



Simona Sawan, Ph.D.

Lab Instructor

O: FNAS-CHM 0.15

T: 09 218 950, Ext. 2161

E: ssawan@ndu.edu.lb

Biography

Simona received her doctorate in Analytical Chemistry from Université Claude Bernard- Lyon 1, France in 2022. During her doctorate, she developed an electrochemical system using nanoparticles and nucleobases for the removal of heavy metals from water. She joined NDU as a laboratory instructor in the Faculty of Natural and Applied Sciences in 2016. She is currently teaching laboratory courses and undergraduate chemistry courses. She also assists students working in the lab and using the equipment in the Analytical Chemistry Unit. Simona's main research interests lie in the fabrication of sensors for environmental and biomedical applications.

Peer-reviewed Journals

- S. Sawan, A. Errachid, R. Maalouf, N. Jaffrezic-Renault, "Aptamers and nucleobases functionalized metal and metal oxide nanoparticles: Recent advances in heavy metal monitoring", *TrAC Trends in Analytical Chemistry* 157 (2022) 116748.
- S. Sawan, K. Hamze, A. Youssef, R. Boukarroum, K. Bouhadir, A. Errachid, R. Maalouf, N. Jaffrezic-Renault. "The use of voltammetry for sorption studies of arsenic (III) ions by magnetic beads functionalized with nucleobase hydrazide derivatives", *Electroanalysis*, (2021), 33(7), 1789-1799.
- S. Sawan, K. Hamze, A. Youssef, R. Boukarroum, K. Bouhadir, A. Errachid, R. Maalouf, N. Jaffrezic-Renault. "Voltammetric study of the affinity of divalent heavy metals for guanine-functionalized iron oxide nanoparticles", *Monatshefte für Chemie-Chemical Monthly*, (2021), 152(2), 229-240.
- S. Sawan, R. Maalouf, A. Errachid, N. Jaffrezic-Renault, "Metal and metal oxide nanoparticles in the voltammetric detection of heavy metals: A review", *TrAC Trends in Analytical Chemistry*, (2020), 131, 116014.

Peer-reviewed Abstracts

- S. Sawan, P. Nassif, N. Jaffrezic-Renault, R. Maalouf. An electrochemical sensor based on chitosan molecularly imprinted polymers for the selective detection of diphenylamine. 2nd International Electronic Conference on Chemical Sensors and Analytical Chemistry; September 2023.
- R. Al Kaassamani, S. Sawan, N. Jaffrezic-Renault, R. Maalouf. A novel electrochemical sensor for bisphenol A detection based on molecularly imprinted polymer coated iron oxide nanoparticles. 2nd International Electronic Conference on Chemical Sensors and Analytical Chemistry; September 2023.
- S. Sawan, K. Hamze, A. Youssef, K. Bouhadir, A. Errachid, R. Maalouf, N. Jaffrezic-Renault. The use of voltammetry for sorption studies of arsenic (III) ions by magnetic beads functionalized with nucleobase hydrazide derivatives. 1st International Electronic Conference on Chemical Sensors and Analytical Chemistry; July 2021.

- S. Sawan, K. Hamze, A. Youssef, R. Boukarroum, K. Bouhadir, A. Errachid, R. Maalouf, N. Jaffrezic-Renault. Voltammetric Study of the Affinity of Divalent Heavy Metals for Guanine Functionalized Iron Oxide Nanoparticles. 7th International Electronic Conference on Sensors and Applications; November 2020.
- S. Sawan, K. Bouhadir, G. Raimondi, A. Elaissari, N. Zine, R. Maalouf, A. Errachid, N. Jaffrezic-Renault. Heavy Metal Sensing Via Novel Magnetic Beads Functionalized with Nucleic Bases Derivatives. 9th International Workshop on Biosensor; October 2019.

Chapters in books

- S. Sawan, R. Maalouf, A. Errachid, N. Jaffrezic-Renault, "Functionalized and non-functionalized metal oxide nanoparticles: Recent advances in heavy metal monitoring" as invited book chapter in Metal oxide nanoparticles and their applications (2023). Ed. Nova publishers.