Research in Biomedical Engineering

uOttawa

L'Université canadienne
Canada's university

Université d'Ottawa
Faculté de génie

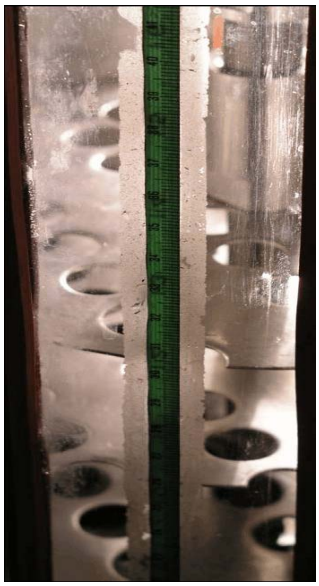
Génie chimique et biologique

University of Ottawa
Faculty of Engineering

Chemical and Biological Engineering

Photos courtesy of David Taylor

Biomedical engineering is a rapidly growing area of research in Chemical Engineering. Chemical engineers have traditionally played a significant role in medical research and practice. Research in biomedical engineering that involves chemical engineers includes tissue engineering, drug delivery, clinical therapies and materials synthesis, modification and fabrication to name but a few. The human body can be considered as a complex chemical processing facility. Thus, chemical engineers can apply their expertise in fluid flow, heat transfer, mass transfer and modeling to the human body to solve a myriad of important real-life problems. Examples include kidney dialysis, the design of artificial organs, drug patches and optimization of drug delivery systems.



Experts

* Dr. Xudong Cao
* Dr. Marc A. Dubé
* Dr. Mariane Fenech (Mech. Eng.)
* Dr. Poupak Mehrani
* Dr. Sidney Omelon
* Dr. David G. Taylor
* Dr. F. Handan Tezel

Partners

* University of Ottawa Faculty of Medicine
* Canadian Food Inspection Agency
* National Research Council
* JR Laboratory

Some Current Projects

* Nerve regeneration in both central nervous and peripheral nervous systems
* Polymeric scaffold for tissue engineering, drug and cell delivery
* Haemostatic materials for severe haemorrhage control
* Biomaterials for artificial corneas
* Micro-cytometers for fast pathogenic bacteria detection
* Process modeling and optimization of biomedical systems
* Tabletting and encapsulation of pharmaceuticals
* Phosphate biomineralization.