

Rawan A. M. Khalaf

Curriculum Vitae



Nationality: Palestinian

Date of birth: 14 Dec 1995

Phone (mobile): +972-597-574821

Email address: r.khalaf@najah.edu

Website: <https://www.researchgate.net/profile/Rawan-Khalaf-2>

Education

- 2018 – 2021 Ph.D. **University of Bordeaux**, Bordeaux, France
Specialization: Physical Chemistry of Condensed Matter
Thesis Title: Synthetic Pathways Towards DNA Patchy Particles: New Building Units for Programmable Assembly
- 2016 – 2018 M.Sc. **An-Najah National University**, Nablus, Palestine
Specialization: Chemistry
Thesis Title: Using Maghemite Nanosorbents for Adsorptive Removal of Alizaine Dye from Aqueous Solution for Wastewater Treatment and Catalyst Regeneration
- 2013 – 2016 B.Sc. **An-Najah National University**, Nablus, Palestine
Specialization: Pure Chemistry
- 2012 – 2013 **General Examination Board (Tawjihi), Burqeen Sec. Girls School**, Jenin, Palestine

Teaching Experience

- 2022–present Assistant Professor, Department of Chemistry, An-Najah National University
- Physical chemistry I & II
 - Analytical chemistry for health sciences
 - General chemistry for health sciences
 - Practical organic chemistry for health sciences
 - Practical physical chemistry I & II
- 2016 – 2018 Teaching Assistant, Department of Chemistry, An-Najah National University
- Practical general chemistry I & II
 - Practical organic chemistry I & II
 - Practical systematic organic chemistry
 - Practical general chemistry for health sciences
 - Practical organic chemistry for health sciences

Mar 2019 – May 2019 & Jan 2021 – Mar 2021

Teaching bachelor and master students several research skills, University of Bordeaux :

- Organic and Nanoparticles synthesis and characterization
- DNA- colloidal grafting
- DNA-mediated assembly
- Characterization of DNA-coated colloids& patchy particles

Scholarships & Awards

(2009- 2011) AMIDEAST Scholarship, American nonprofit organization engaged in international education, training, and development activities in the Middle East

(2016-2018) MEDREC Scholarship (3500 \$), The Middle East Desalination Research Center Scholarship

(2018-2021) PhD scholarship, CAMPUS FRANCE, French government scholarship for Palestinian students

(Nov 2020) Best Oral Presentation Award (2000 €) at the doctoral school scientific day in the University of Bordeaux, by participation with an oral presentation; entitled as: (*Conception of patchy DNA particles by colloidal stamping*)

(Jun 2021) Extracted Research from MA & PhD Theses Award, An-Najah National University, by participation with article extracted from my MA thesis; entitled as: (*Adsorptive Removal of Alizarin Dye from Wastewater Using Maghemite Nanoadsorbents*)

Articles Published

- Badran, I.; **Khalaf, R.** Adsorptive Removal of Alizarin Dye from Wastewater Using Maghemite Nanoadsorbents. *Separation Science and Technology* **2020**, 55 (14), 2433–2448. <https://doi.org/10.1080/01496395.2019.1634731>.
- Rouet, P.-E.; **Khalaf, R.**; Exiga, S.; Duguet, E.; Ravaine, S. Synthesis of Tetrahedral Patchy Nanoparticles with Controlled Patch Size. *J Nanopart Res* **2020**, 22 (10), 337. <https://doi.org/10.1007/s11051-020-05060-w>.
- **Khalaf, R.**; Viamonte, A; Ducrot, E; Mérindol, R; Ravaine, S. Transfer of multi-DNA patches by colloidal stamping. *Nanoscale* **2022**. <https://doi.org/10.1039/D2NR05016A>
- Nadeen Abbas; Ismail Badran; **Rawan Khalaf**; Mohyeddin Assali. Mechanism of Full Photocatalytic Degradation of Xylenol Orange Using Newly Synthesized TiO₂/Fe₃O₄ Paramagnetic Nanoparticles Under Visible Light Radiation. (*under process*)

Supervision of master's theses

Oct 2024: Co-Supervisor for the master thesis

Student name: Nadeen Yousef Ahmad Abbas

Title: Photocatalytic Degradation of Xylenol Orange Dye by Magnetic Fe₃O₄ .TiO₂ Nanoparticles Using Light Emitting Diode (LED)

Oct 2024: Internal Examiner for the master thesis

Student name: Rafeef Mohammad Abd Al-Majeed Odwan

Title: Spectrochemical Characterization of an Electron Transfer Miniaturized Protein Scaffold mimics Rubredoxin Metal Site: Molybdenum – Miniaturized Electron Transfer Protein-single

Feb 2025: Internal Examiner for the master thesis

Student name: Duha Abdullah Fathi Yousef

Title: Thermo-Oxidative Decomposition Analysis of Palm Wastes By Isoconversional Kinetics And Ammonia Fiber Expansion

Conference Activities

Dec 2019: SFNANO – C’NANO JOINT MEETING CONFERENCE 2019, Dijon-France. **Poster presentation title:** Synthesis of patchy nanoparticles for self-assembled diamond-like structure

Nov 2020: Scientific day of the University of Bordeaux, France. **Oral presentation title:** Conception of patchy DNA particles by colloidal stamping

Sep 2021: 35th Conference of the European Colloid & Interface Society, Athens-Greece. **Oral presentation title:** Design of patchy DNA particles by colloidal stamping

Sep 2023: 18th Jordanian Chemistry Conference (JCC18), Hashemite University, Jordan: **Oral presentation title:** Design of patchy DNA particles by colloidal stamping

Laboratory Skills

- **Research Interests:**
 - Nanotechnology for wastewater treatment
 - Colloidal engineering, designing of synthetic DNA sequences, patchy particles, and DNA-patchy particles for drug delivery and building new structures with extensive properties; especially in optics
 - **Research skills:**
 - Organic synthesis, Infrared spectroscopy (IR)
 - Nanoparticles synthesis, Transmission Electron Microscopy (TEM), Scanning Electron Microscopy (SEM), Ultraviolet–visible spectroscopy (UV)
 - DNA-colloidal grafting, DNA-mediated assembly, Confocal Laser Scanning Microscopy (CLSM)
 - **Software:** Origin, Image J, Microsoft Office, ChemBioDraw, ChemSketch, Mercury
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Languages

Arabic: Native, English: Fluent, French: Good

Referees

Dr. Derar Smadi (Head of the Department of Chemistry)

Department of Chemistry, An-Najah National University, Nablus, Palestine.

Tel +972 59 9841004, Email: derarsmadi@najah.edu

Prof. Serge Ravaine (Ph.D. supervisor)

Department of Chemistry, University of Bordeaux, Paul Pascal Research Center, 33600 Pessac,

France. Tel (+33) 556 845667, Email: serge.ravaine@crpp.cnrs.fr

Dr. Ismail Badran (M.Sc. supervisor)

Department of Chemistry, An-Najah National University, Nablus, Palestine.

Tel +974 4403 6839, Email: i.badran@najah.edu