Curriculum Vitae

Dr. Farid Boussaid

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2015

Professional Experience

Sept. 2014 – date	**Head of School** School of Electrical, Electronic and Computer Engineering The University of Western Australia Perth, Australia
Aug. 2014 – date	**Professor** School of Electrical, Electronic and Computer Engineering The University of Western Australia Perth, Australia
Feb. 2008 – Aug. 2014	**Associate Professor** School of Electrical, Electronic and Computer Engineering The University of Western Australia Perth, Australia
Jan. 2005 – Feb. 2008	**Assistant Professor** School of Electrical, Electronic and Computer Engineering The University of Western Australia Perth, Australia
Jan. 2002 – Dec. 2004	**Australian Post Doctoral Fellow (APD)** Centre for Very High Speed Microelectronic Systems Edith Cowan University Perth, Australia
Mar. 2000 – Dec. 2001	**Post Doctoral Fellow** Centre for Very High Speed Microelectronic Systems Edith Cowan University Perth, Australia

Education

May 1999	**Ph.D. in Microelectronics** National Institute of Applied Science of Toulouse (INSAT) LAAS-CNRS Research Laboratory Toulouse, France
July 1996	**Master in Microelectronics** National Institute of Applied Science of Toulouse (INSAT) LAAS-CNRS Research Laboratory Toulouse, France
June 1995	**Bachelor of Electronic Engineering** University of Science and Technology Houari Boumedienne (USTHB), Algiers, Algeria.

Research experience & expertise

- **Integrated Circuit design of single-chip smart sensors –** Full-cycle development of mixed-mode analog/digital circuit designs such as: **(i) miniature CMOS cameras integrating on-chip early vision processing capabilities** including dynamic range compression, edge detection, image enhancement, and real-time detection of human skin for subsequent face detection, gesture recognition, lip reading, monitoring driver's hypo-vigilance or tracking a person in a crowd. Developed prototypes were optimized for power consumption and silicon area; and **(ii) bio-inspired electronic nose** CMOS **chip with an integrated gas recognition circuitry**, which examines the pattern of relative excitations across the population of gas sensors and looks for a "match" within a library of spatio-temporal gas fingerprints.

- **Microelectronics Fabrication Technology – (i) Contribution to the development of European semiconductor industry standard 0.18µm CMOS process** through the fabrication of high performance ultra-thin p^+n junctions for ULSI PMOS transistors. This was carried out by investigating three crucial technological steps, namely a low-energy B^+ implantation, a BF_2^+ implantation and a germanium preamorphization of Si-substrates; **(ii) fabrication of tin oxide SnO_2 gas sensor arrays** for electronic nose chips. A microhotplate heater was integrated with each sensor to enable adsorption at high temperature; and **(iii) development of novel high-resolution micropolarizer array fabrication technologies enabling the concept of a fully integrated polarization camera-on-chip.** The developed technologies exploit the well-controlled process of ultraviolet photolithography to define the orientation of the micropolarizer elements covering individual photosensitive pixels. In contrast, prior works exhibit poor yield because they all rely on the relatively complex process of selective etching, which is difficult to control at the micrometer-scale pixel pitch.

- **Signal and image processing – (i) Development of robust 3D object and face recognition algorithms** for machine vision and robotics; **(ii) Development of image restoration algorithms for paper-thin vision sensors modeled after the compound eye of insects**. These biomimetic sensors are half a millimeter thick and can generate a high-resolution image from the simultaneous acquisition of a mosaic of low resolution images; **(iii) Implementation of robust image processing algorithms based on shunting inhibitory cellular neural networks**. This networks possess interesting adaptive characteristics akin to those of natural vision systems. **(iv) Implementation of** c**ompressive sensing for CMOS cameras** to enable the signal to be sampled (and simultaneously compressed) at a greatly reduced rate. The energy and computation consumption associated to sensor nodes can thus be dramatically reduced by shifting the computational cost of compressive sampling to the decoder in the base station; and **(v) Development of bio-inspired gas recognition mimicking the key signal processing mechanisms occurring in the olfactory pathway**. This approach constitutes a unique departure from the current practice of processing multivariate gas sensor array data through the direct application of computationally expensive statistical/pattern recognition techniques.

- **Semiconductor Characterization –** Development of a **novel high resolution method to determine the physical parameters of deep levels and interface states in semiconductors.** The proposed method, named (MP-DLTS), exploits Matrix Pencil (MP) spectrum estimation to process the multi-exponential capacitance transients that arise in Deep Level Transient Spectroscopy (DLTS). This novel approach has been found to consistently extend the linear regions and resolve closely spaced activation energies on Arrhenius plots. Another important feature of the developed technique is that it does not require prior knowledge of the number of discrete electronically active traps.

Research Funding

Competitive external funding grants

1. *Smart CMOS Vision Sensors in Deep Sub-0.25μm CMOS Technologies*, ***Australian Research Council Postdoctoral Fellowship***, **$222,932**, **2002-2004,** *Chief investigator:* **F. Boussaid**

2. *A Skin Detection Micro-Sensor for Face Identification using Color and Stereo Information*, ***Australian Discovery Project***, **$150,000**, **2004-2006,** *Chief investigators:* A. Bouzerdoum, **F. Boussaid**, D. Chai

3. *Biomimetic Ultra-Thin Compound Eye Vision Sensor*, ***Australian Research Council Discovery Project***, **$162,000**, **2006-2008,** *Chief investigator:* **F. Boussaid,** *Partner investigator:* R. Etienne-Cummings

4. *3D Scanning and Printing Facilities (3DSPF)*, ***Australian Research Council Linkage Infrastructure Equipment Facilities***, **$150,000**, **2007,** *Chief investigators:* M. Bennamoun, R. Owens, D. Lichti, M. Stewart, A. Rohl, M. Spackman, G. Parkinson, M. Ogden, D. Sampson, J. Trevelyan, K. Haines, **F. Boussaid**, S. Worden, I. Fitzsimons

5. *Power System Emulation Hardware Platform with Interactive Student Interface*, ***Australian Power Institute***, **$38,123**, **2012-2013,** *Chief investigators:* V. Sreeram, **F. Boussaid**, G. Crebbin

6. *Bio-Inspired Sniffer Chips*, ***Australian Research Council Discovery Project***, **$210,000**, **2013-2015,** *Chief investigator:* **F. Boussaid,** *Partner investigator:* A. Bermak

7. *Advanced Vision System for Automatic Shark Detection and Tracking*, ***Western Australia Office of Science Applied Research Program ARP Shark Hazard Mitigation***, **$203,234**, **2013-2014,** *Chief investigators:* M. Bennamoun, F. Sohel, **F. Boussaid**, S. An

8. *Development and Testing of Novel Shark Deterrents*, ***Western Australia Office of Science Applied Research Program ARP Shark Hazard Mitigation***, **$222,221**, **2013-2014,** *Chief investigators:* N. Hart, S. Collin, R. McCauley, **F. Boussaid**

9. *Advanced Computer Vision Techniques for Marine Ecology*, ***Australian Research Council Discovery Project***, $614,700, **2015-2019,** *Chief investigators:* M. Bennamoun, **F. Boussaid,** G. Kendrick, R. Fisher.

Internal funding schemes

10. *Towards Advanced CMOS Imaging Technology*, Faculty Grant scheme, Edith Cowan University, **$5,092**, **2001,** *Chief investigator:* **F. Boussaid**

11. *IC Design Research Laboratory (ICLAB)*, Faculty Start-up Grant, The University of Western Australia, **$35,000**, **2006,** *Chief investigator:* **F. Boussaid**

12. *Development of Universal Power Flow Converter to increase the capacity of Single-Wire Earth Return"*, Faculty Research Development Grant, The University of Western Australia, **$20,000**, **2013,** *Chief investigators:* **V. Sreeram and F. Boussaid**

Research Supervision and Training

Higher Degree by Research (HDR) Completions

To date, I have supervised **5 PhD students to completion:**

- **Said Elaiwat,** *Engineered and learned features for face and facial expression recognition,* **PhD Thesis**, **2015**
- **Yan Wang,** *On-chip focal-plane compression for CMOS image sensors,* **PhD Thesis**, **2012**
- **Xiaoxiao Zhang,** *Power consumption optimization in digital image processing modules for image sensor applications,* **PhD Thesis**, **2011**
- **Kwan Ting Ng**, *Gas recognition circuits for integrated CMOS electronic noses,* **PhD Thesis**, **2011**
- **Xiaojin Zhao**, *Micropolarizing Devices for CMOS Polarization Image Sensors,* **PhD Thesis**, **2010**

Excellence in Postgraduate Research Supervision

My PhD students have been well received both nationally and internationally, as evidenced by:

- **Kwan Ting Ng was the recipient of a Best paper Award** at the IEEE International Symposium on Circuits and Systems (ISCAS), in Paris, France, 2010.
- **Xiaojin Zhao was awarded distinction for his PhD thesis. This distinction is only awarded to the top 5% of UWA theses.**
- **Jaber Al-Yamani received a Best poster Award** at the Postgraduate Electrical Engineering and Computing Symposium (PEECS'12), Perth, Australia, 2012.
- **Mohamad Susli received a Best paper Award** at the IEEE International Conference on Circuits and Systems (ICCAS'13), in Kuala Lumpur, Malaysia, 2013.

Supervision of Postdoctoral Research Fellows

- **Dr. Amar El-Sallam (2007-2008)** involved in the development of super-resolution image restoration algorithms for vision sensors modeled after the compound eye found in insects and in many other arthropods. This research was funded by a Discovery grant (DP0664909) from the Australian Research Council.
- **Dr. Senjian An (2013-2015)** involved in the development of advanced image processing algorithms for automatic real-time recognition and tracking of sharks along Western Australia coastline. This research was funded by a grant from the Western Australia Office of Science, Applied Research Program ARP Shark Hazard Mitigation.

Teaching Experience

Courses Taught at The University of Western Australia

Unit Code	Unit Name	Level	Year	Roles
ELEC1300	*Computer Engineering*	1st year	2005–06 2012	Lecturer, Unit Coordinator (**UC**)
ELEC1301	*Computer Hardware*	1st year	2005–06 2012	Lecturer, UC
GENG1003	*Introduction to Professional Engineering*	1st year	2005	Lecturer,
ELEC2301	*Digital System Design*	2nd year	2008–13	Lecturer, UC
GENG2140	*Modeling & Computing Analysis for Engineers*	2nd year	2009	Lecturer
ELEC3301	*Circuits & Electronic Systems*	3rd year	2005–07	Lecturer, UC
ELEC4302	*Digital Microelectronic System Design*	4th year	2005–14	Lecturer, UC
ELEC8320	*Advanced Digital VLSI Design*	Master	2007–11	Lecturer, UC
ELEC8323	*Analog Integrated Circuit Design*	Master	2007–11	Lecturer, UC
ENSC3017	*Circuits & Electronics*	3rd year	2013-14	Lecturer, UC
ELEC5503	*Digital Microelectronic System Design*	Master	2015	Lecturer, UC

Curriculum and Course Development

- Undergraduate unit *Circuits and Electronics* (ENSC3017) and *master unit Digital Microelectronics System Design* (ELEC5503) developed for the new 2012 UWA streamlined course structure. This includes developing the course outline and designing lecture material and new laboratory classes.

- *Advanced Digital VLSI Design* (ELEC8320) and *Analog Integrated Circuit Design* (ELEC8323) developed (2007) for the Master of Engineering in Microelectronics, which offers an advanced qualification in the specialist area of integrated circuit design, targeting the growing international student markets in India and China.

Awards and Distinctions

- **University of Western Australia Award for Excellence in Teaching, 2014**
- **University of Western Australia Student Guild Students' Choice, 2014**
- **Teaching Excellence Award, Individual Teaching Category,** Faculty of Engineering, Computing and Mathematics**,** The University of Western Australia, **2012**
- **Best Paper Award** at the IEEE International Conference on Circuits and Systems (ICCAS'13), in Kuala Lumpur, Malaysia, **2013**
- **Best Poster Award** at the Postgraduate Electrical Engineering and Computing Symposium (PEECS'12), Perth, Australia, **2012**
- **Best Paper Award** at the IEEE International Symposium on Circuits and Systems (ISCAS'10), Paris, **2010**
- **IEEE Chester Sall Award** given to recognize the best papers published in the IEEE Transactions on Consumer Electronics, Las Vegas**,** USA**, 2007**
- Nominated as **"Expert of international standing"** by the Australian Research Council, **2007**
- **Best Paper Award** at the 5th IEEE International Workshop on System-On-Chip for Real-Time Applications, held in Banff, Alberta, Canada, **2005**
- **Senior Member** of the Institute of Electrical and Electronics Engineers (IEEE), **2004**
- **Visiting Professor Fellowship from the Tokyo University of Science** to carry out collaborative work on "biologically inspired smart vision sensors" within the Department of Electrical engineering, January-March **2004**
- **Australian Patent Application** No. 2003900109, "Method and Apparatus for Current Reset and Readout of CMOS Imagers" sponsored by Edith Cowan University, **2004**
- Executive Dean's list of **top ten researchers** at Edith Cowan University, **2002**
- **Fellowship from the American National Science Foundation** (NSF) to participate at the summer workshop on "Neuromorphic Engineering" held in Telluride, Colorado, USA, **2001**.
- **Special Distinction "***avec les Felicitations du Jury*[1]**"** awarded by the PhD jury for outstanding PhD thesis, Toulouse, France, **1999**
- **Rector's Award for excellence in studies** for the top electronic engineering student at USTHB University, Algiers, **1995**
- **Excellence postgraduate Scholarship** awarded by the French government for a period of 5 years, **1995**

[1] Highest distinction given for a PhD award in France.

University Service

- **Elected member (2010-2014) of the University of Western Australia Academic Board,** which recommends to the Senate the making, amending and repealing of regulations relating to courses, scholarships, prizes and other awards and to all other academic-related matters.

- **Elected member (2013-14) of the University of Western Australia Academic Council,** which is the Executive Committee of the Academic Board. The Council determines all matters which by statute, regulation, or custom are the Board's responsibility.

- **Elected member of the University of Western Australia Scholarships Committee (2013-16),** which advises on policy matters relating to the establishment, funding and administration of undergraduate/postgraduate coursework scholarships and postgraduate research awards.

- **University of Western Australia Representative (2005-2012)** on the Board of Directors of the National Networked Teletest Facility for Integrated Systems (NNTTF), The University of Western Australia.

- **Node manager and member of the Technical Advisory** of the National Networked Teletest Facility for Integrated Systems (NNTTF).

- **University of Western Australia representative (2005-date)** on the organizing committee of the Postgraduate Electrical Engineering and Computing Symposium (PEECS).

- **Programme coordinator (2008-11) and Course advisor (2008-date)** for the Bachelor of Electrical & Electronic Engineering, The University of Western Australia.

- **Coordinator, undergraduate queries (2012-2014)** for the School of Electrical, Electronic & Computer Engineering, The University of Western Australia.

- **Final year Project Coordinator and organizer (2007-2014)** of the final year project symposium, School of Electrical, Electronic & Computer Engineering, The University of Western Australia.

- **Membership (2006-2014) of the School Teaching and learning Committee and Education Committee,** The University of Western Australia.

- **Active Promotion of the School of Electrical, Electronic & Computer Engineering and The University of Western Australia**, during open days, demonstrations and tours for visitors and prospective students.

- **Community activities** with ongoing IEEE Western Australia Section programme of seminars, workshops in the fields of Communication, Computer and Power engineering to promote the various engineering disciplines.

- **Consulting for DigiSensory Technologies Pty Ltd** to develop distributed smart camera networks through an integrated exploration of distributed algorithms, embedded architectures and software synthesis techniques".

- **Consulting for Caltex Petroleum Australia** to help identifying the risk of ignition during the fuel tanker delivery process. This project with UWA was initiated in response to some isolated incidents across Caltex fuel delivery system.

- **Consulting for the Royal Perth Yacht Club** to help build a computerized pneumatic flag raising system for the selection series that determined the competitors for the 2012 London Olympic Games.

Professional Activities

- **Technical Program Committee membership for the following events:** Conference on Optoelectronic and Microelectronic Materials and Devices (COMMAD), 2006; International Symposium on Electronic Design, Test & Applications (DELTA), 2008 & 2010; 3rd international conference on Signals, Circuits, and Systems (SCS), 2009; Asia Symposium on Quality Electronic Design (ASQED), 2010-2013; 18th International Mixed-signals, sensors, and systems Test Workshop (IMS3TW'12); Interdisciplinary Engineering Design Education Conference (IEDEC), 2013-2014, 7th Australian Workshop on Computational Neuroscience (NeuroEng2014).

- **Tutorial Chair for the 2009 IEEE Biomedical Circuits and Systems Conference.**

- **Session Chair for:** 8th International Symposium on Signal Processing and its Applications (ISSPA), International Symposium on Electronic Design, Test & Applications (DELTA), 2008; and Asia Symposium on Quality Electronic Design (ASQED), 2011.

- **Chair (2007) and Vice-Chair (2005-2006)** of the Signal processing Chapter, IEEE Western Australia Section.

- **Secretary (2010-2013)** of the Electron Devices, Solid-State Circuits, & Photonics Societies Chapter, IEEE Western Australia Section.

- **SAMIEEE database officer** (2004-date) for the IEEE Western Australia Section.

- **Reviewer for the following journals:** IEEE Journal of Solid-State Circuits, IEEE Transactions on Very Large Scale Integration (VLSI) Systems, IEEE Transactions on Circuits and Systems Part I & Part II, IEEE Sensors Journal, IEEE Transactions on Biomedical Circuits and Systems, Sensors.

- **Examiner of PhD and master theses from Australia (**e.g. University of Wollongong, Edith Cowan University) and abroad (e.g. Auckland University of Technology, NANYANG Technological University, University of Auckland).

- **Reviewer** of books for Cambridge University Press and World Scientific Publishing.

- **Assessor** of research grant applications for the Australian Research Council, Qatar Foundation.

List of fully refereed Publications

Book Chapters

1. X. Zhao, A. Bermak, **F. Boussaid**, "A Low Cost CMOS Polarimetric Ophthalmoscope Scheme for Cerebral Malaria Diagnostics", in *VLSI-SoC: The Advanced Research for Systems on Chip*, IFIP Advances in Information and Communication Technology, Vol. 379, Springer Verlag, **2012**

2. M. Susli, **F. Boussaid**, C. Shoushun, and A. Bermak, "Arbitrated AER Image Coding Schemes", in *Signal Processing for Image Enhancement and Multimedia Processing*, Multimedia Systems and Applications Series, vol. 34, Chapter 27, Springer Verlag, **2007**

3. A. Bouzerdoum, D. Chai and **F. Boussaïd**, "Analog Signal Processing", in *UNESCO Encyclopedia Of Life Support Systems (EOLSS)*, **2003**
   Link to EOLSS web site: http://www.eolss.net/

4. **F. Boussaïd**, A. Bermak and A. Bouzerdoum, "A current mode CMOS imager using shunting inhibition-based dynamic range compression," in *Recent Advances in Circuits, Systems and Signal Processing*, edited by N. Mastorakis and G. Antoniou, WSEAS Press, **2002**

5. **F. Boussaïd**, F. Olivié, M. Benzohra, D. Alquier, A. Claverie and A. Martinez, "Electrical active defects in the band-gap induced by Ge-preamrphization of Si-substrates," in *Silicon Front-End Technology-Materials Processing and Modeling*, vol. 532, edited by N.E.B. Cowern and Dale C. Jacobson, Materials Research Society, **1998**

Journal Papers

6. S. Lu, **F. Boussaid**, "A Self-Resetting Piezoelectric Energy Harvesting Rectifier", *IEEE Transactions on Power Electronics*, vol. 30, no. 10, pp. 5364 - 5369, **2015**

7. S. Lu, **F. Boussaid**, " An Inductorless Self-Controlled Rectifier for Piezoelectric Energy Harvesting", *Sensors*, vol. 15, no. 11, pp. 29192-29208, **2015**

8. S.A.A. Shah, M. Bennamoun, **F. Boussaid**, "A novel 3D vorticity based approach for automatic registration of low resolution range images", *Pattern Recognition*, vol. 48, no. 9, pp. 2859-2871, **2015**

9. X. Zhang, C. Nansen, N. Aryamanesh, G. Yan, **F. Boussaid**, "Importance of spatial and spectral data reduction in detection of internal defects in food products", *Applied Spectroscopy*, vol. 69, no. 4, pp. 473-480, **2015**

10. S. An, **F. Boussaid**, M. Bennamoun, F.A. Sohel, "Quantitative error analysis of bilateral filtering", *IEEE Signal Processing Letters*, vol. 22, no. 2, pp. 202-206, **2015**

11. S. Elaiwat, M. Bennamoun, **F. Boussaid**, A. El-Sallam, "A Curvelet-based approach for textured 3D face recognition", *Pattern Recognition*, vol. 48, no. 4, pp. 1231-1242, **2015**

12. S. Elaiwat, M. Bennamoun, **F. Boussaid**, A. El-Sallam, "3D Face Recognition Using Curvelet Local Features," *IEEE Signal Processing Letters*, vol. 21, no. 2, pp. 172-175, **2014**

13. X. Zhang, **F. Boussaid**, A. Bermak, "32 Bit×32 Bit Multiprecision Razor-Based Dynamic Voltage Scaling Multiplier With Operands Scheduler," *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, vol. 22, no. 4, pp. 759-770, **2014**

14. J. Al Yamani, **F. Boussaid**, A. Bermak, D. Martinez, "Glomerular latency coding in artificial olfaction," *Frontiers in Neuroengineering*, vol. 4, Article 18, pp. 1-9, **2012**

15. K. Ng, **F. Boussaid**, A. Bermak, "A CMOS single-chip gas recognition circuit for metal oxide gas sensor arrays," *IEEE Transactions on Circuits and Systems I*, vol. 58, no. 7, pp. 1569-1580, **2011**

16. X. Zhao, **F. Boussaid**, A. Bermak, V. G. Chigrinov, "High-resolution thin "guest-host" micropolarizer arrays for visible imaging polarimetry," *Optics Express*, vol. 19, issue 6, pp. 5565-5573, **2011**

17. X. Zhao, A. Bermak, **F. Boussaid**, V. G. Chigrinov, "Liquid-crystal micropolarimeter array for full Stokes polarization imaging in visible spectrum," *Optics Express*, vol. 18, issue 17, pp. 17776-17787, **2010**

18. X. Zhao, A. Bermak, **F. Boussaid**, T. Du, V. G. Chigrinov, "High-resolution photo-aligned liquid-crystal micropolarizer array for polarization imaging in visible spectrum," *Optics Letters*, vol. 34, issue 23, pp. 3619-3621, **2009**

19. Z. Xiaojin, **F. Boussaid**, A. Bermak, V. Chigrinov, "Thin Photo-Patterned Micropolarizer Array for CMOS Image Sensors," *IEEE Photonics Letters*, vol. 21, no. 12, pp. 805–807**, 2009**

20. A. El-Sallam, **F. Boussaid**, "A High Resolution Color Image Restoration Algorithm for Thin TOMBO Imaging Systems Sensors," *Sensors*, vol. 9, pp. 4649-4668, **2009**

21. A. El-Sallam, **F. Boussaid**, "Spectral-based blind image restoration method for thin TOMBO imagers," *Sensors*, vol. 8, pp. 6108-6124, **2008**

22. S. Chen, **F. Boussaid** and A. Bermak, "Robust Intermediate Read-Out for Deep Submicron Technology CMOS Image Sensors," *IEEE Sensors Journal*, pp. 286-294, **2008**

23. Z. Xiaojin, **F. Boussaid** and A. Bermak, "Characterization of a 0.18µm CMOS color processing scheme for skin detection," *IEEE Sensors Journal*, pp. 1471-1474, **2007**

24. S. Chen and A. Bermak and **F. Boussaid**, "A Compact Reconfigurable Counter Memory for Spiking Pixels," *IEEE Electron Device Letters*, vol. 27, no. 4, pp. 255- 257, **2006**.

25. F. Boussaïd, A. Bermak and A. Bouzerdoum, "An Ultra-Low power operating technique for Mega-pixels current-mediated CMOS imagers," *IEEE transactions on Consumer Electronics*, vol. 50, no. 1, pp.46-53, **2004** (**Recipient of the IEEE CHESTER SALL Best Paper Award**)

26. A. Bermak, **F. Boussaïd** and A. Bouzerdoum, "A CMOS imager with on-chip processing for image enhancement and edge detection," *Canadian Journal of Elect. & Comp. Eng.*, vol. 26, no.3/4, pp 153–157, **2001**

27. L. Soliman, M. Benzohra, M. Masmoudi, K. Ketata, **F. Boussaïd**, A. Martinez and M. Ketata, "Secondary defect Profile related to low energy Implanted boron measured up to 3.5μm depth into Si-substrates," *Journal of electronic materials*, vol. 28, No. 12, pp. 1353-1357, **1999**

28. **F. Boussaïd**, F. Olivié, M. Benzohra and A. Martinez, "On the use of the Matrix Pencil Method for Deep Level Transient Spectroscopy: MP-DLTS," *IEEE Transactions on Instrumentation and Measurement*, vol. 47, No. 3, pp. 692-697, **1998**

29. **F. Boussaïd**, M. Benzohra, F. Olivié, D. Alquier and A. Martinez, "Electrically active defects in BF_2^+ implanted and germanium preamorphized silicon," *Nuclear Instruments and Methods in Physics Research B*, vol. 134, pp. 195-201, **1998**

30. M. Benzohra, F. Olivié, **F. Boussaïd**, D. Alquier and A. Martinez, "Electronic Defect Levels in Ultra-Shallow p^+n Junctions Formed by Boron Implantation into Ge-preamorphized Si-substrates," *Jpn. J. Appl. Phys.*, vol. 36, Part 1, No. 7A, pp. 4346-4350, **1997**

Fully Refereed Conference Papers

31. S. An, **F. Boussaid**, M. Bennamoun, "How Can Deep Rectifier Networks Achieve Linear Separability and Preserve Distances?", *International Conference on Machine Learning* (ICML), Lille, France, **2015**

32. S. An, M. Hayat, S. Khan, M. Bennamoun, F. Boussaid, and F. Sohel, "Contractive Rectifier Networks for Nonlinear Maximum Margin Classification", *International Conference on Computer Vision (ICCV 2015)*, Santiago, Chile, **2015**

33. S.An, Q. Ke, M. Bennamoun, **F. Boussaid**, F. Sohel, "Sign Constrained Rectifier Networks with Applications to Pattern Decompositions", *European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases* (ECML PKDD), Porto, Portugal, **2015**

34. S.A.A. Shah, M. Bennamoun, **F. Boussaïd**, "A Novel Algorithm for Efficient Depth Segmentation Using Low Resolution (Kinect) Images", *10th IEEE Conference on Industrial Electronics and Applications* (ICIEA), Auckland, New Zealand, pp. 603 – 607, **2015**

35. S. Freedman, **F. Boussaïd**, " A high dynamic range CMOS image sensor with a novel pixel-level logarithmic counter memory", *IEEE 2nd International Conference on Knowledge-Based Engineering and Innovation (KBEI)*, Tehran, Iran, **2015**

36. L. White, L. While, B. Deeks, **F. Boussaïd**, "Transistor Sizing Using Particle Swarm Optimisation", *IEEE Symposium Series on Computational Intelligence*, Cape Town, South Africa, **2015**

37. S.A.A. Shah, M. Bennamoun, **F. Boussaïd**, "Automatic 3D Face Landmark Localization Based on 3D Vector Field Analysis", *Image and Vision Computing New Zealand* (IVCNZ), Auckland, New Zealand, **2015**

38. S.A.A. Shah, M. Bennamoun, **F. Boussaïd**, "Performance evaluation of 3D local surface descriptors for low and high resolution range image registration", *Digital Image Computing Techniques and Applications*, Wollongong, Australia, pp. 1-7, **2014**

39. J.S. Sankaran Kutty, **F. Boussaid**, A. Amira, "A high speed configurable FPGA architecture for bilateral filtering", *IEEE International Conference on Image Processing (ICIP)*, Paris, France, pp. 1248-1252, **2014**

40. M. Susli, **F. Boussaid**, "Transient Compact Model of Fixed-Fixed Beams with Dielectric Charging", *Conference on Optoelectronic and Microelectronic Materials & Devices* (COMMAD 2014), Perth, pp. 101-104, **2014**

41. S. Lu, **F. Boussaid**, "A Self-Resetting Piezoelectric Energy Harvesting Rectifier", Conference on Optoelectronic and Microelectronic Materials & Devices (COMMAD 2014), Perth, pp. 181-184, **2014**

42. S. Lu, **F. Boussaid**, "A self-controlled piezoelectric energy harvesting interface circuit," *IEEE International Conference on Circuits and Systems (ICCAS'13)*, Kuala Lumpur, pp. 71-74, **2013**

43. M. Susli, **F. Boussaid**, K. Silva, L. Faraone, J. Dell, "Macromodel for the transient simulation of electrostatically actuated fixed-fixed beams," *IEEE International Conference on Circuits and Systems (ICCAS'13)*, Kuala Lumpur, pp. 130-134, **2013** (**Best Paper Award**)

44. S. Shah, M. Bennamoun, **F. Boussaid**, A. El-Sallam, " A Novel Local Surface Description for Automatic 3D Object Recognition in Low Resolution Cluttered Scenes", International Conference on Computer Vision (ICCV) workshop, Sydney, **2013**

45. J. S. Sankaran Kutty, **F. Boussaid**, A. Amira, "A High Speed Configurable FPGA Architecture for K-Mean Clustering," *IEEE International Symposium on Circuits and Systems (ISCAS'13)*, Beijing, pp. 1801-1804, **2013**

46. S. Lu, **F. Boussaid**, M. K. Law, "Efficient Parallel-SSHI Interface Circuit for Piezoelectric Energy Harvesting," *IEEE 11th International New Circuits and Systems Conference (NEWCAS)*, Paris, pp. 1-4, **2013**

47. S. Elaiwat, **F. Boussaid**, M. Bennamoun, A. El-Sallam, "3D Face Identification Using Curvelet Transform," *International Conference on Communications, Signal Processing, and their Applications (ICCSPA'13)*, Sharjah, pp. 1-6, **2013**

48. S. Shah, M. Bennamoun, **F. Boussaid**, A. El-Sallam, "3D-DIV: A Novel Local Surface Descriptor for Feature Matching and Pairwise Image Registration", *IEEE International Conference on Image Processing (ICIP)*, Melbourne, **2013**

49. S. Shah, M. Bennamoun, A. El-Sallam, **F. Boussaid**, "Automatic Object Detection Using Objectness Measure," *International Conference on Communications, Signal Processing, and their Applications (ICCSPA'13)*, Sharjah, pp. 1-6, **2013**

50. J. Al Yamani, **F. Boussaid**, A. Bermak, D. Martinez, "Experimental Evaluation of Latency Coding for Gas Recognition," *7th IEEE International Design and Test Symposium (IDT)*, Doha, **2013**

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