



Bo Liang, PhD
Assistant Professor
Department of Biochemistry
Emory University School of Medicine

Co-Scientific Director
Robert P. Apkarian Integrated Electron Microscopy Core
Emory University

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CURRENT POSITION DESCRIPTION

Dr. Liang joined the Biochemistry faculty as a tenure-track Assistant Professor in October 2016. He was the first faculty recruit to spearhead the efforts to bring single-particle cryo-EM to Emory, as he had gained this expertise working as a postdoctoral fellow with Drs. Stephen Harrison and Sean Whelan at Harvard Medical School. Along with his start-up package, Emory purchased two electron microscopes to be used for single particle analysis, including an FEI 120 kV Talos L120C TEM and an FEI 200 kV Talos Arctica TEM. He was appointed as the Co-Scientific Director of the Robert P. Apkarian Integrated Electron Microscopy Core at Emory, a position he still holds, and he has unrestricted access to the core. His research involving single-particle cryo-electron microscopy (cryo-EM) falls under one of the top University-wide priority research areas, ensuring continued institutional commitment to him and his research program. Because of Dr. Liang and what he has helped build, Emory University's entire community of structural biologists are now performing state-of-the-art cryo-EM experiments and pushing the boundaries of knowledge in biochemical and biomedical research. Importantly, as a structural biologist, Dr. Liang has extensive crystallography experiences since 2004 and continues to use x-ray crystallography as one of the main tools for the ongoing projects and programs in his research laboratory.

EDUCATION AND TRAINING

2000 - 2004 B.S. in Biological Science & B.E. in Computer Science, University of Science and Technology of China (USTC)
2004 - 2009 Ph.D. in Molecular Biophysics, Mentor: Prof. Hong Li, Florida State University (FSU)
2009 - 2016 Postdoctoral Fellow in Biological Chemistry and Molecular Pharmacology (BCMP), and Microbiology and Immunobiology (MBIB), Mentors: Profs. Stephen Harrison and Sean Whelan, Harvard Medical School (HMS)

RESEARCH INTERESTS

I am broadly interested in the structural basis and physiological function of biologically important complexes in space and time. I am particularly interested in interdisciplinary research in biochemistry, structural biology, molecular cell biology, microbiology, and neurobiology. The principal goal of our research is to scrutinize high-resolution structural details and to understand the molecular mechanisms of large assemblies, including ribonucleoprotein complexes and membrane proteins, using integrated cryo-electron microscopy (cryo-EM) and x-ray crystallography.

SERVICE AND EXPERIENCE

- 2005 - 2006 Treasurer, Students for the Effective Communication of Science, Florida State University
- 2006 - 2007 Vice President, Chinese Students and Scholars Association, Florida State University
- 2007 - 2008 President, Chinese Students and Scholars Association, Florida State University
- 2008 - 2009 Senior Consultant, Chinese Students and Scholars Association, Florida State University
- 2009 Graduate Course Lecturer, Florida State University
- 2010 - 2011 Governing Board, HMS/HSDM Postdoctoral Association, Harvard Medical School
- 2011 - 2014 Co-Chair, HMS/HSDM Postdoctoral Association, Harvard Medical School
- 2013 - 2016 Trainee Committee, Biological Chemistry and Molecular Pharmacology, Harvard Medical School
- 2014 - 2016 Secretary, Harvard Medical Postdoctoral Association, Harvard Medical School
- 2015 Developer, Three-dimensional Visualization Online Courses, Harvard Medical School
- 2017 - Graduate Course Lecturer, Virology (IBS 513), Emory University
- 2018 - Graduate Course Lecturer, Foundations of BCDB (BCDB 502), Emory University

MAJOR COMMITTEE ASSIGNMENTS

- 2017 Faculty Search Committee, Department of Biochemistry, Emory University School of Medicine
- 2017 - Cryo-EM Scientist Search Committee, Integrated Electron Microscopy Core, Emory University
- 2017 - Cryo-EM Planning Committee, Integrated Electron Microscopy Core, Emory University
- 2017 - Co-Director, Biochemistry Departmental Seminar, Emory University School of Medicine
- 2017 - Executive Committee, Microbiology and Molecular Genetics (MMG) Graduate Program, Emory University

EDITORIAL / REVIEW

- 2020 - Funding & Resource Application Reviewer: NIH MSFB, NSF CAREER, NCCAT GUPs and BAG, Emory URC
- 2017 - Editorial Board, Journal of Postdoctoral Research (2013-2014), Journal of Molecular Cell Biology (2017-), and Journal of Virology (2021-)
- 2006 - Scientific Journal Peer Reviewer: Acta Crystallographica Section D, Journal of Virology, Methods, Molecular and Cellular Biochemistry, Nature Protocols, Nature Communications, Nature Structural & Molecular Biology, Nucleic Acids Research, PLOS Pathogens, PLOS ONE, Proceedings of the National Academy of Sciences, Protein Science, Science, Virology

GOALS AND IDEAS FOR ADVOCACY FOR THE USER COMMUNITY

Throughout my career, I have participated in many critical services aside from my scientific research. For example, **(A)** I served as the Vice President, President, and Senior Consultant (a total of 3 years) of a student organization as a graduate student. **(B)** I have also been a Trainee Committee member (3 years) of Biological Chemistry and Molecular Pharmacology (BCMP) at Harvard Medical School. **(C)** I have served as a Board Member (1 year), Co-Chair (3 years), and Secretary (2 years) of the Harvard Medical Postdoctoral Association. After I became a PI, I have also engaged as **(D)** the Co-Director of the Biochemistry Departmental Seminar Program and the Executive Committee of the MMG Graduate Program at Emory University. Those experiences greatly enrich my service portfolio and motivate me to contribute and serve the community.

Besides, I have traveled multiple times to APS for onsite x-ray diffraction experiments, and I enjoyed the time being onsite. I understand the importance of having good communication between the APS user community and APS management, especially nowadays the majority of the samples are mailed-in. That is the main reason I want to serve as a member of the APSUO Steering Committee. Thank you for your considering my request!