JAGAN SRINIVASAN, Ph.D.
Associate Professor in Biology and Biotechnology
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I. CONTACT INFORMATION

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II. BACKGROUND

IIA. EDUCATION

2003	Ph.D., Genetics, Max Planck Institute for Developmental Biology, Germany
1995	M.S., Marine Biotechnology, Goa University, India
1993	B.S., Biological Sciences (Zoology), University of Chennai, India

IIB. PROFESSIONAL EXPERIENCE

June 2019 onwards	Director, M.S. Program in Neuroscience, Worcester Polytechnic Institute, Worcester MA
July 2018 onwards	Associate Professor with tenure, Department of Biology and Biotechnology, Worcester Polytechnic Institute, Worcester MA
Aug 2015 onwards	Affiliate faculty, Bioinformatics and Computational Biology, Program, Worcester Polytechnic Institute, Worcester MA
Apr 2014 - onwards	Visiting Scholar, Department of Physics, Harvard University, Cambridge MA
Aug 2012 - Jun 2018	Assistant Professor, Department of Biology and Biotechnology, Worcester Polytechnic Institute, Worcester MA
May 2010 - July 2012	Senior Research Fellow, Division of Biology, California Institute of Technology, Pasadena CA
Jan 2004 - Apr 2010	Howard Hughes Medical Institute Research Associate, Division of Biology, California Institute of Technology, Pasadena CA
Feb 1999 - Aug 2003	Graduate Student, Department of Evolutionary Biology, Max Planck Institute for Developmental Biology, Tuebingen, Germany

Oct 1997 - Jan 1999	Graduate Student, Department of Neurobiology, Max Planck Institute for Developmental Biology, Tuebingen, Germany
May 1995 - Sept 1997	Research Assistant, Dept. of Biotechnology, University of Pune, India

IIC. TEACHING EXPERIENCE

COURSES TAUGHT AT WPI

Undergraduate Courses (*Course Number and Title*)	**Academic Year**	**Term**	**# Students**	***Q2***	***Q9***
BB4010 Advanced Molecular Genetics	2015-16	A-term	39	4.30	4.10
	2014-15	A-term	20	4.00	3.90
	2013-14	A-term	31	4.39	4.09
BB4900 Capstone Experience in Systems Biology	2016-17	A-term	7	4.71	4.86
BB3080 Neurobiology	2019-20	B-term	34	4.6	4.9
	2017-18	B-term	27	3.76	4.63
	2016-17	B-term	34	4.29	4.03
	2015-16	B-term	33	4.33	4.13
	2014-15	B-term	42	3.79	4.00
BB2050 Animal Behavior	2020-21	A-term	51	4.9	4.8
	2019-20	A-term	37	4.7	4.8
	2018-19	A-term	38	4.6	4.7
Guest Lecturer in the following courses • *BB1001: Introduction to Biology (C-Term, AY 2013-14)* • *BB2050: Animal Behavior (D-Term, AY 2013-14, 2014-15, 2015-16)* • *HI1331: Introduction to the History of Science (B-Term, AY2013-14)*					

Graduate Courses *(Course Number and Title)*	**Academic Year**	**Term**	**# Students**	***Q2***	***Q9***
NEU501	2020-21	Fall	10	4.9	4.8
BB501 *Graduate Seminar Series*	2014-15	Fall	16	4.20	3.92
	2013-14	Fall	9	3.70	4.10
	2012-13	Fall	7	4.86	4.43
BB561 *Model Systems: Experimental approaches & applications*	2017-18	Fall	7	4	4
	2014-15	Fall	12	4.67	4.25
	2012-13	Fall	12	NA	NA
BB554 *Journal Club*	2013-14	Spring	6	4.44	4.11

Q2: My overall rating of the instructor's teaching is (out of 5)
Q9: The instructor's personal interest in helping students learn was (out of 5)

OTHER TEACHING EXPERIENCE

2013	HHMI/NAS Northeast Summer Institute of Scientific Teaching
2004 - 2012	Science Mentor at California Institute of Technology
2002 - 2004	Teaching Assistant, Neurobiology Graduate Program, University of Tuebingen,
2000 - 2001	Course Instructor, Developmental Biology, EMBO, Germany
1996 - 1997	Research Assistant, Department of Biotechnology, University of Pune

IID. UNDERGRADUATE PROJECTS (MQPS, IQPS, SUFFICIENCY PROJECTS) ADVISED AND CO-ADVISED AT WPI

MAJOR QUALIFYING PROJECTS (MQPS), 26 UNDERGRADUATE STUDENTS SUPERVISED

AY21-22

- **Jordan Wynn,** Chemistry and Biochemistry, *"The Effects of Monoamine Oxidase Inhibitors (Selegiline and Phenelzine) on the Egg Laying Behavior and Lipid Composition of Caenorhabditis elegans"*
- **Sarah Tarantino,** Biology and Biotechnology, "*Gut microbiome modifications ameliorate chemosensory deficiencies in C. elegans models of Alzheimer's Disease*"
- **Allison Hershoff and Benjamin Lunden,** Biology and Biotechnology, Physics, *"Structure of neuropeptides in relation to cell entering mechanism"*

AY20-21

- **Kathryn Nippert, Emily Stead, Luigi Apollon**, Chemistry and Biochemistry, Biology and Biotechnology, Psychology, *"Selegiline: The Effects of Monoamine Oxidase Inhibitors on the Behavior and Physiology of Caenorhabditis elegans"*
- **Ketaki Mahurkar,** Chemistry and Biochemistry, Biology and Biotechnology, "*Profiling Membrane Lipids in C. elegans Models of Parkinson's Disease"*

AY19-20

- **Emily Flavin**, Biology and Biotechnology, "*Role of SSRI's in multisensory integration in C. elegans"*
- **Annalise Noelle Robidoux**, Biology and Biotechnology, Chemistry and Biochemistry, *"Epigenetics and social behaviors in C. elegans"*
- **Devin Cunningham,** Biology and Biotechnology, Co-advisor: Prof. Michael Buckholt **"***Nematode diversity near chemical plants in Central Massachusetts*"

AY18-19

- **Bailey Sweet and Michael Savoie,** Biology and Biotechnology, "*Role of beta endorphins in C. elegans"*
- **Jane Lockery**, Biology and Biotechnology*, "Evolution of G protein-coupled receptor signaling in pheromone sensation"*

AY17-18

- **Emily Jean McGlame, Isabella Garver,** Biology and Biotechnology, "*Epigenetic memory in C. elegans"*
- **Timothy Consedine, Lily Randle, and Nathan McNeil,** Chemistry and Biochemistry, Biology and Biotechnology, Co-advisor: Prof. Carissa Olsen, "*Is Alzheimer's Disease a metabolic disease?*"
- **Shannon Becker**, Chemistry and Biochemistry, "*The role of microglia*"

AY16-17

- **Rachael Danielle Heard**, Biology and Biotechnology, co-advisor: Prof. Mary Munson, UMASSMED*. "Using the Auxin-Induced Degradation System to Dissect Factors Within the Exocyst That Localize the Complexes to Sites of Polarized Growth and Secretion*"
- **Aidan Burn, Marissa Patterson, Rebecca Burns**, Biology and Biotechnology, Co-advisor: Jeanine Skorinko. "*Gender-based differences in ALS and Parkinson's disease expression in C. elegans"*
- **Jaden Yabut**, Biology and Biotechnology, "*Identifying the bacterial metabolite necessary for attenuating avoidance behavior in C. elegans"*
- **Zahra Khazal,** Chemistry and Biochemistry, Co-advisor: Prof. Sean Ryder, UMASSMED**,** "*Post Transcriptional Regulation of Maternal mRNAs in the C. elegans Germline and Early Embryogenesis*"
- **Megan Andresano,** Chemistry and Biochemistry, Co-advisor: Prof. Carissa Olsen, "*The Role of Serotonin in the Avoidance Attenuation Pathway of C. elegans*"

AY15-16

- **Victoria Botelho,** Biology and Biotechnology, Co-advisor-Prof. Daryl Bosco, UMASSMED, *"Analyzing the dysfunction of profilin1 in ALS"*
- **Veronica Coyle, Florentia Nicole Ong and Veroniki Nikolaki,** Biology and Biotechnology, "*Effects of punicalagin and Tannic acid on a C. elegans model for Alzheimer's Disease*"

AY14-15

- **Alexander Turland,** Biology and Biotechnology, "*Role of nutrition in regulating aversive behaviors"*

AY13-14

- **Bethany Burke,** Chemistry and Biochemistry, Co-advisor: Prof. Destin Heilman "*Role of nutritional status in innate social behaviors in C. elegans*"
- **Laura D. Aurilio,** Biology and Biotechnology, Co-advisor: Prof. Michael Buckholt "*Nematode diversity in Central Massachusetts*"

IIE. GRADUATE THESES AND DISSERTATIONS ADVISED AT WPI

PHD THESIS ADVISEES (2 PHDS AWARDED

- Elizabeth Diloreto, Biology and Biotechnology, (*Aug 2020 onwards*)
- Caroline Muirhead, Biology and Biotechnology, (*Jan 2020 onwards*)
- Douglas K. Reilly PhD March 2020, Thesis title "*Neuromodulation of sex-specific pheromone-mediated behaviors*"
- Chris D. Chute PhD October 2018, Thesis title *"Decoding Neural Circuits Modulating Behavioral Responses to Aversive Social Cues"*

ROTATIONS

- Samantha Bryce, Biology and Biotechnology (*Aug 2018 - Jan 2019*)
- Sabine Hahn, Biology and Biotechnology (*Aug 2018 - Jan 2019)*
- Ashley Elizabeth Lutz, Bioinformatics and Computational Biology (*Aug 2017 - Dec 2017*)
- Tianbi Zhang, Biology and Biotechnology (*Aug 2017 - Dec 2017)*
- Scott Doherty, Biology and Biotechnology (*Aug 2013 - Jan 2014*)

THESIS COMMITTEE MEMBER

- Greg Reilly, (PhD), October 2019 onwards, *Advisor: Prof. Doug Portman, University of Rochester*
- Jeremy Tyler Florman, (PhD), awarded October 2020, UMASSMED, *Advisor, Mark Alkema*
- Daniel Lawler, (PhD) Biomedical Engineering, awarded in October 2019, *Advisor: Prof. Dirk Albrecht*
- Andre Viera, (PhD) Chemistry and Biochemistry, *Advisor: Prof. Carissa Olsen*
- Katherine Pearce, (Ph.D.) Chemistry and Biochemistry, *Advisor: Prof. Suzanne Scarlata*
- Spencer Sai Git Wong, (Ph.D.) Biology, awarded 2019, MIT, *Advisor: Prof. Daniel Kim*
- Jeffrey Bibeau, (Ph.D.) awarded 2017, Biology and Biotechnology, *Advisor: Prof. Luis Vidali*
- Christopher Clark, (Ph.D.) awarded 2015, UMASSMED, *P.I. Prof. Mark Alkema*

MASTER'S THESIS COMMITTEE MEMBER

- Solimar Reyes, (MS) awarded in 2022, Biology and Biotechnology, *Advisor: Prof. Natalie Farny*
- Catherine Harwood, (MS) awarded in 2015, Biology and Biotechnology, *Advisor*: *Prof*. *Reeta P. Rao*
- Erin Flaherty, (MS) awarded in 2014, Biology and Biotechnology, *Advisor: Prof. Elizabeth Ryder*

IIF. INDEPENDENT STUDY PROJECT

- **2022**, **Lilly-beth Linnell**, "*C. elegans* behavior under different stress conditions"
- **2020, Sarah Tarantino, (STARS Fellowship)**, "Role of gender in worm model of Alzheimer's Disease"
- **2019, Annalise Noelle Robidoux, (STARS Fellowship),** "Epigenetics and social behaviors in *C. elegans*"
- **2018, Annalise Noelle Robidoux**, **(LePre Summer Fellowship)**, "Epigenetics in *C. elegans*"
- **2018**, **Swarnadeep Mazumdar**, Physics, "*Automated worm tracking setup*"
- **2017, Lily J Randle**, **(SURF fellow),** Biology and Biotechnology, Chemistry and Biochemistry, "*Evolution of chemoreceptors involved in sex-specific attraction*"
- **2017, Emily McGlame**, Biology and Biotechnology, "*Single Worm Attraction Assay*"
- **2016, Florentia Nicole Ong, (SURF Fellow)**, "Sex-specific attraction in *C. elegans*"
- **2014, John Stephen Synott,** Biology and Biotechnology, *Co-advisors: Prof. Jill Rulfs, Michael Buckholt, "Development of the nematode citizen science website"*

III. SCHOLARSHIP

IIIA. PUBLICATIONS

Work done by my WPI students underlined, **ϕ** indicates corresponding authors, * indicates co-first authors. Citation statistics from Google Scholar, Citation numbers and Journal Impact Factors.

PUBLICATIONS SINCE JOINING WPI

1) McLachlan IG, Talya S. Kramer TS, Dua M, DiLoreto EM, Dag U, **Srinivasan J**, Flavell SW Diverse states and stimuli tune olfactory receptor expression levels to modulate food-seeking behavior **(2022)**, *eLife***11**:e79557.
2) Reilly, DK, Schwarz, EM, Muirhead, CS, Robidoux, AN, Antoshechkin, I, Narayan, A, Doma, MK, Sternberg, PW, **Srinivasan, J, (2021),** Transcriptomic profiling of sex-specific olfactory neurons reveals subset-specific receptor expression bioRxiv 2021.10.26.46592, https://doi.org/10.1101/2021.10.26.465928.
3) DiLoreto EM, Reilly DK, **Srinivasan J**, **(2021)**, Non-transgenic functional rescue of Neuropeptides bioRxiv 2021.05.10.443513, doi: https://doi.org/10.1101/2021.05.10.443513.
4) Reilly DK, McGlame EJ, Vandewyer E, Robidoux AN, Northcott HT, Edgley M, Joyce W, Moerman D, Alkema MJ, Gegear R, Beets I, **Srinivasan J** (**2021**)**,** Distinct neuropeptide-receptor modules regulate a sex-specific behavioral response to a pheromone *Communications Biology*; doi:10.1101/2020.12.09.417857.
5) Pearce KM, Bell M, Linthicum WH, Wen Q, **Srinivasan J**, Rangamani P, & Scarlata S. **(2019)**. Gαq-mediated calcium dynamics and membrane tension modulate neurite plasticity. *Molecular Biology of the Cell*, doi:10.1091/mbc.E19-09-0536.
6) Zhang YK*, Reilly DK*, **Srinivasan J ϕ**, Schroeder FC**ϕ (2019),** Photoaffinity probes for nematode pheromone receptor identification, *Journal of Organic and Biomolecular Chemistry***,** doi: 10.1039/c9ob02099c.

7) Reilly DK*, Randle LJ*, **Srinivasan J ϕ (2019)**, Evolution of Hermaphroditism Decreases Efficacy of Ascaroside#8-Mediated Mate Attraction in *Caenorhabditis* Nematodes. *microPublication Biology*. doi: 10.17912/micropub.biology.000134.
8) Chute CD, DiLoreto EM, Zhang YK, Reilly DK, Rayes D, Coyle VL, Choi HJ, Alkema MJ, Schroeder FC, **Srinivasan J ϕ (2019)**, Co-option of neurotransmitter signaling for inter-organismal communication in *C. elegans*. *Nature Communications*. doi: 10.1038/s41467-019-11240-7.
9) Lee JB, Yonar A, Kocabas A, Hallacy T, Shen, CH Milloz, J, **Srinivasan J,** Ramanathan S **ϕ (2019)**, A compressed sensing framework for efficient dissection of neural circuits *Nature Methods*. doi: 10.1038/s41592-018-0233-6.
10) Dong C, Reilly DK, Bergame C, Dolke F, **Srinivasan J,** von Reuss S **ϕ (2018)**, Comparative Ascaroside Profiling of *Caenorhabditis* Exometabolomes Reveals Species-Specific (ω) and (ω – 2)-Hydroxylation Downstream of Peroxisomal β-Oxidation. *The Journal of Organic Chemistry*, doi: 10.1021/acs.joc.8b00094.
11) Liu Z*, Kariya MJ*, Chute CD*, Pribadi AK, Leinwand SG, Tong A, Pribadi AK, Curran KP, Bose N, Schroeder FC, **Srinivasan J,** Chalasani SH **ϕ (2018),** Predator-secreted sulfolipids induce defensive responses in *C. elegans*. *Nature Communications.* doi: 10.1038/s41467-018-03333-6.
12) Reilly DK, Lawler D, Albrecht DR **ϕ, Srinivasan J ϕ (2017)**, Using an Adapted Microfluidic Olfactory Chip for the Imaging of Neuronal Activity in Male *C. elegans* Amphid Neurons. **Journal of Visualized Experiments. doi: 10.3791/56026**.
13) Zhang YK, Sanchez-Ayala MA, Sternberg PW, **Srinivasan J**, Schroeder FC **ϕ (2017)**, Improved synthesis for modular ascarosides uncovers biological activity. **Organic Letters doi: 10.1021/acs.orglett.7b01009**.
14) Narayan, A, Venkatachalam, V, Durak, O, Reilly, DK, Bose, N, Schroeder FC, Samuel, ADT, **Srinivasan J ϕ**, Sternberg PW **ϕ (2016)**, Contrasting responses within a single neuron class enable sex-specific attraction in Caenorhabditis elegans. **PNAS Plus. doi: 10.1073/pnas.1600786113**.
15) Venkatachalam V, Ji N, Wang X, Mitchell J, Klein M, Tabone CJ, Clark CM, Greenwood JSF, Chisholm A, **Srinivasan J**, Alkema MJ, Zhen M, Samuel ADT **ϕ (2016)**, Pan-neuronal imaging in roaming *Caenorhabditis elegans*. **PNAS. doi: 10.1073/pnas.1507109113**.
16) Leinwand SG, Yang CJ, Bazopoulou D., **Srinivasan J**, Chronis N, Chalasani SH **ϕ (2015)**, Circuit mechanisms encoding odors and driving aging-associated behavioral declines in *Caenorhabditis elegans*. **eLife. doi: 10.7554/eLife.10181**.
17) Elewa A, Shirayama M, Kaymak E, Harrison PF, Powell DR, Du Z, **Chute CD**, Woolf H, Yi D, Ishidate T, **Srinivasan J**, Bao Z, Beilharz TH, Ryder SP, Mello CC **ϕ (2015)**, POS-1 promotes endo-mesoderm development by inhibiting the cytoplasmic polyadenylation of *neg-1* mRNA. **Developmental Cell. doi: 10.1016/j.devcel.2015.05.024**.
18) Artyukhin AB, Yim JJ, **Srinivasan J**, Izrayelit Y, Bose N, von Reuss SH, Jo Y, Jordan JM, Baugh LR, Cheong M, Sternberg PW, Avery L, Schroeder FC **ϕ (2013)**, Succinylated octopamine ascarosides and a new pathway of biogenic amine metabolism in *Caenorhabditis elegans*. **Journal of Biological Chemistry. doi: 0.1074/jbc.C113.477000**.
19) Rakowskia F, **Srinivasan J**, Sternberg PW, Karbowski J **ϕ (2013)** Synaptic polarity of the interneuron circuit controlling *C. elegans* locomotion**. Frontiers in Computational Neuroscience. doi: 10.3389/fncom.2013.00128**.
20) ***Srinivasan J**, *Dillman AR, Mortazavi A, Fracchia, KM, Heikkinen, L, Lakso, M, Antoshechkin I, Wong, G, Sternberg PW **ϕ (2012)**, The genome and transcriptome of *Panagrellus redivivus* is shaped by the harsh demands of a free-living lifestyle. **Genetics. doi: 10.1534/genetics.112.148809**.

PUBLICATIONS BEFORE JOINING WPI

1) Izrayelit Y, **Srinivasan J**, Campbell SL, Jo Y, von Reuss SH, Genoff MC, Sternberg PW, Schroeder FC $^{\Phi}$ **(2012),** Targeted metabolomics reveals a male pheromone and sex-specific ascaroside biosynthesis in *C. elegans* **(ACS Chemical Biology, 7(8),1321-25)**.
2) Kroetz, SM, **Srinivasan J**, Yaghoobian J, Sternberg PW, Hong R.L.$^{\Phi}$ **(2012)**, cGMP Signaling and Food Quality Affect Feeding Behavior in the necromenic nematode *Pristionchus pacificus* **(PLoS One, 7,4, e34464**.
3) von Reuss, SH, Bose, N., **Srinivasan, J**., Yim, JJ., Judkins, JC., Sternberg, PW., and Schroeder, FC. $^{\Phi}$ **(2012)**, Comparative metabolomics reveals biogenesis of ascarosides, a modular library of small molecule signals in C. elegans**, (JACS, 134, 3,1817-1824)**.
4) **Srinivasan J*,** von Reuss, SH*, Bose, N., Mahanti P, Ho, MC, O'Doherty OG, Edison, AE, Sternberg PW and Schroeder FC $^{\Phi}$ **(2012),** A modular library of small molecule signals regulates social behaviors in *Caenorhabditis elegans* **(PLoS Biology, 10(1): e1001237)**.
5) Chung K*, Zhan M*, **Srinivasan J**, Sternberg PW, Gong E, Schroeder FC, Lu H $^{\Phi}$ **(2011),** Microfluidic chamber arrays for whole-organism high-throughput chemical screening **(Lab on a Chip, 11 (21): 3689-97**.
6) Kaplan F**, Srinivasan J** et al **(2011),** Ascaroside expression in *Caenorhabditis elegans* is strongly dependent on diet and developmental stage**. PLoS One 6(3):e17804***.*
7) Rivard LM*, **Srinivasan J***, Stone A, Ochoa S, Sternberg PW, and Loer CM. $^{\Phi}$ **(2010),** A comparison of experience-dependent locomotory behaviors and biogenic amine neurons in nematode relatives of *Caenorhabditis elegans*. **BMC Neuroscience, 11, 22**.
8) Pungaliya C, **Srinivasan J**, Fox BW, Malik RU, Ludewig AH, Sternberg PW and Schroeder FC. $^{\Phi}$ **(2009),** A shortcut to identifying small molecule signals regulating behavior and development in *Caenorhabditis elegans.* **PNAS, 106(19): 7708-13**.
9) **Srinivasan J**, Durak O & Sternberg PW. $^{\Phi}$ **(2008),** Evolution of a polymodal sensory response network. **BMC Biology**, **6, 52**.
10) **Srinivasan J***, Kaplan F* et al. **(2008),** A blend of small molecules differentially regulates both mating and development in *Caenorhabditis elegans.* **Nature; 454,1115-1118**.
11) Ratsch G $^{\Phi}$, Sonnenburg S*, **Srinivasan J***, Witte H, Muller KR, Sommer RJ, Scholkopf B. **(2007),** Improving the *Caenorhabditis elegans* genome annotation using machine learning. **PLoS Comput Biol; 3(2): e20**.
12) **Srinivasan J**, Otto GW, Kahlow U, Geisler R, Sommer RJ $^{\Phi}$ **(2004),** AppaDB: An AcedB-database for the nematode satellite organism *Pristionchus pacificus.* **Nuc. Acids Res. 32, D421-422**.
13) **Srinivasan J**, Sinz W, Jesse T, Wiggers-Perebolte L, Jansen K, Buntjer J, van der Meulen M, Sommer RJ $^{\Phi}$ **(2003),** An integrated physical and genetic map of the nematode *Pristionchus pacificus.* **Mol.Gen.Genomics, 269,715-722**.
14) **Srinivasan J**, Sinz W, Lanz C, Brand A, Nandakumar R, Raddatz G, Witte H, Keller H, Kipping I, Silva da Pires A, Jesse T, Millare J, DeBoth M, Schuster SC, Sommer RJ $^{\Phi}$ **(2002),** A Bacterial Artifical Chromosome- Based Genetic Linkage Map of the Nematode *Pristionchus pacificus.* **Genetics, 162, 129-134**.
15) **Srinivasan J***, Silva da A*, Gutierrez A*, Zheng M, Jungblut B, Witte H, Schlak. I, Sommer RJ $^{\Phi}$ **(2001),** Microevolutionary analysis of the nematode genus *Pristionchus* suggests a recent evolution of redundant developmental mechanisms during vulva formation. **Evolution and Development, 3(4),1-12**.
16) Sommer RJ $^{\Phi}$, Carmi I, Eizinger A, Grandien K, Jungblut B, Lee KZ, Nguygen H, da Silva AP, Schlak I, Sigrist C, **Srinivasan J (2000),** *Pristionchus pacificus*: A satellite organism in evolutionary developmental biology. **Nematology, 2(1),81-88**.
17) Scheel J, **Srinivasan J**, Honnert U, Henske A, Kurzchalia T $^{\Phi}$ **(1999),** Involvement of caveolin-1 in meiotic cell-cycle progression in *Caenorhabditis elegans*. **Nature Cell Biol, 1(2):127-9***.*

PEER REVIEWED REVIEWS AND BOOK CHAPTERS FROM WPI

1. Muirhead CS and **Srinivasan J ϕ (2020)**, Small molecule signals mediating social behaviors in *C. elegans* **(Journal of Neurogenetics, DOI: 10.1080/01677063.2020.1808634)**.
2. Reilly DK ϕ, **Srinivasan J ϕ (2019)**, Chemical Communication: Linking Behavior and Physiology. **Current Biology, 29(23):R1226-R1228. doi: 10.1016/j.cub.2019.10.031**.
3. DiLoreto EM, Chute, CD, Bryce, S**, Srinivasan J, (2019)**, Functional connectomics in *C. elegans.* **Journal of Developmental Biology. doi: 10.3390/jdb7020008**.
4. Reilly DK, **Srinivasan J ϕ (2017)**, *C. elegans* olfaction. **Oxford Research Encyclopedia of Neuroscience. doi: 10.1093/acrefore/9780190264086.013.191**.
5. Reilly DK and **Srinivasan J ϕ (2015)**, Reproductive Evolution: Pulling the Plug on Selection, **Current Biology. doi: 10.1016/j.cub.2015.09.008/**.
6. **Srinivasan, J ϕ,** Aurilio L, Chute CD, Reilly DK, Coyle V, Nikolaki V, Burn A, and Ong FN **(2015),** The chemical and neural basis of innate behaviors in *C. elegans.* **Journal of Nematology**.
7. Aurilio L, **Srinivasan J ϕ (2015),** *Pristionchus pacificus*: The Laboratory Model: Genetics, Genetic mapping and Transgenics**, Nematology Monographs and Perspectives, Vol.11, 121-140**.
8. Chute CD, and **Srinivasan J ϕ (2014)**, Chemical mating cues in *C. elegans*. **Seminars in Cell and Developmental Biology. doi: 10.1016/j.semcdb.2014.06.002**.

PEER REVIEWED REVIEWS AND BOOK CHAPTERS BEFORE WPI

1. **Srinivasan J** ϕ and Sternberg PW **ϕ (2008),** *Pristionchus pacificus*: an appropriate fondness for Beetles, **Nature Genetics, 40, 10, 1146-1147**.
2. Dieterich C, Roeseler W and **Srinivasan J ϕ (2006),** *Pristionchus pacificus* genomics: From genetics to genome sequence, **Wormbook, doi/10.1895/wormbook.1.116.1**.
3. **Srinivasan J** and Sommer RJ **ϕ (2003),** The *C. elegans* genome: Comparative sequencing. **Encyclopedic Refererence of Genomics and Proteomics**.
4. **Srinivasan J** and Sommer RJ **ϕ (2002),** From evolutionary developmental biology to genomics: towards a genome map of the free living nematode *Pristionchus pacificus*. **International Congress Series, 1246, 101-110**.

IIIB. FELLOWSHIPS AND GRANTS—AWARDED AND PENDING

I. CURRENT FUNDING

- **National Institutes of Health- National Institute of Deafness and Communication Disorders (1R01DC016058),** *"Functional connectome of sex-specific processing of social cues",* Srinivasan J. (PI), *04/2017 – 03/2022,* Total costs: $1,570,381. Currently on No cost extension.

II. PENDING FUNDING

- **Keck Foundation,** "*Discovering the neural complexities of biological metacognition to revolutionize next-generation self-aware autonomous machines*" Srinivasan J (PI) and Raghvendra Cowlagi (co-PI), Total Costs: $1,000,000.

- **National Institutes of Health- NINDS,** "*Neural and molecular mechanisms governing sensory integration"* Srinivasan J (PI), Total Costs: $ 1,851,917.00.
- **National Institutes of Health- NINDS,** *"Neuronal communication regulating sex-specific behaviors"* Srinivasan J (PI), Total Costs: $ 2,165,591.00.

III. COMPLETED FUNDING

- **Educational Development Center grant, Worcester Polytechnic Institute, "***CUREing biology: Transforming an undergraduate biology curriculum with integrated authentic project-based research experiences",* Mathews L. (PI), Srinivasan J. (co-PI), Rulfs J (co-PI), Buckholt M. (co-PI). *03/2016 – 06/2017*, $8,921.

IIID. PATENTS

"Ascarosides are nematode sex pheromones" United States Patent Application. Patent Nr. 8,318,146,B1 issued on November 27th 2012. Inventors: **Srinivasan J**, Kaplan F, Alborn H, Teal PAE, Edison A, Sternberg PW, and Schroeder FC.

IIIE. SCHOLARSHIP IN PROGRESS

(***Φ*** *indicates corresponding and co-corresponding authors,* ******* *indicates co-first authors)*

MANUSCRIPTS IN-PRESS, IN-REVIEW, OR IN PREPARATION:

1. Reilly DK, DiLoreto EM, **Srinivasan J**. Avoiding Reinvention of the Wheel Through Co-Option of Parts: Co-option of Receptors and Ligands **(In preparation for review at BioEssays**).

IIIF. INVITED PRESENTATIONS

- **2021** Small-molecule mediated beahviors in *C. elegans*, *University of Wyoming*
- **2019** Deciphering small-molecule mediated innate behaviors, *Northeastern University*
- **2018** Deciphering innate behaviors in *C. elegans*: Role of physiology and neuromodulation, *UCLA*
- **2017** Sex biases in neurodegenerative diseases: A worm's perspective, *Sigma Xi Lecture series WPI chapter, Worcester Polytechnic Institute*
- **2017** Unravelling sex biases in neurodegenerative diseases: A worm's perspective, *Center for Systems Biology, Luxemburg Center for Systems Medicine, Luxemburg*
- **2016** The Underground Social Network: Studying Communication in Worms, *National Center for Cell Science, Pune, India*
- **2015** The chemical and neural basis of innate behaviors in *C. elegans.* Society of Nematology Meeting**,** *Michigan State University*
- **2015** Insights into the neuroanatomical changes at different developmental time points in *C. elegans*. *Workshop on strategies for reconstructing circuits from serial section EM, Janelia Farm Research Campus, Washington DC*

- **2014** Contrasting responses within a single neuron class enable sex-specific attraction in *C. elegans*. *Neural Circuits Controlling Sexual Behavior Meeting, Janelia Farm Research Campus, Washington DC*
- **2014** Contrasting responses within a single neuron class enable sex-specific attraction in *C. elegans. Worm Neuroscience Meeting, University of Wisconsin, Madison*
- **2014** Decoding the scent of a worm: A systems approach towards understanding social communication. *The Albert Silberman Institute of Life Sciences, Hebrew University, Jersusalem, Israel*
- **2013,** The scent of a worm decoded: The systems biology of social communication. *Department of Biological Sciences, Wellesley College, Wellesley, MA*
- **2013,** Decoding social recognition in worms: from Molecules to Neural circuits, *Center for Brain Science, Harvard University*
- **2013,** Targeted metabolomics reveals a sex-specific biosynthetic pathway of small-molecule signals, Boston Area Worm Meeting**,** *Department of Biology, Massachusetts Institute of Technology, Cambridge MA*
- **2013,** The scent of a worm decoded: The chemical and neurobiological basis of social communication. *Department of Biology, College of Holy Cross at Worcester, MA*
- **2013,** Targeted Metabolomics and social communication: Lessons from worms, *Sengupta Laboratory, Brandeis University*
- **2012**, Neural and chemical mechanisms of social communication: Lessons from worms, *Department of Biology and Biotechnology, Worcester Polytechnic Institute*

IIIG. PROFESSIONAL SOCIETY MEMBERSHIPS AND OFFICES

- Member - Genetics Society of America
- Life Member - Caltech Alumni Association
- Member- Association for Chemoreception Sciences
- Life Member- Sigma Xi, WPI Chapter

IIIH. EDITORIAL AND REFEREE ACTIVITIES

I. JOURNALS

Current Biology, PLoS Computational Biology, PLoS Genetics, Plos One, Worm, Toxins, Journal of Neuroscience, BMC Biology, Scientific Reports, Journal of Nematology, Journal of Comparative Neurology

II. GRANTS

- **2019** - Adhoc Panel member for NSF-IOS (Neural systems) panel
- **2019** - Adhoc panel member for NIH Molecular Neurogenetics (MNG), FO2B study section
- **2012** - present Adhoc reviewer for grants from NSF-IOS cluster
- **2015** - Panel member USDA NP 304 Panel 9: *Insect Genomics & Physiology*
- **2015** - Adhoc Reviewer for grants from Wellcome Trust/Department of Biotechnology Alliance, INDIA

IIII. HONORS, AWARDS, AND OTHER RECOGNITION RELATED TO SCHOLARSHIP

I. HONORS

- **2020,** Board of Trustees Award for Outstanding Research and Creative Scholarship
- **2017,** Provost's Award MQP Co-Mentor Social Sciences and Policy Studies
- **2016,** Sigma Xi Outstanding Junior Faculty Researcher Award
- **2016**, Provost's Award MQP Mentor, WPI Biology and Biotechnology
- **2010**, Senior Research Fellow, Division of Biology, California Institute of Technology
- **2004**, Howard Hughes Research Associate, California Institute of Technology
- **2000**, SFB-DFG (German Science Foundation) scholarship for graduate studies
- **1997**, Max Planck Society graduate fellowship
- **1993,** National Biotechnology fellowship for Masters in Biotechnology Program

IV. SERVICE

IV1. SERVICE TO PROFESSION

INTERNATIONAL MEETINGS

- **2018**, Abstract selection committee, Worm Neuroscience Meeting, Wisconsin, Madison
- **2014,** Invited Session Chair in Neurobiology, Worm Neuroscience Meeting, Wisconsin, Madison
- **2013,** Invited Session Chair in Neurobiology (A), International Worm Meeting, Los Angeles

IV2. SERVICE TO WPI

2022	Co-chair of Committee of Academic Operations (CAO), WPI
2021	Co-chair, Mental Health Implementation Taskforce, WPI
2020 onwards	Member, Faculty Governance, Committee of Academic Operations (CAO)
2017 onwards	Lead Judge in Biology and Biotechnology, Graduate student Innovation Exchange
2015 - 2018	Member, Fringe Benefit Committee**,** WPI
2015 - 2016	Graduate student Innovation Exchange (GRiE)**,** Served as a judge for both MS and Ph.D. level posters from Biology and Biotechnology and Biomedical Engineering
2015	WPI STEM Education Center, Teacher Lecture Series: *From University Research to Classroom: Cutting Edge Biology*. Presented my laboratory's work to local high school and middle school teachers discussing the advantages of research-based curriculum in schools
2014	GRAD 2014, Served as a judge the Ph.D. level posters
2013 onwards	Project presentation day Judged posters of undergraduates from Biology and Biotechnology and Chemistry and Biochemistry

IV3. SERVICE TO BIOLOGY AND BIOTECHNOLOGY

- Lead instructor for a summer camp (LAUNCH) for middle school children to teach them about modern concepts in Biology
- Instructor for the MassBioEd program during spring semester to teach basic behavioral biology experiments to high school students from different parts of Massachusetts
- Invited speaker at the Wachusett Regional High School Science Seminar. The title of the talk was "*What worms can teach us about social communication*"
- Keynote Speaker at the Milbury Middle and High School Science Week. Gave two different lectures for middle and high school students about careers in STEM and highlighting the research being carried out in my laboratory
- Speaker at the Teacher Lecture Series titled "From University Research to the K-12 classroom" organized by WPI STEM education Center and Mass Academy. The title of my talk was "*Cutting edge biology: What worms can teach us about social communication*"

IV4. SERVICE TO COMMUNITY

- Volunteer for the Science Camp at the India Society of Worcester
- External Judge for the Science Fair at Shrewsbury High School
- Touch Tomorrow 2013 through 2017, conducted nematode isolation experiments
- Invited Speaker at Science CafeWoo as part of the general public seminar series to discuss implications of my laboratory's research. The title of my talk was "*The underground social network: Communication in worms*"