CBS 2019

35th

Annual Meeting of
The Canadian Biomaterials Society

May 21-24 2019 | Québec City

PROGRAM

ACKNOWLEDGEMENTS

The Organizing Committee of the 35th Annual Meeting of The Canadian Biomaterials Society would like to express its gratitude and acknowledge the following partners for their generous support of the Congress:

Quebec Metallurgy Center
Centre de métallurgie du Québec

SRC Spectra Research Corporation
CELLINK
thermo scientific by Thermo Fisher Scientific
SFR MAGNIFYING NANOSCIENCE
Cell ThéCell: Quebec Cell, Tissue and Gene Therapy Network
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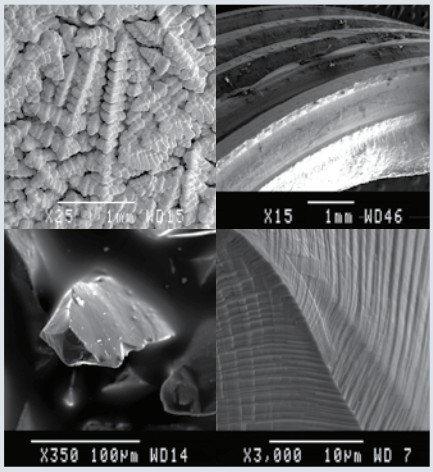
REGEMAT 3D
Axe Médecine Régénératrice
QCAM Quebec Centre for Advanced Materials
Cloud-Science
Canadian Biomaterials Society Société Canadienne des Biomatériaux
QUEBEC CITY STUDENT CHAPTER
CHAPITRE ÉTUDIANT DE QUÉBEC
AEGSEG ASSOCIATION DES ÉTUDIANTS GRADUÉS EN SCIENCES ET GÉNIE



A leader in metallurgy

A unique infrastructure in Québec and Canada !

The Quebec Metallurgy Center is located in Trois-Rivières, Québec. Our focus is to support the technological development of manufacturing companies in the metallurgical sector.

Our unique infrastructure in Canada includes laboratories for modelling, microstructural analysis, non-destructive testing, mechanical and chemical testing, forging, rolling, welding, casting, thermal spraying, heat treating, additive manufacturing and powder metallurgy.

ISO 9001 and 17025 environment

Research axes

- Additive manufacturing
- Powder metallurgy
- Advanced alloys
- Non-destructive testing
- Welding
- Metal forming
- Aluminum processing
- Corrosion and metal protection

Quebec Metallurgy Center
CMQ
Centre de métallurgie du Québec

Contact us

3095, rue Westinghouse
Parc industriel des Hautes-Forges
Trois-Rivières (Québec) G9A 5E1
CANADA

819 376-8707

Montréal Office

1201, boul. Crémazie Est
Office 1210
Montréal (Québec) H2M 0A6
CANADA

514 668-0217

cmqtr.qc.ca

WELCOMING WORDS

«soon»

PROGRAM COMMITTEE

CHAIRS

- Chair: Diego Mantovani, ULaval
- Co-Chair: Nathalie Faucheux, USherbrooke
- Co-Chair: Marc-André Fortin, ULaval

STUDENT ORGANIZING COMMITTEE

The 34th Annual Meeting of the Canadian Biomaterials Society was organised closely with the members of the Student Quebec city Chapter of the Canadian Biomaterials Society.

- Special thanks to Morgane Laurent (past President) and Francesco Copes (President) for proactive collaboration.

LOCAL ORGANIZING COMMITTEE

- Diego Mantovani, ULaval
- Nathalie Faucheux, USherbrooke
- Marc-André Fortin, ULaval
- Jesse Greener, ULaval
- Hendra Hermawan, ULaval
- Mahmoud Rouabhia, ULaval
- Ze Zhang, ULaval

INTERNATIONAL SCIENTIFIC COMMITTEE

- Ketul Popat
- Mohsen Akbari
- Brian Amsden
- Élodie Boisselier
- Stéphane Bolduc
- Marta Cerruti
- Gregory de Crescenzo
- John Davies
- Nathalie Faucheux
- Lindsay Fitzpatrick
- Laureen Flynn
- Jonathan Gagnon
- Katherine Grandfield
- Corinne Hoesli
- Shideh Kabiri
- Marc-Antoine Lauzon
- Sophie Lerouge
- Catherine Levisage
- Mircea Mateescu
- Kibret Mequanint
- Rafik Naccache
- Todd O'Hare
- Ketul Popat
- Milica Radisic
- Paul Santerre
- Michael Sefton
- Heather Sheardown
- Elie Sone
- Patrick Vermette
- Stephanie Willerth
- Chris Yip

GENERAL INFORMATION

CONFERENCE VENUE

Hôtel Le Concorde Québec
1225, cours du Général-De Montcalm
Québec QC G1R 4W6 Canada
Tel.: +1 855 811 4026/
www.hotelleconcordequebec.com/en

LANGUAGE

The official language of the Meeting is English. Simultaneous translation will not be available.

REGISTRATION

All participants should register at the registration desk located in the Foyer of Le Concorde Hôtel and it open at the following times:

Tuesday, May 21, 2019	16:00 - 19:00
Wednesday, May 22, 2019	07:30 - 17:00
Thursday, May 23, 2019	07:30 - 13:00
Friday, May 24, 2019	08:00 - 17:30

EXHIBITION HOURS

Wednesday, May 22, 2019	10:30 - 17:00
Thursday, May 23, 2019	10:00 - 12:00
Friday, May 24, 2019	09:45 - 16:00

INTERNET STATION/MOBILE PHONES

Free internet facilities are available to all participants in the hotel.
Participants are kindly requested to turn their phones off in session rooms.

LUNCH ES AND COFFEE BREAKS

Breakfasts and coffee breaks are located in the Foyer and lunches in the Room «Jean-Paul Lemieux» and «Place Montcalm».

CERTIFICATE OF ATTENDANCE

An official certificate of attendance is available upon request.

NAME BADGE & TICKET FOR SOCIAL EVENTS

Name badge is the participant identification to access the sessions and exhibiton and should be worn for all conferences.

During check in, you will be given your name badge and the tickets you ordered for the social events. Please bring the appropriate ticket(s) to all social events. Additional tickets based on space availability will be available for purchase at the registration desk.

SECURITY & SAFETY

Please do not leave bags and luggage unattended at any time, whether inside or outside session halls.

DISCLAIMER

The 35th CBS2019 secretariat and organizers cannot assume liability for personal accidents, loss of or damage to private property of participants, students, and accompagnying persons, either during or directly arising from the Conference. Participants should make their own arrangement with respect to health and travel insurance.

CBS 2019 Annual Meeting– Secretariat

425, boulevard René-Lévesque Ouest
Québec QC G1S 1S2 Canada
Tel.: +1 418 522 8182/1 800 618 8182 (Canada and U.S.)
E-mail: cbs2019@conferium.com

SOCIAL EVENTS

WELCOME RECEPTION
TUESDAY, MAY 21, 2019

All registered participants are invited to the Welcome Reception, which will take place at the Hôtel Le Concorde Québec, from 17:00 to 19:00.

QUEBEC STUDENT CHAPTER SOCIAL EVENING
WEDNESDAY, MAY 22, 2019

Need a break from a heated biomaterial discussions? Join us to have a beer and some pizza while enjoying some good time playing board games in the vibrant St-Jean street!

Event schedule:

- 17:10 Meeting point at the Concorde Hotel lobby
- 17:30 Start the evening at Ninkasi-St Jean (www.laninkasi.ca)
- 17:45 Short seminar by Prof. Jesse Greener
- 18:30 Board games night in collaboration with La Revanche (boutique.larevanche.ca)
- 8.30pm End of the event

Priority will be given to students, but post-docs and investigators young at heart are welcome!

TRADITIONAL TREASURE HUNT
THURSDAY, MAY 23, 2019

Are you ready for an adventure? Let's go hunt the hidden treasure of Quebec City! Join us for the traditional tresure hunt through the historical streets of the Old-Quebec.

Event schedule:

- 13:00 Gathering of the team at the Concorde Hotel lobby
- 13:30 Start of the Treasure Hunt
- 16:30 End of the Treasure Hunt

SUGAR SHACK DINNER, ORLEANS ISLAND
THURSDAY, MAY 23, 2019

Get ready for an unforgettable moment at the sugar shack, located in Orleans Island. Enjoy the delight of maple syrup and local gastronomy.
Activity on site: Horse carriage and live band.

Departure Schedule from the Concorde hotel to the Sugar shack:

- 16:30
- 16:50
- 17:10
- 17:30

Return at 21:30

INFORMATION FOR ORAL PRESENTERS

Each timeslot for talks is 15 minutes, so plan on delivering an 10-12 minute talk, leaving 3-5 minutes for questions and switching over between speakers. Invited keynote talks is 30 minutes, so plan delivering a 25 minutes talk and leaving 3-5 minutes for questions too. As you will be speaking to a multidisciplinary audience, you are encouraged to provide a significant introduction at the start of your presentation to help put your project and results in context.

All talks should be saved on a USB key and loaded on the laptop present in your lecture room at least 20 minutes prior to the start of your session (loading the day before is encouraged, to give you time to check your slides).

We strongly recommend using Microsoft Office PowerPoint for your presentation. Please note that the congress computers are being supplied with PowerPoint 2013. All presentations will be in a WIDESCREEN format. To take full advantage of the new widescreen format, we recommend that you build or convert your presentation to 16:9.

If you intend to use another type of presentation software, or intend to use multiple videos or large media as part of your presentation, please e-mail the secreatray (cbs2019@conferium.com) at least one week prior to the conference so arrangements can be made. Each session will have one chair and one co-chair as well as a technical helper.

Please arrive at your presentation at least 20 minutes prior to the start of the session to introduce yourself and work out any technical issues that may exist (including microphones, laser pointers, etc.).

Please respect the chairs if they indicate you are out of time - it is important to keep within the ~12 minute oral presentation time in order to avoid delays in the sessions and in order to provide an opportunity for people who wish to move between sessions to do so. All graduate student presenters will be judged, with best presentation awards to be given at the end of the conference.

We strongly encourage you to stay until the end of the conference so you can receive your award.

EQUIPMENT

Each room is equiped with a microphone, a computer, a projector and a screen. Using your own computer will be only allowed in exceptional circumstances: your request must be made the day before at the speaker ready desk and authorized by the organizers. Compatibility test of your equipment will be required. Please note that the time used to switch computer will be deducted from the allotted 15-minutes.

IMPORTANT NOTE FOR MACINTOSH USERS

In order to use MAC presentations on a PC compatible computer, please note that you need to prepare it according to the instructions below, before bringing it to the Speaker Ready Room:

Use a common font, such as Arial, Times New Roman, Verdana, etc. (special fonts might be changed to a default font on a PowerPoint based PC).

Insert pictures as JPG files (and not TIF, PNG or PICT - these images will not be visible on a PowerPoint based PC).

Use a common movie format, such as AVI, MPG and WMV (MOV files from QuickTime will not be visible on a PowerPoint based PC).

You may use your own Macintosh laptop computer as a back-up. In such a case, please make sure to provide a Mini DisplayPort to HDMI or VGA Adapter (Dongle). Please visit the Speaker Ready Room to check your presentation and advise the staff of your intent to use your own laptop. Please arrive at the Plenary room at least 30 minutes prior to the start of your session to plug in your laptop and check your presentation on the projection system.

INFORMATION FOR POSTER PRESENTERS

The Poster Session provides an opportunity for informal, interactive presentations and discussions. It will be located in the Foyer during coffee breaks. Authors are expected to be physically present at their poster during their formal poster session to answer questions. We recommend you prepare a brief (~2-3 minute) summary presentation you can give about your poster in preparation for this poster session. Each presenting author will receive a poster code by e-mail.

The poster board surface area is 40’ (102 cm) high and 80’ (203 cm) wide. Each author will own 1/2 side of a poster board and each will have a useable area measuring 38” (97 cm) high and 38” (97 cm) wide. Poster materials should not extend outside the assigned area. Please note that, by requirement of the poster board supplier, posters may only be attached to the poster boards using Velcro tabs - we will provide these tabs at the conference. A label indicating your number will be placed on the top of your board space.

SCHEDULE:

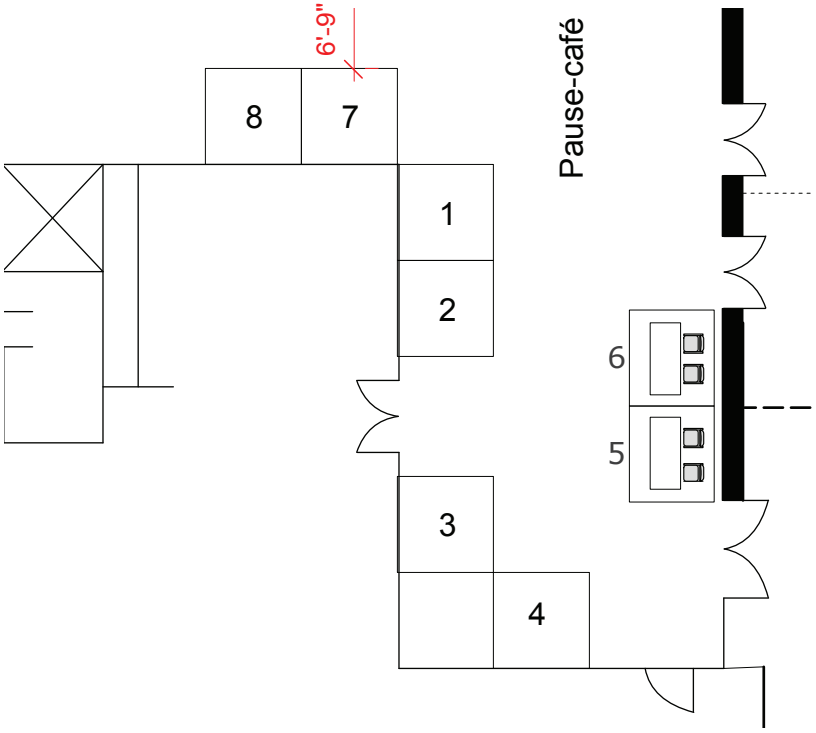
- **Poster session 1**: Wednesday, May 22, 2019, form 15:00 to 16:00
- **Poster session 2**: Thursday, May 23, 2019, from 10:00 to 10:45
- **Poster session 3**: Friday, May 24, 2019, from 9:45 to 10:30
- **Poster session 4**: Friday, May 24, 2019, from 15:15 to 16:00

If you present during the Poster Session 1 or 2, your poster should be mounted no later than 12:00 PM on Wednesday, May 22, 2019 and removed by 12:00 PM on Thurday, May 23, 2019.

If you present during the Poster Session 3 or 4, your poster should be mounted no later than 8:00 AM on Friday, May 24, 2019 and removed by 17:30 AM on Friday, May 24, 2019.

Any posters left up will be kept at the registration desk and, if unclaimed by the end of the conference, will be discarded. Best poster awards will also be given at the closing session - judging will occur during the dedicated poster session time slot . If the presenter is not physically present when the judge arrives, the presenter will not be eligible to receive a poster award.

EXHIBITION FLOOR PLAN



LIST OF EXHIBITORS

COMPANY	BOOTH#
Rheolution Inc.	1
Biomomentum Inc.	2
Systems for Research (SFR)	3
Regemat/CloudScience	4
WBS2020	5
Instron	6
Quebec Metallurgy Center	7
Spectra Research Corporation (SRC)/Cellink	8

TUTORIAL

1: 2ND ENTREPRENEURSHIP CLINIC AND BIOMATERIALS PITCH COMPETITION

Chairs: *Dr. Nima Khadem Mohtaram, University of Waterloo - Dr. Gad Sabbatier, McGill University*

Following ECAB mandates, we propose the 2nd Entrepreneurship Clinic where Biomaterials trainees will be given this opportunity to compete and present their ideas before a panel of three judges at CBS2019.

Full day, at the Loews Le Concorde Hotel

3: RECONSTRUCTION OF TISSUE-ENGINEERED ORGANS WITH HUMAN CELLS: THE LOEX EXPERIENCE

Chair: *François Berthod, LOEX, Centre de recherche du CHU de Quebec-Université Laval*

LOEX, in the CHU de Quebec-Université Laval research center, has more than 30 years of experience in the development of tissue-engineered human organs.

Full day, at the Hôpital de l'Enfant-Jésus

4: MENTORING YOUNG SCIENTISTS: DEVELOPING SURVIVAL SKILLS IN SCIENCE

Chairs: *Fabio Variola, University of Ottawa - Federico Rosei, Institut National de la Recherche Scientifique*

This tutorial is a short version of the course on "Survival Skills for Scientists" [1] developed at INRS.

Full day, Meeting point: at the Loews Le Concorde Hotel

5: 3D-BIOPRINTING, AND BEYOND

Chairs: *Sébastien Meghezi, Cloud Science Inc. - Corinne Hoesli, McGill University*

Tissue-engineering and regenerative medicine hold the promises of many researchers, clinicians and industrials to face the challenges of organ shortage crisis and the risk of immune rejection during transplantation. However, these engineered tissues must be "smartly" structured in order to adequately mimic the natural organization of the extracellular matrix and cells.

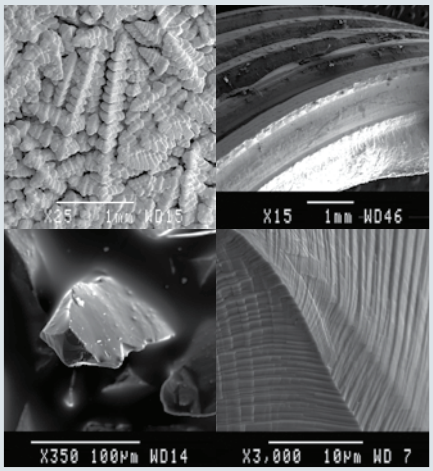
Full day, at the Loews Le Concorde Hotel

6: BIOTECHNOLOGY FOR BIOMATERIALS

Chairs: *Gregory De Crescenzo, Polytechnique Montréal - Nathalie Faucheux, Université de Sherbrooke*

The development of biomaterials that are not inert but bioactive leading to a specific cell response in terms of differentiation and function requires a better understanding on the biomaterial-cell interaction and their subsequent impact on cell behaviour

Full day, at the Loews Le Concorde Hotel



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ISO 9001 and 17025 environment

Research axes

- Additive manufacturing
- Powder metallurgy
- Advanced alloys
- Non-destructive testing
- Welding
- Metal forming
- Aluminum processing
- Corrosion and metal protection

Quebec Metallurgy Center
CMQ
Centre de métallurgie du Québec

Contact us

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CANADA

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Montréal Office

1201, boul. Crémazie Est
Office 1210
Montréal (Québec) H2M 0A6
CANADA

514 668-0217

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SCIENTIFIC PROGRAM

WEDNESDAY, MAY 22, 2019

PLENARY

Room: Suzor
Chair: Diego Mantovani

8:30 - 9:15 **ENGINEERING MATERIAL SURFACES FOR CARDIOVASCULAR APPLICATIONS**
Ketul Popat, Colorado State University, United States

SESSION 1A: FUTURE TRENDS IN REPAIR I

Room: Suzor
Chair: Diego Mantovani and Jennifer Archibald

9:30 - 9:45 **ITERATIVE CELL BIOPRINTING FOR MULTIGENERATIONAL CANCER CELL CULTURES.**
Salvador Flores-Torres, McGill University, Canada
Jacqueline Kort-Mascord, Jose Gil Munguia-Lopez, Tao Jiang, Roman Vidaltamayo, Laura Pena-Paras, Veena Sangwan, Joseph Matthew Kinsella

9:45 - 10:00 **NANOMEDICINE DIFFUSION IN VARIOUS TUMORAL AND PERITUMORAL REGIONS OF NEARLY IDENTICAL HUMAN MICROPHYSIOLOGICAL TUMOR MODELS**
Marziye Mirbagheri, Université de Montréal, Canada
Pierre-Luc Latreille, Agathe Fery, Frederic Murschel, Gregory De Crescenzo, Xavier Banquy

10:00 - 10:30 **PREPARING THE GROUND FOR ENDOGENOUS REPAIR**
Michael V. Sefton, University of Toronto, Canada

SESSION 1B: FUNCTIONAL POLYMERS I

Room: Borduas
Chair: NM Dorval Courchesne and Gad Sabbatier

9:30 - 9:45 **IMPROVING BIOADHESION OF INJECTABLE CHITOSAN HYDROGELS THROUGH CATECHOL MODIFICATION**
Capucine Guyot, École de technologie supérieure (ÉTS), Canada
Sophie Lerouge, Marta Cerruti

9:45 - 10:00 **DESIGN OF CELL-INSTRUCTIVE BIOMATERIAL SCAFFOLDS FOR INTERVERTEBRAL DISC REGENERATION**
Nadia Sharma, The University of Western Ontario, Canada
Courtney Brooks, Cheryle Séguin, Lauren Flynn

10:00 - 10:30 **FROM MOLECULES TO TISSUES, THROUGH BIOMATERIAL-POLARIZED NEUTROPHILS AND MACROPHAGES**
Caroline Hoemann, George Mason University, United States

SESSION 1C: MUSCOLOSKELETAL I

Room: Leduc
Chair: Isabelle Catelas and Sofia Gambaro

9:30 - 9:45 **POLYGLYOXYLAMIDES: TUNING THE PROPERTIES OF SELF-IMMOLATIVE POLYMERS FOR BIOMEDICAL APPLICATIONS**
Quinton Sirianni, The University of Western Ontario, Canada
Amir Rabiee Kenaree, Elizabeth Gillies

9:45 - 10:00 **SCAFFOLD-FREE TISSUE ENGINEERED NERVE TUBE FOR PERIPHERAL NERVE REPAIR**
Alexane Thibodeau, LOEX, centre de recherche du CHU de Québec-Université Laval, Canada
Chantal Fauvel, Todd Galbraith, Hélène Khuong, François Berthod

10:00 - 10:30 **FUNCTIONALIZED CYCLIC CARBONATES: A VERSATILE PLATFORM FOR NEW POLYMER BIOMATERIALS**
Brian Amsden, Queen's University, Canada

SESSION 1D: CELLS & REGENERATION I

Room: Pilot
Chair: Lucie Germain and Seep

9:30 - 9:45 **DEVELOPMENT OF TISSUE-SPECIFIC MICROCARRIERS AS A PLATFORM FOR ADIPOSE-DERIVED STEM/STROMAL CELL DIFFERENTIATION UNDER DYNAMIC CONDITIONS**
Anna Kornmuller, Western University , Canada
Lauren E. Flynn

9:45 - 10:00 **DESIGN OF TISSUE-SPECIFIC EXTRACELLULAR MATRIX COMPOSITE HYDROGELS FOR ADIPOSE-DERIVED STEM/STROMAL CELL (ASC) DELIVERY**
Arthi Shridhar, University of Western Ontario , Canada
Brian Amsden, Elizabeth Gillies , Lauren Flynn

10:00 - 10:30 **EYEDROPS ` EVERYONE'S FAVOURITE INEFFECTIVE METHOD OF DELIVERING DRUGS TO THE EYE. WE CAN DO BETTER**
Heather Sheardown, McMaster University, Canada

SESSION 1A (SUITE): FUTURE TRENDS IN REPAIR I

Room: Suzor
Chair: Diego Mantovani and Jennifer Archibald

11:00 - 11:15 **DEVELOPMENT OF INTRA-ARTICULAR DRUG DELIVERY SYSTEMS FOR THE TREATMENT OF OSTEOARTHRITIS**
Ian Villamagna, Western University , Canada
David Andy Prince , Mark Hurtig , Frank Beier , Elizabeth Gillies

11:15 - 11:30 **HIGH-THROUGHPUT MICROFABRICATION OF CORE-SHELL DRUG-LOADED TABLETS FOR PERSONALIZED MEDICINE**
Armin Geraili, Western University, Canada
Mohsen Janmaleki, Amir Sanati-Nezhad, Kibret Mequanint

11:30 - 12:00 **DESIGNING BIO-INSPIRED INSTRUCTIVE MATERIALS FOR CARTILAGE REPAIR**
Jean-Philippe St-Pierre, University of Ottawa, Canada

SESSION 1B (SUITE): FUNCTIONAL POLYMERS I

Room: Borduas
Chair: NM Dorval Courchesne and Gad Sabbatier

11:00 - 11:15 **SELF-ASSEMBLED MATRIX-DERIVED BEAD FOAMS AS A PRO-ANGIOGENIC MESENCHYMAL STEM CELL DELIVERY PLATFORM**
Pascal Morissette Martin, Western University, Canada
Kellie Kim, Laura Juignet, Lauren Flynn

11:15 - 11:30 **MULTIFUNCTIONAL POLY(VINYL ALCOHOL) HYDROGEL BEADS FOR LOCOREGIONAL CANCER THERAPY**
Xinyi Li, Western University, Canada
Dawn Bannerman, Jian Liu, Ali Khan, Wankei Wan

11:30 - 12:00 **GOLD NANOPARTICLES AS BIOINTERACTIVE DRUG DELIVERY SYSTEM**
Elodie Boisselier, Université Laval, Canada

SESSION 1C (SUITE): MUSCOLOSKELETAL I

Room: Leduc
Chair: Isabelle Catelas and Sofia Gambaro

11:00 - 11:15 **EFFECTS OF COBALT AND CHROMIUM IONS ON GLYCOLYSIS IN MURINE BONE MARROW-DERIVED MACROPHAGES**
Kyla Wilson, University of Ottawa, Canada
Eric A. Lehoux, Mary-Ellen Harper, Isabelle Catelas

11:15 - 11:30 **HUMAN MESENCHYMAL STEM CELL RESPONSE TO SEMI-ORDERED NANOTUBULAR ARCHITECTURES FROM EARLY ADHESION TO BONE MINERAL DEPOSITION**
Alexander Steeves, University of Ottawa, Canada
Fabio Variola

11:30 - 12:00 **BIOLOGICAL AND BIOINSPIRED MATERIALS IN BIOMINERALIZATION AND BIOADHESION**
Eli Sone, University of Toronto, Canada

SESSION 1D (SUITE): CELLS & REGENERATION I

Room: Pilot
Chair: Lucie Germain and Seep

11:00 - 11:15 **RADIOLABELLING OF NANOPARTICLES USING THE RADIOISOTOPE 89ZR FOR IN VIVO BIODISTRIBUTION STUDIES WITH PET IMAGING**
Myriam Laprise-Pelletier, Université Laval, Canada
Mahmoud Omar, Marc-André Fortin

11:15 - 11:30 **INFARCTED HEARTS TREATED WITH METHYLGLYOXAL SCAVENGER-LOADED COLLAGEN HYDROGEL EXHIBIT LESS INFLAMMATION, GREATER VASCULARITY AND IMPROVED FUNCTION**
Cagla Eren Cimenci, University of Ottawa Heart Institute, Canada
Nick Blackburn, Brian McNeill, Manuel Ahumada, Emilio I. Alarcon, Erik Suuronen

11:30 - 12:00 **IMMUNOMODULATION OF INNATE IMMUNE RESPONSES TO BIOMATERIALS**
Lindsay Fitzpatrick, Queen's University, Canada
Laura McKiel, Rosa Comas, Kimberly Woodhouse

SESSION 2A: FUNCTIONAL POLYMERS II

Room: Suzor
Chair: Ze Zhang and Andrea Greschner

14:00 - 14:30 **ORCHESTRATING BONY HEALING WITH MATERIAL SURFACES AND MESENCHYMAL CELLS**
John E Davies, University of Toronto, Canada
RS Liddell, N Khosravi

14:30 - 14:45 **HYPERGLYCEMIA COMPROMISES BONE BY REDUCING MINERALIZED MATRIX PRODUCTION AND DECREASING TISSUE-LEVEL MECHANICAL PROPERTIES**
Birol Ay, University of Toronto, Canada
Kushagra Parolia, Robert Liddell, Yusheng Qui, Giovanni Grasselli, David ML Cooper, John E Davies

14:45 - 15:00 **ULTRALIGHT CONDUCTIVE AND ELASTIC AEROGEL FOR SKELETAL MUSCLE ATROPHY REGENERATION**
Xingying Zhang, University of Manitoba, Canada

SESSION 2B: CELLS & REGENERATION II

Room: Borduas
Chair: Veronique Moulin and Human Savoy

14:00 - 14:30 **CONVERGING APPROACHES TO NON-VIRAL GENE DELIVERY**
Gabriele Candiani, Université Laval, Canada

14:30 - 14:45 **ZAPPING BACTERIA WITH INJECTABLE DRESSING TO PROMOTE HEALING AND REDUCE INFECTION**
Daniela Vieira, McGill university, Canada
Samuel Angel, Edward Harvey, Geraldine Merle

14:45 - 15:00 **MICRORNA-NANOPARTICLES TO FUNCTIONALLY ALTER MACROPHAGE CHOLESTEROL EFFLUX IN VITRO AND IN VIVO**
Suresh Gadde, University of Ottawa, Canada
My-Anh Nguyen, Hailey Wyatt, Leah Susser, Michele Geoffrion, Adil Rasheed, Esther Afolayan, Katey Rayner

SESSION 2C: VASCULAR

Room: Leduc
Chair: Francois Berthod and Lily Takeuchi

14:00 - 14:30 **BIOMATERIALS TOPOGRAPHY IN REGULATING CELL-MATERIALS INTERACTIONS**
Evelyn Yim, University of Waterloo, Canada

14:30 - 14:45 **NEW HIGH STRENGTH/DUCTILITY BETA METASTABLE TI-MO-FE ALLOYS FOR APPLICATIONS IN INTRAVASCULAR DEVICES**
Carolina Bortolan, Laboratory for Biomaterials and Bioengineering, CRC-I, Laval University, Canada
Leonardo Campanelli, Carlo Paternoster, Nicolas Giguère, Claudemiro Bolfarini, Diego Mantovani

14:45 - 15:00 **COLLAGEN-BASED PLEIOTROPHIN DELIVERY SYSTEM FOR VASCULAR APPLICATION**
Francesco Copes, Université Laval, Canada
Pascale Chevallier, Caroline Loy, Francesca Boccafoschi, Diego Mantovani

SESSION 2D: ENGINEERING ASPECTS

Room: Pilot
Chair: Heather Sheardown and Qiang Chang

14:00 - 14:30 **BIOADHESIVE FROM OUTSIDE TO INSIDE THE BODY**
Malcolm Xing, University of Manitoba, Canada

14:30 - 14:45 **STRUCTURAL, CHEMICAL AND ELECTROCHEMICAL CHARACTERIZATION OF AN OXYGEN PLASMA IMPLANTED CO-CR ALLOY FOR CARDIOVASCULAR STENT APPLICATION**
Samira Ravanbakhsh, Université Laval, Canada
Carlo Paternoster, Daniele Pezzoli, Gianni Barucca, Mathieu Da Silva, Laurent Houssiau, Diego Mantovani

14:45 - 15:00 **ANTINECROTIC OXYGEN RELEASING WOUND DRESSINGS**
Benjamin Dalisson, McGill University, Canada

SESSION 2A (SUITE): FUNCTIONAL POLYMERS II

Room: Suzor
Chair: Ze Zhang and Andrea Greschner

16:00 - 16:15 **BOOSTING OF THE DIFFUSION OF SOFT NANOPARTICLES IN CONFINED MEDIA**
Pierre-Luc Latreille, Université de Montréal, Canada
Vahid Adibnia, Augustine Lalloz, Jean-Michel Rabanel, Vincent Martinez, Patrice Hildgen, Xavier Banquy

16:15 - 16:30 **STARCH NANOPARTICLE/CHITOSAN IN SITU-GELLING HYDROGELS FOR THE INTRANASAL DELIVERY OF THERAPEUTICS FOR SCHIZOPHRENIA TREATMENT**
Ali Babar, McMaster University, Canada
Todd Hoare, Michael Majcher

16:30 - 17:00 **WHAT ARE THE CHALLENGES IN COMMERCIALIZING OF BIOMATERIALS ?**
Nima Khadem Mohtaram, University of Waterloo, Canada

SESSION 2B (SUITE): BONE I

Room: Borduas
Chair: Pascale Chevallier and Yuan Yao

16:00 - 16:15 **EFFECTS OF COCRMO AND CHROMIUM OXIDE PARTICLES ON IL-1B RELEASE BY MURINE BONE MARROW-DERIVED MACROPHAGES**
Jennifer Archibald, University of Ottawa, Canada
Eric A. Lehoux, Isabelle Catelas

16:15 - 16:30 **CATHODIC DEPOSITION: A NOVEL METHOD TO BIOENGINEER CHITOSAN FOR APPLICATIONS IN TISSUE ENGINEERING AND SPINAL-CORD INJURIES**
David Lomboni, Politecnico di Milano, Italy
Alexander Steeves, Lorenzo Bonetti, Sarah Schock, Luigi De Nardo, Fabio Variola

16:30 - 17:00 **SURFACE TREATMENTS OF TITANIUM BONE IMPLANTS**
Alicja Kazek-Kesik, Silesian University of Technology , Poland
Wojciech Simka

SESSION 2C (SUITE): MUSCOLOSKELETAL II

Room: Leduc
Chair: Ketul Popat and Alexane Thibodeau

16:00 - 16:30 **DEVELOPMENT OF DELIVERY SYSTEMS OR BIOMIMETIC MATERIALS USING PEPTIDES DERIVED FROM BMP-9 TO CONTROL OSTEOBLASTIC AND NEURONAL DIFFERENTIATION**
Nathalie Faucheux, Université de Sherbrooke, Canada
Jessica Jann, Suzanne Gascon, Shiraa Noumbissie-Nzefa

16:30 - 17:00 **ADVANCED TISSUE ENGINEERING SYSTEMS TO STUDY THE FUNCTIONALITY OF CELLS DERIVED FROM THE PERIPHERAL NERVOUS SYSTEM IN SYNTHETIC NERVE CONDUITS**
Marc-Antoine Lauzon, Université de Sherbrooke, Canada
Catherine Godbout-Lavoie, Samuel Pelletier

TECHNICAL SESSION ON TEM

Room: Pilot
Chair: Marc André Fortin

16:00 - 17:00 **IMAGING ALL ELEMENTS IN DIFFERENT MODES WITH SCANNING TRANSMISSION ELECTRON MICROSCOPE SYSTEMS**
Jan Ringnalda, TEM ThermoFisher Scientific,

THURSDAY, MAY 23, 2019

SESSION 3A: CARDIAC & VASCULAR

Room: Suzor
Chair: Catherine Levisage and Ehsan Rezabeigi

8:30 - 9:00 **ENGINEERING ATRIAL AND VENTRICULAR CARDIAC TISSUES FOR DRUG TESTING**
Milica Radisic, University Health Network, Canada

9:00 - 9:15 **A COLLAGEN-BASED PATCH CONTAINING ELECTROCONDUCTIVE NANOGOLD FOR REPAIR OF THE INFARCTED HEART**
Katsuhiro Hosoyama, University of Ottawa Heart Institute, Canada
Manuel Ahumada, Christopher McTiernan, Darryl R. Davis, Fabio Variola, Marc Ruel, Wenbin Liang, Erik Suuronen, Emilio I. Alarcon

9:15 - 9:45 **BIODEGRADABLE POLY(ESTER AMIDE)S FOR TISSUE ENGINEERING AND REGENERATIVE MEDICINE**
Kibret Mequanint, The University of Western Ontario, Canada

9:45 - 10:00 **THE PRESENCE OF RECOMBINANT ELASTIN-LIKE IN COLLAGEN-BASED TUBULAR GELS INFLUENCE CELL-MEDIATED REMODELLING AND MECHANICAL PROPERTIES**
Dimitria Camasao, Université Laval, Canada
Miguel Pérez, Jose Carlos Cabello, Diego Mantovani

SESSION 3B: SURFACES & INTERFACES I

Room: Borduas
Chair: Hendra Hermawan and Fiona Serack

8:30 - 9:00 **AT THE INTERSECTION OF BIOMATERIALS, SURFACE SCIENCE AND MEDICINE**
Fabio Variola, University of Ottawa, Canada

9:00 - 9:15 **TOPOGRAPHICAL CUES ENHANCE THE FUNCTIONAL MATURITY OF PLURIPOTENT STEM CELLS DERIVED ENDOTHELIAL CELLS (PSC-ECS)**
Seep , National University of Singapore, Singapore
Evelyn Yim, Christine Cheung, Yi-Chin Toh

9:15 - 9:45 **THERMOSENSITIVE HYDROGELS FOR CELL DELIVERY: FROM IN VITRO CHARACTERIZATION TO ANIMAL STUDIES**
Sophie Lerouge, CRCHUM, ETS, Canada

9:45 - 10:00 **A MICELLE PLATFORM FOR MARESIN-1 DELIVERY TO RESOLVE CHRONIC INFLAMMATION**
Mitchell de Prinse, Queen's University, Canada
Brian Amsden, Rosa Comas, Lindsay Fitzpatrick

SESSION 3C: BIOMIMETISM I

Room: Leduc
Chair: Jayachandran Kizhakkedathu and Laura McKiel

8:30 - 9:00 **DESIGN OF BIOMIMETIC MATERIALS AND APPLICATIONS**
Patrick Vermette, Université de Sherbrooke, Canada

9:00 - 9:15 **AN INJECTABLE T CELL DELIVERY SCAFFOLD PREVENTS TUMOR GROWTH IN MICE: TOWARDS LOCAL CANCER IMMUNOTHERAPY**
Nicholas Cunningham, Laboratory of Endovascular Biomaterials (LBeV), École de technologie supérieure (ETS)/ CRCHUM, Canada
Yasaman Alinejad, Bertrand Allard, Aurélie Marches, John Stagg, Rejean Lapointe, Sophie Lerouge

9:15 - 9:45 **DESIGN OF CELL-INSTRUCTIVE BIOMATERIALS TO HARNESS THE PRO-REGENERATIVE POTENTIAL OF ADIPOSE-DERIVED STEM/STROMAL CELLS**
Lauren Flynn, The University of Western Ontario, Canada

9:45 - 10:00 **CURLI-MEDIATED SELF-ASSEMBLY OF FUNCTIONAL PEPTIDES**
Zahra Abdali, McGill University , Canada
Xiaodan Zhu, Noemie-Manuelle Dorval Courchesne

SESSION 3D: BONE II

Room: Pilot
Chair: Nathalie Faucheux and Kyla Sask

8:30 - 9:00 **DESIGN AND OPTIMIZATION OF POLYPHOSPHATE-BASED BIOMATERIALS FOR CLINICAL APPLICATIONS**
Mark Filiaggi, Dalhousie University, Canada

9:00 - 9:15 **ANTI-ADHESIVE SILVER-INCORPORATED LONG-ACTING ANTI-BIOFILM COATING**
Hossein Yazdani Ahmadabadi, University of British Columbia, Canada
Kai Yu, Yan Mei, Lily Takeuchi, Dirk Lange, Jayachandran Kizhakkedathu

9:15 - 9:45 **CARBON DOTS - A NANOPLATFORM FOR FLUORESCENCE-BASED APPLICATIONS**
Rafik Naccache, Concordia University, Canada

9:45 - 10:00 **DIRECT OXIDATION OF SILVER DOPED IN DIAMOND-LIKE CARBON COATING: AN APPROACH TO CONTROL THE RELEASE OF SILVER IONS**
Linda Bonilla-Gameros, Université Laval, Canada
Pascale Chevallier, Diego Mantovani

SESSION 3A (SUITE): CARDIAC & VASCULAR

Room: Suzor
Chair: Catherine Levisage and Ehsan Rezabeigi

10:45 - 11:15 **BOUNDARY LUBRICATING PROPERTIES (AND MORE) OF PRG4 / LUBRICIN ON ARTICULAR CARTILAGE, THE OCULAR SURFACE, AND OTHER BIOMATERIALS & BIOINTERFACES**
Tannin Schmidt, University of Connecticut Health Center, United States

11:15 - 11:30 **LARGE ADIPOSE TISSUE GENERATION USING MUSSEL-INSPIRED BIOREACTOR OF PLATELETS LOADED ELASTIC CRYOGEL**
Qiang Chang, University of Manitoba, Canada
Malcolm Xing

11:30 - 12:00 **WHEN NANOPARTICLES MET BIOPOLYMERS: LEARNING HOW TO MAKE BETTER BIOMATERIALS**
Emilio I. Alarcon, University of Ottawa Heart Institute, Canada

SESSION 3B (SUITE): SURFACES & INTERFACES I

Room: Borduas
Chair: Hendra Hermawan and Fiona Serack

10:45 - 11:15 **POLYMER BIOMATERIAL SURFACE MODIFICATION: THE KEY TO INTEGRATION**
Marta Cerruti, McGill University, Canada
Emily Buck, Hesameddin Mahjoubi, Seunghwan Lee, Monzur Murshed, Laura Stone

11:15 - 11:30 **PRECISE ORIENTATION OF THERMALLY-SENSITIVE BIOMOLECULES USING DNA NANOSTRUCTURES: AN EXPLORATION OF NON-THERMAL TECHNIQUES FOR CONTROLLING DNA NANOASSEMBLIES**
Andrea Greschner, INRS, Canada
Xavier Ropagnol, Mohamed Kort, Nabilah Zuberi, Jonathan Perreault, Luca Razzari, Tsuneyuki Ozaki, Marc A. Gauthier

11:30 - 12:00 **PEPTIDE-MEDIATED TETHERING OF NANO-OBJECTS**
Gregory De Crescenzo, Polytechnique Montréal, Canada

SESSION 3C (SUITE): BIOMIMETISM I

Room: Leduc
Chair: Jayachandran Kizhakkedathu and Laura McKiel

10:45 - 11:15 **MECHANICS IN A BIOMATERIOMICS WORLD: THE WATERLOO COMPOSITE BIOMATERIAL SYSTEMS LAB**
Thomas Willett, University of Waterloo, Canada

11:15 - 11:30 **INVESTIGATING OSTEOBLAST RESPONSE TO ELECTROPHORETICALLY DEPOSITED COATINGS ON ADDITIVELY MANUFACTURED LATTICES**
Joseph Deering, McMaster University, Canada
Amanda Clifford, Bryan Lee, Igor Zhitomirsky, Kathryn Grandfield

11:30 - 12:00 **PROGRAMMING PEPTIDE-BASED MATERIALS TO BE BIORESPONSIVE AND BIOACTIVE.**
Larry Unsworth, University of Alberta, Canada

SESSION 3D (SUITE): BONE II

Room: Pilot
Chair: Nathalie Faucheux and Kyla Sask

10:45 - 11:15 **MRI-VISIBLE BIOCOMPATIBLE HYDROGELS AS CELL SCAFFOLDS FOR TISSUE ENGINEERING**
Fortin Marc-André, Université Laval,
Julie Fradette, Sophie Laurent, Philippe Legros

11:15 - 11:30 **MAGNETICALLY ACTUATED SPION-LOADED POLY(OLIGOETHYLENE GLYCOL METHACRYLATE) NANOFIBERS FOR SKELETAL MUSCLE TISSUE ENGINEERING**
Somiraa Said, McMaster University, Canada
Karishini Ramamoorthi, Todd Hoare

11:30 - 12:00 **MINERALIZATION OF CALCIUM PHOSPHATES - FROM BONE TO BIOMEDICAL DEVICES**
Rizhi Wang, University of British Columbia, Canada

FRIDAY, MAY 24, 2019

PLENARY

Room: Suzor
Chair: Diego Mantovani

9:00 - 9:45 **POLYSACCHARIDE HYDROGELS AND CELL THERAPIES: APPLICATION TO OSTEOARTICULAR REGENERATIVE MEDICINE**
Catherine Le Visage, Regenerative Medicine and Skeleton RMeS Inserm U1229, France

SESSION 4A: SURFACES & INTERFACES II

Room: Suzor
Chair: Alicja Kazek-Kesik and Kyla Wilson

10:30 - 11:00 **NEW STRATEGIES FOR CHARACTERIZING BIOMATERIALS WITH ADVANCED X-RAY, ELECTRON, ION, AND ATOM PROBE MICROSCOPES**
Kathryn Grandfield, McMaster University, Canada

11:00 - 11:15 **FROM DIRECT PLASMA FUNCTIONALIZATION FOR PEPTIDES IMMOBILIZATION TO IN-VITRO AND IN-VIVO ASSESSMENT OF BIOACTIVE COCR CORONARY STENTS**
Sergio Diaz-Rodriguez, Université Laval, Canada
Jules Mesnier, Pascale Chevallier, Giuseppina Caligiuri, Diego Mantovani

11:15 - 11:30 **INFLUENCE OF THE COVALENT GRAFTING OF BIOACTIVE POLYMERS ONTO PCL FIBER SCAFFOLDS: SURFACE CHARACTERIZATION, INTRINSIC PROPRIETIES INVESTIGATION AND BIOLOGICAL RESPONSE**
Gana Amokrane, LBPS/CSPBAT UMR CNRS 7244, Institut Galilée, Université Paris 13 Sorbonne Paris Cité, Villetaneu, France
Céline Falentin-Daudré, Salah Ramtani, Véronique Migonney, Vincent Humblot, Emile Jubeli, Najet Yagoubi

11:30 - 12:00 **KEYNOTE: MICROFLUIDICS AS A TOOL FOR STUDY AND DEVELOPMENT OF BIOMATERIALS WITH APPLICATIONS TO BIOFOULING AND REGENERATIVE MEDICINE.**
Jesse Greener, Université Laval, Canada

SESSION 4B: CELLS & REGENERATION III

Room: Borduas
Chair: Julie Fradette and Katsuhiro Hosoyama

10:30 - 11:00 **BLOOD AND TEARS: DEVELOPING IN VITRO MODELS TO INVESTIGATE MECHANISMS INVOLVED IN BIOCOMPATIBILITY**
Maud Gorbet, University of Waterloo, Canada

11:00 - 11:15 **IMMUNOMODULATION ON CELL SURFACES VIA ENZYMATIC CONJUGATION OF GLYCOCALYX-MIMICKING POLYMERS**
Haiming Daniel Luo, University of British Columbia, Canada
Erika M. Siren, Jayachandran Kizhakkedathu

11:15 - 11:30 **DEVELOPMENT OF A CELL-BASED REGENERATIVE STRATEGY TO MODULATE ANGIOGENESIS AND INFLAMMATION IN ISCHEMIC MUSCLE**
Fiona Serack, Western University, Canada
Stuart Young, Brian Amsden, David Hess, Lauren Flynn

11:30 - 12:00 **ENGINEERING ENCAPSULATION DEVICES FOR THE CELL-BASED TREATMENT OF DIABETES**
Corinne Hoesli, McGill University, Canada

SESSION 4C: FUTURE TRENDS IN REPAIR II

Room: Leduc
Chair: Geetha Manivasagam and David Lomboni

10:30 - 11:00 **GENITOURINARY TISSUE ENGINEERING: ON THE ROAD TO PRECISION MEDICINE**
Stéphane Bolduc, CHU de Québec-Université Laval Research Center, Canada

11:00 - 11:15 **TOLL-LIKE RECEPTOR 2-MEDIATED MACROPHAGE ACTIVATION BY DAMAGE-ASSOCIATED MOLECULAR PATTERNS ON POLYMERIC SURFACES**
Laura McKiel, Queen's University, Canada
Kimberly Woodhouse, Lindsay Fitzpatrick

11:15 - 11:30 **BIOMECHANICAL PROPERTIES OF POLYURETHANE/SILK FIBROIN COMPOSITE SCAFFOLDS: POTENTIAL USE IN SKIN REGENERATIVE MEDICINE APPLICATIONS**
Dr. Muhammad Anwaar Nazeer, KOC University, Turkey
Emel Yilgor, Iskender Yilgor

11:30 - 12:00 **WHY DOES IMMUNITY MATTER IN THE DESIGN OF SYNTHETIC DEGRADABLE BIOMATERIALS**
J. Paul Santerre, University of Toronto, Canada

SESSION 4D: FUNCTIONAL POLYMERS III

Room: Pilot
Chair: Gabriele Candiani and Capucine Guyot

10:30 - 11:00 **STRUCTURING HYDROGELS ON MULTIPLE LENGTH SCALES FOR CELL SCAFFOLDING APPLICATIONS**
Todd Hoare, McMaster University, Canada

11:00 - 11:30 **TWO-DIMENSIONAL MATERIALS BASED WEARABLE SENSORS**
Shideh Kabiri Ameri , Queen's University, Canada

11:30 - 12:00 **ENGINEERING FUNCTIONAL CARTILAGES**
Adetola Adesida, University of Alberta, Canada

PLENARY

Room: Suzor
Chair: Diego Mantovani

13:15 - 14:00 **GP$: WAYFINDING THROUGH THE FUNDING LANDSCAPE**
Christopher Yip, Univ. of Toronto, Canada

SESSION 5A: NSERC FUNDING OPPORTUNITIES

Room: Suzor
Chair: Christopher Yip & Diego Mantovani

14:15 - 15:45 **NSERC FUNDING OPPORTUNITIES BY NSERC OFFICERS, SPECIAL SESSION ON DISCOVERY GRANTS AND PARTNERSHIP PROGRAMS (NEW!!!)**

SESSION 5B: BIOPRINTING

Room: Borduas
Chair: Corinne Hoesli and Dimitria Camisao

14:15 - 14:45 **ADVANCED FIBROUS MATERIALS FOR DISEASE MODELLING AND DRUG DELIVERY**
Mohsen Akbari, University of Victoria, Canada

14:45 - 15:00 **3D PRINTING OF MICROVASCULATURE USING BIOELASTOMER PREPOLYMERS BY FREEFORM REVERSIBLE EMBEDDING**
Houman Savoji, University of Toronto, Canada
Locke Davenport Huyer, Mohammad Hossein Mohammadi, Benjamin Fook Lun Lai, Dawn Bannerman, Mohammad Shoaib, Erin Bobicki, Milica Radisic

15:00 - 15:15 **TUNING THE PRINTABILITY OF METHACRYLATED GELATIN WITH THE ADDITION OF CHLORIDE SALT AND HYDROXYAPATITE NANO-PARTICLES**
Patricia Comeau, University of Waterloo, Canada
Thomas Willett

SESSION 5C: NATURAL POLYMERS I

Room: Leduc
Chair: Jesse Greener and Anna Kornmuller

14:15 - 14:45 **DEVELOPMENT OF BIOMATERIALS FROM CHITOSAN**
Jonathan Gagnon, Université du Québec à Rimouski, Canada

14:45 - 15:00 **DEVELOPMENT OF A HEART-TARGETED MACROMOLECULAR IRON CHELATOR FOR THE TREATMENT OF TRANSFUSION-ASSOCIATED IRON OVERLOAD**
Lily Takeuchi, University of British Columbia, Canada
Srinivas Abbina, Usama Abbasi, Jayachandran Kizhakkedathu

15:00 - 15:15 **HUMAN MESENCHYMAL STEM CELL RESPONSE TO POLYDOPAMINE: EVIDENCE SUPPORTING ITS USE AS MULTI-FUNCTIONAL COATING IN BONE TISSUE ENGINEERING.**
Alexander Steeves, University of Ottawa, Canada
Fabio Variola

15:15 - 15:30 **DESIGN OF MACROMOLECULAR POLYPHOSPHATE INHIBITORS AS AN ANTITHROMBOTIC AGENT**
Chanel La, University of British Columbia, Canada
Srinivas Abbina, Sreeparna Vappala, Manu Kalathottukaren, James Morrissey, Charles Haynes, Jayachandran Kizhakkedathu

SESSION 5D: BIOMIMETISM II

Room: Pilot
Chair: Adetola Adesida and Patricia Comeau

14:15 - 14:45 **GLYCOCLAYX ENGINEERING USING BIOACTIVE POLYMERS FOR CELL-SURFACE IMMUNOMODULATION**
Jayachandran Kizhakkedathu, University of British Columbia, Canada

14:45 - 15:00 **DUAL-CROSSLINKED, ALGINATE HYDROGELS FOR CONTROLLED DRUG DELIVERY**
Syeda Rubab Batool, KOC university, Turkey
Dr. Muhammad Anwaar Nazeer, Dr. Seda Kizilel

15:00 - 15:15 **PHYSICOCHEMICAL PROPERTIES OF PEGYLATED NANOPARTICLES MODULATE THEIR ABSORPTION IN THE BLOODSTREAM FOLLOWING EXTRAVASCULAR ADMINISTRATION**
Philippe Grenier, Université Laval, Canada
Nicolas Bertrand

SESSION 5A (SUITE): OPHTALMIC

Room: Suzor
Chair: Kathryn Grandfield and Ali Babar

16:00 - 16:30 **INNOVATIVE APPROACHES TO ENGINEERING PERSONALIZED NEURAL TISSUES**
Stephanie Willerth, University of Victoria, Canada

16:30 - 16:45 **DEVELOPMENT OF A POLYMERIC EYE MODEL FOR FOREIGN BODY REMOVAL**
Chau-Minh Phan, Centre for Ocular Research and Education (CORE), University of Waterloo, Canada
Hendrik Walther, Lyndon Jones

16:45 - 17:00 **PILOT STUDY OF EFFICACY OF OXYGEN DELIVERY BIOMATERIAL FOR ISCHEMIC SKIN PRESERVATION**
Benjamin Dalisson, McGill University, Canada

SESSION 5B (SUITE): NATURAL POLYMERS II

Room: Borduas
Chair: Francesco Copes and Vincent Roy

16:00 - 16:30 **DESIGN OF SELF-ASSEMBLING MATERIALS FOR CHALLENGING DRUG FORMULATIONS AND CELL CULTURE DEVICES**
Mircea Alexandru Mateescu, UQAM, Canada

16:30 - 16:45 **RAPIDLY MINERALIZING INJECTABLE DENSE COLLAGEN HYDROGEL SCAFFOLDS FUNCTIONALIZED WITH A HIGHLY BIOACTIVE SOL-GEL DERIVED BORATE GLASS**
Ehsan Rezabeigi, McGill University , Canada
William Lepry, Showan Nazhat

16:45 - 17:00 **ENDOTHELIAL PROGENITOR CELL RECRUITMENT THROUGH COMBINATORIAL BIO-MIMETIC SURFACES**
Mohamed Elkhodiry, McGill University, Canada
Omar Bashth, Gaétan Laroche, Jean-François Tanguay, Corinne Hoesli

POSTER SESSIONS

WEDNESDAY, MAY 22, 2019

15:00 - 16:00, Foyer

SESSION POSTER 1

P1-01 **OXYGEN AND NITROGEN PLASMA SURFACE MODIFICATION OF A DEGRADABLE FE-MN-BASED ALLOY**
Letícia Andrade, Université Laval, Canada
Carlo Paternoster, Pascale Chevallier, Diego Mantovani

P1-02 **TRI-CULTURE VASCULAR WALL MODEL FROM IN-SITU BIO-CASTING IN A PERFUSION BIOREACTOR CHAMBER FOR PHYSIOLOGICAL-RELEVANT MATURATION**
Dimitria Camasao, Université Laval, Canada
Diego Mantovani

P1-03 **CHARACTERIZATION OF A BIOPOLYMER FOR PHARMACEUTICAL APPLICATIONS**
Amrita Dikpati, Université Laval, Canada
Nicolas Bertrand

P1-04 **DEVELOPMENT OF A 3D TISSUE-ENGINEERED SPINAL CORD MODEL TO REPRODUCE THE AMYOTROPHIC LATERAL SCLEROSIS PHENOTYPE**
Aurélie Louit, LOEX - Université Laval, Canada
Marie-Josée Beaudet, François Berthod

P1-05 **BIOPRINTING TUMOR MODELS USING NITROGEN DOPED CARBON NANOTUBE/ ALGINATE/GELATIN COMPOSITE HYDROGELS**
Jose Gil Munguia-Lopez , McGill University, Canada
Tao Jiang, Emilio Muñoz-Sandoval, Joseph Matthew Kinsella

P1-06 **MASS SPECTROMETRY DETECTION OF PHOSPHATIDYL CHOLINE FROM DELEFILCON A**
Chau-Minh Phan, University of Waterloo, Canada
Hendrik Walther, Lyndon Jones

P1-07 **THEORETICAL STUDY OF OVOIDAL DISCLINATION LOOPS IN BIOLOGICAL LIQUID CRYSTALS**
Alireza Shams, McGill University, Canada
Xuxia Yao, Jung Ok Park, Mohan Srinivasarao, Alejandro D. Rey

P1-08 **CORROSION BEHAVIOUR OF A TI-15ZR-15MO ALLOY FUNCTIONALIZED BY MICRO-ARC OXIDATION**
Caio Xavier, IBTN/Br, Unesp/Bauru, UMINHO, Brazil
Luis Rocha, Paulo Lisboa-Filho, Carlos Grandini, Ana Pinto, Alexandra Alves, Fatih Toptan

P1-09 **BIOMIMETIC POLYMERIC MATERIALS FOR CARDIAC TISSUE REPAIR**
David Cortes, University of Ottawa Heart Institute, Canada
Christopher McTiernan, Katsuhiro Hosoyama, Erik Suuronen, Emilio I. Alarcon

P1-10 **BIOMIMETIC PHOTOACTIVATED MATERIALS FOR SUTURELESS WOUND CLOSURE**
Christopher McTiernan, University of Ottawa Heart Institute, Canada
David Cortes, Selya Amrani, Caitlin Lazurko, Erik Suuronen, Emilio I. Alarcon

P1-11 **SUPER ABSORBENT POLYMERS FOR DIAGNOSTIC APPLICATIONS OF MICRONEEDLES**
mahdi roohnikan, Université de Montréal, Canada
Elise Laszlo, Xavier Banquy, Davide Brambilla

P1-12 **ANTIMICROBIAL HAIRY NANOCELLULOSE FOR WOUND DRESSING APPLICATION**
Mandana Tavakolian, McGill University, Canada
Mira Okshevsky, Theo van de Ven, Nathalie Tufenkji

P1-13 **A NEW ROLE FOR THE WNK1 KINASE IN CORNEAL WOUND HEALING**
Pascale Desjardins , Université Laval, Canada
Camille Couture, Lucie Germain, Sylvain Guérin

P1-14 **NANOCAVITATED TITANIUM SURFACES INFLUENCE OSTEOGENIC CELL BEHAVIOR**
Dainelys Guadarrama Bello, Université de Montréal, Canada
Aurélien Fouillen, Antonella Badia, Antonio Nanci

P1-15 **IMAGING LIVING MAMMALIAN CELL MIGRATION WITH IONIC LIQUIDS USING LOW-VACUUM SEM**
Bryan Lee, McMaster University, Canada
Hourieh Exir, Arnaud Weck, Kathryn Grandfield

P1-16 **DESIGN, DEVELOPMENT AND VALIDATION OF AN EASY-TO-PREPARE 3D TRI-CULTURE TISSUE-ENGINEERED TUBULAR VASCULAR WALL MODEL**
Alessandro Rinchiuso, Université Laval, Canada
Francesco Copes , Silvia Faré , Diego Mantovani

P1-17 **ACTIVE TGF-B PROMOTES INTERCELLULAR JUNCTION FORMATION IN VITRO PRIOR TO EXPERIMENTAL CORNEAL ENDOTHELIAL CELLS INJECTION**
Kim Santerre, Université Laval, Canada
Mathieu Theriault, Stephanie Proulx

P1-19 **DEVELOPMENT OF INNOVATIVE TOOLS AND STRATEGIES FOR GENE DELIVERY PURPOSES**
Gabriele Candiani, Politecnico di Milano, Italy
Nina Bono, Federica Ponti, Sara Palladino, Elisa Giupponi, Chiara Pennetta, Paolo Tarsini, Daniele Pezzoli, Matteo Moretti, Cosimo D'Andrea, Matteo Tommasini, Alfonso Gautieri, Marco Rasponi, Alessandro Volonterio, Diego Mantovani

P1-20 **STARCH NANOPARTICLE CLUSTERS WITH PROGRAMMABLE SIZE CHANGES FOR DRUG DELIVERY**
Xiaoyun Li, McMaster University, Canada
Matthew Campea, Todd Hoare

P1-21 **EFFECTS OF POLYPHOSPHATE ON FIBROBLAST-LIKE SYNOVIOCYTES RESPONSES**
Jean-Philippe St-Pierre, University of Ottawa, Canada
Janani Mahendran, Justin Quan

P1-23 **SPATIO-TEMPORAL CONTROL OVER EPIDERMAL GROWTH FACTOR PRESENTATION IN ENGINEERED HYDROGELS AS A TOOL TO RECAPITULATE DYNAMIC TISSUE NATURE**
Yung Hsiang Lu, University of Toronto, Canada
Ana Fokina, Alexander Baker, Molly Shoichet

P1-24 **STIFFNESS OF TISSUE-ENGINEERED BRAIN ORGANOIDS IS DRIVEN BY MECHANICS OF ENCAPSULATING HYDROGELS**
Camille Cassel de Camps, McGill University, Canada
Saba Aslani, Chanshuai Han, Wontae Lee, Nikita Kalashnikov, Thomas Durcan, Christopher Moraes

P1-25 **STUDY OF FIBRONECTIN ADSORPTION ON PLASMA-ENHANCED DEPOSITION OF SILVER NANOPARTICLES EMBEDDED IN A SILICA MATRIX**
Laurine Martocq, Laboratoire d'Ingénierie de Surface, Canada
Pascale Chevallier, Morgane Laurent, Gaétan Laroche, Kremena Makasheva

P1-26 **HEART VALVE: FUNCTIONALIZATION AND OPTIMIZATION OF THE MATERIAL**
Amna Amri, Laboratoire d'ingénierie de surface (LIS), Canada

P1-27 **A SOFT AND ELECTRICALLY STABLE POLYPYRROLE MEMBRANE REINFORCED WITH ELECTROSPUN FIBRES FOR BIOMEDICAL APPLICATIONS**
Shujun Cui, Quebec Research Center, St. Francis of Assisi Hospital Centre de recherche du CHU de Québec, Hôpital St François d'Assise, Canada
Ze Zhang, Mahmoud Rouabhia

P1-30 **INHIBITION OF CREB AND ITS IMPACT ON CORNEAL WOUND HEALING IN VITRO AND IN VIVO**
Camille Couture, Université Laval, Canada
Pascale Desjardins, Karine Zaniolo, Richard Bazin, Lucie Germain, Sylvain Guérin

P1-31 **RECONSTRUCTION OF UROLOGIC TISSUES BY TISSUE ENGINEERING USING INDUCED-PLURIPOTENT STEM CELLS AS AN ALTERNATIVE SOURCE OF EPITHELIAL AND MESENCHYMAL CELLS**
Christophe Caneparo, LOEX - Université Laval, Canada
Stéphane Chabaud, Geneviève Bernard, Stéphane Bolduc

P1-32 **RELATIONSHIP BETWEEN CALCIFICATION AND MECHANICAL PROPERTIES IN MATRIX GLA DEFICIENT MICE AORTAS**
Sara Palladino, Université Laval, Canada
Audrey Lainé, Abhinav Parashar, Caroline Loy, Marta Cerruti, Michael Lee, Monzur Murshed, Diego Mantovani

P1-33 **BIOMIMETIC MATERIALS FROM DECELLULARIZED ORGANS FOR THE DEVELOPMENT OF ARTIFICIAL ORGANS**
Vignesh Dhandapani, Université de Sherbrooke, Canada
Patrick Vermette

P1-34 **A MULTIMATERIAL MICROPHYSIOLOGICAL PLATFORM ENABLED BY RAPID CASTING OF ELASTIC MICROWIRES**
Yimu Zhao, University of Toronto, Canada
Erika Yan Wang, Locke Davenport Huyer, Liao Yin, Keith Yeager, Gordana Vunjak-Novakovic, Milica Radisic, Boyang Zhang

P1-35 **IMPACT ON WOUND HEALING OF TISSUE-ENGINEERED DRESSINGS AND HYPERBARIC OXYGEN THERAPY IN A SKIN IRRADIATION MODEL**
Candice Diaz, Université Laval, Canada
Cindy Hayward, Caroline Paquette, Josée Langevin, Josée Galarneau, Louis Archambault, Neal Pollock, Julie Fradette

P1-36 **ENGINEERED VASCULAR TISSUES TO MODEL AND STUDY DISEASE**
Kibret Mequanint, University of Western Ontario, Canada
Khalil Dayekh

P1-67 **ACCELERATING CORNEAL WOUND CLOSURE BY SUPPRESSING CREB WITH CRISPR-CAS9**
Elodie Gillard, LOEX/CUO-Recherche, Canada
Camille Couture, Pascale Desjardins, Lucie Germain, Sylvain Guérin

P1-126 **COMBINATION NANOMEDICINES FOR THE TREATMENT OF TRIPLE NEGATIVE BREAST CANCER**
Suresh Gadde, University of Ottawa, Canada
Andrew Sulaiman, Sara El-Sahli, Sarah McGarry, Lisheng Wang

THURSDAY, MAY 23, 2019

10:00 - 10:45, Foyer

SESSION POSTER 2

P2-38 **DEVELOPING A TOUGH AND STRONG METHACRYLATED GELATIN AND NANOHYDROXYAPATITE COMPOSITE SYSTEM**
Patricia Comeau, University of Waterloo, Canada
Thomas Willett

P2-39 **CONTROLLED PEEL TESTING TO ASSESS THE COHESION STRENGTH BETWEEN THE EPIDERMIS AND THE DERMIS IN A MODEL OF TISSUE-ENGINEERED SKIN**
Alex Larose, LOEX - Université Laval, Canada
Angela Dakiw-Piaceski, Robert Gauvin, Danielle Larouche, Lucie Germain

P2-41 **DYNAMIC MEASUREMENT OF NANOPARTICLE PERMEATION ACROSS MEMBRANES IN A DIFFUSION CELL, THROUGH RADIOLABELING**
Mahmoud Omar, Université Laval, Canada
Myriam Laprise-Pelletier, Marc-André Fortin

P2-42 **MRI-VISIBLE BIOCOMPATIBLE HYDROGELS AS CELL SCAFFOLDS FOR TISSUE ENGINEERING**
Fortin Marc-André, Université Laval, Canada
Julie Fradette, Sophie Laurent, Philippe Legros

P2-43 **DEVELOPMENT AND PERFORMANCE OF A CHITOSAN-BASED COATING VIA CATECHOL COUPLING**
Clayton Souza Campelo, Université Laval, Canada
Pascale Chevallier, Rodrigo Silveira Vieira, Diego Mantovani

P2-44 **A CONJUGATION METHOD OF ANTIBODY AND PEPTIDE ON SURFACES FOR STENT APPLICATION**
Omar Bashth, McGill University, Canada
Marieve Boulanger, Mohamed Elkhodiry, Gaétan Laroche, Corinne Hoesli

P2-45 **ENGINEERED MODIFICATION OF NANOPOROUS GEL MICROCAPSULES FOR OPTIMIZED TREATMENT OF DISEASED CARDIOVASCULAR TISSUE**
Erik Jacques, University of Ottawa Heart Institute, Canada
Katsuhiro Hosoyama, Darryl R. Davis, Duncan J. Stewart, Erik Suuronen, Emilio I. Alarcon

P2-46 **REMOTELY ACTIVATED BIO-RESPONSIVE PEPTIDE BASED MATRICES FOR SOFT TISSUE REPAIR**
Marcelo Munoz, Heart Institute of the University of Ottawa, Canada
Isabel Brunette, May Griffith, Emilio I. Alarcon

P2-47 **PROTEOME ANALYSIS OF HUMAN MONOCYTE/MONOCYTE-DERIVED MACROPHAGE SECRETIONS POST-EXPOSURE TO BIOMATERIALS AND THEIR SUBSEQUENT EFFECT ON CARDIAC FIBROBLASTS FUNCTION**
Suja Shrestha, University of Toronto, Canada
Meghan J McFadden, Anthony O Gramolini, J Paul Santerre

P2-48 **CHONDROCYTES ENCAPSULATION IN ALGINATE HYDROGEL BEADS FUNCTIONALIZED WITH INORGANIC POLYPHOSPHATE**
Denis Fabricio Viera Rey, University of Ottawa, Canada
Jean-Philippe St-Pierre

P2-49 **INFLUENCE OF DONOR HUMAN CORNEAS POST-MORTEM TIME ON THE HUMAN CORNEAL EPITHELIAL CELL USED FOR TISSUE-ENGINEERED CORNEA**
Gaëtan Le-Bel, Université Laval, Canada
Pascale Desjardins, Camille Couture, Sergio Cortez Ghio, Elodie Gillard, Lucie Germain, Sylvain Guérin

P2-50 **BMSCS SELF-ASSEMBLED WITH POLYMER FOR CANCER TROPISM AND PROGRAMMED HOMING**
Helen H Hsu, University of Manitoba, Canada

P2-51 **EFFECTS OF THE SUBSTITUTION OF CHOLERA TOXIN BY ISOPROTERENOL FOR THE IMPROVEMENT OF A PSORIATIC RECONSTRUCTED SKIN MODEL PRODUCED BY TISSUE ENGINEERING**
Sophie Morin, Université Laval, Canada
Mélissa Simard, Roxane Pouliot

P2-52 **DEVELOPMENT OF A PSORIATIC SKIN BIOMATERIAL WITH THE ADDITION OF THE IMMUNE COMPONENT**
Geneviève Rioux, Université Laval, Canada
Claudia Pouliot-Bérubé, Sylvain Guérin, Roxane Pouliot

P2-53 **PRECONDITIONING BY CELASTROL INCREASES SURVIVAL AND PRO-ANGIOGENIC FUNCTION OF MESENCHYMAL STEM CELLS LOADED IN AN INJECTABLE CHITOSAN HYDROGEL**
Francesco Touani Kameni, Université de Montréal, Canada

P2-54 **DEVELOPMENT OF ELECTROFORMING PROCESS FOR BIODEGRADABLE FE-MN ALLOY**
Majid Lotfollahi, Université Laval, Canada
Carlo Paternoster, Diego Mantovani

P2-55 **OVERCOMING THE CHALLENGE OF NANO-PHASE SEPARATION IN BIO CONJUGATION REACTIONS BY PHYSICAL APPROACH**
Ahlem Meziadi, INRS-EMT, Canada
Marc A. Gauthier

P2-56 **A SELECTIVE RADICAL THIOL SPECIES (RTS)-RESPONSIVE LINKER SENSITIVE TO OXIDATIVE STRESS**
Fatemeh Zare, INRS, Canada

P2-57 **INFLUENCE OF SURFACE MODIFICATION ON THE CORROSION RESISTANCE AND BIOCOMPATIBILITY OF MG-4ZN**
Randeep Gill, Punjab Engineering College, Chandigarh, India

P2-58 **METHODS TO ASSESS THE PRINTABILITY OF THERMOSENSITIVE HYDROGELS / FOR EXTRUSION-BASED BIOPRINTING**
Maedeh Rahimnejad, Université de Montréal, Canada
Thierry Labonté-Dupuis, Nicole R. Demarquette, Sophie Lerouge

P2-59 **THE EFFECT OF MICROPOROSITY ON THE BIOACTIVITY OF SCAFFOLDS FOR BONE REGENERATION**
Dhanalakshmi Jeyachandran, McGill University, Canada
Rayan Fairag, Li Li, Lisbet Haglund, Marta Cerruti

P2-60 **PERFORMANCE AND STABILITY OF NITROGEN-RICH AND OXYGEN-RICH PLASMA POLYMER COATINGS TO STUDY PROTEIN SURFACE INTERACTIONS**
Gad Sabbatier, McGill University, Canada
Andreas Wargenau, Natalie Fekete, Katie Campbell, Rachel Pytel, Pierre-Luc Girard-Lauriault, Corinne Hoesli

P2-63 **DEVELOPMENT OF MULTIFUNCTIONAL HYBRID SOL-GEL IMPLANT COATINGS ON ANODIZED TITANIUM SUBSTRATES TO IMPROVE OSSEOINTEGRATION AND ANTIMICROBIAL EFFECTIVENESS**
Zachary Gouveia, Western University, Canada
Jesse Zhu

P2-65 **A SIMPLE METHOD TO SYNTHESIZE PVA HYDROGELS**
Chau-Minh Phan, Centre for Ocular Research and Education (CORE), University of Waterloo, Canada
Han Qiao, Lyndon Jones

FRIDAY, MAY 24, 2019

9:45 - 10:30, Foyer

SESSION POSTER 3

P3-18 **DEGRADATION BEHAVIOUR OF FE-MN-C TWIP STEEL ALLOYED WITH AG**
Leticia Marin de Andrade, Université Laval, Canada
Sergio Loffredo, Carlo Paternoster, Nicolas Giguère, Maurizio Vedani, Diego Mantovani

P3-68 **EXPERIMENTAL EVIDENCE SUPPORTING THE RAGHAVENDRA IMPLANT STABILITY CONCEPT**
Robert Liddell, University of Toronto, Canada
Yuan Yang, John E Davies

P3-69 **INDUCTION OF BLOOD VESSEL GROWTH IN ZEBRAFISH EMBRYOS THROUGH INJECTION OF VASCULAR ENDOTHELIAL GROWTH FACTOR**
Ali Motahhari, Queens' university, Canada
Lindsay Fitzpatrick

P3-70 **DEVELOPMENT OF A NOVEL IN VITRO BLINK MODEL**
Chau-Minh Phan, Centre for Ocular Research and Education (CORE), University of Waterloo, Canada
Hendrik Walther, Han Qiao, Lyndon Jones

P3-71 **PRELIMINARY RESULTS ON BISMUTH COATINGS FOR IMPROVING X-RAY VISIBILITY OF THIN INTRAVASCULAR DEVICES**
Samira Ravanbakhsh, Université Laval, Canada
Carlo Paternoster, Théophraste Lescot, Marc-Andre Fortin, Diego Mantovani

P3-72 **PHONATORY CHARACTERISTICS AND CELLULAR BEHAVIOR OF A PERFUSION VOCAL FOLD BIOREACTOR**
Fatemeh Taheri, McGill University, Canada
Neda latifialavijeh, Zixin He, Luc Mongeau

P3-73 **COLLAGEN-BASED TISSUE ENGINEERING TO MODEL IN VITRO URINARY TRACT INFECTIONS CAUSED BY UROPATHOGENIC ESCHERICHIA COLI**
Christophe Caneparo, LOEX - Université Laval, Canada
Elodie Dufresne, Stéphane Chabaud, Stéphane Bolduc

P3-74 **3D PRINTED POLY(DIMETHYLSILOXANE) FOR NON-FOULING AND ANTIBACTERIAL WOUND HEALING**
Amalnath John, University of Manitoba, Canada
Yitian Wang, Wen Zhong

P3-75 **TUBULAR DENTIN REGENERATION USING A NOVEL OLIGOPEPTIDE FROM CPNE7**
Joo-Cheol Park, Seoul National University Dental School, Korea, Republic of (South
Hyun Sook

P3-76 **GOLD NANOPARTICLES MODULATE THE MECHANOBIOLOGICAL PROPERTIES OF HUMAN LUNG CANCER CELLS**
Ahmad Sohrabi Kashani, Concordia University, Canada
Simona Badilescu, Alisa Piekny, Muthukumaran Packirisamy

P3-77 **CHITOSAN PHYSICAL THERMOGEL MICROSPHERES PRODUCED BY EMULSION PROCESS**
Yasaman Alinejad, Laboratory of Endovascular Biomaterials (LBeV), École de technologie supérieure (ETS)/ CRCHUM, Canada
Christina Bitar , Karina Martinez Villegas, Corinne Hoesli, Sophie Lerouge

P3-78 **THE EFFECT OF PMMA SURFACE CHEMISTRY ON NET AND CYTOKINE RELEASE FROM NEUTROPHILS**
Victoria Fong, Queen's University, Canada
Laura Wells

P3-79 **CHARACTERIZATION OF DECELLULARIZED PORCINE TONGUE: A MATRIX FOR 3D BIOPRINTED IN-VITRO HEAD AND NECK CANCER MODELS**
Jacqueline Kort-Mascort, McGill University, Canada
Salvador Flores-Torres, Tao Jiang, Jose Gil Munguia-Lopez, Osama A El-Kashty, Roman Vidaltamayo, Laura Pena-Paras, Simon D Tran, Joseph Matthew Kinsella

P3-80 **MODIFIED DECELLULARIZED EXTRACELLULAR MATRIX: A NOVEL TOOL TO STUDY IN VITRO PLACENTAL TROPHOBLAST FUSION**
Prabu Karthick Parameshwar, McGill University, Canada
Lucas Sagrillo-Fagundes, Cathy Vaillancourt, Christopher Moraes Moraes

P3-81 **AN IN VITRO MODEL TO STUDY PLATELET FUNCTION FOLLOWING EXTRACORPOREAL BLOOD FLOW CONDITIONS**
Matthew Robichaud, University of Waterloo, Canada
Maud Gorbet

P3-82 **MODIFICATION OF POLY(VINYL ALCOHOL) HYDROGELS WITH FUCOIDAN TO ENHANCE ENDOTHELIALIZATION AND HEMOCOMPATIBILITY**
Yuan Yao, University of Waterloo, Canada
Aung Moe Zaw, Evelyn Yim

P3-83 **ON THE DEGRADATION OF PURE IRON COATED WITH POLYCAPROLACTONE FOR MODULATING THE DEGRADATION BEHAVIOR: APPLICATIONS IN ENDOVASCULAR SURGERY**
Lorenzo Russo, Université Laval, Canada
Pascale Chevallier, Carlo Paternoster, Silvia Faré, Diego Mantovani

P3-86 **BIOLUBRICATION AND ANTIFOULING PERFORMANCE OF ZWITTERIONIC BOTTLEBRUSH POLYMERS**
Vahid Adibnia, Université de Montréal, Canada
Frederic Murschel, Mateusz Olszewski, Krzysztof Matyjaszewski, Xavier Banquy

P3-87 **VISCOELASTIC ANALYSIS OF 3D PRINTED HYDROGEL SCAFFOLDS**
Brent Godau, University of Victoria, Canada
Zohreh Marvdashti, Mohsen Akbari

P3-88 **BIOPRINTING A NOVEL COMBINATION OF HIPSC-DERIVED NEURAL PROGENITORS AND DRUG RELEASING MICROSPHERES TO GENERATE NEURAL TISSUES FOR DRUG SCREENING APPLICATIONS.**
Ruchi Sharma, University of Victoria, Canada
Laura De La Vega, Victoria Hartman, Andrew Agbay, Stepahnie Willerth

P3-89 **ANTIFOULING SURFACES TARGETING FRESHWATER MUSSEL ADHESION**
Kenneth Kimmins, University of Toronto, Canada
Bryan James, Minh-Tam Nguyen, Benjamin Hatton, Eli Sone

P3-90 **TRAINING AND DEVELOPMENT SYSTEM**
Nuhu Safianu, Was Uprint And Accessories, Ghana
Asimiu Issaka

P3-91 **AN ENDOTHELIALIZED HUMAN-DERIVED 3D VAGINAL MUCOSA RECONSTRUCTED BY TISSUE ENGINEERING AND SUBCUTANEOUS IMPLANTATED INTO MICE**
Christophe Caneparo, LOEX - Université Laval, Canada
Wéronika Jakubowska, Stéphane Chabaud, Ingrid Saba, Stéphane Bolduc

P3-93 **CONTROLLING THE NANOSTRUCTURE AND NANOMECHANICS OF ENGINEERED MINERALIZED COLLAGEN SCAFFOLDS**
Brendan Grue, Saint Mary's University, Canada
Laurent Kreplak, Samuel Veres

P3-94 **POLYETHER ETHER KETONE (PEEK)-CONTAINING NANOPARTICLES FOR 3D PRINTING OF BIOMEDICAL IMPLANTS**
Théophraste Lescot, Université Laval, Canada
Mahmoud Omar, Myriam Laprise-Pelletier, Marc-André Fortin

P3-95 **AGAROSE-TANNIC ACID HYDROGEL LOADED WITH GENTAMICIN AS A LONG TERM ANTIBIOTIC DELIVERY SYSTEM FOR TITANIUM SPINAL IMPLANTS**
Hale Melis Soylu, Université Laval, Canada
Pascale Chevallier, Fatma Yurt Onaran, Diego Mantovani

SESSION POSTER 4

P4-96 **A VERSATILE SYNTHESIS ROUTE TO PRODUCE STRUCTURALLY CONTROLLED POLY(TRIMETHYLENECARBONATE)ANDPOLY(ETHYLENEGLYCOL)COPOLYMERS**
Amanda Brissenden, Queen's University , Canada
Allison Cranwill, Brian Amsden

P4-98 **ON THE BIOCOMPATIBILITY OF BISPHOSPHONATE-BIOFUNCTIONALIZED TITANIUM SURFACES**
Paulo Noronha Lisboa Filho, UNESP - São Paulo State University, Brazil
Carolina Simão Albano, Willian Fernando Zambuzzi

P4-100 **UPTAKE AND RELEASE OF A BIOCIDE FROM CONTACT LENSES**
Chau-Minh Phan, Centre for Ocular Research and Education (CORE), University of Waterloo, Canada
Alan Yee, Vivian Chan, Miriam Heynen, Lyndon Jones

P4-102 **TUNABLE PHOTO-PATTERNING OF SUBSTRATE ELASTICITY FOR IN-VITRO MODELING OF HETEROGENEOUS TISSUE MECHANICS**
Pouria Tirgar, McGill University, Canada
Mohammad Tabatabaei, Adele Khavari, Christina-Marie Boghdady, Allen Ehrlicher

P4-103 **SYNERGISTIC ANTIBACTERIAL GRAPHENE OXIDE-QUATERNARY AMMONIUM PROMOTING INFECTED WOUND HEALING**
Shiyi Chen, University of Manitoba, Canada

P4-105 **PRELIMINARY STUDY TOWARDS A BIOACTIVE INJECTABLE HYDROGEL FOR BONE TISSUE ENGINEERING AND BIOPRINTING**
Maedeh Rahimnejad, Université de Montréal, Canada
Christine Andrea, Cindy Charbonneau, Nicole R. Demarquette, Sophie Lerouge

P4-106 **DYNAMIC PEGYLATION REDUCES THE VISCOSITY OF CONCENTRATED ANTIBODY SOLUTIONS**
Hoda Soleymani Abyaneh, INRS, Canada
Yuhui Gong, Andreas Niederquell, Martin Kuentz, Jean-Christophe Leroux, Marc A. Gauthier

P4-107 **A BIODEGRADABLE KNITTED HEART CAP FOR THE DELIVERY OF CARDIOSPHERE-DERIVED CELLS (CDCS) TO INDUCE REVERSE REMODELING OF A FAILING LEFT VENTRICLE**
Jiyang Chen, North Carolina State University, United States
Ke Cheng, André West, Mani Daneshmand, Martin King

P4-108 **3D HUMAN TISSUE CONSTRUCTS FOR ANTI-AGING EVALUATION OF KALMIA ANGUSTIFOLIA EXTRACT**
Alexe Grenier, Université Laval, Canada
André Pichette, Jean Legault, Roxane Pouliot

P4-109 **THREE-DIMENSIONAL PRINTING OF ENGINEERED NASAL CARTILAGE BY FREEFORM REVERSIBLE EMBEDDING OF SUSPENDED COLLAGEN HYDROGEL**
Xiaoyi Lan, University of Alberta, Canada

P4-110 **VOLUME-BY-VOLUME BIOPRINTING OF CHONDROCYTES-ALGINATE BIOINKS IN HIGH TEMPERATURE THERMOPLASTIC SCAFFOLDS FOR CARTILAGE REGENERATION**
Gloria Pinilla, Laboratory for Biomaterials and Bioengineering, Department of Min-Met-Materials Eng., & , Canada
Jose Manuel Baena

P4-111 **RECONSTRUCTION OF COMPLETE TISSUE-ENGINEERED BLOOD VESSELS BY DIRECT CELL SEEDING ON UV-C-TREATED 3D POLYMERIC MANDREL**
Vincent Roy, Université Laval, Canada
Todd Galbraith, Jean-Michel Bourget, Tamao Tsutsumi, Ashraf A Ismail, François A Auger, François Gros-Louis

P4-112 **CORROSION-INDUCED MECHANICAL PROPERTIES OF ABSORBABLE OPEN-CELL IRON FOAMS**
Reza Alavi, Université Laval, Canada
Abdolhamid Akbarzadeh, Hendra Hermawan

P4-113 **ENHANCING NON-VIRAL GENE DELIVERY THROUGH MECHANICAL STIMULATION OF CELLS**
Gabriele Candiani, Politecnico di Milano, Italy
Federica Ponti, Nina Bono, Diego Mantovani

P4-115 **MICROFLUIDIC SYNTHESIS OF CHITOSAN MEMBRANES FOR CONTROLLED RELEASE OF MESOPOROUS SILICA PARTICLES BY PH TRIGGERING**
Jia Nan, Université Laval, Canada
Jesse Greener

P4-116 **BIODEGRADABLE POLY(ESTER AMIDE)S/BIOACTIVE GLASS HYBRID BIOMATERIALS FOR BONE TISSUE ENGINEERING**
Neda Aslankoohi, Western University, Canada
Kibret Mequanint

P4-117 **RAPID HIGH-THROUGHPUT 3D PRINTED DENSE COLLAGEN BIOINKS WITH TUNABLE PROPERTIES**
Gabriele Griffanti, McGill University, Canada
Showan Nazhat

P4-118 **EFFECT OF AG ON THE IN VITRO BIOACTIVITY OF CALCIUM SILICATES SYNTHESIZED BY SOLID STATE REACTION**
Morelos Cuauhtemoc Torres-Arreola, CINVESTAV-Unidad Saltillo, Canada
Dora Alicia Cortés-Hernández, José C. Escobedo-Bocardo, Jose Manuel Almanza-Robles

P4-119 **THE OSTEOINDUCTIVE POTENTIAL OF BIOMIMETIC MINERALIZED COLLAGEN SCAFFOLDS FOR BONE REGENERATION**
Lucy Luo, University of Toronto, Canada
Hasan Uludag, Sowmya Viswanathan, Eli Sone

P4-120 **INVESTIGATING THE ROLE OF PROTEIN ADSORPTION ON THE MACROPHAGE MEDIATED DEGRADATION OF POLY(TRIMETHYLENE CARBONATE) (PTMC)**
Kyla Sask, Queen's University, Canada
Moira Vyner, Djalal Fakim, Amanda Brissenden, Kim Woodhouse, Brian Amsden

P4-121 **ELECTROPHORETIC DEPOSITION OF BIOACTIVE CATECHOL-MODIFIED POLY-L-LYSINE NANOCOMPOSITE FILMS FOR ORTHOPAEDIC COATING APPLICATIONS**
Amanda Clifford, McMaster University, Canada
Bryan Lee, Kathryn Grandfield, Igor Zhitomirsky

P4-123 **IMPROVING WEAR RESISTANCE OF COCRMO IMPLANT BY TANTALUM-BASED COATINGS**
Ayse Ince-Arkaz, University of British Columbia, Canada
Jesus Corona-Gomez, Qiaoqin Yang, Rizhi Wang

P4-124 **NEW DIRECTIONS FOR CHITOSAN BIOPOLYMER MEMBRANES: TOWARDS BIOLOGICAL AND PHYSIOCHEMICAL SENSING APPLICATIONS**
Jia Nan, Université Laval, Canada
Jesse Greener

P4-125 **INCREASING FRETTING RESISTANCE OF COCRMO ORTHOPAEDIC IMPLANTS WITH TISIN AND ZRN COATINGS**
Chen-En Tsai, University of British Columbia, Canada
James Hung, Da-Yung Wang, Rizhi Wang

P4-127 **MULTIFUNCTIONAL POLY(VINYL ALCOHOL) HYDROGEL BEADS FOR LOCOREGIONAL CANCER THERAPY**
Xinyi Li, Western University, Canada
Dawn Bannerman, Jian Liu, Ali Khan, Wankei Wan