

Bridge 2AI

Assistant Professor **Sally L. Baxter, MD, MSc**, and Professor **Linda Zangwill, PhD**, are part of a UC San Diego School of Medicine group selected for the National Institutes of Health (NIH) Common Fund's Bridge to Artificial Intelligence (Bridge2AI) program. The team at the Shiley Eye Institute was selected to participate in the project due to a long-standing track record of innovation and excellence in eye imaging and conducting clinical research studies.

The NIH's Bridge2AI funding is intended to speed up the widespread use of AI in biomedical research and health care. It has been noted that AI has potential in helping understand and treat disease, but its clinical and research use remains limited because AI cannot be easily or appropriately applied to new datasets. Bridge2AI will create comprehensive AI-ready datasets to be the foundation for new, interpretable and trustworthy AI technologies to answer these issues.

Drs. Baxter and Zangwill are leaders in the modules associated with a

data generation project focused on salutogenesis or the origins of health called AI-READI (AI Ready and Equitable Atlas for Diabetes Insights), along with principal investigators from the University of Washington. Both investigators at SEI will lead the Skills and Workforce Development Module and the Data Acquisition module at UC San Diego. The Skills and Workforce development module also includes faculty from the UC San Diego Halicioğlu Data Science Institute and Herbert Wertheim School of Public Health and Human Longevity Science.

The AI-READI study will focus on diabetes—to learn how diabetes is influenced by patients' genes, lifestyle and environments by generating an ethically sourced data repository to develop machine learning models.

The AI-READI project will include eye imaging and eye exam findings as part of the data being collected in the study, alongside a wide range of other data, including laboratory tests, physical

measurements, surveys/questionnaires, electrocardiograms, genetic data, and statistics from digital health devices like activity trackers. The hope is that researchers can use this wide range of information to generate new insights about diabetes risk and progression, to help develop better treatments for diabetes and its manifestations in different areas of the body, including the eyes.

Focusing on recruiting people traditionally underrepresented in the biomedical sciences and data science/AI workforce, the Skills and Workforce Development team will create a mentored research training program to diversify the AI workforce. Trainees will go through a structured "bootcamp" to learn AI and programming skills along with longitudinal curriculum that incorporates principles of clinical research, AI/machine learning, ethics and the responsible conduct of research. Ultimately, training and educational materials will be developed for the broader community of researchers who will use the AI-READI dataset.