Roshan A. Jain, Ph.D.
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EDUCATION

Ph.D., Princeton University, Princeton, NJ *2007*
Dissertation: A Characterization of the *Cis*-acting Signals and *Trans*-acting Factors Regulating *nanos* mRNA Localization

B.S., Cornell University, College of Agriculture and Life Sciences, Ithaca, NY *2000*
Honors Thesis: Characterization of *nirV* and a gene encoding a novel pseudoazurin in *Rhodobacter sphaeroides 2.4.3*
Graduated *summa cum laude*

RESEARCH EXPERIENCE

Associate Professor with Tenure *2022-present*
Department of Biology, Haverford College

Assistant Professor *2015-2022*
Department of Biology, Haverford College
Successful pre-tenure review and reappointment *2018*

Postdoctoral Fellow, Advisor: Dr. Michael Granato *2008-2015*
Department of Cell and Developmental Biology, University of Pennsylvania

Graduate Researcher, Advisor: Dr. Elizabeth R. Gavis *2001-2007*
Department of Molecular Biology, Princeton University

Undergraduate Honors Researcher, Advisor: Dr. James P. Shapleigh *1998-2000*
Department of Microbiology, Cornell University

Research Intern, Advisor: Dr. Richard Almon *1996-1998*
Department of Biological Sciences, State University of New York at Buffalo

FUNDING & AWARDS

NIH R15 Grant: Genetic and circuit control of visuo-acoustic behavior and integration (R15EY031539) $419,669 *2022-2025*
Haverford College Faculty Research Grant: Exploring Genetic Requirements for Visually-Guided Behavior. $6,000 *2020-2021*
Young Investigator Travel Award, International Behavioural and Neural Genetics Society *2019*
Travel Award, International Zebrafish Society *2019*
Haverford College Faculty Research Grant: Combining High-Speed Behavioral Analysis with Live Imaging of Brain Activity. $4,500 *2018-2019*
Haverford College Faculty Research Grant: Identification of Genes Regulating Decision-Making Through Next Generation Sequencing. $6,000 *2017-2018*
Koshland Integrated Natural Sciences Center Faculty Research Grant: Establishing Optical Techniques for Dissecting Neural Function in Behavior. $18,000 *2016-2019*
Kirschstein-NRSA Fellowship, National Institutes of Health (Individual fellowship) *2010-2012*
Kirschstein-NRSA Fellowship, National Institutes of Health (Institutional Training Grant) *2008-2009*
DeLill Nasser Award for Professional Development in Genetics, Genetics Society of America *2008*
Dean's Fund for Scholarly Travel Award Recipient, Princeton University *2006*
Graduate Research Fellowship, National Science Foundation *2001-2004*
Graduate Excellence in Teaching Award, Princeton University *2001*
High Honors in Research for Undergraduate Thesis, Cornell University *2000*
Howard Hughes Undergraduate Research Scholar, Cornell University *1999*

ELEVATION OF DIVERSITY, EQUITY, INCLUSION, & ACCESS IN STEM

DEI Representative & Student Liaison: Haverford College Biology Department *2021-present*
Inclusive Hiring Practices Workshop Participant: Haverford College *2022*

Instructor: "Crafting an Inclusive Biology Curriculum" Haverford College *2021*
DEI Reading Group Participant: Haverford College *2018*
Invited Speaker: Children's Hospital of Pennsylvania, Panel on "Diversity in STEM: Career Opportunities for Doctoral Level Scientists" *2017*
Science Fair Mentor: iPraxis at Belmont Charter School, Philadelphia PA *2010-2015*
Judge: Belmont Charter School Science Fair, Philadelphia PA *2012-2014*
Instructor: Philadelphia School's K-12 Science Outreach Program, "Fishy Brains & Learning" *2010-2014*
Judge: Penn Alexander Elementary School Science Fair, Philadelphia PA *2011-2013*
Judge: Lea Elementary School Science Fair, Philadelphia PA *2011*
Coordinator: New Jersey Jr. High Regional Science Olympiads (Heredity) *2007*

TEACHING EXPERIENCE

Instructor, **Haverford College** *2015-present*
BIOL 200: Evolution, Genetics, & Genomics (Lab & Lecture)
BIOL 201: Molecules, Cells, & Organisms (Lecture)
BIOL 202: Unlocking Key Concepts in Biology
BIOL 300/301: Advanced Lab in Molecular Biology ("Superlab")
BIOL 319: Molecular Neurobiology
BIOL 380: Independent Study in Biology for Juniors
BIOL 395: Crafting an Inclusive Biology Curriculum
BIOL 409: Senior Research Tutorial in Molecular Neurobiology
BIOL 480: Independent Study in Biology for Seniors
BIOL 499: Senior Department Studies

Guest Lecturer, Haverford College *2021*
BIOL 115: Exploring Biology

Guest Lecturer, Brown University *2021*
NEUR 1040: Introduction to Neurogenetics

Guest Lecturer, Haverford College *2018*
Chesick Scholars Summer Course

Guest Lecturer, Haverford College *2018*
PSYC 218: Behavioral Neuroscience

Guest Lecturer, Haverford College *2017*
PSYC 217: Behavioral Neuroscience

Faculty, Woods Hole Marine Biology Laboratory *2010-2016*
Zebrafish Development & Genetics Course

Guest Lecturer, Princeton University *2015*
MOL 516: Genetics of Eukaryotic Organisms

Guest Lecturer & Teaching Assistant, Princeton University *2005*
MOL 507: Developmental Biology

Teaching Assistant, Princeton University *2003*
MOL 348: Cell and Developmental Biology

Laboratory Instructor, Princeton University *2001*
MOL 214: Introduction to Cellular and Molecular Biology Lab

MENTORED STUDENTS

Haverford College Current Lab:
(1) Matthew Curran '24 – Biology Major.
(2) Rebecca Osbaldeston '24 – Biology Major, **Velay Scholar**.
(3) Kevin Villafañe '24 – Biology Major.
(4) John Dvorak '23 – Biology Major. **Faculty of Undergraduate Neuroscience Travel Award Recipient**

***Haverford College Lab Alumni**:*

(1) Lia Herzig ’23 – Neuroscience Major.
(2) Bilikisu Hanidu '23 – Neuroscience Major, **Chesick Scholar, Velay Scholar.**
(3) Isabelle Ray '23 – Neuroscience Major.
(4) Delaney Snowden ’23 – Biology Major.
(5) Clarice Xu ’23 – Biology Major.
(6) Olivia Yoshida ’23 – Biology Major.
(7) Maddie Figueredo '22 – Biology Major, **Velay Scholar**. "Using Animal Tracking Software to Analyze and Quantify Anxiety-Related Behavior in Larval Zebrafish." MS student at the University of Miami.
(8) Roy Simamora ’22 – Biology & Psychology Double Major, **KINSC Summer Scholar**. " Modulation of Acoustic Prepulse Inhibition by *ap2s1* in Larval Zebrafish." **Marion E. Koshland Prize in Biology**. **Clementine Cope Prize.** PhD student at Emory University.
(9) Ruanna Small '22 – Biology Major, **Chesick Scholar**. "Determining the Role of *ap2s1* in the Acoustic Startle Circuit during Habituation in Zebrafish."
(10) Carmiya Solomon '22 – Neuroscience Major. "Understanding the Relationship Between the Calcium Sensing Receptor and Epilepsy in Zebrafish Larvae."
(11) Urgyen Wangmo '22 – Biology Major. "Investigating the role of *ap2s1* on retinal morphology in larval zebrafish." Research technician at the Children's Hospital of Philadelphia.
(12) Ivan Ruiz ’23. Biology Major, **KINSC Summer Scholar, ABRCMS Poster Presentation in Neuroscience Award**.
(13) Alexandra Remnitz '22. Biology Major, Current student at Connecticut College.
(14) Amalia Axinn ’21. Current research technician at Washington University School of Medicine.
(15) Eliza Brody ’21. “*ap2s1* modulates visual decision-making in larval zebrafish.” **Marian E. Koshland Prize in Biology**. Current research assistant at the Children’s Hospital of Pennsylvania.
(16) Tia Brown '21. “Investigating the Impact of the Serotonin Receptor 5HT2c on Response Selection to Acoustic Stimuli in Zebrafish.” Current research assistant at Yale University.
(17) Hannah Doll ’21, **Velay Scholar**. “*ap2s1* regulates diverse aspects of visual behavior in zebrafish.” **Ariel G. Loewy Prize for Senior Research in Biology**. PhD student at the University of Wisconsin-Madison
(18) Emma Iacobucci ’21. “*ap2s1* has different temporal roles in modulating components of the acoustic startle response in zebrafish.” Current clinical research coordinator at the University of Pennsylvania Scheie Eye Institute.
(19) Nicholas "Cole" Roland ’21. “Mechanisms of Decision Making Regulation: The 5-HT2C Serotonin Receptor Modulates Behavior Selection in Zebrafish.” **Fulbright semi-finalist.** Current PhD student at Cornell University.
(20) Federico Perelmuter ’21, Anthropology Major.
(21) Jordyn Greenbaum ’20. "The why, when, and how of *ap2s1*: The role of *ap2s1* in regulating habituation learning." Current research assistant at the National Institutes of Health, incoming MD student at Rosalind Franklin University.
(22) Leanne Ludwick ’20. "*ap2s1* Enhances the Rate and Total Capacity of Zebrafish to Habituate." Current clinical research assistant at the Rothman Institute.
(23) Rory Seymour ’20. "Studying Neural Circuitry Underlying Simple Learning in Zebrafish using Optogenetics." **Marian E. Koshland Prize in Biology**. Current MD student at the Sydney Kimmel Medical College at Thomas Jefferson University.
(24) Rodrigo Zúñiga Mouret ’20. "The AP-2 Complex Modulates Flexibility of the Zebrafish Startle Response: More Than Just a Sum of Parts." **SACNAS Travel Award Winner, Irving Finger Prize in Biology.** Current research assistant at the University of Wisconsin – Madison.
(25) Sophia Nelson ’20, **Velay Scholar**. Current research technician at the University of California, San Francisco.
(26) Arielle Schultz ’20, **Velay Scholar**. Current behavioral health technician, First Light Recovery.
(27) Graham Peet ’19, **KINSC Summer Scholar**. “The Molecular and Circuit Mechanisms Underlying Simple Decision-Making and Learning in Larval Zebrafish.” **Ariel G. Loewy Prize for Senior Research in Biology**. Current PhD student at Colorado University, Anschutz Medical Campus.
(28) Tristan Reasor ’19, **Chesick Scholar**. “What is the role of *ap2s1* in the Neural Circuit of Habituation in Zebrafish?”
(29) Jacob Grant, South Side High School Student. Current undergraduate student at Brandeis University.
(30) Rory King ’18. “Investigation of the Neural Structures Critical for Zebrafish Decision-Making.” Current research assistant at the University of Illinois Chicago.

(31) Santiago Laverde ’18, **Chesick Scholar**. “Determination of Lighting Preferences in *Danio rerio* Using a Light/Dark Preference Assay.” Current VMD student at University of Pennsylvania School of Veterinary Medicine.
(32) Claudia Nguyen ’18. “Exploring Stress and Its Effect on Decision-Making in Larval Zebrafish.” Current PhD student at UCLA.
(33) Jack Sollee ’18. “Optogenetics as a Tool for Investigating the Neurobiological Basis of Decision Making in Zebrafish.” Current MD student at Brown University. **Ariel G. Loewy Prize for Senior Research in Biology**.
(34) Christina Szi ’18, **Chesick Scholar**. “*ignorance is bliss*: Decoding the genetic control of learning.” **Marian E. Koshland Prize in Biology**. Current graduate student at Sarah Lawrence College.
(35) Amy Zamora ’18, Mathematics Major, **Velay Scholar**. “Computational approaches to quantify neural activity imaging data.” Current PhD student at Harvard University.
(36) Emilia Cobbs ’17. “Investigation of Glycinergic Neurons in Decision-making: *In vivo* Ca^{2+} Imaging of Inhibitory Neurons in Larval Zebrafish.” Current research assistant at New York University Langone Medical Center.
(37) Adedoyin Eisape ’17. “Characterizing the Role of *ap2s1* in the Behavioral Plasticity of the Acoustic Startle Response in *Danio rerio*.” Current Haverford House Fellow.
(38) Benjamin Miltenberg ’17. “Uncovering the Genetic Contribution to Decision-Making Behavior: using RNA-seq based bulked segregant analysis for zebrafish mutation mapping.” Current MD student at Tufts University.
(39) Keisuke Sawada ’17. “Elucidating the Role of Calcium-Sensing Receptor in Regulating Acoustic Startle Response in Zebrafish.” Current MD/PhD student at the University of Cincinnati School of Medicine.
(40) Vivian Sun ’17. “The Functional Role of *ap2s1* in Habituation and Decision-Making in Zebrafish Acoustic Startle Response.” Current MA student at Stanford University.
(41) Kyle Albagli ’16. “Genetic and Structural Characterization of Novel Decision-Making Genes in Zebrafish.” Current MD student at Stony Brook University.
(42) Elizabeth Fishman ’16. “Investigating Decision-Making in Larval Zebrafish (*Danio rerio*) Through Multi-Sensory Integration in the Startle Response Circuit.” Current PhD student at UC Davis.
(43) Amanda Fleming ’16. “Deciphering the Role of the Calcium-Sensing Receptor in Decision-Making Behavior in the Zebrafish.”
(44) Lindsey Lopes ’16. “Investigating the Role of the Stress Response in Decision-Making Using Larval Zebrafish.” **Marian E. Koshland Prize in Biology.** Current PhD student at Rockefeller University, **NSF Graduate Research Fellowship.**
(45) George Ordiway ’16. “Evaluating Zebrafish Pitch Perception via Acoustic Startle Response.” Current PhD student at Northwestern University.

University of Pennsylvania & Princeton University
(1) Myra Eckenhoff (High School Student)
(2) Mariah Barstow (Undergraduate, Bates College)
(3) Hannah Bell (Technician), current MD/PhD student at University of Rochester
(4) Nikoia Federickson (Undergraduate, Lincoln College Summer of Excellence Fellow)
(5) Colleen Fehm (Undergraduate, University of Pennsylvania)
(6) Bercu Kement (Undergraduate, University of Pennsylvania)
(7) Kerri-Ann Limbeek (Undergraduate, University of Pennsylvania)
(8) Laura Liss (Technician)
(9) Lauren Schmidt (Technician)
(10) Kim Schnabel (Undergraduate, UT München)
(11) Julianne Skinner (Post-Baccalaureate Student)
(12) Rachel Monyak (Graduate Rotation Student)
(13) Maja Klosinska (Graduate Rotation Student)
(14) Dorothy Lerit (Graduate Rotation Student), current Associate Professor at Emory University

SERVICE AT HAVERFORD COLLEGE

Advisor: 23 Biology majors, 5 Neuroscience majors, and 20 1st year & 2nd year students	*2015-present*
Facility Manager: Zebrafish Facility, trained & managed 20+ student technicians	*2015-present*
Faculty Representative: Institutional Animal Care and Use Committee	*2020-2022*
Member: Neuroscience Working Group to establish a new Neuroscience Major	*2019-2021*
Member: Search Committee for full time visiting Biology Professor	*2021*
Faculty Reviewer: Goldwater Fellowship Campus Selection Committee	*2019-present*
Biology Faculty Representative: Search Committee for Tenure-Track Geneticist & Genomicist	*2019*
Faculty Representative: Search Committee for Biology Lab Instructor	*2018*
Faculty Representative: Educational Policy Committee	*2017-2018*

Member: Pre-health Advisory Committee *2017-2018*
Member: Search Committee for Visiting Biology Faculty member *2016*
Biology Faculty Representative: Search Committee for Tenure-Track Microbiologist *2016*

PROFESSIONAL SERVICE

Reviewer: National Science Foundation, Graduate Research Fellowship Program *2023*
Mentor: International Behavioural and Neural Genetics Society 2022 Meeting Mentorship Event *2022*
Reviewer: National Science Foundation, Graduate Research Fellowship Program *2022*
Ad-hoc Reviewer: *Biology Open, Current Psychopharmacology, Trends in Biotechnology, Developmental Biology*, *PLOS One*, *Behavioral Brain Research*, *Nature Communications, Journal of the American Association for Laboratory Animal Science, iScience* Murdock Trust College Research Program for Natural Sciences *2012-present*
Reviewer: Science Sketch Video Communication Competition, Philadelphia Chapter of the Society for Neuroscience *2021*
Moderator: Faculty of Undergraduate Neuroscience, Neuroscience Undergraduate Research Virtual Symposium (NURVS), Cognition Session *2021*
Presentation Judge: Philadelphia Chapter of the Society for Neuroscience Summer Meeting *2020*
Course Coordinator: Zebrafish Development and Genetics Course, Woods Hole Marine Biology Laboratory *[2020 & 2021 courses cancelled due to COVID-19]* *2019-present*
Expert Panelist: RNA and Development Symposium, Princeton University, "Careers in Teaching-Intensive Academia" *[Postponed due to COVID-19]* *2020*
Ad-Hoc Grant Reviewer: National Science Foundation, Neural Systems Cluster *2020*
Grant Review Panelist: National Science Foundation, Neural Systems Cluster *2019*
Expert Panelist: International Behavioural And Neural Genetics Society Meeting, Career Development Workshop, Edinburgh, Scotland. *2019*
Associate Editor: International Zebrafish Society Newsletter *2017-2019*
Invited Speaker: Princeton University Department of Molecular Biology Symposium: "Launching Your Career" *2017*
Invited Speaker: Haverford College, Panel on "Teaching with Technology: Mobile Devices and Tablets in the Classroom" *2017*
Co-organizer: Mid-Atlantic Regional Zebrafish Meeting, Philadelphia PA *2016*
Volunteer: Cornell Alumni Admissions Ambassador Network *2012-2016*
Science & Life Storyteller: First Person Arts *2013*
Invited Speaker: Scholars in Schools *2004*

PUBLICATIONS

(Haverford College student author; *Undergraduate or postbaccalaureate student author)

(1) Zúñiga Mouret R ('20)‡, Greenbaum J ('20) ‡, Doll HM ('21) ‡, Brody E ('21), Iacobucci E ('21), Roland NC ('21), Simamora R ('22), Ruiz I ('23), Seymour R ('20), Ludwick L ('20), Groneberg AH, Marques JC, Laborde A, Rajan G, Del Bene F, Orger MB, **Jain RA**. The Adaptor Protein 2 (AP2) complex acutely modulates behavioral selection across multiple pathways and time windows. *Under Review, preprint available at: bioRxiv 2022.05.20.492863; doi: https://doi.org/10.1101/2022.05.20.492863*

(2) Shoenhard H, **Jain RA**, Granato M. The Calcium-Sensing Receptor (CaSR) regulates zebrafish sensorimotor decision making via a genetically defined cluster of hindbrain neurons. *In Press, Cell Reports, **September 2022.***

(3) Meserve JH, Nelson JC, Marsden KC, Hsu J*, Echeverry F, **Jain RA**, Wolman MA, Pereda AE, Granato M. A forward genetic screen identifies Dolk as a regulator of startle magnitude through the potassium channel subunit Kv1.1. *PLoS Genetics. **2021**, 17(6):e1008943.*

(4) **Jain RA**, Wolman MA, Marsden KC, Nelson JC, Shoenhard H, Echeverry FA, Szi C ('18), Bell H*, Skinner J*, Cobbs EN ('17), Sawada K ('17), Zamora A ('18), Pereda AE, Granato M. A forward genetic screen in zebrafish identifies the G-protein coupled receptor *CaSR* as a modulator of sensorimotor decision-making. *Current Biology*. ***2018**, 28:1357-69.*

(5) Marsden KC, **Jain RA**, Wolman MA, Echeverry F, Nelson JC, Hayer KE, Miltenberg B ('17), Pereda AE, Granato M. A Cyfip2-dependent excitatory interneuron pathway establishes the innate startle threshold. *Cell Reports*. ***2018**, 23:878-87**.***

(6) Hoffman EJ, Turner KJ, Fernandez JM, Cifuentes D, Ghosh M, Ijaz S, **Jain RA**, Kubo F, Bill BR, Baier H, Granato M, Barresi MJF, Wilson SW, Rihel J, State MW, Giraldez AJ. Estrogens Suppress a Behavioral Phenotype in Zebrafish Mutants of the Autism Risk Gene, *CNTNAP2*. *Neuron. **2016**, 89(4):725-33.*
Highlighted in Biran & Levkowitz (2016) "Zebrafish Reel in Phenotypic Suppressors of Autism." *Neuron. **2016,** 89(4):673-5.*

(7) Wolman MA, **Jain RA**, Marsden K, Bell H*, Skinner J*, Hayer K*, Hogenesch J, Granato M. A genome wide screen identifies PAPP-AA-mediated IGFR signaling as a novel regulator of habituation learning. *Neuron.* ***2015*** *85(6):1200-11*.

Highlighted in Ardiel & Rankin (2015) "Casting a Genome-wide Net for Learning Mutants." *Neuron.* ***2015****, 85(6):1147-8*.

(8) **Jain RA**, Bell H*, Lim A, Chien CB, Granato M. Mirror movement-like defects in startle behavior of zebrafish *dcc* mutants are caused by aberrant midline guidance of identified descending hindbrain neurons. *J Neuroscience.* ***2014****, 34(8):2898-909.*

(9) Lakhina V, Marcaccio C, Shao X, Lush M, **Jain RA**, Fujimoto E, Bonkowsky J, Granato M, Raper J. Netrin/DCC signaling guides olfactory sensory axons to their correct location in the olfactory bulb. *J Neuroscience.* ***2012****, 32(13):4440-56.*

(10) **Jain RA**, Wolman MA, Schmidt LA*, Burgess HA, Granato M. Molecular-genetic mapping of zebrafish mutants with variable phenotypic penetrance. *PLoS One.* ***2011****, 6(10):e26510.*

(11) Wolman MA, **Jain RA**, Liss LE*, Granato M. Chemical modulation of memory formation in larval zebrafish. *PNAS.* ***2011****, 108(37):15468-73.*

(12) Sinsimer K, **Jain RA**, Chatterjee S, Gavis ER. A late phase of germ plasm accumulation during *Drosophila* oogenesis requires Lost and Rumpelstiltskin. *Development.* ***2011****, 138(16):3431-40.*

(13) **Jain RA**, Gavis ER. The *Drosophila* hnRNP M homolog, Rumpelstiltskin, regulates *nanos* mRNA localization. *Development.* ***2008****, 135(5):973-982.*

(14) Forrest KM, Clark IE, **Jain RA**, Gavis ER. Temporal complexity within a translational control element in the *nanos* mRNA. *Development.* ***2004****, 131:5849-57.*

(15) **Jain R**, Shapleigh JP. Characterization of *nirV* and a gene encoding a novel pseudoazurin in *Rhodobacter sphaeroides* 2.4.3. *Microbiology.* ***2001****, 147, 2505-2515.*

MANUSCRIPTS IN PREPARATION

(Haverford College student author)

(1) Roland NC ('21), Iacobucci E ('21), Brown T ('21), Arango A ('21), Axinn A ('21), Boden R ('21), Castiblanco E ('21), Chase D ('21), Culkin M ('21), Doll HM ('21), Giovenco R ('21), Kastner M ('21), Keefer-Jacques E ('21), Kim C ('21), Kwon Y ('21), LaBarca M ('21), Lyons M ('21), Maitin A ('21), Mass B ('21), Melby Jr G ('21), Miller E ('22), Mohsenin Z ('21), Namboodiri D ('21), Nguyen SL ('21), Othman L ('21), Pabilonia M ('22), Pascarella J ('21), Petrichenko A ('22), Rong Y ('20), Sabitsky M ('21), Sholes R ('21), Vidwans N ('21), Wijeyesekera C ('21), Williams C ('21), Yang H ('21), Carrigan MA, Becker JW, **Jain RA**. Serotonin acutely regulates acoustic behavior selection in zebrafish through diverse HTR2 subtype receptors. *For submission to Genes Brain & Behavior,* ***Fall 2022****.*

(2) Simamora RC ('22), Herzig LD ('23), **Jain RA**. Acoustic prepulse inhibition is modulated by the Adaptor Protein Complex 2 (AP2). *For submission to Genes Brain & Behavior,* ***Fall 2022****.*

INVITED ORAL PRESENTATIONS

(1) International Behavioural and Neural Genetics Society Seminar Series, March 2021.
(2) St. Joseph's University, Department of Biology Seminar Series, October 2021, Philadelphia PA.
(3) Drexel University, Department of Biology Seminar Series, May 2021, Philadelphia PA.
(4) New Jersey Institute of Technology, Department of Biological Sciences Seminar Series, May 2021, Newark NJ.
(5) West Chester University, Department of Biology Seminar Series, November 2020, West Chester PA.
(6) 4th International CaSR Symposium, May 2020, San Francisco, CA. *[Cancelled due to COVID19]*
(7) Villanova University Dept of Psychological and Brain Sciences Colloquium, November 2019, Villanova PA.
(8) Neuroscience 2019, "Getting Creative with Course-Based Research Experiences" Workshop Speaker, October 2019, Chicago IL.
(9) 21st Annual Genes, Brain, & Behavior Meeting, Platform Session, May 2019. Edinburgh, UK.
(10) Champalimaud Center for the Unknown, Vision to Action Group Meeting, April 2019. Lisbon, Portugal.
(11) 8th Strategic Conference of Zebrafish Investigators, Neural Circuits and Behavior Platform Session, January 2019. Pacific Grove CA.
(12) North Carolina State University, W. M. Keck Center for Behavioral Biology Seminar Series, January 2019. Raleigh, NC.
(13) Ecole des Neurosciences Paris Île-de-France Seminar Series, Centre Universitaire des Saints-Pères, December 2018. Paris, France
(14) 5th Paris NeuroZebrafish Meeting, Muséum National Histoire Naturelle, Sorbonne Universités, November 2018. Paris, France.
(15) Institut Curie Genetics & Developmental Biology Unit, Research Presentation, September 2018. Paris, France.

(16) National Institutes of Health International Workshop on Zebrafish Neural Circuits and Behavior, Platform Session, 2017. Bethesda, MD.
(17) Howard Hughes Medical Institution, Janelia Farms Conference: Action Selection in the Animal Kingdom, Platform Session, 2016. Ashburn, VA.
(18) The Allied Genetics Conference: International Zebrafish Meeting, Platform Session, 2016. Orlando, FL.
(19) University of Pennsylvania Zebrafish Meeting Research Presentation, 2016. Philadelphia, PA.
(20) Villanova University Department of Biology Symposium, 2016. Villanova, PA.
(21) Summer Mid-Atlantic Regional Zebrafish Meeting, Platform Session, 2015. New York City, NY.
(22) Princeton University Developmental Biology Symposium, 2014. Princeton, NJ.
(23) Cold Spring Harbor Laboratory Meeting: Axon Guidance, Synapse Formation and Regeneration, Platform Session, 2012. Cold Spring Harbor, NY.
(24) Mid-Atlantic Regional Zebrafish Meeting, Platform Session, 2011. Baltimore, MD.
(25) Gordon Research Conference: Genes & Behavior, "Data Blitz" Presentation, 2010. Ventura, CA.
(26) 48th Annual Drosophila Research Conference, Platform Session, 2007. Philadelphia, PA.
(27) 47th Annual Drosophila Research Conference, RNA Biology Workshop, 2006. Houston, TX.

SELECTED CONFERENCE POSTER PRESENTATIONS

(Underline: Haverford College student, §: High School Student)

(1) Dvorak J ('23), Ray I ('23), Curran M ('24), Osbaldeston R ('24), Villafañe K ('24), **Jain RA**. "The serotonin type 2 receptors modulate acoustically-evoked escape behavior selection in zebrafish." *Society for Neuroscience Conference,* November 2022, San Diego, CA.
(2) Velamuri S §, **Jain RA**. "Water bath heat shock effectively induces *ap2s1-gfp* gene expression in larval zebrafish." *Koshland Integrated Natural Science Center Summer Research Symposium*, September 2022, Haverford, PA.
(3) Osbaldeston R ('24), Villafañe K ('24), Curran M ('24), Dvorak J ('23), Ray I ('23), **Jain RA**. "Effects of CRISPR-Directed Mutagenesis of 5-HT Type 2 Receptors on Acoustic Behavior Selection." *Fall Mid-Atlantic Zebrafish Meeting*, Sept 2022, Philadelphia, PA.
(4) Dvorak J ('23), Ray I ('23), Osbaldeston R ('24), Villafañe K ('24), Curran M ('24), **Jain RA**. "Pharmacological manipulation of 5-HT Type 2 Receptors alters acoustic behavior selection." *Fall Mid-Atlantic Zebrafish Meeting*, Sept 2022, Philadelphia, PA.
(5) Doll H ('21), Greenbaum J ('20), Zúñiga Mouret R ('20), Brody E ('21), Iacobucci E ('21), Simamora R ('22), Roland N ('21), Marques J, Laborde A, Orger M, **Jain RA**. "The Adaptor Protein 2 (AP2) complex modulates habituation and behavioral selection across multiple pathways and time windows." *17th International Zebrafish Conference*, June 2022. Montréal, Canada.
(6) Cywes C ('23), Dvorak J ('23), Kinne L ('23), Smith S ('23), Wood A ('23), Zhang K ('23), Im SH, **Jain RA**. "Superlab NeuroArt, Featuring the Zebrafish Retina." *Tri-College Neuroscience Retreat*, May 2022, Haverford PA.
(7) Simamora RC ('22), Herzig LD ('23), **Jain RA**. "Modulation of acoustic prepulse inhibition by the Adaptor Protein Complex-2 (AP-2)." *2nd Annual Neuroscience Undergraduate Research Virtual Symposium (NURVS II)*, April 2022.
    - Selected for an oral presentation by Roy Simamora ('22)
(8) Doll H ('21), Laborde A, Orger M, **Jain RA**. "*ap2s1* is Required for Modulation of Visually Guided Behavior in Zebrafish Larvae." *Society for Neuroscience Global Connectome*, Jan 2021.
(9) Ruiz I ('23), **Jain RA**. "The *AP2S1* gene regulates hunting behavior in zebrafish." *Annual Biomedical Research Conference for Minority Students (ABRCMS)*, Nov 2020.
    - Winner, Poster Presentation Award in Neuroscience
(10) Iacobucci E ('21), Roland NC ('21), **Jain RA**. "Serotonergic Receptor Antagonists Alter Decision-Making Bias in Zebrafish." *Annual Biomedical Research Conference for Minority Students (ABRCMS)*, Nov 2020.
(11) Roland NC ('21), Iacobucci E ('21), Haverford BIOL301 Spring 2020 Students, **Jain RA**. *Neuroscience Undergraduate Research Virtual Symposium (NURVS)*, Sept 2020.
(12) Zúñiga Mouret R ('20), Greenbaum J ('20), Roland NC ('21), **Jain RA**. *Philadelphia Chapter of the Society for Neuroscience Summer Virtual Meeting*, July 2020.
    - Winner, Best Technician/Post-baccalaureate Poster Presentation
(13) Doll H ('21), **Jain RA**. *Philadelphia Chapter of the Society for Neuroscience Summer Virtual Meeting*, July 2020.
    - Winner, Best Undergraduate Poster Presentation
(14) Roland NC ('21), Iacobucci E ('21), **Jain RA**. *Philadelphia Chapter of the Society for Neuroscience Summer Virtual Meeting*, July 2020.
(15) Peet GC ('19), Reasor T ('19), **Jain RA**. "The Role of *ap2s1* in the Modulation of Habituation Learning." *Spring Mid-Atlantic Zebrafish Meeting*, Apr 2019. Baltimore, MD.

- Poster was also selected for an oral presentation by Graham Peet ('19)

(16) Schultz A ('20), Zúñiga Mouret R ('20), **Jain RA**. "Investigating regulation of habituation by *ap2s1* in zebrafish." *Winter Mid-Atlantic Zebrafish Meeting*, Dec 2018. Philadelphia, PA.
(17) Zúñiga Mouret R ('20), Schultz A ('20), **Jain RA**. "Uncovering the genes behind basic learning." *Winter Mid-Atlantic Zebrafish Meeting*, Dec 2018. Philadelphia, PA.
(18) Peet GC ('19), **Jain RA**. *Winter Mid-Atlantic Zebrafish Meeting*, Dec 2018. Philadelphia, PA.
(19) **Jain RA,** Wolman MA, Marsden KC, Szi C ('18), Peet GC ('19), Rajan G, Del Bene F, Granato M. "The Calcium Sensing GPCR CaSR modulates larval sensorimotor decision-making." *The 5th Conference on Imaging Structure & Function of the Zebrafish Brain*, 2018. Brighton, United Kingdom.
(20) Zúñiga Mouret R ('20), Schultz A ('20), **Jain RA**. "Uncovering the genes behind basic learning." *SACNAS 2018: The National Diversity in STEM Conference,* 2018. San Antonio, TX.
(21) Szi C ('18), Zamora AD ('18), Marsden, KC, **Jain RA.** "*ignorance is bliss:* Decoding the genetic control of learning." *13th International Zebrafish Conference*, 2018. Madison, WI.
(22) Meserve J, **Jain RA**, Marsden K, Nelson J, Wolman M, Granato M. "Model behavior in zebrafish: characterization of the startle response." *13th International Zebrafish Conference*, 2018. Madison, WI.
(23) Ortiz E, Miltenberg B ('17)**,** Nelson J, **Jain RA**, Marsden K, Granato M. "Molecular-genetic mechanisms underlying establishment of the acoustic startle threshold." *13th International Zebrafish Conference*, 2018. Madison, WI.
(24) Szi C ('18), Zamora AD ('18), **Jain RA.** "*ignorance is bliss:* Decoding the genetic control of learning." *Spring Mid-Atlantic Zebrafish Meeting*, 2018. Hershey, PA.
- Poster was selected for a "Lightning Talk" oral presentation by Christina Szi ('18)

(25) Ortiz E, Miltenberg B ('17), Nelson JC, **Jain RA**, Marsden KC, Granato M. "Molecular-genetic mechanisms underlying establishment of the acoustic startle threshold." *Neuronal Circuits Meeting*, 2018. Cold Spring Harbor Labs, NY
(26) Szi C ('18), King R ('18), Reasor T ('19), **Jain RA.** "*ignorance is bliss*: Decoding the genetic control of learning." *Fall Mid-Atlantic Zebrafish Meeting,* 2017. New York, NY.
(27) Ordiway GB ('16), **Jain RA.** "Evaluating Zebrafish Pitch Perception via Acoustic Startle Response." *The Allied Genetics Conference*: *International Zebrafish Meeting,* 2016. Orlando, FL.
(28) Albagli K ('16), **Jain RA.** "Genetic and Structural Characterization of Novel Decision-Making Genes in Zebrafish." *Spring Mid-Atlantic Zebrafish Meeting,* 2016. Philadelphia, PA.
(29) Lopes L ('16), **Jain RA.** "Investigating the Role of the Stress Response in Decision-Making Using Larval Zebrafish." *Spring Mid-Atlantic Zebrafish Meeting,* 2016. Philadelphia, PA.
(30) **Jain RA**, Wolman MA, Marsden K, Bell H, Hayer K, Hogenesch J, Granato M. "Genetics and pharmacogenetics of simple vertebrate decision-making." *44th Annual Society for Neuroscience Conference,* 2014. Washington, DC.
(31) **Jain RA**, Wolman MA, Marsden K, Bell H, Hayer K, Hogenesch J, Granato M. "Genetics and pharmacogenetics of reflexive decision-making." *11th International Zebrafish Development and Genetics Conference,* 2014. Madison, WI.
(32) **Jain RA**, Wolman MA, Marsden K, Bell H, Granato M. "Forward genetic dissection of acoustic startle behavioral performance and plasticity." *10th International Zebrafish Development and Genetics Conference,* 2012. Madison, WI.
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(34) **Jain RA**, Granato M. "The Deleted in Colorectal Cancer (DCC) guidance receptor coordinates fast turning behaviors." *Axon Guidance, Synapse Formation and Regeneration Meeting,* 2010. Cold Spring Harbor Labs, NY.
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(37) **Jain RA**, Gavis ER. "Regulation of *nanos* mRNA by *Drosophila* hnRNP M." *48th Annual Drosophila Research Conference,* 2007. Philadelphia, PA.

PROFESSIONAL AFFILIATIONS

Faculty of Undergraduate Neuroscience (FUN)
Genetics Society of America (GSA)
International Behavioural and Neural Genetics Society (IBANGS)
International Zebrafish Society (IZFS)
Society for Neuroscience (SfN)