothalamus I, Hypothalamus II), Johns Hopkins University School of Medicine |
| 2005-2013 | Cell and Molecular Biology, 1 lecture (Molecular techniques), Johns Hopkins University School of Medicine |
| 2005-2014 | Stem Cells, 1 lecture alternating years (Retinal stem cells), Johns Hopkins University School of Medicine |

2005-present	Developmental Neuroscience, 1 lecture (Retinal development, Neural induction), Johns Hopkins University School of Medicine
2008-present	Neuroscience (BCMB elective), 1 lecture (Neural cell fate determination), Johns Hopkins University School of Medicine
2009-2012	Course organizer, Neuroscience and Cognition I, Johns Hopkins University School of Medicine
2013	Course organizer, The Hypothalamus, 7 lectures, Johns Hopkins University School of Medicine
2013-present	Genes to Society: NSS, 1 lecture, Johns Hopkins University School of Medicine
2014	Course organizer, Emerging Strategies in Understanding Innate Behaviors, Johns Hopkins University Kreiger School of Arts and Sciences, 7 lectures.
2008-present	Method and Logic (BCMB core class), 2 lectures.
2020-present	Developmental Biology, 3 lectures (Early embryonic development and A-P patterning, D-V and L-R patterning, Retinal development)
2021-present	Course organizer, Grant Writing Skills, Johns Hopkins University School of Medicine, 8 lectures.

Mentoring Advisees

2004-2009	Nicole A. Rapicavoli, PhD, doctoral student. Awarded St Jude Graduate Student Symposium Award under my direction. Currently FAS manager, Western Region, 10X Genomics, Redwood City, CA.
2005-2009	Akishi Onishi, PhD, postdoctoral fellow. Currently Group Leader (Assistant Professor equivalent) at RIKEN-Center for Biodynamics Dynamics Research, Kobe, Japan. Awarded Knights Templar Pediatric Ophthalmology Research Award and A. McGhee Harvey Young Investigator Award under my direction.
2005-2007	Marina Avetisyan, BA/MS student. Currently MSTP student at Washington University, St. Louis.
2005-2007	Alex Huang, MD/PhD student (co-mentored with Dr. Solomon Snyder). Currently Alfred Voight Professor of Ophthalmology, University of California San Diego School of Medicine.
2006-2012	Daniel A. Lee, BS, doctoral student. Awarded NSF predoctoral fellowship. Awarded Sigma Xi Travel Award, RIKEN-BSI Summer Research Fellowship, NRSA graduate fellowship and Paul Erlich Young Investigator Award award under my direction. Currently Program Scientist at Schmidt Futures, New York, NY.
2006-2013	Ana Miranda-Angulo, MD, doctoral student. Currently Professor of Psychiatry, Universidad de Antioquia, Medellin, Colombia.
2006-2016	Jimmy de Melo, PhD, postdoctoral fellow. Currently Principal Scientist at Astellas Institute for Regenerative Medicine, Westborough, MA. Awarded Knights Templar Pediatric Ophthalmology Research Award under my direction.
2007-2012	Erin Poth, BS, doctoral student. Awarded NSF Asia-Pacific Summer Fellowship, VNTP training grant support, and St Jude Graduate Student Symposium Award under my direction. Currently Senior Manager of Global Medical Affairs for Takeda Oncology, Cambridge, MA.
2007-2014	Eric Cox, BS, doctoral student (co-mentored with Dr. Heng Zhu). Awarded AHA graduate fellowship under my direction. Currently Staff Scientist at RefSeq.
2008-2010	Mardi S. Byerly, PhD, postdoctoral fellow. Currently Professor of Biology, Cape Cod Community College, West Barnstable, MA.
2010-2015	Joseph L. Bedont, BS, doctoral student. Awarded an Alicia Showalter Reynolds Young Investigator award, an NSF graduate fellowship and VNTP training grant support under my direction. Currently a postdoctoral fellow with Amita Seghal, HHMI/University of Pennsylvania School of Medicine, Philadelphia, PA, and will become Assistant Professor of Biological Sciences, Kent State University, Akron, OH.
2010-2017	Kai Liu, MS, doctoral student. Awarded Mette Strand Young Investigator award. Currently Group Leader at Genentech, Division of Artificial Intelligence and Machine Learning.
2011-2016	Thuzar Thein, BS, doctoral student. Currently Resident in Ophthalmology, Yale University School of Medicine, New Haven, CT.
2011-2017	Cristina Zibetti, PhD, postdoctoral fellow. Currently postdoctoral fellow at the University of Oslo, Norway.
2011-2017	Elizabeth Newman, BS, doctoral student. Currently Program Officer at National Institute of Aging.
2011-2013	Juan Salvatierra, post-baccalaureate PREP student. Currently Scientist at Neurona Therapeutics.

- 2013-2020 Sooyeon Yoo, PhD, postdoctoral fellow. Awarded Maryland Stem Cell Fund postdoctoral fellowship under my supervision. Currently Research Assistant Professor at Seoul National University Medical School.
- 2014-2017 Anand Venkataraman, PhD, postdoctoral fellow. Currently Associate Consultant at ZS, Philadelphia, PA.
- 2014-2018 Brian Clark, PhD, postdoctoral fellow. Awarded an F32 individual research fellowship and a K99/R00 Pathway to Independence award under my direction. Currently Assistant Professor in Departments of Ophthalmology and Developmental Biology at Washington University School of Medicine.
- 2015-2021 Fatemeh Rajaii, MD, PhD, Assistant Professor of Ophthalmology. Research mentor via K08 fellowship.
- 2016-2023 Dong Won (Thomas) Kim, PhD, postdoctoral fellow. Awarded Maryland Stem Cell Fund postdoctoral fellowship and Paul Ehrlich Young Investigator Award under my supervision. Will become Group Leader/Associate Professor in the DANDRITE unit at Aarhus University, Denmark in March, 2023.
- 2016-2023 Thanh Hoang, PhD, postdoctoral fellow. Received Helen Taussig Young Investigator Award under my supervision. Will become Assistant Professor of Ophthalmology, Cell and Developmental Biology at the University of Michigan School of Medicine in January, 2023.
- 2016-2017 Mobolane Abedesin, post-baccalaureate DDP student. Currently MSTP student at Vanderbilt University School of Medicine.
- 2017-2020 Jonathan Ling, PhD, postdoctoral fellow. Awarded Kavli postdoctoral fellowship and IDIES Seed Fund Program Award. Currently Assistant Professor of Pathology at Johns Hopkins University School of Medicine.
- 2018-2022 Kurt Weir, BS, PhD student. Awarded VNTP training grant support and an NRSA individual research fellowship under my supervision. Currently EMBL Interdisciplinary Postdoctoral Fellow working with Drs. Eileen Furlong at EMBL-Heidelberg and Miki Ebisuya at EMBL-Barcelona.
- 2018-present Clayton Santiago, PhD, postdoctoral fellow. Awarded VNTP training grant support under my supervision.
- 2018-present Parris Washington, BS, PhD student. Received NSF predoctoral fellowship, and was awarded P.E.O. Scholar Award and Schmidt Futures Quad Fellowship under my supervision.
- 2019-present Patrick Leavey, BS, PhD student. Awarded an NRSA individual research fellowship under my supervision.
- 2019-2020 Changyu Sun, BS, MS student. Currently Neuroscience PhD student at the University of Chicago.
- 2020-present Nicole Panullo, BS, PhD student. Awarded VNTP training grant support under my supervision.
- 2020-present Leighton Duncan, MS, PhD student. Awarded NRSA individual research fellowship and St Jude Graduate Student Symposium Award under my supervision.
- 2020-present Rogger Carmen, BS, PhD student.
- 2020-present Vickie Trinh, BS, PhD student.
- 2020-2022 Megan Gimmen, BS, postbaccalaureate DDP student. Received Samvid Scholar Award under my supervision. Currently medical student at Harvard.
- 2021-present Haley Appel, BS, PhD student.
- 2021-present Nguyet Le, BS, PhD student.
- 2021-present Roujin An, BS, MS student.
- 2022-present Taqdees Gohar, BS, postbaccalaureate DDP student.
- 2022-present Leah Elias, PhD, postdoctoral fellow.
- 2022-present Bin Yang, PhD, research associate.

Undergraduate trainees

- 2004-2007 Vani Takiar, JHU undergraduate. Completed dental school at University of Pennsylvania. Pediatric dentist, Hagerstown, MD.
- 2004-2008 Marina Avetisyan, JHU undergraduate. Completed MD/PhD at Washington University. Currently neurology resident at MGH.
- 2009 Natalia Klimova, JHU undergraduate.
- 2010-2012 Ricardo Linares Saldana, JHU undergraduate. Currently MD/PhD student at University of Pennsylvania.
- 2010-2012 Vanessa Charubhumi, JHU undergraduate. Completed medical school at NYU. Currently orthopedic surgery resident at Cleveland Clinic.
- 2010-2013 Thomas Pak, JHU undergraduate. Completed MD/PhD at University of Iowa. Currently psychiatry resident at UT Southwestern.

2011-2012	Roy Swanson, JHU undergraduate. Completed medical school at Case Western. Currently ophthalmologist in private practice in Tuscon, AZ.
2011-2012	Janie Mesa, JHU undergraduate.
2013-2016	Abhijit Bhathini, JHU undergraduate. Medical student at Drexel College of Medicine.
2014-2016	Felicia Juarez, JHU undergraduate. Research associate at Columbia University.
2014-2017	Yi Stephanie Zhang, JHU undergraduate. Completed medical school at Northwestern. Currently ophthalmology resident at UCSF.
2017-2018	Trisha Parayil, JHU undergraduate. Currently high school teacher in Bridgeport, CT through Teach for America.
2016-2018	Erik Aranda-Michel, JHU undergraduate. Completed dental school at University of Idaho. Currently dentist in private practice in Boise, ID.
2016-2018	David Cha, Georgetown undergraduate. Medical student at St. Louis University.
2018-2019	Fion Shiau, JHU undergraduate. PhD student in Department of Systems Biology, Columbia University.
2018-2020	Zoe Wang, JHU undergraduate. Clinical researcher at Gentron Health, Gaithersburg, MD
2018-2020	Sonia Lin, JHU undergraduate. Research associate at Harvard.
2018-2020	David Espinoza, JHU undergraduate. MD/PhD student at Columbia University.
2018-2020	Alex Ma, JHU undergraduate. PhD student in Psychology, George Washington University.
2019	Cristian Saez, UPR-Mayaguez undergraduate. PhD student in Biological Chemistry and Molecular Biology, Johns Hopkins University School of Medicine
2019-2022	David Garib, JHU undergraduate. Medical student at Case Western.
2019-2022	Weina Dai, JHU undergraduate.
2019-2022	Natasha Vega, JHU undergraduate.
2020	Craig Washington, Morehouse undergraduate. Masters student in Biology at Georgia State.
2020	Noah Lu, JHU undergraduate.
2022-present	Kyra Bowen, JHU undergraduate.
2022	Tanushri Bhatnagar, Arizona State undergraduate.
2022-present	Ritvik Pulya, JHU undergraduate.

High school trainees

2018	Manling Chen
2019	Hawa Sidy
2020	Naomi Condado
2020	Devin Harris
2022	Henry Vo
2022	Yehna Kim

Thesis committees

2004-2009	Nicole A Rapicavoli, PhD, advisor.
2005-2007	Alex Huang, MD PhD, dissertation committee member.
2006-2008	Krishna Juluri, PhD, dissertation committee member.
2006-2012	Daniel A. Lee, BS, advisor.
2006-2013	Ana Miranda-Angulo, MD, advisor.
2007-2012	Lindsay De Baise, BS, dissertation committee member.
2007-2011	Tarran Pierfliece, BA, dissertation committee member.
2008-2012	Erin Poth, BS, advisor.
2008-2014	Eric Cox, BS, advisor.
2008-2011	Priyanka Sabherwal, BS, dissertation committee member.
2008-2012	Alvin Huang, BS, dissertation committee member.
2009-2013	Tracy Huang, BS, dissertation committee member.
2009-2012	Yang Roby, BS, dissertation committee member.
2009-2015	Kylie Chew, BS, dissertation committee member.
2010-2015	Dean Campbell, BA, dissertation committee member.
2010-2015	Erin Golden, BA, dissertation committee member.
2010-2016	Eleftheria Koropouli, MD, dissertation committee member.

2011-2017 Kai Liu, MS, advisor.
 2011-2016 Thuzar Thein, BS, advisor.
 2011-2017 Elizabeth Newman, BS, advisor.
 2011-2013 Sean Byrne, dissertation committee member.
 2011-2017 Tanu Sharma, BA, dissertation committee member.
 2011-2016 Jessica Houtz, BA, dissertation committee member.
 2012-2015 Alisa Mo, BS, dissertation committee member.
 2012-2017 Joshua Schwartz, BS, dissertation committee member.
 2012-2017 Leonardo Hageman, BS, dissertation committee member.
 2013-2017 William Keenan, BA, dissertation committee member.
 2014-2018 Yi Zhou, BS, dissertation committee member.
 2015-2019 Benjamin Bell, BA, dissertation committee member.
 2015-2019 Mateusz Dobrowolski, BA, dissertation committee member.
 2015-2019 Erica Boehm, BA, dissertation committee member.
 2015-2020 Daniel Ramos, BA, dissertation committee member.
 2015-2019 Kiara Eldred, BA, dissertation committee member.
 2015-2019 Meenakshi Prajapati, BA, dissertation committee member.
 2015-2020 Timour Al-Khindi, BS, dissertation committee member.
 2015-2019 Justin Brodie-Kommit, BS, dissertation committee member.
 2015-2018 Jonathan Grima, BS, dissertation committee member.
 2016-2020 Michael Thomsen, BA, dissertation committee member.
 2016-2021 Jonathan Augustin, BS, dissertation committee member.
 2017 Daniel Giovanazzo, MS, dissertation committee member.
 2017-2022 Nelmar Ruiz Otero, BA, dissertation committee member.
 2018-present Natalie Hamilton, BS, dissertation committee member.
 2018-2021 Sarah Hadiniyak, BA, dissertation committee member.
 2018-2021 Thao Phan Phoung, BS, dissertation committee member.
 2018-2021 Lisa Learman, BS, dissertation committee member.
 2018-present Karazyna Hussey, BA, dissertation committee member.
 2018-2021 Brian Upton, BS (student at University of Cincinnati), dissertation committee member.
 2019-present Matthew Brown, BS, dissertation committee member.
 2019-2021 Yuqi Tan, BS, dissertation committee member.
 2019-2022 Kurt Weir, BS, advisor.
 2019-present Parris Washington, MS, advisor.
 2019-present Patrick Leavey, BS, advisor.
 2020-present Christina McNerney, BA, dissertation committee member.
 2020-present Jiali Xiong, BA, dissertation committee member.
 2020-present Daphne Chien, BA, dissertation committee member.
 2020-present Patrick Cooke, BA, dissertation committee member.
 2020-present Christina McNerney, BA, dissertation committee member.
 2020-present Michelle Biederman, MS, dissertation committee member.
 2020 Guarav Sharma, BS, MS thesis committee member.
 2020-present Nicole Panullo, BS, advisor.
 2020-present Leighton Duncan, MS, advisor.
 2020-present Rogger Carmen, BS, advisor.
 2020-present Vickie Trinh, BS, advisor.
 2020-present Yiwei Ai, BS, advisor.
 2020-present Kevin Emmerich, BA, thesis committee member.
 2021-present Elijah Blank, BA, thesis committee member.
 2021-present Sang Ho Kwon, BA, thesis committee member.
 2021-present Haley Appel, BS, advisor.
 2021-present Nguyet Le, BS, advisor.
 2021-present Erik Nelson, BA, thesis committee member.
 2022-present James Kiraly, BS, thesis committee member.
 2022-present Thomas Garton, BS, thesis committee member.

Training grant participation

12/1/07-present Visual Neuroscience Training Grant.

T32EY07143

NIH/NEI

Role: PI; Doctoral and postdoctoral research mentor to trainees studying visual systems development.

CLINICAL ACTIVITIES none**SYSTEMS INNOVATION and QUALITY CONTROL ACTIVITIES** none**ORGANIZATIONAL ACTIVITIES****Institutional Administrative Appointments**

2004-2007 Organizer for Neuroscience seminar series, Department of Neuroscience, Johns Hopkins School of Medicine

2004 Member of Faculty Search Committee, Institute for Cell Engineering, Johns Hopkins School of Medicine

2005-present Member of Graduate Admissions Committee, Department of Neuroscience

2005-present Member of Graduate Admissions Committee, Biological Chemistry and Molecular Biology graduate program.

2008 Member of Faculty Search Committee, Department of Neuroscience, Johns Hopkins School of Medicine

2011-2017 Member of Policy Committee, Biological Chemistry and Molecular Biology graduate program.

2012-2017 Member of Curriculum Review Committee, Biological Chemistry and Molecular Biology graduate program.

2013 Member of Faculty Search Committee for assistant professor candidate, Center for High-Throughput Biology, Johns Hopkins School of Medicine

2014- Scientific Director, Single Cell and Transcriptomics Core Facility (formerly Microarray and Transcriptomics Core Facility), Johns Hopkins University School of Medicine

2021-present Member, Young Investigators' Day Program Review Committee

2022 Member of Faculty Search Committee for assistant professor candidate, Department of Biology, Johns Hopkins University

Editorial Board Activities**Journal Editor:**

2011-present Editorial Board member, *Biomolecules*

2011-present Editorial Board member, *Frontiers of Systems Biology*

2011-present Guest editor, *PNAS*

2011-present Guest editor, *PLoS Genetics*

2016-2019 Section editor, *Brain Research*.

2022-present Reviewing editor, *eLife*.

Invited Reviewer:

2004-present *Journal of Neuroscience*

2005 *Genome Research*

2005-2007 *Molecular and Cellular Neuroscience*

2005-2008 *Neuroscience*

2005-2008 *Human Molecular Genetics*

2005-present *PLoS Computational Biology*

2005-present *Journal of Comparative Neurology*

2006-present *Nature*

2006 *Current Biology*

2006 *Genome Biology*

2006 *Brain Research*

2006 *Molecular Evolution*,

2007-present *Nature Neuroscience*
 2007-present *Developmental Cell*
 2007-present *Investigative Ophthalmology and Visual Science*
 2007-present *PNAS*
 2007-present *Developmental Dynamics*
 2008 *BMC Bioinformatics*
 2008-present *Biotechniques*
 2008-present *Molecular Vision*
 2008-present *PLoS Genetics*
 2008-present *BMC Developmental Biology*
 2009-present *Science*
 2009-present *Physiology and Behavior*
 2010-present *WIREs Systems Biology and Medicine*
 2010-present *EMBO Journal*
 2010-present *PLoS ONE*
 2010-present *Cerebral Cortex*
 2010-present *Neuron*
 2010-present *Journal of Neuroendocrinology*
 2010-present *Cancer Cell*
 2011-present *European Journal of Human Genetics*
 2011-present *Trends in Neuroscience*
 2011-present *Nature Cell Biology*
 2011-present *Genetics*
 2012-present *Molecular Endocrinology*
 2012-present *Progress in Retinal and Eye Research*
 2012-present *Cell and Molecular Life Sciences*
 2012-present *Genes and Development*
 2012-present *Nature Biotechnology*
 2013-present *Gene Expression Patterns*
 2013-present *Disease Models and Mechanisms*
 2013-present *Trends in Pharmacology and Therapeutics*
 2013-present *Trends in Endocrinology and Metabolism*
 2013-present *eLife*
 2013-present *Psychoneuroendocrinology*
 2013-present *Angiogenesis*
 2013-present *Stem Cells*
 2013-present *Journal of Cellular and Molecular Medicine*
 2014-present *Journal of Neuroendocrinology*
 2015-present *Science Signaling*
 2015-present *Cell Reports*
 2017-present *Nature Communications*
 2020-present *Cell Genomics*
 2020-present *Communications Biology*
 2020-present *iScience*
 2020-present *Science Advances*
 2021-present *Cell Stem Cell*

Professional Societies

2002-present Member, Society for Neuroscience
 2004-present Member, Society for Developmental Biology
 2012-present Member, Association for Research in Vision and Ophthalmology

Conference Organizer, Section Chair

7/10 Session chair, International Society for Eye Research, annual meeting, Montreal, Canada

- 11/10 Minisymposium organizer “Development of thalamus and hypothalamus: from cell fate specification to circuit formation,” Society for Neuroscience, annual meeting, San Diego, CA
- 11/11 Nanosymposium chair “Development of motor and sensory systems,” Society for Neuroscience, annual meeting, Washington, DC
- 11/12 Co-organizer, Human System Biology Conference, Johns Hopkins University School of Medicine, Baltimore, MD
- 5/14 Session chair, Visual Systems Development Gordon Research Conference, Il Ciocco, Italy
- 7/14 Symposium organizer “Epigenetics in retinal development and disease,” International Society for Eye Research biannual meeting, San Francisco, CA
- 9/16 Session organizer, “Retinal Neuroscience and Development”, International Society for Eye Research biannual meeting, Tokyo, Japan
- 5/17 Co-chair, satellite meeting on “Big Data: Current Status and Future Directions”, American Society for Research in Vision and Ophthalmology, Baltimore, MD
- 5/18 Vice chair, Visual Systems Development Gordon Research Conference, Il Ciocco, Italy.
- 8/20 Chair, Visual Systems Development Gordon Research Conference, Waterville Valley, NH (cancelled due to Covid-19).
- 10/20 Session organizer, “Retinal Neuroscience and Development”, International Society for Eye Research biannual meeting, Buenos Aires, Argentina (cancelled due to Covid-19).
- 8/22 Chair, Visual Systems Development Gordon Research Conference, Southbridge, MA.

Advisory Committees, Review Groups/Study Sections

- 1998 NSF (ad hoc outside reviewer)
- 2001 Biotechnology and Biological Sciences Research Council (UK) (ad hoc outside reviewer)
- 2003 NEI (ad hoc outside reviewer)
- 2005 NIMH – Silvio O. Conte Center for Depression and Circadian Rhythms (study section member)
- 2010 Science Foundation Ireland, external site visit review for “*On Prevention of Blindness Caused by Degenerative Retinopathies*” (Peter Humphries, PI), Trinity College, Dublin, Ireland.
- 2011 Ad hoc study section member, NIH BDPE Biology and Diseases of the Posterior Eye, mail reviewer.
- 2012 Ad hoc study section member, NIH BVS Biology of the Visual System, ad hoc reviewer.
- 2012 Special emphasis study section member, NIH CMBG Cellular and Molecular Biology of Glia, ad hoc reviewer.
- 2013 Special emphasis study section member, NIH ZRG1 IFCN-Z.
- 2013-2019 Regular study section member, NIH BVS Biology of the Visual System.
- 2014-present Scientific advisory board member, Foundation Fighting Blindness Canada.
- 2014, 2020-21 Special emphasis study section member, NIH BRAIN Initiative.
- 2014, 2020-21 Special emphasis study section member, NIH BRAIN Initiative.
- 2018, 2023 Co-chair, Task Group, Ryan Initiative for Macular Research.
- 2019-present Member, Biology and Medicine Panel, Research Grants Council of Hong Kong
- 2021-present Member, scientific advisory board, Hearing Health Foundation.
- 2021-present Member, external advisory board, West Virginia University Center for Foundational Neuroscience Research and Education.
- 2021-present Reviewer, Schmidt Future Polymaths program.

Consultantships and related activities

- 2004-2006 Consultant, The Frankel Group
- 2008-present Founder and Scientific Advisory Board member, CDI Labs, Mayaguez, Puerto Rico
- 2020-2021 Consultant, Third Rock Ventures
- 2022-present Scientific Advisory Board member, Tenpoint Therapeutics

RECOGNITION

Awards, Honors

- 1986 Telluride Association Summer Program Award
- 1987 National Merit Scholar Award

1991 Phi Beta Kappa
 1991 Howard Hughes Medical Institute Predoctoral Fellow
 1999 Howard Hughes Medical Institute Fellow of the Life Sciences Research Foundation
 2005 Sloan Foundation Research Fellowship
 2005 Whitehall Foundation Research Grant
 2006 Basil O'Connor Starter Scholar Award, March of Dimes
 2006 Klingenstein Foundation Award in the Neurosciences
 2006 W. M. Keck Foundation Distinguished Young Scholar in Medical Research Award
 2007 NARSAD Young Investigator Award
 2007 Ruth and Milton Steinbach Fund Award for Research in Macular Degeneration
 2019 Research to Prevent Blindness Stein Innovation Award
 2021 Inaugural Milky Way Research Foundation Award for Rejuvenation Research
 2022 Beebe Lecturer, Washington University School of Medicine
 2022 Keynote speaker, Hypothalamus Gordon Research Conference.

Invited Talks

1. 7/14/93 "The molecular basis of mammalian taste transduction", International Symposium on Smell and Taste (ISOT XI), Sapporo, Japan
2. 5/6/97 "Neuronal nitric oxide synthase:prominent alternative splice forms", Nitric Oxide Club of Paris, Institute Curie, Paris, France
3. 5/7/97 "Neuronal nitric oxide synthase:prominent alternative splice forms", CNRS Paris, Universite de Paris 7, Paris, France
4. 6/20/97 "The molecular basis of extraretinal phototransduction", NSF Center for Biological Timing, University of Virginia, Charlottesville, VA,
5. 4/26/00 "A SAGE analysis of retinal development", Boston Cancer Genomics Club, Dana-Farber Cancer Institute, Boston, MA
6. 9/20/00 "A SAGE analysis of retinal development", SAGE 2000 conference, Baltimore, MD
7. 9/26/00 "A SAGE analysis of retinal development", Dana-Farber Cancer Institute, Boston, MA
8. 11/30/00 "Genomic analysis of retinal development and disease", European Molecular Biology Laboratory (EMBL), Heidelberg, Germany
9. 5/14/01 "Genomic analysis of pineal-specific gene expression", AANAT 2001 conference, Arlie, VA
10. 9/4/01 "Genomic analysis of retinal development and disease", Development and Evolution of the Eye, Les Treilles, France
11. 9/10/01 "Genomic analysis of retinal development and disease", SAGE 2001 conference, San Diego, CA
12. 9/28/01 "Genomic analysis of retinal development and disease", Boston Cancer Genomics Club, Dana-Farber Cancer Institute, Boston, MA
13. 2/12/02 "Genomic analysis of light-dependent transcription in mammalian pineal gland", Pineal Cell Biology Gordon Research Conference, Ventura, CA
14. 3/23/02 "Genomic analysis of retinal development and disease", Macular Vision Research Foundation, Marina del Rey, CA
15. 8/20/02 "Genomic analysis of retinal development and disease", Neural Development Gordon Research Conference, Newport, RI
16. 11/15/02 "Genomic analysis of retinal development and disease", Mental Health Research Institute, University of Michigan, Ann Arbor, MI
17. 1/7/03 "Genomic analysis of retinal development and disease", Department of Biological Chemistry, University of California, Los Angeles, CA
18. 1/9/03 "Genomic analysis of retinal development and disease", Institute for Neuroscience, University of Oregon, Eugene, OR
19. 1/13/03 "Genomic analysis of light-dependent transcription in mammalian pineal gland", Pineal Microarray Workshop, Arlie, VA
20. 1/27/03 "Genomic analysis of retinal development and disease", McGovern Institute for Brain Research, Massachusetts Institute of Technology, Cambridge, MA
21. 1/30/03 "Genomic analysis of retinal development and disease", Department of Biology, Columbia University, New York, NY

22. 2/17/03 “Genomic analysis of retinal development and disease”, Departments of Microbiology and Molecular Biology and Department of Cell Biology, Duke University, Durham, NC
23. 2/22/03 “Genomic analysis of retinal development and disease”, Department of Neurobiology, University of Massachusetts School of Medicine, Worcester, MA
24. 2/27/03 “Genomic analysis of retinal development and disease”, High-Throughput Biology Center and Institute for Cell Engineering, Johns Hopkins University School of Medicine, Baltimore, MD
25. 3/3/03 “Genomic analysis of retinal development and disease”, Department of Biochemistry and Biophysics, University of California, San Francisco, CA
26. 3/6/03 “Genomic analysis of retinal development and disease”, Department of Genetics, Stanford University School of Medicine, Palo Alto, CA
27. 3/18/03 “Genomic analysis of retinal development and disease”, Department of Neurobiology and Anatomy, Washington University, Saint Louis, MO
28. 3/21/03 “Genomic analysis of retinal development and disease”, Department of Molecular and Cell Biology, University of California, Berkeley, CA
29. 3/25/03 “Genomic analysis of retinal development and disease”, Marsh Laboratory for Veterinary Medicine, Montana State University, Bozeman, MT
31. 5/11/03 “Genomic analysis of light-dependent transcription in mammalian pineal gland”, Chronobiology Gordon Research Conference, Il Ciocco, Barga, Italy
32. 9/30/04 “Genomic analysis of retinal development and disease”, SAGE 2004 conference, Boston, MA
33. 10/28/04 “Genomic analysis of retinal development and disease”, Department of Biology, Johns Hopkins University, Baltimore, MD
34. 3/7/05 “Genomic analysis of retinal development”, Department of Neurology, Johns Hopkins University School of Medicine, Baltimore, MD
35. 5/2/05 “Genomic analysis of retinal and hypothalamic development”, Carnegie Institute of Embryology, Baltimore, MD
36. 9/19/05 “Functional genomic analysis of retinal development”, Ottawa Health Research Institute, University of Ottawa, Ontario, Canada
37. 9/26/05 “Genomic analysis of retinal and hypothalamic development”, Krasnow Institute for Advanced Study, George Mason University, Fairfax, VA
38. 12/14/05 “Genomic analysis of retinal development”, Osaka Bioscience Institute, Osaka, Japan
39. 2/28/06 “Genomic analysis of retinal development”, Scripps Research Institute, Jupiter, FL
40. 4/7/06 “Genomic analysis of retinal development”, Allen Brain Research Institute, Seattle, WA
41. 6/22/06 “Functional genomics of retinal development”, International IUBMB meeting, Kyoto, Japan
42. 3/30/07 “Functional genomics of retinal development”, University of Utah School of Medicine, Salt Lake City, UT
43. 7/25/07 “Functional genomics of retinal development”, Systems Biology Consortium Meeting, Pennsylvania State University, PA
44. 9/19/07 “Functional genomics of hypothalamic development”, Colorado State University, Colorado Springs, CO (invited by students).
45. 12/18/07 “Pias3 and ERRbeta: key regulators of rod photoreceptor specification and survival”, Wilmer Eye Institute, Johns Hopkins University School of Medicine
46. 3/18/08 “Functional genomics of retinal development”, Oxford University, Oxford, U.K.
47. 4/18/08 “Functional genomics of retinal development”, RIKEN Brain Sciences Institute, Saitama, Japan
48. 4/25/08 “Functional genomics of retinal development” University of Osaka, Osaka, Japan
49. 8/10/08 “Molecular mechanisms of rod photoreceptor specification”, Visual Systems Development Gordon Research Conference, Newport, RI
50. 10/20/08 “Novel mechanisms of transcriptional regulation in retinal cell fate specification.” Department of Neurology, Johns Hopkins University School of Medicine, Baltimore, MD
51. 4/14/09 “Unconventional transcriptional regulation and vertebrate neuronal cell fate specification”, RIKEN Brain Sciences Institute, Saitama, Japan
52. 6/14/09 “Molecular mechanisms of rod photoreceptor specification”, Biology and Chemistry of Vision, FASEB Summer Research Conference, Snowmass, CO
53. 9/24/09 “Profiling the Human Protein-DNA Interactome Reveals MAPK1 as a Transcriptional Repressor of Interferon Signaling”, 3rd Annual Young Investigators in Genomics and Bioinformatics Symposium, Johns Hopkins University School of Medicine, Baltimore, MD

54. 11/6/09 “Molecular pathways regulating retinal differentiation and disease”, University of Tokyo, Tokyo, Japan
55. 11/10/09 “Molecular pathways regulating photoreceptor differentiation and disease”, for Retina: Neural Stem Cells and Photoreceptor Degeneration, Okinawa Institute of Science and Technology, Okinawa, Japan.
56. 11/24/09 “Molecular pathways regulating retinal differentiation and disease”, Department of Biological Chemistry, Johns Hopkins University School of Medicine, Baltimore, MD
57. 12/3/09 “Molecular pathways regulating retinal differentiation and disease”, Dean A. McGee Eye Institute, University of Oklahoma School of Medicine
58. 5/10/10 “Neural differentiation: a search for the brains behind the operation”, Computational Genomics interest group, Johns Hopkins University School of Medicine
59. 5/17/10 “Molecular mechanisms of neural specification in embryonic and postnatal hypothalamus”, Department of Neurology, Johns Hopkins University School of Medicine
60. 6/3/10 “Molecular mechanisms of cell specification and regeneration in mammalian hypothalamus”, Department of Neurology Grand Rounds, Albert Einstein School of Medicine, New York, NY
61. 7/10/10 “High-throughput approaches to analyzing hypothalamic development”, 8th International Aegean Conference on Pathways, Networks and Systems Medicine, Rhodes, Greece
62. 7/23/10 “Molecular mechanisms of retinal cell fate specification”, 19th Biannual Meeting of the International Society for Eye Research, Montreal, Quebec
63. 7/26/10 “Transcriptional control of retinal cell fate specification”, McGill University, Montreal, Quebec
64. 9/1/10 “Molecular mechanisms of cell specification and regeneration in mammalian hypothalamus”, Department of Neuroscience, Albert Einstein School of Medicine, New York, NY
65. 11/8/10 “Molecular mechanisms of cell specification and regeneration in mammalian hypothalamus”, Department of Neurology, Northwestern University School of Medicine, Chicago, IL
66. 1/12/11 “Molecular mechanisms of cell specification and regeneration in mammalian hypothalamus”, Department of Psychiatry, Johns Hopkins University School of Medicine, Baltimore, MD
67. 2/07/11 “Molecular pathways regulating photoreceptor differentiation and disease”, Program in Neuroscience, University of Illinois, Urbana, IL
68. 3/23/11 “Transcriptional regulation of photoreceptor specification and survival”, National Eye Institute, Bethesda, MD
69. 3/31/11 “How to build a mammalian retina”, Department of Ophthalmology and Visual Science, Washington University, St. Louis, MO
70. 5/2/11 “Control of retinal differentiation by long noncoding RNAs”, American Society for Research in Vision and Ophthalmology, Fort Lauderdale, FL
71. 5/13/11 “How to build a mammalian hypothalamus”, RIKEN Brain Sciences Institute, Saitama, Japan
72. 5/16/11 “Transcriptional control of retinal cell fate specification”, Department of Biological Sciences, KAIST, Daejeon, South Korea
73. 5/17/11 “How to build a mammalian hypothalamus”, Department of Biological Sciences, GIST, Gwangju, South Korea
74. 5/18/11 “How to build a mammalian hypothalamus”, Annual Meeting of Korean Society of Biochemistry and Molecular Biology, Seoul, South Korea
75. 10/12/11 “Transcriptional control of retinal cell fate specification”, Medical College of Wisconsin, Milwaukee, WI
76. 10/17/11 “How to build a mammalian hypothalamus”, Department of Pharmacology, University of Pennsylvania School of Medicine, Philadelphia, PA
77. 4/2/12 “Long noncoding RNAs in retinal development”, Keystone Symposium on Noncoding RNAs, Snowmass, CO
78. 6/7/12 “Radial glia in health and disease”, Nationwide Children’s Hospital, Columbus, OH
79. 8/22/12 “Transcriptional control of retinal glial development and function”, Visual Systems Development Gordon Research Conference, New London, NH.
80. 9/12/12 “The blueprint of behavior: assembling the mammalian hypothalamus”, NIDDK, NIH, Bethesda, MD
81. 12/6/12 “The blueprint of behavior: assembling the mammalian hypothalamus”, Diabetes Research Center, UCSF, San Francisco, CA
82. 4/5/13 “Radial glia in health and disease”, Department of Pharmacology, Case Western Reserve University, Cleveland, OH.
83. 4/12/13 “Muller glia and tanyocytes in health and disease”, NICHD, NIH, Bethesda, MD
84. 4/12/13 “The blueprint of behavior: assembling the mammalian hypothalamus”, Endocrine Grand Rounds, NIH, Bethesda, MD

85. 4/26/13 “Muller glia and tanycytes in health and disease”, Department of Cell and Systems Biology, University of Toronto, Toronto, Canada.
86. 5/3/13 “Muller glia and tanycytes in health and disease”, Department of Genetics, Development and Cell Biology, Iowa State University, Ames, IA.
87. 5/8/13 “Muller glia and tanycytes in health and disease”, Center for Neural Repair and Rehabilitation, Temple University School of Medicine, Philadelphia, PA.
88. 6/16/13 “Dietary regulation of postnatal hypothalamic neurogenesis”, Annual Meeting of the Endocrine Society, San Francisco, CA.
89. 7/30/13 “Lhx2 is a competence factor for Notch-dependent regulation of retinal gliogenesis”, RIKEN-Brain Science Institute, Wako, Saitama, Japan
90. 7/31/13 “Lhx2 is a competence factor for Notch-dependent regulation of retinal gliogenesis”, University of Tokyo, Tokyo, Japan.
91. 8/5/13 “Lhx2 is a competence factor for Notch-dependent regulation of retinal gliogenesis”, Japanese Vision Forum, Ritsumeikan University, Shiga, Japan.
92. 2/6/14 “How Lhx2 builds and protects the retina”, Tata Institute of Fundamental Research, Mumbai, India.
93. 2/7/14 “Dietary regulation of postnatal hypothalamic neurogenesis”, “Adult Neurogenesis: From Stem Cells to Therapies”, Tata Institute of Fundamental Research, Mumbai, India.
94. 2/10/14 “The blueprint of behavior: assembling the mammalian hypothalamus”, Indian Institute of Technology, Kanpur, India.
95. 3/27/14 “How Lhx2 builds and protects the retina”, New York Medical College, Valhalla, NY.
96. 5/2/14 “Retinal nuclear hormone receptors and the Human Protein Capture Reagent Initiative”, American Society for Research in Vision and Ophthalmology, Orlando, FL
97. 6/1/14 “The blueprint of behavior: assembling the mammalian hypothalamus”, Technion, Haifa, Israel.
98. 6/2/14 “The blueprint of behavior: assembling the mammalian hypothalamus”, Tel Aviv University, Tel Aviv, Israel.
99. 7/9/14 “Functional genomics of retinal cell specification”, Sunnybrook Research Institute, University of Toronto, Toronto, Canada.
100. 7/22/14 “Control of retinal Notch signaling and gliogenic competence by Lhx2”, 21st Biannual Meeting of the International Society for Eye Research, San Francisco, CA.
101. 8/22/14 “Systems biology of retinal cell specification”, University of Edinburgh, Edinburgh, UK.
102. 9/12/14 “Hypothalamic development and postnatal neurogenesis”, European Neuroendocrine Association annual meeting, Sofia, Bulgaria.
103. 10/2/14 “Radial glia in health and disease”, Department of Neuroscience, University of North Carolina, Chapel Hill, NC.
104. 11/14/14 “Epigenetic regulation of retinal cell fate specification”, Neuroepigenetics Satellite Meeting, Arlington, VA.
105. 12/9/14 “From the proteome to the mAbome”, Antibody Engineering and Therapeutics Annual Meeting, Huntington Beach, CA.
106. 3/4/15 “How do transcription factors regulate both pluripotency and lineage commitment in retinal progenitors?”, Center for Advanced Biotechnology and Medicine, Rutgers University, New Brunswick, NJ.
107. 5/4/15 “How do transcription factors regulate both pluripotency and lineage commitment in retinal progenitors?”, American Society for Research in Vision and Ophthalmology, Denver, CO.
108. 6/19/15 “Control of retinal development by long noncoding RNAs”, FASEB Meeting on Photoreceptor Biology, Big Sky, MT.
109. 9/29/15 “Genetic control of hypothalamic development”, Janelia Hypothalamus meeting, Howard Hughes Medical Institute, Janelia Farm, VA.
110. 12/7/15 “Hypothalamic development and postnatal neurogenesis”, Fondation IPSEN, Paris, France.
111. 1/11/16 “Transcriptional regulation of retinal cell identity”, Wilmer Eye Institute, Johns Hopkins University School of Medicine, Baltimore, MD.
112. 1/27/16 Loris and David Rich Lecture, “Transcriptional regulation of retinal cell identity”, Department of Ophthalmology, University of Alabama, Birmingham, AL.
113. 2/12/16 “Transcriptional regulation of retinal cell identity”, Jules Stein Eye Institute, University of California Los Angeles School of Medicine, Los Angeles, CA.

114. 3/9/16 “How do transcription factors regulate both pluripotency and lineage commitment in retinal progenitors?”, Department of Neurobiology, University of Connecticut, Storrs, CT.
115. 4/12/16 “Transcriptional regulation of retinal cell identity”, Department of Neuroscience, University of Illinois, Urbana, IL.
116. 4/21/16 “Transcriptional regulation of retinal cell identity”, Department of Ophthalmology, Columbia University School of Medicine, New York, NY.
117. 5/3/15 “Transcriptional and epigenetic control of retinal cell identity”, American Society for Research in Vision and Ophthalmology, Seattle, WA.
118. 5/15/16 “Genetic control of hypothalamic development”, Cold Spring Harbor Asia conference on Neural Development, Suzhou, China.
119. 5/20/16 “Genetic control of hypothalamic development”, Chinese Academy of Sciences, Shanghai, China.
120. 8/7/16 “Genomic mechanisms controlling retinal progenitor cell developmental competence”, Visual Systems Development Gordon Research Conference, Mount Snow, VT
121. 9/19/16 “Genomic mechanisms controlling retinal progenitor cell developmental competence”, University of Tokyo, Tokyo, Japan.
122. 9/21/16 “Genomic mechanisms controlling retinal progenitor cell developmental competence”, Ritsumeikan University, Shiga, Japan.
123. 9/28/16 “Transcriptional and epigenetic mechanisms controlling Muller glial lineage commitment”, 22nd Biannual Meeting of the International Society for Eye Research, Tokyo, Japan.
124. 10/2/16 “Genetic control of hypothalamic development”, Department of Biological Sciences, KAIST, Daejeon, South Korea
125. 11/30/16 “Transcriptional regulation of retinal cell identity”, University of Indiana School of Medicine, Indianapolis, IN.
126. 1/31/17 “Transcriptional regulation of retinal cell identity”, Baylor College of Medicine, Houston, TX.
127. 2/15/17 “Functional genomics of retinal development”, University of Florida School of Medicine, Gainesville, FL.
128. 4/1/17 “Intrabody-mediated control of gene expression in wildtype CNS cells”, Mayo Clinic, Rochester, MN.
129. 4/27/17 “Transcriptional regulation of retinal cell identity”, Distinguished Lecture Series Program, Cole Eye Institute, Cleveland, OH.
130. 5/2/17 (Keynote Speaker) “Single-cell RNA-Seq analysis and retinal development”, Johns Hopkins School of Medicine Annual Genetics Core Facility Research Symposium, Baltimore, MD.
131. 5/7/17 “Single-cell RNA-Seq analysis and retinal development”, in Big Data: Current Status and Future Directions, Satellite Meeting, American Society for Research in Vision and Ophthalmology, Baltimore, MD.
132. 7/11/17 “Specification and function of mammalian retinal glia”, National Institute of Health, Bethesda, MD.
133. 10/1/17 “Transcriptional regulation of hypothalamic cell identity”, 11th Pituitary and Hypothalamus Workshop, Jerez de la Frontera, Spain.
134. 3/1/18 “Transcriptional regulation of retinal cell identity”, Frontiers in Visual Science Lecture, Bascom Eye Institute, Miami, FL.
135. 3/18/18 “Transcriptional regulation of hypothalamic cell identity”, Annual Meeting of the Endocrine Society, Chicago, IL.
136. 4/3/18 “Transcriptional regulation of retinal cell identity”, Department of Ophthalmology, State University of New York, Buffalo, NY.
137. 6/2/18 “Development of hypothalamic Lhx6-positive neurons”, Annual Meeting of the Associated Professional Sleep Societies, Baltimore, MD.
138. 9/7/18 “Control of hypothalamic cell fate specification”, Center for Craniofacial and Regenerative Biology, Kings College, University of London, U.K.
139. 9/10/18 “Building the retina one cell at a time”, 23rd Biannual Meeting of the International Society for Eye Research, Belfast, Northern Ireland.
140. 9/15/18 “Control of hypothalamic cell fate specification”, Circadian Biology Research Group, University of Manchester, Manchester, U.K.
141. 9/17/18 “Control of hypothalamic cell fate specification”, Department of Developmental Biology, University of Sheffield, Sheffield U.K.
142. 9/18/18 “Control of hypothalamic cell fate specification”, Institute of Metabolic Sciences, Cambridge University, Cambridge, U.K.

143. 11/1/18 “Building the retina and hypothalamus: from genes to cells to behavior”, Department of Neuroscience, University of California, San Francisco, CA.
144. 11/9/18 “Hypothalamic development: one cell at a time”, 12th Pituitary and Hypothalamus Workshop, Tepoztlan, Mexico.
145. 12/13/18 “Building the retina and hypothalamus: from genes to cells to behavior”, Friedman Brian Institute, Icahn School of Medicine at Mount Sinai, New York, NY.
146. 1/9/19 “Building and rebuilding the retina one cell at a time”, Department of Ophthalmology, University of Pittsburgh, Pittsburgh, PA.
147. 2/5/19 “Building and rebuilding the retina one cell at a time”, Department of Biological Sciences, University of Notre Dame, South Bend, IN.
148. 2/22/19 “Building and rebuilding the retina one cell at a time”, Integrated Biomedical Sciences Seminar Series, University of California, Davis, CA.
149. 3/12/19 “Building and rebuilding the retina one cell at a time”, Integrated Biomedical Sciences Seminar Series, University of California, Irvine CA.
150. 5/2/19 “Building and rebuilding the retina one cell at a time”, American Society for Research in Vision and Ophthalmology, Vancouver, Canada.
151. 7/25/19 “Building and rebuilding the retina and hypothalamus one cell at a time”, Center for Developmental Biology-RIKEN, Kobe, Japan.
152. 7/26/19 “Building and rebuilding the retina one cell at a time”, Asia-Pacific Conference on Vision, Osaka, Japan.
153. 8/4/19 “Building and rebuilding the retina one cell at a time”, Zhongshan Ophthalmologic Center, Sun Yat Sen University, Guangzhou, China.
154. 9/5/19 “Building the retina and hypothalamus: from genes to cells to behavior”, Department of Physiology, University of California, Irvine, CA.
155. 9/19/19 “Building and rebuilding the retina one cell at a time”, Department of Biological Sciences, KAIST, Daejeon, South Korea.
156. 9/24/19 “Control of hypothalamic cell fate specification”, International Brain Research Organization annual meeting, Daegu, South Korea.
157. 10/8/19 “Control of hypothalamic cell fate specification”, Department of Human Genetics, University of Michigan School of Medicine, Ann Arbor, MI.
158. 10/17/19 “Building the retina one cell at a time”, National Eye Institute, National Institutes of Health, Bethesda, MD.
159. 10/31/19 “Building the retina and hypothalamus: from genes to cells to behavior”, Wu Tsai Neurosciences Institute, Stanford University, Palo Alto, CA.
160. 11/2/19 “Building the retina one cell at a time”, “Eye Development and Disease: Pax6 and beyond”, University of Virginia, Charlottesville, VA
161. 11/11/19 “Building and rebuilding the retina one cell at a time”, Okinawa Institute of Science and Technology, Okinawa, Japan.
162. 11/15/19 “Building and rebuilding the retina one cell at a time”, University of Tokyo, Tokyo, Japan.
163. 12/5/19 “Building and rebuilding the hypothalamus one cell at a time”, Department of Neuroscience, University of Texas Southwestern School of Medicine, Dallas, TX.
164. 1/13/20 “Building and rebuilding the retina one cell at a time”, Department of Neurobiology, Ohio State University, Columbus, OH.
165. 1/31/20 “Building and rebuilding the retina one cell at a time”, Genentech, South San Francisco, CA.
166. 2/17/20 “Building and rebuilding the retina one cell at a time”, Department of Ophthalmology, Northwestern University School of Medicine, Chicago, IL.
167. 4/1/20 (postponed due to COVID-19) “Building and rebuilding the retina one cell at a time”, Conference on 3D Hybrid Organotypic Systems, Karlsruhe Institute of Technology, Germany.
168. 4/4/20 (cancelled due to COVID-19) “Building and rebuilding the retina one cell at a time”, Gavin Herbert Eye Institute Bench to Bedside Symposium, University of California, Irvine, CA.
169. 4/16/20 (postponed due to COVID-19) “Building and rebuilding the retina one cell at a time”, 5th annual David C. Beebe Lecture, Department of Ophthalmology, Washington University School of Medicine, St. Louis, MO.
170. 4/23/19 (cancelled due to COVID-19) “Building and rebuilding the hypothalamus one cell at a time”, Department of Neuroscience, University at Buffalo, Buffalo, NY.

171. 5/3/20 (cancelled due to COVID-19) “Building and rebuilding the retina one cell at a time”. ARVO-China workshop, American Society for Research in Vision and Ophthalmology, Baltimore, MD.
172. 5/3/20 (cancelled due to COVID-19) “Single cell transcriptomics and epigenomics identifies genes regulatory networks controlling retinal cell differentiation”, Special Interest group on Application of Single Cell Genomic Technology, American Society for Research in Vision and Ophthalmology, Baltimore, MD.
173. 5/5/20 (cancelled due to COVID-19) “Single cell transcriptomics and epigenomics identifies genes regulatory networks controlling retinal cell differentiation”, American Society for Research in Vision and Ophthalmology, Baltimore, MD.
174. 5/7/20 (cancelled due to COVID-19) “Single cell transcriptomics and epigenomics identifies genes regulatory networks controlling retinal regeneration”, Special Interest Group on Deciphering the Landscape of Retinal Regeneration and Degeneration using Single-Cell Genomics, American Society for Research in Vision and Ophthalmology, Baltimore, MD.
175. 5/29/20 (postponed due to COVID-19) “Single cell transcriptomics and epigenomics identifies genes regulatory networks controlling retinal regeneration”, Janet and Donald Rowley Biological Sciences Honors Symposium, University of Chicago, Chicago, IL.
176. 6/2/20 (converted to virtual meeting due to COVID-19) “Gene regulatory networks that guide the development of hypothalamic neural circuitry controlling circadian rhythms and sleep”. Society for Research in Biological Rhythms, Amelia Island, FL.
177. 7/31/20 (converted to virtual meeting due to COVID-19) “Building and rebuilding the retina one cell at a time”, Japanese Neuroscience Society Meeting, Kobe, Japan.
178. 8/3/20 (postponed due to COVID-19) “Building the retina and hypothalamus: from genes to cells to behavior”, Department of Neurobiology, Kyoto University, Kyoto, Japan.
179. 10/28/20 (cancelled due to COVID-19) “Building and rebuilding the retina one cell at a time”, 24th Biannual Meeting of the International Society for Eye Research, Buenos Aires, Argentina.
180. 1/11/20 “Building and rebuilding the retina one cell at a time”, Department of Cellular and Molecular Medicine, University of Ottawa, Canada.
182. 3/2/21 “Building and rebuilding the retina one cell at a time”, Conference on 3D Hybrid Organotypic Systems, Karlsruhe Institute of Technology, Germany.
181. 4/8/21 “Building and remodeling the hypothalamus: from genes to circuits to behavior”, International Institute of Molecular and Cell Biology, Warsaw, Poland.
182. 4/20/21 “Building the retina and hypothalamus: from genes to cells to behavior”, Columbia Neuroscience Seminar Series, Columbia University, Columbia, NY.
183. 4/27/21 “Building and rebuilding the hypothalamus one cell at a time”, Department of Neuroscience, University at Buffalo, Buffalo, NY.
184. 5/2/21 “Control of neurogenic competence in retinal Muller glia”, American Society for Research in Vision and Ophthalmology, (held virtually in 2021).
185. 5/3/21 “Comprehensive analysis of retinal development at single cell resolution”, American Society for Research in Vision and Ophthalmology, (held virtually in 2021).
186. 5/5/21 “Single cell transcriptomics and epigenomics identifies genes regulatory networks controlling retinal cell differentiation”, American Society for Research in Vision and Ophthalmology, (held virtually in 2021).
187. 5/21/21 “Control of neurogenic competence in retina Muller glia cells”, Korean Society of Brain and Neural Sciences (KSBNS), Seoul, South Korea.
188. 5/28/21 “Building and rebuilding the hypothalamus one cell at a time”, Danish Single Cell Biology Interest Group, University of Copenhagen, Denmark.
189. 9/8/21 “Building and rebuilding the retina and hypothalamus one cell at a time”, Department of Cell and Developmental Biology, University of Illinois, Urbana-Champaign, IL.
190. 10/8/21 “Building and rebuilding the retina one cell at a time”, Hearing Research Foundation (virtual)
191. 11/6/21 “Building and rebuilding the retina one cell at a time”, 2nd Aniridia meeting, University of Virginia, Charlottesville, VA.
192. 11/18/21 “Development of hypothalamic circuitry controlling sleep and circadian timing” (keynote address), Sleep and Neurodevelopment Workshop, Baylor University School of Medicine Neurological Research Institute/NIH (virtual meeting).
193. 12/13/21 “Building and rebuilding the retina one cell at a time”, VisoNYC (joint vision-related training program of Columbia, Cornell, NYU, and SUNY), New York, NY.
193. 1/12/22 “Building and rebuilding the retina one cell at a time”, University of Alabama, Birmingham, AL.

194. 1/26/22 “Building and rebuilding the retina one cell at a time”, University College, London, U.K.
195. 2/8/22 “Building and rebuilding the retina one cell at a time”, Department of Molecular and Human Genetics, Baylor University School of Medicine, Houston, TX.
196. 2/28/22 “Development of hypothalamic circuitry controlling sleep and circadian timing”, Sleep Research Seminar, Department of Medicine, Johns Hopkins University School of Medicine, Baltimore, MD.
197. 3/28/22 “Building and rebuilding the retina one cell at a time”, Department of Neuroscience, Scripps Research Institute, San Diego, CA.
198. 3/28/22 “Integrated multiomic analysis identifies gene regulatory networks controlling retinal development”, 2022 RIMR meeting, Beckman Center, Irvine CA.
199. 4/22/22 “Building and rebuilding the retina and hypothalamus one cell at a time”, Endocrine Grand Rounds, Beth-Israel Deaconess Hospital, Boston, MA.
200. 5/18/22 “Building and rebuilding the retina one cell at a time”, Czech Academy of Sciences, Prague, Czech Republic.
201. 5/19/22 “Building and rebuilding the retina one cell at a time”, Center for Molecular and Cellular Bioengineering, Technische Universität Dresden, Dresden, Germany.
202. 5/23/22 “Building and rebuilding the retina one cell at a time”, University of Heidelberg, Heidelberg, Germany.
203. 6/30/22 “Gene regulatory networks controlling neurogenic competence in glia”, University College, London, U.K.
204. 7/8/22 “Gene regulatory networks inhibiting neurogenic competence in glia”, Cajal’s challenge accepted: Sharpening the toolbox for in vivo cell fate conversion, FENS 2022 satellite symposium, Paris, France.
205. 7/26/22 “Building the hypothalamus: from form to function”, (keynote address), Hypothalamus Gordon Research Conference, Ventura, CA.
206. 8/1/22 “Gene regulatory networks controlling neurogenic competence in glia”, Genentech, South Francisco, CA.
207. 9/8/22 “Building and rebuilding the retina one cell at a time”, 5th annual David. C. Beebe Lecture, Department of Ophthalmology, Washington University School of Medicine, St. Louis, MO.
208. 10/3/22 “Gene regulatory networks controlling neurogenic competence in glia”, Neuro Zoom (Host: Aaron Gitler).
209. 10/18/22 “Building and rebuilding the retina one cell at a time”, Burke Neurological Institute of Cornell University, White Plains, NY.
210. 12/3/22 “Building and rebuilding the retina one cell at a time”, Baylor College of Medicine Vision Research Symposium 2022, Houston, TX.
211. 2/18/23 (invited) “Gene regulatory networks controlling retinal regeneration”, 24th Biannual Meeting of the International Society for Eye Research, Gold Coast, Australia.
212. 5/11/23 (invited) “Building and rebuilding the retina one cell at a time” (plenary lecture), Inaugural Symposium, Paris-Saclay University, Paris, France.
213. 6/15/23 (invited) “Control of neurogenic competence in mammalian hypothalamic tanycytes”, ENDO2023, Chicago, IL.
214. 6/30/23 (invited) “Building the hypothalamus: from form to function”, University of Copenhagen, Denmark.
215. 7/4/23 (invited) “Building the hypothalamus: from form to function”, International Institute of Molecular and Cell Biology, Warsaw, Poland.
216. 7/8/23 (invited) “Gene regulatory networks controlling retinal regeneration”, XVI European Meeting on Glial Cell Function in Health and Disease, Berlin, Germany.
217. 9/22/23 (invited) “Gene regulatory networks controlling retinal regeneration”, Krembil Research Institute, University of Toronto, Toronto, Canada.
218. 9/26/23 (invited) “Gene regulatory networks controlling retinal regeneration”, Ottawa Health Research Institute, Ottawa, Canada.
219. 11/8/23 (invited) “Gene regulatory networks controlling retinal regeneration”, Korean Society for Molecular and Cell Biology, Jeju, South Korea.
220. 1/25/24 (invited) “Gene regulatory networks controlling retinal regeneration”, Department of Biology, Florida State University, Tallahassee, FL (invited by students).