

Curriculum Vitae

Mohamed MESNAOUI



I- General information

Name : Mohamed MESNAOUI

Current position:

- Professor of Higher Education C at the Faculty of Sciences Semlalya Marrakech (FSSM) – Cadi Ayyad University, Department of Chemistry, Avenue Prince Moulay Abdellah, B.P. 2390, Marrakech, Morocco.
- Affiliate Professor at the College for Sustainable Agriculture and Environmental Sciences (CSAES)/ Center of Excellence in Soil and Fertilizer Research in Africa (CESFRA), Mohammed VI Polytechnic University, Lot 660, Hay Moulay Rachid Ben Guerir, 43150, Morocco.

Tel : +212 6 65 30 72 46

E-mail : mesnaoui@uca.ma - mesnaoui@uca.ac.ma - mohamed.mesnaoui@um6p.ma -

Specialization: Material Science / Inorganic chemistry.

Research Interests: Fertilizers, Phosphates and derivatives, Glasses and Ceramics.

II- Diplomas

1984 - CEA Inorganic Chemistry, Cadi Ayyad University, Marrakech, Morocco.

1986 - PhD, Solid State Chemistry, Cadi Ayyad University, Marrakech, Morocco.

1993 - State Doctorate, Materials Science, Cadi Ayyad University, Marrakech, Morocco.

III- Employment history

1987-1993: Assistant Professor at FSSM, Cadi Ayyad University, Marrakech, Morocco.

1993-1997: Lecturer at FSSM, Cadi Ayyad University, Marrakech, Morocco.

1997-2004: Professor of higher education (grade A) at FSSM, Cadi Ayyad University, Marrakech, Morocco.

2004-2010: Professor of higher education (grade B) at FSSM, Cadi Ayyad University, Marrakech, Morocco.

2010- until now: Professor of higher education (grade C) at FSSM, Cadi Ayyad University, Marrakech, Morocco.

2019- until now: Affiliate Professor at Mohammed VI Polytechnic University.

IV- Professional Memberships

- Former Head of the Chemistry Department, FSSM, Cadi Ayyad University, 2008.
- Director of the “Condensed Matter and Environment Laboratory” (LAMACE), FSSM, Cadi Ayyad University.

- Team leader of the “Condensed Matter and Environmental Chemistry Unit” (ECMCE), FSSM, Cadi Ayyad University.
- Chairman of the jury for the Mineral Chemistry module “Chemistry Science Sector (SMC) S3” (2004-2013).
- Chairman of the jury for modules in the professional ceramics and glass industry (2006-2013).
- Educational Director of the UFR DESS "Processes and energy" "Option: Energy and Quality Processes: PEQ" (2001 - 2007).
- Responsible of the "Professional License in Ceramics and Glasses“ (2006-2013).

V- Scientific Production (in the last 10 years)

V-1 supervision

- **YOUSSEF EL HAFIANE**

Microstructure and properties of ceramic materials

University accreditation 2014.

- **LOUBNA ABIELAALA**

Development, characterization and chemical durability of phosphate glasses for the containment of hospital waste and new glassy fertilizers

National Thesis 2014.

- **YOUNES ABOULIATIM**

Valorization of Moroccan raw materials through the development of ceramic materials

University accreditation 2016.

- **MOHAMED AMINE HARECH**

Valorization of phosphate sludge in traditional ceramics.

PhD

- **TARIQ LABBILTA**

Elaboration, Characterization and application of new glass fertilizers based phosphate.

PhD

- **FATIMA ZAHRA ABIR**

Synthesis and study of the hydration of new “low carbon” cements.

PhD

- **NIZAR EL MAZOUNI**

Valorization agronomic of fertilizers under diverse biotic and abiotic conditions

PhD (In progress)

V-2 Scientific Publications

Patent:

Filed a patent B253149 titled: "controlled release fertilizer composition comprising phosphate glass matrix particles" with ocp: MESNAOUI, Mohamed; LABBILTA, Tariq; AIT-EL-MOKHTAR, Mohamed; MEDDICH, Abdelilah, KHOULOU, Mehdi; ABOULIATIM, Younes

Scientific Articles:

Article

Chemical synthesis and crystallographic data on iron doped cubic ye'elimite Cement and Concrete Researchthis link is disabled, 2023, 173, 107257

Article

Impact of MnO on the structural, physicochemical, and dissolution properties of phosphate-based glasses
Physics and Chemistry of Glasses: European Journal of Glass Science and Technology Part Bthis link is disabled, 2023, 64(1), pp. 7–15

Article

Controlled-release fertilizers from phosphate glass-matrix: A new ecological approach to match nutrients release with plants demand
Boletin de la Sociedad Espanola de Ceramica y Vidriothis link is disabled, 2023

Article

From by-product to sustainable building material: Reusing phosphate washing sludge for eco-friendly red brick production.
Journal of Building Engineering, Volume 78, 1 November 2023, 107575.

Article

Advancing Controlled-Release Phosphate Glasses as Sustainable Fertilizers: Microelement-Enhanced Formulations and Dissolution Behavior Analysis
Journal of Non-Crystalline Solids, 2023.

Book Chapter

Biostimulants Upgrade Plants and Soil Health Statuses: Testimonials from Date Palm (*Phoenix dactylifera* L.) and Durum Wheat (*Triticum durum* Desf.)” "Agricultural Research Updates" - Volume 46, a numbered series under Nova Science Publishers. <https://novapublishers.com/shop/agricultural-research-updates-volume-46/>

Article

Antimicrobial ceramic foam composite air filter prepared from Moroccan red clay, phosphate sludge waste and biopolymer
Applied Clay Sciencethis link is disabled, 2022, 230, 106703

Article

Influence of Thermal Treatment of Moroccan Red Clay on its Physicochemical and Mechanical Behavior
Clays and Clay Mineralsththis link is disabled, 2022, 70(5), pp. 601–615

Article

Phosphate Glass-Based Controlled-Release Fertilizers Improve Wheat Growth, Yield and Grain Nutritional Quality Under Field Conditions
Gesunde Pflanzenththis link is disabled, 2022, 74(3), pp. 715–727

Article

A comparative study of the thermal behaviour of phosphate washing sludge from Tunisia and Morocco
Journal of Thermal Analysis and Calorimetrythis link is disabled, 2022, 147(10), pp. 5677–5686

Article

Effect of the addition of iron oxide on the microstructure of ye'elimite Cement and Concrete Researchthis link is disabled, 2022, 151, 106625

Article

Innovative formulations of phosphate glasses as controlled-release fertilizers to improve tomato crop growth,

yield and fruit quality
Molecules [this link is disabled](#), 2021, 26(13), 3928

Article

Effect of temperature and clay addition on the thermal behavior of phosphate sludge
Boletín de la Sociedad Española de Cerámica y Vidrio [this link is disabled](#), 2021, 60(3), pp. 194–204

Article

Elaboration and characterization of vitreous fertilizers and study of their impact on the growth, photosynthesis and yield of wheat (*Triticum durum* L.)
Materials, 2021, 14(5), pp. 1–19, 1295

Article

Hygroscopic Properties of Sweet Cherry Powder: Thermodynamic Properties and Microstructural Changes
Journal of Food Quality, 2021, 2021, 3925572

Article

Study of the effect of calcium substitution by magnesium in the vitreous system $3\text{P}_2\text{O}_5\text{-}2\text{K}_2\text{O}\text{-(}1\text{-x) CaO-x MgO}$
Materials, 2020, 13(11), 2637

Review

Study of borosilicate glaze opacification by phosphates using Kubelka-Munk model
Ceramics International, 2017, 43(8), pp. 5862–5869

Oral communications and Posters :

- Poster: "Iron-bearing minerals removal routes from granite waste" The 3rd International School on Advanced Materials, Ouarzazate (Morocco) **2023**.
- Poster: "The influence of manganese oxide on the structure, physicochemical properties, and dissolution behaviors of phosphate glasses" 4th International Congress on Materials & Structural Stability, Rabat (Morocco) **2023**.
- E-poster: "Innovative formulations of phosphates glasses as controlled release fertilizers toward a sustainable agriculture production." The International Sustainability Workshop (ISW 2021) at Qatar University (Qatar) **2021**.
- Oral Communication: "Elaboration and characterization of innovative phosphate glass fertilizers for agricultural application." 5th ASIA International Conference on Surfaces, Coatings and Nanostructured Materials (NANOSMAT-Asia 2021) (Turkey) **2021**.
- Poster: "Elaboration and characterization of new phosphate glassy fertilizers for agricultural application." The 4th Maghreb Colloquium on Heterocycle Chemistry (CMCH 4-2021) at IPEST La Marsa (Tunisia) **2021**.
- Oral Communication: "Innovative Formulations of Phosphate Glasses as Controlled-Release Fertilizers for Tomato Crop." 1st ENSAS Doctoral Days (ENSAS-DD2021) at ENSA Safi, Cadi Ayyad University (Morocco) **2021**.
- E-poster: "Elaboration and Application of Vitreous Fertilizers to Improve Wheat Growth and Physiological Traits" The International Conference on Phosphates: Fundamentals, Processes and Technologies (Phosphate days 2020) at UM6P BénGuerir (Morocco) **2020**.
- Oral Communication: "Production of Vitreous Controlled-Release Fertilizers on an Industrial Scale" Young Researchers Days: To Meet Technology Transfer Challenges, held in Mohammed VI Polytechnic University (UM6P), BénGuerir, (Morocco) **2020**.
- Oral Communication: "Les engrais à libération contrôlée: Etude du système vitrifiable $3\text{P}_2\text{O}_5\text{-}2\text{K}_2\text{O}\text{-(}1\text{-x) CaO-x MgO}$ " Le Sixième Colloque Francophone Pluridisciplinaire sur les Matériaux, l'Environnement et l'Electronique (PLUMEE 2019) Limoges (France) **2019**.
- Poster: "Study of the effect of Calcium substitution by Magnesium in the vitreous system $3\text{P}_2\text{O}_5\text{-}2\text{K}_2\text{O}\text{-(}1\text{-x) CaO-x MgO}$ " The International Conference for Research on Phosphates and Derivatives (Phosphate days 2018) at UM6P BénGuerir (Morocco) **2018**.
- Oral communication: Y. El kinani, A. Smith, Y. El hafiane, M. Mesnaoui, L. Nibou, B. Messnaoui,

- M. Abdennouri. Elaboration of a terracotta ceramic based on phosphate washing mud. 3rd International Ceramics Symposium (CI-CERAM3). Safi (Morocco), 03 - 04 April **2014**
- Oral communication: Abielaala, L., Mesnaoui, M., Aouad, H., Boulaajoul, K., Vittrification of ash from the incineration of hospital waste, 5th National Meeting: Management and Protection of the Environment, G- ENVIRON-5, Casablanca, Morocco, **2013**.
 - Oral communication: Abielaala, L., Mesnaoui, M., Aouad, H., Boulaajoul, K., Vittrification of the ashes from the incineration of infectious healthcare activity waste (DASRI), The International Workshop on Waste Managment in Maghreb Countries, Marrakech, Morocco, **2013**.
 - Oral communication: L. Nibou, A. Smith, Y. Abouliatim, Y. El kinani, M. Mesnaoui, S. Beklouti, Y. El hafiane Physico-chemical characterization of a ceramic based on phosphate mud. The Second International Conference on "Research to Applications & Markets" Sousse, TUNISIA, June 28-30, **2013**

VI- Research projects and contracts

- ❖ Design and participation in Scientific management integrated action N° 187/SM/99.
- ❖ Scientific responsibility, design and management of the project PROTARS III D14/69.
- ❖ Design and participation in Scientific management of PICS n ° 830.
- ❖ Design and management within the Cadi Ayyad University of the European project Tempus IV Program N ° JPRC-144968-2008 entitled Sciences of Preservation of Cultural Heritage in Morocco.
- ❖ Design and management within the Cadi Ayyad University of the Moroccan-Tunisian integrated action 12 / MT / 10
- ❖ Responsibility and scientific management of the Phosphate R&D project 2015. Project ID: VAL-MES-01/2017. Development and characterization of new vitrified phosphate fertilizers.
- ❖ Design and participation in Scientific management of the Moroccan-Tunisian integrated action N° 17TM14. Valorisation des boues de lavage des phosphates dans les matériaux céramiques et géopolymériques. (2017 – 2019).
- ❖ Design and participation in Scientific management of Coopération Maroc-Hongrie. CNRST/NRDIO 2019-2020. Elaboration of ceramic foams based on phosphate sludge by incorporation of air (2019 – 2020).

V- Services

- Member of the National Organizing Committee for REMCES XIII El Jadida, 2020;
- Member of the organizing committee of the International Congress on phosphates and Derivates (Phosphate days II) Benguerir 2020.
- May 17, 2022. Organization of the MAMS/RMI thematic day on the theme: Natural materials and recovery: Phosphates, Clays, Schists, industrial by-products.
- Member of Scientific Committee for the 1st Seminar on Materials and Industrial Innovation (SM2I-1). Moroccan association of material science & CRT - M & E of Université Hassan II Casablanca. Under the theme: Materials for Energy and Transport March 15 – 16, 2023.
- Membre du bureau exécutif de l'association du Groupe Marocain du Céramique « GMCeram», 2023.
- Referee in REMCES VII, VIII, IX , X, XI et XII.
- Referee in the International Congress on Spectroscopy (CIS).