

# Great Cities Commitment Programs at UIC

## *Biotechnology*

### Artificial Intelligence Laboratory

**Description:** The Artificial Intelligence Laboratory specializes in applied AI research and development, particularly focusing on projects in the areas of transportation, molecular biology, and electronics manufacturing optimization.

**Dates active:** 1991 -- present

**Category:** Transportation innovations  
Biotechnology  
Industry partnerships

**UIC Partners:** Engineering

**Contacts:** **Banerjee, Prith**

Dean, College of Engineering and UIC Distinguished Professor

**Phone:** 312.996.2400

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**Partners:** Illinois Department of Transportation  
National Institutes of Health  
National Science Foundation  
United States Department of Transportation

### Center for Pharmaceutical Biotechnology

**Description:** Current areas of research interest include mechanisms of antibiotic action, rational drug design, structure and function of the ribosome, protein folding, cancer research, microbial genomics, protein crystallography and NMR spectroscopy, systems biology and enzymology.

Research in the Center is supported by a number of grants from the major funding agencies such as the National Institutes of Health, as well as research grants and collaboration with various pharmaceutical companies.

**Dates active:** 1995 -- present

**Category:** Biotechnology

**UIC Partners:** Pharmacy

**Contacts:** **Johnson, Michael E.**

Director, Center for Pharmaceutical Biotechnology

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**Partners:** National Institutes of Health  
Pfizer, Inc.

### Chicago Biomedical Consortium

**Description:** The CBC brings together experimentalists, instrumentalists and informaticians to apply new technology and techniques to the study of proteins. CBC's mission is to enable and encourage interdisciplinary research that is beyond the range of a single institution and thereby to promote educational, health and commercial developments that will benefit the Chicago community at large.

**Dates active:** 2002 -- present

**Category:** Biotechnology  
Health and wellness

**UIC Partners:** Medicine

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**Partners:** Chicago Community Trust  
*Searle Funds*  
Northwestern University  
University of Chicago

## Chicago Technology Park

**Description:** Located on 56 acres within the Illinois Medical District (IMD), the Chicago Technology Park (CTP) serves as an incubator facility for technology companies in early development as well as an expansion facility for those companies that are growing their operations. Such companies include those in drug discovery and delivery, medical devices and testing, genomics, nanotechnology and others who collaborate with our premier medical facilities for research and design.

The mission of the CTP, to assist in the growth of companies, is accomplished by supplying fully equipped infrastructure, university resources, internship programs and custom designed business development services.

**Dates active:** 1985 -- present

**Category:** Biotechnology  
Business and entrepreneurial development

**UIC Partners:**

**Contacts:**

**Partners:**

## Computational methods for Genomics

**Description:** This project is sponsored by an Italian grant (Internazionalizzazione del Sistema Universitario; see <http://interlink.miur.it>) An initial application for this grant will be made to the Italian funding agency subject to completion of necessary formalities by the UIC grants office on time.

The aim of the project is to develop computational methods for solving some problems in Computational Biology and Systems Biology, especially regarding the following areas:

- (a) reconstruction of regulatory gene networks
- (b) polymorphisms analysis (haplotyping)
- (c) probe selection for microarray design.

By means of algorithmic techniques (including combinatorial algorithms and data mining), computational complexity methods and experimental analysis of algorithms, we plan to design novel theoretical models for biological problems concerning the research topics listed above, and successively to develop methods for experimentally solving and validating such models.

**Dates active:**

**Category:** Biotechnology  
International collaborations

**UIC Partners:** Engineering

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**Partners:** Università degli Studi di Milano--Bicocca

## Dorothy Bradley Atkins Medicinal Plant Garden

**Description:** The Dorothy Bradley Atkins Medicinal Plant Garden contains more than 70 species of medicinal plants, many of which are mainstay drug-producing plants whose products are currently in use in clinical practice around the world. It builds upon the College's long-standing reputation as one of the world's foremost centers of natural products research.

The garden exists not only for educational and research purposes, but also for the enjoyment it offers as an island of beauty on the campus of the University of Illinois at Chicago.

**Dates active:** July 2002 -- present

**Category:** Biotechnology  
Environmental protection

**UIC Partners:** Pharmacy

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**Partners:** N/A

## Experience BioEngineering! Summer Day Camp

**Description:** "Experience BioEngineering" is a day camp held on the UIC main campus for a week each summer. The camp introduces local high school teachers to the field of bioengineering, with an emphasis on learning what a bioengineer does and seeing how he or she applies engineering principles to solve biological and biomedical problems. The program includes talks, tours, and technology. Participating teachers can choose a laboratory project for a hands-on opportunity to experience how a bioengineer approaches a problem.

**Dates active:**

**Category:** Education innovation  
Biotechnology

**UIC Partners:** Engineering

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**Partners:** N/A

## Institute for Tuberculosis Research

**Description:** Specializes in advanced research and new drug discovery and delivery in the combat against TB

**Dates active:** 1980s -- present

**Category:** Biotechnology  
Healthcare for at-risk populations

**UIC Partners:** Pharmacy

**Contacts:** **Franzblau, Scott**

Director, Institute for Tuberculosis Research

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**Partners:** Various

## International Cooperative Biodiversity Group Program

**Description:** The specific aims of this program are (1) to study plant diversity at Cuc Phuong National Park and medicinal plants of Laos, (2) to search for biologically active molecules from plants of these two countries as potential candidates for drug development (cancer, AIDS, malaria, tuberculosis, Alzheimer disease, pain), and (3) to promote economic development among members of communities in the areas where the ICBG research is undertaken, as well as to strengthen the scientific capacity and the infrastructure of the ICBG host institutions.

**Dates active:**

**Category:** Biotechnology  
International collaborations

**UIC Partners:** Pharmacy

**Contacts:** **Sagraves, Rosalie**

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**Partners:** Cuc Phuong National Park (Vietnam)

John E. Fogarty International Center

National Center for Complementary and Alternative Medicine (NCCAM)

*Institutes of Biotechnology, Chemistry, and Ecology and Biological Resources*

National Institutes of Health

Traditional Medicine Research Center (Laos)

United States Department of Agriculture

*Foreign Agricultural Service*

## Plant Collections and Taxonomy, Task B, Southeast Asia, Herbarium Collection

**Description:** In conjunction with the Field Museum of Natural History, plant samples are collected from Southeast Asia and Central America and placed in an herbarium at the museum for scientific use. Other samples go to the National Cancer Institute for analysis for possible active agents for cancer prevention and/or treatment. Analysis is also done in the College for the drug discovery process.

**Dates active:**

**Category:** Biotechnology  
Industry partnerships  
International collaborations

**UIC Partners:** Pharmacy

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**Partners:** Field Museum of Natural History

National Cancer Institute

## Prototype Drug Shows Promise in Slowing Replication of Severe Acute Respiratory Syndrome (SARS)

**Description:** Currently there is no effective therapy or vaccine for SARS, which killed over 800 people in an epidemic in 2002-2003. Researchers from the Center for Pharmaceutical Biotechnology received an \$8 million grant from the National Institute of Allergy and Infectious Diseases to develop protease inhibitors that should block key enzymes in the SARS virus and hamper its advance. Protease inhibitors, a class of drugs capable of disrupting enzymes that digest protein, have been successfully used to thwart the human immunodeficiency virus, which causes AIDS.

**Dates active:** 2005 --

**Category:** Biotechnology

**UIC Partners:** Pharmacy

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**Partners:** National Institutes of Health

*National Institute of Allergy and Infectious Diseases*

## Virtual Reality in Medicine Laboratory (VRMedLab)

**Description:** "Working with UIC's Electronic Visualization Lab (EVL), developers of the CAVE, ImmersaDesk and PARIS technology, we focus on collaborative biomedical virtual reality applications. Our international high-performance networking connectivity, combined with one of the largest academic health sciences centers in the world and our computer visualization experts enables the VRMedLab to advance biomedical research, education and communication."

**Dates active:** 1997 -- present

**Category:** Biotechnology  
Health and wellness

**UIC Partners:** Applied Health Sciences

Engineering

Medical Center

Medicine

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**Partners:** Advanced Visualization Lab (AVL)

Argonne National Laboratory

Edward Hines Veterans Administration Hospital

John H. Stroger, Jr. Hospital of Cook County

Laser Modeling, Inc.

Loyola University Medical Center

National Institutes of Health

National Library of Medicine