

Curriculum Vitae – Rawan Shahen

Personal Details

Name: Rawan Shahen

Date of Birth: March 8, 1998

Address: Sakhnin, Northern District, Israel

Phone number: 0525011280

Email: rawan.shahen@mail.huji.ac.il OR rawan-shahen@campus.technion.ac.il

Education

2023 – Present

Ph.D. Student in Chemistry, Technion – Israel Institute of Technology

Supervisor: Dr. Ori Green

Research Topic: *Developing selective molecular sensors based on the Aza-Wittig reaction for detecting CO₂ in living cells.*

2021 – 2023

M.Sc. in Organic Chemistry, The Hebrew University of Jerusalem

Supervisor: Prof. Raad Abu-Reziq

Research Topic: *Preparation of Silica/Metal-Organic Frameworks (MOFs) Composite Microcapsules and Their Application as Catalytic Microreactors via Non-Aqueous Sol-Gel Routes.*

2020 – 2021

Research Student, The Hebrew University of Jerusalem

2018 – 2020

B.Sc. in Chemistry (Extended Single-Major Track), The Hebrew University of Jerusalem

2016

Graduated from Al-Bayan High School, Sakhnin

Major: Chemistry–Biology, MOFET Program

Professional Experience

2025 – Present

Organic Chemistry Laboratory Instructor for Chemistry Students

2024 – Present

Analytical Chemistry Laboratory Instructor for Chemistry Students

2020 – 2023

M.Sc. Research Student

2020 – 2021

Teaching Assistant, Introduction to Chemistry for First-Year Biology Students

2019 – 2020

Research Laboratory Assistant in the laboratory of Prof. Raad Abu-Reziq, The Hebrew University of Jerusalem

Research and Laboratory Experience

Extensive experience in analytical techniques and laboratory methods, including:

- NMR spectroscopy
- GC
- BET analysis
- TGA
- SEM (Scanning Electron Microscopy)
- TEM (Transmission Electron Microscopy)
- DLS
- Master Sizer
- FTIR
- HPLC
- ESI-MS
- Plate reader assays
- Bacterial and cell culture growth
- Microscopy
- Solid-phase synthesis
- Sol-gel and emulsion processes
- Catalysis
- Organic synthesis
- TLC

Conferences and Scientific Activities

2020

Participant, Huji Nano Conference, February 2020

2021

Participant, The 2021 Casali Scientific Conference, December 2021

2022

Participant, Huji Nano Conference, March 2022

2022

Participant, The 86th Annual Meeting of the Israel Chemical Society, Tel Aviv, September 2022

Poster Presentation:

Silica/Metal-Organic Frameworks (MOFs) Composite Microcapsules and Their Application as Catalytic Microreactors

2025

Participant, The 88th Annual Meeting of the Israel Chemical Society, Jerusalem, February 2025

Poster Presentation and Flash Talk:

Toward Precise CO₂ Imaging: Exploring the Selectivity and Sensitivity of Aza-Wittig Based Sensors

2025

Participant, Faculty Annual Research Day, Technion – Israel Institute of Technology, February 2025

Poster Presentation:

Toward Precise CO₂ Imaging: Exploring the Selectivity and Sensitivity of Aza-Wittig Based Sensors

2026

Participant, The 89th Annual Meeting of the Israel Chemical Society, Tel Aviv, February 2026

Poster Presentation:

Real-Time Sensing of Intracellular CO₂ Metabolism Using an Aza-Wittig-Based Sensor

Publications

Ben Reddan, **Rawan Shahen**, Rafael Radi, Mia McCalmont, Ori Green, and Eoin P. Cummins.

“Activity-Based CO₂ Sensing Using CarboSenR2 Provides New Insights into Cellular

Metabolism"

Redox Biology, **2026**, 91, 10406.

Computer and Software Skills

Excellent command of:

- Microsoft Word
 - Microsoft Excel
 - Microsoft PowerPoint
 - Origin
 - ChemDraw
 - TopSpin
 - MestreNova (NMR software)
 - EndNote
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Languages

- **Arabic:** Native language
- **Hebrew:** Excellent proficiency
- **English:** Excellent reading, writing, and speaking skills