

PERSONAL INFORMATION

George-Stelian Muscalu

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🌐 https://www.researchgate.net/profile/George_Muscalu

🌐 <https://scholar.google.com/citations?user=RT1jhQIAAAAJ&hl=en>

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Date of birth 15/12/1989 | Nationality Romanian

MOTTO

"Those haunted by imagination might be blessed by a rare moment of getting to the other side, seeing unseen, reaching unknown. But it is you, reality, we dare to change." - L. Ristić, Sensor Technology and Devices

WORK EXPERIENCE

07/2014 - present

Scientific Researcher

National Institute for Research and Development in Microtechnologies – IMT Bucharest
126A, Erou Iancu Nicolae Street, 077190, Bucharest, Romania
www.imt.ro

Microsystems in Biomedical and Environmental Applications Laboratory

- MEMS fabrication technologies
- Mask design for MEMS fabrication
- MEMS modelling and simulation
- Signal processing circuitry
- Design and fabrication of printed circuits boards
- Data acquisition software development
- Electrical and electrochemical measurements

Business or sector Research, Development and Innovation

05/2019 - 12/2019

Internship EPFL

École polytechnique fédérale de Lausanne – EPFL
Route Cantonale, 1015 Lausanne, Switzerland
<https://nanolab.epfl.ch/>

Nanoelectronic Devices Laboratory (NANOLAB)

- MEMS fabrication technologies
- Mask design for MEMS fabrication
- CNTs fabrication
- Electrical and electrochemical measurements

Business or sector Research, Development and Innovation

06/2012 - 08/2012

Internship ARCTIC S.A.

ARCTIC S.A., Gaesti, Dambovita, Romania

210, 13 Decembrie Street, 135200, Gaesti, Dambovita County, Romania

www.arctic.ro

Production Department

- ABB Rotech industrial robot programming
- Automation Department
- Repair and maintenance of company equipment
- Design and programming of a virtual production line

Business or sector Industry

EDUCATION AND TRAINING

- 10/2015 – present **PhD Student**
 University Politehnica of Bucharest / Doctoral School of Faculty of Electronics, Telecommunication and Information Technology
 Thesis: Energy harvesting microsystems for biomedical and environmental applications
- 23/11/2023 – 24/11/2023 **Nanocharacterisation Platform Workshop**
 CEA – Leti, DCOS/DIR, Grenoble, France
 Nanocharacterisation workshop
- 30/01/2023 – 31/01/2023 **Selected Batt4EU Partnership Calls Innovation Workshop**
 INESC-ID, Instituto de Engenharia de Sistemas e Computadores: Investigação e Desenvolvimento em Lisboa, Lisboa, Portugal
 Training on consortium forming
- 25/10/2021 – 21/11/2021 **Trainer accreditation**
 S.C. Core Fusion S.R.L.
- 17/10/2021 – 24/10/2021 **Project management accreditation**
 S.C. Core Fusion S.R.L.
- 05/2019 - 12/2019 **Internship EPFL**
 Ecole Polytechnique Fédérale de Lausanne – EPFL / Nanoelectronic Devices group (NANOLAB)
 Route Cantonale, 1015 Lausanne, Switzerland
 Test structures for CNTs-based supercapacitors
- 10/2013 – 07/2015 **Master degree in the field of electronics and telecommunications**
 University Politehnica of Bucharest / Faculty of Electronics, Telecommunication and Information Technology / Master program: Microsystems (UPB-ETTI)
 Thesis: Piezoelectric energy harvester for biomedical and environmental applications
- 07/10/2013 – 08/10/2013 **Nanotechnology for Electronics – EuroTraining – Train-the Trainers course**
 University Politehnica of Bucharest / Faculty of Electronics, Telecommunication and Information Technology
 Main nanotechnologies for electronics
- 10/2009 – 09/2013 **Bachelor degree in the field of electronics and telecommunications**
 University Politehnica of Bucharest / Faculty of Electronics, Telecommunication and Information Technology / Microelectronics, Optoelectronics and Nanotechnologies (UPB-ETTI)
 Thesis: Xilas – autonomous biped robot
- 10/2009 – 06/2012 **Psycho-pedagogical training – Level 1**
 University Politehnica of Bucharest / Teacher Training Department
- 06/2010 **Training – Introduction in design and fabrication of printed circuit boards (PCB)**
 University Politehnica of Bucharest / Center for Electronics Technology and Interconnection Techniques
- 09/2005 – 06/2009 **Baccalaureate**
 “Vladimir Streinu” National College, Găești, Dâmbovița

PERSONAL SKILLS

Mother language(s) Romanian

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
German	A1	A1	A1	A1	A1

Levels: A1/A2: Basic user - B1/B2: Independent user - C1/C2 Proficient user
[Common European Framework of Reference for Languages](https://www.europecouncil.org/en/education/cer/cer-framework-reference-for-languages)

Communication skills

Aspiring, tenacious, pliable
 I fit easily into different social groups.
 Team spirit developed during high school (basketball, drama), faculty (RoboChallenge contest, Minerva program, research projects) and at work (research projects).

Organisational / managerial skills	<p>Organisational skills which were acquired by organizing the International Semiconductor Conference CAS (2016-2023).</p> <p>Good experience in project management, coordinating a team and tutoring students, acquired during the master program as a squad leader, through participation in various competitions (RoboChallenge, Minerva), volunteering as a member in the LSE student organization (The League of Electronic Students).</p> <p>I can work well under pressure and I am able to cope with unforeseen situations.</p>
Job-related skills	<p>MEMS simulation in CoventorWare and COMSOL Multiphysics (IMT-Bucharest, Microsystems master program)</p> <p>Masks design in CleWin (IMT-Bucharest, Microsystems master program)</p> <p>Microtechnologies for MEMS fabrication (IMT-Bucharest, EPFL, Microsystems master program)</p> <p>Carbon nanotubes fabrication techniques – CNTs (EPFL)</p> <p>Design and simulation of signal processing circuitry (IMT-Bucharest, UPB-ETTI)</p> <p>Design and fabrication of printed circuits boards (PCB) (IMT-Bucharest, UPB-ETTI)</p> <p>Electrochemical characterization with VoltaLab , PalmSENS (IMT-Bucharest, EPFL)</p> <p>Software design for data acquisition in LabVIEW (IMT-Bucharest, UPB-ETTI)</p> <p>Design of mechanical components in Autodesk Inventor/3D Studio Max (IMT-Bucharest, bachelor thesis, RoboChallenge)</p> <p>Microcontrollers programming (UPB-ETTI, bachelor thesis)</p> <p>FPGA programming (UPB-ETTI)</p> <p>ABB Rotech industrial robot programming (Internship at Arctic S.A.)</p> <p>Design and simulation of a production line (Internship at Arctic S.A.)</p>
Digital competence	<ul style="list-style-type: none"> ▪ Simulation software: COMSOL Multiphysics, CoventorWare, LTSpice ▪ Programming language: C/C++, Matlab, Verilog, object oriented programming ▪ Software packages: <ul style="list-style-type: none"> - CleWin (Masks design) - Proteus, Eagle (PCB design) - LabVIEW (data acquisition software development) - Macromedia (Dreamweaver/Flash/Fireworks) - Microsoft Office (Word/Excel/PowerPoint)
Driving licence	B Category
Hobby	<p>Carpentry</p> <p>3D printing (design, fabrication)</p>

ADDITIONAL INFORMATION

Research Projects	<p><i>Piezoelectric Energy Source for Smart Factory Applications – SmartEnergy, 2021-2023</i></p> <p><i>Arm neuroprosthesis equipped with artificial skin and sensorial feedback – ARMIN, 2019-2023</i></p> <p><i>Micro-nanotechnologies for monitoring of greenhouse gases – TECH4GREEN, 2020-2022</i></p> <p><i>Smart System for Indoor Air Quality Monitoring – VigiAIR, 2020-2022</i></p> <p><i>Technology for the fabrication of microbiosensors prototypes with rapid detection through Förster resonance (FRET) for early diagnosis of acute myocardial infarction – CardioFRET, 2020-2022</i></p> <p><i>Smart portable system for vocs detection – VOC-DETECT, 2019-2022</i></p> <p><i>New methods of pregnancy monitoring and prenatal diagnosis – MiMoSa, 2018-2021</i></p> <p><i>Sensors and Integrated Electronic and Photonic Systems for people and Infrastructures Security – SENSIS, 2018-2021</i></p> <p><i>Intelligent bracelet for blood pressure monitoring and detection of preeclampsia – i-Bracelet, 2017-2020</i></p> <p><i>Frictionless energy efficient convergent wearables for healthcare and lifestyle applications – CONVERGENCE, 2017-2020</i></p> <p><i>Piezoelectric MEMS for efficient energy harvesting – PiezoMEMS, 2015-2018</i></p>
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