



Ministry of Higher Education
Majmaah University
College of Applied Medical Sciences
Medical Radiological Sciences and
Medical Imaging Department



Faculty Vitae

1. General Information:

Names	Nationality	Contact
Dr. Marwa Ammar SELMI	Tunisian	Email: m.selmi@mu.edu.sa

2. Qualifications:

Degree	Discipline	Institution	Year
Ph.D.	Medical Physics	Laboratory of Electronics and Microelectronics Faculty of Science of Monastir, University of Monastir (Tunisia)	2016
Master	Materials, Nanostructures and Applications	Laboratory of Electronics and Microelectronics Faculty of Science of Monastir, University of Monastir (Tunisia)	2012
Bachelor	Physics	Faculty of Science of Monastir, University of Monastir (Tunisia)	2010
Baccalaureate	Mathematics	Secondary High School Nasrallah, Kairouan (Tunisia)	2007

3. Academic Experience:

Institution	Title	Period
College of Applied Medical Sciences, Majmaah University, KSA	Assistant Professor	2016-Present
Faculty of Science of Monastir, University of Monastir, Tunisia	Teaching Assistant	2015-2016
High School of Sciences and Technology, Hammam Sousse, University of Sousse, Tunisia.	Teaching Assistant	2014-2015

4. Doctoral Training: Period: 01 Nov 2014-30 Jan 2015

Training at the Laboratory Microfluidics, MEMs, and Nanostructure, (MMN), at the High School of Physics and Industrial Chemistry, Paris 1, ESPCI ParisTech, France. **Supervisor: Dr. Patrick TABELING**

5. Books:

Marwa Selmi and Hafedh Belmabrouk ‘**Modélisation d'un biocapteur microfluidique**’. Editions universitaires europeennes. ISBN-13: 978-3-8417-2988-0.

6. Publications:

Marwa Selmi, Randa Khemiri, Fraj Echouchene, Hafedh Belmabrouk, “Electrothermal effect on the immunoassay in a microchannel of a biosensor with asymmetrical interdigitated electrodes”. Applied Thermal Engineering 10, 77–84 (2016).

Marwa Selmi, Randa Khemiri, Fraj Echouchene, Hafedh Belmabrouk, “Enhancement of the analyte mass transport in a microfluidic biosensor by deformation of fluid flow and electrothermal force”. ASME J. Manuf. Sci. Eng. Vol. 138, Issue, 8, (2016).

Marwa Selmi, Fraj. Echouchene, and Hafedh. Belmabrouk, “Analysis of Microfluidic Biosensor Efficiency Using a Cylindrical Obstacle”. Sensor Letters, Vol. 14, N° 1, pp: 26-30 (6), (2016).

Marwa Selmi, Fraj. Echouchene, Mohamed Hichem Gazzah, and Hafedh. Belmabrouk, “Flow Confinement Enhancement of Heterogeneous Immunoassays in Microfluidics”. IEEE Sensors Journal. Vol. 15, Issue, 12, pp: 7321-7328, (2015).

Marwa Selmi, Fraj. Echouchene, and Hafedh. Belmabrouk, “Numerical Investigation of Microfluidic flow under AC applied electric field: Enhanced of binding reaction for a biosensor”, IEEE Conference Publications, 2014.

Marwa Selmi, Fraj. Echouchene, and Hafedh. Belmabrouk, “Numerical Investigation of Electrothermal flow Instability in Microchannel” International Journal of Mechanics and Energy (IJME) Vol. 2, Issue 2, pp. 59-62, **2014**.

Marwa Selmi, Fraj. Echouchene, Houcine Mejri, and Hafedh. Belmabrouk, “Numerical modeling of microfluidic flow through a channel with sensitive membrane” International Journal of Mechanics and Energy (IJME) Vol. 1 , Issue 4 , pp. 172 -176, **2013**.

7. Communications:

Oral international communications

Marwa Selmi, Randa. Khemiri, Fraj. Echouchene, and Hafedh. Belmabrouk, “Effects of Electrothermal and Flow Confinement on Kinetic Reaction of Immunoassay for A Microfluidic Biosensor”, November 19-21, 2015, Erfoud, MOROCCO.

Marwa Selmi, Fraj. Echouchene, and Hafedh. Belmabrouk, “Numerical Investigation of Microfluidic flow under AC applied electric field: Enhanced of binding reaction for a biosensor”, (IREC), March 25-27, 2014, Hammamet, TUNISIA.

Marwa Selmi, Fraj. Echouchene, and Hafedh. Belmabrouk, “Numerical Investigation of Electrothermal flow Instability in Microchannel”, (ICME), March 18-20, 2014, Monastir, TUNISIA.

Marwa Selmi, Fraj. Echouchene, Houcinen Mejri, and Hafedh. Belmabrouk, “Numerical Modeling of Microfluidic Flow through a Channel with Sensitive Membrane”, International Symposium on Computational and Experimental Investigations on Fluid Dynamics CEFD, March 18-20, 2013, Sfax, TUNISIA.

Marwa Selmi, Fraj. Echouchene, Houcinen Mejri, and Hafedh. Belmabrouk, “Simulation of microfluidic flow in a channel under ac electric field”, International Symposium on Computational and Experimental Investigations on Fluid Dynamics CEFD, March 18-20, 2013, Sfax, TUNISIA.

Poster international communications

Marwa Selmi, Fraj. Echouchene, Houcine Barhoumi, and Hafedh. Belmabrouk, “Enhancement of microfluidic immunoassay chips efficiency by means of fluid flow engineering”, 9^{èmes} JOURNEES MAGHREB-EUROPE, Matériaux et Applications Aux Dispositifs et Capteurs (MADICA), Novembre 05-07, 2014, Mahdia TUNISIA.

Marwa Selmi, Fraj. Echouchene, and Hafedh. Belmabrouk, “Simulation of binding kinetic reaction protein: CRP through a microchannel”, Second International Conference on “Research to Application & Markets”, June 28-30, 2013, Sousse, TUNISIA.

Marwa Selmi, Fraj. Echouchene, and Hafedh. Belmabrouk, “Numerical analysis of the ac electric field on the performance of a microfluidic biosensor”, Second International Conference on “Research to Application & Markets”, June 28-30, 2013, Sousse, TUNISIA.