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CHELSEY DERDERIAN-LEBLANG

CLINICAL ASSISTANT PROFESSOR OF HUMAN PHYSIOLOGY

DEPARTMENT OF HEALTH SCIENCES, SARGENT COLLEGE OF HEALTH & REHABILITATION SCIENCES, BOSTON UNIVERSITY
635 COMMONWEALTH AVE, BOSTON MA, 02215

EDUCATION

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| Boston University School of Medicine
Anatomy & Neurobiology, Ph.D. <ul style="list-style-type: none">• Mentor: Jennifer Luebke, Ph.D. | September 2015- May 2020
Boston, MA |
| Boston University School of Medicine
Forensic Anthropology, M.S. <ul style="list-style-type: none">• Mentor: Jonathan Bethard, Ph.D. | September 2014- May 2015
Boston, MA |
| Tulane University
Psychology and Biological Anthropology, B.S, <i>Cum Laude</i> + Honors <ul style="list-style-type: none">• Mentor: Katharine Jack, Ph.D. | August 2010- May 2014
New Orleans, LA |

EMPLOYMENT AND EXPERIENCE

Appointments:

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| Clinical Assistant Professor of Human Physiology
Department of Health Sciences, Sargent College of Health & Rehabilitation Sciences
Boston University | July 2026 - Present
Boston, MA |
| Cancer Chemical Biology and Metabolism/ Neurobiology Research Fellow
Department of Cancer Biology, Dana-Farber Cancer Institute
Department of Neurobiology, Harvard Medical School <ul style="list-style-type: none">• Mentor: Rosalind Segal, M.D./Ph.D. | March 2021- June 2026
Boston, MA |
| Neuropathology Postdoctoral Fellow
Department of Pathology, Stanford University School of Medicine <ul style="list-style-type: none">• Mentor: Inma Cobos, M.D./Ph.D. | June 2020- February 2021
Stanford, CA |

Research and Laboratory Experience:

Research Collaborator + Visiting Scientist in Segal Lab

Department of Cancer Biology, Dana-Farber Cancer Institute, Boston, MA

July 2026-Present

- Leads team studying inter-individual susceptibility to Chemotherapy Induced Peripheral Neuropathy (CIPN) with the goal of identifying biomarkers and therapeutic targets.
- Leads team studying satellite glial contribution to human sensory neuron development and degeneration
 - Engineers new microfluidic and 3D models to study this relationship.

Research Fellow in Cancer Chemical Biology and Metabolism/ Neurobiology

P.I.: Rosalind Segal, M.D./Ph.D.

Department of Cancer Biology, Dana-Farber Cancer Institute

Department of Neurobiology, Harvard Medical School, Boston, MA

March 2021- June 2026

- Initiated Segal Lab induced pluripotent stem cell (iPSC) culture program by drafting and implementing key SOPs, building a team and training members (4) in essential techniques.
- Created patient-derived iPSC library in collaboration with Harvard Stem Cell Institute and gynecologic oncology clinicians to model human CIPN *in vitro*.
 - Currently utilizing this resource to elucidate molecular mechanisms underlying individual susceptibility to CIPN.
- Improved differentiation protocols to generate mature iPSC-derived sensory neurons through glial-neuronal interaction.
 - Established that satellite glial contact is essential to the maturation of sensory neurons.
 - Identified a role for satellite glia in the pathogenesis of CIPN.
 - Created a compartmentalized microfluidic coculture system to recapitulate the relationship between sensory neurons and glia *in vivo*, furthering the physiologic relevance of this model.
- Initiated Segal Lab investigation of central nervous system neurodegeneration utilizing Frontotemporal Dementia (FTD) patient iPSC-derived cortical and motor neurons.
 - Created a model to study the pathophysiology of RNA granules in these cell types.
 - Identified a role for stress granules in FTD related axonal transport deficits.
 - Drafted, submitted, and received NIH R21 grant funding to support this work.
- Personal mentorship of undergraduate, Master's, and PhD students in pursuit of their degrees.
 - Streamlined onboarding, orientation, and training.
 - Created and lead Segal Lab student journal club, enhancing students' understanding of the scientific method and the essential components of scientific communication.

Postdoctoral Fellow in Neuropathology

P.I.: Inma Cobos, M.D./Ph.D.

Department of Pathology, Stanford University School of Medicine, Stanford, CA

June 2020-February 2021

- Assessed selective vulnerability of human entorhinal cortex neurons to toxic oligomeric tauopathy at varying stages of Alzheimer's Disease using RNA sequencing.
- Drafted universal lab protocols and created a system for shared access and implementation by all lab members.
- Managed lab SOPs, databases, inventory, safety and ordering.

Ph.D. Candidate in the Lab of Cellular Neurobiology

P.I.: Jennifer Luebke, Ph.D.

Department of Anatomy and Neurobiology, Boston University School of Medicine, Boston, MA

May 2016 – May 2020

- Identified RNA binding Protein (RBP) TIA1 as a key regulator of the aggregation and assembly of toxic phospho-tau oligomers *in vitro* utilizing immuno-electron microscopy.
- Evaluated RBP TIA1 as a therapeutic target in tauopathy using the P301S mouse model.
- Identified a role for RBP TIA1 in regulation of the CNS inflammatory response during chronic stress.
- Personal mentorship of undergraduate and master's students (5) in pursuit of their degrees.
- Managed project supply budget and reagent inventory.

Ph.D. Student Rotation in the Lab of Developmental Cognitive Neuroscience

P.I.: Tarik Haydar, Ph.D.

Department of Anatomy and Neurobiology, Boston University School of Medicine, Boston, MA

January 2016 – April 2016

- Assessed maturation of oligodendrocyte progenitor cells in the Ts65Dn mouse model of Down syndrome to determine efficacy of miconazole treatment for myelin loss.

Genetics Research Study Intern

P.I.: Kenneth Offit, M.D., M.P.H; Zsafia Stadler, M.D.

Department of Clinical Genetics Services, Memorial Sloan Kettering Cancer Center, New York, NY

June 2011 – August 2014

- Collaborated with genetic counselors to create and assess a medical decision-aid tool for the decision to receive incidental whole genome sequencing results.
- Analyzed patient counseling transcripts to determine motivation to learn incidental whole genome sequencing results.
- Generated and analyzed pedigrees to recruit potential participants in a study identifying de novo mutations associated with testicular cancer.

Primate Ecology Student Research Assistant

P.I.: Katharine Jack, Ph.D.

Department of Anthropology, Tulane University, New Orleans, LA

January 2013 – May 2014

Field Research at Santa Rosa National Park, Costa Rica (July 2013- August 2013)

- Collected fecal samples from free-ranging male white-faced capuchin monkeys to determine hormonal variations during maturation and changes in the sexual hierarchy.
- Developed method for quantifying craniofacial measurements in free-ranging male white faced-capuchin monkeys during maturation and changes of the mating hierarchy.

Teaching Experience:

Clinical Assistant Professor of Human Physiology:

SAR HS 369 Gross Human Anatomy

Department of Health Sciences, Sargent College, Boston University, Boston, MA

September 2026

SAR HS 729 Methods in Experimental Physiology

Department of Health Sciences, Sargent College, Boston University, Boston, MA

September 2026

Instructor:

Guest Instructor- AN715 Professional Skills

Boston University School of Medicine, Boston, MA

February 2021-Present (yearly)

- Delivered 2-hr seminar on digital professional networking and career development tools. Facilitated open discussion regarding use of platforms for individual career development.

Instructor- FA712 Human Anatomy and Osteology (20 hrs)

Boston University School of Medicine, Boston, MA

September 2017 – December 2017

- Delivered three-hour lecture on basic anatomy and physiology of the brain and spinal cord.
- Developed laboratory curriculum and taught three four-hour human anatomy lab sessions using prosected human cadavers.

Teaching Fellowships:

Teaching Fellow: Introduction to Careers in Medicine/ Science Teaching Enrichment Program

Boston University School of Medicine, Boston, MA

February and March 2018

- Assisted high school students in gross neuroanatomy laboratory session.

Teaching Fellow- MS144 PrISM Medical Neuroscience (20 hrs)

Boston University School of Medicine, Boston, MA

December 2017

- Assisted graduate and medical students in neuroanatomy lab sessions including gross neuroanatomy, brainstem nuclei, and spinal tracts.
- Lead clinical neuroanatomy case-based learning sessions.

Teaching Fellow-MS142 PrISM Body Structures (40 hrs/year)

Boston University School of Medicine, Boston, MA

October 2016– November 2017

- Prosected human cadavers during the Thorax, Abdomen, and Pelvis and Head and Neck units of Medical Gross Anatomy.
- Assisted graduate and medical students in Medical Gross Anatomy laboratory sessions.
- Carried out review sessions for graduate and medical students and assisted in design of practical exams.

Teaching Fellow- FA712 Human Anatomy and Osteology (40 hrs)

Boston University School of Medicine, Boston, MA

September 2016 – December 2016

- Developed curriculum and taught twelve two-hour basic human anatomy laboratory sessions using prosected human cadavers.

Teaching Assistant - FA700 A1 Professional Skills and Thesis Research Development (20 hrs)

Boston University School of Medicine, Boston, MA

September 2015 – December 2015

- Advised Forensic Anthropology M.S. students regarding:
 - Thesis topic selection, thesis proposal development, and presentation of thesis proposal.
 - Literature review techniques.
 - Formatting and creation of annotated bibliographies.
- Assessed ability to critique and analyze peer-reviewed journal articles.

Mentorship Experience:

- **Michael Fowler, Master's of Medical Science, Boston University School of Medicine**
August 2016 – May 2017, Master's Thesis Advisor
 - Medical College of Georgia, MD, 2024
- **Jenesis Gayden, Bachelors of Science in Psychology, Neuroscience, and Forensic Science, Syracuse University**
June 2017 – August 2017, Summer Training as Research Scholars Program (STaRS) Advisor 2017
 - University of Pittsburgh, PhD in Neuroscience, 2025
- **Nicholas Nicoletti, Master's of Anatomy and Neurobiology, Boston University School of Medicine**
January 2018 – May 2019, Master's Thesis Advisor
 - Michigan State University, MD, 2024
 - Cleveland Clinic, Children's Neurology Residency Program

- **Hee Joo Kang, Bachelors of Science in Neuroscience, Boston University**
June 2018 – December 2019, Undergraduate Research Opportunities Program (UROP) Summer 2019 Advisor
 - Boston University School of Medicine MD Candidate
- **James Zhao, Bachelors of Science in Neuroscience, Boston University**
February 2019 – December 2019, Undergraduate Research Opportunities Program (UROP) Summer 2019 Advisor
- **Toussaint Miller, Bachelors of Science in Neuroscience, Harvard College**
June 2022—December 2024, Undergraduate Neuroscience Research Course Lab Advisor
 - MSc student at University of Oxford
- **Marianna Tsolias, Bachelors and Master's of Science in Neuroscience, Brandeis University**
April 2023—July 2026, Undergraduate Research Advisor, Master's Thesis Advisor

AWARDS AND FUNDING

- NIA, R21: Formation and function of pathologic stress granules containing RNA-Binding Protein SFPQ in tauopathy—Coinvestigator 2023-2025
- T32 Fellow in Cancer Chemical Biology and Metabolism 2022-2024
- Men's Collaborative to Cure Women's Cancer Grant – Contributor/Key Personnel 2022-Present
- Russek Day of Achievement —2nd Place in Anatomy & Neurobiology 2020
- Newcomb College Institute Student Grant—Independent Research 2013–2014

CERTIFICATES, COURSES AND WORKSHOP ATTENDANCE

- Segal Lab Journal Club, Organizer, DFCI 2023
- Academia to Industry Mentorship Course, DFCI Postdoctoral Association 2022
- Becoming a Resilient Scientist Workshop, NIH/DFCI 2022
- My Green Lab Ambassador Program, My Green Lab 2020
- Responsible Conduct in Research Training, NIH/DFCI/BUSM 2017–Present

ORGANIZATIONS

- Peripheral Nerve Society 2025– Present
- International Society for Stem Cell Research 2023 – Present
- Chan Zuckerberg Initiative- Neurodegeneration Challenge Network 2020 – 2021
 - Computational Biology/ Open Science Group
- Society for Neuroscience 2018 – Present
- National Center for Faculty Development and Diversity 2018 – 2020
- National Society of Leadership and Success 2012 – 2014
 - Secretary 2013-2014

LANGUAGES AND SKILLS

Languages: French—Conversational, Spanish—Basic, Haitian Creole—Basic

Laboratory: ■iPSC Culture + Neuronal and Glial Differentiation ■Primary Mammalian Cell Culture ■Immortalized Cell Culture, ■Cloning/ Transformation/ Transfection/ Transduction ■AAV/Lentivirus Production ■sh-RNA Intervention ■CRISPR guide design ■WB/IP/CoIP ■RNA seq ■Metabolomics ■PCR ■ELISA ■FACS ■Tissue Processing (human, mouse, monkey) ■IHC/ICC/IF ■Confocal Microscopy ■Electron Microscopy, ■Live-Cell Imaging ■Calcium Imaging ■MEA

Software: ♦R/SPSS/Prism, ♦FIJI/ImageJ ♦Zen/Leica/Nikon Imaging ♦Neurolucida 3D ♦Reconstruct 3D
♦Stereoinvestigator ♦SnapGene ♦BioRender ♦Office/ Google/ Adobe Suite ♦Notion Project Management.

PUBLICATIONS, PRESENTATIONS, AND POSTERS

Publications

1. Apicco, D. J., Ash, P. E., Maziuk, B., **LeBlang, C.**, Medalla, M., Al Abdullatif, A., ... & Wolozin, B. (2018). Reducing the RNA binding protein TIA1 protects against tau-mediated neurodegeneration in vivo. *Nature neuroscience*, 21(1), 7. doi: 10.1038/s41593-017-0022. PMCID: PMC5745051.
2. **LeBlang, C.J.**, Medalla, M., Nicoletti, N.W., Hays, E.C., Zhao, J., Shattuck, J., Cruz, A.L., Wolozin, B., Luebke, J.I., (2020). Reduction of the RNA Binding Protein TIA1 exacerbates neuroinflammation in tauopathy. *Front. Neurosci.* 14:285. doi: 10.3389/fnins.2020.00285. PMCID: PMC7161592.
3. **LeBlang, C.J.**, Pazyra-Murphy, M., Silagi, E., Dasgupta, S., Tsolias, M., Miller, T.,... Tasdemir-Yilmaz, O., Segal, R.A. (2025). Satellite glial contact enhances differentiation and maturation of human iPSC-derived sensory neurons. *Stem Cell Reports*. 20 (10) 102639. doi: 10.1016/j.stemcr.2025.102639. PMID: 40972585.

Invited Presentations:

1. **LeBlang, Chelsey.** “Modulation of the inflammatory response by RNA binding protein TIA1 in the P301S mouse model of tauopathy.” Keystone Symposium: Neurodegenerative Diseases: New Insights and Therapeutic Opportunities, Keystone, CO. June 20th 2019.
2. **LeBlang, Chelsey.** “Modulation of the inflammatory response by RNA binding protein TIA1 in the P301S mouse model of tauopathy.” Amgen, Neuroscience Department Seminar. Boston, MA. September 30th 2019.
3. **LeBlang, Chelsey.** “Modulation of the inflammatory response by RNA binding protein TIA1 in the P301S mouse model of tauopathy.” John’s Hopkins Medical School, Department of Neurology Seminar. Baltimore, MD. October 31st 2019.
4. **LeBlang, Chelsey.** “Axon degeneration in human induced sensory neuron models of Chemotherapy Induced Peripheral Neuropathy.” Dana-Farber Cancer Institute, Cancer Chemical Biology and Metabolism T32 Fellow Mini-Symposium. Boston, MA. April 28th, 2022.
5. **LeBlang, Chelsey.** “Human induced sensory neurons adopt adult morphology in co-culture with rodent satellite glia.” Harvard Medical School, Department of Neurobiology Seminar. Boston, MA. June 23rd, 2023.
6. **LeBlang, Chelsey.** “Axon degeneration in human induced sensory neuron models of Chemotherapy Induced Peripheral Neuropathy.” Dana-Farber Cancer Institute, Cancer Chemical Biology and Metabolism T32 Fellow Retreat Boston, MA. July 20th, 2023.
7. **LeBlang, Chelsey.** “Human induced sensory neurons adopt adult morphology in co-culture with rodent satellite glia.” Harvard Medical School. Harvard Brain Science Initiative, Axon Biology Symposium. Boston, MA, November 1st, 2023.
8. **Derderian-LeBlang, Chelsey.** “Axon degeneration in patient derived human induced sensory neuron models of CIPN.” Society for Laboratory Automation and Screening, Boston, MA. February 6th, 2024.
9. **Derderian-LeBlang, Chelsey.** “Satellite Glial Contact Advances Differentiation and Maturation of human induced Sensory Neurons”. Harvard Medical School, Department of Neurobiology Seminar. Boston, MA. April 26th, 2024
10. **Derderian-LeBlang, Chelsey.** “Axonal Degeneration in CIPN Patient Derived induced Human Sensory Neurons”. Dana-Farber Cancer Institute, Cancer Chemical Biology and Metabolism T32 Fellow Mini-Symposium. Boston, MA. May 24th, 2024.
11. **LeBlang, Chelsey.** “Satellite Glial Contact Enhances Maturation of human iPSC-derived Sensory Neurons”. Glia in Health and Disease, Cold Spring Harbor, NY. August 23rd, 2024.
12. **LeBlang, Chelsey.** “Satellite Glial Contact Enhances Maturation of human iPSC-derived Sensory Neurons”. Glia in Health and Disease”. Great Lakes Glia, Traverse City, MI. October 6th, 2024.

13. **Derderian-LeBlang, Chelsey.** “Satellite Glial Contribution to CIPN”. Dana-Farber Cancer Institute, Cancer Biology Department Annual Retreat, Cambridge, MA. February 28th, 2025.
14. **Derderian-LeBlang, Chelsey.** “Generating a human Dorsal Root Ganglion model in a microfluidic chip”. Society for Laboratory Automation and Screening. Boston, MA. February 10th, 2026.
15. **Derderian-LeBlang, Chelsey.** “Interindividual susceptibility to Chemotherapy Induced Peripheral Neuropathy”. Harvard Medical School, Department of Neurobiology Seminar. Boston, MA. March 13th, 2026.
16. **Derderian-LeBlang, Chelsey.** “Interindividual susceptibility to Chemotherapy Induced Peripheral Neuropathy”. Dana-Farber Cancer Institute, Department of Cancer Biology Seminar. Boston, MA. April 10th, 2026.

Posters and Abstracts:

1. Stadler ZK, Vijai J, Esposito D., Shah S, Yamrom B, Kendall J, Leotta A, Levy D, Sarrel K, Littman J, **LeBlang C**, Dutra-Clarke A, Feldman D, Bosl G, Norton L, Wigler M, Offit K. Genomic Structural Variation In Cancer Susceptibility. Starr Cancer Consortium Retreat, September 2011, Cold Spring Harbor Laboratories, Cold Spring Harbor, NY.
2. Glogowski E, Boyar S, Sarrel K, **LeBlang C**, Utay E, Shia J, Markowitz A, Guillem J, Robsen M, Offit K, Stadler ZK. Unexplained immunohistochemical DNA mismatch repair deficiency. Collaborative Group of the Americas on Inherited Colorectal Cancer, 15th Annual Meeting, October 2011, Montreal, Canada.
3. Bombard Y., Schrader K., Glogowski E., Hamilton, J., **LeBlang C.**, Salerno, M., Rau Murthy R., Corines M., Manschrek C., Joseph V., Stadler Z., Lipkin S., Offit K., Robson M. Development of a decision aid for the selection of incidental genome sequencing results. American Society of Human Genetics, October 2013, Boston, Massachusetts.
4. Glowgowski E, Bombard Y, Schrader K, Hamilton JG, Salerno M, Gitlin S, **LeBlang C**, Corines M, Patil S, Massie MJ, Vijai J, Stadler Z, Lipkin S, Offit K, Robson M. Uptake and motivations to learn incidental genome sequencing results in cancer patients. American Society of Human Genetics, October 2014, San Diego, California.
5. **LeBlang C**, Wolozin B, Luebke J. Modulation of the Inflammatory Response by TIA1 in the P301S Mouse Model of Tauopathy. Russek Day of Achievement, April 2018, Boston, Massachusetts.
6. **LeBlang C**, Wolozin B, Luebke J. Modulation of the Inflammatory Response by TIA1 in the P301S Mouse Model of Tauopathy. Keystone Symposium: Advances in Degenerative Disease Research and Therapy, June 2018, Keystone, Colorado.
7. **LeBlang C**, Wolozin B, Luebke J. Modulation of the Inflammatory Response by TIA1 in the P301S Mouse Model of Tauopathy. Society for Neuroscience, November 2018, San Diego, California.
8. **LeBlang C**, Wolozin B, Luebke J. Modulation of the Inflammatory Response by TIA1 in the P301S Mouse Model of Tauopathy. Russek Day of Achievement, April 2019, Boston Massachusetts.
9. **LeBlang C**, Wolozin B, Luebke J. Modulation of the Inflammatory Response by TIA1 in the P301S Mouse Model of Tauopathy. Keystone Symposia: Neurodegeneration, June 2019, Keystone, CO.
10. **LeBlang CJ**, Medalla M, Nicoletti NW, Hays EC, Zhao J, Shattuck J, Cruz AL, Wolozin B, Luebke JI. Reduction of the RNA Binding Protein TIA1 exacerbates neuroinflammation in tauopathy. Russek Day of Achievement, May 2020, Boston, MA (virtual).
11. **LeBlang CJ**, Medalla M, Nicoletti NW, Hays EC, Zhao J, Shattuck J, Cruz AL, Wolozin B, Luebke JI. Reduction of the RNA Binding Protein TIA1 exacerbates neuroinflammation in tauopathy. Chan-Zuckerberg Initiative Neurodegeneration Challenge Network Annual Retreat. Fall 2020 (virtual)
12. **LeBlang CJ**, Pazyra-Murphy M, Li Y, Qi CH, Narayan S, Feeney C, Curtis JD, Liu J, Segal RA. Axon degeneration in human induced sensory neuron models of Chemotherapy Induced Peripheral Neuropathy. Harvard Stem Cell Institute Annual Retreat, May 2022, Boston MA.
13. **LeBlang CJ**, Pazyra-Murphy M, Li Y, Qi CH, Narayan S, Feeney C, Curtis JD, Liu J, Segal RA. Axon degeneration in human induced sensory neuron models of Chemotherapy Induced Peripheral Neuropathy. Keystone Symposium: Neurodegeneration, June 2022, Keystone, CO
14. **LeBlang CJ**, Pazyra-Murphy M, Miller T, Tasdemir-Yilmaz O, Segal RA. Human induced sensory neurons adopt adult morphology in co-culture with rodent satellite glia. ISSCR, June 2023, Boston, MA.
15. **LeBlang CJ**, Pazyra-Murphy M, Miller T, Tasdemir-Yilmaz O, Segal RA. Human induced sensory neurons adopt

adult morphology in co-culture with rodent satellite glia. Society for Neuroscience, November 2023, Washington DC.

16. **Derderian-LeBlang CJ**, Pazyra-Murphy M, Tsolias MZ, Dasgupta S, Castellano D, Tristan, C Miller T, Segal RA. Satellite Glial Contribution to CIPN. Peripheral Nerve Society, May 2025. Edinburgh, Scotland.
17. **Derderian-LeBlang CJ**, Dasgupta S, Petrova V, Tsolias MZ, Qi CH, Swati N, Feeney C, Curtis JD, Liu J, Woolf C, Segal RA. Interindividual Susceptibility to Chemotherapy Induced Peripheral Neuropathy. Peripheral Nerve Society, June 2026, Maastricht, Netherlands.

Popular Science Articles:

1. **Derderian-LeBlang CJ** & Segal RA. *From Stem Cells to Mature Sensory Nerves: The Satellite Glia Effect*. 1.28.2026. Harvard Brain Science Initiative: News, Community Stories.
https://brain.harvard.edu/hbi_news/from-stem-cells-to-mature-sensory-nerves-the-satellite-glia-effect/