

## *Curriculum Vitae*

**Pamela Ann (Walsh) Harvey**

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### **EDUCATION**

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University of Connecticut	Psychology (concentration: Mathematics)	B.A.	1995
University of Connecticut	Physiology & Neurobiology	B.S.	2000
Harvard University	Graduate Coursework in Molecular Biology		2001-02
Tufts University School of Medicine	Neuroscience	Ph.D.	2009

### **APPOINTMENTS & POSITIONS**

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Research Assistant	Harvard University Medical School	2000-2004
Graduate Research Assistant	Tufts University School of Medicine	2004-2009
Postdoctoral Fellow	University of Colorado Boulder	2009-2014
Instructor	MCDB, University of Colorado Boulder	2010-2018
Instructor	IPHY, University of Colorado Boulder	2012
Facilitator, Faculty Learning Community	TRESTLE, University of Colorado Boulder	2018
Senior Instructor	MCDB, University of Colorado Boulder	2019-present

### **SCIENCE EDUCATION TRAINING & PROFESSIONAL DEVELOPMENT**

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Mentored Undergraduate Teaching	Tufts University School of Medicine & Pine Manor College	2007-2009
Summer Institute on Undergraduate Education in Biology	National Academies & Howard Hughes Medical Institute	2012
Teaching with Technology	Arts & Sciences Support of Education Through Technology (ASSETT), University of Colorado Boulder	2015
Faculty Fellows Program	ASSETT, University of Colorado Boulder	2016
Summer Institute: Assessment	Faculty Teaching Excellence Program (FTEP) University of Colorado Boulder	2018
Syllabus design for effective & flexible courses	FTEP, University of Colorado Boulder	2018
Authority, Leadership, and Practical Action in Tense Moments	FTEP, University of Colorado Boulder	2018
Making Teaching and Learning Visible (MTLV) Portfolio Project	FTEP, University of Colorado Boulder	2018-2019
Applying principles of student engagement to address the online assessment dilemma	Summer Institutes on Scientific Teaching, Scientific Teaching in Practice (STiP)	2020
The Hybrid Classroom of the Future	Journal of Visual Experimentation (JoVE) Remote Learning Series	2020
Defending a Thesis Remotely Workshop	Center for Teaching & Learning (CTL), University of Colorado Boulder	2020

Course Design Workshop using Novel Technology	ASSETT, University of Colorado Boulder	2021
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## TEACHING EXPERIENCE

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Pathophysiology	Pine Manor College	2007-2009
Pathobiology, guest lecturer	Bunker Hill Community College	2008-2009
The Python Project	University of Colorado, Boulder	2010-2020
Cell Physiology	University of Colorado, Boulder	2012
Discovery-based Laboratory I	University of Colorado, Boulder	2015-present
Discovery-based Laboratory II	University of Colorado, Boulder	2015-present
Undergraduate Teaching in CUREs	University of Colorado, Boulder	2016-present
Introduction to STEM Research Methods, guest lecturer	University of Colorado, Boulder	2016
Honors Co-Seminar, guest lecturer	University of Colorado, Boulder	2016
Molecular Neurobiology	University of Colorado, Boulder	2020-present
Cell Biology Laboratory, guest lecturer	University of Colorado, Boulder	2020
Introduction to MCDB, the Major, guest lecturer	University of Colorado, Boulder	2020

## CURRICULUM DEVELOPMENT

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MCDB 4202, The Python Project		2012
Collaborators:	Leslie Leinwand, PhD, Steven Langer, PhD	
Funding:	Howard Hughes Medical Institute (PI: Leslie Leinwand)	
Brief Description	upper-division undergraduate research-based course that performs gene expressions studies to determine the mechanisms mediating extreme organ growth in the Burmese python	
MCDB 1171, sections 1-6, Discovery-based Laboratory I		2015
Collaborator:	Corrie Detweiler, PhD	
Funding:	Howard Hughes Medical Institute (PI: Deborah Wuttke)	
Brief Description:	lower-division undergraduate research-based course focusing on discovery of novel antibiotics	
MCDB 2171, sections 1-6, Discovery-based Laboratory II		2015
Collaborator:	Tin Tin Su, PhD	
Funding:	Howard Hughes Medical Institute (PI: Deborah Wuttke)	
Brief Description:	lower-division undergraduate research-based course focusing on discovery of novel chemotherapies	
MCDB 3010, Teaching in Course-based Undergraduate Research Experiences		2017, 2020
Brief Description:	provides the opportunity for former students of MCDB 1161, 1171, 2171, 3140, and 4202 to continue their involvement in the courses as teaching assistants, course revision to include remote teaching module	
MCDB 4202, Research in Molecular Regulation of Neurological Function		2020
Brief Description	previously The Python Project, upper-division undergraduate research-based course that examines the molecular mechanisms mediating motor function and behavior in <i>Drosophila melanogaster</i>	

## PROFESSIONAL SERVICE

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Instructor	After-school Science Education Program, Boston, MA	2006-2009
Judge	Boston City-wide Science Fair, Boston, MA	2008-2009
Chair	BioFrontiers Science Alliance grant review board, Boulder, CO	2014
Organizer	CURE Symposium, Boulder, CO	2016-present
Website Development	University of Colorado, Boulder, CO www.discoverylabs.org www.pythonproject.org www.CUREsymposium.org	2017
Member	MCDB Mentors	2018-present
Table Organizer	Sigma Xi & MCDB, March for Science, Denver, CO	2018
Honors Committee	University of Colorado, Boulder, CO	2018-present
Founding Member	National Science Foundation – Failure as a part of learning: a mindset education network (FLAMENet)	2018-2020
Representative	University of Colorado Boulder Admitted Student Day	2018-present
Invited Presenter	MCDB Mentors – “How to get into a research laboratory” annual talk	2019-present
Interviewer	Boettcher Foundation Scholarship Finalist Day, University of Colorado Boulder, CO	2019
Scholarship Reviewer	Norlin Scholars Program, University of Colorado, Boulder, CO	2019
Abstract Reviewer	Society for the Advancement of Biology Education Research	2019
Website Development	www.colorado.edu/research/cure, University of Colorado, Boulder, CO	2019
Proposal Reviewer	Undergraduate Research Opportunities Program (UROP), University of Colorado, Boulder, CO	2020
Chair	Coherent Curriculum Committee, MCDB, University of Colorado, Boulder, CO	2020
Editorial Board	Review Editor, <i>Frontiers in Cardiovascular Medicine – Gender Cardiovascular Medicine</i>	2020-present
Manuscript Referee	<i>CBE-Life Sciences Education</i> <i>European Journal of Pharmacology</i> <i>Journal of Microbiology &amp; Biology Education</i>	2018 2020 2020
Committee Member	Arts & Sciences Lab/Field Class Working Group, University of Colorado, Boulder, CO	2020
Faculty Volunteer	Out in Science, Technology, Engineering, & Mathematics (oSTEM), University of Colorado, Boulder, CO	2020-present
Volunteer	COVID-19 saliva sample testing, University of Colorado, Boulder, CO	2020
Recruiter	Recruiter for COVID-19 antigen testing technicians, Department of Intercollegiate Athletics, University of Colorado, Boulder, CO	2020
Curriculum Consultant	Development of large-scale first-year physics CURE, Physics Department, University of Colorado, Boulder, CO	2020
Volunteer	Optimized and coordinated clinical qPCR COVID testing during student move-in week, Wardenburg Health Clinic, University of Colorado, Boulder, CO	2020
Curriculum Consultant	Development of inter-disciplinary introductory CURE, Bowling Green State University, Bowling Green, OH	2020
Abstract Reviewer	National Conference on Undergraduate Research (NCUR@home)	2020
Poster Judge	American Association for the Advancement of Science Annual Meeting, University of Arizona, Phoenix, AZ	2020

## AWARDS AND HONORS

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Top Three Finalist, Student/Postdoctoral Fellow Research Competition	2007
National Neurotrauma Society Symposium, Kansas City, MO	
Women in Neurotrauma Research Award Recipient	2007
National Neurotrauma Society Symposium, Kansas City, MO	

First Place Award, Earl P. Charlton Poster Competition Tufts University School of Medicine, Boston, MA	2008
National Neurotrauma Society Travel Award National Neurotrauma Society Symposium, Orlando, FL	2008
Top Three Finalist, Student/Postdoctoral Fellow Abstract Competition National Neurotrauma Society Symposium, Kansas City, MO	2008
Women in Neurotrauma Research Award Recipient National Neurotrauma Society Symposium, Orlando, FL	2008
Sackler Biomedical Travel Award Tufts University School of Medicine, Boston, MA	2009
Norman and Susan Krinsky Excellence in Teaching Award Tufts University School of Medicine, Boston, MA	2009
Barbara Talamo Neuroscience Trainee of the Year Award Tufts University School of Medicine, Boston, MA	2009
Student Commencement Speaker Tufts University School of Medicine, Boston, MA	2010
Education Fellow in the Life Sciences National Academy of Sciences, Washington, DC	2012
ASSETT Faculty Fellow University of Colorado Boulder, CO	2016

## PUBLICATIONS

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### PEER REVIEWED JOURNAL ARTICLES

- Gustincich, S., Contini, M., Gariboldi, M., Puopolo, M., Kadota, K., Bono, H., LeMieux, J., **Walsh, P.**, Carninci, P., Hayashizaki, Y., Okazaki, Y., E. Raviola. (2004) Gene discovery in genetically labeled single dopaminergic neurons of the retina. *Proc Natl Acad Sci USA*. 101(14):5069-74. PMID: PMC387375.
- Tkatchenko, A.V., **Walsh, P.A.**, Tkatchenko, T.V., Gustincich, S., E. Raviola. (2006) Form deprivation modulates retinal neurogenesis in primate experimental myopia. *Proc Natl Acad Sci USA*. 21;103(12):4681-4686. PMID: PMC1400590.
- Wang, R., King, T., Ossipov, M.H., Rossomando, A.J., Vanderah, T.W., **Harvey, P.**, Cariani, P., Frank, E., Sah, D.W., F. Porreca. (2008) Persistent restoration of sensory function by immediate or delayed systemic artemin after dorsal root injury. *Nat Neurosci*. (4):488-96 PMID: 18344995.
- Harvey, P.A.**, Lee, D.H.S., Qian, F., Weinreb, P.H., E. Frank. (2009) Blockade of Nogo receptor ligands promotes functional regeneration of sensory axons after dorsal root crush. *J Neurosci*. 29(19):6285-6295. PMID: PMC2883456.
- Harvey, P.A.**, Rossomando, A.J., E. Frank (2010) Topographically specific regeneration of sensory axons in the spinal cord. *Proc Natl Acad Sci USA* 107(25):11585-90. PMID:20534446.
- Haines, C.D.\*, **Harvey, P.A.\***, Luczak, E.D., Barthel, K.K., Konhilas, J.P., Watson, P.A., Stauffer, B.L., L.A. Leinwand (2012) Estrogenic compounds are not always cardioprotective and can be lethal in males with genetic heart disease. *Endocrinology* 153(9):4470-9. PMID:22778230. **\*authors contributed equally.**
- Haines, C.D., **Harvey, P.A.**, L.A. Leinwand (2012) Estrogens mediate cardiac hypertrophy in a stimulus-dependent manner. *Endocrinology* 153(9):4480-90. PMID:22759381.
- Cosper, P.F., **Harvey P.A.**, L.A. Leinwand (2012) Interferon- $\gamma$  causes cardiac myocyte atrophy via selective degradation of myosin heavy chain in a model of chronic myocarditis. *Am J Path*, Oct 8 [Epub ahead of print] PMID:23058369.
- Mu, X.M., **P.A. Harvey** (2012) Estrogen differentially affects expression of calcium handling genes in female and male adult cardiomyocytes. *J Student Res*, 1(3):31-37.
- Harvey, P.A.**, Wall, C.E., Langer, S.J., S.W. Luckey, L.A. Leinwand (2014) The Python Project: a unique model for extending research opportunities to undergraduate students. *CBE Life Sci Educ*. Winter;13(4):698-710. PMID:25452492.
- Harvey, P.A.**, L.A. Leinwand (2015) Dietary phytoestrogens present in soy dramatically increase cardiotoxicity in male mice receiving a chemotherapeutic tyrosine kinase inhibitor. *Mol Cell Endocrinol*, Jan 5;399:330-5. PMID:25458703.

12. **Harvey, P.A.**, L.A. Leinwand (2015) Oestrogen enhances cardiotoxicity induced by Sunitinib by regulation of drug transport and metabolism. *Cardiovasc Res*, May 25;107(1):66-77. PMID: 26009690.
13. Hoyer, G., Kumar, R., Franks, K., **P.A. Harvey** (2020) Use of concept maps in an advanced research-based molecular biology course improves complexity of scientific data reporting. (*under review*)
14. McLeod, J.R., **Harvey, P.A.\***, Detweiler, C.S.\* (2020) *Staphylococcus aureus* acute infection in mice is mitigated by capecitabine, an oral prodrug of fluorouracil. (*under review*) **\*co-corresponding authors**

#### REVIEW ARTICLES

1. **Harvey, P.A.** and L.A. Leinwand. (2011) Cellular mechanisms of cardiomyopathy. *JCB*, 194(3):355-365 PMID: 2185071.
2. Blenck, C.L., **Harvey, P.A.**, and L.A. Leinwand (2016) The importance of biological sex and estrogen in rodent models of cardiovascular health and disease. *Circ Res*, 118:1294-1312. PMID:27081111.
3. Phelps, T., Snyder, E., Rodriguez, E., Child, H., **Harvey, P.A.** (2019) Cholesterol homeostasis, bile acid synthesis, and the influence of biological sex and sex hormones. *Biol of Sex Diff*, 10:52 PMID: 31775872.

#### BOOK CHAPTERS

1. Barthel, K.K.B.\*, **Harvey, P.A.\***, L.A. Leinwand (2012) Diet and Exercise Are Potent Modulators of Cardiovascular Disease in Women. In E.E. Spangenburg (Ed.), *Integrative Biology of Women's Health*. ISBN 978-1-4614-8630-5 **\*authors contributed equally.**
2. **Harvey, P.A.** & L.A. Leinwand (2013) Cardiac Atrophy and Remodeling. In M.S. Willis (Ed.), *Cellular and Molecular Pathobiology of Cardiovascular Disease*. ISBN 978-0-1240-5206-2.

#### PORTFOLIOS & WHITE PAPERS

1. Corwin, L\*, **Harvey, P.\***, Suding, K., Ellingson, E., Bhattacharya, A., Birsoy, B., Casagrand, J., Fillman, C., Foley, T., Guild, N., Jahn, A., Lee, M., Power, J., Chasteen, S. (2017) Course-based Undergraduate Research Experiences: Advancing CU Boulder's Strategic Goals. White paper submitted to the CU Boulder Academic Futures Initiative. **\*authors contributed equally.**
2. **Harvey, P.A.** (2019) The Discovery Labs: Assessment of Public Presentation of Research Performed in Lower- division Laboratory Courses. <https://www.colorado.edu/ftop/2019/06/18/discovery-labs-assessment-public-presentation-research-performed-lower->
3. Arehart, K., **Harvey, P.**, Lewandowski, H., Link, C., Rich, K., Richardson, J., (2020) Suggested Approaches to Laboratory Courses during the Pandemic. Solicited white paper submitted to the CU Boulder College of Arts & Sciences.

#### WEBSITES DEVELOPED AND MAINTAINED

1. [www.CURESymposium.org](http://www.CURESymposium.org)
2. [www.discoverylabs.org](http://www.discoverylabs.org)
3. [www.pythonproject.org](http://www.pythonproject.org)
4. [www.colorado.edu/research/cure](http://www.colorado.edu/research/cure)

#### PRESENTATIONS

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1. Cariani, PA, **Walsh, P**, Frank E. Axonal regeneration and recovery of synaptic function in rats following dorsal root crush and sNgR treatment (**poster**). Society for Neuroscience, Atlanta, GA. November, 2006.
2. **Harvey, P**, Cariani, P, Frank, E. Functional regeneration of sensory axons into the spinal cord after blockade of myelin-associated inhibition in a dorsal root crush model of brachial plexus injury (**poster**). National Neurotrauma Society Symposium, Kansas City, MO. July, 2007.
3. **Harvey, P**, Cariani, P, Frank, E. *Functional regeneration of sensory axons into topographically correct areas of the spinal cord with neurotrophin treatment in a model of brachial plexus injury.* (**invited presentation**) National Neurotrauma Society Symposium, Orlando, FL. July, 2008.
4. **Harvey, P**, Cariani, P, Frank, E. Functional regeneration of sensory axons into topographically correct areas of the spinal cord with neurotrophin treatment in a model of brachial plexus injury (**poster**). National Neurotrauma Society Symposium, Orlando, FL. July, 2008.

5. **Harvey, P** & Frank, E. *Functional regeneration of sensory axons into the spinal cord.* (**invited presentation**). Tufts University School of Medicine, Sackler Reunion and Symposium, Boston, MA. September, 2008.
6. Frank, E, **Harvey, P.** Artemin promotes topographically specific regeneration of sensory axons in the spinal cord after dorsal root crush (**poster**). Society for Neuroscience, Washington, DC. November, 2008.
7. **Harvey, P,** & Frank, E. Artemin and a soluble nogo receptor peptide promote functional sprouting of spared sensory axons after rhizotomy of multiple dorsal roots (**poster**). Society for Neuroscience, Washington, DC. November, 2008.
8. **Harvey, P.** *Mechanisms of cardiotoxicity induced by multiple tyrosine kinase inhibition* (**invited presentation**). Cardiology Research Conference. University of Colorado Health Science Center, Denver, CO. May, 2011.
9. **Harvey, P.** *Mechanisms of cardiotoxicity induced by multiple tyrosine kinase inhibition* (**invited presentation**). Signaling and Cellular Regulation Training Grant Research Conference. University of Colorado, Boulder, CO. May, 2012.
10. **Harvey, P.** *Regeneration of sensory axons in a model of spinal cord injury.* (**invited presentation**) University of Northern Colorado Biological Sciences Seminar Series, Greeley, CO. October, 2012.
11. **Harvey, P,** & Leinwand, L. Mechanisms of sexually dimorphic cardiotoxicity induced by tyrosine kinase inhibitor chemotherapeutics. (**abstract**) Organization for the Study of Sex Differences, Weehawken, NJ. April, 2013.
12. Pugach, EK, **Harvey, P,** Buvoli, M, Leinwand, L. Estrogen receptor expression and localization in cardiomyocytes. (**poster**) XXI World Congress of the International Society for Heart Research, San Diego, CA. July 2013.
13. Blenck, C, **Harvey, P,** Leinwand, L. Sexual dimorphisms in cardiomyocytes exposed to a pathological stimulus. (**poster**). American Heart Association, Las Vegas, NV. July 2014.
14. **Harvey, P.** Undergraduates meet research: a new approach to science training. (**invited presentation**) Sigma Xi Research Society, Boulder, CO. December 2015.
15. **Harvey, P.** Use of concept maps in advanced molecular biology research-based courses. (**invited presentation**) ASSETT 4<sup>th</sup> Annual Teaching with Technology Symposium, Boulder, CO, April 2016.
16. **Harvey, P.** Use of concepts maps to explain complex biological pathways. (**invited presentation**) Graduate Teacher Program Faculty Using Novel Approaches Series, University of Colorado, Boulder, CO, September 2016.
17. **Harvey, P.** Course-based research experiences as a tool for gaining research opportunities. (**invited presentation**) Undergraduate Research Symposium, University of Colorado, Boulder, CO, October 2016.
18. **Harvey, P.,** Su, T.T., Detweiler, C. Course-based research experiences (CUREs): the challenge of balancing science curriculum and experimental discovery. (**poster**) TRESTLE Annual Meeting and Course Transformation Institute, Indiana University, Bloomington, IN, September 2017.
19. **Harvey, P.,** Detweiler, C., Su, TT. Transformation of Introductory-level Laboratories in Molecular, Cellular, & Developmental Biology to Research-based Labs. (**poster**) Center for STEM Learning STEM Symposium, University of Colorado, Boulder, CO, September 2017.
20. Ciancanelli, B., **Harvey, P.,** Corwin, L., Knight, J., Chasteen, S. TRESTLE Faculty Scholars Groups: Spreading Knowledge and Generating Community. (**poster**) Center for STEM Learning STEM Symposium, University of Colorado, Boulder, CO, September 2017.
21. Bhattacharya, A., Longley, P., **Harvey, P.** www.CURE.colorado.edu: Discover Undergraduate Research-based Courses. (**poster**) Center for STEM Learning STEM Symposium, University of Colorado, Boulder, CO, September 2018.
22. **Harvey, P.** Assessment of course-based undergraduate research experiences: what do students learn? (**invited facilitator**) National Council on Measurement in Education (NCME), Center for Assessment Design, Research and Evaluation (CADRE), Boulder, CO, September 2019.
23. Bentosino, K., Chandonnet, N., Connors, J., Freeman, M., Kring, T., Madden, B., Montague, A., Timmins, J., **Harvey P.** Beyond the CURE: addressing the needs of undergraduates through an advanced independent research program that examines the effects of gene regulation in neurodegenerative diseases. (**poster & presentation**) Genetics Society of American, The Allied Genetics Conference (virtual), Washington, D.C., April 2020.

## RESEARCH SUPPORT

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Agency: NIH/NHLBI Fellow in Cardiology  
Grant ID/Period: T32 HL-07822 University of Colorado Division of Cardiology, 7/1/10-6/31/12  
Project Title: *Mechanisms of cardiotoxicity associated with multiple tyrosine kinase inhibition*  
Role: Postdoctoral Fellow

Agency: American Heart Association  
Grant ID/Period: 11POST7780011 Postdoctoral Fellowship, 7/1/11-6/30/13  
Project Title: *Mechanisms of cardiotoxicity induced by tyrosine kinase inhibition*  
Role: Principle Investigator

## **OTHER FUNDING SOURCES**

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ASSETT, Faculty Fellows Program	2016-2017
Discretionary funding to support undergraduate research, \$2,500	
Undergraduate Research Opportunities Program (UROP)	2017
Howard Hughes Medical Institute	
Faculty Team Grant, \$3,000	
Undergraduate Research Opportunities Program (UROP)	2017
Howard Hughes Medical Institute	
Publication Development Grant, \$3,000	
Transforming Education, Supporting Teaching and Learning Excellence (TRESTLE) & Center for STEM Learning (CSL)	2018
Discretionary funding to support undergraduate research, \$1,500	
Transforming Education, Supporting Teaching and Learning Excellence (TRESTLE) & Center for STEM Learning (CSL)	2018
Seed Grant for Website Development, \$1,080	
Transforming Education, Supporting Teaching and Learning Excellence (TRESTLE) & Center for STEM Learning (CSL)	2019
Seed Grant Continuation for Website Development, \$1,080	
University of Colorado Boulder Libraries	2019
Open Access Publication Fund, \$2,000	

## **INTERDEPARTMENTAL & INTERCOLLEGIATE COLLABORATIONS**

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Lisa Corwin (EBIO, University of Colorado Boulder)  
Jen Heemstra (CHEM, Emory University)  
Lou Charloudian (CHEM, Haverford College)  
Role: Senior Collaborator & Founding Member  
Failure as a part of Learning: a Mindset Education Network (FLAMENet), NSF Incubator Grant  
Spring 2018 - 2020

Atreyee Bhattacharya (ENVS, University of Colorado Boulder)  
Role: PI – two grants awarded  
Fall 2018 – 2020

Erin Shortlidge (BIOL, Portland State University)  
Role: Senior Collaborator, NSF IUSE  
Spring 2019 – present