Chapter 4: Experiential Learning, Community Integration & Recognition

Our dedication to educating future generations of biomedical and clinical engineers extends beyond our classroom and laboratory walls. Our commitment to world-class training includes initiatives that place our students at the heart of health-care institutions where they can be exposed to real-world challenges.

Providing experiential learning opportunities also align with our efforts to integrate trainees into their professional community by introducing them to leaders in the field. In 2016-2017, our Distinguished Seminar Series continued to host lectures by internationally-renowned researchers, where students and faculty members had the opportunity to attend a talk and subsequently share discoveries, ideas and methodologies with the guest speaker.

Our faculty members continued to garner widespread recognition for outstanding achievements in research, teaching and community service. This sustained acknowledgement continues to elevate the profile of the Institute, creating exposure that helps create new opportunities for both faculty and students alike.

Professional Programs Internships

In 2016-2017, our Master of Health Science (MHSc) in Clinical Engineering students held 35 internship placements in Canada, parts of the U.S. and in Uganda. This type of experiential learning maintains our position as one of the most well-rounded clinical engineering master’s programs in the field.

Our first cohort of Master of Engineering (MEng) in Biomedical Engineering students also held internships as part of their program. All seven placements were located in Toronto.

Figure 4.1 Internships Placements for MHSc Clinical Engineering Students

<table>
<thead>
<tr>
<th>Academic Year</th>
<th>Canada</th>
<th>USA</th>
<th>International</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2012-2013</td>
<td>32</td>
<td>8</td>
<td>1</td>
<td>41</td>
</tr>
<tr>
<td>2013-2014</td>
<td>31</td>
<td>7</td>
<td>1</td>
<td>38</td>
</tr>
<tr>
<td>2014-2015</td>
<td>33</td>
<td>2</td>
<td>2</td>
<td>37</td>
</tr>
<tr>
<td>2015-2016</td>
<td>32</td>
<td>3</td>
<td>1</td>
<td>36</td>
</tr>
<tr>
<td>2016-2017</td>
<td>32</td>
<td>2</td>
<td>1</td>
<td>35</td>
</tr>
</tbody>
</table>
Listing of MEng Internship Placement Partners, 2016-2017

3D4MD Inc.
Avertus Inc.
FlowJEM
Ironstone Product Development
Legworks
Perimeter Medical Imaging

Listing of MHSc Internship Placement Partners, 2016-2017

7D Surgical
Avertus Inc.
Baylis Medical
Clinical Engineering Society of Ontario
eHealth Ontario
Government of Northwest Territories
Department of Health & Social Services
Hospital for Sick Children
Massachusetts General Hospital
Mount Sinai Hospital
Department of Microbiology & Infection Control
Nanovista Inc.
North York General Hospital
OtoSim Inc.
Perimeter Medical Imaging
Sunnybrook Health Sciences Centre
Trillium Health Partners
University Health Network
Centre for Global eHealth
Healthcare Human Factors
Institute for the Advancement of Technology for Health (TECHNA)
Toronto General Hospital
Toronto Western Hospital
Uganda Heart Institute
Unyte Health Inc.
Vivosonic Inc.
XOR Labs Inc.
Selected Awards & Honours Received by Core Faculty

The following is a selected list of honours and awards received by IBBME core faculty in the 2016-2017 academic year.

International

Engineering Conferences International: Scale-Up and Manufacturing of Cell-Based Therapies Award
Peter Zandstra

National

Canada Council for the Arts: Killam Prize in Engineering
Molly Shoichet

Canadian Academy of Engineering: Fellow
Tom Chau

Chemical Institute of Canada / Society for Chemical Industry: Kalev Pugi Award
Molly Shoichet

Engineering Institute of Canada: Fellow
Anthony Easty

Office of the Governor General: Governor General’s Innovation Award
Paul Santerre

Stem Cell Network: Till & McCulloch Award
Molly Shoichet

University of Toronto

U of T Distinguished Professor of Nanobioengineering
Warren Chan

U of T Early Career Teaching Award
Dawn Kilkenny

U of T Engineering: Faculty Teaching Award
Craig Simmons

U of T Northrop Frye Award
Craig Simmons
Distinguished Seminar Series

The IBBME Distinguished Seminar Series invites global leaders in biomedical and clinical engineering research to share their discoveries and methodologies with our community. Speakers are selected and confirmed by a faculty committee in consultation with the Biomedical Engineering Students’ Association (BESA).

The 2016-2017 series committee was chaired by Professor Penney Gilbert. Below is a listing of invited guests over the past academic year.

---

October 31, 2016
Oncolytic Viruses: Replicating Biological Machines for the Treatment of Cancer
**John C. Bell**, Senior Scientist, Centre for Innovative Cancer Research, Ottawa Hospital Research Institute, and Professor, Departments of Medicine and Biochemistry, Microbiology & Immunology, University of Ottawa

---

December 1, 2016
Mapping and Interfacing with the Brain: Challenges and Opportunities
**Bin He**, Distinguished McKnight University Professor of Biomedical Engineering & Director, Institute for Engineering in Medicine, University of Minnesota

---

March 10, 2017
Integration of actin and adhesion dynamics in cell migration
**Clare M. Waterman**, NIH Distinguished Investigator, National Institutes of Health, U.S. Department of Health & Human Services

---

May 8, 2017
Human factors design of health IT for team-based care processes
**Pascale Carayon**, Procter & Gamble Professor in Total Quality, University of Wisconsin-Madison