

From Lab to Leadership: Pursuing Passion and Purpose

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Lisa Keefe is a biophysicist using synchrotron-based structural biology and x-ray crystallography to accelerate drug discovery in the pharmaceutical industry.

Over the last 25 years, Lisa and her team have worked with researchers at more than fifty pharmaceutical and biotech companies, including the current members of the Industrial Macromolecular Crystallography Association (IMCA) that are AbbVie, Bristol-Myers Squibb, Evotec, Janssen, Merck, Novartis, Pfizer, and Relay Therapeutics, facilitating the advancement of the vast majority of their structure-based drug design projects which has resulted in the development of numerous drugs now on the market.

Lisa was introduced to crystallography by Miriam Rossi while studying chemistry at Vassar College, and upon graduation, continued pursuing her interests in the laboratory of Jenny Glusker at the Institute for Cancer Research, Fox Chase Cancer Center. She then went to The Johns Hopkins University School of Medicine where she earned her PhD in Biophysics and Biophysical Chemistry under the mentorship of Eaton E. Lattman. Her career in synchrotron radiation began at the National Synchrotron Light Source as a DOE Alexander Hollaender Distinguished Postdoctoral Fellow jointly with Argonne and Brookhaven National Laboratories during which she first started working with the pharmaceutical companies in IMCA. In 1998, she joined the IMCA-CAT team.

A long-time member of ACA, Lisa has served as both secretary and president of the council and as interim-CEO. She currently serves as past-chair of the executive board of the Council of Scientific Presidents and on the IUCr Commission on Synchrotron and XFEL Radiation.

Currently, Lisa is at the Hauptman-Woodward Medical Research Institute in Buffalo, New York, where she is Vice President for Advancing Therapeutics and the Executive Director of IMCA-CAT. The IMCA-CAT research facility is located at the Advanced Photon Source, Argonne National Laboratory, in Illinois, and features a state-of-the-art insertion device beamline optimized for ultra-high-throughput macromolecular crystallography. The IMCA-CAT team leverages robotics and automation to develop innovative approaches for delivering high-quality diffraction data on the time scales needed to rapidly advance structure-based drug design.