



CONVERGENCE RESEARCH INITIATIVES CHEMISTRY OF LIFE PROCESSES INSTITUTE

ACCELERATING TEAM SCIENCE

CLP has set aggressive goals to conquer diseases that have a compelling clinical need by developing new proteoform signatures of health and disease across multiple tissue types and disease mechanisms. To achieve its bold mission, CLP has developed a series of **Convergence Research Initiatives** which bring together teams of Northwestern chemists, life scientists and engineers, with clinicians in Northwestern's Feinberg School of Medicine (FSM), to provide a holistic approach to critical clinical problems that stretch from the lab bench to the patient bedside.

TARGETING NEURODEGENERATIVE DISEASES AND CANCER

CLP has set an ambitious five-year goal to advance the identification of better protein targets for Alzheimer's ALS, Parkinson's disease and cancer for the development of more effective and precise drugs and diagnostics for these devastating diseases.

The Institute's *Scientific Advisory Committee*, comprised of FSM and CLP leadership and researchers, helps to identify areas of the greatest clinical need for pilot funding. To stimulate cross-institutional collaboration, the Institute hosts a series of *Convergence Research Workshops* for faculty and students to share expertise and investigate the Institute's broad resources and deep bench of tools for discovery, analysis and visualization.

ADVANCING PRECISION MEDICINE

CLP-FSM Convergence Research Initiatives propel CLP towards clinical impact by enabling team members to jointly conceptualize how protein-based discovery can be applied to unresolved medical challenges.

Recent Advances Led by Multidisciplinary Teams of CLP Researchers Include:

- New drugs targeting proteins involved in **liver and pancreatic cancers**.
- The first-ever potential therapy to treat degenerating upper motor neurons that cause **ALS**.
- A new compound that shows promise against **Alzheimer's and Parkinson's disease**.
- Isolation of the proteins that protect against **heart disease**.
- Identification of a protein signature in blood that predicts **organ transplant rejection** and enables fine-tuning of rejection-blocking medications.
- A precise measure for assessing patient **COVID-19** risk.

SECURING LARGE-SCALE FUNDING FOR LONG-TERM IMPACT

CLP-FSM Convergence Research Initiatives

catalyze novel ideas for understanding disease to attract sustainable, large-scale funding from both federal agencies and foundations.

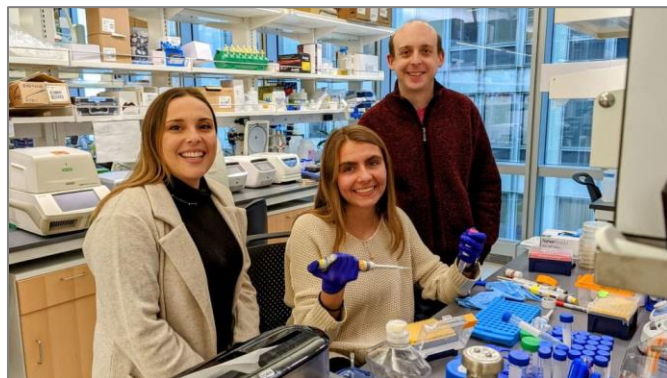
CLP faculty are renowned for development of unique methods for making, modeling and measuring biologically important molecules that play a critical role in health and disease. Institute staff are highly experienced in developing team science research programs and grant applications.

These combined strengths have fueled major federally-funded interdisciplinary biomedical research awards for Northwestern, including a ten-year \$23 million Physical Sciences-Oncology Center (PSOC), a joint venture with Northwestern's Lurie Cancer Center, and the Northwestern Kidney Research Resource Center, in a collaboration led by the Feinberg Cardiovascular Research Institute.

BUILDING GLOBAL PARTNERSHIPS

Tackling the biggest challenges in human health and disease requires partnerships with other world-leading institutions. To raise global awareness of CLP research and technology development and spark new global initiatives, CLP will organize an annual **Convergence Research Symposium** where CLP faculty and invited speakers will present new approaches and methods for drug and diagnostics discovery.

CLP will also launch a **Visiting Scholars Program** to enable biomedical researchers to spend time in CLP labs to learn advanced methods and stimulate new joint research projects.



TRAINING TOMORROW'S BIOMEDICAL INNOVATORS

One of the hallmarks of CLP is its innovative approach to training students at the interface of chemistry and biology. To grow the impact of the Institute's interdisciplinary research programs, the Institute is seeking support for a highly competitive **Convergence Fellows Program**. The two-year postdoctoral fellowship will be awarded to a cohort of outstanding postdoctoral associates who will learn new approaches to complex diseases from dual mentors (a basic researcher and a clinician).

Fellows will gain experience translating their innovations from the lab bench into society and acquire skills highly valued by the most prestigious academic institutions, pharmaceutical and biomedical companies, and research centers in the world.

UNLOCKING THE NEXT WAVE OF BIOMEDICAL INNOVATION

Philanthropic support is critical to continuing this vital research and to expanding its impact in the coming years. To support CLP-FSM Convergence Initiatives, please contact:

Curtrice Scott

curtrice.scott@northwestern.edu