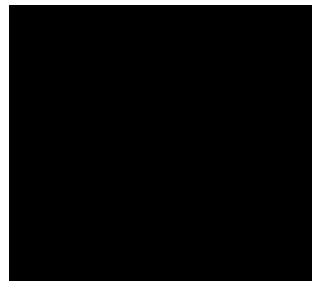


# Europass

## Curriculum Vitae



### Personal information

Surname(s) / First name(s)

Address(es)

Telephone(s)

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Nationality(-ies)

Date of birth

**Demarchi, Danilo**

+39 011 0904122      Mobile: [REDACTED]

danilo.demarchi@polito.it

Italian

December 6, 1964

### Education and Training

1996

PostDoc Fellow, Circuits and Microsystems for DNA analysis, Politecnico di Torino, Department of Electronics

1993-1995

PhD in Electronics Engineering, Politecnico di Torino, Thesis: "Microelectronic applications for analysis and diagnosis of genetic diseases", Partially developed at the Children's Hospital of Philadelphia, USA

1991

Master Degree in Electronics Engineering, Politecnico di Torino, Thesis: "Proxima, a VLSI PROLOG Processor"

### Academic Position

Position held

Associate professor, Department of Electronics and Telecommunications, Politecnico di Torino, Italy

Tenures

*Nanoelectronics*, PhD School in Electronics Engineering

*Bio-Micro&Nano Systems*, Master Degrees in Electronics and Biomedical Engineering

*Micro&Nano Systems*, Master Degrees in Electronics Engineering and Micro and Nanotechnologies for ICT

*CAD for Microsystems*, Master Degrees in Electronics Engineering and Micro and Nanotechnologies for ICT

*Nanocomputing, Biomolecular Computing Module*, Lecturer, École Polytechnique Fédérale de Lausanne (EPFL), Doctoral Program in Electrical Engineering

### Responsibilities

From 2011

*Head of the Micro&Nano Electronic Systems (MiNES) Laboratory*, Department of Electronics and Telecommunications, Design and realization of micro&nano systems and sensors for electronics and biomedical applications

From 2013

*Associate Researcher at the Italian Institute of Technology*, IIT@POLITO, CSHR - Center for Space Human Robotics, Head of the Smart Electronics Group, Study and implementation of integrated systems for space applications

From 2008	<i>International Student Exchange Advisor</i> for Electronics Engineering, Academic management of curricula of incoming and outgoing students, management and recruitment of contacts with worldwide international universities
<b>Project Management</b>	
2015–now	MECA, MicroElectronics Cloud Alliance. Erasmus+ Knowledge Alliances, Proposal number 562206-EPP-1-2015-1-BG-EPPKA2-KA. Partner, WorkPackage leader. Recently granted.
2015–now	DOCMEN, Development of two cycle innovative curricula in microelectronic engineering. Erasmus+ Capacity Building in Higher Education, Proposal number 561627-EPP-1-2015-1-PL-EPPKA2-CBHE-JP. Partner, WorkPackage leader. Recently granted.
2014–now	Smart2Wear, Wearable System for BioImpedance Measurements for Cardiac Diseases, Regional Project of Piedmont Region, WorkPackage Leader.
2014–now	Lab4MEMS-II, LAB FAB for smart sensors and actuators MEMS. Project number ENIAC 621176, Partner.
2013–now	EduNano, Education in Nanotechnologies. Grant agreement number 543861-TEMPUS-1-2013-BG-TEMPUS-JPCR. Partner, WorkPackage leader.
2012–now	EuroTraining, Provision of a European Training Infrastructure, Grant agreement number 316526, FP7-ICT-2011-8. Partner, WorkPackage leader and Responsible of the Eurotraining Web Platform.
2012–now	Lab4MEMS, LAB FAB for smart sensors and actuators MEMS, Project number 325622-2, ENIAC 2012-2, Partner.
2012–now	SMAC, SMART systems Co-design, a flexible software platform for smart subsystems/components design and integration, Grant agreement number 288827, EU FP7, WorkPackage Leader.
2011–2014	NanoEI, Master Degree Modules in Nanotechnologies for Electronics, 510196-LLP-1-2010-1-IT-ERASMUS-ECDCE, EU FP7, Applicant.
2011–2014	NanoSkills, Training new skills for the new jobs in nanotechnologies, 510591-LLP-1-2010-1-FR-LEONARDO-LMP, EU FP7, WorkPackage Leader.
2010–2012	Stimesi-2, Stimulation action on MEMS and SiP design, Grant agreement number 257862, EU FP7, WorkPackage Leader.
2009–2012	R&D Access, Identification of R&D results on semiconductor design from FP7 projects and provision of these results to partners from outside the consortia, ICT-2009.3.2, EU FP7. Partner, WorkPackage Leader.
2008–2012	NanoContact, Carbon Nanotube based Conductive Composites Laser Activated for Integrated Sensors, Switches and Wirings, Regional Project of Piedmont Region, WorkPackage Leader.
2008–2010	EuroTraining, Provision of a European Training Infrastructure for micro and nano technologies, ICT-2007-1, EU FP7, WorkPackage Leader.
2008–2010	Eurotraining-MST, Establishment of microsystems training requirements in Europe, ICT-2007.3.6, EU FP7, WorkPackage Leader.
2006–2009	ToxiChip, Development of a toxin screening multi-parameter on-line biochip, Specific Targeted Research, 027900, EU FP6, WorkPackage Leader.
2006–2009	microBUILDER, An integrated modular service for microfluidics, IST-2004-2.4.2, EU FP6, Partner.
<b>Project Evaluation Boards</b>	
2015	Horizon2020 Project Evaluator. Electronic Components and Systems for European Leadership (ECSEL) 2015 calls
2013	National Project Evaluator. French “Agence Nationale de la Recherche (ANR)”
<b>Editorial Boards</b>	
2015	Associate Editor, Sensors Journal, IEEE

<b>Committees and Boards Memberships</b>	<p>2013–now      Associate Editor, BioNanoScience, Springer</p> <p>2015–now      Member of the Steering Committee of the IEEE NewCAS Conference</p> <p>2014–now      Member of the “Outside System Connectivity” working group, European Nanoelectronics Infrastructure for Innovation Consortium</p> <p>2013–now      Member of Biomedical Circuits and Systems Technical Committee, IEEE BioCAS</p> <p>2010–2012      Advisory Committee Member, FP7 Coordination Action project entitled “Ecosystems Technology and Design for NanoElectronics” (NANO-TEC)</p>
<b>Scientific Committees and Boards</b>	<p>2017      Nominated General Chair, IEEE BioCAS 2017, Torino, Italy</p> <p>2016      Nominated Tutorial Chair, IEEE BioCAS 2016, Singapore</p> <p>2015      Associate Editor, Section Bioinstrumentation, Biosensors and Bio-Micro/Nano Technologies, Annual IEEE EMBC (Engineering in Medicine and Biology) Conference, Milan, Italy</p> <p>2015      Co-Chair of CMOS Lab-on-Chip Track, IEEE ISCAS 2015, Lisbon, Portugal</p> <p>2015      Track Co-Chair, Analog circuits and systems, IEEE NewCAS 2015, International NEW Circuits and Systems Conference, Grenoble, France</p> <p>2015      Scientific Committee, IEEE IWASI 2015, International Workshop on Advances in Sensors and Interfaces, Bari, Italy</p> <p>2014      Special Session Chair Member, IEEE BioCAS 2014, Lausanne, Switzerland</p> <p>2014      Member of the Technical Program Committee, ISQED 2014, 15<sup>th</sup> International Symposium on Quality Electronic Design</p> <p>2009–2014      Reviewer, Annual IEEE EMBC (Engineering in Medicine and Biology) Conferences</p> <p>2013–2014      Member of the Program Committee, Annual DSD, Euromicro Conference on Digital System Design</p> <p>2013      Member of Biomedical Circuits and Systems Technical Committee, IEEE CAS society</p> <p>2012      Associate Editor, Topic Issue for NanoBio-Europe 2013 Conference, BioNanoScience, Springer</p> <p>2013      Member of the Technical Program Committee, Track 8, Sensors &amp; Actuators, ETFA, Emerging Technologies &amp; Factory Automation, Cagliari, Italy</p> <p>2009–2013      Reviewer, Annual IEEE EMBC (Engineering in Medicine and Biology) Conferences</p> <p>2013      Member of the Program Committee, 16<sup>th</sup> EuroMicro Conference on Digital System Design (DSD)</p> <p>2012      Guest Editor, Topic Issue for NanoBio-Europe 2012 Conference, BioNanoScience, Springer</p> <p>2012      Reviewer, IEEE ISCAS 2013 Conference</p> <p>2012      Reviewer, Thin Solid Films Journal, Elsevier</p> <p>2011–2012      Reviewer, Nano Journal, IOP Publishing</p> <p>2011–2012      Reviewer, Semiconductor Science and Technology Journal, IOP Publishing</p> <p>2011      Member of the Scientific Committee, 2011 Annual IEEE EMBC (Engineering in Medicine and Biology) Conference</p> <p>2010      Member of the Scientific Committee, TransAlp’Nano 2010 Conference</p> <p>2010–2011      Reviewer, Electronic Devices and Systems International Conferences, IMAPS CS/SK</p>

## **International teaching and seminars**

2015	Nanocomputing, Biomolecular Computing Module, Lecturer, École Polytechnique Fédéral de Lausanne (EPFL), Doctoral Program in Electrical Engineering
2011–2012	Tronics and MultiMEMS MEMS Processes, 5 days Course, Accredited by the PhD School of Politecnico di Torino and EuroDOTS, an introduction to MEMS Technologies and a detailed description of the industrial processes of Tronics and MultiMEMS, with application examples and hands-on sessions, Held in Italy, Belgium, Spain, Switzerland in the framework of the European Project Stimesi-2.
2012	ElectroChemiluminescence for Sensing, 1 day Course, with a description of the use of ECL for biosensing with examples of the sensors realized at the MiNES lab of Politecnico di Torino, Held at the HEIG-VD University of Applied Sciences of Western Switzerland, Yverdon, Switzerland.
2011	Nanoscale Elements for NanoElectronics and Sensing, 1 day Course, where were described the concepts of the use of nanodevices for electronics and sensing, with a detailed study of the systems realized at the MiNES Lab of Politecnico di Torino, Held at the Technical University of Munich, Germany.
2006–2010	Design your own microsystem, 3 days Course, an introduction to MEMS principles, technologies and applications, with details on the technology aspects, including design rules and key processes. Hands-On sessions about how to design a microsystem using CoventorWare, Course held in several countries: Italy, Romania, Malta, Israel, Hungary, Poland, Bulgaria, Slovenia in the framework of the European Projects Eurotraining-MST and MicroBUILDER.

## **Course Tenure History at Politecnico di Torino**

2010-now	Nanoelectronics, PhD School in Electronics Engineering
2011-now	Bio-Micro&Nano Systems, Master Degrees in Electronics and Biomedical Engineering
2011-2013	Micro&Nano Systems, Master Degrees in Electronics Engineering and Nanotechnologies for ICT
2012-2013	CAD for MicroSystems, Master Degrees in Electronics Engineering and Nanotechnologies for ICT
2004-2011	MicroSystems for Medicine, Master Degree in Biomedical Engineering
2006-2011	Electronics, Bachelor Degree in Biomedical Engineering
2004-2008	Systèmes électroniques numériques, Master Degree in Information Technology, Turin (Italy) - Grenoble (France)
2001-2006	Electronic Systems, Master Degree in Electronics Engineering
2001-2005	Electronics for Telecommunications, Master Degree in Electronics Engineering

## **Industrial experiences**

1995-2006	Founder of ISI Line Srl, Internet Service Provider, Chief Executive Officer (CEO)
2000-2007	Founder of Opla.com Ltd, E-Market for inter-companies good exchanges, Member of the Board of Directors
2001-2006	Founder of Reteltaly Srl, VoIP and InfoMobility applications, Chief Technical Officer (CTO)

## **Languages**

Mother tongue(s)

**Italian**

*Self-assessment  
European level<sup>(\*)</sup>*

**English**

**French**

Understanding		Speaking		Writing	
Listening	Reading	Spoken interaction	Spoken production		
C1 Proficient user					
C1 Proficient user	C1 Proficient user	C1 Proficient user	C1 Proficient user	C2 Proficient user	C2 Proficient user

<sup>(\*)</sup>Common European Framework of Reference (CEF) level

## Additional information

### Memberships

2008-now

2008-now

2011-now

2009-2011

**Senior Member** of the Institute of Electrical and Electronic Engineers (IEEE)

Member of the IEEE Engineering in Medicine and Biology Society (EMBS)

Member of the IEEE Circuits and Systems Society (CAS)

Member of the International Society of Electrochemistry (ISE)

### Linux

2001

Founder of the Linux User Group of Torino

2004

Founder of the Linux User Group of Cuneo. President of the Association up to 2007

## Recent Journals

- [1] M. Farina, C.Y.X. Chua, A. Ballerini, U. Thekkedath, G. Torchio, J.F. Alexander, J.R. Rhudy, D. Fraga, R. Pathak, M. Villanueva, C.S. Shin, J.A. Niles, R. Sesana, D. Demarchi, A.G. Sikora, G.S. Acharya, A.O. Gaber, J.E. Nichols, and A. Grattoni.  
Transcutaneously refillable, 3D-printed biopolymeric encapsulation system for the transplantation of endocrine cells.  
*Elsevier*, 177:125–138, 2018.
- [2] G. Bruno, N. Di Trani, R.L. Hood, E. Zabre, C.S. Filgueira, G. Canavese, P. Jain, Z. Smith, D. Demarchi, S. Hosali, A. Pimpinelli, M. Ferrari, and A. Grattoni.  
Unexpected behaviors in molecular transport through size-controlled nanochannels down to the ultra-nanoscale.  
*Nature Communications*, 9(1):508, April 2018.
- [3] L. Morelli, L. Serioli, F. A. Centorbi, C. Bille Jendresen, M. Matteucci, O. Ilchenko, D. Demarchi, A. T. Nielsen, K. Zor, and A. Boisen.  
Injection molded lab-on-a-disc platform for screening of genetically modified e. coli using liquid-liquid extraction and surface enhanced raman scattering.  
*Lab Chip, top 10% of papers published in Lab on a Chip*, 81:4458–4466, 2018.
- [4] B. Corradetti, F. Taraballi, I. Giretti, G. Bauza, R.S. Pistillo, F. Banche Niclot, L. Pandolfi, D. Demarchi, and E. Tasciotti.  
Heparan sulfate: A potential candidate for the development of biomimetic immunomodulatory membranes.  
*Frontiers in Bioengineering and Biotechnology*, 5:86, 2018.
- [5] S.R. Shin, B. Migliori, B. Miccoli, Y. Li, P. Mostafalu, J. Seo, S. Mandla, A. Enrico, S. Antona, R. Sabarish, T. Zheng, L. Pirrami, K. Zhang, Y.S. Zhang, K. Wan, D. Demarchi, M.R. Dokmeci, and A. Khademhosseini.  
Electrically driven microengineered bioinspired soft robots.  
*Advanced Materials, IF=19.79*, page 1704189, 2018.
- [6] C. O'Mahony, L. Hilliard, T. Kosch, A. Bocchino, E. Sulas, A. Kenthao, S. O'Callaghan, A.J. Clover, D. Demarchi, and G. Bared.  
Accuracy and feasibility of piezoelectric inkjet coating technology for applications in microneedle-based transdermal delivery.  
*Microelectronic Engineering*, 172:19–25, 2017.
- [7] M. Farina, A. Ballerini, G. Torchio, G. Rizzo, D. Demarchi, U. Thekkedath, and A. Grattoni.  
Remote magnetic switch off microgate for nanofluidic drug delivery implants.  
*Biomedical Microdevices*, 19(2):42, 2017.
- [8] A.H. Sadeghi, S.R. Shin, Janine C. Deddens, G. Fratta, S. Mandla, Iman K. Yazdi, G. Prakash, S. Antona, D. Demarchi, M. P Buijsrogge, J.P.G. Sluijter, J. Hjortnaes, and Khademhosseini A.  
Engineered 3d cardiac fibrotic tissue to study fibrotic remodeling.  
*Advanced Healthcare Materials*, 6(11), 2017.
- [9] M. Farina, A. Ballerini, D. W. Fraga, E. Nicolov, M. Hogan, D. Demarchi, F. Scaglione, O. M. Sabek, P. Horner, U. Thekkedath, O. A. Gaber, and A. Grattoni.  
3d printed vascularized device for subcutaneous transplantation of human islets.  
*Biotechnology journal*, page 1700169, 2017.
- [10] A. Sanginario, B. Miccoli, and D. Demarchi.  
Carbon Nanotubes as an Effective Opportunity for Cancer Diagnosis and Treatment.  
*Biosensors*, 7(1), 2017.
- [11] T. Barjavel, A. Guy, S. Sapienza, G. Gloria Vergara-Diaz, E. Fabara, S. Liberatore, S. Micera, D. Demarchi, J. Luis Pons-Rovira, M. Karabas, J. Niemi, and P. Bonato.  
A novel pediatric exoskeleton for over-ground gait training in children with cerebral palsy.  
*Archives of Physical Medicine and Rehabilitation*, 98(10):e26–e27, 2017.
- [12] C. Meagher, S. Sapienza, C. Adans-Dester, A. O'Brien, S. Patel, G. Vergara-Diaz, D. Demarchi, S. Lee, A. Hughes, R. Black-Schaffer, J. Burridge, R. Zafonte, and P. Bonato.  
Estimating clinical scores from wearable sensor data in stroke survivors.  
*Archives of Physical Medicine and Rehabilitation*, 98(10):e65, 2017.
- [13] M. Beggiato, R. Pandey, Y. Sverdlov, A. Inberg, D. Demarchi, and Y. Shacham-Diamond.  
Flexible electrochemical biochip array of patterned gold on silver inkjet printed polyimide.  
*ECS Transactions*, 77(11):893–910, 2017.

- [14] A. Damilano, P. Motto Ros, A. Sanginario, A. Chiolerio, S. Bocchini, I. Roppolo, C. F. Pirri, S. Carrara, D. Demarchi, and M. Crepaldi.  
A robust capacitive digital read-out circuit for a scalable tactile skin.  
*IEEE Sensors Journal*, 17(9):2682–2695, May 2017.
- [15] M. Noman, A. Sanginario, P. Jagadale, D. Demarchi, and A. Tagliaferro.  
Comparison of unusual carbon-based working electrodes for electrochemiluminescence sensors.  
*Materials Science and Engineering: C*, 75:402 – 407, 2017.
- [16] A. Bonanno, A. Sanginario, S. Marasso, B. Miccoli, K. Bejtka, S. Benetto, and D. Demarchi.  
A Multipurpose CMOS Platform for Nanosensing.  
*Sensors*, 16(12):2034–15, December 2016.
- [17] G. Bruno, G. Canavese, X. Liu, C. S. Filgueira, A. Sacco, D. Demarchi, M. Ferrari, and A. Grattoni.  
The active modulation of drug release by an ionic field effect transistor for an ultra-low power implantable nanofluidic system.  
*Nanoscale*, 8:18718–18725, 2016.
- [18] A. Damilano, A. Lince, S. Appendino, H.M.A. Hayat, P. Ariano, D. Demarchi, and M. Crepaldi.  
Commercial tactile sensors for hand exoskeletons: practical considerations for ultra-low cost and very-low complexity read-out.  
*IEEE Instrumentation*, 19(5):49–56, 2016.
- [19] Y.S. Zhang, A. Arneri, S. Bersini, S.R. Shin, K. Zhu, Z.G. Malekabadi, J. Aleman, C. Colosi, F. Busignani, V. Dell'Erba, C. Bishop, T. Shupe, D. Demarchi, M. Moretti, M. Rasponi, M.R. Dokmeci, A. Atala, and A. Khademhosseini.  
Bioprinting 3D microfibrous scaffolds for engineering endothelialized myocardium and heart-on-a-chip.  
*Biomaterials*, 110:45–59, 2016.
- [20] S. Ostadabbas, D. Demarchi, and A. Basu.  
Guest Editorial – Special Issue on Selected Papers From IEEE BioCAS 2015.  
*IEEE Transactions on Biomedical Circuits and Systems*, 10(5):933–934, Oct 2016.
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One-Dimensional ZnO/Gold Junction for Simultaneous and Versatile Multisensing Measurements.  
*Scientific reports*, 6:srep29763, 2016.
- [22] Y.S. Zhang, F. Busignani, J. Ribas, J. Aleman, T.N. Rodrigues, S. Shaegh, S. Massa, C. Baj Rossi, I. Taurino, S. Shin, G. Calzone, G.M. Amaralunga, D.L. Chambers, S. Jabari, Y. Niu, V. Manoharan, M.R. Dokmeci, S. Carrara, D. Demarchi, and A. Khademhosseini.  
Google Glass-Directed Monitoring and Control of Microfluidic Biosensors and Actuators.  
*Scientific reports*, 6:srep22237, 2016.
- [23] M. Crepaldi and D. Demarchi.  
Tackling Technical Research.  
*IEEE Potentials*, 35(3):29–33, 2016.
- [24] S. Sapienza, C. Crepaldi, P. Motto Ros, A. Bonanno, and D. Demarchi.  
On Integration and Validation of a Very Low Complexity ATC UWB System for Muscle Force Transmission.  
*IEEE Transactions on Biomedical Circuits and Systems*, 10:497–506, 2016.
- [25] A. Zahir, A. Pulimeno, D. Demarchi, M. Ruo Roch, G. Masera, M. Graziano, and G. Piccinini.  
EE-BESD: molecular fet modeling for efficient and effective nanocomputing design.  
*Journal of Computational Electronics*, 15(2):479–491, 2016.
- [26] A. Sanginario, V. Cauda, A. Bonanno, K. Bejtka, S. Sapienza, and D. Demarchi.  
An electronic platform for real-time detection of bovine serum albumin by means of amine-functionalized zinc oxide microwires.  
*RSC Adv.*, 6:891–897, 2016.
- [27] E.G. Villani, M. Crepaldi, D. Demarchi, A. Gabrielli, A. Khan, E. Pikhay, Y. Roizin, A. Rosenfeld, and Z. Zhang.  
A monolithic 180 nm CMOS dosimeter for wireless In Vivo Dosimetry.  
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An analog-mode impulse radio system for ultra-low power short-range audio streaming.  
*IEEE Transactions on Circuits and Systems I: Regular Papers*, 62(12):2886–2897, Dec 2015.

- [29] A. Damilano, H. Hayat, A. Bonanno, D. Demarchi, and M. Crepaldi.  
A Flexible Low-Power 130 nm CMOS Read-Out Circuit With Tunable Sensitivity for Commercial Robotic Resistive Pressure Sensors.  
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- [30] A. Bonanno, M. Morello, M. Crepaldi, A. Sanginario, S. Benetto, V. Cauda, P. Civera, and D. Demarchi.  
A Low-Power 0.13  $\mu\text{m}$  CMOS IC for ZnO-Nanowire Assembly and Nanowire-Based UV Sensor Interface.  
*IEEE Sensors Journal*, 15(8):4203–4212, 2015.
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Towards multi-domain and multi-physical electronic design.  
*IEEE Circuits and Systems Magazine*, 15(3):18–43, Third Quarter 2015.
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Activated carbonized pistachio nut shells for electrochemiluminescence detection.  
*Journal of applied electrochemistry*, 45(6):585–590, March 2015.
- [33] S. Fiorilli, F. Baino, V. Cauda, M. Crepaldi, C. Vitale-Brovarone, D. Demarchi, and B. Onida.  
Electrophoretic deposition of mesoporous bioactive glass on glass–ceramic foam scaffolds for bone tissue engineering.  
*Journal of Materials Science: Materials in Medicine*, 26(1):1–12, January 2015.
- [34] E G Villani, M. Crepaldi, A Demarchi, D and, A Khan, E Pikhay, Y Roizin, A Rosenfeld, and Z Zhang.  
A monolithic 180 nm CMOS dosimeter for In Vivo Dosimetry medical application.  
*Radiation Measurements*, 71:389–391, December 2014.
- [35] L. E. Bertassoni, M. Cecconi, V. Manoharan, M. Nikkhah, J. Hjortnaes, A. L. Cristina, G. Barabaschi, D. Demarchi, M. R. Dokmeci, Y. Yang, and A. Khademhosseini.  
Hydrogel bioprinted microchannel networks for vascularization of tissue engineering constructs.  
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Wireless ultra-wide-band transmission prototype ASICs for low-power space and radiation applications.  
*Nuclear Instruments and Methods in Physics Research Section A: Accelerators, Spectrometers, Detectors and Associated Equipment*, 765:219–222, November 2014.
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NanoCube: A Low-Cost, Modular, and High-Performance Embedded System for Adaptive Fabrication and Characterization of Nanogaps.  
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UWB microwave imaging for breast cancer detection: Many-core, GPU, or FPGA?  
*Transactions on Embedded Computing Systems (TECS*, 13(3s), March 2014.
- [39] M. Noman, A. Sanginario, P. Jagdale, M. Castellino, D. Demarchi, and A. Tagliaferro.  
Pyrolyzed bamboo electrode for electrogenerated chemiluminescence of  $\text{Ru}(\text{bpy})_3^{2+}$ .  
*Electrochimica Acta*, 133:169–173, July 2014.
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A microbial fuel cell powering an all-digital piezoresistive wireless sensor system.  
*Microsystem Technologies*, 20(4-5):1023–1033, February 2014.
- [41] M. Crepaldi, M. Grosso, A. Sassone, S. Gallinaro, S. Rinaudo, M. Poncino, E. Macii, and D. Demarchi.  
A Top-Down Constraint-Driven Methodology for Smart System Design.  
*Circuits and Systems Magazine, IEEE*, 14(1):37–57, 2014.
- [42] F. Fuschino, A. Gabrielli, G. Baldazzi, R. Campana, S. Valentinetto, M. Crepaldi, D. Demarchi, and G. Villani.  
A wireless transmission low-power radiation sensor for in vivo dosimetry.  
*J Inst*, 9(02):C02016–C02016, February 2014.
- [43] A Gabrielli, S Bastianini, M Crepaldi, G D'Amen, D Demarchi, I Lax, P Motto Ros, and G Zoccoli.  
Low power wireless ultra-wide band transmission of bio-signals.  
*Journal of Instrumentation*, 9(12):C12002, 2014.
- [44] V. Cauda, P. Motto, D. Perrone, G. Piccinini, and D. Demarchi.  
pH-triggered conduction of amine-functionalized single ZnO wire integrated on a customized nanogap electronic platform.  
*Nanoscale Research Letters*, 9(1), 2014.

- [45] M. Mousavi, S. Appendino, A. Battezzato, A. Bonanno, F.C. Chen, M. Crepaldi, D. Demarchi, A. Favetto, and F. Pescarmona.  
A new method of measuring the stiffness of astronauts' EVA gloves.  
*Acta Astronautica*, 97:130–137, April 2014.
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A 0.07 mm<sup>2</sup> Asynchronous Logic CMOS Pulsed Receiver Based on Radio Events Self-Synchronization.  
*IEEE Transactions on Circuits and Systems I: Regular Papers*, 61(3):750–763, May 2014.
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Bis-Ferrocene Molecular QCA Wire: Ab Initio Simulations of Fabrication Driven Fault Tolerance.  
*IEEE Transactions on Nanotechnology*, 12:498–507, July 2013.
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A 0.18 μm CMOS Low-Power Radiation Sensor for Asynchronous Event-Driven UWB Wireless Transmission.  
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## Invited Talks

- [82] The Bio-inspiration for Low-cost and Low-power Biomedical Circuits and Systems.  
In *ADTC 2017 – European Nanoelectronics Applications, Design & Technology Conference*, Dresden, Germany, May 2017.
- [83] Bio-Inspired Electronics for Biomedical Applications and Robotics. *Seminar at GeorgiaTech University*. Atlanta, GA, USA, November 2016.
- [84] System-aware Design Methodology for MEMS with Model-Order-Reduction. *Seminar at the Workshop “Smart Sensor and Actuators at the Age of Internet of Things”*. Bertinoro (Bo), Italy, August 2014.
- [85] CMOS and Biosensing in a unique IC: reduction of noise, dimensions and cost.  
In *CMOS Emerging Technologies Research Symposium*, Grenoble, France, July 2014.
- [86] Micro4Nano, using CMOS microtechnologies for realizing highly-sensitive Single Molecule BioSensors. *Seminar at the University of Sydney, School of Chemical & Biomolecular Engineering*. Sydney, Australia, June 2014.
- [87] Bio-inspired architectures for the detection and elaboration of biosignals.  
In *2<sup>nd</sup> European Conference From Medicine to Bionics*, Budapest, Hungary, May 2014.
- [88] The Micro4Nano Approach for BioMedical Devices. *Seminar at the Houston Methodist Hospital*. Houston, USA, July 2013.
- [89] BioMEMS and Biodevices based on Nanogaps. *Seminar at the University of California Berkeley*. Berkeley, USA, July 2013.
- [90] Nanogap Electrodes for Nano-Bio-Sensing.  
In *CMOS Emerging Technologies Research Symposium*, Whistler, Canada, July 2013.
- [91] Nanogap based electrodes for the study of single bio-molecules.  
In *1<sup>st</sup> European Conference From Medicine to Bionics*, Budapest, Hungary, June 2013.
- [92] How to talk with nano things: the Micro for Nano approach.  
In *NATO Advanced Research Workshop, Recent Trends in Energy Security with Special Emphasis on Low-Dimensional Functional Materials*, Tashkent, Uzbekistan, October 2012.

- [93] Nanogap devices for single molecule detection.  
In *Nanobiotechnology and Detection International Workshop*, JRC Ispra, Italy, November 2011.
- [94] A CNT based device for ElectroChemiluminescence Sensing.  
In *ECI Conference on Carbon-Based Nano-Materials and Devices*, Suzhou, China, October 2011.
- [95] Carbon Nanotube Electrodes for Electrochemiluminescence Biosensors,.  
In *INEC 2011, International NanoElectronic Conference*, Taipei, Taiwan, June 2011.
- [96] Basic structures & technologies for molecular electronics.  
In *TransAlp'Nano 2010*, Como, Italy, June 2010.
- [97] NanoLab System for Nanoelectronics and Sensors.  
In *EDS IMAPS CS 2009*, Brno, Czech Republic, September 2009.
- [98] MEMS Devices for Blood Cell Counting.  
In *II STIMESI Workshop on MEMS and Microsystems Research and Teaching*, Brandenburg Academy of Sciences and Humanities, Berlin, Germany, November 2008.

## Recent Peer-Reviewed Conference Papers

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All polymeric electrochemical biochip array of patterned gold on silver inkjet printed polyimide.  
In *Meeting Abstracts*, number 19, pages 1066–1066. The Electrochemical Society, 2017.
- [100] S. Sapienza, C. Adans-Dester, A. O'Brien, G. Vergara-Diaz, S. Lee, S. Patel, R. Black-Schaffer, R. Zafonte, P. Bonato, C. Meagher, A.M. Hughes, J. Burridge, and D. Demarchi.  
Using a minimum set of wearable sensors to assess quality of movement in stroke survivors.  
In *2017 IEEE/ACM International Conference on Connected Health: Applications, Systems and Engineering Technologies (CHASE)*, pages 284–285. IEEE, July 2017.
- [101] L. Pirrami, D. Demarchi, and G. Gugler.  
Surface tension-driven self-alignment of double-surface radio-frequency integrated circuits for a low cost and high throughput assembly process of passive rfid tags.  
In *12<sup>th</sup> European Coating Symposium, ECS 2017*, pages 54–56, Nov 2017.
- [102] M. Ruo Roch, D. Demarchi, and S. Tzanova.  
Work-in-Progress: MicroElectronics Cloud Alliance.  
In *EDUCON 2017 Proceedings*, IEEE Global Engineering Education Conference, Apr 2017.
- [103] F. Stradolini, A. Tuoheti, P. Motto Ros, D. Demarchi, and S. Carrara.  
Raspberry pi based system for portable and simultaneous monitoring of anesthetics and therapeutic compounds.  
In *2017 New Generation of CAS (NGCAS)*, pages 101–104. IEEE, 2017.
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Paradigm-Shifting Players for IoT: Smart-Watches for Intensive Care Monitoring.  
In *6<sup>th</sup> International Conference on Wireless Mobile Communication and Healthcare (MobiHealth)*, Nov 2016.
- [105] S. Tzanova, J. Barokas, and D. Demarchi.  
Tempus Project “Education in Nanotechnologies”.  
In *ICERI2016 Proceedings*, 9<sup>th</sup> annual International Conference of Education, Research and Innovation, pages 6373–6378. IATED, Nov 2016.
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In *Enhancing European Higher Education Conference*. EADTU, Oct 2016.
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In *2016 IEEE International Symposium on Circuits and Systems (ISCAS)*, pages 2843–2846, May 2016.
- [108] M. Crepaldi, A. Sanginario, P. Motto Ros, and D. Demarchi.  
Low-latency asynchronous networking for the IoT: Routing analog pulse delays using IR-UWB.  
In *2016 14th IEEE International New Circuits and Systems Conference (NEWCAS)*, pages 1–4, June 2016.

- [109] C. O'Mahony, A. Bocchino, E. Sulas, A. Ciarlone, G. Giannoni, S. O'Callaghan, A. Kenthao, A.J.P. Clover, D. Demarchi, P. Galvin, and K. Grygoryev.  
 Embedded sensors for micro transdermal interface platforms (microtips).  
 In *2016 Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS (DTIP)*, pages 1–5, May 2016.
- [110] V. F. Annese, M. Crepaldi, D. Demarchi, and D. De Venuto.  
 A digital processor architecture for combined eeg/emg falling risk prediction.  
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- [111] P. Motto Ros, M. Crepaldi, C. Bartolozzi, and D. Demarchi.  
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 In *2015 IEEE International Conference on Electronics, Circuits, and Systems (ICECS)*, pages 248–251, Dec 2015.
- [112] J. Secco, M. Farina, D. Demarchi, and F. Corinto.  
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- [113] F. Basilotta, S. Riario, F. Stradolini, I. Taurino, D. Demarchi, G. De Micheli, and S. Carrara.  
 Wireless monitoring in intensive care units by a 3d-printed system with embedded electronic.  
 In *Biomedical Circuits and Systems Conference (BioCAS), 2015 IEEE*, pages 1–4, Oct 2015.
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 In *Advances in Sensors and Interfaces (IWASI), 2015 6th IEEE International Workshop on*, pages 31–36, June 2015.
- [118] M. Stoppa, D. Demarchi, and M. Crepaldi.  
 Live demonstration: An ultra-low power PFM IR-UWB system for short-range audio streaming.  
 In *2015 IEEE International Symposium on Circuits and Systems (ISCAS)*, pages 1896–1896, May 2015.
- [119] B. Miccoli, A. Bonanno, V. Cauda, A. Sanginario, and D. Demarchi.  
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 In *2015 38th International Spring Seminar on Electronics Technology (ISSE)*, pages 431–435, May 2015.
- [120] A. Damilano, M. Crepaldi, H. M. A. Hayat, and D. Demarchi.  
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 New design methodology for mems-electronic-package co-design and validation for inertial sensor systems.  
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- [122] M. Grosso, G. Gangemi, S. Rinaudo, F. Cenni, M. Crepaldi, A. Sanginario, and D. Demarchi.  
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- [123] A. Shahshahani, M. Shahshahani, P. Motto Ros, A. Bonanno, M. Crepaldi, M. Martina, D. Demarchi, and G. Masera.  
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 In *Nanosciences and Nanotechnologies (NN13)*, Thessaloniki, Greece, July 2013.
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