



TECHNICAL PROGRAM

Thursday, May 28 - Morning

S1. Cell-Biomaterial and Protein-Biomaterial Interactions I			MS 2172
Chair: Lindsay Fitzpatrick; Co-Chair: Zeina Salloum			
8:45	113925	Polyphosphate Coacervates as Hemostatic Agents <i>A. Momeni, M. Filiaggi</i>	
9:00	113771	Pulsed electrical stimulation mediated fibroblast differentiation through TGF-1 signal <i>Y. Wang, Z. Zhang</i>	
9:15	113973	New insights into the corrosion products from modular total hip implants <i>Q. Wang, R. Wang</i>	
9:30	113919	The Migration of Mesenchymal Perivascular Cells and Endothelial Cells in Hyperglycemia and Euglycemia <i>Z.-M. Liu, J.E. Davies</i>	

S2. Dental Biomaterials			MS 2173
Chair: Malcolm Xing; Co-Chair: Tarik Attia			
8:45	113788	Calcium phosphate and chlorhexidine – releasing, high strength light-cured composites which promotes hydroxyapatite and antibacterial co-precipitation <i>A. Aljabo, J.C. Knowles, A. Young</i>	
9:00	113926	An Electrospun Collagen Scaffold for Periodontal Regeneration <i>K. Creber, S. Kim, J. Guan, D. Hamilton</i>	
9:15	113861	Synthesis of Ciprofloxacin Releasing Di-Vinyl Monomer for Dental Adhesive Systems <i>Y. Delaviz, M.A. Nascimento, M. Yang, J.P. Santerre</i>	
9:30	113891	Evaluation of URIST, a novel osteoinductive bioimplant, in canine alveolar ridge <i>A.J. Zhou, S.A.F. Peel, C.M.L. Clokie</i>	

S3. Cardiovascular Biomaterials I			MS 2170
Chair: Christian Kastrup; Co-Chair: Fei Xu			
8:45	113801	Characterization of Mineral Deposits in MGP-deficient Mice, a Model of Vascular Calcification <i>O. Gourgas, M. Cerruti, R. Gauvin, N. Brodusch, J. Marulanda Montoya, M. Murshed</i>	
9:00	113893	Design of Injectable Hydrogels for Blood Vessel Embolization and Cell Therapy <i>C. Ceccaldi, F. Zehtabi, A. Degueunon-Noudomin, E. Assaad, L. Bonneton, S. Lerouge</i>	
9:15	113920	Engineering the heart: Evaluation of conductive nanomaterials for improving implant integration and cardiac function <i>M.A. Darabi, J. Zhou, M.M.Q. Xing, C. Wang</i>	
9:30	113755	Designing a Shape-Memory Scaffold for Minimally Invasive Functional Cardiac Tissue Delivery <i>M. Montgomery, B. Zhang, L. Reis, M. Radisic</i>	



P1. Plenary Lecture I		MacLeod Auditorium
Chair: Todd Hoare		
10:15	Vascularization in Tissue Engineering: Alternative Foreign Body Responses <i>M. Sefton</i>	

S4. Poster Highlights I		MS 2170
Chair: Isabelle Catelas; Co-Chair: Caroline Ceccaldi		
11:15	113863	Macrophage effects on in vitro tissue regeneration when in co-culture with vascular smooth muscle cells on a degradable polyurethane under biomechanical strain <i>K.G. Battiston, R.S. Labow, J.P. Santerre, C.A. Simmons</i>
11:20	114004	Fibronectin adsorption on surface modified polyetherurethanes for blood-contacting applications <i>L. Hugoni, V. Montano-Manchado, E. Pauthe, D. Mantovani, J.P. Santerre</i>
11:25	113955	Cell delivery using an injectable hydrogel to treat stroke <i>S.L. Payne, M.J. Cooke, B. Varga, A. Nagy, M.S. Shoichet</i>
11:30	113946	Aminated Surfaces for Synthetic Vascular Grafts: Processes and Characterization <i>G. Boespflug, G. De Crescenzo, M.R. Wertheimer, S. Lerouge</i>
11:35	113987	Investigating the role of hypoxia-inducible factor-1 activation in the vascularization of modular tissue engineered constructs <i>G.C. Lam, M.V. Sefton</i>
11:40	113980	HIF-1 α Expression and Oxidative Damage in RAW264.7 Murine Macrophages Exposed to Cobalt and Chromium Ions <i>Z. Salloum, E.A. Lehoux, I. Catelas</i>
11:45	Group question period	

S5. Poster Highlights II		MS 2172
Chair: Mark Filiaggi; Co-Chair: Arash Momeni		
11:15	114003	Hybrid hydrogel as a microenvironment for tissue engineering: A new matrix for bone regeneration <i>M. Maisani, L. Levesque, R. Bareille, O. Chassande, D. Mantovani</i>
11:20	113979	Modifying Modular Tissue Engineering for Subcutaneous Pancreatic Islet Transplantation <i>A.E. Vlahos, M.V. Sefton</i>
11:25	113998	Sol-gel-derived hydroxyapatite coating of porous calcium polyphosphate enhances mechanical integration of tissue-engineered cartilage <i>W.L. Stanford, W.D. Lee, R.A. Kandel, R.M. Pilliar</i>
11:30	113996	Effects of Ribose and Annealing on the Free Radical Content and Mechanical Properties of Gamma-Irradiated Sterilized Bone <i>G. Minhas, X. Lu, T. Attia, J. Tupy, T. Burrow, T. Willett</i>
11:35	113917	45S5 Bioactive Glass Reactivity by Dynamic Vapour Sorption <i>S. Naseri, W.C. Lepry, W. Li, K.E. Waters, A.R. Boccacini, S.N. Nazhat</i>
11:40	113762	Effect of alkali-acid-heat chemical surface treatment on electron beam melted porous titanium and its apatite forming ability <i>S. Bsai, S. Yavari, A. Zadpoor, E. Valstar, M. Munsch</i>
11:45	Group question period	


Thursday, May 28 - Afternoon

K1. Keynote Lecture I		MS 2170
Chair: J. Matt Kinsella		
2:00	Lab-on-a-printer: new concepts in 3D printing and 3D bioprinting <i>K. Walus</i>	

K2. Keynote Lecture II		MacLeod Auditorium
Chair: Alison McGuigan		
2:00	Biomaterial-Based Immunoengineering <i>J. Babensee</i>	

S6. Electrospinning and Additive Manufacturing of Biomaterials			MS 2170
Chair: J. Matt Kinsella; Co-Chair: Houman Savoji			
2:45	113870	Patterned and Photo-cross-linked Fibrous Scaffold Via Melt Electro-Writing <i>F. Chen, G. Hochleitner, J. Groll, P. Dalton, B.G. Amsden</i>	
3:00	113876	Fabrication of melanin containing nanofiber scaffolds for neural tissue engineering <i>P. McGee, L. Villarreal, K. Thompson, J. McKenzie</i>	
3:15	113892	Anionic Fibroin Derived Polypeptides Incorporated Electrospun Silk Fibroin Scaffolds for Bone Tissue Engineering <i>G. Freddi, Griffanti G., M. James-Bhasin, N.S. Nazhat, I. Donelli,</i>	
3:30	113907	Effect of ion implantation on electrospun collagen fiber properties <i>N. Sharma, J. Liu, S. Karamdoust, D. Boughner, W. Wan</i>	
3:45	113769	Glial cell-derived neurotrophic factor-releasing nanofibers with varied topographies for neural tissue engineering applications <i>N. Khadem Mohtaram, J. Ko, A. Agbay, D. Rattray, P. O'Neill, A. Rajwani, R. Vasandani, H.L. Thu, M.B. Jun, S. Willerth</i>	

S7. Soft Biomaterials I			MS 2173
Chair: Harald Stover; Co-Chair: Mathieu Maisani			
Sponsored by NSERC CREATE Integrated Development of Extracellular Matrices Program			
2:45	114030	Temporal Patterning of Hydrogel Biochemical Environments to Study Cell-Matrix Interactions <i>C. Lambert, R.G. Wylie</i>	
3:00	113825	Robotic dispensing of cell-loaded spider silk hydrogels <i>T. Jungst, K. Schacht, M. Schweinlin, T. Scheibel, J. Groll</i>	
3:15	113895	Chitosan Thermogels for Local T Lymphocyte Delivery in Cancer Immunotherapy <i>C. Ceccaldi, A. Monette, E. Assaad, R. Lapointe S. Lerouge</i>	
3:30	113862	Direct Electrospinning of Degradable Hydrogel Nanofibres <i>F. Xu, T. Hoare</i>	
3:45	113869	Tuning Gelation Time and Mechanical Properties of Injectable Poly(Ethylene Glycol) Hydrogels Using Strained Alkyne-Azide Cross-Linking <i>S.M. Hodgson, L. Adullahu, A. Adronov</i>	



S8. Cell-Biomaterial and Protein-Biomaterial Interactions II		MacLeod Auditorium
Chair: Alison McGuigan; Co-Chair: Claire Yu		
2:45	113847	Fibronectin Modified Surfaces for Leukemia Cell Adhesion in Evaluating the Influence of Adhesion on Drug Sensitivity <i>J. Valencia-Serna, P. Chevallier, G. Laroche, H. Uludag</i>
3:00	114006	Comparative Study on Adsorbed and Grafted Fibronectin Coatings on Fluorocarbon Surfaces for Cardiovascular Applications <i>V. Montano-Machado, L. Hugoni, S. Diaz-Rodríguez, R. Tolouei, P. Chevallier, E. Pauthe, D. Mantovani</i>
3:15	113835	Polymer chain mobility dependent fetuin adsorption affects cell proliferation on elastomer surfaces <i>M. Vyner, B.G. Amsden</i>
3:30	113918	In Vitro Hemocompatibility Studies on Degradable Biomaterials <i>K.S. Brockman, J.N. Kizhakkedathu, J.P. Santerre</i>
3:45	113805	Capsaicin Mediated PLGA-Induced Inflammatory Response from RAW 264.7 Macrophage Cells <i>T. Truong, K.S. Jones</i>

4:15-6:00PM – Poster Session		Stone Lobby
Chair: Todd Hoare		
P1	113977	Synthesis of co-polymer composites with fluorinated di-vinyl urethane monomers <i>K.E. Shigeutomi, M. Yang, Y. Finer, J.P. Santerre</i>
P2	113762	Effect of alkali-acid-heat chemical surface treatment on electron beam melted porous titanium and its apatite forming ability <i>S. Bsat, S. Yavari, A. Zadpoor, E. Valstar, M. Munsch</i>
P3	113765	Electrical stimulation through conductive membranes enhanced different wound healing genes including CCL7, KGF, and TIMP2 but reduced MMP2 in normal human dermal fibroblasts <i>H.J. Park, Z. Zhang, M. Rouabhia</i>
P4	113767	Biomimetic Remineralization of Completely Demineralized Dentine Using Nanocomplexes of Carboxymethyl Chitosan/amorphous Calcium Phosphate <i>H. Wang, R. Miao, Y. Li, P. Gao, X. Zhang</i>
P5	113785	Injectable Poly(oligoethylene glycol methacrylate) – Cellulose Nanocrystal Composite Hydrogels with Tunable Material Properties <i>K.J. De France, E.D. Cranston, T. Hoare</i>
P6	113794	Development of chitosan coated collagen matrix for chondrocytes culture and cartilage tissue engineering <i>N. Mighri, J. Mao, F. Mighri, A. Ajji, M. Rouabhia</i>
P7	113799	Advanced Electron Microscopy Characterization of Metal-on-Polyethylene Total Hip Replacement Retrievals <i>V. Vuong, M. Pettersson, C. Persson, S. Larsson, H. Engqvist, K. Grandfield</i>
P8	113819	What Biochemical Assays Can and Cannot Tell You About Biomaterials (AKA Lies That My Assays Told Me) <i>M. Ariganello</i>
P9	113824	Impact of Bioactive Surfaces on Stem Cells Differentiation into Osteoblasts Lineage <i>L. Padiolleau, L. Plawinski, M.-C. Durrieu, G. Laroche</i>



P10	113829	Fibroblast Culture on Micro/Nano Structured Glassy Films <i>J. Boyle, Y. Zhu, J. Moran-Mirabal</i>
P11	113834	Optically Transparent Bacterial Cellulose-Nano-Hydrogel Composites <i>K.E. Jayasuriya, T. Oktem, Y. Dahman</i>
P12	113836	Synthesis and Characterization of Green Poly(lactic Acid)-Based Biomaterial <i>Y. Dahman</i>
P13	113838	Production of Green Biocellulose Nanofibers By Utilizing Renewable Resources of Algae <i>G. Minakshi, R. Pallavi, Y. Dahman</i>
P14	113839	Random and Aligned Electrospun PET Nanofibers: the Roles of Topography and Bioactive Coatings for Complete, Stable Endothelialization of Vascular Grafts <i>H. Savoji, M.R. Wertheimer, A. Ajji, M. Maire, S. Lerouge</i>
P15	113849	Electrospun Collagen Scaffold for Tympanic Membrane Perforations <i>Y. Li, J. Liu, W. Wan</i>
P16	113854	Evaluation and Modification of Amphiphilic Oligo-Urethane Coatings for Use as Drug Delivery Coatings <i>Z.B. Grodzinski, J.P. Santerre</i>
P17	113857	Electrospun Polycaprolactone Scaffolds Containing Basic Fibroblast Growth Factor Loaded Microspheres as a Matrix for Gingival Fibroblasts <i>S. Michelsons, S. Kim, X. Li, J. Guan, D.W. Hamilton</i>
P18	113860	Bacterial Cellulose Nanofibers Grafted Poly (2-hydroxyethyl methacrylate) via Atom Transfer Radical Polymerization <i>B. Volynets, H. Nakhoda, M. Abu Ghalia, Y. Dahman</i>
P19	113863	Macrophage effects on in vitro tissue regeneration when in co-culture with vascular smooth muscle cells on a degradable polyurethane under biomechanical strain <i>K.G. Battiston, R.S. Labow, J.P. Santerre, C.A. Simmons</i>
P20	113871	Poro-viscoelastic Models Applied to Collagen Hydrogel Scaffolds <i>A. Laine, B. Drouin, D. Mantovani</i>
P21	113872	Surface charge characterization of hydrogel and silicone hydrogel contact lenses <i>G. Guidi, H. Sheardown, L. Liu</i>
P22	113874	Low melting point amphiphilic microspheres for therapeutic protein delivery <i>D. Louka, B.G. Amsden</i>
P23	113877	Novel Grooved Substrata Stimulate Macrophage Fusion, CCL2 and MMP-9 Secretion <i>H. Moon, A. Kulpa, J.D. Waterfield, D.M. Brunette, N.A.F. Jaeger</i>
P24	113878	Orthopaedic metal devices: Detection of endotoxins using surface analysis <i>R. Franca, M. Alfa, N. Olso, E. Sacher, L.H. Yahia</i>
P25	113880	Hydrogel-coated nanospongy surfaces for the pH-triggered release of antibiotics <i>S. Amrani, M. Santana, F. Variola</i>
P26	113883	Functionalized Hollow Mesoporous Silica Nanospheres for drug delivery <i>Z. Jomeh Farsangi, A. Beitollahi, M. Jafari, B.D. Hatton</i>
P27	113897	Towards Target-molecule Triggered Release Using Aptamer Polymer "Tapes" For Smart Fertilizers <i>P.K. Tsae, X. Zhang, M.C. DeRosa</i>



P28	113906	Biomaterials with Fine-Tunable Properties for Soft Tissue Engineering <i>B. Zhang, A. Korolj, M. Montgomery, M. Radisic</i>
P29	113917	45S5 Bioactive Glass Reactivity by Dynamic Vapour Sorption <i>S. Naseri, W.C. Lepry, W. Li, K.E. Waters, A.R. Boccacini, S.N. Nazhat</i>
P30	113921	Synthesis and Characterization of Bioactive Glass Based Organic-inorganic Class II Hybrid Biomaterials for Bone Tissue Engineering <i>D. Mondal, K. Mequanint, A.S. Rizkalla</i>
P31	113928	Genetically modified endothelial cells by non-viral (polymeric) vectors: An effective approach to enhance the osteogenic potential of bone marrow mesenchymal stem cells <i>R. Alphonse, R. KC, C. Kucharski, H. Uludag</i>
P32	114027	A Layer-by-Layer Biofabrication for Tissue Engineering <i>V. Guduric, C. Metz, M. Maisani, R. Siadous, R. Levato, R. Bareille, E. Engel, J.-C. Fricain, O. Luzanin, S. Catros</i>
P33	113936	Chitosan-Collagen Hydrogel Modified with QHREDGS Peptide for Wound Healing <i>Y. Xiao, M. Radisic</i>
P35	113946	Aminated Surfaces for Synthetic Vascular Grafts: Processes and Characterization <i>G. Boespflug, G. De Crescenzo, M.R. Wertheimer, S. Lerouge</i>
P36	113949	Homo and Copolymerization Kinetics of Trimethylene Carbonate Bearing a Methoxyethoxy Side Group <i>F. Chen, B.G. Amsden</i>
P38	113952	Conductive Nerve Guidance-Based Electrical Stimulation to Peripheral Nerves: An Ex Vivo Assay <i>O. Bondarenko, D. Wang, Z. Du, M. Rouabhia, Z. Zhang</i>
P39	113955	Cell delivery using an injectable hydrogel to treat stroke <i>S.L. Payne, M.J. Cooke, B. Varga, A. Nagy, M.S. Shoichet</i>
P40	113956	Local Delivery of Brain-Derived Neurotrophic Factor For Ultimate Use in Stroke Repair <i>J.M. Obermeyer, M.S. Shoichet</i>
P43	113970	Cyclic Mechanical Stimulation of SMCs: A Comparative Study between 2D and 3D Models <i>N. Bono, D. Pezzoli, L. Levesque, C. Loy, G. Candiani, G.B. Fiore, D. Mantovani</i>
P44	113979	Modifying Modular Tissue Engineering for Subcutaneous Pancreatic Islet Transplantation <i>A.E. Vlahos, M.V. Sefton</i>
P45	113980	HIF-1α Expression and Oxidative Damage in RAW264.7 Murine Macrophages Exposed to Cobalt and Chromium Ions <i>Z. Salloum, E.A. Lehoux, I. Catelas</i>
P46	113983	Biomimetic Hydrogels for 3D Lymphangioliomyomatosis Cell Culture <i>L.J. Smith, R.Y. Tam, L.M. Julian, W.M. Stanford</i>
P47	113987	Investigating the role of hypoxia-inducible factor-1 activation in the vascularization of modular tissue engineered constructs <i>G.C. Lam, M.V. Sefton</i>
P48	113989	Development of Bi-layer Vascular Constructs by Combining Biomaterial and Cell Sheet Technology <i>C. Perron, G. Raghunathan, T. Galbraith, D. Lacroix, F.A. Auger, G. Laroche, G. Sabbatier</i>
P49	113996	Effects of Ribose and Annealing on the Free Radical Content and Mechanical Properties of Gamma-Irradiated Sterilized Bone <i>G. Minhas, X. Lu, T. Attia, J. Tupy, T. Burrow, T. Willett</i>



P50	113997	Modeling the mechanical behavior of mono- and multilayer electrospun structures for vascular graft applications <i>M. Gauthier, H. Savoji, A. Aji, S. Lerouge</i>
P51	113998	Sol-gel-derived hydroxyapatite coating of porous calcium polyphosphate enhances mechanical integration of tissue-engineered cartilage <i>W.D. Lee, W.L. Stanford, R.A. Kandel, R.M. Pilliar</i>
P52	113999	Drug-eluting biodegradable porous iron for bone scaffolds <i>A.H. Yusop, H. Nur, H. Hermawan</i>
P53	114000	Optimization of Simvastatin Encapsulation in Alginate Microspheres <i>A. Parsian, I. Catelas</i>
P54	114001	Circumventing the Blood-Brain Barrier: Injectable hyaluronan-based hydrogel to deliver Cyclosporin A to promote tissue repair in stroke-injured rat brain <i>J.W. Ngai, A. Tuladhar, M.S. Shoichet</i>
P55	114002	An in vitro culture platform for small-caliber tubular biological structures <i>N. Bono, M. Piola, M. Soncini, D. Mantovani, G.B. Fiore</i>
P56	114003	Hybrid hydrogel as a microenvironment for tissue engineering: A new matrix for bone regeneration <i>M. Maisani, L. Levesque, R. Bareille, O. Chassande, D. Mantovani</i>
P57	114004	Fibronectin adsorption on surface modified polyetherurethanes for blood-contacting applications <i>Hugoni, L., V. Montano-Machado, E. Pauthe, D. Mantovani, J.P. Santerre</i>
P58	114005	Microstructure and Micromechanical Mapping of Eye Tissue <i>A.A. Alhasawi, L.D. Stewart, E.F. Merschrod</i>
P59	114007	Deposition and Characterization of Mesoporous Silica Coatings on Magnesium Alloys <i>A. Al Hegy, J. Gray-Munro</i>
P60	114013	Development of Multilayer Polyelectrolyte Coated Liposomes <i>L. Nayef, R. Castiello, R.C. Hamdy, M. Tabrizian</i>
P61	114014	New Instrument for Real-Time Monitoring of Viscoelasticity of Hydrogels <i>L.-C. Nguyen, C. Schmitt, S. Strandman, A.H. Henni, C. Ceccaldi, S. Lerouge, E. Assaad</i>
P62	113852	Drug Loaded Mesoporous Silica Nanoparticles for Antimicrobial Applications <i>C. Stewart, B.D. Hatton, Y. Finer</i>
P63	114025	Resin/Dentin Interface Degradation is Dependent on Restorative Material and MMP-Inhibition <i>B. Huang, C.G. Cvitkovitch, J.P. Santerre, Y. Finer</i>
P64	114032	A Highly Elastic and Rapidly Crosslinkable Elastin-Like Polypeptide-Based Hydrogel for Biomedical Applications <i>Y.-N. Zhang, R.K. Avery, Q. Vallmajo-Martin, A. Assmann, A. Vegh, A. Memic, B.D. Olsen, N. Annabi, A. Khademhosseini</i>
P65	114029	Effect of Resin Monomers and their Degradation By-products on Matrix Metalloproteinases <i>Q.S. Zaman, Y. Finer</i>
P66	114031	Injectable Interpenetrating Polymer Network Hydrogels from Pairwise Orthogonal Reactive Mixing of Functionalized Prepolymers <i>T. Gilbert, T. Hoare</i>



P67	114020	Influence of Chemical Conjugation Strategies on the Bioactivity of Fibronectin <i>M. Byad, P. Chevallier, K. Vallieres, C.A. Hoesli, G. Laroche</i>
P69	114019	Investigation of Scaffold Processing Methods and Dynamic Seeding Techniques to Enhance Cell Infiltration in Decellularized Adipose Tissue Foams <i>M.A. Curet, B.A. Turco, L.E. Flynn</i>
P70	114035	Chitosan/Pectin Scaffolds for Tissue Engineering Applications <i>F.C. Bombaldi de Souza, R.F. Bombaldi de Souza, A.M. Moraes, B. Drouin, D. Mantovani</i>



Friday, May 29 - Morning

S9. Soft Tissue Engineering		MS 4171
Chair: Milica Radisic; Co-Chair: Miles Montgomery		
8:30	113899	Mechanical and Biochemical Stability of Hyaluronic Acid-Gelatin Hydrogels for Use in a Phono-Mimetic Vocal Fold Bioreactor <i>N. Latifi, H.K. Heris, N.Y.K. Li, L. Mongeau, H. Vali, E. Boucher</i>
8:45	113990	Integration of hydrogel arrays with PDMS microdevices for 3D mechanical stimulation of cells <i>H. Liu, J. Usprech, Y. Sun, C.A. Simmons</i>
9:00	113916	BMSC laden injectable amino-diethoxypropane modified alginate-chitosan hydrogel for hyaline cartilage reconstruction <i>R. Mbeleck, M.M.Q. Xing, W. Zhong</i>
9:15	113858	Design and evaluation of a polymer hydrogel scaffold for the delivery of adipose-derived stem cells for the treatment of peripheral arterial disease <i>S.A. Young, B.G. Amsden, L.E. Flynn</i>
9:30	113981	Modifications of a hyaluronan-methyl cellulose cell delivery hydrogel to promote cell survival for ultimate use in transplantation into the injured spinal cord <i>T. Fuehrmann, P.N. Anandakumaran, R.Y. Tam, B. Coles, D. van der Kooy, M.S. Shoichet</i>

S10. Orthopaedic Biomaterials I		MS 2170
Chair: Eli Sone; Co-Chair: Yasaman Delaviz		
8:30	113826	Ribose Pre-Treatment Protects Fracture Toughness of I ³ -irradiated Sterilized Bone Allograft <i>M. Woodside, T.L. Willett</i>
8:45	113853	The role of extracellular matrix components on the mineralization of the periodontium <i>A.J. Lausch, E.D. Sone</i>
9:00	113915	Physico-chemical and Biological Characterization of the Composite of Chitosan/Hydroxyapatite for Applications in Bone Regeneration <i>C. Garcia, G.P. Cabra, M.M. Vidarte, S.J. Perdomo, J.F. Ibla</i>
9:15	113901	Bioactive Sol-Gel Derived Borate Glasses <i>W.C. Lepry, M. James-Basin, N. Showan</i>
9:30	114034	Characterization of Chitosan Coated Stainless Steel Surface and Its Calcification Behaviour <i>C.S. Campelo, D. Mantovani, P. Chevallier, R.S. Vieira</i>



S11. Drug and Gene Delivery I		MS 2172
Chair: Marta Cerruti; Co-Chair: Kaige Xu		
8:30	113889	PAMAM dendrimer based formulation of haloperidol for brain targeting via intranasal delivery <i>J. Bhandari, Y.K. Kataré, R.P. Daya, C. Sookram, R. Luckham, A.S. Chauhan, R.K. Mishra</i>
8:45	114036	Externally-mediated pulsatile release from injectable, magnetic hydrogel nanocomposites <i>S.B. Campbell, D.M. Maitland, T. Hoare</i>
9:00	113922	An ultrasound activated implant that provides on demand BMP-2 release <i>G.J. Crasto, N. Reznik, N. Kartner, M.V. Spatafora, P. Burns, C. Cameron, M.F. Manolson, S.A.F. Peel</i>
9:15	114023	Temperature-Responsive Nanogels for the Encapsulation and Targeted Drug Delivery of Nitroimidazole-Derivatized Molecule for Therapeutic and Diagnostic Treatments or Hypoxic Liver Cancer <i>S. Quan, Y. Wang, A. Zhou, P. Kumar, R. Narain</i>
9:30	113811	A Chemopreventive Microfiber Drug Delivery System for Targeted Skin Cancer Treatment <i>J. La, S. Karamdoust, H. Mak, W. Wan</i>

P2. Plenary Lecture II		MacLeod Auditorium
Chair: Todd Hoare		
10:15	Controlled Drug Delivery Systems: Needs for Accelerated Evolution <i>K. Park</i>	

11:15AM – 12:00PM – Educational Workshops		
W1	MS 2170	Careers Panel <i>Facilitator: Gazelle Crasto</i>
W2	MS 2172	Scientific Communication Workshop <i>Facilitator: Alison McGuigan</i>
W3	MS 4171	Grants Workshop <i>Facilitators: Lise Desabrais and Caroline Evans (Natural Sciences and Engineering Research Council of Canada)</i>



Friday, May 29 - Afternoon

K3. Keynote Lecture III		MS 2170
Chair: Molly Shoichet		
2:00	Triggered and Targeted Drug Delivery <i>D.S. Kohane</i>	

K4. Keynote Lecture IV		MS 2172
Chair: Stephanie Willerth		
2:00	Directing pluripotent stem cell morphogenesis via engineered biomaterials <i>T. McDevitt</i> Sponsored by NSERC CREATE Integrated Development of Extracellular Matrices Program	

S12. Stem Cells in Tissue Engineering		MS 2172
Chair: Stephanie Willerth; Co-Chair: Stuart Young		
2:45	113808	Tissue-specific Microcarriers for Adipose-derived Stem Cell Expansion and Delivery <i>C. Yu, L. Flynn</i>
3:00	113932	Maturation of Human Stem Cell-Derived Cardiomyocytes in 3D Tissues Through Collagen Density Modulation <i>A.O. Pahnke, M. Radisic</i>
3:15	113817	Using a Mathematical Model to Study the Neuronal Differentiation of Human Induced Pluripotent Stem Cells Seeded on Melt Electrospun Biomaterial Scaffolds <i>M. Hall, N. Khadem Mohtaram, S. Willerth, R. Edwards</i>
3:30	113790	Micro-scale distribution of RGD/BMP-2 peptides to control hMSCs osteogenesis <i>I. Bilem, P. Chevallier, G. Laroche, E. Sone, M.-C. Durrieu, L. Plawinski</i>

S13. Imaging and Biosensing		MS 4171
Chair: Ravin Narain; Co-Chair: Cameron Stewart		
2:45	113991	Targeted X-ray Computed Tomography Imaging of Tumours Using Bismuth Nanoparticles <i>J.P. Kinsella</i>
3:00	113796	Lanthanide-doped upconversion nanoparticles: non-invasive trackers for real-time hydrogel degradation monitoring in-vivo <i>G. Jalani, R. Naccache, D.H. Rosenzweig, S. Lerouge, L. Haglund, F. Vetrone, M. Cerruti, G. Makhoul, S. Abdalla</i>
3:15	113830	Chemically Synthesis of Carboxyl Functionalized Polypyrrole Particles and Covalently Attachment of Antibody for Biosensor <i>J. Mao, Z. Zhang</i>
3:30	113941	High Throughput Drug Testing Platform for Long Term Cardiotoxicity Monitoring Using High Fidelity Engineered Cardiac Tissue <i>Y. Zhao, M. Radisic</i>

**S14. Drug and Gene Delivery II****MS 2170****Chair:** Molly Shoichet; **Co-Chair:** Jaclyn Obermeyer

2:45	113896	Theranostic pH Responsive Self-assembled Magnetic Nanoparticles for Targeting Delivery of Doxorubicin to Advanced Gastric Cancer <i>K. Xu, M.M.Q. Xing,</i>
3:00	113848	Use of Antimicrobial Polymer for Sustained Release of Drug from Electrospun Polyurethane Scaffolds <i>M. Wright, M. Yang, J.P. Santerre</i>
3:15	113886	Short Aliphatic Lipid Substitution on Low Molecular Weight Polyethylenimine: Effect on siRNA Complexation from Molecular Dynamics Simulation Studies <i>D. Meneksedag-Erol, R. KC, T. Tang, H. Uludag</i>
3:30	113962	Tuning Polymeric Micelle Stability and Drug Loading with Chemical Modifications <i>J. Logie, C.K. McLaughlin, R.Y. Tam, M.S. Shoichet</i>

4:15-5:00PM – Educational Workshop

W4	MacLeod Lobby	Speed Networking Workshop <i>Facilitators: Isabelle Catelas, Leah Kesselman</i>
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Saturday, May 30 - Morning

S15. Ophthalmic Biomaterials		MS 4171
Chair: Laura Wells; Co-Chair: Emilia Bakaic		
8:30	113933	Studying the effect of shear stress on human corneal epithelial cells <i>D.J. Wulff, S. Molladavoodi, M. Gorbet</i>
8:45	113787	Optimized Synthesis of Hydrophobized Methylcellulose Nanogels <i>M. Jamard, T. Hoare, H. Sheardown</i>
9:00	113927	Negatively and Positively Charged Nanohydrogels Embedded in Macrogels for Drug-Loading and Drug-Releasing System Characterization of a Drug Eluting Contact Lens <i>P.-L. Latreille, X. Banquy</i>
9:15	113934	Surface Immobilization of Proteoglycan 4 on Model Contact Lenses for Improved Comfort <i>M. Korogiannaki, H. Sheardown</i>
9:30	113938	Application and Characterization of a Human Corneal in vitro Model for Testing Drug delivery Ophthalmic Materials <i>S. Elsami, M. Gorbet</i>

S16. Cardiovascular Biomaterials II		MS 2170
Chair: Lauren Flynn; Co-Chair: Kyle Battiston		
8:30	113903	Engineering small-caliber arterial models in a biomechanical in vitro platform <i>N. Bono, M. Soncini, G.B. Fiore, S. Meghezi, D. Mantovani</i>
8:45	113786	AngioChip: a biodegradable scaffold with built-in vasculature for organ-on-a-chip engineering and direct surgical anastomosis <i>B. Zhang, M. Montgomery, M.D. Chamberlain, L.A. Wells, A. Pahnke, S. Masse, J. Kim, L. Reis, M. Abdulah, S.S. Nunes, M. Radisic</i>
9:00	113864	Novel Green Polyurethane Nanocellulose Composites for Applications in Tissue Engineering <i>H. Nakhoda, Y. Dahman</i>
9:15	113937	Toward Engineered Microvasculature: Harnessing Gel-based Microfluidics and MSC-induced Vascular Self-Assembly using Fibrin-Collagen Co-gels <i>R.E.B. Fitzsimmons, R.G. Ireland, M. Aquilino, C.A. Simmons</i>
9:30	113837	Sustained Co-delivery of Fibroblast Growth Factors from Poly(ester amide) Fibers for Building Stronger Vessels <i>S. Said, C. O'Neil, J.G. Pickering, K. Mequanint</i>

**S17. Cell-Biomaterial and Protein-Biomaterial Interactions III** **MS 2172****Chair:** Kim Jones; **Co-Chair:** Vanessa Montano-Machado

8:30	113914	Prostaglandin E(2) Reverses Scar Tissue Production in Human Kidney Epithelial Cells: Implications for Biomaterial Implantation <i>K. Sorouri, K.S. Jones</i>
8:45	113887	Using Polymeric Biomaterials to Engineer Endothelial Cells Surfaces as a Glycocalyx Replacement for Organ Transplantation Applications <i>E. Siren, J. Kizhakkedathu</i>
9:00	113965	Morphological differences between pseudotumors in patients with metal-on-metal and metal-on-polyethylene hip implants <i>F. Eltit, D. Garbuz, A. Assiri, C. Duncan, M. Cox, N. Greidanus, B. Masri, R. Wang</i>
9:15	113797	Targeting cell cycle proteins in breast cancer cells by siRNA using lipid-substituted polyethylenimine <i>M.B. Parmar, H. Montazeri Aliabadi, P. Mahdipoor, C. Kucharski, R. Maranchuk, J.C. Hugh, H. Uludag</i>
9:30	113898	A 3-D Multicellular Tumor Spheroid on Layer-by-layer Coated Single Cancer Cell to Study Epithelial-to-mesenchymal Transitions <i>Y. Liu, M.M.Q. Xing</i>

P3. Plenary Lecture III **MacLeod Auditorium****Chair:** Benjamin Hatton

10:15	Unraveling the Molecular Mechanism of Collagen Mineralization <i>N. Sommerdijk</i>	
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S18. Biomimetic Biomaterials **MS 4171****Chair:** Benjamin Hatton; **Co-Chair:** Ghulam Jalani

11:15	113818	Biomimetics of Squid Sucker Ring Teeth <i>P.A. Guerette, S. Hoon, V. Ravi, B. Venkatesh, D. Ding, A. Miserez</i>
11:30	113807	Silicone polymer gels for biomedical applications - Microstructured liquid surfaces <i>N. Lavielle, D. Asker, B.D. Hatton</i>
11:45	113978	Tunable, biomimetic hydrogels to study breast cancer cell invasion <i>S.A. Fisher, P.N. Anandakumaran, S.C. Owen, M.S. Shoichet</i>
12:00	113963	A Synthetic Blood Clot that Forms in Response to Numerous Specific Stimuli <i>T.-C. Wong, C.J. Kastrup, J.H. Yeon, K.Y.T. Chan</i>



S19. Soft Biomaterials II		MS 2172
Chair: Ryan Wylie; Co-Chair: Nima Khadem Mohtaram		
11:15	113793	3D Hyaluronan Dual-Click Chemistry Hydrogels as Matrices for Breast Spheroid Formation <i>A.E.G. Baker, M.S. Shoichet</i>
11:30	113923	Cationic, Amphoteric and Anionic Charged Poly(Oligoethylene glycol methacrylate) Hydrogels With Tunable Physiochemical Properties and Biological Interactions <i>E. Bakaic, N.M.B. Smeets, T. Hoare</i>
11:45	113804	Preparation of biocompatible, highly homogenous graphene-hydroxyapatite hydrogel <i>X. Xi, K. Hu, F. Dongdong, S.D. Tran, M. Cerruti, L. Shang</i>
12:00	113974	Diels-Alder "click" crosslinked polymer scaffolds within calcium alginate templated beads <i>S.A. Stewart, N.A.D. Burke, H.D.H. Stover</i>

S20. Orthopaedic Biomaterials II		MS 2170
Chair: Thomas Willett; Co-Chair: Qiong Wang		
11:15	113803	Development of a Novel Method for the Strengthening and Toughening of Irradiation-Sterilized Bone Allografts used in Orthopaedic Reconstructions <i>T. Attia, M. Grynepas, T. Willett</i>
11:30	113910	Zinc loaded calcium sulphate enhances rhBMP-2 induced bone formation <i>M.V. Spatafora, G.J. Crasto, S.A.F. Peel</i>
11:45	113931	A New Parameter to Assess the Osseointegration Potential of an Implant Surface <i>R.S. Liddell, N. Khosravi, E. Ajami, J.E. Davies</i>
12:00	113924	Evaluation of a mussel-derived polymer as a natural bioactive coating for titanium <i>A. Atwal, A. Steeves, F. Variola</i>

12:30-1:00PM - Closing and Conference Awards		MacLeod Auditorium
Chair: Todd Hoare		