

Jeffrey La

Biophysicist helping cancer biologists, developmental psychologists, and chemists quantify their results in search of new challenges and projects

EDUCATION

Ph.D. in Biophysics, 2017–Hiatus as of 2021

University of Massachusetts Boston, Boston, MA

M.S. in Applied Physics, 2014–2016

University of Massachusetts Boston, Boston, MA

Thesis: “Image Processing Techniques for Biomedical Applications”

B.S. in Physics *cum laude*, 2012–2014

University of Massachusetts Boston, Boston, MA

94 Credits towards B.S. in Biomedical Engineering, 2007–2010, at Boston University, Boston, MA

EXPERIENCE

University of Massachusetts Boston, Boston, MA

Research Assistant and Teaching Assistant

JUNE 2013 – 2021

Built and automated data collection of a photoacoustic z-scan system to explore photoacoustic contrast agents for clinical use

Built a digital holographic microscope for cancer imaging and optimized image reconstruction and analysis

Built and further developed a quantitative Fourier phase contrast microscopy system

Created an image analysis assistant GUI and ImageJ macros tuned towards neuroscience research

Applied machine learning classification on cancer cell morphology to further explore therapy response

Dana-Farber/Harvard Cancer Center, Boston, MA

Intern and Journal Club Leader

SUMMERS OF 2014, 2015, and 2017

Built a photoacoustic tomography system, improved its signal, and updated its data acquisition for ex vivo phantom imaging

Mentored undergraduate students and promoted discussions on scientific papers centered on a topic and spanning from biochemistry to sociology

Public Contact Page:

<https://lajeffrey.wixsite.com/music/contact>

ACADEMIA

Citations: **159**, h-index: **5**,

Co-authored papers: **11**

TECHNICAL SKILLS

Proficient: MATLAB, NI LabVIEW, Digital and optical image processing

Experienced: Python, JavaScript, R, Zeiss

Familiar: C#, C++, AutoCAD, SketchUp, Blender, AMIDE, Origin, Arduino

AWARDS/CERTIFICATIONS

US Army Reserve Officers' Training Corps Scholarship Cadet (2007–2011)

Boston University's Entrepreneur Design Contest Co-Winner (2010)

EMT-B (2008–2010)

VOLUNTEER SERVICES

Society of Physics Students' Graduate Student Officer (2016–2021)

Instructor and performer for Chiu Mo Kwoon (2001–2017)

Musician in multiple projects (1998–Present)

PUBLICATIONS

1. Kyeremah, C., La, J., Gharbi, M. A., & Yelleswarapu, C. S. (2022). Exploring different textures of a nematic liquid crystal for quantitative Fourier phase contrast microscopy. *Optics & Laser Technology*, 147, 107631.
2. Hatamimoslehabadi, M., Frenette, M., Bag, S., Gilligan, G. E., La, J., Yelleswarapu, C., & Rochford, J. (2021). Characterization of Triphenylamine and Ferrocenyl Donor- π -Donor Vinyl BODIPY Derivatives as Photoacoustic Contrast Agents. *Photochemistry and Photobiology*.
3. Yasin, A., Nair, V. S., Aravindh, S. A., Sarkar, S. M., Hatamimoslehabadi, M., Mitra, S., ... & Jose, R. (2020). Meso-Zn (ii) porphyrins of tailored functional groups for intensifying the photoacoustic signal. *Journal of Materials Chemistry C*, 8(25), 8546–8559.
4. Borg, R. E., Hatamimoslehabadi, M., Bellinger, S., La, J., Mithila, F., Yelleswarapu, C., & Rochford, J. (2019). Photophysical and Photoacoustic Properties of π -Extended Curcumin Dyes. Effects of the Terminal Dimethylamino Electron-donor and the Bridging Aryl Ring. *Photochemistry and photobiology*, 95(1), 280–292.
5. Ravenelle, R., Berman, A. K., La, J., Mason, B., Asumadu, E., Yelleswarapu, C., & Donaldson, S. T. (2018). Sex matters: females in proestrus show greater diazepam anxiolysis and brain-derived neurotrophin factor- and parvalbumin-positive neurons than males. *European Journal of Neuroscience*, 47(8), 994–1002.
6. Bellinger, S., Hatamimoslehabadi, M., Bag, S., Mithila, F., La, J., Frenette, M., ... & Rochford, J. (2018). Photophysical and photoacoustic properties of quadrupolar borondifluoride curcuminoid dyes. *Chem. Eur. J*, 24(4), 906–917.
7. Bellinger, S., Hatamimoslehabadi, M., Borg, R. E., La, J., Catsoulis, P., Mithila, F., ... & Rochford, J. (2018). Characterization of a NIR absorbing thienyl curcumin contrast agent for photoacoustic imaging. *Chemical Communications*, 54(49), 6352–6355.
8. Hatamimoslehabadi, M., Bellinger, S., La, J., Ahmad, E., Frenette, M., Yelleswarapu, C., & Rochford, J. (2017). Correlation of photophysical properties with the photoacoustic emission for a selection of established chromophores. *The Journal of Physical Chemistry C*, 121(43), 24168–24178.
9. Hatamimoslehabadi, M., Frenette, M., Bellinger-Buckley, S., La, J., Ahmad, E., Rochford, J., & Yelleswarapu, C. (2015, April). Linear and nonlinear absorption enhanced photoacoustic response of BODIPY and curcuminoid photoacoustic-phores. In *Optical Molecular Probes, Imaging and Drug Delivery* (pp. OW3D-4). Optical Society of America.
10. Frenette, M., Hatamimoslehabadi, M., Bellinger-Buckley, S., Laoui, S., La, J., Bag, S., ... & Rochford, J. (2014). Shining light on the dark side of imaging: excited state absorption enhancement of a bis-styryl BODIPY photoacoustic contrast agent. *Journal of the American Chemical Society*, 136(45), 15853–15856.
11. Li, Y., Petrovic, L., La, J., Celli, J. P., & Yelleswarapu, C. S. (2014). Digital holographic microscopy for longitudinal volumetric imaging of growth and treatment response in three-dimensional tumor models. *Journal of biomedical optics*, 19(11), 116001.

POSTER PRESENTATIONS

1. La, J., Celli, J., & Yelleswarapu, C. (2019). Curvature statistics: An underused measure for epithelial to mesenchymal transition classification in pancreatic cancer. In *APS March Meeting Abstracts* (Vol. 2019, pp. T70–013). Boston, MA.
2. La, J., Mason, B., Donaldson, T., & Yelleswarapu, C. (2017). UMapß: A Semi-automatic Image Analysis Assistant Bridging the Gap between Experimentalists and Image Analysis Specialists. In *Laser Science* (pp. JTU2A–108). Optical Society of America. Washington, DC.
3. La, J., Mason, B., Donaldson, T., & Yelleswarapu, C. (2017). Graphic User Interface for Reliable and Repeatable Quantification of Neuron Morphology and Microstructural Analysis. *Microscopy and Microanalysis*, 23(S1), 1380–1381. St. Louis, MI.
4. La, J., Mason, B., Donaldson, T., & Yelleswarapu, C. (2017). Open Source Interface for 2D and 3D Analysis: Bridging the Gap between Experimentalists and Image Specialists. In *3D Image Acquisition and Display: Technology, Perception and Applications* (pp. JTU5A–22). Optical Society of America. San Francisco, CA.