

Inventions and US Patents:

1. **M. A. Gondal**, Z. H. Yamani, M. A. Ali, A. Al-Arfaj and M. A. Dastageer (2005)
“Method for the conversion of methane into C₂ and higher hydrocarbons using UV laser”
USPTO Pat. NO: US2005045467
2. **M. A. Gondal**, A. Hammed and Z. H. Yamani (2005)
“Laser Photocatalytic process for the production of hydrogen”
USPTO Pat. NO: US2005226808.
3. **M. A. Gondal**, J. Pola, Z. H. Yamani, H.M. Masoudi and A. Arfaj (2008) “Laser Based Method for Removal of Sulfur(DMDBT) in Hydrocarbon Fuels”
USPTO Pat. NO # 7,871,501 B2
4. **M.A. Gondal**, Q. Drmsoh, Z. H.Yamani and T.A. Saleh
Method for detection of cyanide in water
USPTO Pat. NO # 8460538
5. **M.A. Gondal**, Q. Drmsoh, Z. H.Yamani and T.A. Saleh
Method for detection of cyanide in water II
USPTO Pat. NO # 9,034,169 B2
6. **M.A. Gondal**, Q. Drmsoh, Z.H.Yamani and T.A. Saleh
Method of forming zinc peroxide nanoparticles
USPTO Pat. NO# 2011/0303050
7. M.N. Siddiqui, K. R. Hooshani, **M.A. Gondal** and Brindaban C. Ranu
Desulfurization of light fuel using a task-specific ionic liquid 1-pentyl-3-methyl Imidazolium Iodate,
USPTO Pat. NO # 2014305844-A1
8. Alhooshani K. R, Al S A A, Saleh T A, Siddiqui, **M. A. Gondal** M A Manufacture of metal-oxide/nickel oxide/zinc oxide material used for desulfurizing hydrocarbon composition, involves ultrasonically processing/heating/cooling/filtering mixture containing metal oxide and zinc/nickel compound, **USPTO Pat. NO # 2015182946-A1**
9. K. R. Alhooshani, A. A. Al Swat, T. A. Saleh, M. N. Siddiqui, **M. A. Gondal**, Ionic liquid for desulfurizing light fuels and petroleum products, comprises 1-methyl-3-pentyl-1H-imidazolium periodate,
USPTO Pat. NO # US 9,421,516 B2
10. KR Alhooshani, AA Al Swat, TA Saleh, MN Siddiqui, **M.A. Gondal**
Method for preparing alumina—zinc oxide—nickel oxide composite for desulfurization; **USPTO Pat. NO # 9,421,516**
11. KR Alhooshani, AA Al Swat, TA Saleh, MN Siddiqui, **M.A. Gondal**
Method using alumina-zinc oxide-nickel oxide composite for desulfurization of hydrocarbons ; **USPTO Pat. NO # 9,663,724.**
12. KR Alhooshani, AA Al Swat, TA Saleh, MN Siddiqui, **M. A. Gondal**
Method for desulfurizing diesel fuel; **USPTO Pat. NO 9,926,495.**
13. **M. A. Gondal**, X. Chang, M.A Ali, M. A. Dastageer, S. M. Zubair, J. H. Lienhard V, Wastewater filtration system and method, **USPTO Pat. NO # 9505635**
14. **M. A. Gondal**, X. Chang, M.A. Ali, M. A. Dastageer, S. M. Zubair, J. H. Lienhard V, Method for Degradation of Multiple Dyes and Toxic Metals in Wastewater Using Solar and Visible Radiation in an Indirect Excitation Scheme **USPTO Pat. NO # 61/918863**
15. **M. A. Gondal**, K. Shen, Z.H.Yamani, X. Chang, 450 nm visible light-induced photosensitized degradation of rhodamine B molecules over BioBr in aqueous solution, **USPTO Pat. NO # 9,399,576**
16. A. A. Naqvi, **M.A. Gondal**, Nitrogen detection in bulk samples using a d-d reaction-based portable neutron generator, **USPTO Pat. NO # US 917,021, 8 B2.**
17. **M.A. Gondal** and M.Nasr, Inexpensive and Facile Method for Protection against Laser Guided Bombs and Missiles, submitted to USPTO, May 29th, 2015, **USPTO Pat. NO . # 62-260419 (481162US)**
18. **M.A. Gondal**, R Fajgar, ZHA Yamani, X Chang, Method for the preparation of Ag/C nanocomposite films by laser-induced carbonization of alkane; **USPTO Pat. NO 10125418.**
19. **M.A. Gondal**, MA Dastageer, AB Khalil, RG Siddique, U Baig
Method for disinfecting a fluid with a palladium-doped tungsten trioxide photo-catalyst; **USPTO NO # S10125031B2**

20. K. K. Varanasi, G.McKinley, **M. A. Gondal** and G. Kwon, Photosensitized-Photoactive Materials and Methods for Making and Using the Same", **USPTO Pat. NO # 62/181,833**.
21. K.K. Varanasi, GH McKinley, G Kwon, **MA Gondal**, Dye sensitized photoactive surfaces; **USPTO Pat. NO # 15/186,524**.
22. Nasser Al-Aqeeli, **M.A. Gondal**, H. Alhajri, A. Al-Zahrani, Crumb Rubber Coating with Hydrophobic Surface, **USPTO Pat. NO # 9,670,375**
23. Nasser Al-Aqeeli, **M.A. Gondal**, H. Alhajri, A. Al-Zahrani, Crumb rubber coating composition and method for protecting a surface, **USPTO Pat. NO #. 9,873,816**.
24. **M.A. Gondal**, M.A. Dastageer, U. Baig, Method of forming methanol via photocatalytic reduction of carbon dioxide, **USPTO Pat. NO #10047027**
25. **M.A. Gondal**, M.A. Dastageer, U. Baig, Catalytic methanol formation with pulsed UV light, **USPTO Pat. NO : 10131601**
26. **M.A. Gondal**, M.A. Dastageer, U. Baig, Catalytic methanol formation from carbon dioxide with a templated indium catalyst, **USPTO Pat. NO : 10131602**
27. J.M. Alghamdi, **MA Gondal**, Dye-Sensitized Solar Cell including a Semiconducting Nanocomposite; **US Patent # 10,210,999**
28. T. F. Qahtan, L. D. Banchik, **M.A. Gondal**, G.Kwon, D.Panchanathan, U. Baig, G.McKinley, Development of Advanced Multifunctional Robust Membrane for Efficient Oil-water Separation and Simultaneous Removal of Organic Pollutants, **US Patent # 10525419**
29. T.F. Qahtan, **M. A. Gondal**, M.A. Dastageer A Facile Method to Synthesize Stable Carbon Nanoparticles Dispersions and its Application to Fabricate Thermally and Mechanically Stable Superhydrophobic Surfaces using Inexpensive Candle Soot (as Raw Material) US patent: **US Patent # 2016-032**
30. **MA Gondal**, TF QATAN, MA Dastageer, One-step scalable fabrication of mechanically robust visible-light responsive oxide-modified metallic multifunctional membranes **US Patent 16/245,360**
31. I. Poppola, J. Al-Ghamdi, **M.A. Gondal**, T.F. Qahtan, FABRICATION OF PLATINUM COUNTER ELECTRODES FOR BIFACIAL DYE-SENSITIZED SOLAR CELLS **US Patent NO # 16/232,758**
32. **M.A. Gondal**, MA Dastageer, AB Khalil, RG Siddique, U Baig Fixed Bed Method for Disinfecting Fluids, **US Patent # 10160665**
33. **M.A. Gondal**, MA Dastageer, AB Khalil, RG Siddique, U Baig Method of forming a photocatalyst and disinfecting a fluid, **US Patent # 10,421,672**
34. L. Oloore, **M.A. Gondal**, I. Popoola, A. Popoola, Development of Cadmium sulfide quantum dots/Perovskites bilayer structure as active electrodes materials for supercapacitor, submitted to USPTO May, 2019. **US docket # 523630 US**
35. I. Popoola, **M.A. Gondal**, L.Oloore, A. Popoola, Fabrication of Extended Cycling Life Perovskite Electrochemical Supercapacitors utilizing Quasi Solid-State Electrolytes, submitted to USPTO May, 2019. **US Docket# 523627US**
36. **M. A. Gondal**, M.A. Almessiere, B. A.Gondal, Development of method for finding correlation between heavy metals and colon cancer for early diagnostics and treatment submitted to **US Patent #16662834**.
37. M. Hasan, **M.A. Gondal**, T.F. Qahtan, M.A. Dastageer, Efficient light harvesting self-charging supercapacitive device using PAMPS electrolyte and PLAL synthesis method, submitted to USPTO May, 2019. **US Docket # 523628US**
38. M. Hasan, **M.A. Gondal**, T.F. Qahtan, M.A. Dastageer, Single junction supercapacitive solar cell for energy harvesting and energy storage applications using PANI as sensitizing agent and activated carbon as counter electrode, submitted 2019, **US Docket# 523631US**
39. A. Popoola, **M.A. Gondal**, I. Popoola, L.Oloore, Architectural Tuning and Fabrication of Ultra-Performance Bifacial Sandwiched Heterojunction Perovskite for Photo-detecting and Sensing Applications Submitted to USPTO May, 2019. **US Docket# 523629US**
40. Y. S. Wudil , **M.A. Gondal**, S. G. Rao , Shankar Kunwar , Development of Thermoelectric Bi₂Te₃ and Bi₂Te_{2.7}Se_{0.3} films and a Method to Improve Their Thermoelectric Performance by Tuning Pulsed Laser Deposition Growth Conditions **USPTO submitted**.

41. Y. S. Wudil , M.A. Gondal, S. G. Rao, A Non-Contact and Optical Method to Determine the Thermal Conductivity of Nanocrystalline Bi₂Te_{2.7}Se_{0.3} films for Thermopower Generation, submitted to USPTO
42. T.F. Qahtan, M.A. Gondal, E.Cevik, M.Hasan, A. Bozkurt , Hierarchical micro-nano structure metallic separator for energy storage devices, submitted to USPTO

List of Publications:

Book/or book Chapters

1. **Book : M. A. Gondal**, X. Chang and M. A. Dastageer, “Advanced Structured Materials : Novel Bismuth Oxyhalide Based Materials and their Applications , published by Springer, ISBN(ebook): 978-81-322-3739-6; (Hardcover): 978-81-322-3737-2; DOI: 10.1007/978-81-322-3739-6.
2. **M. A. Gondal**, “LASER INDUCED PHOTO-CATALYSIS AND ITS APPLICATIONS” in the field of Environment published in the book entitled: Lasers in Chemistry edited by Maximilian Lackner published by Wiley and Sons, USA(Edition - September 2008; ISBN-10: 3-527-31997-2; ISBN-13: 978-3-527-31997-8 - Wiley-VCH, Weinheim).
3. A. Bagabas, **M. A. Gondal**, et al (2010), Laser-Induced Photocatalytic Inactivation of Coliform Bacteria in Water Using Pd-Supported on Nano-WO₃ Catalyst published in book entitled Scientific Bases for the Preparation of Heterogeneous Catalysts: edited by E. M. Gaigneaux (edition 2010), ISBN13: 9780444536013 ISBN10: 0444536019, Elsevier.
4. Khan, M.A., **Gondal, M. A.**, M.H. Rais and M. Rafique (1996), Gain in laser-pumped vapor: Experiment and calculations “ Laser Spectroscopy, 12, ed. M. Inguscio (*World Scientific, Singapore*).
5. X. Chang, **M.A. Gondal**, Z. H. Yamani, G. Ji (2013) “Bismuth(V) containing semiconductor compounds: preparation, optical properties and applications in heterogeneous photo-catalysis for water, ed. L.Handong, Z. M. Wang, Bismuth (V)-Containing Semiconductor Compounds and Applications in Heterogeneous Photocatalysis, page 343-373 Chapter · January 2013 DOI: 10.1007/978-1-4614-8121-8_15. Springer Series in Materials Science, Vol. 186, 2013,
6. **M. A. Gondal** and M. A. Dastageer (2013) Laser-Induced Breakdown Spectroscopy – Theory and Applications : ed. S. Musazzi and U. Perini (eds.), Laser-Induced Breakdown Spectroscopy, Springer Series in Optical Sciences 182 (2014), DOI: 10.1007/978-3-642-45085-3-4
7. V.K. Singh, N. Sharma, D. K. Tripathi, **M.A. Gondal** (2018): Elemental Imaging of Plant Species Using LIBS: Current Status and Future Prospects, in book, Springer Series in Optical Sciences