

Eugene Y. Lee

ASSISTANT PROFESSOR

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PROFILE SUMMARY

I am a cellular neuroscientist focusing on the endolysosomal system in brain homeostasis and neurological disorders. I have successfully obtained external funding including, NRSA F32 and K99/R00 awards from NIH. I actively participate in multiple outreach activities especially for women and historically underrepresented groups. “**YouJin Lee**” is the name I used for publication.

EDUCATION AND RESEARCH EXPERIENCE

BROWN UNIVERSITY, PROVIDENCE, RI **2018-2026**

K99/R00 Postdoctoral Research Fellow with Eric M. Morrow

Laboratory of Eric M. Morrow, M.D., Ph.D.

Endolysosomal dysfunction in neurodevelopment and neurodegenerative diseases

MARINE BIOLOGICAL LABORATORY, WOODS HOLE, MA **2022 Apr**

Visiting scholar, Analytical and Quantitative Light Microscopy Course

Advanced imaging course for acquisition and analysis based on optic theory

WASHINGTON UNIVERSITY IN ST. LOUIS, ST. LOUIS, MO **2012-2018**

Ph.D. in Molecular Cell Biology

Laboratory of Conrad “Chris” Wehl, M.D., Ph.D.

Autophagy defects in neuromuscular disorders and rare neurological disorders

CHA UNIVERSITY, S. KOREA **2008-2012**

B.S. in Biomedical Science with Honors, *summa cum laude*

Laboratory of Gi-Jin Kim, Ph.D.

Hypoxia in stem cell regeneration

FELLOWSHIPS, HONORS AND AWARDS

K99/R00 NIH PATHWAY TO INDEPENDENCE AWARD **2023-PRESENT**

National Institute on Aging

NRSA F32 INDIVIDUAL POSTDOCTORAL FELLOWSHIP **2019-2022**

National Institute on Aging

SUMMA CUM LAUDE **2012**

CHA University

UNDERGRADUATE POSTER AWARD **2011**

CHA University Undergraduate Research Day

PRESIDENT’S SCHOLARSHIP FOR ACADEMIC EXCELLENCE **2008-2012**

CHA University

PUBLICATIONS (MOST RECENT LISTED FIRST)

“YouJin Lee” is the name I used for publication.

Access to all of my publications from here: <https://drive.google.com/drive/folders/1-p00qXIOX-dFNEq4oPNt3UXqjZu7ticA?usp=sharing>

Google Scholar: <https://scholar.google.com/citations?user=UZC9yAcAAAAJ&hl=en&authuser=1>

ORCID: <https://orcid.org/0000-0003-0670-4255>

1. **Lee Y**, Ouyang Q, Riaz H, Ma L, Fleishman M, Schmidt M, Dupree JL, Modal A, Mohanty P, Mittal J, Beckstein O, Lambright DG, Morrow EM. Endosome maturation is orchestrated by inside-out proton signaling through a Na⁺/H⁺ exchanger and pH-dependent Rab GTPase cycling. Accepted in Nature Communications (2026) [pdf](#)
2. **Lee Y**, Ouyang Q, Riaz H, Ma L, Fleishman M, Schmidt M, Dupree JL, Modal A, Mohanty P, Mittal J, Beckstein O, Lambright DG, Morrow EM. Endosome maturation is orchestrated by inside-out proton signaling through a Na⁺/H⁺ exchanger and pH-dependent Rab GTPase cycling. BioRxiv [pdf](#)
3. Riaz H, **Lee Y**, Morrow EM. Longitudinal single-cell transcriptional profiling identifies dynamic neurodegenerative mechanisms in Christianson Syndrome rat. In revision in Nature Communications (NCOMMS-25-25852) [pdf](#)
4. **Lee Y**, Morrow EM. Quantitative measurement of tau aggregation in genetically modified rats with neurodegeneration. Molecular Methods in Molecular Biology (2023) [pdf](#)
5. Fernandez MA, Bah F, Ma L, **Lee Y**, Schmidt M, Welch E, Morrow EM, Young-Pearse TL. Loss of endosomal exchanger NHE6 leads to pathological changes in tau in human neurons. Stem Cell Reports (2022) [pdf](#)
6. **Lee Y**, Miller MR, Fernandez MA, Berg EL, Prada AM, Ouyang Q, Schmidt M, Silverman JL, Young-Pearse TL, Morrow EM. Early lysosome defects precede neurodegeneration with amyloid- β and tau aggregation in NHE6-null rat brain. Brain (2022) [pdf](#)
7. **Lee Y**, Jonson PH, Sarparanta J, Palmio J, Sarkar M, Vihola A, Evilä A, Suominen T, Penttilä S, Savarese M, Johari M, Minot MC, Hilton-Jones D, Maddison P, Chinnery P, Reimann J, Kornblum C, Kraya T, Zierz S, Sue C, Goebel H, Azfer A, Ralston SH, Hackman P, Bucelli RC, Taylor JP, Weihl CC, Udd B. TIA1 variant drives myodegeneration in multisystem proteinopathy with SQSTM1 mutations. J Clin Invest (2018) [pdf](#)
8. **Lee Y**, Weihl CC. Regulation of p62 via the UBA domain ubiquitination and its role in disease. Autophagy (2017) [pdf](#)
9. **Lee Y**, Chou TF, Pittman SK, Keith AL, Razani B, Weihl CC. Keap1/Cullin3 modulates p62/SQSTM1 activity via UBA domain ubiquitination. Cell Rep (2017) [pdf](#)
10. Zhang X, Gui L, Zhang X, Bulfer SL, Sanghez V, Wong DE, **Lee Y**, Lehmann L, Lee JS, Shih PY, Lin HJ, Iacovino M, Weihl CC, Arkin MR, Wang Y, Chou TF. Altered cofactor regulation with disease-associated p97/VCP mutations. Proc Natl Acad Sci U S A (2015) [pdf](#)
11. Weihl CC, Baloh RH, **Lee Y**, Chou TF, Pittman SK, Lopate G, Allred P, Jockel-Balsarotti J, Pestronk A, Harms MB. Targeted sequencing and identification of genetic variants in sporadic inclusion body myositis. Neuromuscul Disord (2015) [pdf](#)
12. Gonzalez MA, Feely SM, Speziani F, Strickland AV, Danzi M, Bacon C, **Lee Y**, Chou TF, Blanton SH, Weihl CC, Zuchner S, Shy ME. A novel mutation in VCP causes Charcot-Marie-Tooth Type 2 disease. Brain (2014) [pdf](#)
13. Jung J, Choi JH, **Lee Y**, Park JW, Oh IH, Hwang SG, Kim KS, Kim GJ. Human Placenta-Derived Mesenchymal Stem Cells Promote Hepatic Regeneration in Ccl4-Injured Rat Liver Model Via Increased Autophagic Mechanism. Stem Cells (2013) [pdf](#)
14. **Lee Y**, Jung J, Cho KJ, Lee SK, Park JW, Oh IH, Kim GJ. Increased SCF/c-kit by hypoxia promotes autophagy of human placental chorionic plate-derived mesenchymal stem cells via phosphorylation of mTOR. J Cell Biochem (2013) [pdf](#)
15. Lee JS, Jeon SY, Choi JH, **Lee Y**, Cha DH, Kim GJ. Effect of hypoxia-induced XIAP expression on apoptosis of trophoblast cells in placenta. Korean J Reprod Med (2010) [pdf](#)

INVITED TALKS

Invited talk, Telluride Science Proton Biology Meeting (Telluride, CO)	2026 Jun
Invited talk, Gordon Research Conference Lysosomes and Endocytosis (Andover, NH)	2026 Jun
Invited talk, Seminar at U of Pittsburgh, Department of Pediatrics (Pittsburgh, PA)	2026 Mar
Invited talk, Seminar at CU Boulder, Institute for Behavioral Genetics (Boulder, CO)	2025 Mar
Invited talk, Seminar at Emory University, Center for Neurodegenerative Disease (Atlanta, GA)	2025 Feb
Invited talk, Seminar at Tufts University, Department of Neuroscience (Boston, MA)	2025 Jan
Invited talk, American Society for Cell Biology (San Diego, CA)	2024 Dec
Invited talk, Gordon Research Seminar Lysosomes and Endocytosis (Andover, NH)	2024 Jun
Invited talk, Seminar at Northwestern University, Department of Pathology (Chicago, IL)	2024 Apr
Invited talk, Seminar at Stanford University, Department of Neurosurgery (Palo Alto, CA)	2024 Mar
Invited talk, Center for Translational Neuroscience Annual Retreat (Providence, RI)	2023 Jun
Invited talk, Seminar at McLean Hospital (Belmont, MA)	2022 Nov
Invited talk, Christianson Syndrome 2022 Meeting (Providence, RI)	2022 Oct
Invited talk, International Conference of the Genetics Society of Korea (Jeju, S.Korea)	2022 Oct
Invited talk, Research Seminar Series at CHA University (Pangyo, S. Korea)	2021 Aug
Invited talk, CHA Research Day at CHA University (Pangyo, S. Korea)	2017 Dec

PROFESSIONAL ACTIVITIES

Advisory Board Member for the Brown Genomic Core	2023-2026
Host and organizer of Brown MCB Seminar , Invited speaker: Dr. Jessica Young , University of Washington	2022 Dec
Host and organizer of Brown MCB Seminar , Invited speaker: Dr. Diane Barber , UCSF	2021 Apr
Ad-hoc peer reviewer for Nature Communications , Scientific Reports and Autophagy	2017-present
Organizer of Monthly " Protein Homeostasis " Journal Club	2013-2018

TEACHING AND MENTORSHIP

Mentor of the total 9 students, Trained 6 underrepresented students and 5 women scientists	2018-present
Zion Todd, Undergraduate (Current: Undergraduate, Brown University)	2025-present
Nichole Chen, Undergraduate (Current: Post-baccalaureate researcher, Broad Institute)	2023-2025
Richard Glebocki, Undergraduate (Current: Medical student, University of Pennsylvania)	2023-2024
Ozgun Yagmur, MD clinical fellow (Current: MD fellow, Acibadem University, Turkey)	2022-2023
James Mullin, Medical student (Current: Residency, the Rhode Island Hospital)	2020-2021
Alissa Oakes, PhD candidate (Current: PhD candidate, Brown University)	2020-2021
Morgan Miller, Undergraduate (Current: PhD candidate, University of Michigan)	2019-2022
Dallece Curley, PhD candidate (Current: Associate Director, Eli Lilly)	2019-2020

OUTREACH ACTIVITIES

Mentor for Translational Neuroscience Outreach Program	2024 Jul
Mentoring high school students to learn about science communication, experimental science and career development.	
Committee Member of Samuel M. Nabrit Conference for Early Career Scholars	2023-present
Organizing a conference to promote outstanding scientists from historically underrepresented groups.	
Committee member of Coalition for the Unhoused in RI	2023-present
Volunteering every week at local shelters for the unhoused people in Providence.	
Organizing 8 funding raising and donation events.	
Organizing monthly meetings with local organizations to raise the awareness.	
Mentor for PhD and MD applications	2018-present
Mentoring undergraduates and master students for their PhD and MD applications:	
Yu Liu, Master student (Current: PhD candidate, Washington University in St.Louis)	2022-2024
Christine Hyun, Research Associate (Current: Medical student, UCSF)	2022-2023
Kenneth Bradley, Research Associate (Current: PhD candidate, Rockefeller University)	2022-2023
Morgan Miller, Undergraduate (Current: PhD candidate, University of Michigan)	2019-2022
Adriana Prada, Research Associate (Current: PhD candidate, Brandeis University)	2019-2022
Tara Srinivas, Undergraduate (Current, Medical student, Johns Hopkins University)	2018-2020
Mentor member of Cientifico Latino	2020-2021
Mentoring underrepresented undergraduates for PhD applications and mock interviews:	
Devi Spuria Korumili, Undergraduate (Current: PhD candidate, University of San Francisco)	
Mentor member for Career Developing Program for Women Scientists	2014-present
Panalist in Career Talk Panel Discussion "Various Career Path"	
Mentoring undergraduates and master students for PhD applications and mock interviews:	
MinJung Kwon, Master student (Current: PhD candidate, University of Iowa)	