

# Curriculum Vitae



## Personal information

First / Last name

**Brahim Mezghanni**

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Nationality

Tunisian

Date and place of birth

09 May 1963 in Sfax, Tunisia

## Research expertise

**Design, modeling, and simulation of microsensors**

## Work and research experience

### 9 June 2020 – Present

Position held

Professor, Research and teaching, Department of EE, ENIS

Employer

University of Sfax - Ministry of Higher Education and Scientific Research (HESR) – Tunisia

Main activities and responsibilities

- Teaching courses on Microsystems, smart sensors, Characteristics of circuits & sensors
- Supervisor of PhD degree research projects
- Reviewer for IEEE Sensors Journal, Microelectronics Journal
- Head of the Research Unit "Micro and Nano Systems Design" within the research Lab SI2E (Systems Integration & Emergent Energies) at the Department of Electrical Engineering in the ENIS.

IEEE volunteer

- Senior Member of the Institute of Electrical & Electronic Engineers (IEEE).
- Elected, Chair, IEEE Solid State Circuits Tunisia Chapter.

### 28 January 2015 – 9 June 2020

Position held

Associate Professor, Department of Electrical Engineering, National Engineering School of Sfax (ENIS)

### 15 September 2004 – 28 January 2015

Position held

Assistant Professor, Department of Electrical Engineering, National Engineering School of Sfax (ENIS)

Employer

University of Sfax, Ministry of Higher Education and Scientific Research (MHESR) – Tunisia

Main activities and responsibilities

- Teaching courses on Microsystems, smart sensors, Characteristics of circuits & sensors, and microelectronics;
- Supervisor and co-supervisor of last year engineering projects in the EE department of ENIS;
- Supervisor of Master degree research projects;
- Supervisor and co-supervisor of PhD degree research projects;
- Participation in different international conferences held in Tunisia and abroad;
- Member of reviewer committees for international conferences: DTIP, ARONCAS, STA, DTIS, DTS;
- Member of the Technical Program Committee (TPC) for different international conferences;
- Reviewer for Springer Journals: Analog Integrated Circuits & Signal Processing, Microsystem Technologies, Engineering with Computers;

	<ul style="list-style-type: none"> <li>- Reviewer for IEEE Journal: IEEE Transactions on Very Large-Scale Integration Systems;</li> <li>- Reviewer for Elsevier Journals: Microelectronics Journal, Measurement;</li> <li>- Head of the research group "Micro and Nano Systems Design" within the research unit Micro-Electro Thermal Systems (METS), ENIS;</li> </ul>
Research cooperation	<ul style="list-style-type: none"> <li>- Strong collaboration has been established since the year 2000 with the LIRMM in France on the study and development of new structures with enhanced sensitivity for CMOS micromachined convective accelerometers;</li> <li>- Cooperation with TIMA Lab in France, since the year 2004, on the design, modeling, and simulation of a new design for an electrodynamic (inductive) CMOS MEMS microphone;</li> <li>- Joint research work is being conducted with the research group LIMAT at UNIBO-IT in Italy on the design and modeling of a new structure for a miniature CMOS-MEMS partial discharge sensor;</li> <li>- Joint research work has been initiated since the year 2012 and is still ongoing with the Indian Institute of Technology, Bombay (IIT-B) in India on the development of new nanomaterials to be used in MEMS piezoresistive sensors for performance enhancement;</li> <li>- Collaboration with the group SMALL in UCL, Belgium on the design of a new micromachined capacitive magnetometer structure. In addition, we initiated in 2016 a new joint research work which focuses on the analysis of the effect of strong radiation on semiconductor devices and then explore possible healing effects when devices are submitted to specific temperature annealing;</li> <li>- Collaboration with GEEPS Lab in France started during the year 2015 and is still ongoing which aims to investigate and develop a new structure for a micromachined piezoelectric inertial measurement center with 6 DOF using a single proof-mass;</li> <li>- Cooperation research work started in 2016 with LACIME in Canada on the development of new sensors based on LTCC technology. This has been extended during 2017 to a new collaboration on the same topic with the Electronics Technology Group, TU Ilmenau in Germany;</li> <li>- Joint work on a project proposal with Ajou University in South Korea on the development of a chipless, battery-free current-voltage detection sensor and its wireless reading system using one-port surface acoustic wave (SAW) interdigitated transducer (IDT) reflective delay line. The work was on a joint proposal for a Tunisia-Korea project during 2016, and then on a H2020 project during 2017;</li> <li>- Joint work on a project proposal in collaboration with Istanbul Technical University (ITU) in Turkey and Institut Pasteur in Tunisia on the design, fabrication, and characterization of LoC systems for DEP-based immune system cells separation;</li> <li>- Joint work on a project proposal with Stellenbosch University in South Africa on design, modeling, and fabrication of new SAW devices for improved nanosensors;</li> <li>- Coordinator of a submitted project proposal during 2017 within the framework of the Intra-Africa Academic Mobility Scheme. Title "Enhancement of African Higher Education and Training in Electrical Engineering through Academic Mobility (AfricanTech)". Partners were from Spain, Morocco, Mauritania, Cameroun, Ethiopia, and South Africa;</li> </ul>
Selected research/mobility projects	<ul style="list-style-type: none"> <li>- Principal Investigator of a selected Joint Tunisian-Indian research and mobility project for a two-year period (2017-2019). This project, titled "A new three axis MEMS accelerometer based on piezoresistive nanomaterials", has been jointly proposed and is being implemented with the Indian Institute of Technology, Bombay (IIT-B), IIT-Delhi, and the Centre of Excellence in Nanoelectronics (CEN) at IIT-B in India. Accorded grant from the Tunisian Ministry of HESR: 40.000 TND;</li> <li>- Principal Investigator of a selected Joint Tunisian-Indian research and mobility project for a three-year period (2013-2016). This project, titled "Design, modeling and fabrication of new micromachined sensors", has been jointly proposed and performed with the IIT-B and CEN in India. Accorded grant from the Tunisian Ministry of HESR: 45.000 TND;</li> <li>- Principal Investigator of a selected Joint Tunisian-Egyptian mobility project for a one-year period (2014-2015). This project entitled "Micro Fabrication for Improved Micro Sensors" has been jointly proposed and performed with Egypt-Japan University of Science and Technology (E-JUST) in Egypt. The main goal of this project was to fund the mobility of researchers between both institutions. Accorded grant from the Tunisian Ministry of HESR: 7.500 TND;</li> </ul>
IEEE volunteer	<ul style="list-style-type: none"> <li>- Past Chair and Treasurer, SSCS Tunisia Chapter since 2023;</li> <li>- Election/Elevation as a Senior Member of the IEEE in November 2016;</li> <li>- Elected, Chair, IEEE Solid State Circuits Society (SSCS) Tunisia Chapter, 2016-2022;</li> <li>- Elected, IEEE Tunisia section member for the volunteer position "Conference and events coordinator" for the years 2013-2015;</li> </ul>

International conferences and events organization	<ul style="list-style-type: none"> <li>- Chair of the Organizing Committee of the 3<sup>rd</sup> International Conference on Design and Technology of Integrated Systems in Nanoscale Era (IEEE - DTIS 2008), Tozeur, Tunisia, 25-28 March 2008;</li> <li>- Chair of the Organizing Committee of the 1<sup>st</sup> International Conference on Design and Test of Integrated Systems in nanoscale technology (IEEE - DTIS 2006), Gammarth, Tunisia, 05-07 September 2006;</li> <li>- Co-Chair of the Organizing Committee of the 16<sup>th</sup> International Conference on Microelectronics (IEEE - ICM 2004), Gammarth, Tunisia, 06-08 December 2004;</li> </ul>
<b>15 September 2000 – 15 September 2004</b>	
Position held	Assistant Professor, Department of Technology, Institut Préparatoire aux Etudes d'Ingénieurs de Sfax
Employer	University of Sfax, Ministry of Higher Education and Scientific Research (MHESR) – Tunisia
Main activities and responsibilities	<ul style="list-style-type: none"> <li>- Teaching different courses, laboratory, and tutorials on electronics, electrokinetic and physics.</li> <li>- Supervisor and co-supervisor of last year engineering projects in the department of EE at ENIS.</li> <li>- Participation in different international conferences held in Tunisia and abroad.</li> <li>- Initiate collaboration with the research group in LIRMM, France, on the design, modeling, and simulation of new MEMS sensors;</li> </ul>
<b>15 September 1991 – 15 September 2000</b>	
Position held	Assistant Professor, Department of EE, National Engineering School of Monastir (ENIM)
Employer	University of Monastir, Ministry of Higher Education and Scientific Research (MHESR) – Tunisia
Main activities and responsibilities	<ul style="list-style-type: none"> <li>- Teaching courses on design and simulation tools for microsystems, microelectronics, and integrated circuits.</li> <li>- Supervisor and co-supervisor of last year engineering projects.</li> <li>- Participation in different international conferences held in Tunisia and abroad.</li> <li>- Research stay in the University of Birmingham, UK, in April 1997.</li> </ul>
<b>Education and training</b>	
<b>April 2014</b>	
Title of qualification awarded	University Habilitation in Electrical Engineering (HDR)
Synthesis report title	Numerical and analytical analysis of CMOS micromachined sensors
Name of institution	National Engineering School of Sfax (ENIS) – University of Sfax – Tunisia
<b>February 2008</b>	
Title of qualification awarded	Doctorate in Electrical Engineering (PhD)
PhD Title	Etude et Modélisation d'un Microphone Inductif CMOS MEMS
Name of institution	National Engineering School of Sfax (ENIS) – University of Sfax – Tunisia
<b>November 1990</b>	
Title of qualification awarded	Master of Science in Electrical Engineering (MSc)
MSc Title	Noise Characterization of Gallium Arsenide Field Effect Transistors (HIGFETs) <a href="http://books.google.tn/books/about/Noise_Characterization_of_Gallium_Arseni.html?id=einYtgAACAAJ&amp;redir_esc=y">http://books.google.tn/books/about/Noise_Characterization_of_Gallium_Arseni.html?id=einYtgAACAAJ&amp;redir_esc=y</a>
Name of institution	Department of Electrical Engineering, University of Minnesota, USA
International classification	World University Ranking: <a href="https://www.timeshighereducation.com/world-university-rankings/university-of-minnesota">https://www.timeshighereducation.com/world-university-rankings/university-of-minnesota</a>
Research position	Research assistant with the "Device noise group" in the department of Electrical Engineering, University of Minnesota, USA (1989-1991) Theoretical study, experimental characterization, and analysis of low temperature generated noise in new Gallium Arsenide Field Effect transistors (HIGFETs) manufactured by the Sensors Division of Honeywell Company in Twin Cities, Minneapolis, Minnesota, USA;
Study scholarship	Full scholarship from the United States Agency for International Development (USAID) - 1988 to 1990;
<b>June 1988</b>	
Title of qualification awarded	Bachelor of Science in Electrical Engineering (BSc)
Name of institution	Department of Electrical Engineering, University of Minnesota, USA
Teaching position	Teaching assistant in the Department of Electrical Engineering, University of Minnesota, USA (1986-1988) Teaching experimental labs on electronics and integrated circuits;
Study scholarship	Full scholarship from the United States Agency for International Development (USAID) - 1984 to 1988;

## Research scholarships

- December 2018 - Selected as a recipient of the international mobility support Explore within the framework of the I-SITE Montpellier University of Excellence (MUSE) project. Funded mobility period of 30 days carried out to the LIRMM, France, during the months of July and December 2018. The main objective of our project is the development of an innovative structure of a MEMS convective accelerometer offering three sensitive axes with main characteristics are miniaturization, improved sensitivity, and low cost. (Provided total funding: 6500 Euros).
- April 2018 - Erasmus+ staff mobility for training at the University of Cadiz in Spain for 7 days. The training program mainly concerns the management procedures of mobility projects to foster organizational competences. This is intended for a better preparation and management of European funded mobility and research & innovation projects.
- April 2010 - One-month research scholarship from AVERROES. This one-month research internship was carried out in the Microelectronics department of the LIRMM in France. Research was mainly conducted on theoretical and experimental study of CMOS micromachined convective accelerometers. This includes behavioral modeling and simulation using FEM tools available in the LIRMM.
- 2003 – 2004 - Training internships and scientific missions carried out in the LIRMM. This was mainly to discuss and start a new joint research project on design, modeling and simulation of micromachined sensors for medical applications (a newly developed structure for a state-of-the art CMOS MEMS microphone).
- 1995 – 2000 - Different training internships and technical missions carried out in the LIRMM, France. This was mainly on design and simulation tools used for Microsystems (MEMS).
- December 2000 - Research stay to the University of Birmingham in the United Kingdom to explore research interests and possible joint research cooperation with the faculty of the department of Electrical Engineering.

## Language skills

Arabic (mother tongue), English, French

## Most recent publications

### Books and Book chapters

- Petros Gkotsis, Mohamed Hady Said, Fares Tounsi, Brahim Mezghani and Laurent A. Francis, *Frequency Tuning Investigation of an Out-of-Plane Resonant Microstructure for a Capacitive Detection Magnetometer*, Book chapter in "Magnetic Sensors and Devices: Technologies and Applications", Edition: 1st, Chapter: 3, Publisher: CRC Press, Taylor & Francis Group, 2017, pp.65-100, Editors: Kirill Poletkin and Laurent A. Francis, ISBN: 978-1-4987-1097-8 (Hardback), 9781498710985 (eBook), <https://www.taylorfrancis.com/books/e/9781498710985>.
- Mohamed Hady Said, Farès Tounsi, Libor Rufer, Brahim Mezghani and Mohamed Masmoudi, *Dynamic Performance of a Narrow Frequency band Acoustic Microsensor*, In book: Sensors, Circuits and Instrumentation Systems, Publisher: De Gruyter Oldenbourg, ASSD – Advanced in Systems, Signals and Devices (1<sup>st</sup> Edition), Vol. 6, pp. 35–52, July 23<sup>th</sup> 2018, DOI: 10.1515/9783110448375-003, <https://www.degruyter.com/view/product/462841>
- Brahim Mezghani, *Numerical and analytical analysis of CMOS micromachined sensors*, HDR synthesis report, April 2014, ENIS, Sfax-Tunisia.
- Brahim Mezghani, *Noise Characterization of Gallium Arsenide Field Effect Transistors (HIGFETs)*, Master of Science Thesis, Dec 1990, Department of Electrical Engineering, University of Minnesota, USA, [http://books.google.tn/books/about/Noise\\_Characterization\\_of\\_Gallium\\_Arseni.html?id=einYtgAACAAJ&redir\\_esc=y](http://books.google.tn/books/about/Noise_Characterization_of_Gallium_Arseni.html?id=einYtgAACAAJ&redir_esc=y)

### Journal papers

1. Sonia Abdellatif, Brahim Mezghani, Frederick Mailly, Pascal Nouet, Analytical-Numerical Analysis for Compact Sensitivity Models of CMOS MEMS Triaxial Convective Accelerometer, in **IEEE Sensors Journal**, 22(2), 1199-1208, 15 Jan 2022, doi: 10.1109/JSEN.2021.3132425. (Q1, IF=4.325)
2. Sonia Abdellatif, Brahim Mezghani, Frederick Mailly, Pascal Nouet, Enhanced 3-axis Sensitivity of a CMOS MEMS Convective Accelerometer Using a New Power Efficient Heater Structure, **Microsystem Technologies**, Springer, 28, 1011-1023, 7 Feb 2022, <https://doi.org/10.1007/s00542-022-05254-3>. (Q2, IF=2.012)
3. Awatef Khelifi, Aftab Ahmed, Brahim Mezghani, Rajul Patkar, Pradeep Dixit, Fares Tounsi, and Maryam Shojaei Baghini, Theoretical and numerical investigation of a new 3-axis SU-8 MEMS piezoresistive accelerometer, **Microelectronics Journal**, Elsevier, 128, 105552, 26 Aug 2022, <https://doi.org/10.1016/j.mejo.2022.105552>. (Q2, IF=1.992)

4. Nesrine Jaziri, Jens Müller, Björn Müller, Ayda Boughamoura, Nam Gutzeit, Brahim Mezghani, Ammar B. Kouki, Fares Tounsi, Low-temperature co-fired ceramic-based thermoelectric generator with cylindrical grooves for harvesting waste heat from power circuits, **Applied Thermal Engineering, Elsevier**, 184, 5 Feb 2021, ISSN 1359-4311, <https://doi.org/10.1016/j.applthermaleng.2020.116367>. (Q1, IF=5.295)
5. Hela Almabrouk, Mohamed Hadj Said, Fares Tounsi, Brahim Mezghani, Guillaume Agnus and Yves Bernard, Concurrent Detection of Linear and Angular Motion using a Single-Mass 6-axis Piezoelectric IMU, **International Journal of Advanced Computer Science and Applications (IJACSA)**, Thesai, 11(12), 51-60, Dec 2020, <http://dx.doi.org/10.14569/IJACSA.2020.0111207>. (Q4, IF=1.32),
6. Nesrine Jaziri, Ayda Boughamoura, Jens Müller, Brahim Mezghani, Fares Tounsi, Mohammed Ismail, A comprehensive review of Thermoelectric Generators: Technologies and common applications, **Energy Reports, Elsevier**, 6(7), 264-287, Dec 2020, <https://doi.org/10.1016/j.egy.2019.12.011>. (Q1, IF= 3.6)
7. H. Almabrouk, B. Mezghani, G. Agnus, S. Kaziz, Y. Bernard, F. Tounsi, Geometry Investigation and Performance Optimization of a Single-Mass Piezoelectric 6-DOF IMU, **Engineering, Technology & Applied Science Research (ETASR)**, 10(5), 6282-6289, Oct 2020, <https://doi.org/10.48084/etasr.3711>. (Q4, IF=1.45)
8. Awatef Khelifi, Aftab Ahmed, Shardul Pandit, Brahim Mezghani, Rajul Patkar, Pradeep Dixit, Maryam Shojaei Baghini, Experimental and Theoretical Dynamic Investigation of MEMS Polymer Mass-Spring Systems, **IEEE Sensors Journal**, Oct 2020, 20(19), doi: 10.1109/JSEN.2020.2996802. (Q1, IF=3.3)
9. Aftab Ahmed, Awatef Khelifi, Shardul Pandit, Rajul Patkar, Anjali Joshi, Pradeep Dixit, Brahim Mezghani, Maryam Shojaei Baghini, Design, fabrication, and characterization of SU-8/carbon black nanocomposite based polymer MEMS acceleration sensor, **Microsystem Technologies, Springer**, 26, 2857-2867, March 2020, <https://doi.org/10.1007/s00542-020-04824-7>. (Q2, IF=2.276)
10. Mohamed Hadj Said, Farès Tounsi, Libor Rufer, Brahim Mezghani, Laurent A. Francis, Sensitivity and Performances Analysis of a Dynamic Pressure Narrow-band Electrodynamic Micro-sensor, **International Journal of Acoustics and Vibration (IJAV)**, IIAV, 25(1), March 2020, pp. 17-26, <https://doi.org/10.20855/ijav.2020.25.11490>. (Q3, IF=0.89)
11. M. Hadj Said, F. Tounsi, L. Rufer, H. Trabelsi, B. Mezghani, A. Cavallini, Magnetic-field CMOS microsensor for low-energy electric discharge detection, **Journal of Sensors and Sensor Systems, Copernicus**, 7, 2018, pp 569-575, <https://doi.org/10.5194/jsss-7-569-2018>. (Q2, IF= 1.46).
12. M. Hadj Said, F. Tounsi, S.G. Surya, B. Mezghani, M. Masmoudi, V.R. Rao, A MEMS-based shifted membrane electrodynamic microsensor for microphone applications, **Journal of Vibration and Control, SAGE Journals**, 24(1), 2018, pp 208–222, <https://doi.org/10.1177/1077546316637298>. (Q1, IF=2.8)
13. M. Hadj Said, F. Tounsi, P. Gkotsis, B. Mezghani, L.A. Francis, A Resonant Microstructure Tunability Analysis for an Out-of-plane Capacitive Detection MEMS Magnetometer, **Microsystem Technologies, Springer**, 23 (7), July 2017, pp 2599–2608, <https://doi.org/10.1007/s00542-016-3093-y>. (Q2, IF=2.276)
14. S. Amor, N. André, V. Kilchytska, F. Tounsi, B. Mezghani, P. Gérard, S.Z. Ali, F. Udrea, D. Flandre, L.A. Francis, In-situ thermal annealing of on-membrane SOI semiconductor-based devices after high gamma dose irradiation, **Nanotechnology, IOP Publishing Ltd**, Special Issue on Nanotechnology for Aerospace, 28, April 2017, 184001, <https://doi.org/10.1088/1361-6528/aa66a4>. (Q1, IF=3.3)
15. F. Tounsi, M. Hadj Said, A. Kouki, B. Mezghani, AC actuation contribution to the induced electromotive force in the miniaturized inductive planar microphone, **Analog Integrated Circuits and Signal Processing, Springer**, 90 (3), March 2017, pp 551–562, <https://doi.org/10.1007/s10470-016-0876-0>. (Q3, IF=1.21)
16. S. Amor, N. André, P. Gérard, S.Z. Ali, F. Udrea, F. Tounsi, B. Mezghani, L.A. Francis, D. Flandre, Reliable characteristics and stabilization of on-membrane SOI MOSFET-based components heated up to 335°C, **Semiconductor Science and Technology, IOP Publishing Ltd**, Special Issue on High and Low Temperature Electronics, 32 (1), January 2017, 014001, <http://dx.doi.org/10.1088/1361-6641/32/1/014001>. (Q1, IF=2.71)
17. F. Tounsi, M. Hadj Said, L. Rufer, B. Mezghani and M. Masmoudi, "Optimization of induced voltage from CMOS-compatible MEMS electrodynamic microphone with coaxial planar inductances," **IEEE Sensors Journal**, 16 (18), 6879-6889, Sept.15, 2016, doi: 10.1109/JSEN.2016.2589271. (Q1, IF=3.3)

## Conference papers

18. B. Mezghani, F. Tounsi and M. Masmoudi, Static behavior analytical and numerical analysis of micromachined thermal accelerometers, **ASSD – Advances in Systems, Signals and Devices, De Gruyter Oldenbourg**, Vol. 2, 27–45, 2016, doi: 10.1515/9783110470444-003.
  19. F. Tounsi, B. Mezghani, L. Rufer and M. Masmoudi, Electroacoustic Analysis of a Controlled Damping Planar CMOS-MEMS Electrodynamic Microphone, **Archives of Acoustics, Polish Academy of Sciences**, 40 (4), 527–537, 2015, doi: 10.1515/aoa-2015-0052. **(Q2, IF=1.12)**
  20. B. Mezghani, F. Tounsi and M. Masmoudi, Development of an accurate heat conduction model for micromachined convective accelerometers, **Microsystem Technologies, Springer**, 21 (2), 345–353, 2015, doi.org/10.1007/s00542-014-2079-x. **(Q2, IF=2.276)**
  21. B. Mezghani, F. Tounsi and M. Masmoudi, Convection behavior analysis of CMOS MEMS thermal accelerometers using FEM and Hardee's model, **Analog Integrated Circuits and Signal Processing, Springer**, 78 (2), 301–311, 2014, doi.org/10.1007/s10470-013-0208-6. **(Q3, IF=1.21)**
  22. B. Mezghani, F. Tounsi, A.A. Rekik, F. Mailly, M. Masmoudi and P. Nouet, Sensitivity and Power Modeling of CMOS MEMS Single Axis Convective Accelerometers, **Microelectronics Journal, Elsevier**, 44 (12), 1092–1098, 2013, doi: 10.1016/j.mejo.2013.06.006. **(Q3, IF=1.48)**
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1. Awatef Khelifi, Aftab Ahmed, Shardul Pandit, Brahim Mezghani, Rajul Patkar, Pradeep Dixit, Maryam Shojaei Baghini, "Experimental and Numerical Dynamic Analysis of Polymer Single Axis MEMS Accelerometers", 2020 17th International Multi-Conference on Systems, Signals & Devices (IEEE – SSD2020), virtual event, Tunisia, July 2020.
  2. Sonia Abdellatif, Brahim Mezghani, Frederick Mailly, Pascal Nouet, "Optimized detector bridge for higher 3-axis sensitivity of a CMOS convection microaccelerometer", 2020 17th International Multi-Conference on Systems, Signals & Devices (IEEE – SSD2020), virtual event, Tunisia, July 2020.
  3. Sonia Abdellatif, Brahim Mezghani, Frederick Mailly, Pascal Nouet, "High efficiency heater design for a 3-axis CMOS MEMS convective accelerometer", *Symposium on Design, Test, Integration and Packaging of MEMS/MOEMS (DTIP 2020)*, virtual event, France, June 15–26, 2020.
  4. Awatef Khelifi, Aftab Ahmed, Shardul Pandit, Brahim Mezghani, Rajul Patkar, Pradeep Dixit, Maryam Shojaei Baghini, "Experimental and Analytical Dynamic Analysis of Polymer Single-Axis MEMS Accelerometers", *IEEE international conference on Design & Test of integrated micro & nano-Systems (IEEE DTS2020)*, virtual event, Tunisia, June 7–10, 2020.
  5. H. Almabrouk, M. Hadj Said, B. Mezghani, F. Tounsi, Y. Bernard, "Simultaneous angular and linear motion detection circuitry for a MEMS 6-DOF piezoelectric IMU", *IEEE international conference on Design & Test of integrated micro & nano-Systems (IEEE DTS2019)*, April 2019, Gammarth, Tunisia.
  6. N. Jaziri, A. Boughamoura, J. Muller, F. Tounsi, B. Mezghani, A Kouki, "TCs Connectivities Effect Investigation in the LTCC-based Thermoelectric Generator for Automotive Waste Heat Recovery", *IEEE international conference on Design & Test of integrated micro & nano-Systems (IEEE DTS2019)*, April 2019, Gammarth, Tunisia.
  7. A. Khelifi, A. Ahmed, S. Pandit, R. Patkar, P. Dixit, B. Mezghani, F. Tounsi, M.S. Baghini, "Dynamic Behavior and Piezoresistive Analysis of a Single Mass 3-Axis Polymer MEMS Accelerometer", *IEEE DTS 2019*, April 2019, Gammarth, Tunisia.
  8. A. Ahmed, A. Khelifi, S. Pandit, R. Patkar, P. Dixit, F. Tounsi, B. Mezghani, M.S. Baghini, "Induced-Stress Analysis of SU-8 Polymer Based Single Mass 3-Axis Piezoresistive MEMS Accelerometer", *International Multi-Conference on Systems, Signals & Devices (IEEE – SSD2019)*, March 2019, Istanbul, Turkey.
  9. S. Abdellatif, B. Mezghani, F. Mailly, F. Tounsi, P. Nouet, "Mechanical Solution for Out-of-Plane Sensitivity Enhancement of CMOS MEMS Convective Accelerometers", *International Conference on Electronics Circuits and Systems (IEEE ICECS2018)*, December 2018, Bordeaux, France.
  10. N. Jaziri, A.B. Ben Messaoud, F. Tounsi, B. Mezghani, J. Müller, "Analytical and Numerical Analysis and Validation of an LTCC-based Fabricated TEG", *International Conference on Microelectronics (IEEE – ICM2018)*, December 2018, Sousse, Tunisia.
  11. H. Almabrouk, S. Kaziz, B. Mezghani, F. Tounsi, Y. Bernard, "Design Presentation and Induced-Stress Study of a 6-axis Single-Mass Piezoelectric IMU", *International Conference on Microelectronics (IEEE – ICM2018)*, December 2018, Sousse, Tunisia.
  12. H. Almabrouk, S. Kaziz, B. Mezghani, F. Tounsi, Y. Bernard, "Performance Enhancement of an Improved Design of 6-axis Single-Mass Piezoelectric IMU", *International Conference on Microelectronics (IEEE – ICM2018)*, December 2018, Sousse, Tunisia.

13. S. Kaziz, H. Almabrouk, F. Tounsi, B. Mezghani, Y. Bernard, "Development and Validation of FEM Models for a 6-axis Single Mass Piezoelectric Motion Sensor", *International Multi-Conference on Systems, Signals & Devices* (IEEE – SSD2018), March 2018, Hammamet, Tunisia.
14. M. Hadj Said, F. Tounsi, B. Mezghani, A. Ahmed, S. Pandit, R. Patkar, P. Dixit, M.S. Baghin, V.R. Rao, "Induced Stress Enhancement Using U-shaped Arms in a 3-axis Piezoresistive MEMS Accelerometer", *International Multi-Conference on Systems, Signals & Devices* (IEEE – SSD2018), March 2018, Hammamet, Tunisia.
15. M. Hadj Said, F. Tounsi, B. Mezghani, L. Rufer, M. Masmoudi, "Capacitance Link Effect Characterization in the Tapped On-Chip Planar Transformer", *International Conference on Engineering & MIS* (IEEE – ICEMIS2017), Monastir, Tunisia.
16. H. Almabrouk, M. Kharroubi, F. Tounsi, Y. Bernard, "Macro Model Analysis of a Single Mass 6-DOF Inertial Measurement Unit System", *11<sup>th</sup> International Design and Test Symposium* (IEEE – IDT2016), December 18-20, Hammamet, Tunisia.
17. H. Ghadhab, M. Hadj Said, S.G. Surya, F. Tounsi, B. Mezghani, V.R. Rao, "Thickness Dependence Investigation of the Mutual Inductance Link in Concentric Planar Transformers", *11th International Conference on Design & Technology of Integrated Systems in Nanoscale Era* (IEEE – DTIS2016), April 12-14, Istanbul, Turkey.
18. M. Hadj Said, S.G. Surya, F. Tounsi, B. Mezghani, M. Masmoudi and V.R. Rao, "Mechanical Modeling and Sensitivity Evaluation of an Electrodynamical MEMS Microsensor", *International Multi-Conference on Systems, Signals & Devices* (IEEE – SSD2015), March 2015, Mahdia, Tunisia.
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