

Djamal ZERROUKI, Ph.D.

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📄 My Researchgate

🌐 MyLinkedIn

🌐 <https://djamalzerrouki.github.io/index.html>

EXPERIENCE

- 2018-Current 📌 **Professor**, Dept. of Chemical Engineering, Univ. of Ouargla, Algeria .
- 2009 - 2018 📌 **Associate Professor**, Dept. of Chemical Engineering, Univ. of Ouargla, Algeria.
- 2007 - 2009 📌 **Post Doc**, ESPCI Paris, France.

Education

- 2004 – 2007 📌 **Ph.D., UPMC Paris 6** Material science , Physical Chemistry .
Thesis title: *Organization and assembly of colloid's* .
- 2003 – 2004 📌 **M.Sc., université Paris-Cité**, Surfaces, Interfaces, Reactivity.
Thesis title: *Self-Assembled Monolayers (SAMs)*.
- 1997 – 2002 📌 **B.Sc, INGM Univ Boumerdes, Algeria** in Mechanical Engineering .
Thesis title: *study of cladding by welding of steels*.

RESEARCH INTERESTS

- 📌 **Materials Science** , Colloids and Formulation , surfactants, emulsions, foams, dispersion, nanoparticles synthesis. surface fictionalization
- 📌 **Bioprocess engineering** . environmental applications. Biological Waste , Wastewater Treatment, Algal Biotechnology, Green chemistry **Bioerngy** Biofuel and Bioenergy .

Research Publications

Journal Articles

- 1 Somia Bechar and Djamal Zerrouki. "Effect of natural pozzolan on the fresh and hardened cement slurry properties for cementing oil well". In: *World Journal of Engineering* (2018).
- 2 Céline Cohen, Rory Giles, Victoria Sergeyeva, Nitesh Mittal, Patrick Tabeling, Djamal Zerrouki, Jean Baudry, Jérôme Bibette, and Nicolas Bremond. "Parallelised production of fine and calibrated emulsions by coupling flow-focusing technique and partial wetting phenomenon". In: *Microfluidics and nanofluidics* 17.5 (2014), pp. 959–966.
- 3 Siham Dahmani, Djamal Zerrouki, Luveshan Ramanna, Ismail Rawat, and Faizal Bux. "Cultivation of Chlorella pyrenoidosa in outdoor open raceway pond using domestic wastewater as medium in arid desert region". In: *Bioresource Technology* 219 (2016), pp. 749–752.
- 4 DE Djafri, A Henni, and D Zerrouki. "Electrochemical synthesis of highly stable and rapid switching electrochromic Ni (OH) 2 nanoflake array films as low-cost method". In: *Materials Chemistry and Physics* 279 (2022), p. 125704.
- 5 Fares Fenniche, Abdellah Henni, Yasmine Khane, Djaber Aouf, Nessrine Harfouche, Soufiane Bensalem, Djamal Zerrouki, and Hakim Belkhalifa. "Electrochemical Synthesis of Reduced Graphene Oxide-Wrapped Polyaniline Nanorods As An Active Nanocomposite For Improved Photocurrent Generation And Photocatalytic And Antibacterial Activities". In: (2021).
- 6 A Henni, N Harfouche, A Karar, D Zerrouki, FX Perrin, and F Rosei. "Synthesis of graphene–ZnO nanocomposites by a one-step electrochemical deposition for efficient photocatalytic degradation of organic pollutant". In: *Solid State Sciences* 98 (2019), p. 106039.
- 7 MN Keddar, A Ballesteros-Gomez, M Amiali, JA Siles, D Zerrouki, MA Martin, and S Rubio. "Efficient extraction of hydrophilic and lipophilic antioxidants from microalgae with supramolecular solvents". In: *Separation and Purification Technology* 251 (2020), p. 117327.

- 8 Ying-Mei Liu, Wei Wang, Wei-Chao Zheng, Xiao-Jie Ju, Rui Xie, Djamel Zerrouki, Nan-Nan Deng, and Liang-Yin Chu. "Hydrogel-based microactuators with remote-controlled locomotion and fast Pb²⁺-response for micromanipulation". In: *ACS applied materials & interfaces* 5.15 (2013), pp. 7219–7226.
- 9 Sara Mahboub, Djamel Zerrouki, and Abdellah Henni. "Green synthesis and characterization of silver nanoparticles using *Juniperus communis* leaf extract: Catalytic activity in real-outdoor conditions and electrochemical properties". In: *Applied Organometallic Chemistry* (2020), e5956.
- 10 Raouia Miloudi and Djamel Zerrouki. "Correction to: Encapsulation of phase change materials with alginate modified by nanostructured sodium carbonate and silicate". In: *Iranian Polymer Journal* 29.7 (2020), pp. 551–551.
- 11 Raouia Miloudi and Djamel Zerrouki. "Encapsulation of phase change materials with alginate modified by nanostructured sodium carbonate and silicate". In: *Iranian Polymer Journal* (2020), pp. 1–8.
- 12 FZ Nouasria, D Selloum, A Henni, D Zerrouki, and Sophie Tingry. "Gradient doping of Cu (I) and Cu (II) in ZnO nanorod photoanode by electrochemical deposition for enhanced photocurrent generation". In: *Ceramics International* 47.14 (2021), pp. 19743–19751.
- 13 D ouf, A Henni, D Selloum, Y Khane, F Fenniche, D Zerrouki, H Belkhalifa, and N Dizge. "Facile preparation and characterization of nanostructured ZnS/PbS heterojunction thin films for enhanced microbial inhibition and photocatalytic degradation". In: *Materials Chemistry and Physics* 295 (2023), p. 127059.
- 14 Abdellatif Rahmani, Djamel Zerrouki, Lahcene Djafer, and Andre Ayral. "Hydrogen recovery from the photovoltaic electroflocculation-flotation process for harvesting *Chlorella pyrenoidosa* microalgae". In: *International Journal of Hydrogen Energy* 42.31 (2017), pp. 19591–19596.
- 15 Abdellatif Rahmani, Djamel Zerrouki, Ahmed Tabchouche, and Lahcene Djafer. "Oilfield-produced water as a medium for the growth of *Chlorella pyrenoidosa* outdoor in an arid region". In: *Environmental Science and Pollution Research* 29.58 (2022), pp. 87509–87518.
- 16 L Ramanna, I Rawat, Djamel Zerrouki, and F Bux. "A novel organic dye-based approach to increase photon flux density for enhanced microalgal pigment production". In: *Journal of cleaner production* 198 (2018), pp. 187–194.
- 17 Azeddine Rouane, Djamel Zerrouki, Michel Aillerie, and Abdellah Henni. "Spectroscopic and mechanical properties of PVC plasticized by bio-plasticizer ESO". In: *Journal of Polymer Research* 27.1 (2020), pp. 1–8.
- 18 Azeddine Rouane, Djamel Zerrouki, and Mohamed Tahar Benaniba. "Effect of sunflower oil on the mechanical permanence and the thermal properties of poly (vinyl chloride)". In: *Energy Procedia* 50 (2014), pp. 285–289.
- 19 Ahmed Tabchouche, Ali Ourari, and D Zerrouki Zoubeidi Nawal. "Electrochemistry preparation of electrodes based on polypyrrole and polymethylpyrrole manganese dioxide particles". In: *Energy Procedia* 36 (2013), pp. 1009–1017.
- 20 Wei Wang, Li Liu, Xiao-Jie Ju, Djamel Zerrouki, Rui Xie, Lihua Yang, and Liang-Yin Chu. "A novel thermo-induced self-bursting microcapsule with magnetic-targeting property". In: *ChemPhysChem* 10.14 (2009), pp. 2405–2409.
- 21 Djamel Zerrouki. "Green microalgae for inorganic nanoparticles preparation". In: *Materials and Biomaterials Science* 1.1 (2018), pp. 041–045.
- 22 Djamel Zerrouki, Jean Baudry, David Pine, Paul Chaikin, and Jerome Bibette. "Chiral colloidal clusters". In: *Nature* 455.7211 (2008), pp. 380–382.
- 23 Djamel Zerrouki, Benjamin Rotenberg, Sebastien Abramson, Jean Baudry, Cecile Goubault, Fernando Leal-Calderon, Dave J Pine, and Jerome Bibette. "Preparation of doublet, triangular, and tetrahedral colloidal clusters by controlled emulsification". In: *Langmuir* 22.1 (2006), pp. 57–62.
- 24 Souad Zighmi, Med Bilal Goudjil, Salah Eddine Bencheikh, Segni Ladjel, and Djamel Zerrouki. "Contribution to the improvement of production techniques of algal biomass and operating renewable biofuel". In: *Energy Procedia* 50 (2014), pp. 574–580.
- 25 Nawal Zoubeidi, Ali Ourari, Ahmed Tabchouche, and D zerrouki. "Electrochemical Behavior of Polyvinyl Chloride Electrode Modified by Platinum Micro Particles". In: *Energy Procedia* 36 (2013), pp. 1002–1008.

- 1 Soumia Bechar and Djamel Zerrouki. "Improvement and Control of cement slurry formulation Resistant to the Critical Conditions HPHT". In: *Advanced Materials Research*. Vol. 1105. Trans Tech Publications Ltd. 2015, pp. 339–345.
- 2 D Zerrouki, Benjamin Abramson Rotenberg, Jacques Baudry, C Goubault, F Leal-Calderon, D Pine, and J Bibette. "Préparation de clusters colloïdaux deux, trois ou quatre particules". In: *8 Francophones des Jeunes Physico-Chimistes (JFJPC8)*. 2005.

Books and Chapters

- 1 Soumia Bechar and Djamel Zerrouki. "Control of Cement Slurry Formulation for an Oil Well in a Critical Geological Layer". In: *Exergy for A Better Environment and Improved Sustainability 2*. Springer, Cham, 2018, pp. 273–282.
- 2 Siham DEHMANI. "Culture des microorganismes dans les eaux usées". In: 2018.
- 3 A Henni, Y Bouznit, D Zerrouki, and D Selloum. "Electrochromics for Smart Windows: Oxide-Based Thin Films". In: *Functional and Smart Materials*. CRC Press, 2020, pp. 1–18.
- 4 Abdellah Henni, Nesrine Harfouche, Amina Karar, and Djamel Zerrouki. "Solar cell based on carbon and graphene nanomaterials". In: *Sustainable Material Solutions for Solar Energy Technologies*. Elsevier, 2021, pp. 537–556.
- 5 Abdellah Henni, Djamel Zerrouki, and Amina Karar. "Biomass-derived porous carbon nanostructures for supercapacitor applications". In: *Composite Materials*. Elsevier, 2021, pp. 637–655.
- 6 Zinedine Omari, Djamel Zerrouki, and Mohammed Djaafri. "Open Pond Culture of Green Algae *Chlorella* sp. Using Municipal Wastewater as Medium in an Arid Desert". In: *Recent Advances in Environmental Science from the Euro-Mediterranean and Surrounding Regions: Proceedings of Euro-Mediterranean Conference for Environmental Integration (EMCEI-1), Tunisia 2017*. 2018, pp. 1545–1547.
- 7 ASSEMBLAGES COLLOIDAUX ORGANISES. "Djamel ZERROUKI". In: 2007.
- 8 Djamel Zerrouki. "Approche photonique pour la culture des microalgues". In: 2012, pp. 367–73.
- 9 Djamel Zerrouki and Abdellah Henni. "Dye Degradation by Recent Promising Composite". In: *Novel Materials for Dye-containing Wastewater Treatment*. Springer, Singapore, 2021, pp. 85–101.
- 10 Djamel Zerrouki and Abdellah Henni. "Outdoor microalgae cultivation for wastewater treatment". In: *Application of Microalgae in Wastewater Treatment*. Springer, Cham, 2019, pp. 81–99.

VISITING RESEARCHER

- Sichuan University China
- ESPCI Paris
- IWWT South Africa

TEACHING EXPERIENCE

Ph.d

- 2020– ■ Advanced Techniques for Materials Characterization
- 2011–2013 ■ Scientific writing



M.sc

- 2009–2012 ■ raw material and monomer's synthesis
- 2012–2023 ■ Bioreactor Engineering
- 2016–2023 ■ Porous and dispersed media

B.sc






- 2009–2012 ■ Applied chemistry

TEACHING EXPERIENCE (continued)





- 2012-2023  Surface phenomena and heterogeneous catalysis
- 2014-2020  Introduction to Transfer Phenomena

ADVISING

Ph.D. Advisor:




- 2017  Rahmani A , industrial wastewater for cultivation of microalgae water treatment and biomass harvesting
- 2018  Dahmani S domestic wastewater by microalgae
- 2019  S. BECHAR. "Etude et formulation d'un laitier de ciment pétrolier élaboré avec l'incorporation des additions naturelles".
- 2022  S Mahboub Green process for nanoparticles synthesis
-  S Djafri preparation and characterization of nanostructured material

M.Sc. Advisor:





- 2014  Algae based microbial fuel cells for wastewater treatment
- 2006  Modeling and design of a bioreactor for bacteria growth
-  Formulation of Oil Well Cement with local materials
-  study of petroleum /water emulsion droplet

UNIVERSITY AND DEPARTMENTAL SERVICE






University:

-  Member of the Scientific Council of the university
-  Research Lab Director
-  Member of the Scientific Council of the Faculty

Department

-  Vice Presidency for Graduate Studies and Scientific Research
-  Scientific Committee member
-  President of the Graduate Studies Committee
-  Graduate Admissions Committee Member

Skills

- | | |
|-------------------------|--|
| Languages |  French (fluent) |
| |  English (fluent) |
| |  Arabic (fluent) |
| Experimental techniques |  training, consultation, design of experimental studies , microfluidic, lab on ship Experimental techniques:FTIR ,microscopy technique , DSC, ATG,AFM,STM, SEM, TEM, EDX , Fluorescence |
| Computer skills |  Python, Matlab,Arduino, interface,Html,Latex. |

Miscellaneous Experience

Reviewer for Journals

References

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PERSONAL INFORMATION

- 📖 Gender Male.
- 📖 Date of Birth: May 20, 1979.
- 📖 Place of Birth: Boumerdes/Algeria.
- 📖 Nationality: Algerian.
- 📖 Marital Status: Married with 2 children.