

ORTHOPAEDICS DIVISION
Dept. Surgery
Information required for
ANNUAL REPORT
(Jan 1 2015 - Dec 31 2015)

NAME:

HOSPITAL/CENTRE:

1. *Clinician Research Supervision*

1.1 Resident research supervision:

Antoniou

- Resident name: Adam Hart
- Program:
- Level: 4
- Number of hours of supervision per week:

- Resident name: Anthony Albers
- Program:
- Level: 3
- Number of hours of supervision per week:

Bergeron

- Resident name: Thierry Pauyo
- Program:
- Level: R5
- Number of hours of supervision per week:

- Resident name: Ryan Coughlin
- Program:
- Level: R5
- Number of hours of supervision per week:

- Resident name: Carl Sutton
- Program:
- Level: R5
- Number of hours of supervision per week:

- Resident name: Adam Hart
- Program:
- Level: R4
- Number of hours of supervision per week:

Barralet

- Name of graduate student: Justin Drager
 - Degree program (MSc, PhD): MSc
 - Program: Orthopaedic Surgery
 - Supervisor: Barralet
 - Co-supervisors: Harvey
 - Annual stipend: 40,000
 - Source of funding: Surgeon Scientist Program
-
- Name of graduate student: Hani Shash
 - Degree program (MSc, PhD): MSc, Thesis Submitted Dec 2015
 - Program Plastic Surgery
 - Director: Barralet
 - Co-supervisors: Gilardino
 - Annual stipend: 40000
 - Source of funding: Saudi.
-
- Name of graduate student: Magda Tarchala
 - Degree program (MSc, PhD): MSc,
 - Program Orthopaedic Surgery
 - Director: Barralet
 - Co-supervisors: Harvey
 - Annual stipend: 40000
 - Source of funding: Division

Hamdy

- Resident name: **Mina Wahba** (2014 – 2015)
 - Program: – **Division of Experimental Surgery, Funded by the Division of General Surgery, McGill University**
 - Level:
 - Number of hours of supervision per week:
-
- Resident name: **Mohammad Al-Otaibi**
 - Program:
 - Level:
 - Number of hours of supervision per week:
-
- Resident name: **Bayan Ghalimah**
 - Program:
 - Level:
 - Number of hours of supervision per week:

Ouellet

- Resident name: Emerson Krock

- Program:
 - Level:
 - Number of hours of supervision per week:
-
- Resident name:
 - Program:
 - Level:
 - Number of hours of supervision per week:

Huk, Olga L

- Resident name: Anthony Albers
 - Program:
 - Level: 3
 - Number of hours of supervision per week:
-
- Resident name: Adam Hart
 - Program:
 - Level: 4
 - Number of hours of supervision per week:

Makhoul

- Resident name: MacLELLAN, Dr. Darcy
 - Program: 4-Year Certificate in Oral and Maxillofacial Surgery
 - Level: R4
 - Number of hours of supervision: 3 hours/week
-
- Resident name: ABO SHARKH, Dr. Haider
 - Program: 6-Year Integrated MDCD/Certificate in Oral and Maxillofacial Surgery
 - Level: R3
 - Number of hours of supervision: *MDCM-OMS Rotation*
-
- Resident name: BASSYONI, Dr. Lojain
 - Program: 4-Year Certificate in Oral and Maxillofacial Surgery
 - Level: R3
 - Number of hours of supervision: 3 hours/week
-
- Resident name: GIGLIOTTI, Dr. Jordan
 - Program: 6-Year Integrated MDCD/Certificate in Oral and Maxillofacial Surgery
 - Level: R2
 - Number of hours of supervision: *MDCM-OMS Rotation*
-
- Resident name: LO, Dr. Olivia
 - Program: 4-Year Certificate in Oral and Maxillofacial Surgery
 - Level: R2
 - Number of hours of supervision: *on Medical Rotation*

- Resident name: SUHAYM, Dr. Omar
- Program: 4-Year Certificate in Oral and Maxillofacial Surgery
- Level: R1
- Number of hours of supervision: 3 hours/week

- Resident name: ALMUNIF, Dr. Meshal
- Program: 1-Year Certificate in Oral Surgery
- Level: Intern
- Number of hours of supervision: 3 hours/week

- Resident name: HASHEMI, Dr. Sina
- Program: 1-Year Certificate in Oral Surgery
- Level: Intern
- Number of hours of supervision: 3 hours/week

(July 1 – December 30, 2015):

- Resident name: ABO SHARKH, Dr. Haider
- Program: 6-Year Integrated MDCM/Certificate in Oral and Maxillofacial Surgery
- Level: R4
- Number of hours of supervision: *MDCM-OMS Rotation*

- Resident name: BASSYONI, Dr. Lojain
- Program: 4-Year Certificate in Oral and Maxillofacial Surgery
- Level: R4
- Number of hours of supervision: 3 hours/week

- Resident name: GIGLIOTTI, Dr. Jordan
- Program: 6-Year Integrated MDCM/Certificate in Oral and Maxillofacial Surgery
- Level: R3
- Number of hours of supervision: *MDCM-OMS Rotation*

- Resident name: LO, Dr. Olivia
- Program: 4-Year Certificate in Oral and Maxillofacial Surgery
- Level: R3
- Number of hours of supervision: 3 hours/week

- Resident name: MASCARENHAS, Dr. Wendall
- Program: 6-Year Integrated MDCD/Certificate in Oral and Maxillofacial Surgery
- Level: R2
- Number of hours of supervision: *MDCM-OMS Rotation*

- Resident name: SUHAYM, Dr. Omar
- Program: 4-Year Certificate in Oral and Maxillofacial Surgery
- Level: R2
- Number of hours of supervision: *Medical Rotation*

- Resident name: HASHEMI, Dr. Sina
- Program: 6-Year Integrated MDCD/Certificate in Oral and Maxillofacial Surgery
- Level: R1
- Number of hours of supervision: : June – December 2015: 3 hours/week

- Resident name: AL-HALABI, Dr. Feras
- Program: 1-Year Certificate in Oral Surgery
- Level: Intern
- Number of hours of supervision: 3 hours/week

- Resident name: ALSHAHRANI, Dr. Nasser
- Program: 1-Year Certificate in Oral Surgery
- Level: Intern
- Number of hours of supervision: 3 hours/week

Weber, M

- Resident name: Kumar, A
- Program:
- Level: R5
- Number of hours of supervision per week:

- Resident name: Abduljabbar, F
- Program:
- Level: R5
- Number of hours of supervision per week:

- Resident name: Castano, D
- Program:
- Level: R2
- Number of hours of supervision per week:

- Resident name: Alhamzah, H.
- Program:
- Level: R3
- Number of hours of supervision per week:

- Resident name: Crapser, A.
- Program:
- Level: R3
- Number of hours of supervision per week:

- Resident name: Hart, A.
- Program:
- Level: R4
- Number of hours of supervision per week:

- Resident name: AL-Jurayyan, A.
- Program:

- Level: R5
- Number of hours of supervision per week:

- Resident name: Van Lancker, H.
- Program:
- Level: R5
- Number of hours of supervision per week:

- Resident name: De Jesus, C.
- Program:
- Level: R5
- Number of hours of supervision per week:

- Resident name: Alotaibi, F.
- Program:
- Level: NSX
- Number of hours of supervision per week:

- Resident name: Krujit
- Program:
- Level: R3
- Number of hours of supervision per week:

- Resident name: Al-Zhrani, G.
- Program:
- Level: R5
- Number of hours of supervision per week:

- Resident name: Drager, J.
- Program:
- Level: R3
- Number of hours of supervision per week:

- Resident name: Aoude, A.
- Program:
- Level: R3
- Number of hours of supervision per week:

- Resident name: Alaqeel, M.
- Program:
- Level: R2
- Number of hours of supervision per week:

- Resident name: Marwan, Y.
- Program:
- Level: R1
- Number of hours of supervision per week:

- Resident name: Jiang, F.

- Program:
 - Level: R4
 - Number of hours of supervision per week:
-
- Resident name: Aishammasi, A.
 - Program:
 - Level: R4
 - Number of hours of supervision per week:
-
- Resident name: Alnusif, N.
 - Program:
 - Level: R3
 - Number of hours of supervision per week:
-
- Resident name: Alraiyes, T.
 - Program:
 - Level: R2
 - Number of hours of supervision per week:
-
- Resident name: Dust, P.
 - Program:
 - Level: R1
 - Number of hours of supervision per week:
-
- Resident name: Muwanis, M.
 - Program:
 - Level: R2
 - Number of hours of supervision per week:

Willie, B

- Resident name: David Pflanz
 - Program: Charité Medical University
 - Level:
 - Number of hours of supervision per week:
-
- Resident name: Bettina Kruck
 - Program: Charité Medical University
 - Level:
 - Number of hours of supervision per week:

Zukor, D

- Resident name: Adam Hart
 - Program:
 - Level: 4
 - Number of hours of supervision per week:
-
- Resident name: Anthony Albers
 - Program:

- Level: 3
- Number of hours of supervision per week:

1.2 Research Fellows

Bergeron

- Resident name: Emmanouil Liodakis
- Number of hours of supervision per week:
- Resident name: Nikolaos Stavropoulos
- Number of hours of supervision per week:

Makhoul

- Fellow name: ALGHAMDI, Dr. Osama
- Program: Maxillofacial Oncology and Reconstruction Fellow
- Level: R5
- Number of hours of supervision: 3 hours/week
- Fellow name: ALGHAMDI, Dr. Osama
- Program: Maxillofacial Oncology and Reconstruction Fellow
- Level: R6
- Number of hours of supervision: 3 hours/week

Weber, M

- Resident name: Khashan, M.
- Number of hours of supervision per week:
- Resident name: Martel, P.
- Number of hours of supervision per week:
- Resident name: Simoes, L.
- Number of hours of supervision per week:

1.3 Other Researchers Fellows (Other Research Fellows?)

Wilie, B

- Resident name: Alex Buettner (medical student)
- Number of hours of supervision per week:

2. Honours/Awards

2.1 Honours awarded to you in the above reporting time period – **new** honours only:

Dr Antoniou

- Winner of the 2nd AmorChem Knock-Out™ event, Montreal (Prize: \$500,000) for the project: “LINK N peptide as a therapeutic agent to treat IVD degeneration, arthritis and pain”.

Dr Barralet

- Life memberships/fellowships in societies
- Honorary degrees

Dr Bergeron

- 3rd Place McGill University Orthopaedic Annual Research Day 2015 Division of Orthopaedic Surgery, McGill University “Comparison of American and Canadian Perioperative Outcomes and Hospital Efficiency Following Primary Total Hip and Knee Arthroplasty.” Hart A, **Bergeron S**, Epure L, Huk O, Zukor D, Antoniou J.

Dr Jarzem, Peter

- President of the Canadian Spine Society

Dr Komarova

- Pacific Institute for the Mathematical Sciences Distinguished Visitor Award Visiting professorship from Vienna University of Technology, Austria

Dr Makhoul

- FACS (Fellow), American College of Surgeons

Dr Reindl

- Chairman of AO basic fracture course in Vancouver November 2015

Dr Ouellet

- Invited Guest - National Town Hall Meeting – DepuySynthes. Luque Trolley Story - First Case WorldWide, Rayham, MA, USA February

Dr St-Arnaud

- Inaugural appointee, Francis Glorieux endowed Chair in Pediatric Musculoskeletal Research

Dr Tanzer

- 2015 William and Rhea Seath Award in Engineering Innovation, McGill University, Montreal, Canada. April 2015
- 2015 McGill Dobson Cup Start-Up (Innovation Driven Enterprise Track) Competition 1st Place winner. Finalist, Dobson Centre for Entrepreneurship, McGill University: Pasini, D, Khanoki SA, Tanzer M., Burnett J.: A Fully Porous Hip Replacement Implant Capable of Eliminating Bone Resorption.

2.2 Degrees awarded in the above reporting time period:

Dr Willie
Doctoral degrees (PhD)

- 3/2011 - 3/2015 Rebecca Hörth, Technische Universität Berlin
Thesis Title: Structural and compositional changes of tissue during bone healing and implant integration (Co-Supervisor)
- 10/2010- 11/2015 Annette Birkhold, Technische Universität Berlin
Thesis Title: A 4D imaging approach to monitor bone remodeling (Principal Supervisor)
- 8/2010 - 4/2015 Hajar Razi, Technische Universität Berlin
Thesis Title: An in silico study of age-related changes in the mechanical regulation of bone adaptation (Co-Supervisor)
- 8/2010 - 3/2015 Marta Aido, Technische Universität Berlin
Thesis Title: The Influence of Age and Mechanical Loading on Bone Structure and Material Properties (Principal Supervisor)

3. Scientific Presentations/Conferences

3.1 Invited scientific presentations given to a non-division/department of Orthopaedics audience in the above time period.

Dr Barralet, Jake

- 1) 12th November 2015, EPR Center for the Study of Viable Systems, The Geisel School of Medicine at Dartmouth, Lebanon, NH, USA
- 2) 20th October 2015, Department of Surgery, University of Western Ontario, Canada
- 3) 30th July 2015, Network for Canadian Oral Health Research, Tech Transfer & Commercialization Workshop
- 4) 16th January 2015, Department of Biomaterials and Tissue Engineering, University of Maastricht, Netherlands.

Dr Haglund

- 1) **Session Moderator and Poster tour moderator**, Annual Orthopaedic Research Society Conference, Las Vegas Nevada USA, Session; Spine Disc Biology and Repair

Dr Hamdy

- 1) November 4 to 8, ILLRS Meeting in Miami, FL, **2015** Chairman of the Scientific Committee President of LLRS (2014-2015)
Symposium Talks:
 - i) **Management of limb deformities in metabolic bone diseases and osteogenesis imperfecta.** (Hamdy) Fernandes, J; Birch J; Samchukov M. Topic:

- Paediatrics Title: The uses of Fassier - Duval rod in OI, Speaker: Reggie C. Hamdy, MD
- ii) **Dedicated limb deformity service at a medical center (Rozbruch) Herzenberg J; Hsu J; Hamdy RC; Beaman D.** Title: Limb deformity as part of a pediatric orthopedic practice, Speaker: Reggie Hamdy, MD
 - iii) **How to approach limb deformities in patients with skeletal dysplasia (Hamdy/Song) Song, Hae-Ryong; Herzenberg; Birch J; Hosny G; Fernandes J** Topic: Paediatric, Speaker: Reggie C. Hamdy, MD Title: General principles in the management of deformities in children with skeletal dysplasias
 - iv) **Management of neglected fractures (Hosny) Hamdy R; Chaudhary M; El-Sayad M; Agrawal R A** Topic: Fractures, Speaker: Reggie Hamdy, MD
 - v) **Research Methods to Enhance Bone Formation in Distraction Osteogenesis #43 (Song) Kun Bo Park; Kwang-Won Park; Dong-Hoon Lee; Hamdy R.** Topic: Research Title: Biologic stimulation - Systemic application of parathyroid hormone, growth hormone, and bisphosphonate, Speaker: Reggie Hamdy, MD
- 2) **Board examiner for Kuwait National Orthopaedic Certification, Kuwait September 5 to 9, 2015**
 - 3) **16th EFFORT Congress, 2015**
 - i) Prague, Czech Republic, May 27-29 Invited speaker
 - ii) Sequelae of Infection in Children (Orthopaedic sequelae of fulminant meningococemia)
 - 4) **Visiting Professor for the LLD Basic Course Program, Kuwait May 2- 10, 2015**
 - i) Pediatric Orthopedic Review Course (21 talks)
 - ii) Deformity Course; 2.5 days
 - 5) **AAOS (American Academy of Orthopaedic Surgeons, Las Vegas, USA, March, 2015**
 - i) Specialty Day, March 2015 Moderator of session: Advances in biological acceleration of bone formation in bone defects and distraction Osteogenesis
 - 6) **Annual Visiting Professor, Hospital for Special Surgery, New York, NY, January 30, 2015**
 - i) Basic Science and Clinical Applications in Limb Lengthening & Reconstruction

Dr Komarova

- 1) December 1, 2015 Mechanosensitivity and mechanotransduction among bone cells. Seminar at the Department of Orthopaedics and Sports Medicine, University of Washington, Washington, USA
- 2) November 30, 2015 Signals from non-signaling receptors, Seminar at the Department of Mathematics and Statistics, Portland State University, Oregon, USA
- 3) November 26, 2015 Bone mineralization disorders from the perspective of mathematical modeling, Seminar at the Department of Mathematics, University of British Columbia, BC, Canada
- 4) November 20, 2015 Application of mathematical modeling to puzzling questions in bone physiology, Seminar at the Department of Mathematics, Simon Fraser University, BC, Canada
- 5) November 19, 2015 Characterizing pain associated with osteolysis, Seminar at the Biomedical Research Centre, University of British Columbia, BC, Canada.
- 6) March 2, 2015 The use of mathematical modeling for understanding bone mineralization disorders, Seminar at the Ludwig Boltzmann-Institute of Osteology, Vienna, Austria

Makhoul

- 1) MUHC SURE Committee Clinical Care Pathways in Maxillofacial Oncology
- 2) Chalmers J. Lyons Academy Vascularization of bone scaffolds
- 3) Camargo Cancer Center Grand Rounds Maxillofacial Reconstruction Past, Present and Future. Sao Paulo, Brazil. July 2015
- 4) International Congress of Oral and Maxillofacial Surgery Clinical Care Pathways in Maxillofacial Surgery. Melbourne, Australia. October 2015

Murshed

- 1) Understanding the mechanism of extracellular matrix mineralization in soft and hard tissues, Human Nutrition Research Center on Aging Seminar Series, 2015, Tufts University, Boston, USA
- 2) Matrix Gla protein, a potent inhibitor of ectopic calcification in the blood vessels and cartilaginous tissues FASEB Science Research Conference: Molecular, structural and clinical aspects of vitamin K-dependent proteins, 2015 Chicago, USA

Ouellet

International:

- 1) 2nd Qatar International Spine Conference - Key note lecture - Spine deformity Epidemiology, Types, Classifications, Patient Evaluation, Management and Outcome. Doha, Qatar, February 21-22, 2015
- 2) Evidence-Based Pediatric Spinal Deformity Care. - Panel Discussion: Fusion Level Selection in AIS. Las Vegas, NV – USA, Jan. 24, 2015. Expert on Panel

National:

- 1) HSG 20th Anniversary - Harms Study Group Continuing Education Course: Evidence Based Pediatric Spinal Deformity Care. Panel Expert. Las Vegas, NV – USA Jan.23, 2015.

Local:

- 1) Centre Mont-Royal / Montreal Children's Hospital – McGill Faculty of Medicine – Course Title: Specialty Day: Pediatric Surgery from Head to Toe. (1 hour course for staff, residents and nurses) - Course Topic: Back Pain in Children: When to worry? Feb. 18, 2015.

Reindl

- 1) June 2015: lecturer AO pelvis and acetabulum fracture course Toronto, Ontario

St-Arnaud

- 1) 30th annual meeting of Advances in Mineral Metabolism in Snowmass, Colorado, April 6-10.
- 2) 'Recent findings on the role of 24, 25-dihydroxyvitamin D in fracture repair', invited speaker.

Willie

- 1) How the mechanical environment affects bone formation. Annual Ladies Christmas Program, In Shriners Hospitals for Children Research Center, Montreal, Canada. 12/17/2015.

- 2) Mechanobiology of bone regeneration. 13th Annual Eugene Rogala Visiting Professor In Pediatric Orthopaedic Surgery, In Shriners Hospitals for Children Research Center First Annual Research Symposium on Bone Regeneration, Montreal, Canada. 11/10/2015.

3.2 Abstract presentations given to a non-division/Department of Orthopaedics audience (oral or poster). Provide title of presentation, conference/sponsor, place, date (month and year).

Barralet

1. Drager J, Harvey EJ, Barralet J Oct 2015 A local Reduction in Iron Promotes Bone Formation, Podium Orthopaedic Trauma Association Annual Meeting, San Diego
2. Drager J, Harvey EJ, Barralet J Oct 2015 La réduction en fer locale favorise la formation osseuse et réduit la résorption de greffe médiée par les ostéoclastes Quebec Orthopedic Association, Malabaie, Qc
3. Drager J, Sheikh Z, Zhang YL, Kumar A, Harvey EJ, Barralet J June 2015 The effect of local delivery of Iron Chelators on Bioceramic Bone Graft Remodelling. Podium Canadian Orthopaedics Association Annual Meeting, Vancouver, Ca
4. Drager J, Sheikh Z, Zhang YL, Kumar A, Harvey EJ, Barralet J April 2015 The effect of local delivery of Iron Chelators on Bone Regeneration and Osteoclast Mediated Bioceramic Bone Graft Resorption. Podium Orthopaedic Research Society, Las Vegas, USA
5. POSTER Physiological cell density culture in a self-oxygenating and self-cleaning scaffold. Huaifa Zhang, Simon Tran and Jake Barralet. Poster presentation on CC-CRS/CSPS Annual Symposium, Toronto, Ontario, Canada, 2015.
6. ORAL Physiological cell density culture in a self-oxygenating and self-cleaning scaffold. Huaifa Zhang, Simon Tran and Jake Barralet. Oral presentation on Research Day of the Faculty of Dentistry, Montreal, QC, Canada, 2015.
7. ORAL: **Axial Vascularization of Bioceramic Scaffolds for Segmental Bone Defects** **Harshdeep S. Mangat MD**, Jake Barralet, Nicholas Makhoul Division of Oral & Maxillofacial Surgery, Faculty of Dentistry, McGill University, Montreal, QC, Canada
8. 5th World Congress of the International Academy of Oral Oncology (IAOO) Sao Paulo, Brazil. July 2015
9. ORAL: **Axial Vascularization of Bioceramic Scaffolds for Segmental Bone Defects** **Harshdeep S. Mangat MD**, Jake Barralet, Nicholas Makhoul Annual Meeting of the American Association of Oral & Maxillofacial Surgeons (AAOMS) Washington, DC. October 2015
10. ORAL: **Axial Vascularization of Bioceramic Scaffolds in a Rat Model** **Harshdeep S. Mangat MD**, Jake Barralet, Nicholas Makhoul 22nd International Conference on Oral & Maxillofacial Surgery (ICOMS) Melbourne, Australia. October 2015

11. ORAL: **M Tarchala**, E.J. Harvey, *J.E. Barralet* , Engineering the Masquelet Technique, Oral presentation at Experimental surgery research day. McGill University, January 2015. First Prize
12. ORAL: **M Tarchala**, E.J. Harvey, *J.E. Barralet* , Engineering the Masquelet Technique Oral presentation at Fraser Gurd research day, McGill University, May 2015

Komarova

1. Boraschi-Diaz I, Komarova, SV (2015) "Regulation of osteoclast formation by collagen type I" 21th Canadian Connective Tissue Conference, Quebec City, QC, May 31-June 1, Oral presentation
2. Mikolajewicz N, Sadvakassova G, Tiedemann K, Komarova SV (2015) Role of exosomes released by breast cancer and myelogenous cells in stimulation of osteoclast formation by cancer-derived factors. 21th Canadian Connective Tissue Conference, Quebec City, QC, May 31-June 1. Oral presentation
3. Komarova, SV (2015) Animal models for pain, Bone and the Oncologist New Updates (BONUS) 10 Annual Meeting, Ottawa, Canada, April 17, Invited oral presentation Makhoul
4. Srivastaava A, Rejah M, Morris M, Pluye, P, Makhoul N, Nicolau B Systematic Mixed Studies Review: Evaluation Implant-Prosthetics for Tumor Patients' Well-Being 93rd General Session and Exhibition of the International Association for Dental Research (IADR) Boston, MA March 2015
5. Madathil S, Rousseau MC, Makhoul N. Nicolau B Oral Cancer Profile: Do behavior risk factors make a difference? International Academy of Oral Oncology Sao Paulo, Brazil July 2015
6. Chen A, Madathil S Letian L, Makhoul N. Tamimi F, Nicolau B - Beta-blocker Use and the Survival of Patients with Head and Neck Cancer International Academy of Oral Oncology Sao Paulo, Brazil July 2015
7. Magnat H, Barralet J, Makhoul N. Axial Vascularization of Bioceramic Scaffolds in a Rat Model International Academy of Oral Oncology Sao Paulo, Brazil July 2015
8. Magnat H, Barralet J, Makhoul N. Axial Vascularization of Bioceramic Scaffolds in a Rat Model 97th Annual Meeting of the American Association of Oral and Maxillofacial Surgery Washington, DC September 2015
9. Gigliotti J, Makhoul N. Demographics, Training Satisfaction, an Career Plans of Canadian Oral and Maxillofacial Surgery Residents 97th Annual Meeting of the American Association of Oral and Maxillofacial Surgery Washington, DC September 2015
10. International Congress of Oral and Maxillofacial Surgery *Clinical Care Pathways in Maxillofacial Surgery* Melbourne, Australia October 2015

Weber

1. E. Krock, J. B. Currie, M. Weber, J. A. Ouellet, L. S. Stone, D. H. Rosenzweig, L. Haglund. Toll-like Receptor 2 Regulates Nerve Growth Factor Synthesis Via NF-KB Signaling in intervertebral Disc Cells. McGill University, McGill Scoliosis and Spine Research Group, 2015.
2. M. J. Courtemanche , C. J. Sparrey, M Weber, M. Fortin. Automated Outcome Prediction Of Cervical Spondylotic Myelopathy Using Preoperative Mri And Machine

- Learning. Simon Fraser University, Surrey, BC, Canada, McGill University, McGill University Health Centre, Montreal, QC, Canada, 2015.
3. M.Fortin, O.Dobrescu, Weber MH. Quantitative Magnetic Resonance Imaging Analysis of the Cervical Spine Extensor Muscles: A Pilot Study. Presented as a poster at the 2nd Annual PERFORM Center Research Conference at Concordia University, Montreal, QC, May 15th, 2015.
 4. Aoude, Weber MH, P, Jarzem. Computer Assisted Surgery is an Effective Educational Tool for the Training of Orthopaedic Surgery Residents in Pedicle Screw Placement. Accepted as an electronic poster at Spine Across the Sea, a joint meeting of the North American Spine Society and the Japanese Society for Spine Surgery and Related Research Kohala Coast, HI, July 26-30, 2015
 5. A.Aoude, Weber MH. Pedicle screw Placement Accuracy: A Survey Among Expert Spine Surgeons and a New Grading System has been accepted for poster presentation abstract to the COA/CORS Annual Meeting in Vancouver B.C, June 17-20th, 2015.
 6. E Krock, J. Brooke Currie, D Rosenzweig, Weber MH, J A. Ouellet, L S. Stone, L Haglund. Alarmins Induce Pain Mediators In Intervertebral Disc Degeneration. An abstract presentation at the Fraser Gurd Day, McGill University Department of Surgery, Montreal QC, May 28, 2015.
 7. E Krock, J. Brooke Currie, D Rosenzweig, Weber MH, J A. Ouellet, L S, Stone, L Haglund. Toll-like Receptor 2 Regulates Nerve Growth Factor via NF-KB Signalling in Intervertebral Disc Cells. An abstract presentation at the Canadian Connective Tissue Conference in Quebec City on May 28-30, 2015.
 8. Kumar, Weber MH. Spinal Metastases and Steroid Treatment; a Systematic Review. An abstract presentation at the Global Spine Congress 2015 in Buenos Aires, Argentina on May 20-23, 2015.
 9. J. Ouellet, O. Dobrescu, M. Fortin, Weber MH. Quantitative magnetic resonance imaging analysis of the cervical spine extensor muscles: A pilot study. An abstract presentation at the Global Spine Congress 2015 in Buenos Aires, Argentina on May 20-23, 2015.
 10. Co-author Weber MH. Degenerating Discs Secrete Increased Concentrations of CHI3L1 and CHI3L2, Which Are Regulated by Inflammatory Cytokines and Toll-like Receptors. A poster presentation at the Orthopaedic Research Society 2015 Annual Meeting at the MGM Grand Hotel in Las Vegas, Nevada, March 28-31 2015.
 11. Co- author Weber MH. Dynamic Loading, Matrix Maintenance And Cell Injection Therapy Of Human Intervertebral Discs Cultured In A Bioreactor. A poster presentation at the Orthopaedic Research Society 2015 Annual Meeting at the MGM Grand Hotel in Las Vegas, Nevada, March 28-31 2015.
 12. Pauyo T, Sivakuraman L, Fortin M, Ouellet J, Jarzem P, Weber MH. The Value of Radiologist Interpretations Of Peri-operative Imaging Of Thoracolumbar Fractures. 2015 AAOS Annual Meeting, Las Vegas, Nevada. March 24-28, 2015.

13. Aoude, H. Alhamzah, M. Fortin, P. Jarzem, J. Ouellet, Weber MH. Computer Assisted Surgery is an Effective Educational Tool for the Training of Orthopaedic Surgery Residents in Pedicle Screw Placement. An abstract presentation at the 15th Annual Scientific Conference of the Canadian Spine Society in Halifax, NS on February 25-28, 2015.
14. F. Abduljabbar, A. Al-jurayyan, S. Alohtani, Z. Sardar, R. Saluja, J. Ouellet, Weber MH. T. Steffen, Lorne Beckman; Peter Jarzem. Vertebroplasty Versus Kyphoplasty in Osteoporotic Vertebral Compression Fracture Model; What is Safer? A presentation at the 15th Annual Scientific Conference of the Canadian Spine Society in Halifax, NS on February 25-28, 2015.

Health Canada Approvals:

15. Assessment of the Efficacy of Forteo (Teriparatide) in Patients Undergoing Post Lateral Lumbar Spinal Fusion (Health Canada approval)

Willie

1. He F, Lynch M, Hoerth R, Seo BR, Willie BM, Wagermaier W, Duda GN, Fratzl P, Fischbach C, Advanced Breast Cancer Remotely Alters the Nanostructure of the Bone Metastatic Site, BMES 2015 Annual Meeting, Podium Presentation, Seattle, WA, USA, 2015.
2. Albiol L, Birkhold A, Pflanz D, Thiele T, Kramer I, Kneissel M, Duda GN, Checa S, Willie BM, Diminished mechanoresponsiveness with skeletal maturation occurs via a sclerostin-independent pathway, American Society for Bone and Mineral Research, Poster Presentation, Seattle, WA, USA, 2015.
3. Birkhold A, Thomson E, Pflanz D, Thiele T, Kneissel M, Duda GN, Checa S, Willie BM, SOST deficiency alters resorption cavity shape in physiologically and additionally in vivo loaded mice tibiae determined using registered longitudinal μ CT-images, Congress of the European Society of Biomechanics, Podium Presentation, Vysočany, Czech Republic, 2015.
4. Albiol L, Birkhold A, Pflanz D, Thiele T, Kneissel M, Duda GN, Checa S, Willie BM, Skeletal Maturation Leads to a Diminished Mechanoresponsiveness in SOST Deficient Mice, Congress of the European Society of Biomechanics, Poster Presentation, Vysočany, Czech Republic, 2015.
5. Birkhold A, Razi H, Weinkamer R, Duda GN, Checa S, Willie BM, In vivo bone surface monitoring reveals age-related changes in adaptive bone (re)modeling sequences, Joint Meeting of the European Calcified Tissue Society and the International Bone and Mineral Society, Oral Poster/New Investigator Award, Rotterdam, Netherlands, 2015.

3.4 List any conferences/symposia that YOU have been involved in the organization during the reporting period and your role.

Hamdy

President, LLRS (2014-2015) Limb Lengthening & Reconstructive Society of North America Chairman, Scientific Program of the first International meeting of the 3 societies in Limb Reconstruction (Miami, Nov 2015).

Makhoul

- 1st Annual Oral and Maxillofacial Surgery Alumni Reunion Lecture
Organizing Co-Chair
- 4th Annual Oral and Maxillofacial Surgery Research Day
Organizing Chair

4. Peer Review Processes and Community Relations

4.1 Report any **official positions on Committees or Boards** in learned and professional societies (indicate **'new'** or **'continuing'** and term of continuing appointments).

Antoniou

McGill Orthopaedics, Resident Research Competition. Montreal, QC. May 14, 2015.
Reviewer of the Sunnybrook Orthopaedic program (including Holland center) OSCE Examiner
Arthroplasty - Orthopaedic Resident Review in Reconstructive Surgery. Toronto, Ontario.

Barralet

Continuing

Controlled Release Society Board of Scientific Advisors, 2013-2015.
2nd term: Canadian Society for Pharmaceutical Sciences, (CSPS) Board of Directors, 2013-2015

Benaroch

- Member of Trauma Committee – 10 meeting/yr – 1 ½ - 2 hrs each meeting
- Chairs monthly Resident Teaching Committee Meeting – 10 to 12 / year – 1 to 2 hours
- Specialty Committee Meetings in Ottawa and site of COA Meeting – 6 hrs biannually (12 hrs / year)
- Member of Specialty Committee in Orthopedic Surgery involved in reviewing PSQ of Orthopedic Programs undergoing accreditation visits. Last year, three Programs underwent review (10 hours).

Bergeron

Responsible for updating orthopaedic patient order sets, Jewish General Hospital 15-20 hours/year)

Developing a 'Geriatric Fracture Program', Jewish General Hospital (20 hours/year)

Orthopaedic Surgery Finance Committee, Division of Orthopaedic Surgery (2 hours/year)

Committee Member of the Shriners Hospital Simulation Center, Division of Orthopaedic Surgery, McGill University (2 hours/year)

Burman

OR Arthroscopic Equipment Call for Tender Purchase Committee - Montreal General Hospital

Dimentberg

1. H elene Moffet, PT, PhD, Michel Tousignant, PT, PhD, Sylvie Nadeau, PT, PhD, Chantal M erette, PhD, Patrick Boissy, PhD, H elene Corriveau, PT, PhD, Francois Marquis, MD, Pierre Ranger, MD, Etienne L.

Belzile, MD, and Ronald Dimentberg, MD. **In-Home Telerehabilitation Compared with Face to Face Rehabilitation After Total Knee Arthroplasty.** JBJS Am, 97:1129-41, July 2015.

2 Mohammed H Alattas, MD, Ronald Dimentberg, MD. **Multiple Fractures in a 22 year old After a Simple Fall.** Journal of Surgical Case Reports. 10:1–3, 2015

3 Michel Tousignant, PT, PhD; H el ne Moffet, PhD; Sylvie Nadeau, PhD; Chantal M erette, PhD; Patrick Boissy, PhD; H el ne Corriveau, PT, PhD; Fran ois Marquis, MD; Fran ois Cabana, MD; Pierre Ranger MD;  tienne L Belzile, MD; Ronald Dimentberg, MD. **Cost Analysis of In-Home Telerehabilitation for Post-Knee Arthroplasty.** J Med Internet Res 17(3):83, Mar 2015

Goulding

Member of the selections committee for Chair, Orthopaedic Surgery Residency teaching committee (RTC) 1.5-2hr per month RTC selections committee: both CARMS match and externally funded positions

Hamdy

- CIHR Reviewer 2015-2016

Huk, Olga L

- Transfusion Committee (JGH) 5hrs/year

Makhoul

- Vice Chair, Clinical Interest Group in Oncology and Reconstruction Canadian Association of OMFS - *Continuing*
- Committee Member: Clinical Interest Group Maxillofacial Pathology American Association of Oral and Maxillofacial Surgery – *New*
- Sub-Committee Lead, Working Group on GPR Selection Process Canadian Association of Hospital Dentistry – *New*

Tanzer

Hip ICL Committee American Academy of Orthopaedic Surgery Membership Committee Hip Society

Willie

2014– Current Meetings and event coordinator, International Society for Fracture Repair

2011 – 2015 Media relations committee, Orthopaedic Research Society

4.2 Indicate whether you have participated in any **scientific peer-review processes** (reviewer or committee member for a funding agency) during reporting period. Provide details

Barralet

MRC UK-Grant
Dutch Government Granting Agency

Haglund

Committee Member, CIHR, undergraduate: Mobility, Musculoskeletal Health and Arthritis peer review Committee

Hamdy

Member of the Editorial Board of the “Journal of Limb Lengthening and Reconstruction: Reviews for a number of journals

Komarova

- November 2015 - Foundation Scheme - Stage 1, Canadian Institute for Health Research (CIHR)
- September 2015 - Canadian Association for Dental Research - Network for Canadian Oral Health and Research (CADR-NCOHR) Student Research Award competition
- June 2015 - Clinical Investigations B-2, Canadian Institute for Health Research (CIHR)

Willie

Research Grant Proposal Reviewing for the Arthritis Research United Kingdom

4.3 Indicate whether you have served on an **editorial board** for any scientific journals or books. Provide details.

Antoniou

- Journal of Bone and Joint Surgery – Orthopaedic Highlights (Knee Surgery) over 12 articles reviewed/year
- Journal of Arthroplasty (elite reviewer) – over 12 articles reviewed/year
- Clinical Orthopaedic and Related Research – 2 articles reviewed/year
- European Spine Journal – editorial board member

Barralet

Journal of Biomaterials Applications	2004-,
Journal of Biomedical Materials Research (B)	2006-
Journal of Biomedical Materials Research (A)	2007-
Acta Biomaterialia	2011-
<u>NEW</u>	
Regenerative Engineering and Translational Medicine	2015-
Biomaterials Research	2015-

Bergeron

Ad Hoc Reviewer, Clinical Orthopaedics and Related Research (3 reviews)
Ad Hoc Reviewer, Arthroscopy: The Journal of Arthroscopic and Related Surgery (3reviews)

Makhoul

- Editorial Board: Journal of Oral Biology
- Article Reviewer: European Journal of Dental Education
- Article Reviewer: Journal of Oral and Maxillofacial Surgery

Martineau

2013 - Present	Editor - The Journal of Bone and Joint
2012 - 2013	Associate Editor - JBJS Trauma Highlights
2011 - Present	Reviewer - Bone & Joint Research
2011	Reviewer - Journal of Bone and Joint Surgery British
2009 - Present	Associate Editor - Canadian Journal of Surgery, Section of Sports Medicine
2009 - Present	Reviewer - Canadian Journal of Surgery

Murshed

Editorial Board Member, Oral Diseases

Reindl

- Reviewer for European Spine journal

4.4List any scientific or professional **community-relations activities** you have participated in during the above reporting period. Provide dates and details.

Berry

Board Member, Charlie's Foundation, non-profit educational foundation for poor children in the Dominican Republic.

Board of Trustees (elect), AO Foundation.

Martineau

- Head Team Orthopaedic Surgeon, Montreal Canadiens Team Orthopaedic Surgeon, Montreal Alouettes
- Orthopaedic Consultant, McGill University Athletics
- Orthopaedic Consultant, Concordia University Athletics

4.5List any **external committees** (professional or scientific) that you have served on during the reporting period.

Makhoul

- Chairman, Reconstructive Surgery Symposium
International Conference of Oral and Maxillofacial Surgery
Melbourne, Australia

4.6List any internal or **external graduate student evaluation committees** you have served on during the reporting period. Provide name of student, degree, University and title of project.

Hamdy

Thesis Committee & Qualifying exams committees:

- February 16, Rui Zhang's Qualifying exam
- June 12, Mina Wahba's thesis meeting
- July 16, PhD Progress Meeting/Thesis pre-submission meeting for Lamees Nayef
- August 24, SC evaluation meeting for student Rui Zhang

Komarova

Mohammadjavad Paydar, PhD, Anatomy and Cell Biology, McGill University, Evaluation of the role of fibrillin-1 fragments in osteoclast regulation using in vitro and in vivo models

Comprehensive examination committee for Rui Zhang, PhD, Human Genetics, McGill University, The role of FGFs signaling in a mouse model of distraction osteogenesis

Thesis committee for Ms. Nadege Fils-Aime, Ph.D, Experimental Medicine, McGill University, The TGF- β microRNAome: understanding the TGF- β language or getting lost in translation

Thesis committee for Katerina Zorina, Ph.D. Integrated Program in Neuroscience, McGill University, Pain and inflammation: neuroimmune interactions explored through single nucleotide polymorphisms in P2RX7 and MC1R

Murshed

External Examiner (Thesis):

- 1) PhD thesis, Marco Cardelli, University of Toronto; Supervisor: Dr. Jane Aubin
- 2) PhD thesis, Khatib Al Bashar, McGill University; Supervisor: Dr. Lisbet Haglund
- 3) PhD thesis, Kayla Morad, McGill University; Supervisor: Dr. Pierre Moffat
- 4) PhD thesis, M. Tavafoghi Jahromi, McGill University; Supervisor: Dr. Marta Cerruti
- 5) MSc thesis, Mohammad Alzahrani, McGill University; Supervisor: Dr. Reggie Hamdi

4.7List any **additional** professional development activities you have organised on during the reporting period.

Komarova

- Participant at Défi Innovation Desjardins – Hacking Health, an innovation challenge aimed at finding solutions to positively impact health of citizens CIHR webinars on the Stage 1 Reviewer Activities

4.8List **Faculty, Hospital and University committees** that you have served on during the reporting period.

Antoniou

Hospital

- Ortho Continuous Quality Improvement Team at SMBD - Jewish General Hospital (35h/year)

McGill University (departmental, Faculty and University)

- Residency Committee (orthopaedic division) (10h/year) Promotion Committee (orthopaedic division) (10h/year)

External (Royal College, professional societies)

- Hip Society – Active member/ (35h/year);
- Interurban Orthopaedic Society – Member (20h/year);
- INESSS Quebec Committee evaluating MRI in MKS conditions (24h/year)

- American Association of Hip and Knee Surgeons - Member
- Canadian Orthopaedic Association – Member
- Orthopaedic Research Society– Co-chair International Committee (16h/year)
- American Academy of Orthopaedic Surgeons - Member of Adult
- Reconstruction; Hip Program Committee Member (16h/year)
- Canadian Orthopaedic Association - Board Member
- Canadian Arthritis Society – Orthopaedic expert for the Scientific Advisory Committee (25h/year)

Barralet

- Tomlinson Young Surgeons Committee.
- Surgeon Scientist Program, Awards Committee.
- Experimental Surgery Admissions Committee.
- Promotions Committee, Surgery
- Tenure Committee, Surgery
- Surgery Executive Committee
- Urology Chair Search Committee
- Orthopaedics CAS Assistance Professor Search

Bergeron

Responsible for updating orthopaedic patient order sets, Jewish General Hospital 15-20 hours/year)

Developing a 'Geriatric Fracture Program', Jewish General Hospital (20 hours/year)

Orthopaedic Surgery Finance Committee, Division of Orthopaedic Surgery (2 hours/year)

Committee Member of the Shriners Hospital Simulation Center, Division of Orthopaedic Surgery, McGill University (2 hours/year)

Hamdy

McGill University

2013 - Present Associate Chair, Planning and development, Department of Paediatric Surgery

2011 – Present Professor of Surgery (Orthopaedics), full Tenure Director, Division of Paediatric Orthopaedics, McGill University

- January 24, 2015 CARMS interviews
- March 31, Department of Pediatric Surgery, Promotions Committee
- September 11, Promotions Committee, Department of Surgery

University of Montreal

1998 Present Adjunct, Professor of Surgery (Professeur associé), Univ. of Montreal

HOSPITAL:

2010 – Present Chief of Staff, Shriners Hospital for Children, Montreal

2007 – Present Director, Clinical Research (Orthopaedics), Shriners Hospital for Children

2002 – Present Chairman, Clinical Research and Outcome Committee, Shriners Hospital

1994 – Present Attending Staff, Shriners Hospital for Children, Montreal

1994 – Present Attending Staff, Orthopaedics, Sainte-Justine's Hospital, Montreal

1993 – Present Attending Staff, Orthopaedics, Montreal Children's Hospital

Komarova

June 18, 2015 PhD examination internal examiner. Mr. Shuai Wang, *The roles of cellular Factor XIII-A in osteoblasts*, McGill University
2008-pres Member of Dentistry Admission Interview Team
2006-pres Graduate Studies Research Committee
2015-2017 Internal Review Committee established to review applications for Canada Research Chairs – James McGill Professors – William Dawson Scholars (CRC-JMP-WDS) at McGill University.
2014-2015 Faculty of Dentistry University Tenure Committee
2010-current University level Subcommittee on Teaching and Learning of the Academic Policy Committee

Makhoul

- Chair, Residency Training Committee, OMFS
Faculty of Dentistry, McGill University – *Continuing*
- Chair, Morbidity and Mortality Committee, OMFS Program
Faculty of Dentistry, McGill University – *Continuing*
- Operating Room Budget Committee
MUHC-Montreal General Hospital – *Continuing*
- MMI Examiner, Admission Committee
Faculty of Dentistry, McGill University – *Continuing*
- Department of Dentistry and OMFS Executive Committee
MUHC, Montreal General Hospital – *Continuing*
- Committee Judge, Oral Health Research Day
Faculty of Dentistry, McGill University – *New*
- MUHC SURE Committee
Maxillofacial Oncology Clinical Care Pathway
MUHC, Montreal General Hospital – *New*
- Organizing Chair, Clinical Interest Group in Computer Assisted Surgery (CAS)
Faculty of Dentistry, McGill University, MUHC Dept. of Orthopaedics, MUHC Dept. of Dentistry and OMFS – *New*

Murshed

- 1) Co-Chair, Facility Animal Care Committee
- 2) Co-Chair, Shriners Animal Care Committee
- 3) Member, Review Committee for RI-MUHC Studentship Competition
- 4) Member, Postgraduate Awards Committee, Faculty of Medicine
- 5) Member, Executive Committee, Biomedical Science, Faculty of Dentistry
- 6) Faculty of Dentistry Representative, Council of Graduate and Post Doctoral Studies

Ouellet

McGill University:

2008 - Present Interview for candidates for the McGill Ortho Residency program

2007 - Present Member of Mc Gill Orthopaedic Residency Program CTU, Spine
 2005 - Present Chief of McGill Scoliosis & Spine Group
 2004 - Present Fellowship Director McGill Scoliosis & Spine Fellowship
 Shriners Hospital:
 2014 – Present Medical Director of Shriners Medical Pediatric Simulation Centre
 2010 - Present Deputy Chief of Staff, Shriners Hospital for Children
 2010 – Present Co-Director of the Operation Room; Shriners Hosp for Children
 2001 - Present Clinical Director of Scoliosis & Spinal surgery at Shriners Hospital
 Montreal Children Hospital:
 2010 – Present Member of the Infectious Disease Committee at the MCH
 2001 - Present Clinical Director of Scoliosis & Spinal surgery at Mtl Children Hospital

Committees:

2012 – Present Steering Committee Meeting; Shriners Hospital (1hr/mth)
 2012 – Present Infectious Control Committee; Shriners Hospital (1 hr/2mth)
 2012 – Present Shared Patient Transfer Steering Committee Meeting; Shriners Hospital for Children - Canada (1 hr/ every 2mth)
 2011 – Present Strategic Planning Committee; Shriners Hospital (1hr/mth)
 2010 – Present Research Committee Meeting; Shriners Hospital (1hr/mth)
 2010 – Present Operational Research Committee; Shriners Hospital (1 hr/ 2mth)
 2010 – Present Performance Improvement Committee; Shriners Hospital (1hr/mth)
 2010 – Present Hospital Management Committee; Shriners Hospital (1hr/mth)
 2010 – Present Patient Safety – Risk Management Com.; Shriners Hospital (1hr/mth)

5. Publications – PUBLISHED during Calendar Year 2015

Please check <http://mis.mcgill.ca/en/publications-ortho.php>

If this is accurate for you for 2015, please indicate here and go to 5.2: _____

5.1 List in standard bibliographic format journal articles (specify with an asterisk if peer reviewed), books, book chapters, monographs, conference proceedings.

Antoniou

1. Drager J, Hart A, Khalil JA, Zukor DJ, Bergeron SG, Antoniou J. Shorter Hospital Stay and Lower 30-Day Readmission after Unicondylar Knee Arthroplasty Compared to Total Knee Arthroplasty. J Arthroplasty. S0883-5403(15)00828-1, 2015.
2. Albers A, Aoude AA, Zukor DJ, Huk OL, Antoniou J, Tanzer M. Favorable Results of a Short, Tapered, Highly Porous, Proximally Coated Cementless Femoral Stem at a Minimum 4-Year Follow-Up. J Arthroplasty. S08835403(15)00774-3, 2015.
3. Hart A, Antoniou J, Brin YS, Huk OL, Zukor DJ, Bergeron SG. Simultaneous Bilateral Versus Unilateral Total Knee Arthroplasty: A Comparison of 30-Day Readmission Rates and Major Complications. J Arthroplasty. S0883-5403(15)00645-2, 2015.
4. Hart A, Bergeron SG, Epure L, Huk O, Zukor D, Antoniou J. Comparison of US and Canadian Perioperative Outcomes and Hospital Efficiency after Total Hip and Knee Arthroplasty. JAMA Surg. 150(10):990-8, 2015.

5. Alaaeddine N, Antoniou J, Moussa M, Hilal G, Kreichaty G, Ghanem I, Abouchdid W, Saghbini E, Di Battista JA. The chemokine CCL20 induces proinflammatory and matrix degradative responses in cartilage. *Inflamm Res.* 64(9):721-31, 2015.
6. Liodakis E, Bergeron SG, Zukor DJ, Huk OL, Epure LM, Antoniou J. Perioperative Complications and Length of Stay after Revision Total Hip and Knee Arthroplasties: An Analysis of the NSQIP Database. *J Arthroplasty.* S0883-5403(15)00422-2, 2015.
7. Burgers PT, Poolman RW, Van Bakel TM, Tuinebreijer WE, Zielinski SM, Bhandari M, Patka P, Van Lieshout EM; HEALTH and FAITH Trial Investigators. Reliability, validity, and responsiveness of the Western Ontario and McMaster Universities Osteoarthritis Index for elderly patients with a femoral neck fracture. *J Bone Joint Surg Am.* 97(9):751-7, 2015.
8. Antoniou J, Wang HT, Hadjab I, Aldebeyan S, Alaqeel MA, Meij BP, Tryfonidou MA, Mwale F. The Effects of Naproxen on Chondrogenesis of Human Mesenchymal Stem Cells. *Tissue Eng Part A.*, 21(13-14):2136-46, 2015.
9. Aoude AA, Antoniou J, Epure LM, Huk OL, Zukor DJ, Tanzer M. Midterm Outcomes of the Recently FDA Approved Ceramic on Ceramic Bearing in Total Hip Arthroplasty Patients Under 65Years of Age. *J Arthroplasty.* S0883-5403(15)00226-0, 2015.
10. Alaseem A, Madiraju P, Aldebeyan S, Noorwali H, Antoniou J, Mwale F. Naproxen induces type X collagen expression in human bone marrow derived mesenchymal stem cells through the upregulation of 5lipoxygenase. *Tissue Eng Part A.* 21(1-2):234-45, 2015.
11. Nikolaou VS, Petit A, Khoury V, Blain-Pare E, Zukor DJ, Huk OL, Antoniou J. Magnetic resonance imaging of painful metal-on-metal total hip replacement. *Eur J Orthop Surg Traumatol.* 25(2):313-9, 2015.

Barralet, Jake

- * **Z Sheikh**, Yu Ling Zhang, **Justin Drager**, Faleh Tamimi, *Jake Barralet*, Evaluation of monetite conversion method in an onlay graft model, *corrections submitted* , *Advanced Healthcare Materials*.
- * **Jinke Xu**, Mifong Tam, Sophie Lerouge, Jake Barralet, Mary M. Stevenson, M Cerruti, Mucoadhesive chitosan hydrogels as rectal drug delivery vessels to treat ulcerative colitis, under review, *Advanced Healthcare Materials*
- * **H. Zhang**, H Shash, Y L Zhang, A Al-Odaini, D Sato, M S. Gilardino, S Tran, J. E. Barralet Degradable synthetic micro-lungs for bloodless tissue viability *corrections submitted* *Advanced Materials*
- * **H. Zhang** J Barralet, Biomaterials mimicking blood, invited review in *Advanced Drug Delivery Reviews*
- * **Justin Drager**, **Z Sheikh**, Yu Ling Zhang, Ed Harvey, *Jake Barralet* Iron chelators diminish osteoclast mediated remodeling of bioceramic bone graft substitutes, rebuttal in preparation to *Advanced Healthcare Materials*
- * **J.H. Lopes**, **F-X. Colson**, *J. E. Barralet* and G. Merle, Electrically wired biocatalyst on 3D inorganic support, submitted to *Electrochimica Acta*
- * **J.H. Lopes**, **FX. Colson**, S. Ye, J. Gostick, J. Barralet, G.E. Merle, Oxygen Reduction and Methanol Oxidation on Ethylene Glycol Templated Nanosilver Graphene Composites, *submitted to J Phy Chem (B)*.

- * **M Tarchala**, E.J. Harvey, *J.E. Barralet* Biomaterial Stabilized Soft Tissue Healing for Healing of Critical-Sized Bone Defects: The Masquelet Technique - A Review, *Advanced Healthcare Materials*,
- * C Danoux, L Sun, G Koçer, Z T Birgani, D Barata, *J Barralet*, C van Blitterswijk, R Truckenmüller, P Habibovic, Development of Highly Functional Biomaterials by Decoupling and Recombining Material Properties, *accepted Advanced Materials* doi: 10.1002/adma.201504589.
- * **J. H. Lopes** , **M. Guilhou** , B. Marelli, F. G. Omenetto, D. L. Kaplan, *J. E. Barralet* and G. Merle Silk fibroin stabilised carbonic anhydrase for high temperature CO₂ capture, *J Mater Chem A*,3, 19282-19287, 2015,
- * **Z Sheikh**, Yu Ling Zhang, Liam Grover, Géraldine Merle, Faleh Tamimi, Jake Barralet, In vitro degradation and in vivo resorption of dicalcium phosphate cement based grafts, *Acta Biomaterialia*, 26:338-46, 2015.
- * **J.H. Lopes**, Siyu Ye, J T Gostick, *J E Barralet* and G Merle, Electrocatalytic oxygen reduction performance of silver nanoparticle decorated electrochemically exfoliated graphene, *Langmuir*. 2015, 31 (35), 9718–9727
- * **B. Marelli**, S.N. Nazhat, *J.E. Barralet*, Newly identified interfibrillar collagen crosslinking suppresses cell proliferation and remodeling, *Biomaterials*, 54:126-35, 2015.
- * **J. Drager**, E.J. Harvey, *J.E. Barralet*, Hypoxia Signalling Manipulation for Bone Regeneration, *Expert Reviews in Molecular Medicine*, 17:e6, 2015.
- * **Z. Sheikh**, M. Geffers, T. Christel, *J. Barralet*, U. Gbureck, Chelate setting of alkali ion substituted calcium phosphates, *Ceramics International*, 2015, doi:10.1016/j.ceramint.2015.04.083
- * Christel, T, Christ, S , *Barralet, JE*, Groll, J , Gbureck, U Chelate Bonding Mechanism in a Novel Magnesium Phosphate Bone Cement, *J. Am. Ceram. Soc.* 98(3), 694-697, 2015.
- * Maria SM, **Prukner C**, **Sheikh Z**, Müller FA, Komarova SV, *Barralet JE*, Characterization of biomimetic calcium phosphate labeled with fluorescent dextran for quantification of osteoclastic activity, *Acta Biomater.* S1742-706, 2015, doi: 10.1016/j.actbio.2015.03.026
- * Danoux CB, **Bassett DC**, Othman Z, Rodrigues AI, Reis RL, *Barralet JE*, van Blitterswijk CA, Habibovic P., Elucidating the individual effects of calcium and phosphate ions on hMSCs by using composite materials. *Acta Biomater.* 15;17:1-15, 2015.
- * Geffers M, *Barralet JE*, Groll J, Gbureck U. Dual-setting brushite-silica gel cements, *Acta Biomater.* 11:467-76, 2015
- * **B. Marelli**, C.E. Ghezzi, Y. L. Zhang, I. Rouiller, *J.E. Barralet*, S.N. Nazhat, 'Fibril Formation pH Controls Intrafibrillar Collagen Biomineralization In Vitro and In Vivo', *Biomaterials*, 37C:252- 259, 2015.
- * **Xu J**, Strandman S, *Barralet J*, Cerruti M, Genipin-crosslinked catechol-chitosan mucoadhesive hydrogels for buccal drug delivery, *Biomaterials*, 37C:395-404, 2015

Bergeron

1. *Trainees are Drager J, Hart A, Khalil JA, Zukor DJ, Bergeron SG, Antoniou J. Shorter Hospital Stay and Lower 30-Day Readmission After Unicondylar Knee Arthroplasty Compared to Total Knee Arthroplasty. *J Arthroplasty*, Coughlin LP, Bergeron SG. A

2. Validated Orthopaedic Surgical Simulation Model for Training and . J Bone Joint Surg Am. 2015 Sep , Huk OL, Zukor DJ, Bergeron SG. Simultaneous Bilateral Versus Unilateral Total Knee Arthroplasty: A Comparison of 30-Day Readmission Rates and Major Complications. J, Epure L, Huk O, Zukor D, Antoniou J.
3. Comparison of US and Canadian Perioperative Outcomes and Hospital Efficiency. JAMA Surg. 2015 Oct , Zukor DJ, Huk OL, Epure LM, Antoniou J. Perioperative Complications and Length of Stay After Revision Total Hip and Knee Arthroplasties: An Analysis of the NSQIP Database. J

Burman

1. Gohil,S., Martineau,P., **Burman,M.** : Anterior Cruciate Ligament reconstruction using an 'out to in' femoral tunnel with flexible reamers - A technical note. *Techniques in Orthopedics* Mar 2015, Vol 30, No 1 pp 54-56

Goulding

1. **Goulding, (KA;** & Beachamp & CP; & Spangehl & MS. & (2016). & Chapter & 27: & Allograft Prosthetic composite and endoprosthesis reconstruction. & In & DJ Berry W Maloney (Eds.), *Masters% Techniques in Orthopaedic Surgery: The Hip, 3rd edition* (pp.377Z398). Philadelphia, PA: Wolters Kluwer

Haglund

1. Rosenzweig D.H, Gawri R, Moir J, Beckman L, Eglin D, Steffen T, Roughley PJ, Ouellet JA and **Haglund L,** Dynamic loading, matrix maintenance and cell injection therapy of human intervertebral discs cultured in a bioreactor. *Eur Cell Mater.* 2016 Jan 5;30:26-39
2. Krock E, Currie JB, Weber MH, Ouellet JA, Stone LS, Rosenzweig DH, and **Haglund L,** Nerve Growth Factor is Regulated by Toll-Like Receptor 2 in Human Intervertebral Discs, *J Biol Chem.* 2015 Dec 14.
3. Jalani G, Naccache R, Rosenzweig DH, **Haglund L,** Vetrone F, Cerruti M Photocleavable hydrogel coated upconverting nanoparticles: a multifunctional theranostic platform for NIR imaging and on-demand macromolecular delivery.. *J Am Chem Soc.* 2015 Dec 27
4. Kazezian Z, Gawri R, **Haglund L,** Ouellet J, Mwale F, Tarrant F, O'Gaora P, Pandit A, Alini M, Grad S, Gene Expression Profiling Identifies Interferon Signalling Molecules and IGFBP3 in Human Degenerative Annulus Fibrosus, , *Nature Scientific Reports, Sci Rep.* 2015 Oct 22;5:15662
5. Rosenzweig DH, Carelli E, Steffen T, Jarzem P, **Haglund L.** 3D-Printed ABS and PLA Scaffolds for Cartilage and Nucleus Pulposus Tissue Regeneration. *Int J Mol Sci.* 2015 Jul 3;16(7):15118-35. PMID: 26151846
6. Jalani G, Naccache R, Rosenzweig DH, Lerouge S, **Haglund L,** Vetrone F, Cerruti M. Real-time, non-invasive monitoring of hydrogel degradation using LiYF4:Yb(3+)/Tm(3+) NIR-to-NIR upconverting nanoparticles. *Nanoscale.* 2015 Jun 25;7(26):11255-62 PMID: 26067274

7. [Krock E, Rosenzweig DH, Haglund L](#). The Inflammatory Milieu of the Degenerate Disc: is Mesenchymal Stem Cell-Based Therapy for Intervertebral Disc Repair a Feasible Approach? *Curr Stem Cell Res Ther*. 2015;10(4):317-28.
8. Gantenbein B, Illien-Jünger S, Chan SC, Walser J, **Haglund L**, Ferguson SJ, Iatridis JC, Grad S *Organ Culture Bioreactors - Platforms to Study Human Intervertebral Disc Degeneration and Regenerative Therapy*. *Curr Stem Cell Res Ther*. 2015;10(4):339-52
9. [Jalani G, Rosenzweig DH, Makhoul G, Abdalla S, Cecere R, Vetrone F, Haglund L, Cerruti M](#). Tough, In-Situ Thermogelling, Injectable Hydrogels for Biomedical Applications. *Macromol Biosci*. 2015 Apr;15(4):473-80.
10. [Mulligan KR, Gawri R, Steffen T, Pike GB, Jarzem P, Borthakur A, Haglund L and Ouellet J](#), Axial T1p MRI as a diagnostic imaging modality to quantify proteoglycan concentration in degenerative disc disease, *Eur Spine J*. 2015 Nov;24(11):2395-401. doi: 10.1007/s00586-0143582-6. Epub 2014 Sep 19.29.

Hamdy

1. [Does Sclerostin Depletion Stimulate Fracture Healing in a Mouse Model?](#) Alzahrani MM, Rauch F, Hamdy RC. *Clin Orthop Relat Res*. 2015 Nov 25. Epub ahead of print PMID:26608966
2. [The Accordion Maneuver: A Noninvasive Strategy for Absent or Delayed Callus Formation in Cases of Limb Lengthening](#). Makhdom AM, Cartaleanu AS, Rendon JS, Villemure I, Hamdy RC. *Adv Orthop*. 2015;2015:912790. doi: 10.1155/2015/912790. Epub 2015 Oct 19. PMID:26557996
3. [A combinatorial approach towards achieving an injectable, self-contained, phosphate-releasing scaffold for promoting biomineralization in critical size bone defects](#). Nayef L, Mekhail M, Benameur L, Rendon JS, Hamdy R, Tabrizian M. *Acta Biomater*. 2016 Jan 1;29:389-397. doi: 10.1016/j.actbio.2015.10.020. Epub 2015 Oct 17. PMID:26478471
4. [Hip Dysplasia in Children With Osteogenesis Imperfecta: Association With Collagen Type I C-Propeptide Mutations](#). Kishta W, Abduljabbar FH, Gdalevitch M, Rauch F, Hamdy R, Fassier F. *J Pediatr Orthop*. 2015 Sep 18. [Epub ahead of print] PMID:26371943
5. [Safety and Efficacy of Botulinum Toxin A in Children Undergoing Lower Limb Lengthening and Deformity Correction: Results of a Double-blind, Multicenter, Randomized Controlled Trial](#). Hamdy RC, Montpetit K, Aiona MD, MacKenzie WG, van Bosse HJ, Narayanan U, Raney EM, Chafetz RS, Thomas SE, Weir S, Gregory S, Yorgova P, Takahashi S, Rinaldi M, Zhang X, Dahan-Oliel N. *J Pediatr Orthop*. 2016 Jan;36(1):48-55. doi:10.1097/BPO.0000000000000398. PMID:25730290
6. [Osteotomy Healing in Children With Osteogenesis Imperfecta Receiving Bisphosphonate Treatment](#). Anam EA, Rauch F, Glorieux FH, Fassier F, Hamdy R. *J Bone Miner Res*. 2015 Aug;30(8):1362-8. doi: 10.1002/jbmr.2486. Epub 2015 May 10. PMID:25708939

Henderson

1. S.J. Laverty, M. Lacourt, C. Gao, J.E. Henderson and A. Boyd 2015 High density infill in cracks and protrusions from the articular calcified cartilage in osteoarthritis in Standardbred horse carpal bones *Int J Mol Sci* v16, p9600-9611 (RSBO)

2. C. Gao, B.P. Chen, M.B. Sullivan, J. Hui, J.A. Ouellet, J.E. Henderson and N. Saran 2015 Micro CT analysis of spine architecture in a mouse model of scoliosis. *Frontiers in Endocrinology* v6, e38 (DePuy/Synthes), CIHR, NCE-MITACS, RSBO)
3. D.A. Behrends, C. Gao, L. Khendek, N. Zayed, J.E. Henderson, P.A. Martineau 2015 Characterization of a pre-clinical mini-pig model of scaphoid non-union. *J. Funct. Biomater.* v6, p407-421 (CIHR-MENTOR, RSBO, RI-MUHC)
4. Z. Jabbour, C de Nascimento, M. El-Hakim, J.E. Henderson and R.F. Albuquerque Jr. 2015 Bacterial profile and bone healing in rats exposed to elevated therapeutic doses of bisphosphonates and corticosteroids: a pilot study. *Int J Oral Maxillo Surg* In Press (RSBO RI-MUHC)
5. Submitted
 - A. Carli, E.J. Harvey, C. Gao, G. Li, A. Li, B. Azeddine, M. Sayegh, H. Wang, A. Nahal, R.P. Michel, J.E. Henderson and C Seguin. Elevated plasma alpha-2 macroglobulin correlates with glucocorticoid-induced osteonecrosis of the femoral head in Wistar but not Fischer rats.
6. Z. Jabbour, C de Nascimento, M. El-Hakim, J.E. Henderson and R.F. Albuquerque. A clinical and pre-clinical survey of the oral microbiota associated with bisphosphonate-related osteonecrosis of the jaws (*Intl J Oral Maxillofacial Surg*)
7. D.A. Behrends, D. Hui, C. Gao, A. Awlia, Y. Al-Saran, A. Li, J.E. Henderson and P.A. Martineau. Defective bone repair in C57Bl6 mice with systemic inflammation.

Huk, Olga L

1. Albers A, Aoude AA, Zukor DJ, **Huk OL**, Antoniou J, Tanzer M. *Favorable Results of a Short, Tapered, Highly Porous, Proximally Coated Cementless Femoral Stem at a Minimum 4-Year Follow-Up.* *J Arthroplasty.* S08835403(15)00774-3, 2015.
2. Hart A, Antoniou J, Brin YS, **Huk OL**, Zukor DJ, Bergeron SG. *Simultaneous Bilateral Versus Unilateral Total Knee Arthroplasty: A Comparison of 30Day Readmission Rates and Major Complications.* *J Arthroplasty.* S08835403(15)00645-2, 2015.
3. Hart A, Bergeron SG, Epure L, **Huk O**, Zukor D, Antoniou J. *Comparison of US and Canadian Perioperative Outcomes and Hospital Efficiency after Total Hip and Knee Arthroplasty.* *JAMA Surg.* 150(10):990-8, 2015.
4. Liodakis E, Bergeron SG, Zukor DJ, **Huk OL**, Epure LM, Antoniou J. *Perioperative Complications and Length of Stay after Revision Total Hip and Knee Arthroplasties: An Analysis of the NSQIP Database.* *J Arthroplasty.* S0883-5403(15)00422-2, 2015.
5. Aoude AA, Antoniou J, Epure LM, **Huk OL**, Zukor DJ, Tanzer M. *Midterm Outcomes of the Recently FDA Approved Ceramic on Ceramic Bearing in Total Hip Arthroplasty Patients Under 65Years of Age.* *J Arthroplasty.* S0883-5403(15)00226-0, 2015.
6. Nikolaou VS, Petit A, Khoury V, Blain-Pare E, Zukor DJ, **Huk OL**, Antoniou J. *Magnetic resonance imaging of painful metal-on-metal total hip replacement.* *Eur J Orthop Surg Traumatol.* 25(2):313-9, 2015.

Komarova

1. **Komarova SV**, Safranek L, Gopalakrishnan J, Ou M-J Y, Mckee MD, Murshed M, Rauch F, Zuhr E (2015) Mathematical model for bone mineralization, *Front Cell Dev Biol.* 3:51.
2. Abdelaziz DM, Abdullah S, Magnussen C, Ribeiro-da-Silva A, **Komarova SV**, Rauch F, Stone LS (2015) Behavioral signs of pain and functional impairment in a mouse model of osteogenesis imperfecta. *Bone* 81:400-406
3. Abdelaziz DM, Stone LS, **Komarova SV**. (2015) Localized experimental bone metastasis drives osteolysis and sensory hypersensitivity at distant non-tumor-bearing sites. *Breast Cancer Res Treat.* 153(1):9-20.
4. Rafiei S, Tiedemann K, Tabariès S, Siegel PM, **Komarova SV**. (2015) Peroxiredoxin 4: A novel secreted mediator of cancer induced osteoclastogenesis. *Cancer Lett.* 1; 361(2):262-70.
5. Kanazawa I, Canaff L, Abi Rafeh J, Angrula A, Li J, Riddle RC, Boraschi-Diaz I, **Komarova SV**, Clemens TL, Murshed M, Hendy GN. (2015) Osteoblast menin regulates bone mass in vivo. *J Biol Chem.* 290(7):3910-24.
6. Maria SM, Prukner C, Sheikh Z, Mueller F, **Komarova SV**. Barralet JE, (2015) Characterization of biomimetic calcium phosphate labeled with fluorescent dextran for quantification of osteoclastic activity. *Acta biomaterialia* 20; 140–146
7. MD Ryser, **SV Komarova** (2015) *Mathematical Modeling of Cancer Metastases. Computational Bioengineering*, p 211, CRC Press.

Makhoul

1. Gigliotti J, El-Hakim M, AlGhamdi O and Makhoul M (2015). Central giant cell granuloma of the mandibular condyle: A case report, literature review and discussion of treatment. *OMS Cases*, 1(3):42-46
2. Gigliotti J and Makhoul N (accepted). Demographics, training satisfaction, and career plans of Canadian oral and maxillofacial surgery residents. *Int'l J of OMS*.
3. Bonin G and Makhoul NW (2015). The latissimus dorsi free flap. In: *Atlas of Oral and Maxillofacial Surgery*. Eds. Kademani and Tiwana. Elsevier Publishing. Chapter 113, pp. 113.1-113.9.
4. Makhoul NW and Ward BB. (in press). Oral cancer diagnosis and treatment. In: *Oral and Maxillofacial Surgery Knowledge updates*. Ed. Brian Schmide. AAOMS Publishing.

Martineau

1. FLOW Investigators. A Trial of Wound Irrigation in the Initial Management of Open Fracture Wounds. *N. Engl. J. Med.*, 2015 [epub ahead of print]
2. Aldebeyan W, Liddell A, Steffen T, Beckman L, Martineau PA. Proximal Tibial Fracture Following Anterior Cruciate Ligament Reconstruction Surgery: A Biomechanical Analysis of the Tibial Tunnel as a Stress Riser. *Fracture: a biomechanical analysis of the tibial tunnel as a stress riser. Knee Surgery, Sports, Traumatology, Arthroscopy*, 2015 [epub ahead of print]

3. Talbot M, Harvey EJ, Reindl R, Martineau P, Schneider P. Ultrasound-assisted external fixation: a new technique for austere environments. *Journal R Army Med Corps*, 2015 [epub ahead of print].
4. Janssen SJ, Molleman J, Guitton TG, Ring D, Martineau PA et al.* What Middle Phalanx Base Fracture Characteristics are Most Reliable and Useful for Surgical Decision-making? * as part of Science of Variation Group. *Clin Orthop Relat Res*, 2015, 473(12): 3943-50.
5. Alzahrani MM, Aldebayan S, Abduljabbar F, Martineau PA. Hamstring Injuries in Athletes: Diagnosis and Treatment. *JBJS Reviews*, 2015, 3(6), 1-11.
6. Behrends DA, Khendek L, Gao C, Zayed N, Henderson JE, Martineau PA. Characterization of a Pre-Clinical Mini-Pig Model of Scaphoid Non-Union. *J Funct Biomater*, 2015, 6(2):407-21.
7. Hart A, Han Y, Martineau PA. The Apex of the Deep Cartilage: A Landmark and New Technique to Help Identify Femoral Tunnel Placement in Anterior Cruciate Ligament Reconstruction. *Arthroscopy*, 2015 [epub ahead of print].
8. Janssen SJ, Teunis T, Guitton TG, Ring D, Martineau PA et al. * Do Surgeons Treat Their Patients Like They Would Treat Themselves? * as part of Science of Variation Group. *Clin Orthop Relat Res*, 2015 [epub ahead of print]
9. Hageman MG, Jayakumar P, King JD, Guitton TG, Doornberg JN, Ring D, Martineau PA et al. * The Factors Influencing the Decision Making of Operative Treatment for Proximal Humeral Fractures. * as part of Science of Variation Group. *J Shoulder Elbow Surg.*, 2015, 24(1): 21-6.
10. Hart A, Collins M, Chaatwal D, Steffen T, Harvey EJ, Martineau PA. Can the use of variable angle volar locking plates compensate for suboptimal plate positioning in unstable distal radius fractures? *Journal of Orthopaedic Trauma*, 2015, 29(1):e1-6.
11. Ljungquist KL, Martineau P, Allan C. Radial Nerve Injuries. *Journal of Hand Surgery Am.*, 2015, 40(1):166-172.
12. United States Patent for novel "Porous Bone Screw" #8,979,911 B2, March 17 2015.

Murshed

1. Non-neuronal cholinergic stimulation favors bone mass accrual . Faleh Tamimi, Hazem Eimar, Sharifa Alebrahim, Garthiga Manickam, Ahmed Ebraheem Al Subaie, Iskandar Tamimi, Monzur Murshed. *Bone* (under revision)
2. Smpd3 expression in both chondrocytes and osteoblasts is required for normal endochondral bone development. Jingjing Li, Garthiga Manickam, Pierre Moffat, Monzur Murshed. *Molecular Cellular Biology* (under revision).
3. Donepezil regulates energy metabolism and favors bone mass accrual. Eimar H, Alebrahim S, Manickam G, Al-Subaie A, Abu-Nada L, Murshed M, Tamimi F. *Bone*. 2016 Mar;84:131-8. doi: 10.1016/j.bone.2015.12.009. Epub 2015 Dec 21.
4. Mathematical model for bone mineralization. Komarova SV, Safranek L, Gopalakrishnan J, Ou MJ, McKee MD, Murshed M, Rauch F, Zuh E. *Front Cell Dev Biol*. 2015 Aug 21;3:51. doi: 10.3389/fcell.2015.00051. eCollection 2015.
5. Newly identified interfibrillar collagen crosslinking suppresses cell proliferation and remodelling. Marelli B, Le Nihouannen D, Hacking SA, Tran S, Li J, Murshed M, Doillon CJ,

- Ghezzi CE, Zhang YL, Nazhat SN, Barralet JE. *Biomaterials*. 2015 Jun;54:126-35. doi: 10.1016/j.biomaterials.2015.03.018. Epub 2015 Apr 2
6. Osteoblast menin regulates bone mass in vivo. Kanazawa I, Canaff L, Abi Rafeh J, Angrula A, Li J, Riddle RC, Boraschi-Diaz I, Komarova SV, Clemens TL, Murshed M, Hendy GN. *J Biol Chem*. 2015 Feb 13;290(7):3910-24. doi: 10.1074/jbc.M114.629899. Epub 2014 Dec 23.
 7. Sphingolipid metabolism and its role in the skeletal tissues. Khavandgar Z, Murshed M. *Cell Mol Life Sci*. 2015 Mar;72(5):959-69. doi: 10.1007/s00018-014-1778-x. Epub 2014 Nov 26. Review.

Ouellet

1. Krock E*, Currie JB, Weber MH, Ouellet JA, Stone LS, Rosenzweig DH, Haglund L. Nerve growth factor is regulated by Toll-Like receptor 2 in human intervertebral discs. *J Biol Chem*. December 14:2015. PMID:26668319
2. Kazezian Z, Gawri R, Haglund L, Ouellet J, Mwale F, Tarrant F, O'Gaora P, Pandit A, Alini M, Grad S. Gene expression profiling identifies interferon signaling molecules and IGFBP3 in human degenerative annulus fibrosus. *Nature Scientific Reports, Sci Rep*. 2015 Oct 22; 5:15662. PMID: 26489762
3. Ferland CE, Sardar ZM, Abduljabbar F, Arlet V, Ouellet JA. Bilateral vascularized rib grafts to promote spino-pelvic fixation in patients with sacral agenesis and spino-pelvic dissociation: a new surgical technique. *Spine J*. Oct 6, 2015. PMID: 26456853
4. Ellis DJ, Mallozzi SS, Mathews JE, Moss IL, Ouellet JA, Jarzem P, Weber MH. The relationship between preoperative expectations and the short-term postoperative satisfaction and functional outcome in lumbar spine surgery: A systematic review. *Global Spine J*. October 5;5:436-52, 2015. PMID: 26430599
5. Abduljabbar FH, Al-Jurayyan A, Alqahtani S, Sardar ZM, Saluja RS, Ouellet J, Weber M, Steffen T, Beckman L, Jarzem P. Does balloon kyphoplasty deliver more cement safely into osteoporotic vertebrae with compression fractures compared with vertebroplasty? A study in vertebral analogues. *Global Spine J*. August 5;4:300-7, 2015. Doi: 10.1055/s-0035-1546818.
6. Phan P, Ouellet J, Mezghani N, de Guise JA, Labelle H. A rule-based algorithm can output valid surgical strategies in the treatment of AIS. *Eur Spine J*. Jul;24(7):1370-81, 2015. Doi: 10.1007/s00586-014-3736-6.
7. Mendoza-Londono R, Fahiminiya S, Majewski J, Care4Rare Canada Consortium, Tétreault M, Nadaf J, Kannu P, Sochett E, Howard A, Stimec J, Dupuis L, Roschger P, Klaushofer K, Paloto T, Ouellet J, Al-Jallad H, Mort JS, Moffatt P, Boudko S, Bachinger HP, Rauch F. Recessive osteogenesis imperfecta caused by missense mutations in SPARC. *J Bone Miner Res*. June 4;96(6):979-85, 2015. Doi: 10.1016/j.ajhg.2015.04.021.
8. Palomo T, Fassier F, Ouellet J, Sato A, Montpetit K, Glorieux FH, Rauch F. Intravenous bisphosphonate therapy of young children with osteogenesis imperfecta: skeletal findings during follow up throughout the growing years. *Journal of Bone & Mineral Research* June 8,2015. Doi: 10.1002/jbmr.2567.
9. Abduljabbar Fahad H.*, Al-jurayyan A., Alqahtani S., Sardar Z.M., Saluja R.S., Ouellet J., Jarzem P. Does balloon kyphoplasty deliver more cement safely into osteoporotic

- vertebrae with compression fractures compared with vertebroplasty? A study in vertebral analogues. *Global Spine Journal* (EFirst) Feb 26;01:1-82 2015.
10. Ouellet J.A., Ferland C.E., Racloz G., Klein K., Richter H., Thomas S., VonRechenberg B. Evaluation of the modern luque trolley construct for treatment of early onset scoliosis using a gliding implant in an immature animal model. *Journal of Spinal Disorders & Techniques*. Post Acceptance: February 25, 2015. PMID: 25719975
 11. Ceko M., Shir Y., Ouellet JA., Ware MA., Stone LS., Seminowicz DA. Partial recovery of abnormal insula and dorsolateral prefrontal connectivity to cognitive networks in chronic low back pain after treatment. *Hum Brain Mapp*. Feb 3, 2015. PMID: 25648842
 12. Tang, Q.L., Julien, C., Eveleigh R., Bourque G., Franco A., Labelle, H., Grimard G., Parent S., Ouellet, J., Mac-Thiong, J.M., Gorman K., Moreau A. A replication study for association of 53 single nucleotide polymorphisms in ScolioScore™ test with adolescent idiopathic scoliosis in French-Canadian population. *Spine*. Feb 2, 2015. PMID: 25646748
 13. Phan P.*, Ouellet J., Mezghani N., DeGuise J.A., Labelle H. A rule-based algorithm can output valid surgical strategies in the treatment of AIS. *European Spine Journal*. Jan 9, 2015. PMID: 25572146

Reindl

1. Talbot M, Harvey EJ, Reindl R, Martineau PA, Schneider P Ultrasound-assisted External Fixation: A Technique for Austere Environments *J R Army Med Corps*. 2015 Nov 19.
2. A Trial of Wound Irrigation in the Initial Management of Open
3. Fracture Wounds, Rudolf Reindl PI MUHC for the FLOW Investigators, *New England Journal of Medicine*: October 8, 2015 DOI: 10.1056/NEJMoa1508502 "Intramedullary versus Extramedullary fixation for unstable intertrochanteric fractures: A prospective randomized control trial," number JBJS-D-14-01007R1. R.Reindl, G.K. Berry, E.J. Harvey, COTS group. *JBJS* Dec 2015
4. *Eur J Orthop Surg Traumatol*. 2015 May 9. [Epub ahead of print] Metaphyseal tibial level (MTL) screws: a modified percutaneous technique for lateral plateau depression fractures. Vauclair F1, Almasri M, Gallusser N, Van Lanker H, Reindl R.

St-Arnaud

1. Kusunoki, Y., I. Matsui, T. Hamano, A. Shimomura, D. Mori, S. Yonemoto, Y. Takabatake, Y. Tsubakihara, R. St-Arnaud, Y. Isaka, and H. Rakugi. 2015. Excess 25-hydroxyvitamin D₃ exacerbates tubulointerstitial injury in mice by modulating macrophage phenotype. *Kidney Int*. doi: 10.1038/ki.2015.210.
2. Bai, X., D. Miao, S. Xiao, D. Qiu, R. St-Arnaud, M. Petkovich, A. Gupta, D. Goltzman, and A. Karaplis. 2016. CYP24 inhibition as therapeutic target in FGF23-mediated renal phosphate wasting disorders. *J. Clin. Invest*. doi: 10.1172/JCI81928; [Epub ahead of print].
3. Li, J., A. Luco, O. Benoit, A. Camirand, T. Reinhardt, R. St-Arnaud, W.B. Muller, and R. Kremer. 2015. Tumoral vitamin D synthesis by CYP27B1 (1 α -hydroxylase) delays

mammary tumor progression in the PyMT-MMTV mouse model and its action involves NF-kB modulation. *Endocrinology*, in press.

4. Hekmatnejad, B., V.W.C. Yu, V. Mandic, M. Pellicelli, A. Arabian, and R. St-Arnaud. 2015. Increased bone mass and site-specific increased response to loading in mice deficient for FIAT (Factor Inhibiting ATF4-mediated Transcription). Submitted.

Tanzer

1. Tanzer, M., Tanzer, D., Smith, K.: AAOS Disclosure Policy Fails to Accurately Inform Its Members of Potential Conflicts of Interest. *The American Journal of Orthopedics (Belle Mead NJ)*. 2015 Jul;44(7):E207-10.
2. Aoude AA, Antoniou J, Epure LM, Huk OL, Zukor DJ, Tanzer M.: Midterm Outcomes of the Recently FDA Approved Ceramic on Ceramic Bearing in Total Hip Arthroplasty Patients Under 65Years of Age. *Journal Arthroplasty*, 2015 Aug;30(8):1388-92.
3. Makhdom A, Almaawi A, MD, Tanzer D, Tanzer, M.: Does Warming Up Improve Surgical Outcome In Total Hip Arthroplasty. *European Journal of Orthopaedic Surgery & Traumatology*, 2015 Dec;25(8):1265-9.
4. Marwan YA, Abatzoglou S, Esmaeel AA, Alqahtani SM, Alsulaimani SA, Tanzer M, and Turcotte RE: Hip arthroscopy for the management of osteoid osteoma of the acetabulum: a systematic review of the literature and case report. *BMC Musculoskeletal Disorders* 2015; 16:318
5. FLOW Investigators, Bhandari M, Jeray KJ, Petrisor BA, Devereaux PJ, HeelsAnsdell D, Schemitsch EH, Anglen J, Della Rocca GJ, Jones C, Kreder H, Liew S, McKay P, Papp S, Sancheti P, Sprague S, Stone TB, Sun X, Tanner SL, Tornetta P 3rd, Tufescu T, Walter S, Guyatt GHA: Trial of Wound Irrigation in the Initial Management of Open Fracture Wounds. *N Engl J Med*. 2015 Dec 31;373(27):2629-41

Weber

1. C. Zhang, S. Berven, M.Fortin, Weber MH. Adjacent segment degeneration versus disease after lumbar spine fusion for degenerative pathology: A Systematic Review with Meta-analysis of the Literature. *Journal of Spinal Disorders & Techniques*. August 24, 2015(Accepted)
2. D. Sciubba, C. Fisher, L Rhines, M. Fehlings, O, Fourney, C. Bettegowda, J.Reynolds, M. Clarke, Weber MH, A. Yurter, D. Ju, Z. Gokaslan, R. Goodwin. A systematic review of clinical outcomes and prognostic factors for patients undergoing surgery for spinal metastases secondary to breast cancer. *Global Spine Journal*, August 12, 2015.
3. D. Ellis, S. Mallozzi, J. Mathews, I. MOSS, J. Ouellet, P. Jarzem, Weber MH. The Relationship between Preoperative Expectations and Short Term Postoperative Satisfaction and Functional Outcome in Lumbar Spine Surgery: a Systematic Review. *Global Spine Journal* April 30, 2015(1):1-14. <https://www.thieme-connect.com/products/journals/abstract/10.1055/s-0035-1551650>
4. F. Abduljabbar, A. Aljurayyan, S. Algahtani, Z. Sardar, Rajeet S. Saluja, J. Ouellet, Weber MH, T. Steffen, L.Beckman, P. Jarzem. Does Balloon Kyphoplasty Deliver More Cement Safely into Osteoporotic Vertebrae with Compression Fractures Compared to

Vertebroplasty ? A Study in Vertebral Analogs. Global Spine Journal. March 5th, 2015(1):1-82.PMID26225279Epub:
<http://www.ncbi.nlm.nih.gov/pubmed/26225279>

5. Weber MH. M. Fortin, A. Aoude. Methods to determine pedicle screw placement accuracy in spine surgery; a systematic review. European Spine Journal. Mar;7(2015) 24: P990-1004.PMID25749690 <http://www.ncbi.nlm.nih.gov/pubmed/25749690#>

Willie

1. *Birkhold A, Razi H, Duda GN, Weinkamer R, Checa S, Willie BM, The influence of age on adaptive bone formation and bone resorption, *Biomaterials*, 35(34): 9290-9301, 2014.
2. *Birkhold A, Razi H, Duda GN, Weinkamer R, Checa S, Willie BM, Mineralizing surface is the main target of mechanical stimulation independent of age: 3D Dynamic in Vivo Morphometry, *Bone*,66:15-25, 2014.
3. *Hoerth R, Seidt B, Shah M, Schwarz C, Willie BM, Duda GN, Fratzl P, Wagermaier W, Mechanical and structural properties of bone in noncritical and critical healing in rat, *Acta Biomaterialia*,10(9):4009-19, 2014.
4. *Aido M, Kerschnitzsky M, Hoerth R, Burghammer M, Montero C, Checa S, Fratzl P, Duda GN, Willie BM, Wagermaier W, Relationship between nanoscale mineral properties and calcein labelling in mineralizing bone surfaces, *Connective Tissue Research*, 55 Suppl 1:15-7, 2014.
5. *Schwarzer R, Nickel N, Godau J, Willie BM, Duda GN, Schwarzer R, Cirovic B, Leutz A, Manz R, Bogen B, Dörken B, Jundt F, Notch pathway inhibition controls myeloma bone disease in the murine, MOPC315.BM model, *Blood Cancer Journal*, 13;4:e217, 2014.
6. *Razi H, Birkhold A, Duda G, Zehn M, Willie BM, Checa S, A finite element model of in vivo mouse tibial compression loading: influence of boundary conditions, *Scientific Journal Facta Universitatis, series Mechanical Engineering*, Vol. 12, No 3, pp. 195 – 207, 2014.

Zukor

- Drager J, Hart A, Khalil JA, Zukor Di, Bergeron SG, Antoniou J. Shorter Hospital Stay and Lower 30-Day Readmission after Unicandylar Knee Arthroplasty Compared to Total Knee Arthroplasty. *J Arthroplasty*. 50883-5403(15)00828-1, 2015.
- Albers A, Aoude AA, Zukor Di, Huk OL, Antoniou J, Tanzer M. Favorable Results of a Short, Tapered, Highly Porous, Proximally Coated Cementless Femoral Stem at a Minimum 4-Year Follow-Up. *J Arthroplasty*. 50883-5403(15)00774-3, 2015.
- Hart A, Antoniou J, Brin YS, Huk OL, Zukor Di, Bergeron SG. Simultaneous Bilateral Versus Unilateral Total Knee Arthroplasty: A Comparison of 30-Day Readmission Rates and Major Complications. *J Arthroplasty*. 50883-5403(15)00645-2, 2015.
- Hart A, Bergeron SG, Epure 1, Huk O, Zukor D, Antoniou J. Comparison of US and Canadian Perioperative Outcomes and Hospital Efficiency after Total Hip and Knee Arthroplasty. *JAMA Surg*. 150(10):990-8, 2015.
- Liodakis E, Bergeron SG, Zukor DJ, Huk OL, Epure LM, Antoniou J. Perioperative Complications and Length of Stay after Revision Total Hip and Knee Arthroplasties: An Analysis of the NSQIP Database. *J Arthroplasty*. 50883-5403(15)00422-2, 2015.

- Aoude AA, Antoniou J, Epure LM, Huk OL, Zukor Di, Tanzer M. Midterm Outcomes of the Recently FDA Approved Ceramic on Ceramic Bearing in Total Hip Arthroplasty Patients Under 65Years of Age. J Arthroplasty. 50883-5403(15)00226-0, 2015.
- Nikolaou VS, Petit A, Khoury V, Blain-Pare E, Zukor DJ, Huk OL, Antoniou 1. Magnetic resonance imaging of painful metal-on-metal total hip replacement. Eur J OrthopSurgTraurnatol. 25(4)313-9, 2015.

5.2 List other newspaper articles or letters to the editor, theses and technical papers/report.

Hamdy

Chapters in Books:

1. **Hamdy, R.C.**, Noemi Dahan : Arthrogyposis – Management of Lower limb deformities . 2015 In : Paediatric Lower Limb Deformities., Editor : S. Sabarhwal, Publishers: Springer.

Books:

1. **Limb Lengthening & Reconstruction Surgery Case Atlas, Editors : R.Rozbruch, R.Hamdy 2015** Publishers Springer, Heidelberg, Germany. This is a publication of the LLRS, includes 3 Volumes, with 309 cases from numerous Contributors from 12 countries. It is a Major Reference Work . Includes several sections :
2. Paediatrics (Volumes 1) - **I wrote 23 cases & the Introduction chapter for the 12 subsections.** Adult Deformity , Tumor, & Upper Extremity (Volume 2) Trauma, Foot and Ankle (Volume 3)

Komarova

Journal Articles

Gorski JP, Kremer E, Chen Y, Ryan S, Fullenkamp C, Delviscio J, Jensen K and McKee MD (1999). Bone acidic glycoprotein-75 self-associates to form macromolecular complexes in vitro and in vivo with the potential to sequester phosphate ions. J. Cell. Biochem., 64:547-564.

Book Chapters

Goldberg HA, Hunter GK, Mundy MA, Warner KJ and McKee MD (1999). Nature of hydroxyapatite crystals formed in the presence of bone sialoprotein, osteopontin and synthetic homopolymer analogues. In: Chemistry and Biology of Mineralized Tissues. Eds. Robinson C, Boskey A, and Goldberg M,. American Academy of Orthopaedic Surgeons. New York. Chapter 36, pp 225-228.

Weber

Chapters:

Weber MH, Sharp JC, Hassard TH, Reed M, Thliveris JA, On FW; Clinical Modalities for the Diagnosis, Characterization and Detection of Bone Metastases. Bone Metastasis. Eds. Singh G and Orr FW. Kluwer, V 6, 2004, pp 49-69

6. Research/Post-graduate Supervision

6.1List graduate students supervised and/or co-supervised during the reporting period. Provide:

Antoniou

- Name of graduate student: Muhammad Albeshar
- Degree program (MSc, PhD):
- Supervisor:
- Name Director and Co-supervisors:
- Annual stipend:
- Source of funding:

- Name of graduate student: Ahmed Habis
- Degree program (MSc, PhD):
- Supervisor:
- Name Director and Co-supervisors:
- Annual stipend:
- Source of funding:

- Name of graduate student: Husam Almajed
- Degree program (MSc, PhD):
- Supervisor:
- Name Director and Co-supervisors:
- Annual stipend:
- Source of funding:

- Name of graduate student: Abdulltef Alrashoudi
- Degree program (MSc, PhD):
- Supervisor:
- Name Director and Co-supervisors:
- Annual stipend:
- Source of funding:

- Name of graduate student: Rakan Bokhari
- Degree program (MSc, PhD):
- Supervisor:
- Name Director and Co-supervisors:
- Annual stipend:
- Source of funding:

- Name of graduate student: Nizar AlGarni
- Degree program (MSc, PhD):
- Supervisor:
- Name Director and Co-supervisors:

- Annual stipend:
- Source of funding:

Barralet

- Name of graduate student: Huaifa Zhang
 - Degree program (MSc, PhD): PhD
 - Supervisor: Barralet
 - Name Director and Co-supervisors:
 - Annual stipend: 22000
 - Source of funding: NSERC-MITAC
-
- Name of graduate student: Jinke Xu
 - Degree program (MSc, PhD): PhD
 - Supervisor: Cerruti
 - Name Director and Co-supervisors:
 - Annual stipend: 20000
 - Source of funding: NSERC
-
- Name of graduate student: Anas Nooh
 - Degree program (MSc, PhD): Msc
 - Supervisor: Webber
 - Co-supervisors: Barralet
 - Annual stipend: unknown
 - Source of funding: Saudi
-
- Name of graduate student: Harshdeep Mangat
 - Degree program (MSc, PhD): Msc
 - Supervisor: Barralet
 - Co-supervisors: Makhoul
 - Annual stipend: 20,000
 - Source of funding: "Joel E Berger Fund"
-
- Name of graduate student: Sophie Maillard
 - Degree program (MSc, PhD): MSc
 - Supervisor: Barralet
 - Name Director and Co-supervisors: N. Makhoul
 - Annual stipend: 40,000
 - Source of funding: Les Gueules Cassés
-
- Name of graduate student: Benjamin Dallison
 - Degree program (MSc, PhD): MSc --> PhD
 - Supervisor: Barralet
 - Name Director and Co-supervisors:
 - Annual stipend: 20000
 - Source of funding: NSERC
-
- Name of graduate student: Alison Fraser
 - Degree program (MSc, PhD): MSc

- Supervisor: Gorst
- Name Director and Co-supervisors: Barralet
- Annual stipend: 18000
- Source of funding: NSERC

- Name of graduate student: Zishuai Zhang
- Degree program (MSc, PhD): PhD
- Supervisor: Barralet
- Annual stipend: 20000
- Source of funding: NSERC

Bergeron

- Name of graduate student: Jonathan Doyon
- Degree program (MSc, PhD):
- Supervisor:
- Name Director and Co-supervisors:
- Annual stipend:
- Source of funding:

- Name of graduate student: Gabriel Roby
- Degree program (MSc, PhD):
- Supervisor:
- Name Director and Co-supervisors:
- Annual stipend:
- Source of funding:

- Name of graduate student: Malik Elharram
- Degree program (MSc, PhD):
- Supervisor:
- Name Director and Co-supervisors:
- Annual stipend:
- Source of funding:

Komarova

- Name of graduate student: Iris Boraschi-Diaz
- Degree program (MSc, PhD): PhD
- Director: Svetlana Komarova
- Name Director and Co-supervisors:
- Annual stipend: 21,000
- Source of funding: Faculty of Dentistry stipend, RSBO stipend
-
- Name of graduate student: Nicholas Mikolajewicz
- Degree program (MSc, PhD): MSc
- Director: Svetlana Komarova
- Name Director and Co-supervisors:
- Annual stipend: 18,000
- Source of funding: NSERC grant

- Name of graduate student: Muthu Lakshmi Muthu
 - Degree program (MSc, PhD): PhD
 - Director: Svetlana Komarova
 - Name Director and Co-supervisors: Dr. Dieter Reinhardt
 - Annual stipend: 21,000
 - Source of funding: CIHR grant
-
- Name of graduate student: Delphine Guillemette
 - Degree program (MSc, PhD): MSc
 - Director: Svetlana Komarova
 - Name Director and Co-supervisors: Dr. Genevieve Lefebvre, Université du Québec à Montréal
 - Annual stipend: N/A
 - Source of funding: NSERC
-
- Name of graduate student: Shahrzad Rafiei
 - Degree program (MSc, PhD): PhD
 - Director: Svetlana Komarova
 - Name Director and Co-supervisors:
 - Annual stipend: 23,000
 - Source of funding: CIHR grant

Makhoul

- Name of graduate student: Dr. Osama AlGhamdi
 - Degree program (MSc, PhD): MSc
 - Director:
 - Name Director and Co-supervisors: Dr. Belinda Nicolau (Oral Health and Society), Dr. Nicholas Makhoul
 - Annual stipend:
 - Source of funding: Fellowship - Saudi Government
-
- Name of graduate student: Dr. Ahmed Al-Subie
 - Degree program (MSc, PhD): PhD
 - Director:
 - Name Director and Co-supervisors: Dr. Faleh Tamimi (Biomedical Sciences), Dr. Nicholas Makhoul
 - Annual stipend:
 - Source of funding: Fellowship - Saudi Government
-
- Name of graduate student: Harshdeep Mangat, MD
 - Degree program (MSc, PhD): PhD
 - Director:
 - Name Director and Co-supervisors: Dr. Jake Barralet (Orthopaedics and Biomedical Sciences), Dr. Nicholas Makhoul
 - Annual stipend: 16,000\$
 - Source of funding: Dr. Kenneth C Bentley Oral and Maxillofacial Surgery Resident Fellowship
-
- Name of graduate student: Dr. Haider Abo Sharkh

- Degree program (MSc, PhD):
- Director:
- Name Director and Co-supervisors: Dr. Francesco Carli (Anesthesiology), Dr. Nicholas Makhoul
- Annual stipend: 2500.00\$
- Source of funding: CAOMS

- Name of graduate student: Dr. Jordan Gigliotti
- Degree program (MSc, PhD):
- Director:
- Name Director and Co-supervisors: Dr. Belinda Nicolau (Oral Health and Society), Dr. Nicholas Makhoul
- Annual stipend: 2500.00\$
- Source of funding: CAOMS

Martineau

- Name of graduate student: Yazeed Al Saran
- Degree program (MSc, PhD): MSc.
- Name Director :
- Co-supervisors:
- Annual stipend:
- Source of funding:

- Name of graduate student: Jose Ramirez Garcia Luna
- Degree program (MSc, PhD): PhD
- Name Director :
- Co-supervisors:
- Annual stipend:
- Source of funding:

- Name of graduate student: Mira Abou Rjeili
- Degree program (MSc, PhD): PhD
- Name Director :
- Co-supervisors:
- Annual stipend:
- Source of funding:

Murshed

Number of graduate students supervised: MSc: **4** PhD: **7**

Willie

- Name of graduate student: Maximilian Rummler
- Degree program (MSc, PhD): PhD, Technische Universität Berlin
- Name Director (Principal Supervisor): Bettina Willie
- Co-supervisors: Peter Fratzl, Franziska Jundt, Claudia Fleck
- Annual stipend: Yes
- Source of funding: Frieda Springer Foundation

- Name of graduate student: Laia Albiol Sanchez
 - Degree program: PhD, Technische Universität Berlin
 - Name Director (Principal Supervisor) : Bettina Willie
 - Co-supervisors: Peter Fratzl, Georg Duda, Marc Kraft
 - Annual stipend: yes
 - Source of funding: BMBF (German Federal Ministry of Education and Research)
- Name of graduate student: Tobias Thiele
 - Degree program: PhD, Charité Universitätsmedizin Berlin
 - Name Director (Principal Supervisor) : Bettina Willie
 - Co-supervisors: Georg Duda, Britt Wildemann
 - Annual stipend: yes
 - Source of funding: BMBF (German Federal Ministry of Education and Research)
- Name of graduate student: Rebecca Hörth
 - Degree program: PhD, Technische Universität Berlin
 - Name Director (Principal Supervisor) : Peter Fratzl
 - and Co-supervisors: Georg Duda, Bettina Willie, Wolfgang Waigermaier, Claudia Fleck
 - Annual stipend: yes
 - Source of funding: Max Planck Institute
- Name of graduate student: Annette Birkhold
 - Degree program: PhD, Technische Universität Berlin
 - Name Director (Principal Supervisor) : Bettina Willie
 - Co-supervisors: Peter Fratzl, Georg Duda, Marc Kraft
 - Annual stipend: yes
 - Source of funding: DFG (German Research Foundation)
- Name of graduate student: Hajar Razi
 - Degree program: PhD, Technische Universität Berlin
 - Name Director (Principal Supervisor) : Sara Checa
 - Co-supervisors: Manfred Zehn, Georg Duda, Bettina Willie, Peter Fratzl
 - Annual stipend: yes
 - Source of funding: Elsbeth Bonhoff Foundation
- Name of graduate student: Marta Aido
 - Degree program: PhD, Technische Universität Berlin
 - Name Director (Principal Supervisor) : Bettina Willie
 - Co-supervisors: Peter Fratzl, Claudia Fleck, Georg Duda
 - Annual stipend: yes
 - Source of funding: DFG (German Research Foundation)
- Name of graduate student: Annette Birkhold
 - Degree program: PhD, Technische Universität Berlin
 - Name Director (Principal Supervisor) : Bettina Willie
 - Co-supervisors: Peter Fratzl, Georg Duda, Marc Kraft
 - Annual stipend: yes
 - Source of funding: DFG (German Research Foundation)

- Name of graduate student: Anne Seliger
- Degree program: MSc, Hochschule Albstadt-Sigmaringen
- Name Director (Principal Supervisor) : Bettina Willie
- Co-supervisors: Joerg Bergemann
- Annual stipend: yes
- Source of funding: DFG (German Research Foundation)

6.2 List Post-doctoral students supervised and/or co-supervised during the reporting period.

Antoniou

- Name of Post-doctoral Fellow: Emmanouil Liodakis
- University and highest degree obtained:
- Country:
- Name Supervisor and Co-supervisors:
- Annual stipend:
- Source of funding:

- Name of Post-doctoral Fellow: Mohammed Al Sobai
- University and highest degree obtained:
- Country:
- Name Supervisor and Co-supervisors:
- Annual stipend:
- Source of funding:

- Name of Post-doctoral Fellow: Saleh Alkhaldi
- University and highest degree obtained:
- Country:
- Name Supervisor and Co-supervisors:
- Annual stipend:
- Source of funding:

- Name of Post-doctoral Fellow: Nikolas Stavropoulos
- University and highest degree obtained:
- Country:
- Name Supervisor and Co-supervisors:
- Annual stipend:
- Source of funding:

Huk, Olga L

- Name of Post-doctoral Fellow: Saleh Alkhaldi
- University and highest degree obtained:
- Country:
- Name Supervisor and Co-supervisors:
- Annual stipend:
- Source of funding:

- Name of Post-doctoral Fellow: Mohammed Al Sobeai
- University and highest degree obtained:
- Country:
- Name Supervisor and Co-supervisors:
- Annual stipend:
- Source of funding:

- Name of Post-doctoral Fellow: Emmanouil Liidakis
- University and highest degree obtained:
- Country:
- Name Supervisor and Co-supervisors:
- Annual stipend:
- Source of funding:

6.3 List Visiting Professor(s) you have sponsored (including inviting them to give a presentation) during reporting period.

Barralet

- Name of Visiting Professor Harrold Swartz
- University, City, Country Dartmouth, USA
- Title of Presentation: Clinical Applications of Oxygen Measurement
- Nature of work: (one sentence) Oxygen measurement
- Date(s) of visit: December 17/18

Hamdy

30th Eugene Rogala Visiting Professor, *November 9 & 10 2015*
 Hae-Ryong Song, M.D., PhD
 Professor, Department of Orthopaedic Surgery
 Korea University Medical Center
 Guro Hospital

Presentations: Dr H.-R. Song
Role of orthopaedic surgeon in the treatment of skeletal dysplasia
Complication of limb lengthening
Effect of growth factor or stem cells on distraction osteogenesis
Bone regeneration using BMP 2 with scaffold in animal model

Makhoul

- Name of Visiting Professor: Dr. Daniel Buchbinder, DMD, MD
- University, City, Country: Mount Sinai Beth Israel Medical Centre, Icahn School of Medicine at Mount Sinai, New York, NY, U.S.A.
- Title of Presentation: Contemporary Management of Obstructive Salivary Gland Disease Using Minimally Invasive Techniques
- Nature of work: Guest Speaker, 1st Annual Oral and Maxillofacial Surgery Alumni Reunion Lecture Series

- Date(s) of visit: Saturday, June 6th, 2015
- Name of Visiting Professor: Dr. Lyndon Cooper, DDS, PhD
- University, City, Country: University of North Carolina at Chapel Hill, NC, U.S.A.
- Title of Presentation: Grafting and Non-grafting Implant Solutions for Treatment of the Edentulous Maxilla
- Nature of work: Guest Speaker, 4th Annual Oral and Maxillofacial Surgery Research Day
- Date(s) of visit: November 6th, 2015

6.4 List Research Associates/Research Assistants supervised or co-supervised during reporting period.

Barralet

- Name: Yu Ling Zhang
- Stipend: 55000
- Source of funding:

Hamdy

- Name: Hadil Al Jallad
- Stipend:
- Source of funding:

Komarova

- Name: Dr. Gulzhakhan Sadvakassova
- Stipend: 48000
- Source of funding: CIHR
- Name: Dr. Kerstin Tiedemann
- Stipend: 58000
- Source of funding: CIHR

Makhoul

- Name: Huwaida Makhoul, BSc, MSc
- Stipend: 25,00
- Source of funding: Kenneth C. Bentley Fund in OMFS

Martineau

- Name: Timothy Wong
- Stipend:
- Source of funding:
- Name: Suzie Ouellet
- Stipend:
- Source of funding:

Willie

- Name: Anne Selinger
- Stipend: Yes
- Source of funding: DFG (German Research Foundation)

6.5List **undergraduate students** supervised or co-supervised on any research projects during the reporting period.

Antoniou

- Name: Casey Wang
- Project:
- Salary (if applicable):
- Source of funding:

Barralet

- Name: Francois Xavier Colson, University of Toulouse
- Project: Enzyme Immobilization
- Salary (if applicable):-
- Source of funding: self-funded

Komarova

- Name: Mariya Stavnichuk
- Project: Role of bone resorption in recovery of hematopoietic parameters after hemolytic anemia episode
- Salary (if applicable):

- Name: Ashaan Patel
- Project: Exosomal release by breast cancer cells
- Salary (if applicable):
- Source of funding:

- Name: Manuella Widjaja
- Project: Application of RNA interference to study the osteoclastogenic factors released by breast cancer cell
- Salary (if applicable):
- Source of funding:

- Name: Jennifer Wang
- Project: Expression and localization of the collagen-binding receptors on osteoclasts and their precursors
- Salary (if applicable):
- Source of funding:

- Name: Turney Mckee

- Project: Regulation of osteoclast motility and migration by RANKL
- Salary (if applicable):
- Source of funding:

Murshed

- Name: Erika Williston
- Project: Term paper for the Research Fundamental-II course
- Salary (if applicable):
- Source of funding:

7. Grants and Contracts

7.1 Research grants/contracts in above time period (specify which are new and which are ongoing).

Antoniou

- Project Title: Bridge Funding, McGill University
- Principal Investigator:
- Co-investigators:
- Funding agency/source: Canadian Institute of Health Research (CIHR) (MOP 142700)
- Term of grant if known: 2015-2016
- Total dollar amount of grant applied for: \$23,000

- Project Title: Regulation of TGF-beta action in chondrocytes: signaling via ALK1 versus ALK5 pathways
- Principal Investigator:
- Co-investigators:
- Funding agency/source:
- Term of grant if known: 2015-2016
- Total dollar amount of grant applied for: \$100,000

- Project Title: Quantitative Magnetic Resonance Imaging as a Diagnostic Tool of Intervertebral Disc Degeneration and Repair
- Principal Investigator:
- Co-investigators:
- Funding agency/source: Fonds de la recherche en santé du Québec (FRSQ) – Chercheur national - peer-reviewed
- Term of grant if known: 2013-2017
- Total dollar amount of grant applied for: \$180,000

Barralet

- Project Title: Osteodistracted for bone repair
- Principal Investigator:
- Co-investigators:

- Funding agency/source: Robert Matthys Foundation
 - Term of grant if known:
 - Total dollar amount of grant applied for: \$40k, 2 yr.
- Project Title: Bone scaffolds as delivery systems for local and controlled release of anti-resorptive in bone metastasis treatment
 - Principal Investigator: Dr. M Weber
 - Co-investigators: P Siegel
 - Funding agency/source: Canadian Cancer Research Society
 - Term of grant if known:
 - Total dollar amount of grant applied for: 200k, 2 yr

Berry

- Project Title: A Randomized Prospective Trial Comparing Percutaneous Pinning, Non-spanning External Fixation, and Open Reduction and Internal Fixation in Distal radius Fractures with Joint Congruity
 - Principal Investigator: Orthopaedic Trauma Association funding for a multicenter study
 - Funding agency/source:
 - Term of grant if known:
 - Total dollar amount of grant applied for: \$40,000/ year for 2 years (\$80,000USD total)
- Project Title: An Evaluation of the Faculty Education Program (FEP) using Quantitative and Qualitative Methods.
 - Principal Investigator: AO Strategy Fund for educational study
 - Co-investigators:
 - Funding agency/source:
 - Term of grant if known:
 - Total dollar amount of grant applied for: SFR 60,000
- Project Title: A Randomized Prospective Trial Comparing Operative and Non-operative Treatment of Humeral Shaft Fractures.
 - Principal Investigator: AO Foundation for a multi-center study
 - Co-investigators:
 - Funding agency/source:
 - Term of grant if known:
 - Total dollar amount of grant applied for: SF120, 000 (Swiss Francs)
- Project Title: A Randomized Prospective Trial Comparing Percutaneous Pinning, Non-spanning External Fixation, and Open Reduction and Internal Fixation in Distal radius Fractures with Joint Congruity
 - Principal Investigator: Association Internationale pour l'Orthosynthese Dynamique (AIOD)
 - Co-investigators:
 - Funding agency/source:
 - Term of grant if known:
 - Total dollar amount of grant applied for: \$50,000 CDN

Haglund

- Project Title: TLR2 expression and activation as a cause of pain in adolescent scoliosis
 - Principal Investigator: Jean Ouellet
 - Co-investigators:
 - Funding agency/source: Shriners Hospital Operating grant
 - Term of grant if known: 2015-2020
 - Total dollar amount of grant applied for: \$962 673
-
- Project Title: Low back pain: from mechanism to therapeutic intervention
 - Principal Investigator: Laura Stone
 - Co-investigators: Magalie Millecamps
 - Funding agency/source: CIHR operating grant
 - Term of grant if known: 2015-2020
 - Total dollar amount of grant applied for: \$777 750
-
- Project Title: Development of novel MRI quantitative measures to correlate degenerative changes in the cervical spine with neurological dysfunction
 - Principal Investigator: Michael Weber
 - Co-investigators: Carolyn Sparrey
 - Funding agency/source: **MITACS**
 - Term of grant if known: 2015-2016
 - Total dollar amount of grant applied for: \$80 000
-
- Project Title: Infection as the etiology of degenerative disc disease in adults
 - Principal Investigator: Peter Jarzem
 - Co-investigators: Jean Ouellet
 - Funding agency/source: Jo Miller Research Fund Award
 - Term of grant if known: 2014-2015
 - Total dollar amount of grant applied for: \$16,700
-
- Project Title: Feasibility of primary human NP and mesenchymal stem cell-seeded hydrogels for intervertebral disc repair in a dynamically loaded model system
 - Principal Investigator: Mauro Alini
 - Co-investigators: David Eglin and Derek Rosenzweig
 - Funding agency/source: SRN Consortium Award, AO Foundation
 - Term of grant if known: 2015-2016
 - Total dollar amount of grant applied for: CHF 25 000
-
- Project Title: Intervertebral Disc Degeneration and Pain
 - Principal Investigator: Dr. Laura Stone
 - Co-investigators: Dr. Jean Ouellet
 - Funding agency/source: CIHR operating grant
 - Term of grant if known: 2012-2015
 - Total dollar amount of grant applied for: \$ 325 959
-
- Project Title: Biological Repair of the Degenerate Intervertebral Disc
 - Principal Investigator: Dr Thomas Steffen
 - Co-investigators: Dr. Peter Roughley and Dr. Jean Ouellet
 - Funding agency/source: AOSpine Research Network
 - Term of grant if known: 2011-2016

- Total dollar amount of grant applied for: \$740 000 CHF (\$900 000 CAD)

Huk, Olga L

- Project Title: Treatment of Periprosthetic Distal Femur Fractures: A Randomized Controlled Trial of Locking Plate Osteosynthesis versus Retrograde Nailing
- Principal Investigator: DePuy
- Co-investigators:
- Funding agency/source: St. Michael's Hospital, Toronto ON
- Term of grant if known: 2015-2017
- Total dollar amount of grant applied for:

Hamdy, R

- Project Title: Stakeholders Parenting for Arthrogroposis Research: Client-Centered Care Network (SPARK-Network)
- Principal Investigator:
- Co-investigators: R. Hamdy
- Funding agency/source: CIHR (Canadian Institute of Health Research)
- Term of grant if known: 2016
- Total dollar amount of grant applied for: \$10,000

- Project Title: A novel injectable chitosan hydrogel sponge containing BMP-7 as a therapeutic intervention for accelerated bone formation in a critical size defect rat model Proof of Principle – Phase 1 grant
- Principal Investigator: Maryam Tabrizian
- Co-investigators: R. Hamdy
- Funding agency/source: CIHR (Canadian Institute of Health Research)
- Term of grant if known: 2014/2015
- Total dollar amount of grant applied for: \$160,000/yr

- Project Title: Outcomes of hip interventions for children with cerebral palsy – an international multi-centre prospective comparative cohort study
- Principal Investigator: U. Narayanan
- Co-investigators: R. Hamdy
- Funding agency/source: CIHR (Canadian Institute of Health Research)
- Term of grant if known: 2014-2018
- Total dollar amount of grant applied for: \$678,974/5 yrs

- Project Title: The Effect of a Hybrid and Injectable Nanoparticulate BMP Delivery System on Bone Regeneration during Distraction Osteogenesis
- Principal Investigator: R.Hamdy
- Co-investigators: M. Tabrizian & P. Moffatt
- Funding agency/source: CIHR (Canadian Institute of Health Research)
- Term of grant if known: 2012 – 2015 (3 years)
- Total dollar amount of grant applied for: \$146,822.00 yearly

- Project Title: Injectable Osteoconductives for per year Enhancement of Bone Formation During Distraction Osteogenesis

- Principal Investigator: Jake Barralet
 - Co-investigators: R.Hamdy
 - Funding agency/source: Foundation Swiss franc
 - Term of grant if known: 2013 – 2015
 - Total dollar amount of grant applied for: \$25,000
-
- Project Title: Blocking FGFR3 Signaling to Accelerate bone formation in Distraction Osteogenesis
 - Principal Investigator: René St-Arnaud
 - Co-investigators: R.Hamdy
 - Funding agency/source: International Shriners Organization
 - Term of grant if known: 2012 - 2016
 - Total dollar amount of grant applied for: \$819,257.00

Harvey

- Project Title: Cryotherapy and Bone Healing
 - Principal Investigator:
 - Co-investigators:
 - Funding agency/source: Orthopaedic Trauma Association
 - Term of grant if known:
 - Total dollar amount of grant applied for:
-
- Project Title: Implantable Micro-Device to Monitor Muscle Compartment Pressure in Trauma Victims
 - Principal Investigator: EJ Harvey, JE Henderson
 - Co-investigators: R Mongrain
 - Funding agency/source: CIHR-NSERC CHRP Program
 - Term of grant if known: Apr 01, 2014-Mar 31, 2018
 - Total dollar amount of grant applied for: \$3,360,000
-
- Project Title: Hypoxia Mimicking Agents for Bone Regeneration
 - Principal Investigator: J Drager, EJ Harvey, J Barralet
 - Co-investigators:
 - Funding agency/source: FRQ-S Junior Investigator Award
 - Term of grant if known:
 - Total dollar amount of grant applied for: \$23,000
-
- Project Title: A Prospective Randomized Multi-Center Study to Compare Open Reduction, Tight Rope Fixation (OT) versus Open Screw Fixation (OS) of the Tibio-Fibular Syndesmosis
 - Principal Investigator: D Sanders, P Schneider
 - Co-investigators: EJ Harvey, GK Berry, R Reindl and COTS
 - Funding agency/source: Orthopedic Trauma Association
 - Term of grant if known:
 - Total dollar amount of grant applied for: \$50,000 per annum (\$100,000 total)
-
- Project Title: Prevention of Post-Traumatic Contractures with Ketotifen (PERK)
 - Principal Investigator: K Hildebrand MD

- Co-investigators: EJ Harvey, M McKee, R Buckley, T Goetz, G King, S Papp, P Schneider, N Mohtadi, J Pollock, D Sheps, R Walker, N White, K Carcary, K Johnston, M Bosse, R O'Toole
 - Funding agency/source: Department of the Army
 - Term of grant if known:
 - Total dollar amount of grant applied for: \$200,000
-
- Project Title: Aspirin (acetylsalicylic acid) in the prevention of collapse of the femoral head in nontraumatic osteonecrosis
 - Principal Investigator: C Seguin, EJ Harvey
 - Co-investigators:
 - Funding agency/source: Bayer Health Care Grants4Indications
 - Term of grant if known:
 - Total dollar amount of grant applied for: \$25,000
-
- Project Title: Adaptation et validation de la semelle Greybox pour la réadaptation et la promotion de l'activité physique auprès des personnes présentant des déficiences physiques
 - Principal Investigator: EJ Harvey, C Batcho
 - Co-investigators:
 - Funding agency/source: MITACS-MEDTEQ Grant
 - Term of grant if known:
 - Total dollar amount of grant applied for: \$221,000
-
- Project Title: Aspirin (acetylsalicylic acid) in the prevention of collapse of the femoral head in nontraumatic osteonecrosis: a two-year multicenter, prospective, randomized, double-blind, placebo-controlled study
 - Principal Investigator: C Seguin
 - Co-investigators: EJ Harvey, M McKee, D Ruch
 - Funding agency/source: Bayer Health Care Grants4Indications
 - Term of grant if known:
 - Total dollar amount of grant applied for: \$428,400
-
- Project Title: Cryotherapy and Bone Healing
 - Principal Investigator: D Castano, EJ Harvey
 - Co-investigators:
 - Funding agency/source: Orthopedic Trauma Association
 - Term of grant if known:
 - Total dollar amount of grant applied for: \$18,200
-
- Project Title: Hip@Home: A Community Based Monitoring, Rehabilitation and Learning E-System for Patients following a hip fracture
 - Principal Investigator: EJ Harvey, Suzanne Morin, Nancy Mayo, Sonia Jean
 - Co-investigators: V Chodavarapu, Lauren Beaupre, Suzan Jagdal, R Ludman, Etienne Belzile, JE Henderson, B MacGibbon, Pierre Guy, R McGlasson
 - Funding agency/source: CIHR Operating Grant Innovation Partnership Program (eHIP)
 - Term of grant if known:
 - Total dollar amount of grant applied for: \$648,239

Komarova

- Project Title: Regulation of osteoclast formation and function in bone microenvironment
 - Principal Investigator: Svetlana Komarova
 - Co-investigators:
 - Funding agency/source: Canadian Institutes of Health Research
 - Term of grant: 2013-2018
 - Total dollar amount of grant: \$550,000
 - Funding for reporting year (plus any additional one-time funding): \$110,000
-
- Project Title: Osteoclast regulation by fibrillins: mechanisms and therapeutic implications
 - Principal Investigator: Svetlana Komarova, Dieter Reinhardt
 - Co-investigators:
 - Funding agency/source: Canadian Institutes of Health Research
 - Term of grant: 2014-2019
 - Total dollar amount of grant: \$650,000
 - Funding for reporting year (plus any additional one-time funding): \$130,000
-
- Project Title: Exploring complex cellular interactions by mechanical forces: mathematical modeling and experimental studies of bone turnover
 - Principal Investigator: Svetlana Komarova
 - Co-investigators:
 - Funding agency/source: Natural Sciences and Engineering Research Council
 - Term of grant: 2015-2020
 - Total dollar amount of grant: \$140,000
 - Funding for reporting year (plus any additional one-time funding): \$28,000
-
- Project Title: Exploring complex cellular interactions by mechanical forces: mathematical modeling and experimental studies of bone turnover
 - Principal Investigator: Svetlana Komarova
 - Co-investigators:
 - Funding agency/source: Natural Sciences and Engineering Research Council
 - Term of grant: 2010-2015
 - Total dollar amount of grant: \$125,000
 - Funding for reporting year (plus any additional one-time funding): \$25,000

Makhoul

- Project Title: Premalignant Oral Lesions Database
 - Principal Investigator: Nicholas Makhoul
 - Co-investigators:
 - Funding agency/source: Canadian Association for Oral and Maxillofacial Surgery
 - Term of grant:
 - Total dollar amount of grant: \$10,000/year
 - Funding for reporting year (plus any additional one-time funding):
-
- Project Title: Clinical Care Pathways in Maxillofacial Surgery
 - Principal Investigator: Nicholas Makhoul

- Co-investigators:
- Funding agency/source: Ronald E. Warren Award
- Term of grant:
- Total dollar amount of grant: \$2500/year
- Funding for reporting year (plus any additional one-time funding):

- Project Title: Treatment Delays in Oral Cancer Care Delivery
- Principal Investigator: Nicholas Makhoul
- Co-investigators:
- Funding agency/source: Ronald E. Warren Award
- Term of grant:
- Total dollar amount of grant: \$2500/year
- Funding for reporting year (plus any additional one-time funding):

- Project Title: Axial Vascularization of Bioceramic Scaffolds in a Rat Model
- Principal Investigator: Nicholas Makhoul
- Co-investigators:
- Funding agency/source: Chamlers J. Lyons Association
- Term of grant: 2 years
- Total dollar amount of grant: \$15,000/year
- Funding for reporting year (plus any additional one-time funding):

Martineau

- Project Title: Ultrasound and MR Imaging of ACL Injuries for Surgical Planning and Monitoring Recovery
- Principal Investigator: Rivaz, H.
- Co-investigators: Martineau, P. A.
- Funding agency/source: Richard and Edith Strauss Canada Foundation
- Term of grant if known: 2015-2018
- Total dollar amount of grant applied for: 75000\$ over 3 yrs

- Project Title:
- Principal Investigator:
- Co-investigators:
- Funding agency/source: Subvention Établissement des jeunes chercheurs Fonds de recherche en santé Québec
- Term of grant if known: 2012-2015
- Total dollar amount of grant applied for: 30 000\$

- Project Title: The Role of Mast Cells in Bone Regeneration
- Principal Investigator: Martineau, P. A.
- Co-investigators: Henderson JE
- Funding agency/source: MUHC-RI Bridge Funding Competition
- Term of grant if known: 2015
- Total dollar amount of grant applied for: 50000\$ over 1 yr

- Project Title: Porous compression screw for fracture fixation. Part II: Preclinical *in vivo* testing in a large animal model
- Principal Investigator: Martineau, P. A.

- Co-investigators:
- Funding agency/source: Financial partner – Amorchem LLD
- Term of grant if known: 2013-present
- Total dollar amount of grant applied for: 975000\$

- Project Title: Gait Differences between Patients with Primary and Secondary Knee Osteoarthritis and the Impact on Disease Progression
- Principal Investigator: S. Robbins
- Co-investigators:
- Funding agency/source: CIHR- Arthritis Society
- Term of grant if known: 2015-2017
- Total dollar amount of grant applied for: 220000\$

- Project Title: Gait Differences between Patients with Primary and Secondary Knee Osteoarthritis and the Impact on Disease Progression
- Principal Investigator: S. Robbins
- Co-investigators:
- Funding agency/source: CIHR- Institute of Musculoskeletal Health and Arthritis
- Term of grant if known: 2014-2015
- Total dollar amount of grant applied for: 100000\$

Murshed

- Project Title: A multidisciplinary approach to unravel the mystery of vascular calcification
- Principal Investigator:
- Co-investigators:
- Funding agency/source: Heart and Stroke Foundation of Canada
- Term of grant if known: until 2017
- Total dollar amount of grant applied for: \$81,000/year over three years

- Project Title: Molecular mechanisms underlying the vascular calcification phenotype in matrix gla protein-deficient mice
- Principal Investigator:
- Co-investigators:
- Funding agency/source: Canadian Institutes of Health Research
- Term of grant if known: until 2017
- Total dollar amount of grant applied for: \$97,000/year over three years

- Project Title: Conception, développement et validation d'un modèle pseudo physiologique in vitro de la minéralisation des tissus mous
- Principal Investigator:
- Co-investigators:
- Funding agency/source: Fonds Québécois de la Recherche sur la Nature et les Technologies (FQRNT)
- Term of grant if known: until 2007
- Total dollar amount of grant applied for: \$48,000/year over three years

- Project Title: Identification of new skeletal dysplasia genes and pathophysiological mechanisms

- Principal Investigator:
- Co-investigators:
- Funding agency/source: FRQ-S Network for Oral and Bone Health Research
- Term of grant if known:
- Total dollar amount of grant applied for: \$40,000 for 1 year, renewable for 1 year

Reindl

- Project Title:
- Principal Investigator:
- Co-investigators:
- Funding agency/source: FLOW study funds generated from enrolling clinical subjects-McMaster University
- Term of grant if known:
- Total dollar amount of grant applied for: \$60000.00

- Project Title: Bracing for thoracolumbar spine fracture study
- Principal Investigator:
- Co-investigators:
- Funding agency/source: University of Ottawa funds generated for enrolling clinical subjects
- Term of grant if known:
- Total dollar amount of grant applied for: \$4500.00

- Project Title: Humerus shaft fracture operative vs non-operative
- Principal Investigator:
- Co-investigators:
- Funding agency/source: AO Trauma grant
- Term of grant if known:
- Total dollar amount of grant applied for: \$120000.00

- Project Title: Distal radius fractures randomized trial
- Principal Investigator:
- Co-investigators:
- Funding agency/source:
- Term of grant if known:
- Total dollar amount of grant applied for: \$80000.00

St-Arnaud

- Project Title: IIH-ECC: Idiopathic Infantile Hypercalcemia: European-Canadian Consortium
- Principal Investigator: Jones
- Co-investigators:
- Funding agency/source: ERA-RARE2
- Term of grant if known: 2014-2017
- Total dollar amount of grant applied for: \$41,666/yr

- Project Title: The alphaNAC transcriptional coregulator as a downstream effector of PTH action in bone
- Principal Investigator: St-Arnaud
- Funding agency/source: MOP-119306
- Term of grant if known: 2011-2017
- Total dollar amount of grant applied for: \$125,439/yr

- Project Title: Blocking FGFR3 signaling to accelerate Distraction Osteogenesis
- Principal Investigator: St-Arnaud
- Co-investigators:
- Funding agency/source: 85300
- Term of grant if known: 2012-2017
- Total dollar amount of grant applied for: \$156,556/yr

- Project Title: Gene expression in bone cells
- Principal Investigator: St-Arnaud
- Co-investigators:
- Funding agency/source: 86400
- Term of grant if known: 2012-2017
- Total dollar amount of grant applied for: \$240,142/yr

Tanzer

- Project Title: A Fully Porous Hip Replacement Implant Capable of Eliminating Bone Resorption
- Principal Investigator:
- Co-investigators:
- Funding agency/source: Dobson Centre for Entrepreneurship, McGill University 2015 Dobson Cup Start-Up (Innovation Driven Enterprise Track) Competition 1st Place winner
- Term of grant if known:
- Total dollar amount of grant applied for: \$15,000

- Project Title: Poreuses lattice biomateriaux pour une utilisation en chirurgie orthopedique reconstructive
- Principal Investigator:
- Co-investigators:
- Funding agency/source: FRSQ PhD salary grant
- Term of grant if known: 2015-2017
- Total dollar amount of grant applied for: \$20,000

- Project Title: 2015 William and Rhea Seath Award in Engineering Innovation
- Principal Investigator:
- Co-investigators:
- Funding agency/source: McGill University
- Term of grant if known:
- Total dollar amount of grant applied for: \$14,000

- Project Title: Tissue response and validation of a novel porous material
- Principal Investigator:

- Funding agency/source: Research Fund Award
- Term of grant if known:
- Total dollar amount of grant applied for: \$13,330

- Project Title: Development of a mechanically biomcompatible hip replacement implant with Ti-6Al-4V open-cell microlattice architecture
- Principal Investigator:
- Co-investigators:
- Funding agency/source: Canadian Institutes of Health Research
- Term of grant if known: April 2014 – September 2017
- Total dollar amount of grant applied for: \$158,665

Weber

- Project Title:
- Principal Investigator:
- Co-investigators: Weber
- Funding agency/source: McGill University, The Department of Surgery Tomlinson Young Surgeon Award
- Term of grant if known: July 2012 —June 2015
- Total dollar amount of grant applied for: \$20,000 CAD

- Project Title:
- Principal Investigator:
- Co-investigators: Weber
- Funding agency/source:
- Term of grant if known:
- Total dollar amount of grant applied for:

- Project Title: Bone scaffolds as delivery systems for local controlled release of anti-resorptive in bone metastasis treatment
- Principal Investigator: Weber
- Co-investigators:
- Funding agency/source: Canadian Cancer Society
- Term of grant if known: February 2014 - February 2016
- Total dollar amount of grant applied for: \$200,000 CAD

- Project Title: Translational approaches to injectable, cell based therapeutics towards curbing degenerative disc disease of the spine
- Principal Investigator: Weber
- Co-investigators:
- Funding agency/source: Research Institute of the McGill University Health Centre & Merck 2014 Research Competition
- Term of grant if known: September 2014 - September 2016
- Total dollar amount of grant applied for: \$50,000 CAD

- Project Title: Educational Grant to Support Educational Program Focused on Improving the Management of Poor Quality Bone
- Principal Investigator: Weber
- Co-investigators:

- Funding agency/source: DePuy Synthes
- Term of grant if known: February 24, 2015-February 25, 2015
- Total dollar amount of grant applied for: \$31,247.00 CAD
- Project Title: Development of novel MRI quantitative measures to correlate degenerative changes in the cervical spine with neurological dysfunction
- Principal Investigator: Weber
- Co-investigators:
- Funding agency/source: Mitacs-Accelerate Graduate Research Internship Program
- Term of grant if known: July 2015-July 2016
- Total dollar amount of grant applied for: \$80,000 CAD

Willie

- Project Title: Start-up funding
- Principal Investigator: Bettina Willie
- Co-investigators: None
- Funding agency/source: Shriners Hospitals for Children
- Term of grant if known: 11/2015-11/2020
- Total dollar amount of grant applied for: CAN \$626,152
- Project Title: Effects of mechanical loading on bone disease in multiple myeloma
- Principal Investigator: Bettina Willie
- Co-investigators: None
- Funding agency/source: Frieda Springer Foundation
- Term of grant if known: 01/2015-01/2017
- Total dollar amount of grant applied for: 49,000 €
- Project Title: Loss of mechano-regulation and the potential of sclerostin to modulate mechano-sensation. In consortium: Detection and individualized management of early onset osteoporosis
- Principal Investigator: Bettina Willie
- Co-investigators: Georg Duda
- Funding agency/source: BMBF (German Federal Ministry of Education and Research)
- Term of grant if known: 02/2015-07/2018
- Total dollar amount of grant applied for: 444,948 €
- Project Title: Adaptive and regenerative response of bone to mechanical strain in a mouse model of premature aging, In Research Unit FOR2165:Regeneration in Aged Individuals: bone healing as a model system to characterize regeneration under compromised conditions
- Principal Investigator: Bettina Willie
- Co-investigators: None
- Funding agency/source: DFG (German Research Foundation)
- Term of grant if known: 08/2014-08/2017
- Total dollar amount of grant applied for: 215.300€
- Project Title: Proposal: I-20140705 'Phase contrast-enhanced microCT mapping of osteocyte lacunae (voids) in SOST knock-out mice tibia, following in vivo mechanical.
- Principal Investigator: Bettina Willie

- Co-investigators: None
- Funding agency/source: PETRA III Synchrotron Source-DESY
- Term of grant if known: 08/2015
- Total dollar amount of grant applied for: (P05, 12 shifts, shift ~3,000 €)

- Project Title: WI 3761/1-1, Bettina Willie and Uwe Kornak co-PIs, Adaptive response of bone to mechanical strain in a mouse model of premature aging
- Principal Investigator: Bettina Willie
- Co-investigators: Uwe Kornak
- Funding agency/source: DFG (German Research Foundation)
- Term of grant if known: 01/2012-01/2015
- Total dollar amount of grant applied for: 214,300 €

7.2If research group grants are sub-divided into **sub-groups (or themes)**, give following additional information.

7.3List **research grants/contracts applied for** during the reporting period.

Barralet

- Project Title: Innovation at the Cutting Edge
- Principal Investigator: Barralet
- Co-investigators: Prakash, de Guise, Nuno, Duchaine, Dargahi, Betton; Leask, Pasini, Liu, Fevens.
- Funding agency/source approached: NSERC CREATE
- Term of grant if known: 6 yr
- Total dollar amount of grant applied for: 1, 650, 000

Komarova

- Project Title: Exploring complex cellular interactions by mechanical forces: mathematical modeling and experimental studies of bone turnover
- Principal Investigator: Svetlana Komarova
- Co-investigators:
- Funding agency/source: Natural Sciences and Engineering Research Council
- Term of grant: 2015-2020
- Total dollar amount of grant applied for: \$450 000

Makhoul

- Project Title: Validation of repairing jaw bone voids in the presence of anti-resorptive osteonecrosis of the jaw.
- Principal Investigator: Janet Henderson, Nicholas Makhoul
- Co-investigators: Paul Martineau
- Funding agency/source approached: RSBO
- Term of grant if known: 1 year
- Total dollar amount of grant applied for: \$ 40,000.00

Murshed

Currently applying to CIHR project scheme grants (3 applications, \$125,000/yr) as PI/Co PI

7.3 List salary award grants received in above time period.

Antoniou

- Award Title: **Fonds de la recherche en santé du Québec (FRSQ) – Chercheur national**
- Funding agency/source:
- Term of grant: 2013-2017
- Total dollar amount of grant:
- Funding for reporting year (plus any additional one-time funding):

Bergeron

- Award Title: Tomlinson Award
- Funding agency/source: Young Surgeon's Endowment fund Department of Surgery, McGill University
- Term of grant:
- Total dollar amount of grant:
- Funding for reporting year (plus any additional one-time funding):

Komarova

- Award Title: Canada Research Chair Tier II in osteoclast biology
- Funding agency/source: CRC
- Term of grant: 2011-2016
- Total dollar amount of grant: \$500,000
- Funding for reporting year (plus any additional one-time funding): \$100,000

Murshed

- Award Title: Bourse de Chercheur-boursier Junior 2
- Funding agency/source: Fonds de la recherche en santé du Québec
- Term of grant: 2014-2016
- Total dollar amount of grant:
- Funding for reporting year (plus any additional one-time funding):

7.4 List salary award grants applied for in above time period.

Ouellet

- 2012 – 2015 Surgeon Scientist – Shriners Hospital for Children
- 2007 – 2015 Recipient of McGill Scoliosis & Spinal Research Chair (differed)

Martineau

- Award Title: FRSQ Chercheur clinicien boursier Junior 1
 - Funding agency/source: Fonds de recherche en santé Québec
 - Term of grant: 2012-2016
 - Total dollar amount of grant: 160 000\$ over 4 yrs
 - Funding for reporting year (plus any additional one-time funding):
-
- Award Title: Dr. Gordon Petrie Memorial Fellowship in Orthopaedics
 - Funding agency/source: Research Institute - McGill University Health Centre
 - Term of grant: 2015
 - Total dollar amount of grant: 3300\$
 - Funding for reporting year (plus any additional one-time funding):

7.6 List any **patents** acquired within above time period, indicate status, (application, PCT, national phase etc)

Antoniou

IP: PCT/CA2014/000656 (International publication date 5 March, 2015)
 “Methods and Compositions for Treatment of Cartilage and Disc Disorders” *The application claims a new pharmaceutical composition comprising the sequence of the sLink N and it uses for the treatment of cartilage and disc tissue pathologies*

Barralet

- I filed one ROI on oxygen release materials in December.

Martineau

- United States Patent for novel “Porous Bone Screw” #8,979,911 B2, March 17 2015

8. Other noteworthy events of the year, e.g. awards received by your trainees etc.

Barralet

Huaifa Zhang:

International mobility travel award in Dentistry (\$1,200)	2015
Abstract Travel Award for the 2015 CC-CRS/CSPS Symposium (\$300)	2015

Justin Drager:

Graduate Research Enhancement and Travel Award, McGill University	2015
Prix Benoit Morin, Quebec Orthopedics Association	2015
Awarded for top resident research project in Quebec	

Eugene Rogala Prize in Orthopedics, Division of Orthopedics, McGill University
2015

Awarded for top research project in division

First Prize Oral Presentation, The Effect of Iron Chelators on Bioceramic Bone
2015

McGill University Experimental Surgery Research Day, Montreal

Magda Tarchala:

First Prize Quick Shots Presentation, The Effect of Iron Chelators on Bioceramic Bone

2015

McGill University Experimental Surgery Research Day, Montreal

Willie

April 2015 Birkhold A, Razi H, Weinkamer R, Duda GN, Checa S, Willie BM, In vivo bone surface monitoring reveals age-related changes in adaptive bone (re)modeling sequences, Joint Meeting of the European Calcified Tissue Society and the International Bone and Mineral Society, Rotterdam, Netherlands, New Investigator Award, (Annette Birkhold, PhD student in my group)