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| **Roman Genov** |
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| The Edward S. Rogers Sr.Department of Electrical and Computer Engineering10 King's College RoadToronto, Ontario M5S 3G4 Canada | *URL*: http://www.eecg.utoronto.ca/~roman*Email*: roman@eecg.utoronto.ca*Phone*: (416) 946-8666*Fax*: (416) 971-2286 |
| RESEARCH INTERESTS  |
|  | Analog integrated circuits and systems for energy-constrained biological, medical, and consumer sensory applications, such as implantable, wearable or disposable sensory microsystems, energy-efficient sensory signal processors and wireless sensors, including brain-chip interfaces, neuro-stimulators, image sensors, optical and electro-chemical DNA microarrays, and other biosensors. |
| EDUCATION  |
|  | **The Johns Hopkins University**, Ph.D., Electrical and Computer Engineering,Baltimore, MD, 8/2002.Dissertation: Massively Parallel Mixed-Signal VLSI Kernel Machines.Advisor: Gert Cauwenberghs**Massachusetts Institute of Technology**, Visiting Student, Cambridge, MA, 1/1999-8/1999.Artificial Intelligence Lab / Center for Biological and Computational Leaning. **The Johns Hopkins University**, M.S.E., Electrical and Computer Engineering, Baltimore, MD, 1998.**Rochester Institute of Technology**, B.S., Electrical Engineering, Rochester,NY, 1996. |
| ACADEMIC AND INDUSTRIAL POSITIONS  |
|  | **University of Toronto,** Toronto, ON, 7/2014-Present.*Professor*, Department of Electrical and Computer Engineering. Electronics Group and Biomedical Engineering Group.**University of Toronto,** Toronto, ON, 7/2008-6/2014.*Associate Professor*, Department of Electrical and Computer Engineering. Electronics Group and Biomedical Engineering Group.**University of Toronto,** Toronto, ON, 9/2002-6/2008.*Assistant Professor*, Department of Electrical and Computer Engineering. Electronics Group and Biomedical Engineering Group.**The Johns Hopkins University**, Baltimore, MD, 9/96-8/2002.*Research Assistant*, Department of Electrical and Computer Engineering.Adaptive Microsystems Laboratory. **Swiss Federal Institute of Technology (EPFL)**, Lausanne, Switzerland, 6/1998-7/1998.*Visiting Researcher*, Autonomous Systems Lab. **Xerox Corporation**, Webster, NY,3/1996-8/1996. *Design Engineer CO-OP*, Advanced Development Team in the Color Imaging Systems Division. **Atmel Corporation**, Columbia, MD, 6/1995-12/1995. *Design Engineer Intern*, Chesapeake Design Center. |
| AWARDS AND HONORS  |
|  | **International**Best Paper Award, IEEE Biomedical Circuits and Systems Conference, BioCAS (with H. Jafari, the best paper overall, 199 submitted papers), 2011.Best Student Paper Award, IEEE International Symposium on Circuits and Systems, ISCAS (with A. Nilchi, $400 prize, one of the two best student papers, 1631 submitted papers), 2009.Best Paper Award, IEEE Circuits and Systems Society Sensory Systems Technical Committee (with A. Nilchi, the top paper), 2009.AMD/CICC Student Scholarship Award at IEEE Custom Integrated Circuits Conference, CICC (with M. Nazari, one of the highest ranked student papers, $200 prize), 2010.Best Student Paper Award nomination at IEEE Biomedical Circuits and Systems Conference, BioCAS (with K. Abdelhalim, top seven student papers), 2010.Best Student Paper Contest Finalist, IEEE International Symposium on Circuits and Systems (with F. Shahrokhi, top nine student papers out of 783 regular papers), ISCAS 2009.**National**The MEMSCAP Microsystems Design Award (with A. Bagheri and S. Gabran, prize $3,000), 2012.Brian L. Barge Award for Excellence in Microsystems Integration (with H. Kassiri and N. Soltani, $3,500 prize), 2012.DALSA Corporation Award for Excellence in Microsystems Innovation (with A. Olyaei, $3,000 prize), 2006 and (with K. Abdelhalim, $3,000 prize) 2009.Brian L. Barge Award for Excellence in Microsystems Integration (with H. Jafari, $3,500 prize), 2008.Canadian Institutes of Health Research (CIHR)/BioContact Next Generation Award (with M. Derchansky, $2,000 prize), 2005.**Provincial / Local**Ontario Brain Institute Entrepreneur Award, (with H. Kassiri, N. Soltani, $50,000), 2015.Heffernan/Co-Steel Innovation Commercialization Fellowship (with H. Kassiri, N. Soltani, $34,000), 2015.**Teaching**Departmental Teaching Award, as voted by undergraduate students, Department of Electrical and Computer Engineering, University of Toronto (top four professors in the department, by popular vote), 2015.Undergraduate Teaching Award for teaching excellence, University of Toronto Students Union (five awards across the university), 2008-2009. |
| RESEARCH GRANTS AND CONTRACTS Annual Total |
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|  | “Computational and Optical Processing Architectures for Next-Generation Mobile Cameras,” co-PI, Natural Sciences and Engineering Council of Canada (NSERC), Strategic Projects, 10/2014-09/2017.“Validation of Monitoring Changes in Brain Synchrony to Anticipate Seizures and Implement Feedback Stimulation to Stop Seizure Occurrence,” Co-I, Ontario Brain Institute, 3/2011-4/2013.“Fully Implantable Wireless Multi-Electrode ECoG Monitoring Systems,” PI, Natural Sciences and Engineering Council of Canada (NSERC), Collaborative Health Research Projects, 4/2012-3/2015.“Research Instruments for Experimental Characterization of Wireless Biomedical Sensory Microsystems,” PI, NSERC Research Tools and Instruments, 4/2012-3/2013.“Electronic Microsystems for Ubiquitous Biomedical Sensing,” PI, Natural Sciences and Engineering Council of Canada (NSERC), Discovery Award, 05/2012-04/2017.“A Low-cost, Compact Spectral Imaging Microsystem for Rapid, Regenerative and Highly Selective Nucleic Acid Detection,” PI, Natural Sciences and Engineering Council of Canada (NSERC), Strategic Projects, 10/2010-09/2013.“Micromachined Electrodes and Integrated Circuits for Implantable Cortical Brain Interfaces,” PI, Natural Sciences and Engineering Council of Canada (NSERC), Strategic Projects, 10/2009-09/2012.Short-term contract, PI, Industrial Partner, 2/2008-3/2008.“Electro-Optical Microsystem for DNA Detection,” PI, Ontario Centres of Excellence, Centre for Photonics, 1/2008-9/2008.“2-D Integrated Microsystem for Neural Recording and Stimulation in the Brain,” peer-reviewed Hybrid Integration project, PI, Canadian Microelectronics Corporation, 12/2007-9/2008. “Integrated Neural Interfaces for Epileptic Seizure Monitoring“, Co-I, subcontract from Prof. P. Carlen, University Health Network, University of Toronto, 9/2006-8/2008.“Hybrid Integration Technologies for Optical DNA Detection,” peer-reviewed Hybrid Integration project, PI, Canadian Microelectronics Corporation, 1/2008-12/2008.“Smart Sensory Microsystems,” PI, Natural Sciences and Engineering Council of Canada (NSERC), Discovery Award, 05/2007-04/2012.NSERC Industrial Postgraduate Scholarship (recipient: M.A.Sc. student Farzaneh Shahrokhi), Medtrode Corporation, 9/2006-8/2008.“Hybrid Integration Technologies for Brain-Chip Interfaces,” Hybrid Integration project, PI, Canadian Microelectronics Corporation, 2006.Infrastructure Operating Fund Award, PI, Canada Foundation for Innovation (CFI), 4/2006-3/2010.“Intelligent Sensory Integrated Systems,” PI, New Opportunities Award, Canada Foundation for Innovation (CFI), 11/2005-3/2008.“Intelligent Sensory Integrated Systems,” PI, Ontario Research Fund, 11/2005-3/2008.“Real-time Human Gate Recognition for Automated Surveillance,” Co-I with D. Hatzinakos, K. Plataniotis, and P. Klentrou, Communications and Information Technology Ontario (CITO), 6/2004-5/2006.“Autonomous Integrated Vision Systems,” PI, Natural Sciences and Engineering Council of Canada (NSERC), Discovery Award, 05/2003-04/2007.“Mixed-Signal VLSI Circuits and Systems,” PI, Connaught Foundation, 10/2002.“Mixed-Signal VLSI Circuits and Systems,” PI, University of Toronto, ECE Dept., 10/2002.  | $50,500$20,000$60,833$145,545$21,750$75,150$78,240$10,000$30,000­$8,000$13,250$14,000$22,500$6,000$5,000$7,517$33,408$33,408$17,225$20,850$10,000$100,000 | $151,500$40,000$182,500$145,545$108,750$225,450$234,720$10,000$30,000­$8,000$26,500$14,000$112,500$12,000$5,000$30,068$100,226$100,226$34,450$83,400$10,000$100,000 |
| ADVISEES SUPERVISION SUMMARY |
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| **(Data as of August 31, 2015)** | **No. of Advisees Completed** | **No. of Advisees in Progress** | **Sub-total** |
| Supervised | Co-supervised | Supervised | Co-supervised |
| Undergraduate summer students | 29 | 0 | 0 | 0 | 26 |
| B.A.Sc. theses / projects | 48 | 3 | 0 | 0 | 51 |
| M.Eng. students | 5 | 0 | 1 | 0 | 6 |
| M.A.Sc. students | 9 | 1 | 0 | 0 | 10 |
| Ph.D. students | 4 | 1 | 3 | 0 | 8 |
| Post-doctoral fellows | 0 | 1 | 0 | 2 | 3 |
| Sub-total | 95 | 6 | 8 | 2 |  |

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| FORMER GRADUATE RESEARCH ADVISEES |
|  | Ashkan Olyaei, M.A.Sc. Degree, 09/2003-04/2006.Thesis: ViPro: Focal-Plane CMOS Spatially-Oversampling Computational Image SensorCurrently at: Senior IC design engineer at Marvell Semiconductor, San Jose, CARafal Karakiewicz, M.A.Sc. Degree, 09/2003-08/2006. Thesis: Mixed-Signal VLSI Adiabatic Array ComputingCurrently at: IC design engineer at Intel/Vsemi, Toronto, ONJoseph Aziz, M.A.Sc. Degree, 09/2004-10/2006 (co-supervised with Prof. B. Bardakjian).Thesis: Multi-Channel Signal-Processing Integrated Neural InterfacesCurrently at: IC design engineer at Broadcom Corporation, Irvine, CAAlireza Nilchi, M.A.Sc. Degree, 09/2005-11/2007.Thesis: Focal-Plane CMOS Algorithmically-Multiplying Computational Image SensorCurrently: PhD student at University of Toronto, Electronics Group Meisam Nazari, M.A.Sc. Degree, 01/2006-06/2008. Thesis: CMOS Wide-Dynamic-Range High-Throughput PotentiostatCurrently: PhD student at California Institute of Technology Ritu Raj Singh, M.A.Sc. Degree, 09/2006-11/2008.Thesis: Luminescence Contact Imaging Microsystems Currently: PhD student at University of Texas, AustinFarzaneh Shahrokhi, M.A.Sc. Degree, 09/2006-01/2009.Thesis: Multi-Channel Fully Differential Digital Integrated Neural Recording and Stimulation InterfacesCurrently: IC design engineer at Synaptics Inc, Santa Clara, CARuslana Shulyzki, M.A.Sc. Degree, 09/2006-09/2009.Thesis: Bidirectional Integrated Neural Interface for Adaptive Cortical StimulationCurrently: IC design engineer at Ignis Innovation Inc, Waterloo, OntarioKarim Abdelhalim, Ph.D. Degree, 09/2007-01/2013.Thesis: Wireless Neural Recording and Stimulation SoCs for Monitoring and Treatment ofIntractable EpilepsyCurrently: IC design engineer at Broadcom Inc, Irvine, CADerek Ho, Ph.D. Degree, 09/2007-01/2013 (co-supervised with Prof. G. Gulak).Thesis: CMOS Imager Design Optimizations for DNA Fluorescence BiosensingCurrently: Assistant Professor, Department of Physics, City University of Hong KongHamed Jafari, Ph.D. Degree, 09/2007-05/2013.Thesis: CMOS Universal Real-time Label-free DNA Analysis System-on-chip Currently: IC design engineer at Semtech/Snowbush, Toronto, OntarioArezu Bagheri, M.A.Sc. Degree, 09/2010-09/2013.Thesis: High-Integration-Density Neural Interfaces for High-Spatial-Resolution IntracranialEEG MonitoringCurrently: IC design engineer at Semtech/Snowbush, Toronto, OntarioArshya Feyzi, M.A.Sc. Degree, 09/2011-10/2014 (co-supervised with Prof. G. Gulak).Thesis: A CMOS Multi-Modal Contact-Imaging Scanning MicroscopeCurrently: IC design engineer at Analog Devices, Toronto, OntarioYu Hu, M.Eng. Degree, 5/2014-8/2014. Project: High-Voltage Neural Stimulator with Adaptive Loading ConsiderationAtul Patridar, M.Eng. Degree, 5/2014 -8/2014. Project: Wireless Radio Connectivity for Responsive Neuro-Stimulation ImplantsJiaming Liu, M.Eng. Degree, 5/2014-8/2014. Project: Wirelessly Powering for Responsive Neuro-Stimulation ImplantsAditi Chemparathy, M.Eng. Degree, 10/2013-12/2014. Project: Low-Latency Sleep Stage ClassifierTariq Salam, Post-Doctoral Fellow, 03/2012-01/2015 (co-supervised with Profs. Perez Velazquez and Carlen, 50%).Project: Seizure Anticipation and Closed-Loop Abortion in Rodent Models of EpilepsyKevin Lee, M.Eng. Degree, 05/2015-09/2015.Project: High-Speed I/O Design for Pixel Programmable CMOS Image Sensor  |
| CURRENT GRADUATE RESEARCH ADVISEES |
|  | Hossein Kassiri, Candidate for Ph.D. Degree, 02/2011-current.Nima Soltani, Candidate for Ph.D. Degree, 09/2011-current.Hyunjoong Lee, Post-Doctoral Fellow, 09/2014-current (co-supervised with Prof. Kutulakos, 50%).Navid Sarhangnejad, Candidate for Ph.D. Degree, 09/2014-current.Enver Kilinc, Post-Doctoral Fellow, 03/2015-current (co-supervised with Prof. G. Gulak, 25%).Hardik Patel, Candidate for M.Eng. Degree, 05/2015-current.Maged Alansary, Candidate for Ph.D. Degree, 09/2015-current.Reza Pazhouhandeh, Candidate for Ph.D. Degree, 09/2015-current. |
| UNDERGRADUATE DESIGN PROJECT AND THESIS ADVISEES |
|  | 2003-20042004-20052005-20062006-20072007-20082008-20092009-20102011-20122012-20132013-20142014-2015 | King Sun (Francis) Tam T.K. Chan Po-Yu Liu Mustafa Alam Ahmad Attia Ajmal Khan Taha Sheikh Houman Akbari Negar Habibi Yasaman Faghih John Tan Colin Li Chuan Qin Ruslana GelmanAngie Mehta Khaled QasmiehKhalil Oudah Tina Tahmoures-ZadehJon PerrasNatasha BakerBrian ChoiDavid WuKim LiuEric PaiRyan PayogoFady AkladiosBenny TuDavid CrockettVadim SmolyakovChi Kin ChongMuhammad FarhandarRobert Gunabalendra Horia PopoviciVisnuthanan SiritharanJohn SisonDarshan ThothiralingWen Jie YanXin Yun ZhangZhao Yuan ZhengMiaad SeyedalirotehAdam ShierNikita TarakanovSiddharth KaulChan Hu NgenJunaid IkramSheraz QadeerRichard GaoDerek PetersonKyeong (Kris) KangZack TzengChang Liu | (design project)(design project)(design project)(design project)(design project)(design project)(design project)(design project)(design project)(design project)(design project, co-supervised with Prof. B. Bardakjian)(design project, co-supervised with Prof. B. Bardakjian)(design project, co-supervised with Prof. B. Bardakjian)(design project)(design project)(design project)(design project)(design project)(undergraduate thesis)(design project)(design project)(design project) (design project)(design project)(design project)(design project)(design project)(design project)(undergraduate thesis)(design project)(design project)(design project)(design project)(design project)(design project)(design project)(design project)(design project)(design project)(undergraduate thesis)(design project)(design project)(design project)(design project)(design project)(design project)(undergraduate thesis)(undergraduate thesis)(undergraduate thesis)(undergraduate thesis)(undergraduate thesis) |
| UNDERGRADUATE SUMMER RESEARCH ADVISEES |
|  | 2004200520062011201320142015 | Alborz JooyaieJohn TanHsiang-Hua (Andy) HungRuslana GelmanJasper ChanGaurav Jain Stephen ChinKhalil OudahAmogh VidwansKevin GumbaAlison MaRenan Goulart HeinzenCaroline Marinho ManoPedro Veit MichelWillian BeneducciMarcelo Bissi PiresFadime BekmambetovaFu-Der (Fred) ChenBehraz VatankhahghadimPeter Zhi Xuan LiSeyedeh Sana TonekaboniChristopher LucasiusSepehr SemsarAlan LiGairik DuttaShreedutt HegdeJesse BarcelosChengzhi (Winston) LiuT. Cole Millar | (NSERC USRA summer student)(NSERC USRA summer student)(NSERC USRA summer student)(NSERC USRA summer student)(NSERC USRA summer student)(NSERC USRA summer student)(NSERC USRA summer student)(summer student)(MITACS summer student from India)(NSERC USRA summer student)(NSERC USRA summer student)(summer student from Brazil)(summer student from Brazil)(summer student from Brazil)(summer student from Brazil)(summer student from Brazil)(NSERC USRA summer student)(NSERC USRA summer student)(NSERC USRA summer student)(NSERC USRA summer student)(NSERC USRA summer student)(NSERC USRA summer student)(NSERC USRA summer student)(NSERC USRA summer student)(MITACS summer student from India)(MITACS summer student from India)(summer student)(summer student)(summer student) |

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| TEACHING |
|  | “Selected Topics in Circuits and Systems – VLSI Circuits and Systems for Pattern Recognition,” ECE1390, 9/2003-12/2003 (5 graduate students). “VLSI Design Methodology,” ECE1388, 9/2004-12/2004 (26 graduate students), 9/2005-12/2005 (16 graduate students), 9/2006-12/2006 (13 graduate students), 9/2007-12/2007 (25 graduate students), 9/2008-12/2008 (13 graduate students), 9/2009-12/2009 (33 graduate students), 9/2010-12/2010 (12 students), 9/2011-12/2011 (25 students), 9/2012-12/2012 (21 students), 9/2013-12/2013 (42 students), 9/2014-12/2014 (17 students).“Analog Electronics,” ECE530, 1/2004-4/2004 (55 students), 1/2005-4/2005 (65 students), 1/2006-4/2006 (89 students), 1/2007-4/2007 (66 students), 1/2008-4/2008 (44 students), 1/2009-4/2009 (54 students), 1/2010-4/2010 (52 students).“Digital Electronics,” ECE334, 1/2012-4/2012 (97 students), 1/2013-4/2013 (81 students), 1/2014-4/2014 (97 students), 1/2015-4/2015 (132 students, 2 sections).“Electronics,” ECE360 09/2011-12/2011 (73 students), 09/2012-12/2012 (78 students), 09/2013-12/2013 (64 students).“Introductory Electronics,” ECE231, 1/2003-4/2003 (89 students), 1/2004-4/2004 (87 students), 1/2005-4/2005 (88 students), 1/2006-4/2006 (70 students), 1/2007-4/2007 (60 students), 1/2008-4/2008 (107 students), 1/2009-4/2009 (103 students; 320 students coordinated), 1/2010-4/2010 (91 students, 315 students coordinated).“Introduction to Electrical and Computer Engineering,” ECE101, 2011, 2012, 2013, 2014 (one lecture per year).“Electrical and Computer Engineering Seminar,” ECE201, 2015 (one lecture per year). |

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| SHORT COURSES/TUTORIALS |
|  | “Amperometric Electrochemical Sensing in CMOS: Applications, Methods and Implementations,” invited plenary tutorial (with P. Mohseni), Biomedical Circuits and Systems Conference, San Diego, Nov. 10, 2011.“Pattern Recognition at 1GOPS/mW and Beyond: Massively Parallel Mixed-Signal VLSI Storage, Computing and Data Conversion,” half-day intensive course, Microelectronics Strategic Alliance of Quebec (ReSMiQ), Montreal, QC, March 4, 2005. |

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| INVITED PRESENTATIONS  |
|  | “Implantable Wireless Closed-Loop Neurostimulators for the Treatment of Intractable Epilepsy,” IEEE International Symposium on Circuits and Systems, John Choma Commemorative Session, Lisbon, Portugal, May 25, 2015.“Wireless Microelectronic Implants for the Treatment of Intractable Epilepsy,” Ontario Brain Institute, EpLink Workshop, Toronto, ON, February 28, 2015.“Implantable Electronic Microchips for Automated Monitoring, Diagnostics, and Treatment of Neurological Disorders,” Sunnybrook Health Sciences Centre, Brain Sciences Program and Department of Otolaryngology, Toronto, ON, January 29, 2015.“Sensory Biomedical Electronics: Implantable, Wearable and Disposable Integrated Circuits,” Douglas Mental Health University Institute and McGill University, Montreal, QC, June 14, 2013.“Sensory Biomedical Electronics: Implantable, Wearable and Disposable Integrated Circuits,” Department of Electrical and Computer Engineering, McGill University, June 17, 2013.“CMOS Intelligent Sensory Microsystems for Biomedical Applications,” Georgia Institute of Technology, Atlanta, GA, June 21, 2011.“Implantable Integrated Circuits for Monitoring, Diagnostics and Treatment of Neurological Disorders,” Research Institute for Neurosciences and Mental Health, The Hospital for Sick Children, Toronto, ON, March 16, 2011.“Amperometric Neurochemical Microarrays: Electronic Chips that Image Neurotransmitters,” Toronto Western Hospital, Cell and Molecular Neurobiology Lab, Toronto, ON, January 19, 2011. “Towards Wireless Brain Activity Monitoring and Modulation,” CMC Microsystems Sensor Network Workshop, Ottawa, ON, October 6, 2010.“Amperometric Neurochemical and DNA Microarrays,” CMC Microsystems Annual Symposium, Ottawa, ON, October 5, 2010. “Electronic Microchips for Recording and Modulating Neural Activity,” Beyond Brain Machine Interface: From Senses to Cognition Workshop, Long Beach, CA, June 20, 2010.“Intelligent Sensory Microsystems for Biomedical Applications,” IMEC, Leuven, Belgium, May 28, 2010.“CMOS Luminescence Contact Imaging Microsystems,” CMC CMOS Imagers Workshop, Montreal, QC, November 5, 2009.“Intelligent Sensory Microsystems,” CMC Microsystems, Kingston, ON, October 22, 2009.“Intelligent Sensory Microsystems for Biomedical Applications,” Department of Bioengineering, University of California, San Diego, CA, August 10, 2009.“Intelligent Sensory Microsystems” Max Planck Institute for Metals Research, Stuttgart, Germany, May 7, 2009. “Intelligent Sensory Microsystems: Signal Processing,” Max Planck Institute for Biological Cybernetics, Tubingen, Germany, May 5, 2009.“Intelligent Sensory Microsystems: Information Acquisition,” Max Planck Institute for Biological Cybernetics, Tubingen, Germany, May 4, 2009.“Hybrid Intelligent Sensory Microsystems,” CMC Hybrid Integration Workshop, Toronto, ON, January 14, 2009.“Electro-Chemical Integrated Neural Interfaces,” National Research Council (NRC) of Canada, Neurochip Development Initiative - Strategic Meeting, Invited Talk, Ottawa, ON, November 2006. “Electro-Chemical Integrated Neural Interfaces,” National Research Council (NRC) of Canada, Institute for Biological Sciences, Invited Seminar, Ottawa, ON, October 2006.“Kerneltron: Massively Parallel Mixed-Signal VLSI Pattern Recognition Processor,” Centre for Vision Research, York University, Toronto, ON, March 11, 2005.“Kerneltron: Massively Parallel Mixed-Signal VLSI Pattern Recognition Processor,” IEEE EDS/CAS Western New York Conference, Invited Plenary Talk, Rochester, NY, Nov. 3, 2004.“A 1GMACS/mW Mixed-Signal Differential-Charge CID/DRAM Processor,” IEEE Int. Conf. on Circuits and Systems for Communications (ICCSC’04), Invited Plenary Talk, Moscow, Russia, June 30 - July 2, 2004.“Kerneltron: Massively Parallel Mixed-Signal VLSI Pattern Recognition Processor,” Invited Seminar, Rochester Institute of Technology, Rochester, NY, Apr. 30, 2004.“Kerneltron: Support Vector ‘Machine’ in Silicon,” VLSI Seminar Series, School of Electrical and Computer Engineering, Cornell University, Ithaca, NY, Nov.13, 2003. |
| PROFESSIONAL ACTIVITIES |
|  | Associate Editor: IEEE Transactions on Biomedical Circuits and Systems, 2006-present.IEEE Transactions on Circuits and Systems-II: Express Briefs, 2010-2012.IEEE Signal Processing Letters, 2008-2010. Guest Associate Editor: IEEE Journal of Solid-State Circuits, Special Issue on papers from the International Solid-State Circuits Conference (ISSCC), 2016.IEEE Transactions on Biomedical Circuits and Systems, Special Section on papers from the International Solid-State Circuits Conference (ISSCC), 2014, 2015.International Technical Program Committee Member, Solid-State Circuits Conference (ISSCC):Member of Imagers, MEMS, Medical, and Displays (IMMD) Subcommittee, 2013-present.Member of Forum Committee: “Circuit, Systems and Data Processing for Next Generation Wearable and Implantable Medical Devices,” 2015-2016.Member of Demonstrations Subcommittee, 2013-2014.Scientific Review Panel Member:National Institutes of Health (NIH), National Institute of Neurological Disorders and Stroke (NINDS), the Brain Research through Advancing Innovative Neurotechnologies (BRAIN) initiative, 2014-2015.National Sciences and Engineering Research Council of Canada (NSERC) Strategic Projects Selection Panel, 2008-2009.CMC Microelectronics, National IC Fabrication Allocation Committee, 2009-2011. Technical Program Co-chair: IEEE Biomedical Circuits and Systems Conference (BioCAS), 2007.Tutorials Co-chair: IEEE Biomedical Circuits and Systems Conference (BioCAS), 2011.Track Chair/Co-chair: IEEE International Conference of the Engineering in Medicine and Biology Society (EMBC), “Neural Microsystems and Instrumentation” Track Co-chair, 2006.External Advisory Board Member: Department of Electrical Engineering, Rochester Institute of Technology, 2004-2011.Technical Program Committee Member: IEEE Biomedical Circuits and Systems Conference (BioCAS), 2007, 2008, 2011. IEEE Northeast Workshop on Circuits and Systems (NEWCAS), 2006, 2007, 2008, 2009.IEEE Midwest Symposium on Circuits and Systems (MWSCAS, joint with NEWCAS), 2007.IEEE 6th Electro/Information Technology Conference, 2006.SPIE Bioengineered and Bioinspired Systems Conference, 2003, 2005.ACM Great Lakes Symposium on VLSI (GLSVLSI), 2003.Professional Society Member: Institute of Electrical and Electronic Engineers (IEEE). Circuits and Systems (CAS) Society. Solid-State Circuits (SSC) Society. Engineering in Medicine and Biology (EMB) Society.Technical Committee Member: Analog Signal Processing TC of IEEE CAS Society. Neural Systems and Applications TC of IEEE CAS Society. Biomedical Circuits and Systems TC of IEEE CAS Society. Sensory Systems TC of IEEE CAS Society. Session Organizer/Co-organizer: “Smart Optogenetic Bio-electronic Interfaces,” Special Invited Session (BioCAS), 2015.“Electrochemical Sensory Microsystems,” Special Invited Session (BioCAS), 2007.“Integrated Neural Implants,” Special Invited Session (ISCAS), 2007.“Integrated Neural Interfaces,” Special Invited Session (ISCAS), 2006.International Liaison: IEEE 4th International Symposium on Electronic Design, Test and Applications, 2008.Conference Review Committee Member:Review Committee, IEEE International Symposium on Circuits and Systems (ISCAS), 2003-2009.Industry and Exhibitions Co-chair: IEEE International Symposium on Circuits and Systems (ISCAS), 2016.Conference Session Chair/Co-chair: IEEE International Symposium Circuits and Systems (ISCAS): “Self-Correcting ADC,” 2002; “Neural Systems and Applications,” 2004; “Neural Computation,” “Neural Classifiers,” 2005; “Medical Interfacing System,” “Integrated Neural Interfaces” (Special Session), “Switched Capacitor Circuits,” “Analog Filtering & Signal Processing,” 2006; “Integrated Neural Implants” (Special Session), 2007; “Biomedical Circuits and Systems for Neural Recording,” 2009.IEEE Biomedical Circuits and Systems Conference (BioCAS), “Electrochemical Sensory Microsystems,” “Bio-Signal Processing,” 2007.SPIE International Symposium on Microtechnologies, Bioengineered and Bioinspired Systems, “Biosensors,” 2003.University/Department Committees Member: Electronics Group, Chair, 2015-2016.Graduate Matters Committee, 2014-2016.Awards Committee, Department of Electrical and Computer Engineering, 2012-2013, 2015-2016.OGS Panel Member, University of Toronto, 2009-2010, 2011-2012.Graduate Coordinator, Electronics Group, Department of Electrical and Computer Engineering, 2008-2010, 2011-2014.Awards and Scholarships Committee, Faculty of Applied Science and Engineering, 2007-2010.Curriculum Matters Committee, Department of Electrical and Computer Engineering, 2005-2010, 2011-2013. |
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| BOOK CHAPTERS  |
|  | [BC3] D. Ho, O. Noor, U. Krull, G. Gulak, R. Genov, “CMOS Spectrally-Multiplexed FRET Contact Imaging Microsystem for DNA Analysis,” in “Handbook of Bioelectronics: Directly Interfacing Electronics and Biological Systems,” edited by S. Carrara and K. Iniewski, Cambridge University Press, 2015. [BC2] H. Bidhendi, H. Jafari, R. Genov, “Ultra-Wideband Imaging Systems for Breast Cancer Detection,” in “Ultra-Wideband and 60 GHz Communications for Biomedical Applications,” edited by M. R.Yuce, Springer, pp. 83-103, 2014.[BC1] A. Olyaei, R. Genov, “CMOS Focal-Plane Spatially-Oversampling Computational Image Sensor,” in “Circuits at the Nanoscale: Communications, Imaging, and Sensing,” edited by K. Iniewski, CRC Press, pp. 521-538, 2008. |
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| REFEREED JOURNAL PUBLICATIONS |
|  | [J35] H. Kassiri, A. Chemparathy, M. T. Salam, R. Boyce, A. Adamantidis, R. Genov, “Electronic Sleep Stage Classifiers: A Survey and VLSI Design Methodology,” subm. *IEEE Transactions on Biomedical Circuits and Systems,* 2015*.*[J34] R. Machadoa, N. Soltani, S. Dufour, M. T. Salam, P. Carlen, R. Genov, M. Thompson, “Antifouling Impedimetric Sensor for the Spatial Measurement of Potassium During Epileptic Seizures,” subm., *Biosensors and Bioelectronics*, 2015.[J33] H. Kassiri, A. Bagheri, N. Soltani, K. Abdelhalim, H. Jafari, M. T. Salam, J. L. P. Velazquez and R. Genov, “Battery-Less Tri-Band-Radio Neuro-Monitor and Responsive Neuro-Stimulator for Diagnostics and Treatment of Neurological Disorders,” under minor rev., *IEEE Journal of Solid-State Circuits, 2015.*[J32] N. Soltani, M. S. Aliroteh, M. T. Salam, J. L. Perez Velazquez, R. Genov, “Low-Radiation Cellular Inductive Powering of Rodent Wireless Brain Interfaces: Methodology and Design Guide,” subm., under major revision, *IEEE Transactions on Biomedical Circuits and Systems,* 2015*.*[J31] A. Bagheri, M. T. Salam, J. L. Perez Velazquez, R. Genov, “Low-frequency Noise and Offset Rejection in DC-Coupled Neural Amplifiers: A Review and Design Tutorial,” subm., under major revision, *IEEE Transactions on Biomedical Circuits and Systems,* 2015*.*[J30] M. T. Salam, J. L. Perez Velazquez, R. Genov, “Seizure Suppression Efficacy of Closed-loop Versus Open-loop Deep Brain Stimulation in a Rodent Model of Epilepsy,” *IEEE Transactions on Neural Systems & Rehabilitation Engineering,* 2015*.*[J29] M. T. Salam, H. Kassiri, R. Genov, J. L. Perez Velazquez, “Rapid Brief Feedback Intracerebral Stimulation Based on Real-time Desynchronization Detection Preceding Seizures Stops the Generation of Convulsive Paroxysms,”Vol. 56, No. 8, pp.1227-1238*, Epilepsia*, 2015.[J28] R. 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