CHELSEYJ_LEBLANG@DFCI.HARVARD.EDU

CHELSEY DERDERIAN-LEBLANG

EDUCATION

Dana-Farber Cancer Institute/Harvard Medical School — March 2021- Present
Cancer Chemical Biology and Metabolism/ Neurobiology Research Fellow — Boston, MA
- **Mentor:** Rosalind Segal, M.D./Ph.D.

Stanford University School of Medicine — May 2020- February 2021
Neuropathology Postdoctoral Fellow — Stanford, CA
- **Mentor:** Inma Cobos, M.D./Ph.D.

Boston University School of Medicine — September 2015- May 2020
Anatomy and Neurobiology, Ph.D. — Boston, MA
- **Mentor:** Jennifer Luebke, Ph.D.

Boston University School of Medicine — September 2014- May 2015
Forensic Anthropology, M.S. — Boston, MA
- **Mentor:** Jonathan Bethard, Ph.D.

Tulane University — August 2010- May 2014
- Psychology and Biological Anthropology, B.S, *Cum Laude* + Honors — New Orleans, LA
- **Mentor:** Katharine Jack, Ph.D.

EMPLOYMENT AND EXPERIENCE

Research and Laboratory Experience:

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- Present

- Initiated Segal Lab induced pluripotent stem cell (iPSC) culture program by drafting and implementing key SOPs, building a team, and training members in essential techniques.
- Generated patient-derived iPSC library in collaboration with Harvard Stem Cell Institute and Gynecologic Oncology clinical researchers to model human Chemotherapy Induced Peripheral Neuropathy (CIPN) *in vitro*
    - Elucidating molecular mechanisms underlying individual susceptibility to CIPN using multiomics
- Improved differentiation protocols to generate mature iPSC-derived sensory neurons
    - Identified key mechanisms underlying satellite glial contribution to maturation of sensory neurons.
    - Identified a role for satellite glia in the pathogenesis of CIPN.
    - Created compartmentalized microfluidic coculture model to recapitulate the anatomical relationship between sensory neurons and glia *in vivo*, furthering physiological relevance of this model.
- Initiated Segal Lab investigation of neurodegeneration in the central nervous system utilizing iPSC-derived cortical and motor neurons generated from Frontotemporal Dementia patient iPSCs.
    - Created a model to study the pathophysiology of RNA granules in these cell types.
    - 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.

Postdoctoral Fellow in Neuropathology
P.I.: Inma Cobos, M.D./Ph.D.
Department of Pathology, Stanford University School of Medicine, Stanford, CA
May 2020-February 2021

- Assessed selective vulnerability of human entorhinal cortex neurons to oligomeric and fibrillar tauopathy at varying stages of Alzheimer's Disease using immunocytochemistry, FACS, and single cell RNA sequencing.
- Drafted universal lab protocols and implemented system for shared access and editing by lab members.
- Managed lab SOPs, databases, inventory, 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 TIA1 as a key regulator of the aggregation and assembly of phospho-tau oligomers *in vitro* utilizing immuno-electron microscopy and 2D fibril reconstruction.
- Evaluated the efficacy of RBP TIA1 as a target of interest in the pathogenesis of tauopathy in the P301S mouse model.
- Elucidated the role of RBP TIA1 in regulation of the CNS inflammatory response, showing that decreased expression of TIA1 exacerbates neuroinflammation in the P301S mouse model of tauopathy.
- Personally mentored 5 undergraduate and master's degree students in completion of research components of degree programs.
- 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; Zsofia 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 identify 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:

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 lab sessions covering human anatomy on 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 basic neuroanatomy lab covering gross anatomy of the cortex, limbic system, midbrain, and brainstem.

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 covering gross anatomy, nuclei, and spinal tracts and lead clinical neuroanatomy group discussions.

Teaching Fellow-MS142 PrISM Body Structures (40 hrs/year)
Boston University School of Medicine, Boston, MA
October 2016– November 2017

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

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 lab sessions covering basic human anatomy on 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
  - Formatting and creation of annotated bibliography
- Assessed ability to critique and analyze peer-reviewed journal articles.

Mentorship Experience:

- **Michael Fowler, Masters 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, Masters 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 of Science in Biology and Applied Mathematics, Brandeis University**
  April 2023—Present, Undergraduate Research 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.

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. Glogwski 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, Dasgupt S, Castellano D, Tristan, C Miller T, Segal RA. Satellite Glial Contribution to CIPN. Peripheral Nerve Society, May 2025. Edinburgh, Scotland.