

PERSONAL DATA

Name: Hanen Bessaies
Date of Birth: 16-10-1987
Place of Birth: Nabeul, Tunisia
Address: City Riadh, Beni khiair, Nabeul, Tunisia
E-mail: hanenbessaies@gmail.com
Phone : (+216) 98 226 346, (+216) 29 858 111



WORK EXPERIENCE

02.2013 – 07.2015

Researcher in Chemistry

National Institute of Applied Science and Technology, Tunis, Tunisia

- Development of capillary electrophoresis instrument for pharmaceutical laboratory.
- Quantify and qualify the pharmaceutical products (Augmentin, Ibuphil) available in Tunisia.

07.2017 – 12.2018

Visiting Researcher in the Department of Separation Science, Finland

Lappeenranta-Lahti University of Technology (LUT), Mikkeli, Finland

- Biological treatment and purification of water using natural material such as algae.
- Design and synthesis of a new nanocomposite based on the integration of cellulose in inter-layers of LDH.
- Handling and operation of instruments (FTIR, BET and ICP-OES) and analysis of results.



ACADEMIC EDUCATION

09.2015 – Till Date
(Thesis submitted)

Doctorate in Chemistry

Faculty of Sciences of Tunis, Tunis El Manar University, Tunis, Tunisia

Doctoral Thesis: Elimination of organic and inorganic pollutants by adsorption process
Key Points: Organic and Inorganic Chemistry, Nanocomposite Synthesis, Adsorption Process, ICP-OES, Natural Water Treatment.

- Synthesis and characterization of nanocomposites based on the intercalation of biopolymer cellulose in layered double hydroxide.
- Modification of raw material (green algae) using graphene oxide and glutaraldehyde.

09.2010 – 12.2012

Master of Science in Analytical Chemistry

Faculty of Sciences, Tunis El Manar University, Tunis, Tunisia

Grade: 16.5 /20.0 (Very good)

Master's Thesis: Degradation of antibiotic "Ofloxacin" using Advanced Oxidation Process (AOP)

Key Point: Fenton-like, Electro-Fenton, Antibiotic, H₂O₂, Mechanism, UV-Vis

- This study provides a novel treatment of wastewater contaminated with ofloxacin.

09.2006 – 06.2010

Bachelor of Science in Chemistry

Faculty of Sciences of Tunis, Tunis El Manar University, Tunis, Tunisia



PROFESSIONAL MEMBERSHIP

09.2015 – Till Date

Member of the Tunisian Desalination Association

Faculty of Sciences of Tunis, Tunis El Manar University, Tunis, Tunisia

**CERTIFICATIONS IN QUALITY HEALTH SAFETY ENVIRONMENT (QHSE)**

ISO 14001 version 2015

ISO 45001 version 2018

ISO 9001 version 2015

ISO 19011 version 2018

**CERTIFICATION IN THE ACCREDITATION OF TESTING AND CALIBRATION LABORATORIES**

ISO 17025 version 2017

**CONFERENCE PRESENTATIONS**

- **H. Bessaies**, S. Iftekhar, J. Kheriji, M.C. Ncibi, M. Sillanpää, B. Hamrouni, "Characterization and physicochemical aspects of novel cellulose-based LDH nanocomposite for removal of Sb(V) and F⁻ ions from aqueous solution", 7th Maghreb conference of desalination and water treatment, Tunisia (2019).
- **H. Bessaies**, S. Iftekhar, B. Doshi, M.C. Ncibi, M. Sillanpää, J. Kheriji, B. Hamrouni, "Synthesis of novel adsorbent by intercalation of biopolymer in LDH for the removal of arsenic from synthetic and real water", 7th Maghreb conference of desalination and water treatment, Tunisia (2019).
- **H. Bessaies**, J. Kheriji, B. Hamrouni, "Removal of cadmium from industrial effluent by bio adsorption using a marine plant, Posidonia oceanic", 7th Maghreb conference of desalination and water treatment, Tunisia (2019).

**INSTRUMENTS SKILLS**

ICP-OES/ UV-Vis

Handling + Operation (Good)
Analysis of Elements (Excellent)

BET, FTIR, Zeta potential

Handling + Operation (Good)
Analysis of Results (Excellent)

XRD, Raman, TEM, SEM, XPS, TGA-DTA

Analysis of Results (Good)

**COMPUTER SKILLS**

Data Analysis and Graphing Software

Statistica (Very Good)
Origin 8 (Excellent)

Miscellaneous

MATLAB (Good)
MS-Office (Excellent)**LANGUAGE SKILLS**

English

Intermediate (Level: B1)

French

Fluent (Level: C1)

German

Basics (Level: A1)

Arabic

Mother Tongue

**HOBBYS**

Jogging, Zumba, Swimming, Natural Photography.

Tunis, 22. June 2020

CONTACT INFORMATION OF REFERENCES

Ass. Prof. Chaker Necibi

The International Water Research Institute (IWRI), Mohammed VI Polytechnic University (UM6P), Morocco.

E-mail: chaker.necibi@um6p.ma

Prof. Mika Sillanpää

Faculty of Health, Engineering and Sciences, University of Southern Queensland, Australia.

E-mail: mikaesillanpaa@gmail.com

Prof. Bechir Hamrouni

Professor at the University of Tunis El Manar

Director of the Research Laboratory "Desalination and Water Treatment"

President of the Tunisian Desalination Association

Faculty of Sciences of Tunis, 2092 Manar 1, Tunis, TUNISIA

E-mail: bechir.hamrouni@fst.utm.tn

Sidra Iftekhhar

Assistant Professor

Department of Environmental Engineering, University of Engineering and Technology, Taxila, Pakistan

E-mail : Sidra_Iftekhhar@yahoo.com

Sidraiftikhar22@gmail.com



RECENT PUBLICATIONS

- Synthesis of novel adsorbent by intercalation of biopolymer in LDH for the removal of arsenic from synthetic and natural water. **H. Bessaies**, S. Iftekhar, B. Doshi, J. Kheriji, M.C. Ncibi, M. Sillanpää, B. Hamrouni. Journal of Environmental Science (Accepted).
- Characterization and physicochemical aspects of novel cellulose-based layered double hydroxide nanocomposite for removal of antimony and fluoride from aqueous solution. **H. Bessaies**, S. Iftekhar, J. Kheriji, M.C. Ncibi, M. Sillanpää, B. Hamrouni. Journal of Chemical Engineering (Submitted).
- Removal of cadmium from industrial effluent by bioadsorption using a marine plant, Posidonia oceanica. **H. Bessaies**, J. Kheriji, B. Hamrouni. Journal of Applied Clay Science (Submitted).
- Response Surface Methodology and Artificial Neural Network combined with Experimental Design for the optimization of Fluoride adsorption with calcined $(\text{Ca}/\text{Al}-\text{CO}_3)_{300}$ LDH. **H. Bessaies**, S. Iftekhar, J. Kheriji, M. Sillanpää, B. Hamrouni. (In progress).
- Boron removal from water by adsorption onto activated carbon (prepared from palm bark) in batch process and fixed bed column. A. Melliti, J. Kheriji, **H. Bessaies**, B. Hamrouni. Journal of Water Science and Technology (Accepted).
- Removal of boron from geothermal water by reverse osmosis and adsorption onto activated charcoal originated from palm bark: experimental design and breakthrough curves modelling. J. Kheriji, **H. Bessaies**, A. Melliti, B. Hamrouni, Journal of Environmental Science (submitted).

UNIVERSITY OF TUNIS EL MANAR
FACULTY OF SCIENCE OF TUNIS
Department of Chemistry

18. April 2020

I, undersigned **Mr. Béchir HAMROUNI**, Professor at the Faculty of Sciences of Tunis (FST) and Director of the Desalination and Water Treatment Laboratory (LRDTE) at the Department of Chemistry of the Faculty of Sciences of Tunis El Manar. Hereby, I attest that **Miss. Hanen BESSAIES** work under my supervision in the laboratory on the subject of the "Elimination of organic and inorganic pollutants by adsorption process". She did her doctoral research in the Laboratory of Desalination and Water Treatment (LRDTE) in collaboration with the Laboratory of Green Chemistry, Lappeenranta University of Technology, Mikkeli, Finland under the supervision of Pr. Mika Sillanpää for the period 01.09.2015 - 23.12.2019. She has submitted her doctoral thesis on 11.03.2020, but for some reason related to this situation COVID-19, her doctoral defense will be organized at a later date.

Béchir HAMROUNI

Professor at the University of Tunis El Manar

Director of the Research Laboratory "Desalination and Water Treatment"

President of the Tunisian Desalination Association

Faculty of Sciences of Tunis, 2092 Manar 1, Tunis, TUNISIA

E-mail: bechir.hamrouni@fst.utm.tn

Signature of the supervisor

Béchir HAMROUNI

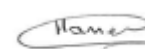


Prof. Béchir HAMROUNI
Faculté des Sciences Tunis
الأستاذ البشير حمروني
كلية العلوم بتونس

Signature of the doctoral

student

Hanen BESSAIES



Re: Recommendation for Hanen Bessaies

To Whom It May Concern,

It is my pleasure to recommend Miss. Hanen Bessaies. I have known her many years during her visits to the Department of Green Chemistry (DGC), Lappeenranta- Lahti University of Technology (LUT), Finland, where I was the head of the laboratory. She is really a hard worker and has all the requirements for the competitive scientific thinking. Moreover, she is a true team player, and always manages to foster positive discussions and bring the best out of other students. She has good understanding of chemical processes and excellent analytical and problem-solving skills.

Most important of all, during her visit to the Department of Green Chemistry (DGC) (2017-2019), she has learnt the handling and operation of analytical equipment in the laboratory and the handling of the Fourier transform infrared spectroscopy (FTIR), the Bruner, Emmet and Teller surface area (BET) and the Zeta potential instruments. She has extensive experience in the fields of Inductively Coupled Plasma/Optical Emission Spectrometry (ICP-OES). She planned independently for the handling and the analysis of metals and metalloids for water and wastewater treatment according to internal test specifications. She has trained other colleagues in the laboratory about the handling of this instrument.

Without doubt, I confidently recommend Hanen Bessaies for this position and I know she will be an asset to your organization. If you have further questions about her, please do not hesitate to contact me. Beyond her scientific skills, she is also a very kind person, who gets along well with her colleagues. I wish all the best for the career and recommend her without hesitation.

Finland in 18.04.2020

Sincerely,



Prof. Mika Sillanpää, E-mail: mikaesillanpaa@gmail.com

Faculty of Health, Engineering and Sciences, University of Southern Queensland, Australia

Re: Recommendation for Hanen Bessaies

To whom it may concern,

Miss. Hanen Bessaies, has done a research stay in my department (Lappeenranta University of Technology (LUT), Department of Green Chemistry (DGC), Finland) from 04/07/2017 to 31/03/2018 and recently from 01/10/2018 to 31/12/2018. I would like to elucidate a few facts about her that impressed me the most.

Miss. Hanen works hard to achieve her goals and committed to her work. She worked as a training PhD student coming from Tunisia under my supervision. She has synthesized several novel nanocomposites and studied their characterization, physical/chemical properties, and the application of these materials on the removal of As, Se, Sb and F⁻ from aqueous solutions.

Hanen has repeatedly proved her conceptual ability and creative outlook in the research with her novel problem solving methods. She has flair for keeping herself abreast with latest developments in technology. She is emotionally matured, confident and good-natured human being. She is very interactive in the group and endorses the discussions with cogency and natural ease. She is well skilled to handle the various analytical instruments efficiently.

I wish her all the best in his future endeavors.

Mikkeli in 20.12.2018



Professor Mika Sillanpää

Head of Laboratory of Green Chemistry
Director at LUT Green chemistry & LUT Savo
Lappeenranta University of Technology
Tel: +358-400-205215
E-mail: mika.sillanpaa@lut.fi

