

2020 Biomedical Engineering Publications, Conferences and Book Chapters

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Presentation/Conferences

- Bzdok D**, “Big data and machine learning: Hopes or hypes?” *33rd European College of Neuropsychopharmacology (ECNP) congress, Opening Talk and Panel Chair*, virtual, September 12-15, 2020. (Invited speaker)
- Bzdok D**, “An intuitions-first primer: Bayesian analytics in neuroscience”, *Virtual Journal Club Seminar*, organized by neuroscientists from McGill University, University of Toronto, and Karolinska Institute, August 2020.
- Bzdok D**, “Linear vs. non-linear models: simplicity, interpretability, tradeoffs”, *Inaugural Seminar, Cognitive Neuroscience Network lecture series*, McGill University, Montreal, Canada, June 2020.
- Bzdok D**, “Machine learning versus statistics in brain parcellation”, *Seminar, Proceedings of the 26th Annual Meeting of the Organization for Human Brain Mapping (HBM'20)*, Montreal, Canada, June 2020.
- Bzdok D**, “How is machine learning different from classical statistics?”, *symposium on Tracing brain and behavioral changes across the life span*, Hvidovre Hospital, Faculty of Health and Medical Sciences, University of Copenhagen, Denmark, January 2020. (Invited speaker)
- Bzdok D**, “Machine Learning and Its Applications in Basic Science and Clinical Research”, *Mass Eye and Ear Machine-Learning Symposium*, Harvard Medical School, USA, December 2020. (Keynote speaker)
- Bzdok D**, “Perceived Social Isolation and Its Impact on the Human Brain”, *Institute-wide Talk*, Istituto Italiano di Tecnologia, Italy, November 2020. (Invited speaker)
- Bzdok D**, “Thoughts on the inference-prediction dilemma in big biomedical data”, *Seminar*, Peter Munk Cardiac Centre at the University Health Network, University of Toronto, December 2020.
- Bzdok D**, “Markov Decision Processes and the higher association cortex”, *Transcontinental Computational Psychiatry Workgroup* organized by Martin Paulus and Quentin Huys, September 2020.
- Bzdok D**, “Machine learning approaches to tackle big biomedical data”, *Neurology Grand Rounds Lecture Series*, Montreal Neurological Institute, McGill University, Montreal, Canada, September 2020.
- Bzdok D**, “Perceived social isolation and its impact on the human brain”, *Brainy Boomers Lecture Series*, McGill University Research Centre for Studies in Aging, Montreal, Canada, September 2020.
- Bzdok D**, “Algorithmic Analytics towards Precision Psychiatry”, *29th Annual Computational Neuroscience Meeting CNS*2020, & workshop on Machine learning and mechanistic modeling for understanding brain in health and disease*, USA, Canada, July 2020.

- Bzdok D**, “Perceived Social Isolation and Its Impact on the Human Social Brain, Brain-to-Society Decision and Behavior”, *Seminar*, McGill Centre for the Convergence of Health and Economics, McGill University, Montreal, Canada, June 2020.
- Bzdok D**, “Algorithmic Analytics towards Precision Psychiatry”, *Google Montreal*, Montreal, Canada, April 2020.
- Bzdok D**, “Data science in neuroscience: Extending what we can learn about the brain?”, *Seminar*, University Health Network, University of Toronto, Canada, February 2020.
- Bzdok D**, “Algorithmic Analytics towards Precision Psychiatry”, *Institute for Pure and Applied Mathematics (IPAM)*, University of Los Angeles (UCLA), CA, USA, February 2020.
- Bzdok D**, “Aligning biostatistical and neuroscientific reasoning in the strong-data regime”, *Seminar*, Mathematical Institute for Data Science (MINDS), John Hopkins University, Baltimore, MD, USA, February 2020.
- Bzdok D**, “Contributions to the Prediction Odyssey in Imaging Neuroscience”, *MR Center Seminar Series*, Faculty of Medicine, Yale University, New Haven, USA, January 2020.

COLLINS, D. Louis

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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.

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Soleimani M, Funnell WRJ & Decraemer WF, "A non-linear viscoelastic model of the incudostapedial joint", *JARO.* 2020; 21: 21-32. doi: [10.1007/s10162-019-00736-0](https://doi.org/10.1007/s10162-019-00736-0)

Bagatto M, Moodie S, Fitzpatrick E, Kealey C, Campbell B, Aiken S & Canadian Infant Hearing Task Force, "Status of early hearing detection and intervention programs in Canada: Results from a country-wide survey", *Can J Speech-Lang Path Audiol.* 2020; 44(3): 107-124

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Kose O, Funnell WRJ & Daniel SJ, "Vibration measurements of the gerbil middle ear under pressure sweeps", *43rd MidWinter Mtg., Assoc. Res. Otolaryngol.*, San Diego, USA, January 25-29, 2020 (Oral presentation)

Golabbakhsh M, Wang X, MacDougall D, Farrell J, Landry T, Funnell WRJ & Adamson R, "Finite-element modelling based on optical coherence tomography and X-ray microCT data for two human middle ears", *43rd MidWinter Mtg., Assoc. Res. Otolaryngol.*, San Diego, USA, January 25-29, 2020 (Poster presentation)

Haidar, Ahmad

Haidar, A., Legault, L., Raffray, M., Gouchie-Provencher, N., Jacobs, P.G., El-Fathi, A., Rutkowski, J., Messier, V. and Rabasa-Lhoret, R., "Comparison between closed-loop insulin delivery system (the artificial pancreas) and sensor-augmented pump therapy: a randomised controlled crossover trial", *Diabetes Technology & Therapeutics.* 2020; 23(3):168-174. doi: [10.1089/dia.2020.0365](https://doi.org/10.1089/dia.2020.0365)

Tsoukas, M., Rutkowski, J., El-Fathi, A., Yale, J.F., Bernier-Twardy, S., Bossy, A., Pytka, E., Legault, L. and Haidar, A., "Accuracy of FreeStyle Libre in adults with type 1 diabetes: the effect of sensor age", *Diabetes Technology & Therapeutics.* 2020; 22(3): 203-7. doi: [10.1089/dia.2019.0262](https://doi.org/10.1089/dia.2019.0262)

Singh AK, Rebec MV, Haidar A, "Kalman-Based Calibration Algorithm for AgaMatrix Continuous Glucose Monitoring System", *IEEE Transactions on Control Systems Technology.* 2020; (99):1-11. doi: [10.1109/TCST.2020.3003450](https://doi.org/10.1109/TCST.2020.3003450)

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- Ostrovski, I., Lovblom, L.E., Scarr, D., Weisman, A., Cardinez, N., Orszag, A., Falappa, C.M., D'Aoust, É., **Haidar, A.**, Rabasa-Lhoret, R., Legault, L., Perkins, P., “Analysis of prevalence, magnitude and timing of the dawn phenomenon in adults and adolescents with type 1 diabetes: Descriptive analysis of 2 insulin pump trials”. *Canadian journal of diabetes*. 2020; 44(3): 229-35. doi: [10.1016/j.cjcd.2019.08.003](https://doi.org/10.1016/j.cjcd.2019.08.003)
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- Tsoukas M, Majdpour D, Rutkowski J, El Fathi A, Yale J-F, Garfield N, Legault L, **Haidar A**, “Novel fully automated flasp-plus-pramlintide artificial pancreas for type 1 diabetes: randomized controlled trial”, *56th Annual Meeting European Association for the Study of Diabetes*, Virtual, September 21-25, 2020 (Oral presentation)
- Palisaitis E, El Fathi A, von Oettingen JE, **Haidar A**, Legault L, “A Meal Detection Algorithm for the Artificial Pancreas: A Randomized Controlled Clinical Trial in Adolescents With Type 1 Diabetes”, *2020 Diabetes Canada/ CSEM Professional Conference*, Virtual, October 28-30, 2020 (Oral presentation)
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Algorithm”, 5th annual MeDic Research Day, McGill University, Virtual, November 6, 2020
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Patents

Haidar A. “Closed loop control of physiological glucose”. US Patent App. 16/608,054, 2020
Singh AK., Rebec MV., **Haidar A.** “Sensor signal processing with kalman-based calibration”. US
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