CURRICULUM VITAE

CHANGHUI PAK, PH.D.

University of Massachusetts Amherst
Department of Biochemistry and Molecular Biology
Life Science Laboratories N225; 240 Thatcher Road
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Primary Appointment:

2018-present	Assistant Professor (Tenure track) Department of Biochemistry and Molecular Biology, UMass Amherst
2018-present	Member, Institute of Applied Life Sciences (IALS) M2M, Molecular & Cellular Biology Graduate Program, Neuroscience & Behavior Graduate Program, Biotechnology Graduate Training Program (NIGMS T32), UMass Amherst

Previous Academic and Professional Appointments:

2017-2018	Research Scientist in Molecular and Cellular Physiology, Stanford University School of Medicine
2011-2017	Postdoctoral Fellow in Molecular and Cellular Physiology, Stanford University School of Medicine (Supervisor: Dr. Thomas Südhof)
	Research focus: *Modeling synaptic dysfunction in neuropsychiatric disorders using human pluripotent stem cells*
2008-2011	Graduate Research Assistant in Cell Biology, Emory University School of Medicine
2005-2008	Graduate Research Assistant in Human Genetics, Emory University School of Medicine
2006	Teaching Assistant in Biology, Emory University School of Medicine

Education:

2001-2005	B.A. with Honors, University of Illinois at Urbana Champaign, Molecular and Cellular Biology/ minor in Chemistry, Supervisor: Dr. Peter Jones
2005-2011	Ph.D., Emory University School of Medicine, Genetics and Molecular Biology Thesis Advisor: Dr. Anita Corbett and Dr. Kenneth Moberg Thesis Title: *Mutation in the conserved polyadenosine RNA-binding protein ZC3H14/dNab2 impairs neural function in Drosophila and humans*

Postgraduate Training:

2012	Human pluripotent stem cell course, Stanford University School of Medicine
2015	Genome Engineering 3.0 workshop, Broad Institute of MIT and Harvard
2014-2022	National Cooperative Reprogrammed Cell Research Groups (NCRCRG) to study mental illness (by invitation, National Institute of Mental Health)

Honors and Awards:

2022	Outstanding Junior Faculty Research Award, Association of Korean Neuroscientists
2021	National Science Foundation UMass ADVANCE Faculty Fellow
2020	Early Career Reviewer, Early Career Reviewer Program at NIH Center for Scientific Review
2016-2017	Katharine McCormick Advanced Postdoctoral Fellowship, Stanford University School of Medicine
2013-2016	Ruth L. Kirchstein National Research Service Award (F32-NRSA, from Eunice Kennedy Shriver National Institute of Child Health and Human Development)

2010   Genetics & Molecular Biology program Student of the Year award,
            Emory University School of Medicine
2005   Diploma with Honors, University of Illinois at Urbana Champaign

Grant Support:

Active:

NIH R01 MH122519, **Pak (PI)**   04/01/2020-03/31/2025
Project title: "Molecular dissection of synaptic dysfunction in mental disorders"
Amount: $2.25M ($1.5M direct; $0.75M indirect)

Tourette Association of America Young investigator Award, **Pak (PI)**   01/03/2022-01/02/2024
Project title: "Interrogating the molecular and cellular basis of Tourette Syndrome using human induced pluripotent stem cells"
Amount: $150,000

NIH R21 MH130843, Sun (PI) and **Pak (co-I)**   07/01/2022-06/30/2024
Project title: "Patterning human forebrain organoids by engineering controlled biochemical microenvironment"
Amount: $411,450 ($300,000 direct; $111,450 indirect)

IALS Models2Medicine Midi Grant, **Pak (PI)** and Downes (PI)   09/13/2022-09/14/2023
Project title: "Establishing iPSC-derived neuronal models of TBCK syndrome"
Amount: $19,882

Previous support:

Neuroengineering Seed Grant, Sun (PI) and **Pak (PI)**   09/30/2019-09/29/2021
Project title: "Engineering morphogen-gradient induced brain organoids (MIBO) with single neural tube-like spatial topography"
Amount: $30,000

Armstrong Fund for Science Award, Downes (PI) and **Pak (PI)**   09/01/2021-08/31/2022
Project title: "Modeling TBCK Syndrome in Human Neurons and Zebrafish"
Amount: $40,000

Pending:

NYSCF Robertson Stem Cell Investigator Award, **Pak (PI)**
Project title: "Investigating the mechanistic basis of synaptopathies using human iPSC derived neural systems"
Amount: $1.5M

Chan Zuckerberg Initiative Ben Barres Early Acceleration Award, **Pak (PI)**
Project title: "A new developmental perspective on neurodegeneration"
Amount: $1.2M

NIH Trailblazer Award R21, Xu (PI), Sun (co-I) and **Pak (co-I)**
Project title: "Dissecting inter-region communication in human organoid models with dual-color optogenetic probes"
Amount: $598,305.38 ($400,000 direct; $198,305.38 indirect)

Patents and inventions:

Pending:

Provisional patent application filed. Docket Number: UMA 23-023

Title: "A chemical gradient inducing device and methods for developing patterned organoids"
Inventors: Yubing Sun, ChangHui Pak, Feiyu Yang, Narciso Pavon

Publications:

<* denotes corresponding authorship, † denotes trainees in my lab >

After joining UMass

27. Sebastian R†, Jin K, Pavon N†, Bansal R†, Potter A, Song Y†, Babu J†, Gabriel R†, Sun Y, Aronow B, **Pak C***. "Schizophrenia-associated *NRXN1* deletions induce developmental-timing- and cell-type-specific vulnerabilities in human brain organoids." **Nature Communications.** 2023 Jun 24;14(1):3770. doi: 10.1038/s41467-023-39420-6. PMID: 37355690

26. Dawes P, Smullen M, Fernandez-Fontaine A, Zhang Y, English J†, Uddin M, **Pak C**, Church GM, Chan Y, Lim ET. "oFlowSeq: A multiplexed quantitative approach to identify genes affecting cell type enrichment using mosaic CRISPR-Cas9 edited cerebral organoids." **Human Genetics.** 2023 *In press*. PMID: 36877372

25. English J†, McSweeney D†, Howell E†, Ribbe F†, **Pak C*.** "Generation of mixed cortical glutamatergic and GABAergic induced neurons." **Methods in Molecular Biology.** Book: Stem Cell-Based Neural Model Systems for Brain Disorders. 2023 *In press*. *DOI: 10.1007/978-1-0716-3287-1_3*. PMID: 37300764

24. Sebastian R†, Pavon N†, Diep K†, Song Y†, **Pak C*.** "Method to generate patterned forebrain organoids from iPSCs." **Methods in Molecular Biology.** Book: Stem Cell-Based Neural Model Systems for Brain Disorders. 2023 *In press*. *DOI: 10.1007/978-1-0716-3287-1_13*. PMID: 37300774

23. McSweeney D†, English J†, Howell E†, Ribbe F†, **Pak C*.** "Measuring neuronal network activity using induced neuronal cells." **Methods in Molecular Biology.** Book: Stem Cell-Based Neural Model Systems for Brain Disorders. 2023 *In press*. *DOI: 10.1007/978-1-0716-3287-1_19*. PMID: 37300780

22. Wang L, Mirabella VR, Dai R, Su X, Xu R, Jadali A, Bernabucci M, Singh I, Chen Y, Tian Y, Jiang P, Kwan KY, **Pak C**, Liu C, Comoletti D, Hart RP, Chen C, Sudhof TC, Pang ZP. "Analyses of the autism-associated Neuroligin-3 R451C mutation in human neurons reveals a gain-of-function synaptic mechanism." **Molecular Psychiatry.** 2022 Oct 24. doi: 10.1038/s41380-022-01834-x. Online ahead of print. PMID: 36280753

21. McSweeney D†, Gabriel R†, Jin K, Pang ZP, Aronow B, **Pak C***. "CASK loss-of-function differentially regulates neuronal maturation and synaptic function in human induced cortical excitatory neurons" **iScience** 2022 Sep 23;25(10):105187. PMID: 36262316.

20. Sebastian R†, Song Y†, **Pak C***. "Probing the molecular and cellular pathological mechanisms of schizophrenia using human induced pluripotent stem cell models." **Schizophrenia Research**. 2022 Jul 11;S0920-9964(22)00263-8. PMID: 35835709

19. **Pak C***, Sun Y*. "Organoids: expanding applications enabled by emerging technologies." Editorial Review. Special issue on "Organoids," **Journal of Molecular Biology.** 2021 Dec 20;167411. Online ahead of print. PMID: 34933020

18. **Pak C***, Danko T, Mirabella V, Wang J, Liu Y, Vangipuram M, Grieder S, Zhang X, Ward T, Huang A, Jin K, Dexheimer P, Bardes E, Mittelpunkt A, Ma J, McLachlan M, Moore JC, Qu P, Purmann C, Dage JL, Swanson BJ, Urban AE, Aronow BJ, Pang ZP, Levinson DF, Wernig M, Südhof TC*. "Cross-platform validation of neurotransmitter release impairments in schizophrenia patient-derived NRXN1-mutant neurons." **PNAS** 2021, Jun 1;118(22):e2025598118. PMID: 34035170 *co-corresponding author.

17. Fuccillo MV*, **Pak C***. "Copy number variants in neurexin genes: phenotypes and mechanisms." **Current Opinion in Genetics and Development.** 2021 Mar20:68:64-70. PMID: 33756113

16. Li N, Yang F, Parthasarathy S, St. Pierre S, Hong K, Pavon N†, **Pak C**, Sun Y. "Patterning Neuroepithelial Cell Sheet via a Sustained Chemical Gradient Generated by Localized Passive Diffusion Devices." **ACS Biomaterial Science Engineering.** 2021, Apr 12;7(4):1713-1721. PMID: 33751893

15. Xie T, Kang J, **Pak C**, Yuan H, Sun Y. "Temporal modulations of NODAL, BMP and WNT signals guide the spatial patterning in self-organized human ectoderm tissues." **Matter** 2020, 2(6) June:1621-1638. "PMC Journal in process"

14. Galarza S, Crosby AJ, **Pak C**, Peyton SR. "Control of Astrocyte Quiescence and Activation in a Synthetic Brain Hydrogel." **Advanced Healthcare Materials** 2020, 9(4):31901419 PMID: 31943839

Prior to UMass
13. **Pak C**, Grieder S, Yang N, Zhang Y, Wernig M, Südhof TC. "Rapid generation of functional and homogeneous excitatory human forebrain neurons using Neurogenin-2 (Ngn2)," **Nature Protocol Exchange** 2018, DOI:.10.1038/protex.2018.082.

12. Bienkowski R, Rha J, Banerjee A, Rounds JC, Gross C, **Pak C**, Morris KJ, Jones SK, Santoro MR, Warren ST, Bassell GJ, Corbett AH, Moberg KH. "The conserved, disease-assciated RNA-binding protein dNab2 interacts with the Fragile-X protein ortholog in Drosophila neurons." **Cell Reports** 2017, 20(6)1372-1384 PMID: 28793261

11. Lee SJ, Wei M, Zhang C, Maxeiner S, **Pak C**, Botelho SC, Trotter J, Sterky FH, Südhof TC. "Presynaptic neuronal pentraxin receptor organizes excitatory and inhibitory synapses." **Journal of Neuroscience** 2016, 2768-16 PMID: 27986928

10. Fei Y, Danko, Botelho SB, Patzke, **Pak C**, Wernig M, Südhof TC, "Autism-Associated SHANK3 Haploinsufficiency Causes Ih-Channelopathy in Human Neurons." **Science** 2016 352 (6286): aaf2669 PMID: 26966193

9. **Pak C**, Danko T, Zhang Y, Aoto J, Anderson G, Maxeiner S, Yi F, Wernig M, Südhof TC, "Human neuropsychiatric disease modeling using conditional deletion reveals synaptic transmission defects caused by heterozygous mutations in NRXN1." **Cell Stem Cell** 2015 17 (3) 316-328 PMID: 26279266
(This article was previewed by Dr. Steven Hyman in the same issue: "Enlisting hESCs to interrogate genetic variants associated with neuropsychiatric disorders." Cell Stem Cell 2015 17 (3) 3 253-254)

8. Chanda S, Ang CE, Davila J, **Pak C**, Mall M, Lee QY, Ahlenius H, Jung SW, Südhof TC, Wernig M "Generation of induced neuronal cells by the single reprogramming factor ASCL1." **Stem Cell Reports** 2014 3 (2) 282-296 PMID: 25254342

7. Kelly SM, Leung SW, **Pak C**, Banerjee A, Moberg KH, and Corbett AH, "A conserved role for the zinc finger polyadenosine RNA binding protein, ZC3H14, in control of poly(A) tail length." **RNA** 2014 20 1-9 PMID: 24671764

6. Zhang Y, **Pak C**, Han Y, Ahlenius H, Zhang Z, Chanda S, Marro S, Patzke C, Acuna C, Covy J, Xu W, Yang N, Danko T, Chen L, Wernig M, Südhof TC "Rapid single-step induction of functional neurons from human pluripotent stem cells." **Neuron** 2013 78 (5) 785-798 PMID: 23764284

5. Kelly SM, **Pak C**, Kuss A, Corbett AH, Moberg KH. "New kid on the ID block: Neural functions of the Nab2/ZC3H14 class of Cys3His tandem zinc-finger poly(A)-binding proteins." Invited Point of View for RNA Biology. **RNA Biology** 2012 May 1;9(5) PMID:22614829

4. **Pak C**, Garshasbi M, Kahrizi M, Gross C, Apponi LH, Noto JJ, Kelly SM, Leung SW, Tzschach A, Behjatie F, Abedinie SS, Mohsenie M, Jensen LR, Hu H, Huang B, Stahley SN, Liu G, Williams KR, Burdick SK, Feng Y, Sanyal S, Bassell GJ, Ropers HH, Najmabadi H, Corbett AH, Moberg KH, Kuss AW. "Mutation of the conserved polyadenosine RNA-binding protein ZC3H14/dNab2 impairs neural function in Drosophila and humans." **PNAS** 2011 108 (30) 12390-12395 PMID:21734151

3. Allan AM, Liang X, Luo Y, **Pak C**, Li X, Szulwach KE, Chen D, Jin P, Zhao X. "The loss of methyl-CpG binding protein 1 leads to autism-like behavioral deficits." **Human Molecular Genetics** 2008 17 (13) 2047-57 PMID:18385101

2. Zhao X, **Pak C**, Smrt RD, Jin P. "Epigenetics and Neural developmental disorders: Washington DC, September 18 and 19, 2006." **Epigenetics** 2007 2 (2) 126-34 PMID:17965627

1. Duan R, **Pak C**, Jin P. "Single nucleotide polymorphism associated with mature miR-125a alters the processing of pri-miRNA." **Human Molecular Genetics** 2007 16 (9) 1124-31 PMID:17400653

Manuscripts pending
1. Xie T, Brown LE, **Pak C**, Sun Y. "Self-organized anteroposterior regionalization of early midbrain and hindbrain using micropatterned human embryonic stem cells." ***Under revision at Science Advances.*** Research article. [bioRxiv - https://www.biorxiv.org/content/10.1101/2022.07.22.501065v1]

2. Pavon N†, Diep K†, Yang F, Sebastian R†, Martinez-Martin B†, Ranjan R, Sun Y*****, **Pak C***. "Patterning ganglionic eminences in developing human brain organoids using morphogen induced gradient device." ***Under review at Cell Reports Methods.*** Research article. [bioRxiv – https://www.biorxiv.org/content/10.1101/2023.06.20.545705v1]

Lectures and Talk Invitations:

<*denotes virtual seminars>

After joining UMass

2024	Modeling synaptic dysfunction using brain organoids. Biology Seminar series. <u>Confirmed for February 26.</u> Boston University. Boston, MA.
2023	Schizophrenia-associated *NRXN1* deletions induce developmental-timing- and cell-type-specific vulnerabilities in human brain organoids. Institute for Regenerative Medicine Stem Cell Club meeting. <u>Confirmed for November 15.</u> University of Pennsylvania. Philadelphia, PA.
2023	Modeling synaptic dysfunction using brain organoids. Seminar series. <u>Confirmed for October 25.</u> Neural Stem Cell Institute. Rensselaer, NY.
2023	Interrogating synaptic dysfunction in neuropsychiatric disorders using human induced pluripotent stem cell models. Korea Brain Research Institute (KBRI) Seminar series. <u>Confirmed for August 17.</u> Daegu, South Korea.
2023	Interrogating synaptic dysfunction in neuropsychiatric disorders using human induced pluripotent stem cell models. Korea Advanced Institute of Science & Technology (KAIST) Seminar series. <u>Confirmed for August 14.</u> Daejeon, South Korea.

2023   Schizophrenia-associated *NRXN1* deletions induce developmental-timing- and cell-type-specific vulnerabilities in human brain organoids. Excitatory Synapses and Brain Function Gordon Research Conference. Invited short talk. Les Diablerets, Switzerland.

2023   Synaptic dysfunction as the driving mechanism across neuropsychiatric disorders: findings from human iPSC-derived induced neurons and brain organoids. International Behavioural and Neural Genetics Society Annual Meeting. Symposium short talk. Galway, Ireland.

2023   Schizophrenia-associated *NRXN1* deletions induce developmental-timing- and cell-type-specific vulnerabilities in human brain organoids. Stanley Psychiatric Center of the Broad Institute of MIT and Harvard. Monthly seminar series. Cambridge, MA.

2023   Schizophrenia-associated *NRXN1* deletions induce developmental-timing- and cell-type-specific vulnerabilities in human brain organoids. University of Gothenburg and Sahlgrenska University Hospital. Seminar series. Gothenburg, Sweden.

2023   Schizophrenia-associated *NRXN1* deletions induce developmental-timing- and cell-type-specific vulnerabilities in human brain organoids. Smith College. Life Sciences Colloquium Series. Northampton, MA.

2022   Human brain organoid models of NRXN1 CNVs reveal disease genetic background induced developmental phenotypes associated with schizophrenia. Development and 3D Modeling of the Human Brain Conference. Cold Spring Harbor Laboratory. Selected short talk in Keynote session. Long Island, NY.

2022   Investigating neural connectivity and function of disease-associated CASK loss-of-function mutations in human induced neurons. International Society for Stem Cell Research Boston Symposium. Innovation Showcase short talk. Cambridge, MA.

2022   Interrogating synaptic dysfunction in neuropsychiatric disorders using human induced pluripotent stem cell models. Brown University Department of Neuroscience Graduate Program seminar series. Providence, RI.

2022   Interrogating the role of NRXN1 copy number variation in neuropsychiatric diseases using iPSC models. Neurozoom. *Virtual seminar

2022   Functional Interrogation of Disease Associated Copy Number Variants Using Human Pluripotent Stem Cell Based Models. Department of Neuroscience Seminar Series. University of Connecticut Health Sciences. Farmington, CT.

2022   Functional Interrogation of Disease Associated Copy Number Variants Using Human Pluripotent Stem Cell Based Models. Minisymposium talk (Leveraging the Psychiatric Disease Spectrum Towards an Improved Understanding of Brain Dysfunction). Molecular Psychiatry Meeting. Lahaina, HI.

2021   Rewinding somatic cells to understand early human synaptic development in a dish. First annual TBCK syndrome symposium 2021. *Virtual Meeting seminar.

2021   Interrogating the role of NRXN1 copy number variation in neuropsychiatric diseases using iPSC models. Child Health Institute of New Jersey/Robert Wood Johnson Medical School. Newark, NJ.

2021   Rewinding somatic cells to understand early human synaptic development in a dish. Northeast Regional Meeting of the Society for Developmental Biology 2021. *Virtual Meeting talk.

2019   Systematic analysis of schizophrenia-associated NRXN1 deletions using human pluripotent stem cell derived induced neurons. Short talk. Stanley Symposium Severe mental illness: from polygenicity to biology, Stanley Psychiatric Center of the Broad Institute of MIT and Harvard, Cambridge, MA.

2019   Modeling synaptic dysfunction in schizophrenia using human induced pluripotent stem cells. Lunenfeld-Tasenbaum Research Institute seminar, Sinai Health System, Toronto, ON.

2019   Combining genetic and cellular engineering in human pluripotent stem cells to model mental disorders. UMass Interdisciplinary Neurosciences Conference talk, Amherst, MA

2018   Systematic analysis of synaptic dysfunction in neuropsychiatric disorders using human pluripotent stem cell derived neurons. College of Wooster seminar, Wooster, OH.

2018   Modeling synaptic dysfunction in schizophrenia using human induced pluripotent stem cells. UMass Amherst Neuroscience & Behavior Graduate Program seminar, Amherst, MA

2018   Modeling synaptic dysfunction in schizophrenia using human induced pluripotent stem cells. UMass Amherst Molecular & Cellular Biology Program Colloquium talk, Amherst, MA

2018   Modeling synaptic dysfunction in schizophrenia using human induced pluripotent stem cells. UMass Amherst Molecular and Cellular Biology Graduate Program Retreat talk, Amherst, MA

2018   Systematic analysis of schizophrenia-associated NRXN1 deletions using human pluripotent stem cell derived induced neurons. NCRCRG Annual Group Meeting talk, San Diego, CA

Prior to UMass

2017   Systematic analysis of schizophrenia-associated NRXN1 deletions using human pluripotent stem cell derived induced neurons. Autism Grand Rounds seminar, Yonsei University School of Medicine, Seoul, South Korea.

2017   Systematic analysis of schizophrenia-associated NRXN1 deletions using human pluripotent stem cell derived induced neurons. NCRCRG Annual Group Meeting talk, Washington D.C.

2017   Systematic analysis of schizophrenia-associated NRXN1 deletions using human pluripotent stem cell derived induced neurons. Society for Neuroscience Press Conference talk, Washington D.C.

2017   Towards precise modeling of human neuropsychiatric disorders: genetic mutations meet induced neurons. UMass Amherst seminar, Amherst, MA.

2017   Towards precise modeling of human neuropsychiatric disorders: genetic mutations meet induced neurons. University of Southern California seminar, Los Angeles, CA.

2017   Towards precise modeling of human neuropsychiatric disorders: genetic mutations meet induced neurons. Emory University School of Medicine seminar, Atlanta, GA.

2016   Human neuropsychiatric disease modeling using conditional deletion reveals synaptic transmission defects caused by heterozygous mutations in NRXN1. International Society for Stem Cell Research talk, San Francisco, CA

2016   Linking NRXN1 to psychosis. NCRCRG Annual Group Meeting talk, Chicago, IL

2015   Human neuropsychiatric disease modeling using conditional deletion reveals synaptic transmission defects caused by heterozygous mutations in NRXN1. NCRCRG Annual Group Meeting talk, Stanford, CA

2011   The Drosophila melanogaster ZC3H14 orthologue of the human ZC3H14 polyadenosine RNA-binding protein is required for neuronal function. Clark Atlanta University seminar, Atlanta, GA.

2011   The Drosophila melanogaster ZC3H14 orthologue of the human ZC3H14 polyadenosine RNA-binding protein is required for neuronal function. Stanford University seminar, Stanford, CA.

2011   The Drosophila melanogaster ZC3H14 orthologue of the human ZC3H14 polyadenosine RNA-binding protein is required for neuronal function. University of California San Francisco, San Francisco seminar, CA.

2009   Developmental Role of Drosophila Zinc Finger RNA Binding Protein dNab2. Cold Spring Harbor Laboratory RNA Meeting talk, Long Island, NY.

Teaching:

I. Classroom teaching

After joining UMass

2022-present   Biotechnology Training Program core module "CRISPR and genome engineering in iPSC research," UMass Amherst, instructor of record; offered in Spring 2022, 2023 (Graduate level T32 training program core lab module course, 10-12 students); offered annually

2019-present   Advanced Molecular Cell Biology (Biochem/MCB 642), UMass Amherst, co-instructor of record; offered in the Fall 2019, 2020, 2021, 2022 (Graduate level biochemistry/cell biology course, 25-35 students); offered annually

2019-present   Advanced Biochemistry (Biochem 424), UMass Amherst, co-instructor of record; offered in the Spring 2020, 2022, 2023 (Undergraduate upper level biochemistry/cell biology course, 100+ students); offered annually

2019   Advanced Biochemistry (Biochem 424), UMass Amherst, guest lecturer

2018   Advanced Molecular Cell Biology (MCB 642), UMass Amherst, guest lecturer

Prior to UMass

| 2017 | Gender in Science (BIOS 225), Stanford University School of Medicine |
| 2006 | Foundations in Modern Biology (BIO 142), Emory University |

II. Research training/mentoring

Student training at UMass

Dates	Name	Position in my lab	Future/current position
2019-present	Danny McSweeney	PhD candidate, MCB	
2019-present	Rebecca Sebastian	PhD student, NSB	
2020-present	Narciso Pavon	PhD student, NSB	
2021-present	Jay English	PhD candidate, MCB	
2023-present	Lydia Proskauer	PhD student, MCB	
2023-present	Beatriz Martinez-Martin	PhD student, MCB	
2021-present	Karmen Diep	Undergraduate, BMB major (Honors Thesis)	
2021-present	Yoonjae Song	Undergraduate, BMB major (Honors Thesis)	
2022-present	Ethan Howell	Undergraduate, BMB major (Honors Thesis)	
2022-2023	Tracy Wen	Undergraduate intern (Mount Holyoke College)	
2022	Diana Barr	Undergraduate, REU summer student	Bioengineering PhD program, Rice University
2019-2020	Isabelle Marachi	Undergraduate, BMB major	----
2019	Emily Kellogg	Undergraduate intern (Mount Holyoke College)	Neuroscience PhD program, Harvard University
2018-2021	Juliana Babu	Undergraduate, BMB major (Honors Thesis)	Biological and Biomedical Sciences PhD program, Harvard University
2018-2021	Rafael Gabriel	Undergraduate, BMB major (Honors Thesis)	Neuroscience PhD program, Brandeis University
2018-2020	Tasneem Rinvee	Undergraduate, BMB major (Honors Thesis)	Research associate, Harvard Public Health (Dr. Flaminia Catteruccia's lab)

Thesis Committees (in addition to my own students):

Graduate students

Noelle Dziedzic (MCB, Meg Stratton); defended
Tianfa Xie (Mech Eng, Yubing Sun); defended
Andrea Silva-Gotay (NSB, Heather Richardson); defended
Heather Bisbee (MCB, Eric Strieter); defended
Feiyu Yang (ME, Yubing Sun); defended
Gregory Teicher (MCB, Gerry Downes)
Emily Lopes (MCB, Rafael Fissore)
Viet Chi Bao Nguyen (MCB, Meg Stratton)
Rebecca Huber (Chem Eng, Shelly Peyton)
Madison Riffe (NSB, Gerry Downes)
Katie Rickelton (MCB, Courtney Babbit)

Outside member

Kang Jin (Biomedical informatics graduate program, University of Cincinnati); defended

Master students

Lan Ba (NSB, Youngbin Kwak); defended

Undergraduate students

Eugene Cheong (BMB, Jungwoo Lee); defended
Kelsi Watkins (BMB, Paul Katz); defended
Cameron Donahue (BMB, Elena Vazey); defended
Julia Tupper (BMB, Jungwoo Lee); defended
Miguel Franco (BMB, Gregory Tew); defended

Guidance, Comps2 or ORP committees (Graduate students)

Joe Dwyer (NSB, Joe Bergan)
Thomas Tran (MCB, Lynmarie Thompson)
Madison Riffe (NSB, Gerry Downes)
Brennan Falcy (NSB, Ilia Karatsoreos)
Jennifer Wang (NSB, Ilia Karatsoreos)
Hyejoo Kang (NSB, Luke Remage-Healey)
Heather Bisbee (MCB, Eric Strieter)
Daniel Splittstoesser (MCB, Dominique Alfandari)
Caiqin Wang (MCB, Jenny Rauch)

Mentoring, Diversity, Equity, and Inclusion efforts:

2023-present	ALBA Network
2023	National Research Mentoring Network (NRMN) Culturally Aware Mentorship Workshop (9 hrs/3 weeks training)
2021-2022	National Science Foundation UMass ADVANCE Faculty Fellow full year term
2021	National Research Mentoring Network (NRMN) Introduction to Culturally Aware Mentorship Certificate (online training)
2020-present	UMass Women and Non-binary Faculty of Color
2020-2021	Anti-racism working group, Neuroscience and Behavior Graduate Program
2020	NIH Center of Scientific Review Integrity Training
2019	National Research Mentoring Network (NRMN) Mentoring Training (2-day training)

Professional Services and Committee Memberships:

Manuscript Reviewer:
PNAS, Molecular Therapy, Frontiers journals (Genetics, Psychiatry, Molecular Neuroscience, and Synaptic Neuroscience), Journal of Neuroscience Research, Journal of Neuroscience, Molecular Autism, Nature Communications, Biological Psychiatry, Trends in Cell Biology, Molecular Psychiatry, Science Advances, Science Signaling, Acta Neuropathological Communications, Cell Reports, Nature Neuroscience

Guest/associate editor:
1. Journal of Molecular Biology, Elsevier, Special issue "Organoids" 2021-2022
2. Methods in Molecular Biology, Springer Nature, Book series "Stem Cell Based Neural Model Systems for Neurological Disorders" 2022-2023
3. Behavioral and Psychiatric Genetics section in Frontiers in Genetics, Special issue "Stem cells and organoid models for complex psychiatric disorders" 2023-2024

Grant Review Panels:
NIH study section special emphasis panel ZRG1 MDCN P (57), February 2020
NIH study section special emphasis panel ZRG1 ETTN-F(02)M SEP, July 2020
NIH study section special emphasis panel ZRG1 MDCN P (57), February 2021
NIH study section special emphasis panel ZRG1 MDCN P (57), June 2021
NIH study section special emphasis panel ZRG1 MDCN P (57), June 2022
NIH study section special emphasis panel BN-P57, June 2023, Alternate Chair

Meeting/symposium organizer:
2023   Symposium Chair, "Investigating convergent biological mechanisms across neuropsychiatric disorders" International Behavioural and Neural Genetics Society Annual Meeting. Galway, Ireland

Committees:
2023-present   Council member, Association of Korean Neuroscientists

Professional Affiliations:
2021-present   Association of Korean Neuroscientists
2021-present   Society for Developmental Biology
2019-present   Western Massachusetts Chapter of the Society for Neuroscience
2016-present   International Society of Stem Cell Research
2012-present   Society for Neuroscience

Institutional Service:
2021-present   Departmental Bylaws Working Group, Biochemistry and Molecular Biology
2021-present   Departmental Academic Affairs, Biochemistry and Molecular Biology
2021-present   Departmental Research Committee, Biochemistry and Molecular Biology
2021   Co-organizer, T32 Biotechnology Training Program Annual Symposium on Neurotherapeutics
2021   Faculty Search Committee, Department of Biology and Institute of Applied Life Sciences
2020-2022   Graduate Operating Committee, Neuroscience and Behavior Program
2020-2021   Departmental Climate Committee, Biochemistry and Molecular Biology
2019-2020   Departmental Personnel Committee working group, Biochemistry and Molecular Biology
2019-2022   Program Seminar Series Organizing Committee, Molecular and Cellular Biology Graduate Program
2018-2019   Organizing Committee, The initiative on Neurosciences 'Neuroengineering' Symposium
2018-2020   Graduate Admissions Committee, Neuroscience and Behavior Graduate Program
2018-2019   Faculty Search Committee, Department of Biology and Institute of Applied Life Sciences