

Implementing Environmentally Responsible Biomedical Laboratory Practices and Developing a Nonradioactive Alternative Pharmacological Research Technique

Patrick Murphy

Dr. Patrick Murphy's laboratory investigates the molecular mechanisms of eukaryotic protein-protein interactions and the ways in which a person's DNA affects their response to immunoinflammatory drug therapies. As a CEJS fellow, Dr. Murphy will be implementing environmentally responsible biomedical laboratory practices and developing a nonradioactive ligand binding assay, which will be used to study pharmacologically relevant drug-receptor interactions. He will develop, test, and utilize this improved research method that will permanently eliminate the use of radioactive materials in his laboratory. The assay will allow him to initiate research that impacts environmentally disadvantaged populations (e.g. improved drug therapies for pediatric asthma patients in communities with poor air quality). He will also initiate a sustainability audit in his laboratory and seek ways to minimize waste and improve sustainable practices in his research. Murphy will be conducting this work collaboratively with Seattle U undergraduate research assistants Nicky Manlove and Gabe Kaemingk (both CEJS student fellows).