

# **2016 Anatomy & Cell Biology Publications, Conferences and Book chapters**

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## AUTEXIER, Chantal

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Chu, T.W., D'Souza, Y. and **Autexier, C.** The Insertion in Fingers Domain in human telomerase can mediate enzyme processivity and telomerase recruitment to telomeres in a TPP1-dependent manner. *Molecular and Cellular Biology*. 1, 210-222, 2016.

Mancini, J., Rousseau, P., Castor, K.J., Sleiman, H. and **Autexier, C.** Platinum (II) Phenanthroimidaloze Quadruplex Ligand Induces Selective Telomere Shortening in A549 cancer cells. *Biochimie*. 121, 287-297, 2016.

Rousseau, P., Khondaker, S., Zhu, S., Lauzon, C., Mai, S. and **Autexier, C.** An intact putative mouse telomerase essential N-terminal (TEN) domain is necessary for proper telomere maintenance. *Biology of the Cell*. 108, 96-112, 2016.

Chu, T.W., MacNeil, D. and **Autexier, C.** 2016. Multiple mechanisms contribute to the cell growth defects imparted by human telomerase insertion in finger domain mutations associated with premature aging diseases. *Journal of Biological Chemistry*. 291, 8374-8386, 2016.

MacNeil, D.E., Bensoussan, H.J. and **Autexier, C.** Telomerase Regulation from Beginning to the End. *Genes*. 7, 1-33, 2016.

Chu, T.W. and **Autexier, C.** Telomeres and chromosome stability. In: *The Functional Nucleus*. Bazett-Jones, D.P. and Dellaire, G., eds. Springer DE Publishers. pp. 127-154.

### **Presentations:**

Bensoussan, H.J., Brault, M.E., and **Autexier, C.** Mechanisms regulating dyskerin post-translational modification. Annual McGill Biomedical Graduate Conference. March 17th, 2016. **Poster presentation by Bensoussan, H.**

Chu, T.W., D'Souza, Y., MacNeil, D.E. and **Autexier, C.** Telomere recruitment-defective human telomerase 'insertion in fingers domain' variants may contribute to premature aging disease phenotypes. RiboClub Monthly Meeting, Sherbrooke, April 4, 2016. **Oral presentation by Chu, T.W.**

Bensoussan, H., Brault, M.E., and **Autexier, C.** Mechanisms regulating dyskerin post-translational modification. The 3rd Canadian Symposium on Telomeres and Genome Integrity. University of Calgary, Calgary, May 24-27, 2016. **Poster presentation by Bensoussan, H.**

MacNeil, D., Brault, M.E., McManus, F., Bonneil, E., Thibault, P. and **Autexier, C.** Telomerase regulation through post-translational modifications of dyskerin. The 3rd Canadian Symposium on Telomeres and Genome Integrity. University of Calgary, Calgary, May 24-27, 2016. **Poster presentation by MacNeil, D.E.**

Chu, T.W., D'Souza, Y., MacNeil, D.E. and Autexier, C. Human telomerase 'insertion in fingers domain' variants can contribute to premature aging disease phenotypes. The 3rd Canadian Symposium on Telomeres and Genome Integrity. University of Calgary, Calgary, May 24-27, 2016. **Invited oral presentation by Chu, T.W.**

Bensoussan, H.J., Brault, M.E., and Autexier, C. Mechanisms regulating dyskerin post-translational modification. Seventh Annual LDI Scientific Retreat. June 3, 2016. **Poster presentation by Bensoussan, H.J.**

MacNeil, D., Brault, M.E., McManus, F., Bonneil, E., Thibault, P. and Autexier, C. Telomerase regulation through post-translational modifications of dyskerin. Seventh Annual LDI Scientific Retreat. June 3, 2016. **Poster presentation by MacNeil, D.E.**

Rousseau, P. Aguilar-Mahecha, A., Lafleur, J., Lan, C. Salem, M., Basik, M. and **Autexier, C.** Alternative Lengthening of Telomeres in Triple-Negative Breast Cancer. Seventh Annual LDI Scientific Retreat. June 3, 2016. **Poster presentation by Rousseau, P.**

Bensoussan, H.J., Brault, M.E., and Autexier, C. Mechanisms regulating dyskerin post-translational modification. Annual Anatomy & Cell Biology Departmental Retreat. June 22-23, 2016. **Poster presentation by Bensoussan, H.J.**

Chu, T.W., MacNeil, D.E., Bensoussan H.J., D'Souza, Y. and Autexier, C. Role of the human telomerase 'Insertion in Fingers' domain and dyskerin sumoylation in premature aging diseases. Telomere Biology in Health and Disease, Institut Curie, Paris, France, October 19-21, 2016. **Invited oral presentation by Autexier, C.**

## BUI, Khan Huy

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**Otsuka S., Bui, K.H., Schorb, M., Hossain, M.J., Politi, A.Z., Koch, B., Eltsov, M., Beck, M., Ellenberg, J.**(2016). Nuclear pore assembly proceeds by an inside out extrusion of the nuclear envelope. eLife. 2016/9/15. 5: e19071.

Hampoelz, B., Mackmull, M., Machado, P., **Bui, K.H.**, Schieber, N., Santarella-Mellwig, R., Necakov, A., Philippe, J.M., Briggs, J.A.G., Lecuit, T., Schwab, Y., Beck, M. Pre-assembled Nuclear Pores Insert into the Nuclear Envelope during Early Development. Cell. 28/7/2016. 166(3): 664-678.

Kosinski, J., Mosalaganti, S., von Appen, A., Teimer, R., DiGuilio, A.L., Wan, W., **Bui, K.H.**, Hagen, W., Briggs, J.A.G., Glavy, J.S., Hurt, E., Beck, M. Molecular Architecture of the inner ring scaffold of the human nuclear pore complex. Science. 2016/4/15. 352(6283): 363-365.

### **Conferences:**

GRASP meeting. Introduction to Cryo-electron microscopy. Montreal, November 2016. Invited speaker.

Gordon Research Conference 3DEM. In Situ Structural Analysis of the Human Nuclear Pore Complex by Cryo-ET. Hong Kong, June 2016. Invited speaker.

Annual Proteomics Platform Symposium at the McGill University Health Centre. Elucidating the Molecular Architecture of the Cilia Using a Combination of Cryo-Electron Microscopy and Proteomics. Montreal, September 2016. Invited speaker.

### **DAVID, Samuel**

Greenhalgh AD, Passos Dos Santos R, Zarruk JG, Salmon CK, Kroner A, David S. Arginase-1 is expressed exclusively by infiltrating myeloid cells in CNS injury and disease. *Brain Behav Immun.* 56: 61-67 (2016).

### **Conferences:**

Symposium on: Neuroimmunology: A key interface in neurophysiology, neurodegeneration and repair, Canadian Neuroscience meeting, Title of talk: Macrophage and microglia plasticity – they are what they eat. Toronto, May 31, 2016. Invited speaker.

### **DAVIS, Elaine**

Chan, W.\*; H. Ismail\*, D. Mayaki, V. Sanchez, K. Tiedemann, S.N. Hussain+ and **E.C. Davis+** (2016) Fibulin-5 regulation angiopoietin-1/Tie-2 receptor signaling in endothelial cells. *PLoS One* 11(6):e0156994. (\*co-first authors, +co-senior authors).

### **KENNEDY, Timothy**

Gopal AA, Rappaz B\*, Rouger V, Martyn IB, Dahlberg PD, Meland RJ, Beamish IV\*, **Kennedy TE**, Wiseman PW. (2016). Netrin-1 regulated distribution of UNC5B and DCC in live cells revealed by TICCS. *Biophysical Journal*, 110(3):623-34.

Antoine-Bertrand J, Duquette PM, Alchini R, **Kennedy TE**, Fournier AE, Lamarche-Vane N (2016). p120RasGAP mediates netrin-1-induced cortical axon outgrowth and guidance. *Journal of Biological Chemistry*, 291(9):4589-602.

Mayer MC, Schauenburg L, Thompson-Steckel G\*, Dunsing V, Kaden D, Voigt P, Schaefer M, Chiantia S, **Kennedy TE**, Multhaup G (2016). Amyloid precursor-like protein 1 (APLP1) exhibits stronger zinc-dependent neuronal adhesion than amyloid precursor protein and APLP2. *Journal of Neurochemistry*, 137(2):266-76.

Rone MB, Cui QL, Fang J, Wang LC, Zhang J, Khan D, Bedard M Almazan G, Ludwin SK, Jones R, **Kennedy TE**, Antel JP (2016). Oligodendroglialopathy in multiple sclerosis: Low glycolytic metabolic rate promotes oligodendrocyte survival. *Journal of Neuroscience*, 36(17):4698-4707.

Kam JWK, Dumontier E, Baim C, Brignall AC, Mendes da Silva D, Cowan M, **Kennedy TE**, Cloutier JF (2016). RGMb and Neogenin control cell differentiation in the developing olfactory epithelium. *Development*, 143(9):1534-46. doi: 10.1242/dev.118638.

Beaubien F, Raja R, **Kennedy TE**, Fournier A, JF Cloutier (2016). Slitrk1 is localized to excitatory synapses and promotes their development. *Scientific Reports*, Jun 7;6:27343. doi: 10.1038/srep27343.

Miloudi K\*, Binet F, Wilson A, Cerani A, Oubaha M, Menard C, Henriques S, Mawambo G, Dejda A, Nguyen PT, Rezende FA, Bourgault S, **Kennedy TE**, Sapieha P (2016). Truncated Netrin-1 Contributes to Pathological Vascular Permeability in Diabetic Retinopathy. *J. Clinical Investigation*, 126(8):3006-22. doi: 10.1172/JCI84767.

Rao VT, Khan D, Jones RG, Nakamura DS\*, **Kennedy TE**, Cui QL, Rone MB, Healy LM, Watson R, Ghosh S, Antel JP (2016). Potential Benefit of the Charge-Stabilized Nanostructure Saline RNS60 for Myelin Maintenance and Repair. *Scientific Reports*, Jul 25;6:30020. doi: 10.1038/srep30020.

Bin JM\*, Harris SN\*, **Kennedy TE** (2016). The Oligodendrocyte-Specific Antibody "CC1" Binds Quaking 7. *Journal of Neurochemistry*, in press PMID: 27454326

Rappaz B\*, Lai Wing Sun K\*, Correia JP\*, Wiseman PW, **Kennedy TE** (2016). FLIM FRET visualization of Cdc42 activation by netrin-1 in embryonic spinal commissural neuron growth cones. *PLoS One*, Aug 2;11(8):e0159405. doi: 10.1371

Wang LC, **Kennedy TE**, Almazan G (2016). A Novel Function of TBK1 as a Target of Cdon in Oligodendrocyte Differentiation and Myelination. *Journal of Neurochemistry*, in press. PMID: 27797401

MacNearney D, Mak B, **Kennedy TE**, Juncker D (2016). Nanocontact printing of proteins on physiologically soft substrates to study cell haptotaxis. *Langmuir*, 32(50):13525-13533.

## **Presentations:**

Neuroscience Research Program, University of Manitoba, Winnipeg. 15.01.16

8<sup>th</sup> Annual Postdoctoral Research Day, Keynote Speaker, University of Ottawa. 10.03.16

11<sup>th</sup> Annual International Conference for Neurons and Brain Disease, AND Meeting, Vancouver, British Columbia. 14.07.16

Division of Biological Sciences, UCSD, San Diego, USA. 26.02.16

Department of Neuroscience, John van Geest Centre for Brain Repair, University of Cambridge, Cambridge, UK. 31.08.16

Department of Neuroscience, Zhejiang University, Hangzhou, China. 09.12.16

## **LAMARCHE, Nathalie**

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Stewart, K., Gaitan, Y., Shafer, M., Aoujit, L., Hu, D., Sharma, R., Tremblay, M., Ishii, H., Marcotte, M., Stanga, D., Tang, Y., Boualia, SK., Nguyen, A., Takano, T., **Lamarche-Vane, N.**, Vidal, S., and Bouchard, M. (2016). A point mutation in the GAP domain of p190A affects ciliogenesis and leads to glomerulocystic kidney disease. Plos/Genetics. 12 (2):e1005785.

**J. Antoine-Bertrand, PM. Duquette**, R. Alchini, T.E. Kennedy, A.E. Fournier, and **N. Lamarche-Vane** (2016). p120RasGAP mediates netrin-1-induced cortical axon outgrowth and guidance. J. Biol. Chem. 291, 4589-4602.

**J. Antoine-Bertrand**, M. Fu, and **N. Lamarche-Vane** (2016). Direct measurement of oscillatory RhoA activity in embryonic cortical neurons stimulated with the axon guidance cue netrin-1 using FRET. Biol. Cell. 108, 115-126.

Berryer, M., Chattopadhyaya, B., Xing, P., Riebe I, Bosoi C, Sanon N, **Antoine-Bertrand, J.**, Lévesque M, Avoli M, Hamdan, FF, Carmant L, **Lamarche-Vane, N.**, Lacaille, JC., Michaud, JL, and Di Cristo, G. (2016). Decrease of SYNGAP1 in GABAergic cells impairs inhibitory synapse connectivity, synaptic inhibition and cognitive function. Nature Communications. Nov 9;7:13340. doi: 10.1038/ncomms13340.

**C. Caron, J. DeGeer, PM. Duquette**, P. Fournier, V. Luangrath, **H. Ishii, F. Karimzadeh, \*N. Lamarche-Vane** and \*I. Royal. (2016). CdGAP/ARHGAP31, a Cdc42/Rac1 GTPase regulator, is critical for vascular development and VEGF-mediated angiogenesis. \* co-senior authors. Scientific Reports. Jun 7;6:27485. doi: 10.1038/srep27485.

## **Presentations:**

**Philippe M. Duquette, Vilayphone Luangrath, Chantal Piché, and Nathalie Lamarche-Vane** (2016). Activation de la protéase calpaine et régulation de la protéolyse du récepteur de guidage axonal DCC par la nétrine-1 : un mécanisme potentiel du contrôle de la croissance et du guidage

axonal au cours du développement embryonnaire. Signalisation Quebec 2016, Becancour, Quebec.

Ben Djoudi Ouadda, A., Calabrese, V., He, Y., Ishii, H., Chidiac, R., Gratton, JP., Roux, PP., and **Lamarche-Vane, N.** (2016). CdGAP/ARHGAP31 is regulated by RSK phosphorylation and binding to 14-3-3 $\beta$  adaptor protein. Signalisation Quebec 2016, Becancour, Quebec.

Philippe M. Duquette, Vilayphone Luangrath, Chantal Piché, and **Nathalie Lamarche-Vane** (2016). A role for the calcium-activated protease calpain in the regulation of netrin-1/DCCmediated cortical axon outgrowth and guidance. Building the Cell Congress, Paris, France.

#### **Conferences:**

Rôles positifs pour un régulateur négatif des petites GTPases Rac1 et Cdc42, Signalisation Quebec 2016, Becancour, QC. June 2016.

#### **Patents:**

- 1) Specific polyclonal antibodies recognizing biologically functional phosphorylation site Y1418 of the axon guidance receptor deleted in colorectal cancer (DCC).
- 2) The Rac1/Cdc42 GTPase regulator CdGAP as a therapeutic target and biomarker for luminal A and basal-subtype breast cancer patients.

#### **NOËL, Geoffroy**

Kardash KJ and **Noël GPJC**. The SPANK block: a selective sensory, single-injection solution for posterior pain after total knee arthroplasty. *Regional Anesthesia and Pain Medicine*. 2016, 41(1):118-9.

#### **MANDATO, Craig**

\*Boucher, E., T. Kato, T and **C. A. Mandato**. 2016. How plasma membrane and cytoskeletal dynamics influence single-cell wound healing: mechanotransduction, tension and tensegrity in Wound Healing. Intechopen. ISBN : 978-953-51-4810-4..

\*Lawrence, E.J, \*E. Boucher, and **C. A. Mandato**. 2016. Mitochondria-cytoskeleton associations in mammalian cytokinesis. *Cell Div*.18;11:3

Oliveira, R.L., A. Parent, D.G. Cyr, M. Gregory, **C. A. Mandato**, C.E. Smith, and L. Hermo. 2016. Implications of caveolae in testicular and epididymal myoid cells to sperm motility. *Mol. Reprod. Dev.* 83:526-540.

Eida, R., E. \*Boucherch, N. Ghariba, C. Khourya, N.T.T. Araba, \*A. Murray, P. G. Young, **C.A. Mandato** and M.T. Greenwood. 2016. Identification of human ferritin, heavy polypeptide 1 (FTH1) and yeast RGI1 (YER067W) as pro-survival sequences that counteract the effects of Bax and copper in *Saccharomyces cerevisiae*. *Exp. Cell Res.*

## MORALES, Carlos

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Devader C., Moreno S., Roulot M., Deval E., Dix T., **Morales C.R.**, and Mazella J. 2016 Increased Brain Neurotensin and NTSR2 Lead to Weak Nociception in NTSR3/Sortilin Knockout Mice. *Frontiers of Neuroscience*, 10 :542.doi:10.3389 / fnins.2016.00542.

Campbell C., Beug S., Peng J., Mazerolle C., Bassett E., Ringuette R., Fadumo J., **Morales C. R.**, Wallace V.A. 2016 Sortilin regulates sorting and secretion of Sonic hedgehog, *Journal of Cell Science*, 129: 3832-3844.

### **Presentations**

HgsNat gene inactivation affects the lysosomal integrity of epididymal epithelial cells and the morphology of spermatozoa in adult mice. The Pathobiology of the Lysosome and Lysosomal Diseases Conference 2016. Cambridge (**Invited Speaker**).

## McKEE, Mark

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Jahnen-Dechent W, Brylka L, Schinke T and **McKee MD** (2016). Letter to the Editor re: Mattinzoli D et al. FGF23-regulated production of Fetuin-A (AHSG) in osteocytes. *Bone*. 2016, 93:223-224.

Eimar H, Tamimi F, Retrouvey JM, Rauch F, Aubin JE and **McKee MD** (2016). Craniofacial and dental defects in the Col1a1Jrt/+ mouse model of osteogenesis imperfecta. *J. Dent. Res.* 2016, 95:761-768.

Abdallah MN, Eimar H, Bassett DC, Schnabel M, Nelea V, McKee MD, Cerruti M and Tamimi F (2016) Diagenesis-inspired reaction of magnesium ions with surface enamel mineral modifies properties of human teeth. *Acta Biomaterialia*. 2016, 37:174-183.

Neves RL, Chiarantin GD, Nascimento FD, Pesquero JB, Nader HB, Tersariol IL, McKee MD, Carmona AK and Barros NMT (2016) Expression and inactivation of osteopontin-degrading PHEX enzyme in squamous cell carcinoma. *Intl. J. Biochem. Cell Biol.* 2016, 77:155-164.

### **Presentations:**

Gordon Research Conference on Biomineralization. Biomineralization and osteopontin in vitro and in vivo (including in humans). Girona, Spain. **Invited Speaker**. August 2016.

FASEB Scientific Research Conference SRC (Federation of American Societies for Experimental Biology Science Research Conference) on “Matricellular Proteins in Development, Health and Disease.” Bone mineralization and osteopontin. West Palm Beach, FL, USA. **Invited Speaker**. July 2016.

First National Hypophosphatasia Conference of Soft Bones Canada. Why teeth with roots fall out in hypophosphatasia - because they're not stuck between a (bio)rock and a hard place. Winnipeg, MB. **Invited Speaker.** July 2016.

School of Chemical Engineering, University of Birmingham, Organic-inorganic interfaces in mineralized tissue biology, implant osseointegration and bone wound healing. Birmingham, UK. Research Day. **Invited Keynote Speaker.** June 2016.

Translate!2016 Finding the Face in the Crowd – Translational Research in a Competitive, Global Scientific Market. An enzyme replacement therapy success story for bone and tooth biomineralization in a rare bone disease - hypophosphatasia. Berlin-Brandenburg Center for Regenerative Therapies (BCRT), the Charité-Universitätsmedizin Berlin, and Science Translational Medicine. Berlin, Germany. **Invited Speaker and Session Co-chair.** May 2016.

Concordia University, Dept. of Chemistry and Biochemistry, Montreal, QC. Life at a crystal's edge: The organic-inorganic interface in biomineralization. **Seminar.** October 2016.

Rensselaer Polytechnic Institute, Dept. of Biomedical Engineering, Troy, NY, USA. Organic-inorganic interfaces in mineralized tissue biology, implant osseointegration and bone wound healing. **Seminar.** September 2016.

## PRESLEY, John

Jusu, S., Presley JF\*, Kremer R\* (\*equal contribution) Phosphorylation of human retinoid X receptor alpha at serine 260 impairs its subcellular localization, receptor interaction, nuclear mobility and 1-alpha, 25dihydroxyvitamin D3-dependent DNA binding in Ras-transformed keratinocytes. Journal of Biological Chemistry. Nov. 16, 2016.

Carvelli, L., Libin, Y., Esfandnia, S., Zhang, Y., **Presley JF**, Morales, CR. Targeting exogenous beta-defensin to the endolysosomal compartment via a vehicle guided system. Histology and Histopathology. Dec. 29, 2016.

### Presentations:

Jusu, S. Kremer, R and **Presley, J. F.** Inhibition of MAP Kinase Activity Sensitizes Ras-transformed Keratinocytes to 1,25(OH<sub>2</sub>D<sub>3</sub>) Signaling. Metabolic and Transcriptional Reprogramming conference, Toronto, Ontario. October 3, 2016.

Jusu, S., Presley, J. F. and Kremer R. Effects of 25-hydroxyvitamin D-1 $\alpha$ -hydroxylase (1 $\alpha$ -OHase) Knockout on VDR Subcellular Localization in vitro. International Drug Discovery and Development Forum, Montreal, Quebec. June 8, 2016.

*Dejgaard, S., Presley, J.F.* Quantitative measure of effect of PAT protein expression on total lipid

droplet volume. American Society for Cell Biology annual meeting, San Francisco, CA. December 6, 2016.

## REINHARDT, Dieter

Kumra H, **Reinhardt DP**. (2016) Fibronectin-targeted drug delivery in cancer. Advanced Drug Delivery. 2016. Vol 97: 101-110.

Schaefer L, Reinhardt DP. (2016) Extracellular matrix: Therapeutic tools and targets in cancer treatment. Advanced Drug Delivery. 2016: Vol 97: 1-3.

Kahle B, Schmidtke C, Hunzelmann N, Bartels C, Sievers HH, **Reinhardt DP**, Brinckmann J. (2016) The extracellular matrix signature in vein graft disease. Canadian Journal of Cardiology. 2016. Vol 32: 1008.e1011-1007.

Li CD, Hancock MA, Seghal P, Zhou S, **Reinhardt DP**, Philip A. (2016) Soluble CD109 binds TGF- $\beta$  and antagonizes TGF- $\beta$  signaling and responses. Biochemical Journal. 2016. Vol 473: 537-547.

Loy C, Meghezi S, Lévesque L, Pezzoli D, Kumra H, Reinhardt DP, Kizhakkedathu JN, Mantovani D. (2016) A planar model of the vessel wall from cellularized collagen scaffolds: focus on cell-matrix interactions in mono-, bi- and tri-culture models. Biomaterials Science. 2016. Vol 5: 153-162.

Jondeau G, Ropers J, Regalado E, Braverman A, Evangelista A, Teixedo G, De Backer J, Muino-Mosquera L, Naudion S, Zordan C, Morisaki H, Morisaki Y, von Kodolitsch Y, Dupuis-Girod S, Morris SA, Jeremy R, Odent S, Ades LC, Bakshi M, Holman K, LeMaire S, Milleron O, Langeois M, Spentchian M, Aubart M, Boileau C, Pyeritz R, Milewicz DM, Montalcino Aortic Consortium\*\*, \*\***Reinhardt DP** is member of this consortium. (2016) International Registry of Patients Carrying TGFBR1 or TGFBR2 Mutations: Results of the Montalcino Aortic Consortium. Circulation-Cardiovascular Genetics. 2016. Vol 9: 548-558.

## Seminars:

Skin Research Group Symposium 2016, Hamilton, ON, Canada (2016-06-01). "Fibulin-4 and LTBP-4 are critical players in elastic fiber formation". (**Invited speaker**)

23rd Annual International Think Tank - The Glaucoma Foundation, New York, NY, USA (2016-06-10). "Microfibril-related disorders and cell function". (**Invited speaker**)

9th European Elastin Meeting 2016, Stuttgart, Germany (2016-06-18). "Differential role of cellular and plasma fibronectin in elastic fiber and blood vessel stability". (**Invited speaker**)

University of Toronto, Matrix Dynamics Group, Toronto, ON, Canada (2016-09-22).  
"Matrix proteins in blood vessel function and microRNA regulation". (**Invited speaker**)

**Presentations:**

Kumra H, Sabatier L, Guo H, Hassan A, Sakai T, Chambon P, Reinhardt DP "Plasma fibronectin is a safeguard for cellular fibronectin in the vasculature". Network for Oral and Bone Health Research Research Day, Montreal, Quebec, Canada (March 11, 2016). (**Refereed presentation**)

Lee CS, Djokic J, Reinhardt DP "Role of fibulin-4 N-glycosylation in elastic fiber formation". Network for Oral and Bone Health Research Research Day, Montreal, Quebec, Canada (March 11, 2016). (**Refereed presentation**)

Nelea V, Pagliuzza A, Reinhardt DP "Biophysical characterization and binding properties of the latent transforming growth factor beta binding protein 4 (LTBP-4)". Network for Oral and Bone Health Research Research Day, Montreal, Quebec, Canada (March 11, 2016). (**Refereed presentation**)

Tiedemann K, Muthu LM, Reinhardt DP, Komarova SV "Role of fibrillin-1 in osteoclast regulation". Network for Oral and Bone Health Research Research Day, Montreal, Quebec, Canada (March 11, 2016). (**Refereed presentation**)

Zeyer K, Zhang R, Kumra H, Reinhardt DP "Cellular microRNA regulation by fibrillin-1 and fibronectin mediated through integrins". Skin Research Group Symposium 2016, Hamilton, Ontario, Canada (June 1, 2016). (**Refereed presentation**)

Hubmacher D, Schneider M, Wang WL, Haltiwanger RS, Reinhardt DP, Apte SS "ADAMTS17, an extracellular protease with unusual biochemical properties, binds to fibrillin microfibrils". 22nd Canadian Connective Tissue Conference, Hamilton, Ontario, Canada (June 1-3, 2016). (**Refereed presentation**)

Kumra H, Sabatier L, Chen J, Hassan A, Sakai LY, Chambon P, Reinhardt DP "Interplay between cellular and plasma fibronectin in maintaining vessel wall integrity and function". 22nd Canadian Connective Tissue Conference, Hamilton, Ontario, Canada (June 1-3, 2016). (Refereed presentation)

Nelea V, Pagliuzza A, Reinhardt DP "Fibulin-4 is a chaperon for the structure and function of latent transforming growth factor beta binding protein 4 (LTBP-4)". 22nd Canadian Connective Tissue Conference, Hamilton, Ontario, Canada (June 1-3, 2016). (Refereed presentation)

Tiedemann K, Muthu LM, Reinhardt DP, Komarova SV "Role of fibrillin-1 fragments in

bone remodeling". 22nd Canadian Connective Tissue Conference, Hamilton, Ontario, Canada (June 1-3, 2016). (Refereed presentation)

Zeyer K, Zhang R, Kumra H, **Reinhardt DP** "Cellular microRNA regulation by fibrillin-1 and fibronectin mediated through integrins". 22nd Canadian Connective Tissue Conference, Hamilton, Ontario, Canada (June 1-3, 2016). (**Refereed presentation**)

Hubmacher D, Wang LW, **Reinhardt DP**, Apte SS "The secreted ADAMTS17 protease differentially interacts with fibrillin molecules compared to microfibrils in the extracellular matrix". American Society for Matrix Biology Biennial Meeting 2016, St. Petersburg, Florida, USA (November 13-16, 2016). (**Refereed presentation**)

Kumra H, Sabatier L, Chen J, Hassan A, **Reinhardt DP** "Importance of cellular and plasma fibronectin in maintaining vessel wall integrity and function". American Society for Matrix Biology Biennial Meeting 2016, St. Petersburg, Florida, USA (November 13-16, 2016). (**Refereed presentation**)

Tiedemann K, Muthu LM, **Reinhardt DP**, Komarova SV "Role of fibrillin-1 In bone remodeling". American Society for Matrix Biology Biennial Meeting 2016, St. Petersburg, Florida, USA (November 13-16, 2016). (**Refereed presentation**)

Zeyer K, Zhang R, Kumra H, **Reinhardt DP** "Integrin-mediated microRNA regulation by fibrillin-1 and fibronectin". American Society for Matrix Biology Biennial Meeting 2016, St. Petersburg, Florida, USA (November 13-16, 2016). (**Refereed presentation**)

## RIBEIRO-DA SILVA, A

Vincent K, Cornea V M, Jong Y-J, Laferriere A, Kumar N, Mickeviciute A, Fung S T, Bandegi P, **Ribeiro-da-Silva A**, O'Malley K L, Coderre T J. (2016). Nuclear, not cell surface, receptors are essential to mGlu5's role in neuropathic pain. *Nature Communications*, 7:10604, doi: 10.1038/ncomms10604.

Daou I, Beaudry H, Ase AR, Wieskopf JS, **Ribeiro-da-Silva A**, Mogil JS, Séguéla P (2016) Optogenetic silencing of Nav1.8-positive afferents alleviates inflammatory and neuropathic pain. *eNeuro* 3: 1, 2016, DOI: 10.1523/ENEURO.0140-15.2016.

Bhosle VK, Rivera JC, Zhou TE, Omri S, Sanchez M, Hamel D, Zhu T, Rouget R, Rabea AA, Hou X, Lahaie I, **Ribeiro-da-Silva A**, Chemtob S (2016) Nuclear localization of platelet-activating factor receptor controls retinal neovascularization. *Cell Discovery* 2:16017.

Khoutorsky A, Sorge RE, Prager-Khoutorsky M, Pawlowski SA, Longo G, Jafarnejad SM, Tahmasebi S, Martin L, Pitcher MH, Gkogkas CG, Sharif-Naeini R, **Ribeiro-da-Silva A**, Bourque CW, Cervero F,

Mogil JS, Sonnenberg N (2016) eIF2alpha phosphorylation controls thermal nociception. Proc Natl Acad Sci U S A., 113(42):11949-11954.

Beaudry H, Daou I, **Ribeiro-da-Silva A**, Séguéla P (2016) Optogénétique et douleur chronique : une stratégie applicable chez l'humain? Douleur Analg.29:232-240.

### **Presentations:**

S. Locke, A. Ribeiro-da-Silva. (2016). Plasmin Inhibition: A Novel Treatment for Pain in a Rat Model of Inflammatory Arthritis. Abstracts 16th World Congress of Pain 2016, Yokohama, Japan. Conference Date: 2016/10. Abstract from Poster presentation (refereed)

V. Bourassa, A. Ribeiro-da-Silva. (2016). Characterization of Behavioral and Histopathological Changes in a MIA Model of Osteoarthritis of the Rat Ankle Joint. Abstracts 16th World Congress of Pain 2016, Yokohama, Japan, Conference Date: 2016/10 (abstract from Poster presentation - refereed)

\*L. Lorenzo, A. Godin, D. Boudreau, F. Ferrini, K. Bachand, N. Doyon, A. Ribeiro-da-Silva, Y. De Koninck (2016). An  $\alpha$ 2,3 GABA(A)receptor synaptic switch is associated with the KCC2 deficit in neuropathic pain: therapeutic implications. Abstracts 16th World Congress of Pain 2016, Yokohama, Japan. Conference Date: 2016/10. Abstract from Poster presentation (refereed)

Beaudry H, Daou I, Ribeiro-da-Silva A, Seguela P (2016) Interrogating the role of peripheral opioid receptors using an optogenetic approach. 35th Annual meeting of the American Pain Society, Austin, Texas, May 11-14, 2016. Abstract from Poster presentation (refereed)

Bourassa V, Ribeiro-da-Silva A (2016) Characterization of behavioral and histopathological changes in a MIA model of osteoarthritis of the rat ankle joint. Soc Neurosci Abstr Program item 144.07. Abstract from poster presentation. Conference date: November 12-16, San Diego, California, 2016.

"Studies on Animal Models of Arthritis", Pain Rounds seminar series, Montreal General Hospital, March 23, 2016. **Invited Seminar.**

### **ROUILLER, Isabelle**

Juan Manuel Belardinelli, Amira Yazidi, Liang Yang, Lucien Fabre, Wei Li, Benoit Jacques, Shiva Angala, **Isabelle Rouiller**, Helen Zgurskaya, Jurgen Sygusch, Mary Jackson, Structure-function profile of MmpL3, the essential mycolic acid transporter from Mycobacterium tuberculosis. ACS Infect Dis 2016; 2(10):702-713 (New Journal).

Lucien Fabre, Eugenio Santelli, Driss Mountassif, Annemarie Donoghue, Aviroop Biswas, Rikard Blunck, Dorit Hanein, Niels Volkmann, Robert Liddington, **Isabelle Rouiller**. Structure of anthrax

lethal toxin prepore complex suggests a pathway for efficient cell entry. *J Gen Physiol* 2016; 148 (4): 313-324 (IF: 4.788).

Laleh Alisaraie, Isabelle Rouiller. Molecular assembly of lethal factor enzyme and pre-pore heptameric protective antigen in early stage of translocation. *J Mol Model.* 2016; 22(1):7. (IF: 1.736)  
Lucien Fabre, Huan Bao, Franck Duong, Isabelle Rouiller. Conformational studies of the maltose transporter of *E. coli* upon ATP, MalK and MalE binding. In revision for *J Biol Chem* (IF 4.573).

## Presentations

MSC/SMC 43rd Annual Meeting, Edmonton, University of Alberta, Alberta, Canada. June 2016.

### SMITH, Charles E.

Hu, Y., **SMITH, C.E.**, Richardson, A.S., Bartlett, J.D., Hu, J.C.-C. and Simmer, J.P. (2015) MMP20, KLK4 & MMP20/KLK4 double null mice define roles for matrix proteases during dental enamel formation. *Mol. Genet. Genomic Med.*, Dec 4(2): 178-196. PMID: 27066511 [carry over from last year due to missing PubMed ID number]

Hu, Y., **SMITH, C.E.**, Cai, Z., Donnelly, L.A.-J., Yang, J., Hu, J.C.-C. and Simmer, J.P. (2016) Enamel ribbons, surface nodules, and octacalcium phosphate in C57BL/6 Amelx-/- mice and Amelx+/- lionization. *Mol. Genet. Genomic Med.*, Oct 5 4(6):641-661. PMID: 27896287

Oliveira, R.L., Parent, A., Cyr, D.G., Gregory, M., Mandato, C.A., **SMITH, C.E.** and Hermo, L. (2016) Implications of caveolae in testicular and epididymal myoid cells to sperm motility. *Mol Reprod Dev.*, Jun 83(6):526-40. doi: 10.1002/mrd.22649. PMID: 27088550

Shin, M., Suzuki, M., Guan, X., **SMITH, C.E.** and Bartlett, J.D. (2016) Murine matrix metalloproteinase-20 overexpression stimulates cell invasion into the enamel layer via enhanced Wnt signaling. *Sci Rep.* Jul 11;6:29492. doi: 10.1038/srep29492. PMID: 27403713

**SMITH, C.E.**, Hu, Y., Hu, J.C.-C. and Simmer, J.P. (2016) Ultrastructure of early amelogenesis in wild-type, Amelx-/-, and Enam-/- mice: enamel ribbon initiation on dentin mineral and ribbon orientation by ameloblasts. *Mol. Genet. Genomic Med.*, Oct 16 4(6):662-683. PMID: 27896288

### SOSSIN, Wayne

*Farah CA, Hastings MH, Dunn TW, Gong K, Baker-Andresen D, Sossin WS.* A PKM generated by calpain cleavage of a classical PKC is required for activity-dependent intermediate-term facilitation in the presynaptic sensory neuron of Aplysia. *Learning and Memory.* 2016 Dec 15;24(1):1-13. doi: 10.1101/lm.043745.116.

Farah, CA, Rourke B, Shin, Ferguson, L, Luna M, Sossin WS. Investigating the signalling pathways that regulate activation of the novel protein kinase C © downstream of serotonin in Aplysia. PLOS One. 2016 Dec. 21 11(12) e0168411 doi:10.1371/journal.pone.0168411.

### **Presentations:**

Cold Spring Harbor Meeting on Translational Control,(Cold Spring Harbor) Sept. 3-10 2016 eEF2 phosphorylation is a critical step in decoding neuronal inputs. **(oral presentation; invited from abstracts)**

IBNS meeting (June, 2016, Budapest Hungary) PKM stabilizing proteins in long-term memory. **(Invited symposium speaker)**

CAN meeting (June 2016, Toronto) eEF2 phosphorylation is a critical step in decoding neuronal inputs. **(Invited symposium Speaker)**

Edinburgh University (Dec. 3). Role of stalled polysomes in local translation. **(Invited seminar speaker)**

GRNSC (Universite de Montreal) (research in Progress (Nov. 1). PKMs as memory molecules.

### **VALI, Hojatollah**

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Alidoust L, Soltani N, Modiri S, Haghghi O, Azarivand A, Khajeh K, Shahbani Zahiri H, **Vali H**, Akbari Noghabi K. 2016 Cadmium uptake capacity of an indigenous cyanobacterial strain Nostoc entophytom ISC32 (JN605002): New insight into the metal uptake in microgravity-simulating conditions. Microbiol. 162, 246-255. DOI:10.1099/mic.0.000233.

Bornapour M, Mahjoubi H, **Vali H**, Shum-Tim D, Cerruti M, Pekguleryuz M. 2016 Surface characterization, in vitro and in vivo biocompatibility of Mg-0.3Sr-0.3Ca for temporary cardiovascular implant. Mat Sci Eng C. 67, 72-84. doi:10.1016/j.msec.2016.04.108.

Heris HK, Daoud J, Sheibani S, **Vali H**, Tabrizian M, Mongeau L. 2016 Investigation of the viability, adhesion, and migration of human fibroblasts in a hyaluronic acid/gelatin microgel-reinforced composite hydrogel for vocal fold tissue regeneration. Adv Health Mat. 5, 255-265. DOI:10.1002/adhm.201500370.

Karimi B, Marefat MR, Hasannia M, Akhavan PF, Mansouri F, Artelli Z, Mohammadi, F, **Vali, H.** 2016 Imidazolyl-functionalized ordered mesoporous polymer from nanocasting as an effective support for highly dispersed palladium nanoparticles in the Heck reaction. Chemcatchem. 8, 2508-2515. DOI: 10.1002/cctc.201600630.

Karimi B, Naderi Z, Khoreasani M, Mirzaei HM, **Vali H.** 2016 Ultrasmall platinum nanoparticles supported inside the nanospaces of periodic mesoporous organosilica with an imidazolium network: An efficient catalyst for the aerobic oxidation of unactivated alcohols in water. *Chemcatchem*. 8, 906-910. DOI: 10.1002/cctc.201501229.

Karimi B, Vahdati S, **Vali H.** 2016 Synergistic catalysis within TEMPO-functionalized periodic mesoporous organosilica with bridge imidazolium groups in the aerobic oxidation of alcohols. *RSC Adv.* 6, 63717-63723.

Latifi N, Heris HK, Thomso, SL, Taher R, Kazemirad S, Sheibani S, Li-Jesse, NYK, **Vali H.**, Mongeau L. 2016 A flow perfusion bioreactor system for vocal fold tissue engineering applications. *Tiss Eng Part C - Methods*. 22, 823-838. DOI: 10.1089/ten.tec.2016.0053.

Laurenti M, Al Subaie A, Abdallah MN, Cortes A, Ackerman J, **Vali H.**, Basu Kaustuv, Zhang YL, Murshed M, Strandman S, Zhu JXX, Makhoul N, Barralet J, Tamimi F. 2016 Two-dimensional magnesium phosphate nanosheets form highly thixotropic gels that up-regulate bone formation. *Nano Lett.* DOI: 10.1021/acs.nanolett.6b00636.

Masoumi F, Khadivinia E, Alidoust L, Mansournejad Z, Shahryari S, Safaei M, Mousavi A, Salmanian AH, Shahbani Zahiri H, **Vali H.**, Akbari Noghabi K. 2016 Nickel and lead biosorption by *Curtobacterium* sp. FM01, an indigenous bacterium isolated from farmland soils of northeast Iran. *J Environ Chem Eng.* 4, 950-957. <http://dx.doi.org/10.1016/j.jece.2015.12.025>.

## VENTURA, Nicole

### **Presentations:**

Murphy-Buske A., Alfaro P., Larouche S., Merati N., Noël GPJC., **Ventura NM.**, Assessment of interprofessional stereotypes following a near-peer teaching experience in the anatomy lab. Regional meeting American Association of Anatomists, New York, NY, USA., (Novemebr 5th, 2016) Student awarded with top poster presentation award for the graduate/professional student category.

## WALKER, Dominique

Gjerde E., Long H, Richard D, **Walker CD** 2016 Developmental responses of the lateral hypothalamus to leptin in neonatal rats, and its implications for the development of functional connections with the ventral tegmental area. *J Neuroendocrinol.* 2016 Mar;28(3):12354

McLaughlin R., Verlezza S, Gray M, Hill MN, **Walker CD.** 2016 Inhibition of anandamide hydrolysis dampens the neuroendocrine response to stress in neonatal rats subjected to suboptimal rearing conditions. *Stress.* 2016 Jan;19(1):114-24.

**Presentations:**

Guadagno A, Verlezza S, Long H, Wong TP, Walker CD. The Effects of Chronic Early-Life Stress on Amygdala Morphology and Function in Neonatal Rats. Abstract, Neurobiology of Stress Workshop, Irvine Apr 12-15 2016.

Opala EA, Liu D, Long H, Walker CD.. Stress response and structural plasticity in the mPFC of lactating rats. Abstract, Neurobiology of Stress Workshop, Irvine April 12-15 2016