



Canadian Biomaterials Society
Soci t  Canadienne des Biomat riaux

Quarterly Newsletter

Fall 2013



Letter from the President

Dear Colleagues,

With the successful conference in Ottawa concluded, we now find ourselves back in the thick of things with another semester in full-swing and Thanksgiving already around the corner! Our new Board of Directors, including the Treasurer and Secretary, already had a conference meeting. During which it was wonderful to welcome Dr. Catelas (President-Elect), Dr. Flynn and Dr. Willerth. As President-Elect, Dr. Catelas is very familiar with the workings of the Society and has a focused set of goals that she would like to spearhead within the Society (see below). As you may be aware, Dr. Flynn has served as the Society Secretary for some time, but it is great to see her redirect her enthusiasm to this new role as a member of the Board. Dr. Willerth has been re-elected to continue on as a member of the Board, and her continued presence will undoubtedly benefit the whole Society. Also, it was nice to welcome Mr. Mohtaram as the student representative to the Board of Directors. It seemed apparent that he is willing to be the champion for the student chapters, and be the voice of their concerns on the Board.

In the end, it is my great pleasure to work with these individuals, as well as the rest of the Board of Directors, on the key tasks that lay before the Society. Our efforts will continue to focus upon supporting the various student chapters, supporting the Halifax conference in 2014, and the planning of the WBC for 2016. In addition, the revision of the bylaws for maintaining our not-for-profit status is crucial to the operation of the Society.

Wishing you all a fantastic 2013-14 academic year!
Larry

Introducing our President-Elect: Isabelle Catelas (University of Ottawa)

Dr. Catelas joined the Department of Mechanical Engineering at the University of Ottawa in 2008 as an Associate Professor and Canada Research Chair (CRC), with a cross-appointment at the Faculty of Medicine. Her research activities include the identification and modulation of molecular

mechanisms involved in hip implant failures in order to increase implant longevity, as well as bone tissue engineering. Dr. Catelas has been a Senior Member of the CBS Board of Directors for the last 3 years, and she chaired the 2013 Annual Meeting in Ottawa. As part of her new mandate as CBS President-Elect, she is looking forward to continuing focusing on important endeavors the Society has been working on during the last few years, including the promotion of student engagement through the creation of additional student chapters, the reinforcement of industry relations, the expansion of the Society through increased memberships, and the promotion of representation and active participation of clinicians in the activities of the Society.

Introducing our new board member: Lauren Flynn (Queen's University)

Dr. Flynn is an assistant professor at Queen's University whose research focuses on the development of cell-based strategies with adipose-derived stem cells (ASCs) and naturally-derived bioscaffolds for applications in soft tissue, cardiovascular and cartilage regeneration. She is pleased to be able to continue her involvement in the CBS as a senior board member and looks forward to helping to promote new opportunities for research collaborations across Canada that provide unique training experiences for students and post-doctoral fellows.

Introducing our re-elected board member: Stephanie Willerth (University of Victoria)

Dr. Willerth has been an Assistant Professor in Biomedical Engineering at the University of Victoria since 2010. Her lab engineers neural tissue by combining pluripotent stem cells with bioactive scaffolds. During her upcoming term, she is looking forward to serving on the CBS communication committee, including putting together the quarterly newsletters, as well as trying to establish a CBS awards committee.

Introducing our new student representative: Nima Mohtaram (University of Victoria)

Nima is a Ph.D. candidate at the Department of Mechanical Engineering at the University of Victoria. Since 2012, he has been acting as the student representative of the BC Student chapter of the CBS. Nima works on the fabrication and characterization of micro and nano scale scaffolds for neural tissue engineering applications. Elected in summer 2013, as a student member of board, he is looking forward to bringing and supporting student chapter's idea to the board as well as enhancing the inter-chapter communications.

Important dates:

January 1st: Deadline for CBS visiting scholar applications

June 4th-7th, 2014: Canadian Biomaterials Annual Meeting hosted by Dalhousie University (Halifax, NS).

May 18th-22nd, 2016: World Biomaterials hosted in Montreal.

Recap of the CBS 2013 Annual Meeting:

We had just over 200 attendees at our Annual Meeting held at the University of Ottawa this past summer. Isabelle did an excellent job planning this exciting conference and the society would like to thank her for all of her hard work. Dr. Roz Labow was presented with the first CBS Outstanding Service Award in recognition for her contributions to the Society. Roz has been the treasurer of CBS for many years and has been integral to the growth and development of CBS over the years. Congratulations Roz!

Also, congratulations to the following travel award winners for their outstanding abstracts!

Kyle Battiston, University of Toronto

Cytokines from monocyte-conditioned medium and their influence on vascular smooth muscle cell phenotype on a degradable polyurethane

Charles Fortier, École Polytechnique de Montréal

Recharging a gene delivery vector: Towards tunable stability and biofunctionalization docking sites

Junzi Jiang, University of Manitoba

Injectable ADEP hyaluronic acid-chitosan hydrogels based on Schiff Base enhance angiogenesis, cell proliferation and promote skin regeneration

Drew Kuraitis, University of Ottawa Heart Institute

Therapeutic regeneration of muscle using a skeletal muscle-mimicking matrix is maximized in necrotic contexts

Pauline Lequoy, ETS Montréal

Bioactive anti-apoptotic coating for vascular implants combining chondroitin sulfate and EGF: optimization by oriented immobilization of the growth factor

Shuhan Liu, University of Manitoba

pH and reduction dual-sensitive copolymeric micelles for intracellular doxorubicin (DOX) delivery

Mina Mekhail, McGill University

A rapidly-gelling injectable chitosan sponge to enhance remyelination post-spinal cord injuries

Arash Momeni, Dalhousie University

Synthesis and characterization of different chain length sodium polyphosphates

We would also to congratulate the following students who won awards for best poster presentations!

Andrew Cavers, University of British Columbia

"Bio-airway Research Offering New Concepts in Health (BRONCH) Partnership –Developing Scaffolds for in-vitro Airway Engineering"

Audrey Ferlatte, École de Technologie Supérieure

"Proof of Concept of a Layer-by-layer Bioactive Coating for Cardiovascular Implants"

Charles Fortier, École Polytechnique de Montréal

"Recharging a Gene Delivery Vector: Towards Tunable Stability and Biofunctionalization Docking Sites"

Narges Hadjesfandiari, University of British Columbia

"Investigation on the Development of Antimicrobial Polymer Brush Coatings for Platelet Storage Devices"

Gabrielle Lam, University of Toronto

"Engraftment of a Functional and Vascularized Pancreatic Organoid By Random Assembly of Micro-tissue Units"

Somiraa Said, University of Western Ontario

"Controlled Delivery of Angiogenic Factors from Biodegradable Amino Acid-Based Fibers for Therapeutic Angiogenesis"

Finally, we would like to congratulate the following students who won awards for best podium presentations!

Jasmine Hamilton, University of British Columbia

"Hyperbranched Polyglycerol Significantly Improves Therapeutic Index of Small Molecular Weight Iron Chelator"

Andrea Jeffery, University of Alberta

"An Improved Model for High-throughput Electrode Biocompatibility Testing"

Drew Kuraitis, University of Ottawa Heart Institute

"Therapeutic Regeneration of Muscle Using a Skeletal Muscle-Mimicking Matrix is Maximized in Necrotic Contexts"

Frederic Murschel, École Polytechnique de Montréal

"Vascular Endothelial Growth Factor-Functionalized Biomaterials: Specificity and Stability Controlled by Coiled-Coil Interactions"

Samantha Noël, École Polytechnique de Montréal

"Soft Functionalization of PET for the Design of Bioactive Compliant Vascular Graft"

Zeeshan Sheikh, McGill University

"Bio-resorption of Dicalcium Phosphate Cement Grafts: Brushite vs. Monetite"

Mohit Verma, University of Waterloo

"Beta-Glucans as Multifunctional Drug Delivery Vehicles"



Award winners at CBS 2013 Ottawa

Student Chapter Updates

Update from the Alberta Chapter

The Alberta chapter hosted a barbecue gathering on September 24th for fundraising.

Update from the Montreal Chapter

The inaugural event of the Montreal CBS Student Chapter was held on Thursday June 20th, 2013 at École Polytechnique de Montréal. 60 undergraduate, graduate and researchers working with Biomaterials in Montreal Universities and research centers attended this event. The event started with an informative presentation on principles of Biomaterials, their applications, current and future challenges, by the Montreal Chapter Mentor, Prof. Sophie Lerouge from École de Technologie Supérieure. The event was supported by funds from the CBS, the Research Group in Biomedical Sciences and Technologies (GRSTB), the Institute of Biomedical Engineering at École Polytechnique de Montréal and the Association of the Graduate Students of École Polytechnique de Montréal (AÉCSP).



The Montreal Chapter is now planning to hold its second social event in October at McGill University. The executive committee of the Montreal Chapter is grateful to its Vice-President (Internal), Mr. Yinan Zhang from Concordia University, who left us to start

his new research group in the Harvard-MIT Division of Health Sciences and Technology.

Update from the British Columbia Chapter

On July 5th, 2013, undergraduate and graduate students in the field of Biomaterials and Biomedical Engineering from BC universities met in Victoria, BC for the 2nd student-based workshop on Biomaterials and Biomedical Engineering. The workshop was very well attended and around 50 students attended the lectures and lab tours. The BC Student Chapter of the CBS and the Center for Biomedical Research at the University of Victoria sponsored the workshop. Dr. Willerth, Dr. Dechev and Dr. Bhiladvala from the Department of Mechanical Engineering and the Division of Medical Sciences presented their recent outstanding research projects. Additionally, a number of graduate students gave talks and presented their research to the undergraduate students in the field of Biomaterials and Biomedical Engineering.



Several of students took the lab tours to see the lab equipment and to have hands-on workshops in the following research areas: Stem cell culture, Micro and nanofiber scaffolds for tissue engineering applications, and Biosensors.

Upcoming workshops include:

1. November 2013, Molecular networks for tissue regeneration, University of British Columbia.
2. March 2014, Mechanical analysis of human hard tissues, Simon Fraser University.



In addition, the BC chapter had its third BBQ on September 7th, in association with UBC Experimental Medicine program.

CBS Newsletter editorial board

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Please contact willerth@uvic.ca if you want to contribute to our Winter 2014 CBS Newsletter.



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