CHRISTOPHER L. PASSAGLIA

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EDUCATION AND TRAINING

University of Iowa	B.S. in Biomedical Engineering, 1990
Syracuse University	Ph.D. in Bioengineering and Neuroscience, 1997
Northwestern University	Postdoc in Biomedical Engineering, 1998-2003

APPOINTMENTS

University of South Florida	Professor of Medical Engineering, 2019-present
University of South Florida	Associate Chair of Medical Engineering, 2020-present
University of South Florida	Undergraduate Program Director of Medical Engineering, 2019-present
University of South Florida	Professor of Ophthalmology, 2018-present
University of South Florida	Professor of Molecular Pharmacology & Physiology, 2018-present
University of South Florida	Professor of Chemical & Biomedical Engineering, 2018-2019
University of South Florida	Associate Professor of Chemical & Biomedical Engineering, 2011-2017
Boston University	Assistant Professor of Biomedical Engineering, 2004-2011
Northwestern University	Postdoctoral Fellow (Mentor: John Troy, Ph.D.), 1998-2003
Syracuse University	Graduate Research Assistant (Mentor: Robert Barlow, Ph.D.), 1992-1997
Syracuse University	Graduate Research Assistant (Mentor: Robert Smith, Ph.D.), 1991-1992
University of Iowa	Undergraduate Research Assistant (Mentor: David Skorton, M.D.), 1989-1990

HONORS AND AWARDS

The Capranica Foundation, Capranica Award in Neuroethology, 1997
The Society for Neuroscience, Donald B. Lindsley Prize in Behavioral Neuroscience, 1998
National Institutes of Health, NRSA Postdoctoral Fellowship, 1999
Karl Kirchgessner Foundation, Vision Research Award, 2004
The Medical Foundation, Smith Family New Investigator Award , 2005
National Science Foundation, CAREER Award, 2006
BrightFocus Foundation, Thomas R. Lee Award, 2014

PATENTS

1. **Passaglia CL.** Auto-regulation system for intraocular pressure, US 9022968, issued 05/2015
2. **Passaglia CL.** Method for auto-regulation of intraocular pressure, US 9314375, issued 04/2016
3. **Passaglia CL**, Madow B, Richards D, Greenberg E. Quantitative image analysis applied to the grading of vitreous haze, US 9384416, issued 07/2016
4. Bello SA, **Passaglia CL**. Continuous wireless powering of moving biological sensors, US 10027179, issued 07/2018
5. Sunol AK, Ticknor EJ, Guardino S, Jacobsen TW, Rogers ED, Cogswell K, Frisina RD, **Passaglia CL**. Gas-inflatable personal floatation devices, US10027179, issued 09/2019
6. Bello SA, Correa EM, **Passaglia CL**. User-controlled urination management system, US 10744298, issued 08/2020
7. **Passaglia CL**, Malvade S. Tethered eye cannula and method of use, Provisional US15/783458, filed 10/2017

BOOK CHAPTERS

1. **Passaglia CL**, Herzog ED (2014) Circadian modulation of the Limulus eye for day and night vision. In *The Retina and Circadian Rhythms* (Springer Series in Vision Research), eds. Tosini G, Iuvone PM, McMahon DG, Collin SP, Springer Press, pp 195-222.

PEER-REVIEWED PUBLICATIONS

1. Herzog ED, **Passaglia CL**, Dodge SA, Levine ND, Barlow RB (1993) Limulus vision in the ocean: comparing neural and behavioral thresholds. *Biol Bull* 185:307-308.
2. **Passaglia CL**, Dodge FA, Barlow RB (1994) Visual responses from the brain of Limulus. *Biol Bull* 187:260-261. PMID: 7811813.
3. **Passaglia CL**, Dodge FA, Barlow RB (1995) Limulus is tuned into its visual environment. *Biol Bull* 189:213-215. PMID: 8541408.
4. Kim E, **Passaglia CL**, Dodge FA, Barlow RB (1996) The temporal transfer function of the Limulus lateral eye in situ. *Biol Bull* 191:259-260.
5. Stewart KM, Porcello DM, McSweeney ME, Saito T, **Passaglia CL**, Dodge FA, Barlow RB (1997) Histamine: putative neurotransmitter for lateral inhibition in Limulus eye. *Biol Bull* 193:203-205.
6. **Passaglia CL**, McSweeney ME, Stewart KM, Kim E, Mole EJ, Powers MK, Barlow RB (1997) Visual performance of horseshoe crabs: role of underwater lighting. *Biol Bull* 193:205-207. PMID: 9390387.
7. **Passaglia CL**, Dodge FA, Herzog ED, Jackson BS, Barlow RB (1997) Deciphering a neural code for vision. *Proc Natl Acad Sci* 94:12649-12654. PMID: 9356504.
8. **Passaglia CL**, Dodge FA, Barlow RB (1998) Cell-based model of the Limulus lateral eye. *J Neurophysiol* 80:1800-1815. PMID: 9772240.
9. **Passaglia CL**, Enroth-Cugell C, Troy JB (2001) Effects of remote stimulation on the mean firing rate of cat retinal ganglion cells. *J Neurosci* 21:5794-5803. PMID: 11466451.
10. **Passaglia CL**, Troy JB, Rüttiger L, Lee BB (2002) Orientation sensitivity of ganglion cells in primate retina. *Vision Res* 42:683-694. PMID: 11888534.
11. **Passaglia CL**, Guo X, Chen J, Troy JB (2004) Tono-Pen XL calibration curves for cat, cow, and sheep. *Vet Ophthalmol* 7:261-264. PMID: 15200622.
12. **Passaglia CL**, Troy JB (2004) Information transmission rates of cat retinal ganglion cells. *J Neurophysiol* 91:1217-1229. PMID: 14602836.
13. **Passaglia CL**, Troy JB (2004) Impact of noise on retinal coding of visual signals. *J Neurophysiol* 92:1023-1033. PMID: 15071086.
14. Troy JB, Bohnsack DL, Chen J, Guo X, **Passaglia CL** (2005) Spatiotemporal integration of light by the cat X-cell center under photopic and scotopic condition. *Vis Neurosci* 22:493-500. PMID: 16212706.
15. Werner B, Cook PB, **Passaglia CL** (2008) Whole-cell recordings of light evoked excitatory synaptic currents in the retinal slice. *J Vis Exp* 17, pii:771, doi: 10.3791/771. PMID: 18579656.
16. Freeman DK, Heine WF, **Passaglia CL** (2008) The maintained discharge of rat retinal ganglion cells. *Vis Neurosci* 18:1-10. PMID: 18634718.
17. **Werner B**, Cook PB, Passaglia CL (2008) Complex response patterns from a simple retinal circuit. *J Neurophysiol* 100:1087-97. PMID: 19066519.
18. **Passaglia CL**, Freeman DK, Troy JB (2009) Effects of remote stimulation on the modulated activity of cat retinal ganglion cells. *J Neurosci* 29:2467-76. PMID: 19244521.
19. Liu JS, **Passaglia CL** (2009) Using the horseshoe crab, Limulus polyphemus, in vision research. *J Vis Exp* 29, pii:1384, doi: 10.3791/1384. PMID: 19578331.

20. Freeman DF, Heine WF, **Passaglia CL** (2010) Single-unit in vivo recordings from the optic chiasm of rat. *J Vis Exp* 38, pii: 1887, doi:10.3791/1887. PMID: 20364119.
21. Freeman DK, Grana G, **Passaglia CL** (2010) Luminance adaptation to low-contrast stimuli in retinal ganglion cells. *J Neurophysiol* 104:704-12. PMID: 20538771.
22. Wellman A, Eckert D, Jordan AS, Edwards B, **Passaglia CL**, Jackson A, Gautam S, Owens R, Malhotra A, White DP (2011) A method for measuring and modeling the physiologic traits causing obstructive sleep apnea. *J Appl Physiol* 110:1627-37. PMID: 21436459.
23. Liu JS, **Passaglia CL** (2011) Spike firing pattern of output neurons of the Limulus circadian clock. *J Biol Rhythms* 26:335-344. PMID: 21775292.
24. Heine WF, **Passaglia CL** (2011) Spatial receptive field properties of rat retinal ganglion cells. *Vis Neurosci* 28:403-17. PMID: 21944166.
25. Troy JB, Yrazu F, **Passaglia CL** (2012) The uniqueness of the message in a retinal ganglion cell spike train and its implication for retinal prostheses. *Conf Proc IEEE Eng Med Biol Soc*, 2012:312-3. PMID: 23365892
26. Wellman A, Edwards BA, Sands SA, Owens R, Nemati S, Butler J, **Passaglia CL**, Jackson AC, Malhotra A, White DP (2013) A simplified method for determining phenotypic traits in patients with obstructive sleep apnea. *J Appl Physiol* 114:911-22. PMID: 23411488.
27. Valtcheva T, **Passaglia CL** (2015) Contrast adaptation in the Limulus lateral eye. *J Neurophysiol* 114:3234-41. PMID: 26445869.
28. Tang X, Tzekov R, **Passaglia CL** (2016) Retinal crosstalk in the mammalian visual system. *J Neurophysiol* 115:3018-29. PMID: 26984426.
29. Ortiz G, Odom JV, **Passaglia CL**, Tzekov RT (2017) Efferent influences on the bioelectrical activity of the retina in primates. *Doc Ophthalmol* 134:57-73. PMID: 28032236.
30. Bello SA, Malavade S, **Passaglia CL** (2017) Development of a smart pump for monitoring and controlling intraocular pressure. *Ann Biomed Eng* 45:990-1002. PMID: 27679446.
31. Bello SA, **Passaglia CL** (2017) A wireless pressure sensor for continuous monitoring of intraocular pressure in conscious animals. *Ann Biomed Eng.* 45:2592-2604. PMID: 28812168
32. Stothert AR, Suntharalingam A, Tang X, Crowley VM, Mishra SJ, Webster JM, Nordhues B, Huard DJE, **Passaglia CL**, Lieberman RL, Blagg BS, Blair LJ, Koren J, Dickey CA (2017) Isoform-selective Hsp90 inhibition rescues model of hereditary open-angle glaucoma. *Sci Rep.* 7:17951. PMID: 29263415.
33. **Passaglia CL**, Arvaneh T, Greenberg E, Richards D, Madow B (2018) Automated method of grading vitreous haze in patients with uveitis for clinical trials. *Trans Vis Sci Tech*. 7: 10. PMID: 29600118
34. Ficarrotta KR, Bello SA, **Passaglia CL** (2018) Aqueous humor dynamics of the Brown-Norway rat. *Invest Ophthalmol Vis Sci.* 59:2529-2537. PMID: 29847660.
35. Partida GJ, Fasoli A, Fogli Iseppe A, Ogata G, Johnson JS, Thambiaiyah V, **Passaglia CL**, Ishida AT (2018) Autophosphorylated CaMKII facilitates spike propagation in rat optic nerve. *J Neurosci*. PMID: 30076212
36. Mineeva L.A., Balashevich L.I., Kozhukhov A.A., Shubin L.B., Kabanov A.V., **Passaglia C.L.,** Richards D., Madow B. (2020) The ability to assess the state of the fundus in patients with lens opacities of varying intensity, including patients with type 2 diabetes mellitus, using quantitative analysis of images made with a fundus camera. A pilot study. *Russian Ophthalmol J*. 13:29-35. (In Russian) https://doi.org/10.21516/2072-0076-2020-13-2-29-35
37. Ficarrotta KR, **Passaglia CL** (2020) Intracranial pressure modulates aqueous humor dynamics of the eye. *J Physiol*. 598:403-413. PMID: 31769030.
    [Toris C: Faculty Opinions Recommendation of [Ficarrotta KR and Passaglia CL, J Physiol (Lond) 2020 598(2):403-413]. In Faculty Opinions, 05 Feb 2020; 10.3410/f.736989641.793570428]
38. Ficarrotta KR, **Passaglia CL** (2020) Experimental glaucoma model with programmable IOP history. *Sci Rep*. 10:126. doi: 10.1038/s41598-019-57022-5. PMID: 31924837

39. Fogli Iseppe A, Ogata G, Johnson JS, Partida GJ, Johnson N, **Passaglia CL**, Ishida AT (2020) Extraretinal spike normalization in retinal ganglion cell axons. *eNeuro*. 0504-19.2020. doi: 10.1523/ENEURO.0504-19.2020. PMID: 32086286.
40. Johnson N, Gregorich SM, **Passaglia CL** (in press) Spatiotemporal contrast sensitivity of Brown-Norway rats under scotopic and photopic illumination. *Neuroscience*.
41. Siddiq MM, Zorina Y, Yadaw A, Hansen J, Rabinovich V, Gregorich SM, Xiong Y, Tolentino RE, Hannila SS, Kaplan E, Blitzer RD, Filbin MT, **Passaglia CL**, Iyengar R (in preparation) Drug combinations targeting multiple cellular mechanisms enable axonal regeneration from crushed optic nerve into the brain.
42. Nicou C, Pillai A, **Passaglia CL**. (in preparation) Effects of acute stress, general anesthetics, and body temperature on intraocular pressure in rats.

CONFERENCE PRESENTATIONS

1. Herzog ED, **Passaglia CL**, Longnecker K, et al. (1993) Seeing in Limulus: optic nerve recording in the ocean. *ARVO Meeting* 34, 1157
2. **Passaglia CL**, Dodge FA, Barlow RB (1995) Lateral inhibition in the Limulus brain. *ARVO Meeting* 36: S276
3. Dodge FA, **Passaglia CL**, Barlow RB (1995) Encoding of natural scenes by the Limulus eye. *ARVO Meeting* 36, S277
4. **Passaglia CL**, Dodge FA, Barlow RB (1996) What Limulus sees when searching for a mate. *ARVO Meeting* 37, 4844
5. **Passaglia CL**, Dodge FA, Barlow RB (1996) What the Limulus eye tells the Limulus brain about its underwater world. *ARVO Meeting* 37, 3090
6. **Passaglia CL**, Dodge FA, Barlow RB (1997) Design principles of the Limulus lateral eye. *ARVO Meeting* 38, 2854
7. **Passaglia CL**, Dodge FA, Barlow RB (1998) Image processing by the horseshoe crab eye. *BMES Meeting* 26, NE60
8. Dodge FA, **Passaglia CL**, Barlow RB (1998) Night vision in Limulus. *SFN Meeting* 27, 156.1
9. Dodge FA, **Passaglia CL**, Barlow RB (1998) Limulus vision at night. *ARVO Meeting* 39, 2854
10. Troy JB, Bohnsack D, Diller LC, Enroth-Cugell C, **Passaglia CL** (1999) Maintained discharge of cat retinal ganglion cells as a function of mean retinal illuminance. *ARVO Meeting* 40, 3094
11. Dodge FA, **Passaglia CL**, Hitt J, Yamamoto T, Barlow RB (1999) Assessing Limulus night vision using natural scenes. *ARVO Meeting* 40, 1241
12. **Passaglia CL**, Enroth-Cugell C, Troy JB (1999) Oscillations and correlations in cat retinal ganglion cell discharges. *SFN Meeting* 28, 575.22
13. Troy JB, **Passaglia CL**, Enroth-Cugell C (2000) Fast oscillatory discharges in and among cat retinal ganglion cells. *ARVO Meeting* 41, 4985
14. **Passaglia CL**, Enroth-Cugell C, Troy JB (2000) Excitatory and inhibitory nonlinear subunits provide input to Y cells. *ARVO Meeting* 41, 4040
15. **Passaglia CL**, Rüttiger L, Lee BB, Troy JB (2000) Ellipticity of primate ganglion cell receptive field centers. *SFN Meeting* 29, 52.12
16. **Passaglia CL**, Enroth-Cugell C, Troy JB (2001) Effects of remote stimulation on the spatial frequency response of cat retinal ganglion cells. *SFN Meeting* 30, 37.19
17. **Passaglia CL**, Enroth-Cugell C, Troy JB (2001) Information rate of cat retinal ganglion cells. *ARVO Meeting* 42, 3632
18. **Passaglia CL** (2001) Information transmission rates of retinal ganglion cells. *BMES Meeting* 29, 223
19. **Passaglia CL**, Guo X, Chen J, Troy JB (2003) The impact of noise on retinal information transmission. *BMES Meeting* 31, 10.7.6
20. Guo X, Chen J, Qiao Y, **Passaglia CL**, Ruoff R, Troy JB (2003) Efficient construction of microelectrodes for neurophysiology. *BMES Meeting* 31, P3.1
21. **Passaglia CL**, Chen J, Troy JB (2004) Spectral properties of noise in the retinal output. *FASEB Conference: Retinal Neurobiology & Visual Processing*

22. Chen J, Guo X, **Passaglia CL**, Troy JB (2004) Properties of the ON-center Y-cell receptive field at the limit of visual sensitivity. *FASEB Conference: Retinal Neurobiology & Visual Processing*
23. Werner B, Cook PB, **Passaglia CL** (2006) Spatio-temporal response characteristics of salamander retinal ganglion cells during contrast adaptation. *ARVO Meeting* 47, 3109
24. Freeman DK, **Passaglia CL**, Troy JB (2006) Effects of peripheral gratings on human grating sensitivity. *ARVO Meeting* 47, 3769
25. Freeman DK, **Passaglia CL** (2006) Modeling luminance and contrast adaptive mechanisms of the mammalian retina. *BMES Meeting* 34, 353
26. Oveson B, **Passaglia CL** (2006) The spatiotemporal acuity of rats and rats with glaucoma. *BMES Meeting* 34, P24
27. Freeman DK, **Passaglia CL** (2007) Noise characteristics of the early visual system of rat. *SFN Meeting* 36, 34.12
28. Werner B, Cook PB, **Passaglia CL** (2007) A continuum of ON-OFF ganglion cells in the salamander retina. *SFN Meeting* 36, 34.21
29. Werner B, Cook PB, **Passaglia CL** (2007) Covariance analysis of light-induced input currents to ON-OFF ganglion cells in the salamander retina. *International Conference on Cognitive and Neural Systems*
30. Freeman DK, **Passaglia CL** (2007) Luminance adaptation to contrast steps in retinal ganglion cells. *BMES Meeting* 35, 267
31. Park BH, **Passaglia CL**, deBoer JF (2008) Optical detection of action potential propagation using spectral-domain optical coherence tomography. *SPIE Conference* 6842E-110
32. Park BH, **Passaglia CL**, deBoer JF (2008) Non-invasive optical detection of functionally-stimulated neural activity in the Limulus compound eye. *SPIE Conference* 6847-13
33. **Passaglia CL**, Freeman DK (2008) Maintained discharge properties of rat ganglion cells. *ARVO Meeting* 49, 3847
34. Liu JS, **Passaglia CL** (2008) Reading the output of the Limulus circadian clock. *International Conference on Cognitive and Neural Systems*.
35. Liu JS, **Passaglia CL** (2008) Decoding the output of the Limulus circadian clock. *BMES Meeting* 36, 134
36. **Passaglia CL**, Hernandez VF (2008) Elucidating a role for regenerative photon events in Limulus night vision using a cell-based model. *SFN Meeting* 37, 459.7
37. Werner B, Cook PB, **Passaglia CL** (2008) Temporal dynamics and contrast rectification of excitatory synaptic inputs to cells in the ON and the OFF pathway of the salamander retina. *SFN Meeting* 37, 365.14
38. Freeman DK, **Passaglia CL** (2008) Adaptation of rat retinal ganglion cells to a probed-sine wave paradigm. *SFN Meeting* 37, 365.15
39. **Passaglia CL**, Heine WF (2009) Spatial frequency response of rat retinal ganglion cells. *ARVO Meeting* 50, 1421
40. **Passaglia CL**, Heine WH (2009) Temporal response properties of rat retinal ganglion cells. *SFN Meeting* 38, 165.1
41. Liu JS, **Passaglia CL** (2009) Decoding and emulating the Limulus circadian clock. *SFN Meeting* 38, 869.1
42. **Passaglia CL**, Grana GD, Freeman DK, Heine WF (2010) Luminance adaptation in rat retinal ganglion cells under a binary white noise paradigm. *ARVO Meeting* 51, 968
43. Liu JS, **Passaglia CL** (2010) Reading the circadian code in Limulus efferent nerve spike trains. *SFN Meeting* 39,
44. **Passaglia CL**, Heine WF, Grana GD (2010) Temporal receptive field properties of rat retinal ganglion cells. *SFN Meeting* 39,
45. Malhotra A, White DP, Eckert DJ, Edwards BA, Owens R, Sands SA, Nemati SI, Butler JP, **Passaglia CL**, Jackson AW, Wellman DA (2011) Obstructive sleep apnea: a mechanistic approach. *IEEE EMBS Conference.*
46. Passaglia CL, Grana GD (2011) Effect of contrast on the linearity of center and surround responses. *ARVO Meeting* 52, 4570
47. Yrazu FM, Passaglia CL, Troy JB (2011) How unique is the message in a ganglion cell spike train? *IBRO World Congress of Neuroscience.*
48. Valtcheva T, Covert D, **Passaglia CL** (2012) Adaptation to stimulus mean and variance in the Limulus lateral eye. *SFN Meeting* 41,

49. **Passaglia CL**, Bello S, Tzekov R, Malavade S (2013) Development of an implantable system for measuring intraocular pressure in rats. *ARVO Meeting* 54, 5657
50. Valtcheva T, **Passaglia CL** (2013) Adaptive processes of the Limulus lateral eye. *Proceedings of Southern Biomedical Engineering Conference* 2013:51-2.
51. **Passaglia CL**, Malavade S, Tzekov R, Bello S (2013) Telemetric system for intraocular pressure measurement and regulation in rats. *International Society for Eye Research Conference.*
52. **Passaglia CL**, Bello S, Tzekov R, Malavade S (2013) Towards a system for intraocular pressure regulation. *BMES Meeting* 41, 89
53. **Passaglia CL**, Greenberg E, Richards DW, Madow B (2014) Quantitative image analysis applied to the grading of vitreous haze. *ARVO Meeting* 55, 3377
54. Valtcheva T, **Passaglia CL** (2014) Experimental analysis of variance adaptation in the horseshoe crab eye. *ARVO Meeting* 55, 2372
55. Bello S, Malavade S, **Passaglia CL** (2014) Development of an implantable system for controlling intraocular pressure in rats. *ARVO Meeting* 55, 2168
56. **Passaglia CL**, Stevenson E, Greenberg E, Richards D, Madow B (2014) Image processing algorithm for automated grading of vitreous haze. *BMES Meeting* 42, 630
57. Bello S, Tang X, Malavade S, **Passaglia CL** (2014) Development of an implantable system for controlling rat eye pressure. *BMES Meeting* 42, 110
58. **Passaglia CL**, Tang X, Tzekov R (2015) Experimental evidence for a "crossed ERG" in rat. *ARVO Meeting* 56, 474
59. Tang X, Tzekov R, **Passaglia CL** (2015) Light-evoked properties of a "crossed ERG" in rat. *ARVO Meeting* 56, 475
60. Bello SA, **Passaglia CL** (2015) A wireless intraocular pressure sensor for rats. *ARVO Meeting* 56, 633
61. Davis S, Tang X, Tzekov R, **Passaglia CL** (2015) Experimental characterization of the rat electroretinogram. *BMES Meeting* 43, 616
62. Bello SA, **Passaglia CL** (2015) A wireless intraocular pressure sensor for rats. *BMES Meeting* 43, 641
63. Ficarrotta K, Bello SA, **Passaglia CL** (2015) Aqueous humor dynamics in the Brown Norway rat via a novel perfusion technique. *BMES Meeting* 43, 645
64. Davis S, Carbono J, Gomaa M, **Passaglia CL** (2016) Spatial and temporal contrast sensitivity of rats under varying light level. *ARVO Meeting* 57, 2766
65. Tang X, Tzekov R, **Passaglia CL** (2016) Further evidence of intraocular crosstalk in the rodent visual system. *ARVO Meeting* 57, 4784
66. Bello SA, **Passaglia CL** (2016) Intraocular pressure dynamics in Brown Norway rats measured by telemetry. *ARVO Meeting* 57, 6453
67. Ficarrotta K, Bello S, **Passaglia CL** (2016) Aqueous humor dynamics in the Brown Norway. *ARVO Meeting* 57, 6454
68. **Passaglia CL**, Ficarrotta K, Bello S (2017) Intraocular pressure recording in conscious rats and the effects of chronic pressure elevation. *BMES Meeting* 45, 510
69. Bello S, **Passaglia CL** (2017) Statistical analysis of continuous IOP recordings in awake rats. *ARVO Meeting* 58, 5328
70. **Passaglia CL**, Ficarrotta K (2017) Effect of continuous eye perfusion on rat aqueous humor dynamics. *ARVO Meeting* 58, 3478
71. Ficarrotta K**, Passaglia CL** (2017) Effect of continuous eye perfusion on rat retinal ganglion cells. *ARVO Meeting* 58, 2558
72. Davis S, **Passaglia CL** (2017) Light evoked properties of compound action potentials of the rat optic nerve. *ARVO Meeting* 58, 5864
73. **Passaglia CL**, Siddiq MM, Zorina Y, Davis S, Kaplan E, Blitzer R, Iyengar R (2018) A four-drug combination promotes axonal regeneration in the rat optic nerve crush model. *ARVO Meeting* 59, 2510
74. Ficarrotta K, **Passaglia CL** (2018) Effect of intracranial pressure on conventional outflow facility in rats. *ARVO Meeting* 59, 3318

75. Mineeva L, **Passaglia CL**, Balashevich L, Ricahrds D, Shubin L, Kabanov A, Madow B, Greenberg E (2019) Quantitative analysis of fundus images as affected by cataract. *ARVO Meeting* 60, 163
76. Mohamed Y, Johnson N, Tzekov RT, **Passaglia CL** (2019) Comparison of light-evoked spike trains, compound action potentials, and electroretinograms in rats. *ARVO Meeting* 60, 5969
77. Nicou C, Pillai A, **Passaglia CL** (2019) Effect of anesthesia, body temperature, and stress on intraocular pressure in rats. *ARVO Meeting* 60, 2410
78. Johnson N, Heine W, **Passaglia CL** (2019) Temporal properties of the receptive field center of rat retinal ganglion cells in vivo. *ARVO Meeting* 60, 5282
79. **Passaglia CL**, Johnson N, Heine W (2019) Temporal properties of the receptive field surround of rat retinal ganglion cells in vivo. *ARVO Meeting* 60, 5287
80. Mohamed Y, Passaglia CL (2019) Development of a micropump system capable of measure outflow facility in awake rats. *BMES Meeting* 47, 322.
81. Nicou C, Passaglia CL (2019) Physiological factors affecting intraocular pressure in rats. *International Society for Eye Research Conference.*
82. Nicou C, **Passaglia CL** (2020) Continuous measurement of IOP, ICP, and body temperature under various experimental conditions. BMES Meeting.
83. Mohamed Y, **Passaglia CL** (2020) Monitoring optic nerve health via the light-evoked compound action potential. BMES meeting.

FUNDING HISTORY

Pending

NIH R01 GM054508 "Functions of regulatory motifs in signaling networks."
PI: Iyengar R (Sub-PI: **Passaglia CL**, Sub-Award Amount: $385,525), Period: 04/2020-03/2025

NIH R01 EY027037 "Continuous measurement and control of intraocular pressure in normal and glaucomatous eyes"
PI: **Passaglia CL**, Amount: $1,426,711, Period: 10/2020-09/2025

Current

NIH R01 EY027037 "Continuous measurement and control of intraocular pressure in normal and glaucomatous eyes"
PI: **Passaglia CL**, Amount: $1,782,180, Period: 08/2016-07/2020

Completed

BrightFocus Foundation "An implantable system for intraocular pressure measurement"
PI: **Passaglia CL**, Amount: $100,000, Period: 07/2014-07/2016

NIH R21 EY023376 "A novel method of glaucoma induction and regulation",
PI: **Passaglia CL**, Amount: $388,769, Period: 04/14-03/2016

NIH NEI R01 EY016849 "Retinal physiology in experimental glaucoma"
PI: **Passaglia CL**, Amount: $975,000, Period: 09/2006-08/2011

NSF CAREER BES0547457 "Deciphering the neural basis of a visual behavior"
PI: **Passaglia CL**, Amount: $400,000, Period: 02/2006-01/2011

The Medical Foundation "Retinal coding of visual information in rat eyes"
PI: **Passaglia CL**, Amount: $200,000. Period: 12/2005-11/2007

Karl Kirchgessner Foundation "Quantitative assessment of rat visual function"
PI: **Passaglia CL**, Amount: $50,000, Period: 11/2004-10/2006

NIH NRSA F32EY06908 "Role of correlated neuronal discharges in cat retina"
PI: **Passaglia CL**, Amount: $61,000, Period: 03/1999-02/2001

INVITED TALKS

1. Northwestern University, Biomedical Engineering Department, "What the Limulus eye tells the Limulus brain", 02/1998
2. University of California-Berkeley, Molecular & Cell Biology Department, "What the Limulus eye tells the Limulus brain", 04/1998
3. Illinois Institute of Technology, Biomedical Engineering Department, "Deciphering the neural code for horseshoe crab vision", 12/2000
4. University of Illinois-Chicago, Biomedical Engineering Department, "Orientation sensitivity of primate retinal ganglion cells", 05/2001
5. Duke University, Biomedical Engineering Department, "The non-classical receptive field of cat retinal ganglion cells", 01/2002
6. University of California-Irvine, Biomedical Engineering Department, "The non-classical receptive field of cat retinal ganglion cells", 03/2002
7. Boston University, Biomedical Engineering Department, "The non-classical receptive field of cat retinal ganglion cells", 03/2002
8. University of Pennsylvania, Department of Neuroscience, "Sex, eyes, and videotape", 11/2003
9. Boston University, Program in Neuroscience, "Sex, eyes, and videotape", 01/2004
10. University of Southern California, Biomedical Engineering Department, "The spectral properties of retinal discharge noise and the impact on visual information transmission", 06/2006
11. Illinois Institute of Technology, Biomedical Engineering Department, "Control of retinal output by luminance and contrast dependent mechanisms", 04/2007
12. Boston University Medical Center, Department of Pharmacology, "Retinal coding of visual information in normal and glaucomatous eyes", 09/2007
13. Vanderbilt University, Department of Ophthalmology & Visual Sciences, "Retinal ganglion cell function in rats with normal and elevated IOP", 10/2009
14. Neurotech Inc, "Retinal ganglion cell function in rats with normal and elevated IOP", Cumberland, RI, 06/2010
15. Association for Research in Vision & Ophthalmology Symposium, "Understanding day and night vision: from experiments to models to behavior", Ft. Lauderdale, FL, 05/2010
16. Mt. Sinai Medical School, Department of Neuroscience, "Retinal adaptation to luminance and contrast", 10/2010
17. Ohio University, Department of Biological Sciences, "Retinal adaptation to luminance and contrast", 12/2010
15. University of Illinois-Chicago, Department of Ophthalmology, "Detangling retinal mechanisms of visual adaptation", 05/2011
16. Draper Laboratory, "Dissecting the functional properties of retinal neurons in normal and diseased eyes", Cambridge, MA, 05/2012
17. University of Pennsylvania, Department of Neuroscience, "Development of a wireless intraocular pressure sensor for rats", 12/2013
18. International Society for Eye Research Symposium, "Continuous measurement and control of intraocular pressure in rats", San Francisco, CA, 07/2014
19. University of Colorado-Denver, Department of Neuroscience, "Wireless measurement and control of intraocular pressure in rats", 05/15
20. Recent Trends in Vision & Ophthalmic Drug Delivery Symposium, "Continuous measurement and control of intraocular pressure in rats", Tampa, FL, 09/2015
21. Recent Trends in Vision & Ophthalmic Drug Delivery Symposium, "Monitoring intraocular pressure, ocular fluid dynamics, and optic nerve health in normal and glaucomatous rat eyes", Tampa, FL, 09/2016
22. University of Connecticut, Biomedical Engineering Department, "Continuous measurement and control of IOP in normal and glaucomatous eyes", 03/2017

23. University of Illinois-Chicago, Biomedical Engineering Department, "Continuous measurement and control of IOP in normal and glaucomatous eyes", 04/2017
24. An Evening of BrightFocus,"New technologies being developed to understand the cause and effects of glaucoma", Washington, DC, 06/2017
25. Recent Trends in Vision & Ophthalmic Drug Delivery Symposium, "Round-the-clock IOP monitoring and manipulation in rats", Tampa, FL, 09/2017
26. International Society for Eye Research Symposium, "Round-the-clock IOP monitoring and manipulation in rats", Atlanta, GA, 10/2017
27. Biomed: Research to Reality Symposium, "Developing new technologies to study and treat glaucoma", Sarasota, FL, 08/2018
28. Recent Trends in Vision & Ophthalmic Drug Delivery Symposium, "Effect of elevation intracranial pressure of rat outflow facility", Tampa, FL, 02/2019

TEACHING HISTORY

1. Engineering Physiology, F2014-F2017, S2019-S2020
2. Signals and Systems in Biomedical Engineering, F2004-F2005, F2018-F2020
3. Numerical Methods in Chemical & Biomedical Engineering, F2015-F2016, S2012-S2018
4. Biomedical Engineering II, S2015
5. Research Design, Methods, and Interpretation, F2013
6. Modeling and Analysis of Engineering Systems, F2012
7. Quantitative Physiology for Engineers, S2007-S2011
8. Numerical Methods in Biomedical Engineering (co-instructor), S2007-S2011
9. Engineering Physiology Labs, F2005-F2011
10. Systems Identification & Parameter Estimation in Biomedical Engineering, S2005

PROFESSIONAL ACTIVITIES

Scientific Service

Reviewer, NIH ETTN Special Emphasis Panel, 07/2020
Reviewer, NIH VSN Special Emphasis Panel, 08/2019
Member, NIH F02B Study Section, 06/2019
Member, NIH F02B Study Section, 03/2019
Member, NIH F02B Study Section, 06/2018
Member, NIH F02B Study Section, 03/2018
Reviewer, NIH VSN Special Emphasis Panel, 12/2017
Member, NIH NTRC Study Section, 09/2017
Member, NIH F02B Study Section, 06/2017
Member, NIH F02B Study Section, 03/2017
Member, NIH F02B Study Section, 10/2016
Reviewer, VA CDA1 Program Panel, 11/2014
Member, NSF CBET Study Section, 05/2011
Member, NSF CBET Study Section, 05/2009
Reviewer, NIH BDPE Study Section, 04/2008
Reviewer, NIH BDPE Study Section, 04/2006
Reviewer, BMES Conference 2014, 2015, 2020
Reviewer, Southern Biomedical Engineering Conference 2013

Session Chair, ARVO Conference 2006, 2007, 2013, 2017-2019

Session Chair, BMES Conference 2006, 2013, 2014

Reviewer (past 3 years) for Current Eye Research, Documenta Ophthalmologica, Experimental Eye Research, Investigative Ophthalmology & Visual Science, Journal of Neurophysiology, Journal of Physiology, Scientific Reports, Translational Visual Science & Technology

University Service

Member, USF Faculty Senate, 2016-2017, 2018-present

Member, USF Undergraduate BME Program Development Committee, 2016-2018

Member, USF Joint Medical Engineering Department Development Committee, 2015-2017

Reviewer, USF Internal Grant Proposals, 2014-present

Member, USF Faculty Council on Student Admissions, 2014-2017

Member, USF Joint Department of Medical Engineering Planning Committee, 2015-2016

Member, BU Institutional Animal Care and Use Committee, 2008-2010

Member, BU Scientific Instruments Facility Committee, 2007-2009

Member, BU Biology Faculty Search Committee, 2007

Department Service

Member, USF MedE Undergraduate Program Committee, 2019-present

Member, USF MedE Graduate Program Committee, 2019-present

Member, USF MedE Program Assessment Committee, 2019-present

Member, USF MedE, Faculty Search Committee, 2017-present

Member, USF MedE, Chair Search Committee, 2018

Member, USF ChBME Graduate Program Committee, 2012-2018

Member, BU BME Senior Project Committee, 2006-2010

Member, BU BME Undergraduate Program Committee, 2005-2007

Member, BU BME Graduate Admissions Committee, 2004

College Service

Member, USF COE Scholarship Committee, 2012-2018

Advisor, USF Tau Beta Pi Chapter, 2012-2013

Judge, USF COE Research Day, 2011-present

Judge, BU Science and Engineering Day, 2006-2010

Advisor, BU Tau Beta Pi Chapter, 2006-2010

Community Outreach

STEM Presenter, Hillsborough County School District (Tampa, FL), 2012-present

- 1 to 3 presentations per year spanning elementary, middle, and high school

External Advisory Member, Helios Education Foundation (Tampa, FL), 2011-2013

Society Memberships

Association for Research in Vision & Ophthalmology (ARVO), 1995-present

Biomedical Engineering Society (BMES), 2003-present

International Society for Eye Research (ISER), 2013-present

Society for Neuroscience (SFN), 1998-2012

STUDENT ADVISING

Undergraduate Students (past 3 years)

Erik Markham, Ashita Mukalel, Pretti Singh, Samuel Morris, Chukwubuikem Ume-Ugwa, Minh Dinh, Tia Arvenah, Sarah Urrutia, Carolyn Morales, Yubei Wu, Alex Faustini, Moksheta Chellani, Noredden Bitar, Cassidy Wardlow, Martin Recalde, Samantha Chanthalima, Krystian Gonzalez, Jacob Yarinsky, Ethan Daniels

M.S. Students

1. Aditi Pillai, 2017-2018, currently a Quality Engineer at Rook Quality Systems
2. Tchoudomira Valtcheva, 2012-2014, currently a Quality Associate at Baxter International Inc
3. Victor Hernandez, 2006-2008, currently a Quality Manager at Intelligent Hearing Systems Inc

Ph.D. Students

1. Christina Nicou, 2018-present
2. Youssef Mohamed, 2017-present
3. Nicholas Johnson, 2017-present
4. Kayla Ficarrotta, 2014-2018, currently a Diagnostic Medical Physicist at Fusion Physics LLC
5. Simon Bello, 2012-2016, currently a Senior System Design Engineer at Carl Zeiss Meditec
6. Walter Heine, 2007-2011, currently a Clinical Neurophysiologist at Beth Israel Deaconess Medical Center
7. Jiahui Liu, 2006-2011, currently an Engagement Manager at McKinsey & Company
8. Birgit (Werner) Fullerton, 2004-2008, currently a Data Scientist at Hawa Dawa Inc
9. Daniel Freeman, 2003-2008, currently a Senior Research Engineer at MIT Lincoln Laboratory

Postdoctoral Students

1. Aman Chawla, 2017-2018, currently an Associate Professor in Electronics and Communication Engineering at Alliance University (Banglore, India)
2. Xiaolan Tang, 2014-2015, currently a Postdoctoral Fellow at USF Health
3. G. David Grana, 2009-2011, currently a Research Associate at University of North Carolina-Chapel Hill
4. B. Hyle Park, 2006-2008, co-mentor: Prof. Johannes deBoer, currently an Associate Professor at University of California-Riverside