

Resume of Dr. Mohammed Muzibur Rahman



Personal information:

MOHAMMED MUZIBUR RAHMAN, PhD

Associate Professor (Since 2015)

Center of Excellence for Advanced Materials Research (CEAMR) & Chemistry department, King Abdulaziz University, Faculty of Science, Jeddah 21589, P.O. Box 80230, Saudi Arabia.

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Researcher ID: H-5823-2012 (<http://www.researcherid.com/rid/H-5823-2012>) ISI: Thomson Reuters

Google Scholar: <http://scholar.google.com/citations?user=5LT8H90AAAAI&hl=en>

R^G score: 42.66; https://www.researchgate.net/profile/Mohammed_Rahman4

ORCID: <http://orcid.org/0000-0003-2773-1244>

Education:

Ph.D.: 2002~2007, Electrochemistry, Dept. of Chemistry, Chonbuk National University, Korea.

Thesis: "Development of novel methodology elucidating high pressure system with electromicrogravimetry" supervised by Prof. Il-Cheol Jeon (Feb, 2007); Co-supervisor: Jae-Riyang Hahn.

M.Sc.: 1999~2002, Physical Chemistry, Shahjalal University of Science & Technology, Bangladesh.

Thesis: "Studies on degradation of Procion Red in aqueous solution by advanced oxidation process" supervised by Prof. S.M. Saiful Islam (May, 2002); Co-supervisor: Prof. Md. Abul Hasnat.

B.Sc.: 1995~1999, Chemistry, Shahjalal University of Science & Technology, Sylhet, Bangladesh.

H.S.C.: 1993~1994, Science, Brahmanbaria Govt. College, B,Baria, Comilla Board, Bangladesh.

S.S.C.: 1991~1992, Science, Shayestagonj High School, Hobigonj, Comilla Board, Bangladesh.

Professional Experiences:

Assoc. Prof.: Since 2014. Department of Chemistry, King Abdulaziz University, KSA.

Assist. Prof.: 2011-2014. Department of Chemistry, King Abdulaziz University, KSA.

Assist. Prof.: 2009~2011. CAMNE and Department of Chemistry, Najran University, KSA.

Post-doc.: 2008~2009. Dept. of EEE, Toyohashi University of Technology, Japan.

Post-doc.: 2007~2008, Dept. of Chemistry, Pusan National University, South Korea.

Total Publications/Achievements:

<i>In peer Reviewed Journals (ISI-Category)</i>	199
<i>In peer Review Journals (Non-ISI-Category)</i>	15
<i>In conference proceedings</i>	05
<i>Patents</i>	04
<i>Books</i>	10
<i>Book chapters</i>	06
<i>Conferences presentation (Oral + Poster)</i>	62

<i>Research Grant Awards</i>	20
<i>Patent Grant Awards</i>	01
<i>Editorial board member (International journals)</i>	16
<i>Special Issue as Guest editor (International journal)</i>	01
<i>Supervised/Supervising PhD/MS students</i>	08
<i>Manuscript peer-reviewed (As-Reviewer; ISI-Category)</i>	104

Honors & Awards:

Undergraduate & Graduate student Awards (SUST)
 Best MS Student Award (Wahab Memorial Scholarship, London, UK)
 BK21, PDF, South Korea.
 VBL, PDF Fellowship, Japan.

Experiences in Research-fields:

Nanotechnology; Chemical Sensors; Electrochemistry; Ionic liquid; Biosensors; Self-assembled Monolayer; Carbon Nanotubes; Biogas; Ferrocene Moieties; Materials; Conducting Polymer; Semiconductor materials; Nanocomposites; Photo-degradation; Environmental Science; Nanomaterials; Micro-devices; Micro-Chips; Green Synthesis.

Reviewer Experiences:

Journal of Material Chemistry A, Electrochimica Acta, Biosensors & Bioelectronics, Langmuir, Bioelectrochemistry, Electroanalysis, Sensor and Actuators: B, Chemical Communications, Journal of Material Chemistry, Microporous & Mesoporous Materials, Science of Advance Materials, Talanta, Electrochemistry Communications, Journal of Nanoscience and Nanotechnology, Journal of Physical Chemistry B, Journal of Material Science and Engineering, Journal of Hazardous Materials, Material Science and Engineering B, Sensor Letters, Chemistry Central Journal, Microchimica Acta, Journal of Nanopharmaceutics and Drug Delivery, Material Science and Applications, etc.

Experiences in Techniques/Methods:

FT-IR (Perkin Elmer), FE-SEM (JEOL), UV-Visible Spectroscopy (Perkin Elmer), Raman Spectroscopy (Perkin Elmer), Electro-analytical processes (Cyclic Voltammetry, Anodic Stripping, Differential Pulse Voltammetry, Chronoamperometry, Impedometry, Quartz Crystal Microscopy (QCM), Electrochemical Quartz Crystal Microscopy (EQCM), High-Pressure EQCM (self-made), I-V techniques, Charge Transfer Techniques, and pH-Sensors etc.

Supervisors:

Supervising 5 PhD students (Since 2014; Chem-KAU, SA)
 Supervised BSc student (Internship 2015; UCL, UK)
 Supervised MS and PhD students (2008-2009; TUT, JP)
 Supervised several MS and PhD thesis's as an internal and external referees.

Supervised/Supervising (PhD/MS) students:

1. **Hasan Bakor Balkhoyor** (PhD - June 2016; KAU); Title: Development of Chemical sensors based on metal oxide/carbon nanotube nanocomposites.
2. **Faisal Khuwryashan Algethami** (PhD - 2017; KAU); Title: Development of toxic chemical sensors based on metal oxide/carbon material nanocomposites for environmental safety.
3. **Md. Khurshed Alam** (PhD - 2017); Chongnum National University-King Abdulaziz University (CNU-KAU); Title: Development of Chemical and Biological Sensors Based on Graphene Nanocomposites.
4. **Mohammad Musarraf Hussain** (PhD - 2018, KAU, Expecting); Title: Development of sensors for the detection of bio-molecules and heavy metal ions.
5. **Abdul Wahid Abdul Latif** (PhD - 2019, KAU, Expecting); Title: Chemical sensor development based on transition metal doped Neodymium oxide nanomaterials.
6. **Jahir Ahmed** (PhD - 2019, SUST-KAU, Expecting); Title: Chemical sensors development based on doped and undoped semiconductor nanostructure materials
7. **Md. Mahmud Alam** (PhD - 2020, SUST-KAU, Expecting); Title: Development of Efficient Sensors based on Semiconductor Nanostructured Composite Materials for the Detection of Bio-Chemicals for Sustainable Environment
8. **Md. Arifur Rahman Akanda** (MPhil - 2018, SUST-KAU, Expecting); Title: Development of Chemical sensors and Solar photocatalyst for Green environment based on doped semiconductor nanomaterials

International Editorial Board Members:

Journal: **Innovations in Corrosion and Materials Science** (since 2017)

<http://benthamsience.com/journals/innovations-in-corrosion-and-materials-science/editorial-board/#top>

Journal: **Analytical and Bioanalytical Chemistry** (Since 2017)

<http://thescientificpages.org/page/physical-science/ebj.php?jid=analytical-and-bioanalytical-chemistry>

Journal: **Advanced Nano-Bio-Materials and Devices** (Since 2017)

<http://sciedtech.eu/advnanobiomd>

Journal: **Clinical Proteomics and Bioinformatics** (CPB; Since 2017)

https://oatext.com/Clinical-Proteomics-and-Bioinformatics-CPB.php#Editorial_Board

Journal: **Current Trends in Biomedical Engineering & Biosciences** (Since 2016)

<http://www.juniperpublishers.com/ctbeb/editorialboard.php>

Journal: **Austin Journal of Biosensors and Bioelectronics** (Since 2016)

<http://austinpublishinggroup.org/biosensors-bioelectronics/editorialBoard.php>

Journal: **SDRP Journal of Nanotechnology and Material Science** (Since 2016)

http://www.openaccessjournals.siftdesk.org/journals/journal_editorial-66-

Journal: **Advances in Pure and Applied Science Research** (Since 2013)

Journal: **International Journal of Environmental Science & Natural Resources** (Since 2016)

<http://www.juniperpublishers.com/ijesnr/editorialboard.php>

Journal: **Biomedical Science and Engineering** (Since 2013)

<http://www.sciepub.com/journal/BSE/editors>

Journal: **Journal of Integrated OMICS** (Associate editor-Asia, Since 2012)

<http://www.jiomics.com/index.php/jio/about/displayMembership/3>

Journal: **Elyns Journal of Material Science and Techniques** (Since 2016)

<http://www.elynsgroup.com/journal/editorial-board/journal-of-material-science-and-engineering-technologies>

Journal: **Journal of Environment and Biotechnology Research** (Since 2016)

http://www.vinanie.com/jebr/editorial_Board.html

Journal: **Journal of Biochemistry and Chemical Science** (Since 2011)

Journal: **Science of Advanced Materials** (2008-2009)

<http://www.aspbs.com/sam>

Guest Editor:

Special Issue on “Doped and Un-doped Semiconductor Nanomaterials and Applications”
Micro and Nanosystems, Bentham Science Publishers.

<http://benthamscience.com/journal/contents.php?journalID=mns&issueID=107450>

Status: **Published**; Volume 5, Number 1, February 2013. Pages 2-60

Experiences (Teaching/Research):

Research assistant, Undergrad- & Graduate Levels, Chonbuk National University, South Korea.
Teaching Assistantship, Undergrad- & Graduate-Levels, Chonbuk National University, South Korea.

Research assistantship, Dept. of Electrical & Electronic Engineering, Toyohashi University of Technology, Japan.

Citation indices: (Until Aug-2017)

Items	All	Since 2012
Citations	4605	4093
h-index	39	38
i10-index	99	96

Patents:

1. Patent: US

Title: An electrochemical cell and a method of using the same for detection of bisphenol-A

Inventors: Abdullah M. Asiri, Mohammed M. Rahman

Applicant: King Abdulaziz University, Jeddah (SA)

(Filed in 2016)

2. Patent: US

Title: Synthesizing and utilizing solar light activated nanoparticle photocatalyst

Inventors: Abdullah M. Asiri, Sher Bhadarar Khan, Khalid Ahmad Alamry, Mohammed M. Rahman, Mohamed Saeed Alamoodi.

Applicant: King Abdulaziz University, Jeddah (SA)

Pub. No.: US 20130186840 A1; **Pub. Date:** July 25, 2013;

Appl. No.: US 13/737,840; **Filed:** Jan 9, 2013

3. Patent: Korean

Title: Phenyl Hydrazine sensor containing nano sized copper oxide, and preparing method for thereof

Contributors: Haksoo Han (KOR), Sher Bahadar Khan (PAK), Mohd Faisal (IND), Mohammed Muzibur Rahman (BAN), Kalsoom Akhtar (PAK), Abdullah Mohamed Asiri (SA), Patrick Han (USA)

Designation: Industry-Academic Cooperation Foundation, Yonsei University, Korea

Application file no. 10-2012-0144618; **Receipt no.:** 1-1-2012-1034481-19;

Date of application: 2012.12.12; **Reference no.** 3565;

File-code: 9-2010-100021-9; **Registration no.:** 2010-014981-7

4. Patent: US

Title: Method of Making a Nano-particle Photocatalyst

Inventors: Abullah M. Asiri, Sher Bahadar Khan, Khalid Ahmad Alamry, Mohammed M. Rahman, Mohamed Saeed Alamoodi.

Applicant: King Abdulaziz University, Jeddah (SA)

Pub. No.: US 20140183404 A1; **Pub. Date:** Jul 03, 2014

Appl. No.: US 14/199,958; **Filed:** Mar 06, 2014

Scholarly Edited Books:

1. "Chemical sensor development based on nanocomposite materials". Mohammed Muzibur Rahman, M. M. Hussain, A.M. Asiri. Publisher; LAMBERT Academic Publishing (LAP). (In process-2017)
2. "Recent Advances in Ionic liquids" Edited by Mohammed Muzibur Rahman & Abdullah M. Asiri. (In process); Publisher: INTECH Open Access Publisher. Year: 2018. (ISBN
3. "Carbon Nanotubes – Recent Progress" Edited by Mohammed Muzibur Rahman & Abdullah M. Asiri. (In process); Publisher: INTECH Open Access Publisher. Year: 2017-2018. (ISBN 978-953-51-5707-6) <http://www.intechopen.com/welcome/9f38af20209e9d816b7d57ecbba386b9/>
4. "Recent Progress in Organometallic Chemistry" Edited by Mohammed Muzibur Rahman & Abdullah M. Asiri (In process); Publisher: INTECH Open Access Publisher. Year: 2017. Pages: 1-146 (ISBN 978-953-51-3317-9).
5. "Electrochemical Sensors Technology" Edited by Mohammed Muzibur Rahman & Abdullah M. Asiri; Publisher: INTECH Open Access Publisher. Year: 2017. (ISBN 978-953-51-5287-3) <https://www.intechopen.com/books/electrochemical-sensors-technology>
6. "Chemical Sensors based on Nanostructure Materials" Edited by Hasan B. Balkhoyor, Mohammed Muzibur Rahman, Abdullah M. Asiri. Publisher; LAMBERT Academic Publishing (LAP). Year: 2017; Pages: 1-232. (ISBN 978-3-659-81289-7). <https://www.lap-publishing.com/catalog/details//store/gb/book/978-3-659-81289-7/chemical-sensors-based-on-nanostructure-materials>
7. "Advances in Colloid Science" Edited by Mohammed Muzibur Rahman & Abdullah M. Asiri; Publisher: INTECH Open Access Publisher. Year: 2016. Pages: 1-282 (ISBN 978-953-51-2773-4). <http://www.intechopen.com/books/advances-in-colloid-science>
8. "Nanofiber Research – Reaching New Heights" Edited by Mohammed Muzibur Rahman & Abdullah M. Asiri. Publisher: INTECH Open Access Publisher. Year: 2016. Pages: 1-252 (ISBN

978-953-51-2529-7).<http://www.intechopen.com/books/nanofiber-research-reaching-new-heights>

9. "Nanomaterials" Edited by **Mohammed Muzibur Rahman**, Publisher: INTECH Open Access Publisher. Year: 2011, Page: 1-356. (ISBN: 978-953-307-913-4).
<http://www.intechopen.com/books/nanomaterials>
10. "High-Pressure Electrochemistry and Applications" Edited by **Mohammed Muzibur Rahman**, Publisher: Lambert Academic Publishing. Year: 2011, Page: 1-123. (ISBN: 978-3-8433-9263-1), Germany.
11. "Photo-Fenton's Degradation of Malachite Green Dye" Edited by **Mohammed Muzibur Rahman**, Publisher: Lambert Academic Publishing. Year: 2011, Page: 1-63. (ISBN: 978-3-8443-0718-4), Germany.

Selected Book Chapters:

1. "Creatine Sensors based on Nanomaterials" in "Creatine: Biosynthesis, Health effects and Clinical perspectives (Editors: Lorraine Hogan)" book by **Mohammed M. Rahman**, Mohammad M. Hussain, and Abdullah M. Asiri. NOVA Scientific Publishers, INC. NewYork, USA. (ISBN: 978-1-53612-420-0)
https://www.novapublishers.com/catalog/product_info.php?products_id=62878
2. "Chemical sensor development by SrO.CNT nanocomposites" in "Chemical Sensors: Advances in Research and Applications (Editors: Maximilian Brandt)" book by **Mohammed M. Rahman**, Mohammad M. Hussain, and Abdullah M. Asiri. NOVA Scientific Publishers, INC. NewYork, USA. (ISBN: 978-1-53612-406-4)
https://www.novapublishers.com/catalog/product_info.php?products_id=62862
3. "Introductory Chapter: Electrochemical Sensors Technology" in "Electrochemical Sensors Technology" book by **Mohammed Muzibur Rahman & Abdullah Mohamed Asiri**. Publisher: INTECH Open Access Publisher. Year: 2017, Page 1-10. (ISBN 978-953-51-5287-3)
<http://dx.doi.org/10.5772/intechopen.68709>
4. "Introductory Chapter: Overview of Nanofibers" in "Nanofiber Research-Reaching New Heights" book by **Mohammed Muzibur Rahman**. Publisher: INTECH Open Access Publisher. Year: 2016, Page 1-9. (ISBN 978-953-51-2529-7) <http://dx.doi.org/10.5772/64370>
5. "Chemical Sensors applications using Semiconductor Nanomaterials" in "Application of Nanomaterials" book by **Mohammed Muzibur Rahman**. Studium Press, USA. (Published, 2013)
6. "Iron oxide nanoparticles" in "Nanomaterials" book by **Mohammed M. Rahman, Sher Bahadar Khan, Aslam Jamal, Mohd Faisal, Abdullah M. Asiri**. Publisher: INTECH Open Access Publisher. Year: 2011, Page: 1-356. (ISBN: 978-953-307-913-4). <http://dx.doi.org/10.5772/27698>

Publication (Articles in International Journal _ ISI category):

[2018]

1. **M.M. Rahman**, J. Ahmed, A.M. Asiri. Thiourea sensor development based on hydrothermally prepared CMO nanoparticles for environmental safety. **Biosensors and Bioelectronics** 99(2018)586-592.
2. **M.M. Rahman**, M.M. Alam, A.M. Asiri, M.A. Islam. 3,4-Diaminotoluene sensor development based on hydrothermally prepared MnCo_xO_y nanoparticles. **Talanta** 176(2018)17-25. <https://doi.org/10.1016/j.talanta.2017.07.093>

[2017]

3. J. Ahmed, **M.M. Rahman**, I.A. Siddiquey, A.M. Asiri, M.A. Hasnat. Efficient hydroquinone sensor based on zinc, strontium and nickel based ternary metal oxide (TMO) composites by differential pulse voltammetry. **Sensors and Actuators B. Chemical**. (Accepted, 2017).
4. A. Khan, A.A.P. Khan, **M.M. Rahman**, A.M. Asiri, Inamuddin, K.A. Alamry, S.A. hamed. Preparation and characterization of PANI@G/CWO nanocomposite for enhanced 2-nitrophenol sensing. **Applied Surface Science** (Accepted, 2017)
5. **M.M. Rahman**, M.M. Hussain, A.M. Asiri. Bilirubin sensor based on CuO-CdO composites deposited in a nafion/glassy carbon electrode matrixes. **Progress in Natural Science: Materials International** (Accepted, 2017) <https://doi.org/10.1016/j.pnsc.2017.08.014>
6. **M.M. Rahman**, M.A. Hussein, K.A. Alamry, F.M. Al-Shehry, A.M. Asiri. Polyaniline/Graphene/Carbon Nanotubes Nanocomposites for Sensing Environmentally Hazardous 4-Aminophenol. **Nano-structures & Nano-Objects**. (Accepted, 2017) <https://doi.org/10.1016/j.nanoso.2017.08.006>
7. M.A. Hussein, **M.M. Rahman**, A.M. Asiri. A novel facial conducting polyamides based dithiophenylidene cyclohexanone moiety utilized for selective Cu²⁺ sensing. **Polymer-Plastics Technology and Engineering**. (Accepted, 2017) <http://dx.doi.org/10.1080/03602559.2017.1354222>
8. A.A.P. Khan, A. Khan, **M.M. Rahman**, A.M. Asiri, M. Oves. Chemical sensor development and Antibacterial activities based on polyaniline/Gemini Surfactants for environmental safety. **Journal of Polymers and the Environment** (Accepted, 2017). <http://dx.doi.org/10.1007/s10924-017-1055-9>
9. A. Khan, A.A.P. Khan, **M.M. Rahman**, A.M. Asiri, S.Y.M. Alfaifi, L.A. Taib. Towards Facile Preparation and Design of Mulberry Shaped Poly(N-Methylaniline)Ce₂(WO₄)₃@CNT Nanocomposite and Its Application for Electrochemical Cd²⁺ Ions Detection for Environment Remediation. **Polymer-Plastics Technology and Engineering**. (Accepted, 2017). <http://dx.doi.org/10.1080/03602559.2017.1329431>
10. **M.M. Rahman**, M.M. Alam, A.M. Asiri, M.R. Awual. Fabrication of 4-aminophenol sensor based on hydrothermally prepared ZnO/Yb₂O₃ nanosheets. **New Journal of Chemistry** 41(2017)9159-9169 <http://dx.doi.org/10.1039/C7NJ01623A>
11. **M.M. Rahman**, M.A. Hussein, M.A. Salam, A.M. Asiri. Fabrication of L-Glutathione Sensor Based on PEG Conjugated Functionalized CNT Nanocomposites: A Real Sample Analysis. **New Journal of Chemistry** 41(2017)10761-10772. <http://dx.doi.org/10.1039/C7NJ01704A>
12. **M.M. Rahman**, M.M. Hussain, A.M. Asiri. Fabrication of 3-methoxyphenol sensor based on Fe₃O₄ decorated carbon nanotube nanocomposites for environmental safety: Real sample analyses. **PLOS ONE** 12(2017)e0177817. <http://doi.org/10.1371/journal.pone.0177817>

13. **M.M. Rahman**, M.M. Alam, A.M. Asiri. Fabrication of acetone sensor based on facile ternary MnO₂/Gd₂O₃/SnO₂ nanosheets for environmental safety. **New Journal Chemistry** 41(2017)9938-9946. <http://dx.doi.org/10.1039/C7NJ01372H>
14. I. Ahmad, M.N. Arshad, **M.M. Rahman**, A.M. Asiri, T.A. Sheikh, F.M. Aqlan. Crystal Structure of N'-[(E)-(3-hydroxynaphthalen-2-yl) methylidene]-4-benzenesulfonohydrazide (HNMBSH) and its application as Pb²⁺ ion sensor by its fabrication onto glassy carbon electrode. **Inorganica Chimica Acta** 467(2017)297-306. <https://doi.org/10.1016/j.ica.2017.08.028>
15. M.M. Hussain, **M.M. Rahman**, M.N. Arshad, A.M. Asiri. Electrochemical Detection of Ni²⁺ Ions using Synthesized (E)-N'-Chlorobenzylidene-4-Methylbenzenesulfonohydrazide Derivatives Modified with a Nafion Matrix. **ChemistrySelect** 2(2017)7455-7464. <http://dx.doi.org/10.1002/slct.201700510>
16. M.A. Subhan, P.C. Saha, **M.M. Rahman**, M.A.R. Akand, A.M. Asiri, M. Al-Mamun. Enhanced photocatalytic and chemical sensor development based on ternary B₂O₃.Zn₆Al₂O₉.ZnO nanomaterials for environmental safety. **New Journal of Chemistry** 41(2017)7220-7231. <http://dx.doi.org/10.1039/C7NJ01281K>
17. M.M. Hussain, **M.M. Rahman**, A.M. Asiri. Trivalent Y³⁺ ionic sensor development based on (E)-Methyl-N'-nitrobenzylidene-benzenesulfonohydrazide (MNBBSH) derivatives modified with nafion matrix. **Scientific report** 7(2017) 5832. **Nature group**. <http://dx.doi.org/10.1038/s41598-017-05703-4>
18. **M.M. Rahman**, H.M. Marwani, F.K. Algethami, A.M. Asiri. Xanthine sensor development based on ZnO-CNT, ZnO-CB, ZnO-GO and ZnO nanoparticles: An electrochemical approach. **New Journal of Chemistry** 41(2017)6262-6271. <http://dx.doi.org/10.1039/C7NJ00278E>
19. **M.M. Rahman**, M.M. Hussain, A.M. Asiri. Ultrasensitive and label-free detection of creatine based on CdO nanoparticles: A real sample approach. **New Journal of Chemistry** 41(2017)6667-6677. <http://dx.doi.org/10.1039/C6NJ04101A>
20. J. Ahmed, **M.M. Rahman**, I.A. Siddiquey, A.M. Asiri, M.A. Hasnat. Efficient Bisphenol-A detection based on the ternary metal oxide (TMO) composites by electrochemical approaches. **Electrochimica Acta** 246(2017)597-605. <https://doi.org/10.1016/j.electacta.2017.06.072>
21. **M.M. Rahman**, H.M. Marwani, F.K. Algethami, A.M. Asiri. Comparative performance of hydrazine sensor development on various Mn₃O₄/Carbon-nanotubes, Mn₃O₄/Graphene-oxides, Mn₃O₄/Carbon-black nanocomposites. **Material Express** 7(2017)169-179.
22. **M.M. Rahman**, V.G. Alfonso, F. Fabregat-Santiago, J. Bisquert, A.M. Asiri, A.A. Alshehri, H.A. Albar. Hydrazine sensors development based on a glassy carbon electrode modified with a nanostructured TiO₂ films by electrochemical approach. **Microchimica Acta** 184(2017)2123-2129. <http://dx.doi.org/10.1007/s00604-017-2228-x> (Collaboration with Prof. Juan Bisquert, IJI, Spain)
23. M.A. Subhan, A.M.M. Fahim, P.C. Saha, **M.M. Rahman**, K. Begum, A.K. Azad. Structural study, photoluminescence and photocatalytic properties of La₂O₃.Fe₃O₄.ZnO, AgO.NiO.ZnO and La₂O₃.AgO.ZnO nanocomposites. **Nano-Structures & Nano-Objects**. 10(2017)30-41. <https://doi.org/10.1016/j.nanoso.2017.03.001>
24. **M.M. Rahman**, H.M. Marwani, F.K. Algethami, A.M. Asiri, S.A. Hameed, B. Alhogbi. Ultra-sensitive p-nitrophenol sensing performances based on various Ag₂O conjugated carbon material composites. **Environmental Nanotechnology, Monitoring & Management** 8(2017)73-82 <http://dx.doi.org/10.1016/j.enmm.2017.05.002>

25. T.A. Sheikh, M.N. Arshad, **M.M. Rahman**, A.M. Asiri, H.M. Marwani, M.R. Awual, W.A. Bawazir. Trace electrochemical detection of Ni²⁺ ions with bidentate N,N'-(ethane-1,2-diyl)bis(3,4-dimethoxybenzenesulfonamide) [EDBDMBS] as a chelating agent. **Inorganica Chimica Acta** 464(2017)157-166. <http://dx.doi.org/10.1016/j.ica.2017.05.024>
26. **M.M. Rahman**, H.B. Balkhoyor, A.M. Asiri. Ultra-sensitive xanthine sensor development based on wet-chemically prepared Co/ZnO nanoparticles. **Material Express**. 7(2017)93-103.
27. M.R. Awual, N.H. Alharthi, M.M. Hasan, M.R. Karim, A. Islam, H. Znad, M.A. Hossain, M. Halim, **M.M. Rahman**, M.A. Khaleque. Inorganic-organic based novel nano-conjugate material for effective cobalt(II) ions capturing from wastewater. **Chemical Engineering Journal**. 324(2017)130-139. <https://doi.org/10.1016/j.cej.2017.05.026> (Collaboration with Prof. M.R. Awual, Japan Atomic Energy Agency, Japan)
28. M.K. Alam, **M.M. Rahman**, A. Elzwawy, S.R. Torati, M.S. Islam, M. Todo, A.M. Asiri, D. Kim, C.G. Kim. Highly sensitive and selective detection of bisphenol A based on reduced graphene oxide decorated hydroxyapatite nanocomposites. **Electrochimica Acta** 214(2017)353-361. <https://doi.org/10.1016/j.electacta.2017.04.135>
29. **M.M. Rahman**, F.K. Algethami, A.M. Asiri, H.M. Marwani, B. Alhogbi. A comparative study on 4-aminophenol sensor development with various CdO nanocomposites. **Nano-Structures & Nano-Objects** 10(2017) 141-150. <http://dx.doi.org/10.1016/j.nanoso.2017.04.003>
30. **M.M. Rahman**, M.M. Alam, A.M. Asiri, M.A. Islam. Ethanol sensor development based on ternary-doped metal oxides (CdO/ZnO/Yb₂O₃) nanosheets for environmental safety. **RSC Advances** 7(2017)22627-22639. <http://dx.doi.org/10.1039/C7RA01852E>
31. **M.M. Rahman**, M.M. Alam, A.M. Asiri, M.A. Islam. Fabrication of selective chemical sensor with ternary ZnO/SnO₂/Yb₂O₃ nanoparticles. **Talanta** 170(2017)215-223. <http://dx.doi.org/10.1016/j.talanta.2017.04.017>
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51. **“Detection of Tetracycline Antibiotics Using Conducting Polymer/f-MWNT Based Immunoassay”** M.M. Rahman et al. **Korean Chemical Society meeting**, 2007, Korea.
52. **“Development of An Immunoassay Based on AuNPs Encapsulated Conducting Polymer/ Functionalized-MWNT Assembly”** M.M. Rahman et al. **Annual meeting of CIBST**, 29th June, 2007, Jeju Island, South Korea.
53. **“Development of a Lactate Biosensor Based on Lactate dehydrogenase/NADH Immobilization on Conducting Polymer/f-MWNTs Composite Film”** M.M. Rahman et al. **The 9th Asian Conference on Analytical Science and The 39th convention of The Korean Society of Analytical Sciences**, November 4-8, 2007, Jeju Island, South Korea.
54. **“An Ag(I)-cysteamine Complex Based-metalloimmunoassay Using Electrochemical Stripping Voltammetry for Protein Analysis”** M.M. Rahman et al. **The 9th Asian Conference on Analytical Science and The 39th convention of The Korean Society of Analytical Sciences**, November 4-8, 2007, Jeju Island, Korea.
55. **“ZnO Nanostructure-based Chemical and Biosensors”** A. Umar, M.M. Rahman, S.H. Kim, Y.K. park, M. Vaseem, A. Al-Hajry, Y.B. Hahn. **International Conference of Nanoscience and Nanotechnology (GJ-NST2007)**, Kimdaejung Convention Center Gwangju, Korea, November 8-9, 2007. , South Korea
56. **“Synthesis and Applications of ZnO Nano-nails by Thermal evaporation”** M.M. Rahman et al. **“Nano and Giga Challenges in Electronics and Photonics”** March12-16, 2007. Arizona, USA.
57. **“Xenon Beam Radiation Assisted Degradation of An Organic Dye in Aqueous Medium”** M.M. Rahman et al. **The Second International Conference on Environmental Science and Technology (IC-EST 2006)** 17-22nd August 2006, Texas, USA.
58. **“Self-aligned Thiol modified SWNT SAMs on Au(111) Substrate”** M.M. Rahman et al. **“Synergy Between Experiment and Computation in Nanoscale Science”** 31st May to 2 June, 2006, Harvard University, USA.
59. **“Construction of High Pressure-EQCM System and Application at 25,000PSI Pressure”** M.M. Rahman et al. **The 96th National Meeting of the Korean Chemical Society**, 96, 2005, 428.
60. **“Fabrication of SWCNT-AUT Self-Assembled Monolayer on Gold Substrate”** M.M. Rahman et al. **The 96th National Meeting of the Korean Chemical Society**, 96, 2005, 428.
61. **“Electrochemical behaviors at SWNT-film compared with SWNT-coated GC and Gold electrodes.”** M.M. Rahman et al. **The 94th National Meeting of the Korean Chemical Society**, 94, 2004, 510.
62. **“Effect of xenon beam radiation on degradation of Malachite Green dye with Fenton’s reagent in aqueous solution”** M.M. Rahman et al. **The 91th National Meeting of the Korean Chemical Society**, 91, 2003, 328.

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Research Grants Awarded:

1. CEAMR small grant (Center of Excellence for Advanced Material Research under King Abdulaziz University; **CEAMR-SG-3-438**) on the topic of *"Sensor fabrication based on nano composite materials for sustainable environmental"* **Principal Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2016-2017 (In process).
2. KACST project (**Grant no. 14-BIO1978-03**) under *"National Science, Technology and Innovation Plan"* in track of *"Medical Applications of Biotechnology"* on the topic of *"Selective induction of cancer cell death by smart nanoformulations with stimuli responsive functionalities and determination of cancer cell death mechanism by using Single cell plasmonically enhanced Raman Spectroscopy."* **Principal Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2015. (Accepted). Consultant: **Prof. Mostafa El-Sayed**, Georgia Institute of Technology, USA.
3. Patent research grant. Topic on **"Bisphenol A sensor development by gold nanoparticles decorated functionalized MWCNTs onto microchip"** from DSR of King Abdulaziz University. Author: A.M. Asiri & M.M. Rahman. Dated: 2015-2017 (In process).
4. KACST project (**Grant no. 13-NAN2195-03-R**) under *"National Science, Technology and Innovation Plan"* in track of *"Nanotechnology Strategic Priorities"* on the topic of *"Superparamagnetic Iron Oxide Nanoparticles (SPION) as a Multi-use Tissue Therapeutic for Bone Tissue Engineering and Reduced Infection"* **Principal Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2015. (Accepted). Consultant: **Prof. Thomas J. Webster**, Northwestern University, USA.
5. **HiCi research grant** (King Abdulaziz University, **Grant no. 2-130-1436-HiCi**) is awarded on the title *"Ionic Liquids Based Electrolytes for High Efficiency and Stable Dye-Sensitized Solar Cells"* **Principal Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2014/11. (In process). Consultant: **Prof. Juan Bisquert**. Universitat Jaume I, de Castelló, Spain.
6. **HiCi research grant** (King Abdulaziz University, **Grant no. 31-3-1432/HiCi**) is awarded on the title *"Fabrication and investigation of novel opto-electronic materials and devices."* **Principal Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2012/08-2013/07. (Completed) **Consultant:** **Prof. George Gruner**, University of California Los Angeles, USA.
7. **HiCi research grant** (King Abdulaziz University, **Grant no. 32-3-1432/HiCi**) is awarded on the title *"Synthesis and Application of Functional Mesoporous Composite Films"* **Co-Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2012/08-2013/07. (Completed). **Consultant:** **Prof. Dongyuan Zhao**, Fudan University, China.
8. CEAMR small grant (Center of Excellence for Advanced Material Research under King Abdulaziz University; **CEAMR-SG-1-437**) on the topic of *"Chemical sensor development based on metal oxide nanoparticles conjugated carbon nanotubes nanocomposites"* **Principal Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2015-2016 (Accepted).
9. CEAMR small grant (Center of Excellence for Advanced Material Research under King Abdulaziz University; **CEAMR-SG-6-436**) on the topic of *"Photo-catalytic degradation of colored azo dyes using semiconductor nanostructure materials for the treatment of waste water effluents"* **Principal Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2014-2015. (Completed)
10. CEAMR small grant (Center of Excellence for Advanced Material Research under King Abdulaziz University; **CEAMR-SG-1-436**) on the topic of *"Development of Sensitive Cholesterol Biosensors Based on ChOx-SAM Immobilized Microchips for Biomedical Applications"* **Principal Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2014-2015. (Completed).

11. CEAMR small grant (Center of Excellence for Advanced Material Research under King Abdulaziz University; **CEAMR-SG-7-436**) on the topic of *“Silica Gel Amine Loaded with Ionic Liquid for Selective Extraction and Detection of Metal Ions”* **Co-Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2014-2015. (Completed).
12. CEAMR small grant (Center of Excellence for Advanced Material Research under King Abdulaziz University; **CEAMR-SG-4-435**) on the topic of *“Selective metal ion sensing by low-dimensional Ag₂O₃-ZnO Nanocones for environmental remediation”* **Principal Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2013-2014. (Completed).
13. CEAMR project (**CEAMR-434-01 under KAU**) on the topic of *“Dye-sensitized solar cell based on doped and undoped ZnO nanomaterials”* **Co-Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2012/07-2014/06. (Completed).
14. **Distinct Research Study** (King Abdulaziz University, **Grant No. 130-520-D1435.**) on the topic of *“Fabrication of highly sensitive ethanol sensor based on doped nanostructure materials using tiny chips”* **Principal Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2014/02-2015/01. (Completed).
15. **Distinct Research Study** (King Abdulaziz University, **Grant No. 130-019-D1433.**) on the topic of *“Fabrication of Smart Chemical sensors based on Transition-doped-semiconductor Nanostructure Materials with μ -Chips”* **Principal Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2012/09-2013/08. (Completed).
16. **Distinct Research Study** (King Abdulaziz University, **Grant No. 130-042-D1434.**) on the topic of *“Fabrication of Smart Methanol Chemical sensors based on Ag₂O doped ZnO Nanoparticles onto μ -Chips”* **Principal Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2013/05-2014/04. (Completed).
17. **Distinct Research Study** (King Abdulaziz University, **Grant No. 130-179-D1435.**) on the topic of *“Fabrication of Fluoride sensor based on CdO doped Fe₂O₃ Nanocubes using Micro-chips”* **Principal Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2013/09-2014/08. (Completed).
18. **Distinct Research Study** (King Abdulaziz University, **Grant No. 130-144-D1433.**) on the topic of *“Development of bicarbonate chemical sensor based on hydrothermally prepared CuO-ZnO Nanorods”* **Principal Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2013/09-2014/08. (Completed).
19. **Distinct Research Study** (King Abdulaziz University, **Grant No. 130-025-D1435.**) on the topic of *“Selective Uptake of Iron(III) by CuO-Doped TiO₂ Nanostructure Using Inductively Coupled Plasma-Optical Emission Spectrometry”* **Co-Investigator:** Dr. Mohammed M. Rahman; **Dated:** 2012/03-2013/02. (Completed).
20. **General project** (King Abdulaziz University, **Grant no. 1433/130/89**) on *“Detection of Drugs Biomolecules based on Semiconductor Metal Oxide Nanostructures onto Micro-chips by I-V technique.”* **Principal Investigator:** Dr. Mohammed M. Rahman; **Dated:** 1434/03/15 (Completed).