


## PERSONAL INFORMATION

## Filipe Manuel Serra Alves



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Sex Male | Date of birth 08/10/1989 | Nationality Portuguese

## PERSONAL STATEMENT

Microelectronics Researcher with certified project management skills.

## WORK EXPERIENCE

12/09/2016–Present

**College / university teaching professional**

University of Minho, Guimarães (Portugal)

**Teaching Assistant:**

- Circuit analysis;
- Micro-sensors and micro-actuators;

01/03/2012–08/06/2017

**PhD Student**

Department of Industrial Electronics, School of Engineering , University of Minho  
Campus de Azurém, 4800-058 Guimarães (Portugal)

[www.dei.uminho.pt](http://www.dei.uminho.pt)

**Subject:** Auto-calibrated, thermal-compensated MEMS for smart Inclometers.

**Field of Study:** Sensors Design, Digital Circuit Design, Analog Circuit Design, ASIC Mixed-Signal Design & Verification.

01/10/2014–30/03/2015

**Visitor PhD Student**

INL - International Iberian Nanotechnology Laboratory, Braga (Portugal)

**Working field:** CMOS IC design;

01/03/2015–31/12/2015

**Visitor PhD Student**

Delft University of Technology (TU Delft), Delft (Netherlands)

**Working field:** CMOS IC design;

01/02/2016–Present

**Visitor PhD Student**

INL - International Iberian Nanotechnology Laboratory, Braga (Portugal)

**Working field:** CMOS IC design/testing;

## EDUCATION AND TRAINING

01/03/2012–08/06/2017

**Doctor of Philosophy (PhD)**

University of Minho, Guimarães (Portugal)

**Field:** Microelectronics and Embedded Systems

**Main Topics:** CMOS Mixed-Sinal Design, MEMS based Sensors

FCT Grant (SFRH/BD/90172/2012) from March 2012 to March 2017.

08/10/2016–03/12/2016 **Project Management**

APOGEP - Portuguese Project Management Association

- **Team Management**-Team building, stakeholders analysis, leadership,...
- **Organizations ans projects strategies**- Portfolio management, Governance, OBS, PMO...
- **Communication**- Verbal and non-verbal communication, presentation techniques, personal marketing, meeting and negotiation skills,...
- **Scope Definition**- Project scope definition, work packages, deliverables, WBS and PBS...
- **Planing a Project**- Scheduling, PERT, CPM, GANTT, resources leveling techniques,...
- **Risk Analysis**- Risk management, opportunities, risk planning, monitoring and control,...
- **Cost Analysis**- Investments, Earned Value Project Management, costs control,...

01/09/2010–30/11/2012 **Master of Engineering (MEng)**

University of Minho, Guimarães (Portugal)

**Field:** Electronics and Computer Engineering

**Main Topics:** Microelectronics, Non-linear Dynamic Systems, Optimal and Adaptive Control, FPGA Digital Design, Low-Level Design, Operating Systems.

01/09/2007–31/07/2010 **Bachelor of Science (BSc)**

University of Minho, Guimarães (Portugal)

**Field:** Electronics and Computer engineering

PERSONAL SKILLS

Mother tongue(s) Portuguese

Other language(s)

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	B2	B2	B2	B2	B2
French	A2	A2	A1	A1	A1
Spanish	C1	B2	B2	B2	B1

Levels: A1 and A2: Basic user - B1 and B2: Independent user - C1 and C2: Proficient user  
Common European Framework of Reference for Languages

Communication skills

- Good communication skills gained through my experience in international scientific conferences and communication courses;
- Developed ability to produce reports and presentations to a professional standard;

Organisational / managerial skills

- Leadership (during the last 4 years was responsible for advising 5 master students);
- Effective at time management and prioritising tasks to achieve deadlines;

Job-related skills

- **Programming languages:** C/C++/C#, SQL, Visual Basic, Verilog, SytemVerilog, Assembly, TLC,

- MATLAB;
  - **Programming Environments:** GNU Toolchain, Microsoft Visual Studio, Qt Creator, Keil uVision, Atmel AvrStudio, Altera Quartus II;
  - **Hardware platforms:** 8051, NGW100, Atmel Butterfly, Atmel Raven, FriendlyARM, Altera DE2-70, Xilinx Spartan 3-E;
  - **IC design tools:** Cadence, Synopsys, Tanner EDA;
  - **Simulation tools:** ModelSim, Spectre, HSPICE, Vcs, NcVerilog;
  - **Computer-aided engineering (CAE):** Ansys workbench;
  - **PCB Design tools:** Eagle, Altium Designer;
- Digital competence
- **Operating Systems software development:** Windows, Linux;
  - **Office software:** Highly proficient at Excel, Word & Powerpoint;
  - **Others:** Adobe Illustrator, MATLAB, Latex;
- Other skills
- **Music:** Beginner Piano and bass guitar, 8 years of professional music conservatory in TUI, Spain as a student trumpet. Experience in teaching Trumpet and music theory. Sixteen years participation in a Philharmonic Orchestra as a trumpet player. Several different music projects as trumpet player or bass guitar player;
  - **Volunteering:** Two years of volunteering in a kindergarten for needy children;
  - **Sports:** Six years of athletics competitions. Practiced several other sports: kickboxing, football and swimming;
- Driving licence
- B

ADDITIONAL INFORMATION

- Certifications
- IPMA Level D** - Certified Project Management Associate by the International Project Management Association (IPMA).
- Publications
- 2016**
- Esteves Moreira, E., Lima, V., Serra Alves, F., Cabral, J., Gaspar, J., & Rocha, L. A. (2016). "*Full-gap tracking system for parallel plate electrostatic actuators using closed-loop control*". *Sensors and Actuators, A: Physical*, 244, 174–183.
  - N. Brito, C. Ferreira, F.S. Alves, J. Cabral, J. Gaspar, J. Monteiro, L.A. Rocha (2016). "*Digital Platform for Wafer-Level MEMS Testing and Characterization Using Electrical Response*". *Sensors 2016*, Volume 16, Ed. 9, pp-1553.
- 2015**
- F.S. Alves, R.A. Dias, J. Cabral, J. Gaspar, L.A. Rocha, "*High-Resolution MEMS Inclinator Based on Pull-In Voltage*", in *Journal of Microelectromechanical Systems*, Volume 24, 2015, Pages 931–939;
  - Moreira, E. E., Alves, F.S., Dias, R. A., Costa, M., Fonseca, H., Cabral, J., Rocha, L. A. (2015). "*Bi-directional extended range parallel plate electrostatic actuator based on feedback linearization*". In 2015 28th IEEE International Conference on Micro Electro Mechanical Systems (MEMS) (pp. 1036–1039).
  - Brito, N., Alves, F.S., Cabral, J., Gaspar, J., Monteiro, J., & Rocha, L. A. (2015). "*Embedded MEMS platform for structure test and characterization*." *Procedia Engineering*, 120, 67–70.
  - Dias, R. A., Alves, F.S., Costa, M., Fonseca, H., Cabral, J., Gaspar, J., & Rocha, L. A. (2015). "*High-performance pull-in time accelerometer*". 2015 Transducers - 2015 18th International Conference on Solid-State Sensors, Actuators and Microsystems, TRANSDUCERS 2015, 1109–1112.

- Dias, R. A., Alves, F. S., Costa, M., Fonseca, H., Cabral, J., Gaspar, J., & Rocha, L. A. (2015). "Real-Time Operation and Characterization of a High-Performance Time-Based Accelerometer". *Journal of Microelectromechanical Systems*, 24(6), 1703–1711.

**2014**

- F.S. Alves, R.A. Dias, J. Cabral, J. Gaspar, L.A. Rocha, "Thermal Compensated Pull-in Voltage MEMS Inclinometers", in *Procedia Engineering*, Volume 87, 2014, Pages 831–834;
- E.E. Moreira, F.S. Alves, R.A. Dias, J. Cabral, J. Gaspar, L.A. Rocha, "Full-gap Tracking System for Parallel-plate Electrostatic Microactuators", in *Procedia Engineering*, Volume 87, 2014, Pages 1386–1389;
- S. Pinto, J. Pereira, D. Oliveira, F. Alves, E. Qaralleh, M. Ekpanyapong, J. Cabral, A. Tavares, "Porting SLOTH System to FreeRTOS running on ARM Cortex-M3", in the 23rd IEEE International Symposium on Industrial Electronics (ISIE 2014), Istanbul, Turkey, June 2014.

**2013**

- F.S. Alves, R.A. Dias, J. Cabral, L.A. Rocha, "FPGA controlled MEMS inclinometer", in the 22nd IEEE International Symposium on Industrial Electronics (ISIE 2013), Taipei, Taiwan, May 2013;
- F.S. Alves, R.A. Dias, J. Cabral, J. Gaspar, L.A. Rocha, "High resolution pull-in inclinometer", in The 17th International Conference on Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS & EUROSensors XXVII), 2013, 928 - 931;

**2012**

- F.S. Alves, R.A. Dias, J. Cabral, L.A. Rocha, "Pull-in MEMS Inclinometer", in *Procedia Engineering* Volume 47, 2012, Pages 1239–1242;
- F.S. Alves, R.A. Dias, J. Cabral, L.A. Rocha, "Micro Inclinómetro Eletromecânico", SAAEI12 Seminarium on Automation, Industrial Electronics and Instrumentation, Guimarães, Portugal, July 2012
- F. S. Alves, R. A. Dias, J. Cabral, L. A. Rocha, "Autonomous MEMS inclinometer", in *Autonomous and Intelligent Systems Lecture Notes in Computer Science 2012*, pp 26-33;

**Conferences****2014**

- Participation and presentation in EUROSensors 2014, the 28th European Conference on Solid-State Transducers, Brescia, Italy, September 2014;

**2013**

- Participation and presentation in The 17th International Conference on Solid-State Sensors, Actuators and Microsystems (TRANSDUCERS & EUROSensors XXVII), Barcelona, Spain, June 2013;

**2012**

- Participation and presentation in EUROSensors 2012, the 26th European Conference on Solid-State Transducers, Kraków, Poland, September 2012;
- Participation and presentation in Seminarium on Automation, Industrial Electronics and Instrumentation (SAAEI12), Guimarães, Portugal, July 2012;
- Participation and presentation in Autonomous and Intelligent Systems Third International Conference, AIS 2012, Aveiro, Portugal, June 2012;