

2017 Biomedical Engineering Publications, Conferences and Book Chapters

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CHANG, Thomas M. S.

Chang, T.M., (2017): Translational feasibility of soluble nanobiotherapeutics with enhanced red blood cell functions. *Artif Cells Nanomed Biotechnol*, 45(4):671-676.
doi: [10.1080/21691401.2017.1293676](https://doi.org/10.1080/21691401.2017.1293676)

Book Chapters

Chang, T. M. S., Endo, Y., Nikolaev, V. G., Tani, T., Yu, Y., Zheng, W.H., Hemoperfusion and Plasma-perfusion and other Clinical Uses of General, Biospecific, immune and leucocyte Adsorbents. *Regenerative Medicine, Artificial Cells and Nanomedicine – Vol. 4.* World Scientific Publisher/Imperial College Press, 2017

Chang, T.M.S., Preface - *Advances in Nanomedicine for the Delivery of Therapeutic Nucleic Acids* by Nimesh S., Chandra R., Gupta N. Woodhead Publishing, 2017

COLLINS, D. Louis

Albaugh, M.D., Nguyen, T.V., Ducharme, S., **Collins, D.L.**, Botteron, K.N., D'Alberto, N., Evans, A.C., Karama, S., Hudziak, J.J. and Brain Development Cooperative Group (2017): Age-related volumetric change of limbic structures and subclinical anxious/depressed symptomatology in typically developing children and adolescents. *Biological Psychology*, 124:133-140.
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doi: [10.1212/WNL.0000000000003884](https://doi.org/10.1212/WNL.0000000000003884)

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- Zeighami Y., Fereshtehnejad S.M., Dadar M., **Collins D.L.**, Postuma R.B., Mišić B., Dagher A., (2017): A clinical-anatomical signature of Parkinson's disease identified with partial least squares and magnetic resonance imaging. *Neuroimage*, pii: S1053-8119(17)31074-1. doi: [10.1016/j.neuroimage.2017.12.050](https://doi.org/10.1016/j.neuroimage.2017.12.050)

Patents

Currently under revision.

US Provisional Patent application: *Simultaneous segmentation and grading of structures for state determination*, **D. L. Collins** & Pierrick Coupé, Filed: September 16, 2011. (US 61/535,720 / P1310USPR)

Canadian Patent application: *Simultaneous segmentation and grading of structures for state determination*, **D. L. Collins** & Pierrick Coupé, Filed: September 16, 2011.

FUNNELL, W. Robert J.

- Motallebzadeh H., Maftoon N., Pitaro J., **Funnell W.R.J.** & Daniel S.J. (2017): Fluid-structure finite-element modelling and clinical measurement of the wideband acoustic input admittance of the newborn ear canal and middle ear. *JARO*, 18(5): 671-686. doi: [10.1007/s10162-017-0630-z](https://doi.org/10.1007/s10162-017-0630-z)
- Alrasheed A., Nguyen L.H.P., Mongeau L., **Funnell W.R.J.** & Tewfik M.A. (2017): Development and validation of a 3D-printed model of the ostiomeatal complex and frontal sinus for endoscopic sinus surgery training. *Int Forum Allergy Rhinol*, 7(8): 837-841. doi: [10.1002/alr.21960](https://doi.org/10.1002/alr.21960)
- Motallebzadeh H., Maftoon N., Pitaro J., **Funnell W.R.J.** & Daniel S.J. (2017): Finite-element modelling of the acoustic input admittance of the newborn ear canal and middle ear. *JARO*, 18(1): 25-48. doi: [10.1007/s10162-017-0630-z](https://doi.org/10.1007/s10162-017-0630-z)

Presentations/Conferences

Ding W., **Funnell W.R.J.**, Steinmetz P. & Noël G.: 3D printing heart models to facilitate cardiac ultrasound teaching. *World Cong. Ultrasound Med. Ed.* Montréal, Canada, October 12-15, 2017

Soleimani M., **Funnell W.R.J.** & Decraemer W.F.: A new finite-element model of the incudostapedial joint. *Mechanics of Hearing*. St. Catharines, Canada, June 19-26, 2017

Soleimani M., **Funnell W.R.J.** & Decraemer W.F.: Mechanical instabilities of the incudostapedial joint. *40th MidWinter Mtg., Assoc. Res. Otolaryngol.*, Baltimore, USA, February 11-15, 2017

Wang X., MacDougall D., Farrell J., **Funnell W.R.J.**, Adamson R., Bance M.: Finite-element modelling of the human eardrum based on X-ray micro computed tomography and Doppler optical coherence tomography in the same ear. *40th MidWinter Mtg., Assoc. Res. Otolaryngol.* Baltimore, USA, February 11-15, 2017

Choukir S. & **Funnell W.R.J.**: Finite-element modelling of tympanic-membrane vibrations under pressurization. *40th MidWinter Mtg., Assoc. Res. Otolaryngol.* Baltimore, USA, February 11-15, 2017

Kose O., **Funnell W.R.J.** & Daniel S.J.: In vivo experimental study of gerbil eardrum vibrations under static pressures. *40th MidWinter Mtg., Assoc. Res. Otolaryngol.* Baltimore, USA, February 11-15, 2017

HAIDAR, Ahmad

Taleb, N., **Haidar, A.**, Messier, V., Gingras, V., Legault, L., & Rabasa-Lhoret, R., (2017): Glucagon in artificial pancreas systems: potential benefits and safety profile of future chronic use. *Diabetes, Obesity and Metabolism*, 19(1): 13-23. doi: [10.1111/dom.12789](https://doi.org/10.1111/dom.12789)

Haidar, A., Messier, V., Legault, L., Ladouceur, M., & Rabasa-Lhoret, R., (2017): Outpatient 60-hour day-and-night glucose control with dual-hormone artificial pancreas, single-hormone artificial pancreas, or sensor-augmented pump therapy in adults with type 1 diabetes: An open-label, randomised, crossover, controlled trial. *Diabetes, Obesity and Metabolism*, 19(5): 713-720. doi: [10.1111/dom.12880](https://doi.org/10.1111/dom.12880)

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Gingras, V., Desjardins, K., Smaoui, M. R., Savard, V., Messier, V., **Haidar, A.**, Legault L., & Rabasa-Lhoret, R., (2017): Treatment of mild-to-moderate hypoglycemia in patients with type 1 diabetes treated with insulin pump therapy: are current recommendations effective? *Acta diabetologica*, 1-5. doi: [10.1007/s00592-017-1085-8](https://doi.org/10.1007/s00592-017-1085-8)

Maghoul, P., Boulet, B., Tardif, A., & **Haidar, A.** (2017): Computer Simulation Model to Train Medical Personnel on Glucose Clamp Procedures. *Canadian journal of diabetes*, 41(5), 485-490. doi: [10.1016/j.jcjd.2017.08.004](https://doi.org/10.1016/j.jcjd.2017.08.004)

Presentations/Conferences

Haidar A.: Advancements in the Artificial Pancreas – A Canadian Perspective. *2017 Paediatric Diabetes Network Professional Development Event*, Toronto, Ontario, Mar 3, 2017 (Keynote Speaker).

Haidar A.: Automated glycemic regulation with a dual-hormone (insulin and glucagon) artificial pancreas: The Montreal approach. *10th International Conference on Advanced Technologies & Treatments for Diabetes*, Paris, France, February 15-18, 2017 (Invited Speaker).

JUNCKER, David

- Li H., Bergeron S., Larkin H., Juncker D., (2017): Snap Chip for Cross-reactivity-free and Spotter-free Multiplexed Sandwich Immunoassays. *Journal of Visualized Experimentation*, 129. doi: [10.3791/56230](https://doi.org/10.3791/56230)
- Nisol B., Watson S., Meunier A., **Juncker D.**, Lerouge S., Wertheimer M.R., (2017): Energetics of Reactions in a Dielectric Barrier Discharge with Argon Carrier Gas: VI PEG-like coatings. *Plasma Processes and Polymers*. doi: <https://doi.org/10.1002/ppap.201600191>
- Li H., Brewer G., Ongo G., Normandeau F., Omeroglu A., Juncker D., (2017): Immunohistochemistry microarrays. *Analytical Chemistry*, 89(17):8620-8625. doi: [10.1021/acs.analchem.7b00807](https://doi.org/10.1021/acs.analchem.7b00807)
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- Olanrewaju A., Ng A., Robillard A., DeCorwin-Martin P., and **Juncker D.**, (2017): Microfluidic Capillary Circuit for Rapid and Facile Bacteria Detection. *Analytical Chemistry*, 89(12):6846-6853. doi: [10.1021/acs.analchem.7b01315](https://doi.org/10.1021/acs.analchem.7b01315)
- Hernández-Castro J.A., Li K., Meunier A., **Juncker D.** and Veres T., (2017): Fabrication of large-area polymer microfilter membranes and their application for particle and cell enrichment. *Lab on a Chip*, 17(11):1960-1969. doi: [10.1039/c6lc01525e](https://doi.org/10.1039/c6lc01525e)
- Li H., Popp R., Chen M., MacNamara E.M., **Juncker D.**, and Borchers C.H., (2017): Bead-Extractor Assisted Ready-to-use reagent System (BEARS) for immunoprecipitation coupled to MALDI-MS. *Analytical Chemistry*, 89(7):3834-3839. doi: [10.1021/acs.analchem.6b04169](https://doi.org/10.1021/acs.analchem.6b04169)

Presentations/Conferences

- Tavakoli A., Xing L., Ward B., and **Juncker D.**: 3D-Printed Capillary Circuits to Quantify Antibody Concentration from Human Serum (oral presentation). Proceedings of *Nanobiotech-Montreux*, Montreux, Switzerland, November 13-15, 2017.
- Zimny P., Reisner W., and **Juncker D.**: Droplet microfluidics for compartmentalized cell lysis and extension of DNA from single cells. Proceedings of *The 21st International Conference on Miniaturized Systems for Chemistry and Life Sciences (μ TAS)*, Savannah, Georgia, USA, October 22-26, 2017.
- Olanrewaju A., Yafia M., Beaugrand M., Possel F., and **Juncker D.**: Domino capillary circuits: 3D-printed capillary microfluidics for scalable, sequential, and simultaneous liquid delivery (oral presentation). Proceedings of *The 21st International Conference on Miniaturized Systems for Chemistry and Life Sciences (μ TAS)*, Savannah, Georgia, USA, October 22-26, 2017.
- Xiao S., Westfall S., Ng A., Prakash S., and **Juncker D.**: Gastrointestinal Tract In-a-Box. Proceedings of *The 21st International Conference on Miniaturized Systems for Chemistry and Life Sciences (μ TAS)*, Savannah, Georgia, USA, October 22-26, 2017.
- Meunier A., Kheireddine S., Alejandro Hernández-Castro J., Veres T., and **Juncker D.**: Size-based enrichment and sorting of OV-90 cells & clusters with a new multistage filtration cartridge reveals distinct phenotypes. Proceeding of *American Association for Cancer Research Annual Meeting*, Washington, DC, USA, April 1-5, 2017

Juncker D.: May the capillary force be with you: Empowering bioassays, tissue engineering, and diagnostic tests. *Nanobiotech-Montreux*, Montreux, Switzerland, November 13-15, 2017 (keynote speaker).

Juncker D.: Cell microarrays tissue constructs, and artificial gastrointestinal tract in a box. *V ISNS Nanomedicine Conference*, Montreal, Canada, November 13-15, 2017 (invited speaker).

Juncker D.: Isolation and manipulation of cells and bacteria with microfluidics. *MARSS, the annual International Conference on Manipulation, Automation and Robotics at Small Scales*, Montréal, Canada July 17-21, 2017 (invited speaker).

Juncker D.: New technologies for protein and aptamer analysis. *8th Alpbach Workshop on Affinity Proteomics*, Alpbach, Austria, March 13-15 2017 (invited speaker).

Juncker D.: Microfluidics and microarrays for quantifying protein, bacteria and circulating cancer cells and for cell co-culture microarrays. Georgia Tech, Department of Biomedical Engineering, October 27, 2017.

Juncker D.: Microtechnologies and nanotechnologies for bioanalysis and cell navigation studies. CINVESTAV, Monterrey, Mexico, February 27, 2017

Juncker D.: Microtechnologies microfluidics and 3D printing for aptamer, protein, and bacterial analysis. Concordia University, Biology Department Seminar, February 10, 2017

Juncker D.: Micro and Nanobioengineering - enabling technologies for cancer research and translation. Goodman Cancer Research Centre, Annual Retreat, November 20, 2017

Juncker D.: Microfluidics and nanotechnologies for empowering cancer research: From circulating biomarkers to co-culture microarrays. Goodman Cancer Research Centre, Spotlight Talk, November 3, 2017

Book Chapters

Laforte V., Lo P.S., Li H., and **Juncker D.**, Antibody Colocalization Microarray for Cross-Reactivity-Free Multiplexed Protein Analysis. *Methods in Molecular Biology* Vol. 1619, edited by D.W. Greening and R. Simpson. Humana Press, USA, July 4, 2017

KEARNEY, Robert E

Jalaleddin K., Tehrani E.S., **Kearney R.E.** (2017): A Subspace Approach to the Structural Decomposition and Identification of Ankle Joint Dynamic Stiffness. *IEEE Trans Biomed Eng*, 64:1357-1368. doi: [10.1109/TBME.2016.2604293](https://doi.org/10.1109/TBME.2016.2604293)

Guarin D.L., **Kearney R.E.** (2017): Identification of a Time-Varying, Box-Jenkins Model of Intrinsic Joint Compliance. *IEEE Trans Neural Syst Rehabil Eng*, 25: 1211-1220. doi: [10.1109/TNSRE.2016.2619162](https://doi.org/10.1109/TNSRE.2016.2619162)

Jalaleddini K., Golkar M.A., **Kearney R.E.** (2017): Measurement of Dynamic Joint Stiffness from Multiple Short Data Segments. *IEEE Trans Neural Syst Rehabil Eng*, 25: 925-934. doi: [10.1109/TNSRE.2017.2659749](https://doi.org/10.1109/TNSRE.2017.2659749)

- Vadnerkar A., Figueiredo S., Mayo N., **Kearney R.E.** (2017): Design and Validation of a Biofeedback Device to Improve Heel-to-toe Gait in Seniors. *IEEE J Biomed Health*, 22(1):140-146. doi: [10.1109/JBHI.2017.2665519](https://doi.org/10.1109/JBHI.2017.2665519)
- Tehrani, E. S., Jalaledini K. and **Kearney R. E.** (2017): Ankle Joint Intrinsic Dynamics is more Complex than a Mass-Spring-Damper Model. *IEEE Transactions on Neural Systems & Rehabilitation Engineering*, 25(9):1568-1580. doi: [10.1109/TNSRE.2017.2679722](https://doi.org/10.1109/TNSRE.2017.2679722)
- Golkar, M.A., Sobhani Tehrani E., and **Kearney R.E.** (2017): Linear Parameter Varying Identification of Dynamic Joint Stiffness during Time-Varying Voluntary Contractions. *Frontiers in Computational Neuroscience*, 11: 35. doi: [10.3389/fncom.2017.00035](https://doi.org/10.3389/fncom.2017.00035)
- Guarin D.L., **Kearney R.E.** (2017): Estimation of Time-Varying, Intrinsic and Reflex Dynamic Joint Stiffness during Movement. Application to the Ankl Joint. *Front Comput Neurosci*, 11: 51. doi: [10.3389/fncom.2017.00051](https://doi.org/10.3389/fncom.2017.00051)
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