CURRICULUM VITAE

Name: EL MHAMMEDI

First name: Moulay Abderrahim

Laboratory: Materials Science, Mathematics and Environment LS2ME

Department of Physics and Chemistry,

Sultan Moulay Slimane University,

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ACADEMIC CURRICULUM

- Licence in private law at the university hassan First of settat, Morocco.
- From 2019: Higher education teacher at Polydisciplinary Faculty, Sultan Moulay Slimane University, Beni Mellal, Morocco.
- 2013-219: Teacher qualified to direct research work at Hassan First University, Setttat, Morocco.
- 2009-2013: Assistant Professor at Hassan First University, Setttat, Morocco.
- 2008: PhD in materials and electrochemical analysis, from Faculty of Sciences and Technologies, Sultan Moulay Slimane, Beni Mellal, Morocco.

ADMINISTRATIVE RESPONSABILITIES

- From 2020: Member of the scientific committee of Polydisciplinary Faculty, Khouribga, Morocco.
- 2017-2020: Head of department of Physics Chemistry, Polydisciplinary Faculty, Khouribga, Morocco.
- 2017-2020: Council member of Sultan Moualy Simane Universty, Beni Mellal, Morocco.
- 2017-2020: Council member of Polydisciplanry Faculty, Khouribga, Morocco.
- 2017-2020: Member of the management board of Sultan Moulay Slimane University, Beni Mellal, Morocco.
- 2017-2020: Member of the scientific committee of Sultan Moulay Slimane University, Beni Mellal, Morocco,
- 2014-2017: Council member of Polydisciplanry Faculty, Khouribga, Morocco.
- 2011-2014: - 2014-2017: Council member of Polydisciplanry Faculty, Khouribga, Morocco.
- 2011-2014: Member of the management board of Hassan First University, Settat, Morocco.

SCIENTIFIC RESPONSABILITIES

- Expert Scientific evaluator affiliated to UM6P, Morocco.
- Expert Scientific evaluator affiliated to the National Center for Scientific and Techniclal Research, Morocco.
- Currently : Membre of editorial board of journal of Heliyon.
- Currently, Director of laboratory of Materials Science, Mathematics and Environment (LS2ME), Sultan Moulay Slimane Uniiversity, Beni Mellal, Morocco.
- 2018-2021: Responsible of the research team: Analytical chemistry and random modeling, Sultan Moulay Sliman University, Beni Mellal, Morocco.
- 2015-2018: Director of laboratory of chemistry and random modeling, Hassan First University, Settat, Morocco.
- 2012-2015: Responsible of the research team: Analytical chemistry and statistical modeling, Hassan First University, Settat, Morocco.

SCIENTIFIQUES ACTIVITY

- Reviewer in international journals:

Talanta, Journal of Hazardous Materials, Materials Chemistry and Physics, Journal of Arabian Chemistry, Food Chemistry, Inorganica Chemica Acta, Analytical Letters, International Journal of Environmental Analytical Chemistry, Electroanalysis, Chemical Engineering Journal, Heliyon, Electroanalysis, Journal of Apllied Clay Science, Biosensors and Bioelectronics,

- Director of many thesis, Masters and graduation projects.
- Co-organization of meetings in environment and materials chemistry and physics fields.

Current research topics in the following fields

Sensors, Electroanalysis, Electrocatalysis, Materials, Water and food qualities, Nanoparticles, Wastewater treatment processes (adsorption, photocatalysis….), Solid waste valorization, Pesticides chemistry (monitoring of pesticides in water and soil).

PUBLICATIONS

1. F.E. Ettadili, S. Aghris, F. Laghrib, A. Farahi, M. Bakasse, S. Lahrich, **M.A. El Mhammedi**, Electrochemical detection of ornidazole in commercial milk and water samples using an electrode based on green synthesis of silver nanoparticles

using cellulose separated from Phoenix dactylifera seed, Int. J. Biol. Macromol. 242 (2023) 124995. https://doi.org/10.1016/j.ijbiomac.2023.124995.

2. S. Aghris, M. Azriouil, F.E. Ettadili, A. Loukili, F. Laghrib, A. Farahi, M. Bakasse, S. Lahrich, **M.A. El Mhammedi**, An electrochemical sensor for flubendiamide insecticide analysis based on chitosan/reduced graphene oxide, Sens. Diagn. 2 (2023) 398–408. https://doi.org/10.1039/D2SD00159D.
3. F.E. Ettadili, M. Azriouil, B. Chhaibi, F.Z. Ouatmane, O.T. Alaoui, F. Laghrib, A. Farahi, M. Bakasse, S. Lahrich, **M.A. EL Mhammedi**, Green synthesis of silver nanoparticles using Phoenix dactylifera seed extract and their electrochemical activity in Ornidazole reduction, Food Chem. Adv. 2 (2023) 100146. https://doi.org/10.1016/j.focha.2022.100146.
4. B. Hatimi, A. Loudiki, J. Mouldar, H. Hafdi, M. Joudi, M. Bensemlali, A. Aarfane, H. Nasrellah, **M.A. El Mhammedi**, E.M. Bakasse, Physicochemical and statistical modeling of reactive Yellow 145 enhanced adsorption onto pyrrhotite Ash-Based novel (Catechin-PG-Fe)-Complex, Mater. Sci. Energy Technol. 6 (2023) 65–76. https://doi.org/10.1016/j.mset.2022.11.007.
5. H. Barkouch, H. Bessbousse, M. Amar, S.M. Bouzzine, M. Hamidi, **M.A. El Mhammedi**, O.T. Alaoui, Bismuth-doped TiO2 enable solar photocatalytic water treatment, Opt. Mater. 146 (2023) 114507. https://doi.org/10.1016/j.optmat.2023.114507.
6. B. Chhaibi, A. Loudiki, K. Elaslani, F. Laghrib, S. El Houssame, M. Bakasse, S. Lahrich, A. Farahi, **M.A. EL Mhammedi**, Electrocatalytical effect of UV to oxidizing amoxicillin at (Sn-SnO2)-NPh-CPE: Analytical application in tap water and wastewater, J. Photochem. Photobiol. Chem. 445 (2023) 115101. https://doi.org/10.1016/j.jphotochem.2023.115101.
7. M. Azriouil, A. Loudiki, F. Laghrib, Y. El Bouabi, S. El Houssame, A. Farahi, M. Bakasse, S. Lahrich, **M.A. EL Mhammedi**, Chemically reduced graphene oxide sheets for voltammetric determination of ciprofloxacin in biological fluids and pharmaceutical formulations, J. Hazard. Mater. Adv. 11 (2023) 100356. https://doi.org/10.1016/j.hazadv.2023.100356.
8. M. Azriouil, F.E. Ettadili, F.Z. Ouatmane, O. Tahiri Alaoui, F. Laghrib, A. Farahi, M. Bakasse, S. Lahrich, **M.A. EL Mhammedi**, Effect of current flow applied for graphene synthesis and its application for the detection of ciprofloxacin in fish,

urine and drugs, Mater. Today Commun. 35 (2023) 105496. https://doi.org/10.1016/j.mtcomm.2023.105496.

9. B. Chhaibi, A. Loudiki, A. Hrioua, A. Farahi, F. Laghrib, M. Bakasse, S. Lahrich, S. Saqrane, **M.A. El Mhammedi**, A novel electrochemical method for amoxicillin detection under photoirradiation: Application in tap water and wastewater samples, Inorg. Chem. Commun. 156 (2023) 111280. https://doi.org/10.1016/j.inoche.2023.111280.
10. S. Aghris, B. Chhaibi, F.Z. Ouatmane, O.T. Alaoui, F. Laghrib, A. Farahi, M. Bakasse, A. Loukili, S. Lahrich, **M.A. EL Mhammedi**, An electrochemical sensor based on clay/graphene oxide decorated on chitosan gel for the determination of flubendiamide insecticide, Mater. Chem. Phys. 296 (2023) 127243. https://doi.org/10.1016/j.matchemphys.2022.127243.
11. F.E. Ettadili, B. Chhaibi, F.Z. Ouatmane, O.T. Alaoui, F. Laghrib, A. Farahi, M. Bakasse, S. Lahrich, **M.A. EL Mhammedi**, Fabrication of an Electrochemical Sensor Based on Silver Nanoparticles Stabilized by Phoenix dactylifera Seed Oils for the Determination of Ornidazole in Milk Samples, ChemistrySelect. 8 (2023) e202204404. https://doi.org/10.1002/slct.202204404.
12. M. Azriouil, B. Chhaibi, A. Hrioua, F. Laghrib, A. Farahi, M. Bakasse, S. Lahrich, **M.A.E. Mhammedi**, Highly Sensitive and Selective Electrochemical Monitoring of Antibiotic Ciprofloxacin Using Electrochemically Exfoliated@reduced Graphene Oxide/Clay Graphite Electrode, J. Electrochem. Soc. 170 (2023) 067507. https://doi.org/10.1149/1945-7111/ace007.
13. M. Azriouil, B. Chhaibi, A. Hrioua, F. Laghrib, A. Farahi, M. Bakasse, S. Lahrich, **M.A.E. Mhammedi**, Eco-Friendly Elaborated Clay-Supported Reduced Graphene Oxide for the Determination of Antibacterial Ciprofloxacin in Wastewater, Urine, and Drug Samples, J. Electrochem. Soc. 170 (2023) 117517. https://doi.org/10.1149/1945-7111/ad0cce.
14. B. Hatimi, M. Bensemlali, H. Hafdi, J. Mouldar, A. Loudiki, M. Joudi, A. Aarfane, H. Nasrellah, **M.A.E. Mhammedi**, M. Bakasse, Hematite based ultrafiltration membrane prepared from pyrrhotite ash waste for textile wastewater treatment, Eur. Phys. J. Appl. Phys. 98 (2023) 12. https://doi.org/10.1051/epjap/2023220260.
15. K. Elaslani, A. Loudiki, B. Chhaibi, F. Laghrib, S. El Houssame, M. Bakasse, S. Lahrich, A. Farahi, **M.A. EL Mhammedi**, Enhancing of ofloxacin oxidation current through

the overvoltage position displacement using carbon paste electrode modified by silver particles: Analytical application in water, Chem. Inorg. Mater. 1 (2023) 100013. https://doi.org/10.1016/j.cinorg.2023.100013.

16. Ajermoun, N., Hrioua, A., Chhaibi, B., Laghrib, F., Farahi, A., Lahrich, S., ... & **El Mhammedi, M. A**. (2023). Electrochemical monitoring of thiamethoxam in Zea mays and Phaseolus Vulgaris L. plants using chitosan stabilized silver nanoparticles electrode. Food Chemistry Advances, 3, 100362.
17. H. Nasrellah, M. Joudi, M. Bensemlali, I. Yassine, B. Hatimi, H. Hafdi, J. Mouldar, **M.A.E. Mhammedi**, M. Bakasse, Novel synthesis and characterization of crystalline fluorapatite from Moroccan phosphogypsum waste, Matér. Tech. 110 (2022) 102. https://doi.org/10.1051/mattech/2022007.
18. S. Aghris, M. Azriouil, M. Matrouf, F.E. Ettadili, F. Laghrib, S. Saqrane, A. Farahi, M. Bakasse, S. Lahrich, **M.A. El Mhammedi**, Chitosan biopolymer coated graphite electrode as a robust electrochemical platform for the detection of the insecticide flubendiamide, J. Food Compos. Anal. 114 (2022) 104749. https://doi.org/10.1016/j.jfca.2022.104749.
19. F.E. Ettadili, M. Matrouf, O.T. Alaoui, F. Laghrib, S. Saqrane, A. Farahi, M. Bakasse, S. Lahrich, **M.A. El Mhammedi**, Catalytic effect of silver in reducing metronidazole in human blood and water samples, Case Stud. Chem. Environ. Eng. 5 (2022) 100204. https://doi.org/10.1016/j.cscee.2022.100204.
20. F.E. Ettadili, M. Azriouil, M. Matrouf, F. Laghrib, S. Saqrane, A. Farahi, M. Bakasse, S. Lahrich, **M.A.E. Mhammedi**, Electrochemical determination of ornidazole at silver electrode: analytical application in human blood, Chem. Data Collect. 39 (2022) 100850. https://doi.org/10.1016/j.cdc.2022.100850.
21. A. Loudiki, M. Matrouf, M. Azriouil, A. Farahi, S. Lahrich, M. Bakasse, **M.A.E. Mhammedi**, Preparation of graphene samples via electrochemical exfoliation of pencil electrode: Physico-electrochemical Characterization, Appl. Surf. Sci. Adv. 7 (2022) 100195. https://doi.org/10.1016/j.apsadv.2021.100195.
22. M. Matrouf, A. Loudiki, O.T. Alaoui, F. Laghrib, A. Farahi, M. Bakasse, S. Saqrane, S. Lahrich, **M.A. El Mhammedi**, Synthesis of Reduced Graphene Oxide by Ethyl Acetate and Its Utilization in Determining Hydroxychloroquine in Wastewater and Pharmaceutical Samples, ChemistrySelect. 7 (2022) e202201056. https://doi.org/10.1002/slct.202201056.

23. A. Loudiki, M. Azriouil, M. Matrouf, F. Laghrib, A. Farahi, S. Saqrane, M. Bakasse, S. Lahrich, **M.A. El Mhammedi**, Graphene-based electrode materials used for some pesticide's detection in food samples: A review, Inorg. Chem. Commun. 144 (2022) 109891. https://doi.org/10.1016/j.inoche.2022.109891.
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25. M. Matrouf, A. Loudiki, F.Z. Ouatmane, B. Chhaibi, O.T. Alaoui, F. Laghrib, A. Farahi, M. Bakasse, S. Lahrich, **M.A.E. Mhammedi**, Effect of Graphite Exfoliation Way on the Efficiency of Exfoliated Graphene for the Determination of Hydroxychloroquine in Urine and Waste Water, J. Electrochem. Soc. 169 (2022) 097505. https://doi.org/10.1149/1945-7111/ac915d.
26. S. Aghris, B. Chhaibi, F.E. Ettadili, O. Tahiri Alaoui, F. Laghrib, A. Farahi, M. Bakasse, A. Loukili, S. Lahrich, **M.A. EL Mhammedi**, Synthesis of clay-reduced graphene oxide composite catalysts for the electrochemical detection of flubendiamide: application in food samples, Mater. Today Chem. 26 (2022) 101215. https://doi.org/10.1016/j.mtchem.2022.101215.
27. B. Hatimi, J. Mouldar, A. Loudiki, M. Bensemlali, L.E. Gaini, A. Hajjaji, **M.A.E. Mhammedi**, M. Bakasse, Synthesis and properties of pyrrhotite ash based cubical α-Fe2O3 nanoparticles, Eur. Phys. J. Appl. Phys. 97 (2022) 90. https://doi.org/10.1051/epjap/2022220073.
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29. Ajermoun, N., Aghris, S., Ettadili, F., Alaoui, O. T., Laghrib, F., Farahi, A., ... & **El Mhammedi, M. A.** (2022). Phytotoxic effect of the insecticide imidacloprid in Phaseolus vulgaris L. plant and evaluation of its bioaccumulation and translocation by electrochemical methods. Environmental Research, 214, 113794.
30. Aghris, S., Ajermoun, N., Hrioua, A., Laghrib, F., El Bouabi, Y., Saqrane, S., ... & **El Mhammedi, M. A**. (2022). Electrochemical determination of flubendiamide

insecticide at graphite/ionic liquid/natural phosphate: application in water and white rice. Case Studies in Chemical and Environmental Engineering, 5, 100179.

31. M. Matrouf, A. Loudiki, M. Azriouil, S. Lahrich, **MA. El Mhammedi**, Electrochemical behavior of hydroxychloroquine on natural phosphate and its determination in pharmaceuticals and biological media. *Materials Chemistry and Physics 287* (2022) *126-340.*
32. M. Matrouf, A. Loudiki, M. Azriouil, F. Laghrib, A. Farahi, M. Bakasse, S. Saqrane, S. Lahrich, **M. A. El Mhammedi**, Review—Recent Advancements in Electrochemical Sensors for 4-Aminoquinoline Drugs Determination in Biological and Environmental Samples. *Journal of Electrochemical Society 169* (2022) *067503.*
33. M. Azriouil, S. Aghris, M. Matrouf, A. Loudiki, F. Laghrib, A. Farahi, M. Bakasse, S. Saqrane, S. Lahrich, **M. A. El Mhammedi**, Efficacy of clay materials for ciprofloxacin antibiotic analysis in urine and pharmaceutical products. *Materials Chemistry and Physics 279* (2022) *125787.*
34. F.E. Ettadili, M. Azriouil, M. Matrouf, O. Tahiri Alaoui, F. Laghrib, A. Farahi, M. Bakasse, S. Saqrane, S. Lahrich, **M.A. El Mhammedi**, Materials framework based bio/sensors for the detection of ornidazole and metronidazole antibiotics in environment and foodstuffs. *Inorganic Chemistry Communications 140* (2022) *109416.*
35. A. Loudiki, M. Matrouf, M. Azriouil, F. Laghrib, A. Farahi, M. Bakasse, S. Lahrich, **M.A. El Mhammedi**, Graphene oxide synthesized from zinc-carbon battery waste using a new oxidation process assisted sonication: Electrochemical properties. *Materials Chemistry and Physics 275* (2022) *125308.*
36. Y. El Bouabi, A. Loudiki, H. Houcini, F.E. Ettadili, A. Farahi, F. Laghrib, M. Bakasse, S. Lahrich, **M.A. El Mhammedi**, Recent advances in the application of different electrode materials for the determination of 4-hydroxy-nitrobenzene: Review. *Inorganic Chemistry Communications 138* (2022) *109216.*
37. F.E. Ettadili, S. Aghris, F. Laghrib, A. Farahi, S. Saqrane, M. Bakasse, S. Lahrich, **M.A. El Mhammedi,** Recent advances in the nanoparticles synthesis using plant extract: Applications and future recommendations. *Journal of Molecular Structure 1248* (2022) *131538.*
38. N. Ajermoun, A. loudiki, A. Farahi, S. Lahrich, S. Saqrane, M. Bakasse, **M. A. El Mhammedi**, Review—Sensor Evaluation for Thiamethoxam Detection in Different Matrices. *Journal of Electrochemical Society 168* (2021)*116508.*

39. A. Hrioua, A. Loudiki, A. Farahi, F. Laghrib, M. Bakasse, S. Lahrich, S. Saqrane, **M.A. El Mhammedi**, Complexation of amoxicillin by transition metals: Physico-chemical and antibacterial activity evaluation. *Bioelectrochemistry 142* (2021) *107936.*
40. S. Aghris, M. Matrouf, F.E. Ettadili, F. Laghrib, Y. El Bouabi, S. Saqrane, A. Farahi, M. Bakasse, S. Lahrich, **M.A. El Mhammedi**, Electrochemical analysis of flubendiamide in water and white rice using clay microparticles supported on pencil electrode. *Microchemical Journal 168* (2021) *106486.*
41. F. Laghrib, S. Aghris, A. Hrioua, N. Ajermoun, F. Ettadili, A. Farahi, M. Bakasse, S. Lahrich, and **M. A. El Mhammedi**, Electrochemical Behavior of p-nitroaniline at Silver/Chitosan/Graphite Electrodes Using Electrochemical Impedance Spectroscopy. *ECS Journal of Solid State Science and Technology* (2021) 10 027009.
42. S. Aghris, F. Laghrib, Y. Koumya, S. El Kasmi, M. Azaitraoui, A. Farahi, M. Sajieddine, M. Bakasse, S. Lahrich, **M. A. El Mhammedi**, Exploration of a New Source of Sustainable Aluminosilicate Clay Minerals from Morocco: Mineralogical and Physico-Chemical Characterizations for Clear Upcoming Applications. *Journal of Inorganic and Organometallic Polymers and Materials*, https://doi.org/10.1007/s10904-021-01950-1.
43. H. Hammani, F. Laghrib, A. Farahi, S. Lahrich, **M. A. El Mhammedi,** Catalytic Effect of Activated Carbon in Determining Resorcinol in Water and Hair Color at Graphite Electrode. *Waste and Biomass Valorization* (2020), https://doi.org/10.1007/s12649-020-01047-9.
44. A. Hrioua, A. Loudiki, A. Farahi, M. Bakasse, S. Lahrich, S. Saqrane, **M. A. El Mhammedi**, Recent advances in electrochemical sensors for amoxicillin detection in biological and environmental samples. *Bioelectrochemistry* (2020), doi: https://doi.org/10.1016/j.bioelechem.2020.107687.
45. N. Ajermoun, S. Aghris, A. Farahi, S. Lahrich, S. Saqrane, M. Bakasse, **M. A. El Mhammedi**, Effect of Silver-Nanocrystalline Impregnated on Graphite Electrode in Catalyzing Thiamethoxam Reduction. *Journal of The Electrochemical Society*, *167*(13) (2020) 136507.
46. S. Lahrich, F. Laghrib, A. Farahi, M. Bakasse, S. Saqrane, **M. A. El Mhammedi**, Review on the contamination of wastewater by COVID-19 virus: Impact and treatment. *Science of the Total Environment 751* (2021) 142325.

47. F. Laghrib, S. Aghris, N. Ajermoun, A. Hrioua, M. Bakasse, S. Lahrich, **M.A. El Mhammedi**, Recent progress in controlling the synthesis and assembly of nanostructures: Application for electrochemical determination of *p*-nitroaniline in water. *Talanta 219* (2021) *121234.*

48. H. Hafdi, M. Joudi, J. Mouldar, B. Hatimi, H. Nasrellah, **M.A. El Mhammedi**, M. Bakasse, Design of a new low cost natural phosphate doped by nickel oxide nanoparticles for capacitive adsorption of reactive red 141 azo dye. *Environmental Research 184* (2020) *109322.*

49. A. Hrioua, S. Aghris, N. Ajermoun, F. Ettadili, A. Farahi, S. Lahrich, S. Saqrane, **M. A. El Mhammedi**, Electrochemical Investigation of Amoxicillin Interaction with Some Metal Ions Related to Complexation Process. *Journal of The Electrochemical Society 167*(12) (2020) 126501.

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51. F. Laghrib, N. Ajermoun, M. Bakasse, S. Lahrich, **M.A. El Mhammedi**, Synthesis of silver nanoparticles assisted by chitosan and its application to catalyze the reduction of 4-nitroaniline. *International Journal of Biological Macromolecules 135* (2019) *752-759.*

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55. Fathellah Laghrib, Sara Lahrich, **Moulay Abderrahim El Mhammedi**, Recent Advances in Direct and Indirect Methods for Sensing Carbonyl Compounds

Aldehydes in Environment and Foodstuffs. *Journal of the Electrochemistry Society*, *166 (15)* (2019) *B1-B9.*

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