

Sarah El Azizi

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Personal Statement

Science has been a passion and curiosity of mine since a young age. As a highly skilled and enthusiastic Research Scientist, I have proven experience in various multidisciplinary research projects, with outstanding analytical and observational skills. I am versatile and adapt easily to cross-disciplinary subjects. I share the values of questioning new research methods and approaching issues with fresh perspectives. My expertise lies in precision remote sensing by UV–NIR spectroscopy for biodiversity monitoring and environmental management. I am motivated to contribute to research fostering sustainable coexistence between humans and ecosystems.

Education

PhD in Sciences and Technology – Geomatics and Environment

University Abdelmalek Essaadi, Faculty of Sciences and Technology – Tangier, Morocco
(2019–2023)

Thesis: Contribution of precision remote sensing by UV–NIR spectroscopy to the study and monitoring of biodiversity: Application to the discrimination and monitoring of four medicinal and aromatic plants from North-West Morocco.

Master of Science and Technology – Improvement of Agricultural Production

University Hassan I, Settat, Morocco (2007–2009)

Dissertation: Reuse of treated wastewater: Microbiological and physicochemical properties and impact on soils.

Maîtrise of Science with Honours – Environmental Protection Sciences

University Hassan II, Mohammedia, Morocco (2005–2007)

Dissertation: Contamination of biological basins by organic solvents and their impact on purifying microorganisms.

Diploma of General University Studies (DEUG) – Life and Earth Sciences

University Hassan II, Mohammedia, Morocco (2003–2005)

Scientific Baccalaureate (Experimental Sciences)

Lycée Ibn Yassine, Mohammedia, Morocco (June 2003)

Professional Experience

Postdoctoral Research Scientist – Remote Sensing and Spectroscopy

GATE Laboratory, University Abdelmalek Essaadi, Tangier, Morocco (Jan 2024 – Jun 2024)

- Conducted advanced UV–NIR spectroscopy research for vegetation and biodiversity monitoring.
- Developed chemometric models (PLSR, PCA) for spectral data analysis.
- Supervised students in field spectroscopy practicals.

Assistant Lecturer – UV–NIR Spectroscopy

University Abdelmalek Essaadi, Tangier, Morocco (Oct 2024 – Dec 2024)

- Delivered lectures and practical sessions on vegetation spectroscopy.

Assistant Lecturer – Geoinformation, Land and Environmental Management

University Abdelmalek Essaadi, Tangier, Morocco (Oct 2023 – Jan 2024)

- Delivered courses and supervised practical sessions in GIS, remote sensing, cartography, and pedology.

Assistant Lecturer – Cartography Practical Sessions

University Abdelmalek Essaadi, Tangier, Morocco (Jan 2022 – Jun 2022)

Assistant Lecturer – Soil Sciences Practical Sessions

University Abdelmalek Essaadi, Tangier, Morocco (Sep 2021 – Dec 2021)

Trainer – Spectroscopy of Vegetation (Field Practical Sessions)

University Abdelmalek Essaadi, Tangier, Morocco (2023 and 2024)

- Organized and led 20-hour field training for engineering students on visible-infrared spectroscopy.

University Lecturer – Plant Biotechnology

University of Mauritius, Faculty of Science (Jan 2012 – Aug 2012)

- Lectured and supervised practicals in plant biotechnology.

Teacher of French as a Foreign Language (FLE)

Berlitz Worldwide Speaking Mauritius (Jun 2011 – Jun 2016)

Pedagogical Manager

Dalas Schools, Mohammedia, Morocco (Oct 2016 – May 2018)

Quality Control Officer (Bank Audit)

EVOE Consulting QSE, Morocco (Jan 2010 – Mar 2010)

Skills

- **Spectroscopy & Chemometrics:** UV–NIR spectroscopy, Hyperspectral remote sensing, PLSR, PCA, spectral library development.
 - **Laboratory Techniques:** HPLC, ICP-OES, GC-MS, essential oil extraction, microbiological techniques.
 - **Remote Sensing & GIS:** Image pre-processing, spatial data analysis, environmental monitoring, climate change context.
 - **Programming & Data Analysis:** Proficient in R, Python, Microsoft Office (Excel, Word, PowerPoint).
 - **Languages:** French, English, Arabic, Mauritian Creole (fluent in written and spoken), German (A1).
 - **Communication:** Excellent verbal and written communication skills, scientific writing, conference presentations.
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Publications

- El Azizi, S., Amharref, M., Es-Saouini, H., Bernoussi, A. S., & El Abdellaoui, J. E. (2024). Towards a spectral library of medicinal and aromatic plant species: Plant discrimination and wavelength selection. *Microchemical Journal*, 111854. [Scopus, Q1]
 - El Azizi, S., Amharref, M., & Bernoussi, A. S. (2024). Assessment of Water Content in Plant Leaves Using Hyperspectral Remote Sensing and Chemometrics: Application to *Rosmarinus officinalis*. *Journal of Biosystems Engineering*, 1–9. [Scopus, Q2]
 - Taia, H., Bernoussi, A. S., Wozniak, E., Amharref, M., & El Azizi, S. (2024). Using hyperspectral reflectance to evaluate the impact of irrigation and fertilization on mint. *Agronomy Research*. [Scopus, Q3]
 - El Azizi, S., Amharref, M., Abdenmour, I., & Bernoussi, A. S. (2023). Use of field spectroscopy for the spectral study of *Lavandula stoechas*. *AIP Conference Proceedings*, 2721(1). [Scopus, Conference Proceeding]
 - El Azizi, S., Amharref, M., & Bernoussi, A. S. (2022). Study of drought effects on medicinal and aromatic plants using field spectroscopy. *Journal of Ecological Engineering*, 23(12). [Scopus Q2]
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Conferences

- JRS UAE 24, Abdelmalek Essaadi University, Morocco (Oct 2024)
 - Symposium on Agriculture and Climate Change, University Ibn Tofail, Morocco (Apr 2024)
 - Water Resources Management Seminar, Abdelmalek Essaadi University (Mar 2024)
 - FSAET Conference, GLA University, India (Dec 2021)
 - ICESAS Conference, Abdelmalek Essaadi University (May 2022)
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Awards & Fellowships

- Laureate, **L'Oréal-UNESCO “For Women in Science” Fellowship**, Morocco (2008)
 - Best Paper Award, Futuristic and Sustainable Aspects in Engineering and Technology (FSAET) Conference, India (2021)
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Training & Courses

- AI in Precision Agriculture, Early 2025
 - Fundamentals of Satellite Earth Observations for SDGs, University of Mauritius & Christ University, India (May 2024)
 - Optical and Radar Remote Sensing and Image Processing, University Abdelmalek Essaadi (Jan 2023)
 - ICP-OES Technical Training (May 2022)
 - ETHOS Microwave Extraction of Organic Compounds (May 2021)
 - Phytotherapy and Moroccan Traditional Pharmacopoeia (Apr–Jun 2021)
 - Research 4.0 Toolbox (July 2021)
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Additional Information

- Valid manual driving license
 - Member of organizing committee: National Congress on Agricultural Production Improvement, Hassan I University, Morocco (Sep 2008)
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References

Available upon request.