

## Conference Abstracts, Workshop Lectures, and Posters (by invitation or with refereed abstract)

[W35] K. Zukotynski, V. Gaudet, P. Kuo, S. Adamo, M. Goubran, C. Scott, C. Bocti, M. Borrie, H. Chertkow, R. Frayne, R. Hsiung, R. Jr. Laforce, M.D. Noseworthy, F.S. Prato, J.D. Sahlas, E.E. Smith, V. Sossi, A. Thiel, J.-P. Soucy, J.-C. Tardif, S.E. Black, “The use of random forests to identify brain regions on amyloid and FDG PET associated with MoCA score,” *Annual Meeting of the American College of Nuclear Medicine*, Tampa, FL, Jan. 2020. Recipient of the **Best Abstract Award**.

[W34] K. Zukotynski, V. Gaudet, P. Kuo, S. Adamo, M. Goubran, C. Scott, C. Bocti, M. Borrie, H. Chertkow, R. Frayne, R. Hsiung, R. Jr. Laforce, M.D. Noseworthy, F.S. Prato, J.D. Sahlas, E.E. Smith, V. Sossi, A. Thiel, J.-P. Soucy, J.-C. Tardif, S.E. Black, “Associations of Amyloid Deposition and FDG Uptake in Aging and Cognitively Impaired Elders With and Without Moderate to Severe Periventricular White Matter Hyperintensities,” *Human Amyloid Imaging Conference*, Miami, FL, Jan. 2020.

[W33] M. Yang and V. Gaudet, “Hardware Acceleration of Convolutional Neural Networks Using Intra-Kernel Regular Pruning,” *Int. Workshop on Post-Binary ULSI Systems*, Fredericton, NB, May 2019.

[W32] V. Gaudet and K. Zukotynski, “Machine Learning and Medical Imaging: What Can the ULSI Community Contribute?” *Int. Workshop on Post-Binary ULSI Systems*, Fredericton, NB, May 2019.

[W31] K. Zukotynski, V. Gaudet, P. Kuo, S. Adamo, M. Goubran, C. Scott, and S.E. Black, “Random Forests to Stratify Amyloid Brain PET in Patients with Mild Cognitive Impairment,” *Rotman Research Institute Conference: Aging & Brain Health*, Toronto, ON, Mar. 2019.

[W30] K. Zukotynski, V. Gaudet, P. Kuo, S. Adamo, M. Goubran, C. Scott, C. Bocti, M. Borrie, H. Chertkow, R. Frayne, R. Hsiung, R. Jr. Laforce, M.D. Noseworthy, F.S. Prato, J.D. Sahlas, E.E. Smith, V. Sossi, A. Thiel, J.-P. Soucy, J.-C. Tardif, S.E. Black, “Random Forests of Amyloid PET May Pinpoint Key Brain Regions Predictive of MoCA Score,” *Human Amyloid Imaging Conference*, Miami, FL, Jan. 2019.

[W29] K. Zukotynski, V. Gaudet, P. Kuo, S. Adamo, M. Goubran, C. Scott, C. Bocti, M. Borrie, H. Chertkow, R. Frayne, R. Hsiung, R. Jr. Laforce, M.D. Noseworthy, F.S. Prato, J.D. Sahlas, E.E. Smith, V. Sossi, A. Thiel, J.-P. Soucy, J.-C. Tardif, S.E. Black, “The use of random forests to stratify amyloid brain PET,” *Annual Meeting of the American College of Nuclear Medicine*, Palm Springs, CA, Jan. 2019.

[W28] K.A. Zukotynski, S.E. Black, P. Kuo, S. Adamo, M. Goubran, C. Bocti, M. Borrie, H. Chertkow, R. Frayne, R. Hsiung, R. Laforce Jr., M.D. Noseworthy, F.S. Prato, J.D. Sahlas, C. Scott, E.E. Smith, V. Sossi, A. Thiel, J.P. Soucy, and V.C. Gaudet, “Exploratory assessment of k-means clustering of amyloid brain PET,” *Eastern Great Lakes Society of Nuclear Medicine and Molecular Imaging Annual Meeting*, Buffalo, NY, Sept. 2018.

[W27] V. Gaudet, "Machine Learning and PET: A Great Combination?" *CAT 7: PET/CT and PET/MR for Adults and Children: Fundamental and Evolving Practices, Society of Nuclear Medicine and Molecular Imaging (SNMMI) Annual Meeting*, Philadelphia, PA, June 2018 (invited).

[W26] V. Gaudet, K. Zukotynski, and K.C. Smith, "Machine Learning in Medical Imaging: Pitfalls and Opportunities," *Int. Workshop on Post-Binary ULSI Systems*, Linz, Austria, May 2018.

[W25] V. Gaudet and K. Zukotynski, "Post-Binary Signal Processing for Dementia Imaging," *Int. Workshop on Post-Binary ULSI Systems*, Novi Sad, Serbia, May 2017.

[W24] V. Gaudet and K. Zukotynski, "The Coming of Age of Stochastic Computing: What Works, What Doesn't and What Just Might," *Int. Workshop on Post-Binary ULSI Systems*, Sapporo, Japan, May 2016.

[W23] V. Gaudet, "A Survey of Recent Results in Stochastic Computation," invited lecture at the 2015 *Int. Workshop on Emerging Technologies of Microelectronics and their Application to IoT Paradigm*, Honolulu, HI, Dec. 2015.

[W22] V. Gaudet and K. Zukotynski, "Opportunities for Advanced Signal Processing Techniques in Medical Diagnostics," *Int. Workshop on Post-Binary ULSI Systems*, Waterloo, ON, May 2015.

[W21] V. Gaudet, "Opportunities and Design Environments for Neural Recording Circuitry," *1<sup>st</sup> CIES Technology Forum*, Tokyo, Japan, Mar. 2015.

[W20] V. Gaudet, B. Crowley, and R. Dodd, "Implementation Issues in Low-Power Implantable Biomedical Electronics," *Int. Workshop on Low-Power LSI Technologies and their Application to Mobile Systems*, T. Hanyu and F. Adachi, organizers, Sendai, Japan, Mar. 2013.

[W19] V. Gaudet, "A Tutorial on Low-Power Design Techniques for State-of-the-Art CMOS Technologies," invited lecture, *10<sup>th</sup> Int. Workshop on Boolean Problems*, B. Steinbach, organizer, Freiberg, Germany, 16-page manuscript, Sept. 2012.

[W18] B. Crowley, V. Gaudet, and V. Mushahwar, "Integration Issues in Medical Implants: Electrical Recording vs. Image Sensing," *Int. Workshop on Post-Binary ULSI Systems*, Victoria, BC, May 2012.

[W17] V. Gaudet, "Low-Power and High-Speed Approaches to LDPC and Turbo Decoding," invited talk, *Global COE Workshop on Low-Power LSI Technologies and their Application to Mobile Systems*, T. Hanyu and F. Adachi, organizers, Sendai, Japan, Feb. 2012.

[W16] V. Gaudet, R. Dodd, and C. Schlegel, "FPGA and ASIC Architectures for Iterative Cancellation over Interference Channels," invited presentation, *CMOS Emerging Technologies Workshop*, K. Iniewski and S. Bates, organizers, Whistler, BC, June 2011.

- [W15] R. Dodd and V. Gaudet, "Towards Implementation of Stochastic Interference Cancellation," *Int. Workshop on Post-Binary ULSI Systems*, Tuusula, Finland, May 2011.
- [W14] M. Zargham, V. Gaudet, and C. Schlegel, "Scaling Analog Decoders to 65-nm CMOS Technologies," lecture presentation, *Analog Decoding Workshop*, Logan, Utah, July 2008.
- [W13] V. Gaudet, "Energy-Efficient LDPC Decoding: Code Design and Algorithms," invited speaker, *Workshop on Emerging VLSI for Sensing/Computing/Communication and its Applications*, Maui, HI, Feb. 2008.
- [W12] V. Gaudet, "Energy Efficient Decoding Using Analog VLSI Techniques," invited lecture, *Canadian Mathematical Society Winter 2007 Meeting*, Dec. 2007.
- [W11] V. Gaudet, "Energy-Efficient Decoding Algorithms," invited lecture, *Conference on Error-Correcting Codes, Cryptography and Finite Geometries*, Fields Institute, Toronto, ON, Dec. 2007.
- [W10] V. Gaudet, "Energy Efficient Circuits for LDPC Decoding," invited presentation, *CMOS Emerging Technologies Workshop*, K. Iniewski and S. Bates, organizers, Whistler, BC, July 2007.
- [W9] V. Gaudet and W. Gross, "On Density Evolution and Dynamic Power Estimation in Stochastic Iterative Decoders," lecture and paper, *Analog Decoding Workshop*, 4 pp., Torino, Italy, June 2006.
- [W8] N. Nguyen, C. Winstead, C. Schlegel, and V. Gaudet, "Sub-1V 0.18-um CMOS Analog Iterative Decoders for the (8,4) Hamming Code," lecture, *Analog Decoding Workshop*, Rennes, France, June 2005.
- [W7] V. Gaudet, "Analog Decoding of Capacity-Approaching Error Control Codes: State of the Art and Future Challenges," *2<sup>nd</sup> Student-Organizing International Mini-Conference on Information Electronics Systems*, Sendai, Japan, 4 pages, Oct. 2004.
- [W6] V. Gaudet, "The Impact of Turbo Codes on Next Generation Digital Communication Standards," Speaker, *Banff Workshop on Computational Intelligence for Systems Testing*, Banff, AB, July 2004.
- [W5] V. Gaudet, "Successes and Challenges of Analog Decoding," lecture, *Analog Decoding Workshop*, Banff, Alberta, June 2004.
- [W4] H. Bai, V. Gaudet, and S. Dick, "Bit Serial Encodings and Implementations of Fuzzy Inference Engines," *Int. Workshop on Post-Binary ULSI Systems*, invited paper, Toronto, ON, 2 pages, May 2004.
- [W3] V. Gaudet, A. Rapley, C. Winstead, and C. Schlegel, "Stochastic Iterative Decoding on Factor Graphs," lecture presentation at the *Analog Decoding Workshop*, Zurich, Switzerland, Sept. 2003.

[W2] V. Gaudet, "Les communications numériques sans-fil: quoi, pour qui, et comment?," *Journées de l'ACFAS*, Edmonton, Alberta, March 2003.

[W1] V. Gaudet, "Towards 1Gbps: Analog Iterative Decoding," invited lecture, *Analog Decoding Workshop*, Munich, Germany, June 2002.