



# HESHAM ALI FAHMY ABDALLA HAMAD

## RESEARCHER

<p><b>PERSONAL INFORMATION</b></p>	<p>Full Name: Affiliations: Address: Mobile No.: E-mail: Important links:</p>	<p>Hesham Ali Fahmy Abdalla Hamad Fabrication Technology Research Department, Advanced Technology and New Materials Research Institute (ATNMRI). 34, Korret El-Ein st., Wardian, Mina-El-basal, Alexandria, Egypt. 002-01275026292 <a href="mailto:heshamaterials@hotmail.com">heshamaterials@hotmail.com</a> , <a href="mailto:hhamad@srtacity.sci.eg">hhamad@srtacity.sci.eg</a> <a href="https://scholar.google.com/citations?user=aU40luEAAAAJ&amp;hl=en">https://scholar.google.com/citations?user=aU40luEAAAAJ&amp;hl=en</a> <a href="https://www.scopus.com/authid/detail.uri?authorId=56490451300">https://www.scopus.com/authid/detail.uri?authorId=56490451300</a></p>
<p><b>EDUCATION</b></p>	<p><b>Ph.D in Chemistry</b> , Faculty of Science, Granada University , Granada , Spain , <b>2018</b>. <b>M.Sc. in Materials Science</b>, Institute of Graduate Studies and Research (IGSR), Alexandria University, Alexandria, Egypt, <b>2012</b>. <b>B.Sc. in Special Chemistry</b>, Faculty of Science, Al-Azhar University, Cairo, Egypt, <b>2007</b>.</p>	
<p><b>ACTIVITIES</b></p>	<p><b>Organization:</b> City of Scientific Research and Technological Applications (SRTA-City) <b>Position held:</b> Assistant Researcher for Project From STDF (Science &amp;Technology Development Fund)  <b>Institute :</b> Advanced Technology and New Material Research Institute (ATNMRI) <b>Department :</b> Fabrication Technology Research Department <b>Title of the project: “Construction of Magnetic Materials Laboratory (MML)”</b> <b>Starting date:</b> 09/2014      <b>End date:</b> <i>till now</i>  <b>Main activities and responsibilities:</b> <b>Market survey, Purchasing the required Equipments, preparation and characterization of magnetic materials for different applications , Organizing a work shops about MML</b>  <b>Organization:</b> Co-operation between City of Scientific Research and Technological applications (SRTA-City), University Collage of London (UCL), United Kingdom (UK), Alexandria University (AU) <b>Street and number:</b> Universities and Research Centers District  <b>Postal code:</b> 21934      <b>City:</b> New Borg El-Arab</p>	

	<p><b>State:</b> Alexandria      <b>Country:</b> Egypt</p> <p><b>Position held:</b> Principle Investigator (PI) for a project from STDF (Science &amp;Technology Development Fund)</p> <p><b>Institute :</b> Advanced Technology and New Material Research Institute (ATNMRI)</p> <p><b>Department :</b> Fabrication Technology Research Department</p> <p><b>Starting date:</b> 11/2013      <b>End date:</b> 9/2014</p> <p><b>Title of the project: “Selective methanol Production from the photocatalytic reduction of CO<sub>2</sub> with H<sub>2</sub>O on TiO<sub>2</sub> nano tubes (TNT) / mesoporous zeolite (NZ) composites”</b></p> <p><b>Main activities and responsibilities:</b> Preparation and characterization of Titania nanotubes (TNTs) and Design of semi-pilot photoreactor (SRTA-City), Preparation and characterization of nano zeolite (NZ) and (TNTs)/ NZ nano composites, Computational modelling of TNTs (UCL), and Photocatalytic reduction of CO<sub>2</sub> on the prepared TNT, NZ and its composites (TNTs/NZ) for production of methanol (SRTA-City)</p> <p><b>Organization:</b> Co-operation between City of Scientific Research and Technological Applications (SRTA-City), Egypt- Japan University for Science and Technology (E-JUST), Alexandria University [Medical Research Institute , Institute of Graduate Studies and Research and Faculty of Agriculture] and Desert Research Center (DRC).</p> <p><b>Starting date:</b> 01/2014      <b>End date:</b> 09/2014</p> <p><b>Position held:</b> Assistant Research for a project from STDF (Science &amp;Technology Development Fund)</p> <p><b>Title of the project: Removal of heavy metals from El-Salam Canal by adsorption on some Sinai natural product in conjugation with nanomaterials</b></p> <p><b>Organization:</b> Co-operation between City of Scientific Research and Technological Applications (SRTA-City), National Research Centre (NRC), and <u>Egyptian</u> Petroleum Research Institute (EPRI)</p> <p><b>Street and number:</b> Universities and Research Centers District</p> <p><b>Postal code:</b> 21934      <b>City:</b> New Borg El-Arab</p> <p><b>State:</b> Alexandria      <b>Country:</b> Egypt</p> <p><b>Position held:</b> Researcher Assistant for Project From STDF (Science &amp;Technology Development Fund)</p> <p><b>Institute :</b> Advanced Technology and New Material Research Institute (ATNMRI)</p> <p><b>Department :</b> Fabrication Technology Research Department</p>
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	<p><b>Starting date:</b> 04/2013                      <b>End date:</b> 01/2014</p> <p><b>Title of the project:</b> “Preparation, characterization and photocatalytic activity assessment (standardization) of nano-sized supported TiO<sub>2</sub> for efficient treatment of industrial wastewater”.</p> <p><b>Main activities and responsibilities:</b>1) Analyses and pollutant identification of real industrial wastewater from company site. 2) Design, modeling and simulating solar photocatalytic water prototype. 3) Solar Photocatalytic Reactor Construction and Evaluation.</p> <p><b>Organization:</b> City of Scientific Research and Technological Applications (SRTA-City)</p> <p><b>Street and number:</b> Universities and Research Centers District</p> <p><b>Postal code:</b> 21934                      <b>City:</b> New Borg El-Arab</p> <p><b>State:</b> Alexandria                      <b>Country:</b> Egypt</p> <p><b>Position held:</b> Researcher Assistant for Project From STDF (Science &amp;Technology Development Fund)</p> <p><b>Institute :</b> Advanced Technology and New Material Research Institute (ATNMRI)</p> <p><b>Department :</b> Electronic Materials Research Department</p> <p><b>Title of the project:</b> “Quantum dots nanomaterials dye sensitized solar cells”</p> <p><b>Starting date:</b> 6/2010                      <b>End date:</b>09/2014</p> <p><b>MAIN ACTIVITIES AND RESPONSIBILITIES: PREPARATION AND CHARACTERIZATION OF TiO<sub>2</sub>(NANOPARTICLES, NANORODS , AND NANOTUBES) TO BE USED IN QUANTUM DOTS AND DYE SENSITIZED SOLAR CELLS</b></p> <p><b>Organization:</b> City of Scientific Research and technology applications (SRTA-city)</p> <p><b>Street and number:</b> Universities and Research Centers District</p> <p><b>Postal code:</b> 21934                      <b>City:</b> New Borg El-Arab</p> <p><b>State:</b> Alexandria                      <b>Country:</b> Egypt</p> <p><b>Position held:</b> Volunteer Chemist and Master Student</p> <p><b>Institute :</b> Advanced Technology and New Material Research Institute (ATNMRI)</p> <p><b>Department :</b> Fabrication Technology Research Department</p> <p><b>Starting date:</b> 7/2009                      <b>End date:</b>7/2012</p>
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	<p><b>Administrative Activities</b>  <a href="#">List your Administrative Activities here...</a></p> <p><b>Extra-curriculum Activities</b></p> <ol style="list-style-type: none"> <li>1. Member at Alexandria Center for Creativity, Cultural Development Fund, Ministry of Culture, Egypt</li> <li>2. Member at Friends Association of bibliotheca Alexandria, Egypt.</li> <li>3. Member at Arab Society of Materials Science (ASMS)</li> <li>4. Member at Arab Innovation Network (AIN)</li> <li>5. Member at Asia-Pacific Chemical, Biological &amp; Environmental Engineering Society.</li> <li>6. Member at Egyptian Society of Advanced Sciences</li> </ol>
<p><b>GRANTS &amp; AWARDS</b></p>	<ul style="list-style-type: none"> <li>• Open Sesame Fellowship , Horizon2020 project, ElettraSincrotrone Trieste, Italy, 04/2019 to 07/2019.</li> <li>• Research Grant from Fondazione Ing. Aldo Gini Foundation , Industrial Engineering Department , University of Padova, Padova, Italy, 03/2018 to 11/2018.</li> <li>• Ph.D Scholarship from Erasmus -Mundus (Al-Idrisi II), Carbon Materials Group, Adsorption and Catalysis Lab., Inorganic Chemistry Department, Faculty of Science, Granada University, Granada, Spain , 09/2014 to 07/2017.</li> <li>• Research Project from Science and Technology Development Fund (STDF) under title " Selective methanol Production from the photocatalytic reduction of CO<sub>2</sub> with H<sub>2</sub>O on TiO<sub>2</sub> nano tubes (TNT) / mesoporous zeolite (NZ) composites" , Co-operation between City of Scientific Research and Technological Applications (SRTA-City ) , and University Collage of London (UCL), 11/2013 to 09/2014.</li> </ul> <p><b>Awards</b></p>
<p><b>LIST OF PUBLICATIONS</b></p>	<ol style="list-style-type: none"> <li>1. <b>Hesham Ali Fahmy Abdalla Hamad</b> *, <u>Mona Mahmoud Abd El-latif</u>, <u>Abdelhady Bashir Kashyout</u> , " Photocatalysis by Titania Nanocomposites" LAP LAMBERT Academic Publishing , ISBN : 978-3-659-54484-2 , Published at 3-6-2014, pages: 332. <a href="http://www.amazon.com/Photocatalysis-Titania-Nanocomposites-Characterization-Composites/dp/3659544841">www.amazon.com/Photocatalysis-Titania-Nanocomposites-Characterization-Composites/dp/3659544841</a></li> </ol>

2. **Hesham Hamad** \*, 2018, "Metal oxide/carbon materials as catalysts for the elimination of pollutants", University of Granada, Granada , Spain, 188 pages, <http://hdl.handle.net/10481/54774>, ISBN: 9788413060958.
3. **H. A. Hamad** \*, M. M. Abd El-latif, A.B. Kashyout ,W.A. Sadik , M. Y. Feteha, " Studies on the preparation of superparamagnetic spinel cobalt ferrite nanoparticles as layered double hydroxides by co-precipitation method" , Russian Journal of General Chemistry, 2014, Vol. 84, No. 10, pp. 2031–2036. DOI: 10.1134/S1070363214100296
4. **Hesham Hamad** \*,Mona Abd El-latif , Abd El-Hady Kashyout, WagihSadik, Mohamed Feteha, "Synthesis and characterization of core–shell–shell magnetic (CoFe<sub>2</sub>O<sub>4</sub>–SiO<sub>2</sub>–TiO<sub>2</sub>) nanocomposites and TiO<sub>2</sub> nanoparticles for the evaluation of photocatalytic activity under UV and visible irradiation" , *New Journal of Chemistry* , 2015, 2015,Vol.39,pp. 3116- 3128. DOI: 10.1039/c4nj01821d
5. Mahmoud. Abd El Aleem. Ali. Ali. El-Remaily, **H. A. Hamad** \*," Synthesis and characterization of highly stable superparamagnetic CoFe<sub>2</sub>O<sub>4</sub> nanoparticles as a catalyst for novel synthesis of thiazolo[4,5-b]quinolin-9-one derivatives in aqueous medium" , Journal of Molecular Catalysis A: Chemical, 2015, Vol. 404 ,pp. 148–155. DOI: 10.1016/j.molcata.2015.04.023.
6. **H. A. Hamad** \* , M. M. Abd El-latif, A. B. Kashyout, W.A. Sadik, M. Y. Feteha, " Influence of Calcination Temperature on the physical properties of Nano-Titania by Sol–gel / Hydrothermal Method", Russian Journal of Physical Chemistry A, 2015, Vol. 89, No. 10, pp. 1896–1906, DOI : 10.1134/S0036024415100143.
7. **H. A. Hamad**\*, W.A. Sadik, M.M. Abd El-latif, A.B. Kashyout, M.Y. Feteha, " Photocatalytic parameters and kinetic study for degradation of dichlorophenol-indophenol (DCPIP) dye using highly active mesoporous TiO<sub>2</sub> nanoparticles" , Journal of Environmental Sciences, 2016, Vol. 43, pp. 26-39. DOI: 10.1016/j.jes.2015.05.033.
8. **Hesham Hamad** \*, Mona Abd El-latif , Abd El-Hady Kashyout, WagihSadik, Mohamed Feteha, " Optimizing the preparation parameters of mesoporous nanocrystalline titania and its photocatalytic activity in water: physical properties and growth mechanisms, Process Safety and Environmental Protection, 2015, Vol. 98, 390–398. DOI :10.1016/j.psep.2015.09.011.
9. MarwaFathy, **Hesham Hamad** \*, Abd El Hady Kashyout, " Influence of calcination temperatures on the formation of anatase TiO<sub>2</sub> nano rods with a polyolmediatedsolvothormal method" , RSC Advances, 2016, Vol.6, pp.7310-7316. DOI :10.1039/c5ra26739k
10. Rehab. M. Ali, **Hesham A. Hamad** \*, M. H. Abdul Mageed, G. F. Malash, **Potential of using green adsorbent for heavy metals removal from aqueous solutions: Adsorption kinetics, isotherm, thermodynamic, mechanism and economic analysis**, Ecological Engineering, 2016,Vol. 91 ,pp.317–332. DOI: 10.1016/j.ecoleng.2016.03.015.
11. MarwaElkady, Hassan Shokry, **Hesham Hamad** \*, **Effect of superparamagnetic nanoparticles on the physicochemical properties of nano hydroxyapatite: Co-precipitation- Microwave synthesis and Adsorption mechanism of Fe(II) and Mn (II) in groundwater: Adsorption mechanism of Fe(II) and Mn (II)** , RSC advances,2016, Vol.6,pp 82244-82259. DOI: 10.1039/c6ra14497g.
12. S.E. Abd Elhafez, **H. A. Hamad** \*, A. A. Zaatout, G. F. Malash,**Management of agricultural waste for removal of heavy metals from aquatic solution: Adsorption behaviors, adsorption mechanisms, environmental protection and techno-economic analysis**, Environmental Science and Pollution Research,2017, Vol.24, pp.1397-1415. DOI: 10.1007/s11356-016-7891-7.

13. D. G. Bassyouni, **H.A.Hamad\***, E-S. Z. El-Ashtoukhy, N.K. Amin, M.M. Abd El-Latif, **Comparative performance of anodic oxidation and electrocoagulation as clean processes for electrocatalytic degradation of diazo dye Acid Brown 14 in aqueous medium**, Journal of Hazardous Materials, 2017, Vol.335, pp. 178-187. DOI: 10.1016/j.jhazmat.2017.04.045.
14. Noha A. El Essawy, Safa M. Ali, Hassan A. Farag, Abdelaziz H. Konsowa, Mohamed Elnouby, **Hesham A. Hamad \***, **Green synthesis of graphene from recycled PET bottle wastes for use in the adsorption of dyes in aqueous solution**, Ecotoxicology and Environmental Safety, 2017, Vol. 145, pp. 57-68. doi: 10.1016/j.ecoenv.2017.07.014.
15. E-S. Z. El-Ashtoukhy, N.K. Amin, M.M. Abd El-Latif, D. G. Basouny, **H.A. Hamad \***, **New insights into the anodic oxidation and electrocoagulation using a self-gas stirred reactor in terms of kinetics and COD reduction: A comparative study for synthetic C.I Reactive Violet 2 wastewater**, Journal of Cleaner Production, 2017, Vol.167, pp.432-446. doi: 10.1016/j.jclepro.2017.08.174.
16. **Hesham Hamad**, Doaa Bassyouni, El-Sayed El-Ashtoukhy, Nevin Amin, Mona Abd El-Latif, **Electrocatalytic degradation and minimization of specific energy consumption of synthetic azo dye from wastewater by anodic oxidation process with an emphasis on enhancing economic efficiency and reaction mechanism**, Ecotoxicology and Environmental Safety, 2018, Vol.148, pp.501-512. doi: 10.1016/j.ecoenv.2017.10.061.
17. Marwa Elkady, Hassan Shokry, **Hesham Hamad \***, **Microwave-assisted synthesis of magnetic hydroxyapatite for heavy metals removal from groundwater**, Chemical Engineering & Technology, Vol. 41, pp.553-62. doi: 10.1002/ceat.201600631.
18. Rodaina Metawea, Taghreed Zewail, El-Sayed El-Ashtoukhy, Iman El Gheriany, **Hesham Hamad \***, **Process intensification of the transesterification of palm oil to biodiesel in a batch agitated vessel provided with mesh screen extended baffles**, Energy, 2018, Vol. 158, pp.111-120. doi: 10.1016/j.energy.2018.06.007.
19. Thanaa Shalaby, **Hesham Hamad \***, Ebtihag Ibrahim, Ola Mahmoud, Affaf Al-Oufy, " **Electrospun nanofibers hybrid composites membranes for highly efficient antibacterial activity**", Ecotoxicology and Environmental Safety, 2018, Vol.162, 354-364. doi: 10.1016/j.ecoenv.2018.07.016.
20. **Hesham Hamad**, Esther Bailón-García, Sergio Morales-Torres, Francisco Carrasco-Marín, Agustín F. Pérez-Cadenas, Francisco J. Maldonado-Hódar, " **Physicochemical properties of new cellulose-TiO<sub>2</sub> composites for the removal of water pollutants: Developing specific interactions and performances by cellulose functionalization**", Journal of Environmental Chemical Engineering, 2018, Vol. 6, pp. 5032-5041. doi: 10.1016/j.jece.2018.07.043.
21. **Hesham Hamad**, Jessica Castelo-Quibén, Sergio Morales-Torres, Francisco Carrasco-Marín, Agustín F. Pérez-Cadenas, Francisco J. Maldonado-Hódar, " **On the Interactions and Synergism between Phases of Carbon-Phosphorus-Titanium Composites Synthesized from Cellulose for the Removal of the Orange-G Dye** ", Materials, 2018, Vol. 11, pp. 1766-1776.
22. **Hesham Hamad**, Esther Bailón-García, Francisco J. Maldonado-Hódar, Agustín F. Pérez-Cadenas, Francisco Carrasco-Marín, Sergio Morales-Torres, " **Synthesis of TiO<sub>2</sub> nanocrystals in mild synthesis conditions for the degradation of pollutants under solar light**", Applied Catalysis B: Environmental, 2019, Vol.241, pp. 385-392. doi: 10.1016/j.apcatb.2018.09.016.
23. Hassan Shokry, Marwa Elkady, **Hesham Hamad \***, " **Synthesis and characterization of stabilized tetragonal nano zirconia by precipitation method**", Journal of Nano Research, 2019, Vol. 56, pp. 142-151. doi: 10.4028/www.scientific.net/JNanoR.56.142.
24. Marwa Elkady, **Hesham Hamad \***, Noha El Essawy, **Modification of optical and**

electrical properties of nanocrystalline  $\text{VO}_2 \cdot 0.5 \text{H}_2\text{O}/\text{ZrV}_2\text{O}_7$ : influence of Cs, Cr and Ga doping, Journal of Materials Research and Technology, 2019, Vol. 8, pp. 1212-1223. doi: 10.1016/j.jmrt.2018.07.022.

25. Marwa A. A. Mohamed, Noha A. Elessawy, Francisco Carrasco-Marín, **Hesham A. F. Hamad\***, "A novel one-pot facile economic approach for the mass synthesis of exfoliated multilayered nitrogen-doped graphene-like nanosheets: new insights into the mechanistic study", Physical Chemistry Chemical Physics (PCCP) , 2019, Vol. 21, pp. 13611-13622. doi :10.1039/c9cp01418g.
26. **Hesham Hamad, \***, Amal Ibrahim, Mona Abd El-latif, "Changes in  $\text{Fe}^{2+}/\text{Fe}^{3+}$  molar ratio for the formation of spinel  $\text{CoFe}_2\text{O}_4$  layered double hydroxide nanoparticles", Micro & Nano Letters, 2019, Vol. 14, pp. 937-940. doi: 10.1049/mnl.2018.5611.
27. DoaaBassyouni, Marwa Mohamed, El-Sayed El-Ashtouky, Mona Abd El-Latif, Ahmed Zaatout, **Hesham Hamad, \***, "Fabrication and characterization of electrospun  $\text{Fe}_3\text{O}_4/\text{o-MWCNTs}/$  polyamide 6 hybrid nanofibrous membrane composite as an efficient and recoverable adsorbent for removal of Pb (II)", Microchemical Journal , 2019, Vol. 149, 103998, doi: 10.1016/j.microc.2019.103998.
28. Hassan Shokry, MarwaElkady, **Hesham Hamad, \***, " Nano activated carbon from industrial mine coal asadsorbents for removal of dye from simulatedtextile wastewater: operational parameters andmechanism study", Journal of Materials Research and Technology, 2019, Vol. 8(5), pp. 4477-4488. doi: 10.1016/j.jmrt.2019.07.061.
29. MarwaElkady, Hassan Shokry, Asmaa El-Sharkawy, Gehan El-Subruti, **Hesham Hamad, \***, "New insights into the activity of green supported nanoscale zero-valent iron composites for enhanced acid blue-25 dye synergistic decolorization from aqueous medium", Journal of Molecular Liquids , 2019, Vol. 294, 111628, doi: 10.1016/j.molliq.2019.111628.
30. Wagih A. Sadik, Abdel-Ghaffar M. El-Demerdash, Adel W. Nashed, Amr A. Mostafa, **Hesham A. Hamad, \***, " Highly efficient photocatalytic performance of  $\text{Cu}_2\text{O}@\text{TiO}_2$  nanocomposite: Influence of various inorganic oxidants and inorganic anions", Journal of Materials Research and Technology, 2019, Vol. 8(6), 5404-5414.
31. Noha A. Elessawy , Mohamed Elnouby , M.H. Gouda , **Hesham A. Hamad**, Nahla A. Taha, M. Gouda, Mohamed S. MohyEldin, " Ciprofloxacin removal using magnetic fullerene nanocomposite obtained from sustainable PET bottle wastes: Adsorption process optimization, kinetics, isotherm, regeneration and recycling studies", Chemosphere, 2020, Vol. 239, 124728, doi: 10.1016/j.chemosphere.2019.124728.
32. Azhar A. Hamad, Mohamed S. Hassouna, Thanaa I. Shalaby, Marwa F. Elkady , Mervat A. Abd Elkawi ,**Hesham A. Hamad \***, "Electrospun cellulose acetate nanofiber incorporated with hydroxyapatite for removal of heavy metals", International Journal of Biological Macromolecules, 2020, Vol. 151, pp. 1299-1313, doi: 10.1016/j.ijbiomac.2019.10.176.
33. Noha A. Elessawy,Eman M. El-Sayed, Safaa Ali, Marwa F. Elkady, Mohamed Elnouby, **Hesham A. Hamad \***, " One-pot green synthesis of magnetic fullerene nanocomposite for adsorption characteristics" , Journal of Water Process Engineering, 2020, Vol.34, 101047, doi: 10.1016/j.jwpe.2019.101047
34. Rehab M. Ali, Marwa R. Elkatory, **Hesham A. Hamad, \***, " Highly active and stable magnetically recyclable  $\text{CuFe}_2\text{O}_4$  as a heterogenous catalyst for efficient conversion of waste frying oil to biodiesel" ,Fuel , 2020, Vol. 268, 117297 , doi: 10.1016/j.fuel.2020.117297.
35. **Hesham Hamad \***, Esther Bailón-García, Sergio Morales-Torres, Francisco Carrasco-Marín, Agustín F. Pérez-Cadenas, Francisco J. Maldonado-Hódar, " Cellulose-

**TiO<sub>2</sub> composites for the removal of water pollutants"** Chapter 16 at "Bio-Based Materials and Biotechnologies for Eco-Efficient Construction" , 2020, Pages 329-358, doi: [10.1016/B978-0-12-819481-2.00016-7](https://doi.org/10.1016/B978-0-12-819481-2.00016-7).

36. **Hesham Hamad**, Esther Bailón-García, Sergio Morales-Torres, Francisco Carrasco-Marín, Agustín F. Pérez-Cadenas, Francisco J. Maldonado-Hódar, "**Functionalized Cellulose for the Controlled Synthesis of Novel Carbon–Ti Nanocomposites: Physicochemical and Photocatalytic Properties**", *Nanomaterials*, 2020, Vol. 10, 729, doi: [10.3390/nano10040729](https://doi.org/10.3390/nano10040729).
37. **Hesham Hamad** \*, Esther Bailón-García, Sergio Morales-Torres, Francisco Carrasco-Marín, Agustín F. Pérez-Cadenas, Francisco J. Maldonado-Hódar, " **A new platform for facile synthesis of hybrid TiO<sub>2</sub> nanostructures by various functionalizations of cellulose to be used in highly-efficient photocatalysis**", *Materials Letters*, 2020, Vol. 274, pp. 128016, doi: [10.1016/j.matlet.2020.128016](https://doi.org/10.1016/j.matlet.2020.128016).
38. MarwaElkady, Hassan Shokry, **Hesham Hamad** \*, "**New activated carbon from mine coal for adsorption of dye in simulated water or multiple heavy metals in real wastewater**", *Materials* , 2020, Vol. 13, pp. 2498; doi:[10.3390/ma13112498](https://doi.org/10.3390/ma13112498) .