

**EDITORIAL****Virtual was the Reality in Neuroscience Education during the COVID-19 Pandemic****Raddy L. Ramos<sup>1</sup>**<sup>1</sup>*Department of Biomedical Sciences, College of Osteopathic Medicine, New York Institute of Technology, Old Westbury, NY 11568.*

Despite efforts to bring students back onto campus this fall, most colleges and universities needed to move to virtual/remote/online instruction. So for another semester, neuroscience educators adapted their lecture and laboratory-based courses as best they could to meet course objectives. Unfortunately, it appears that this type of instruction will also be the reality for the Spring 2021 semester.

The Fall 2020 issue of JUNE contains manuscripts describing courses that were specifically adapted or can be adapted for online delivery (Kouh, 2020; Hanzlick-Burton et al., 2020; Juavinett, 2020; Linden et al., 2020; Seraphim and Stock, 2020). The current issue also features six "Amazing Papers" manuscripts which highlight papers that have been or can be used in remote seminar or journal-club type courses (McManus, 2020; Delgado-Sanchez, 2020; Ramos et al., 2020; Elliot, 2020; Housman, 2020; Reigel, 2020). Several other manuscripts in the current issue are ideally suited for when students can come back onto campus for in-person laboratory courses (Ambrosini and Gelperin, 2020; Booth et al., 2020; Himmel et al., 2020; Ryan et al., 2020; Sane et al., 2020; Stein et al., 2020). Finally, four manuscripts in the current issue describe best practices for incorporating research into undergraduate neuroscience curriculum (Buffalari et al., 2020; Morrison et al., 2020; Chase et al., 2020) as well as an alternative approach in student assessment of neuroscience conceptual organization (Stevenson et al., 2020).

With the cancellation of the Faculty for Undergraduate Neuroscience (FUN) summer workshop at Davidson College, FUN quickly organized a virtual summer workshop with a focus on remote instruction and diversity, equity, and opportunity in neuroscience education. Six articles from presentations made at the virtual workshop are included in this issue (Booth et al., 2020; Hanzlick-Burton et al., 2020; Juavinett, 2020; Linden et al., 2020; Seraphim and Stock, 2020; Ryan et al., 2020). Additional articles from the FUN summer virtual workshop will be included in future JUNE issues.

On behalf of the entire editorial team at JUNE, I wish all of the neuroscience education community a happy, healthy, and prosperous new year.

**REFERENCES**

- Ambrosini AE, Gelperin A (2020) Reproducible Quantitative Stimulation Allows New Analysis of Crayfish Muscle Receptor Organ Responses. *J Undergrad Neurosci Educ* 19(1):A1-A20.
- Buffalari D, Fernandes JJ, Chase L, Lom B, McMurray MS, Morrison ME, Stavnezer AJ (2020) Integrating Research into the Undergraduate Curriculum: 1. Early Research Experiences and Training. *J Undergrad Neurosci Educ* 19(1):A52-A63.
- Booth JRH, Sane V, Gather MC, Pulver SR (2020) Inexpensive Methods for Live Imaging of Central Pattern Generator Activity in the *Drosophila* Larval Locomotor System. *J Undergrad Neurosci Educ* 19(1):A124-A133.
- Chase L, McMurray M, Stavnezer AJ, Buffalari D, Fernandes JJ, Lom B, Morrison ME (2020) Integrating Research into the Undergraduate Curriculum: 3. Research Training in the Upper-level Neuroscience Curriculum. *J Undergrad Neurosci Educ* 19(1):A75-A88.
- Delgado-Sanchez A (2020) AMAZING PAPERS IN NEUROSCIENCE: Does It Feel Right or Wrong? The Neuroscience of Moral Judgement. *J Undergrad Neurosci Educ* 19(1):R4-R6.
- Elliot D (2020) AMAZING PAPERS IN NEUROSCIENCE: The Legacy of the Kennard Principle. *J Undergrad Neurosci Educ* 19(1):R11-R14.
- Hanzlick-Burton C, Ciric J, Diaz-Rios M, Colgan, W III, Gage GJ (2020) Developing and Implementing Low-Cost Remote Laboratories for Undergraduate Biology and Neuroscience Courses. *J Undergrad Neurosci Educ* 19(1):A118-A123.
- Himmel NJ, Letcher JM, & Cox DN (2020) Dissecting the Molecular and Neural Circuit Bases of Behavior as an Introduction to Discovery-Driven Research: A Report on a Course-Based Undergraduate Research Experience. *J Undergrad Neurosci Educ* 19(1):A21-A28.
- Housman HAR (2020) AMAZING PAPERS IN NEUROSCIENCE: Exploring Neuroplasticity in the Classroom: Teaching Cortical Reorganization in the Visual System with a Stroke Patient Study. *J Undergrad Neurosci Educ* 19(1):R15-R18.
- Juavinett A (2020) Learning How to Code While Analyzing an Open Access Electrophysiology Dataset. *J Undergrad Neurosci Educ* 19(1):A94-A104.
- Kouh M (2020) A Capstone Course Where Students Present Contemporary Neuroscience Research to High School Students. *J Undergrad Neurosci Educ* 19(1):A89-A93.
- Linden ML, Kruskop J, Kitlen E (2020) Highlighting Diversity in Neuroscience through Course Content. *J Undergrad Neurosci Educ* 19(1):A113-A117.
- McManus J (2019) AMAZING PAPERS IN NEUROSCIENCE: Sparse Neural Representation of Odor Predicts Learning. *J Undergrad Neurosci Educ* 19(1):R1-R3.
- Morrison ME, Lom B, Buffalari D, Chase L, Fernandes JJ, McMurray MS, Stavnezer AJ (2020) Integrating Research into the Undergraduate Curriculum: 2. Scaffolding Research Skills and Transitioning toward Independent Research. *J Undergrad Neurosci Educ* 19(1):A64-A74.
- Seraphim SB, Stock S (2020) Non-Disposable Assignments for Remote Neuroscience Laboratory Teaching Using Analysis of Human Data. *J Undergrad Neurosci Educ* 19(1):A105-A112.
- Stein W, Talasu S, Vidal-Gadea A, DeMaegd ML (2020)

- Physiologists Turned Geneticists: Identifying Transcripts and Genes for Neuronal Function in the Marbled Crayfish, *Procambarus virginalis*. *J Undergrad Neurosci Educ* 19(1):A36-A51.
- Stevenson JL, Yeagley NC, and Bish, JP (2020) Evaluation of Students' Conceptual Organization of Neuroscience May Depend on the Expert Referent. *J Undergrad Neurosci Educ* 19(1):A30-A35.
- Ramos RL, Lodato Z, Sweiss R, Kanchana V, Nicholas A (2020) AMAZING PAPERS IN NEUROSCIENCE: Primary Literature In Clinical Neuroscience for In-Person Or Remote Instruction. *J Undergrad Neurosci Educ* 19(1):R7-R10.
- Riegel DC (2020) AMAZING PAPERS IN NEUROSCIENCE: Discovering Memory: Using Sea Slugs to Teach learning and Memory. *J Undergrad Neurosci Educ* 19(1):R19-R22.
- Ryan J, Johnson BR, Deitcher D (2020) Building Your Own Neuroscience Equipment: A Precision Micromanipulator and an Epi-fluorescence Microscope for Calcium Imaging. *J Undergrad Neurosci Educ* 19(1):A134-A140.

Received December 31, 2020; accepted December 31, 2020.

Address correspondence to: Dr. Raddy L Ramos, Department of Biomedical Sciences, New York Institute of Technology College of Osteopathic Medicine. Email: [rros02@nyit.edu](mailto:rros02@nyit.edu)

Copyright © 2020 Faculty for Undergraduate Neuroscience  
[www.funjournal.org](http://www.funjournal.org)