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Hydrogen Energy Technology Laboratory(HETL)
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Google Scholar Citation:

(https://scholar.google.com/citations?user=t5_kfOQAAAAJ&hl=en)

ACADEMIC QUALIFICATION

PhD in Chemical Engineering (UTP, Malaysia)

PROFESSIONAL MEMBERSHIP

The Institution of Engineers, Malaysia
Institute of Chemical Engineers (IChemE), UK

AREAS OF EXPERTISE:

- Hydrogen Production, Storage and Separation (Hydrogen Economy)
- Catalyst and reaction Engineering
- DFT (Density Functional theory)

AFFILIATION:

Senior Scientific Officer, BCSIR Laboratories Chittagong, Bangladesh (Current Position)

Faculty Member, Chemical Engineering department, Universiti Teknologi PETRONAS, Malaysia (2014-2016)

BIOGRAPHY:

Dr Md Abdus Salam has extensive experiences in strengthening industry-relevant research and development and in delivering educational excellence. He has obtained a PhD in Chemical Engineering from Universiti Teknologi PETRONAS, Malaysia after completion of his research on "Hydrogen Adsorption of Nanostructured Hydrotalcite based Mixed Oxides Adsorbents". He has contributed as faculty member of Chemical Engineering department, Universiti Teknologi PETRONAS (UTP), Malaysia

after completion of his PhD. He has to-date published more than 50 papers in journals and conference proceedings both locally and internationally. His active involvement in research, invention and innovation in Hydrogen economy research (Hydrogen Production and Storage), catalysis and the density functional theory based molecular simulation of the processes made him active member of mission oriented researcher and established a solid track record in the field of advanced materials and hydrogen economy. He has been an Associate Member of the Institution of Chemical Engineers (IChemE) since 2013 and a Affiliate Member of the Institution of Engineers, Malaysia (IEM) since 2015. Dr Salam is leading Hydrogen Energy Technology Laboratory(HETL), one of the mission of BCSIR and carrying out research and development activities to develop advanced materials and to implement hydrogen economy (a green fuel technology) in Bangladesh.

SELECTED PUBLICATIONS

2017

1. U. Sikandera, S. Sufiana, **M. Abdus Salam**, "A review of hydrotalcite based catalysts for hydrogen production systems, International Journal of Hydrogen Energy" Volume 42, Issue 31, 3 August 2017, Pages 19851-19868
2. **M. Abdus Salam**, Bawadi Abdullah "Catalysis Mechanism of Pd promoted γ -alumina in Hydrogen Production: A Density Functional Theory Study" Materials Chemistry and Physics, Volume 188, 15 February 2017, Pages 18-23, 2017, <http://dx.doi.org/10.1016/j.matchemphys.2016.12.022>, ISI and SCOPUS INDEXED, **IF= 2.10**
3. **M. Abdus Salam**, Bawadi Abdullah, M. Aminul Islam, Temperature programmed analysis of hydrogenation and dehydrogenation of magnesium (Mg), nickel (Ni) and aluminum (Al) containing mixed oxides, Chemical Engineering Research and Design, Volume 118, February 2017, Pages 103-111. DOI: <http://dx.doi.org/10.1016/j.cherd.2016.10.039>, ISI and SCOPUS INDEXED, **IF=2.5**

2016

- [4] **M. Abdus Salam**, I.M Mujtaba, Anita Ramli, bawadi Abdullah, Structural feature based computational Approach of Toxicity Prediction of Ionic liquids: Cationic and Anionic Effects on Ionic Liquids Toxicity, **Journal of Molecular Liquids**, **224**, **363**, **2016** /<http://dx.doi.org/10.1016/j.molliq.2016.09.120>), ISI and SCOPUS indexed, **IF =2.79**
- [5] **M. Abdus Salam**, Muhammad Ibrahim Abdul Mutalib, Toxicity Prediction of Ionic Liquids Using structural feature based computational Approach: A DFT study. **Journal of Chemosphere** 2016, ISI and SCOPUS indexed, **IF = 3.69**
- [6] Ali Awad, **M. Abdus Salam**, bawadi Abdullah, Advances of hydrocarbon based hydrogen production technologies, Nanomaterials, 2016 (Under Review)

CONFERENCE PAPER

- [7] **M Abdus Salam**, Bawadi abdullah, The Effect of Co-solvent on the Solubility of a Sparingly Soluble Crystal of Benzoic Acid, Procedia Engineering (ICPEAM 2016), 16 August, 2016

[8] Umair Ahmed, Suriati sufian, **M Abdus Salam**, Synthesis and Structural Analysis of Double layered Ni-Mg-Al Hydrotalcite Like Catalyst, Procedia Engineering (ICPEAM 2016), 16 August, 2016

[9] Nurliyana Masiran, Bawadi Abdullah, **M Abdus Salam**, Improvement on Coke Formation of CaO-Ni/Al₂O₃ Catalysts in Ethylene Production Via Dehydration of Ethanol, Procedia Engineering (ICPEAM 2016), 16 August, 2016

2015

JOURNAL PAPERS

[1] **M Abdus Salam**, M Aminul Islam, Temperature programmed analysis of hydrogenation and dehydrogenation of Mg_{0.5} Ni_{0.25} Al_{0.25} O_{1.13} mixed oxides. **International Journal of Applied Engineering Research (IJAER)**, SCOPUS indexed.

CONFERENCE PAPER

[2] **M Abdus Salam** A DFT study of Hydrogen adsorption kinetics and thermodynamics on mixed oxides of Mg_{0.5} Ni_{0.25} Al_{0.25} O_{1.13}, IPN-IWNEST Conference, 9-10 October 2015.

2014

JOURNAL PAPERS

[1] **M. Abdus Salam**, Suriati Sufian and bawadi Abdullah*, A Study of Hydrogenated Microstructure and Hydrogenation Properties Using the Density Functional Theory (DFT), **Nanomaterials**, 2014, pages 1-7, 2014. **IF= 1.6**

CONFERENCE PAPER

[2] **M. Abdus Salam***, Suriati Sufian, "Hydrogen Adsorption Capacity Investigation of Ni-Co-Al Mixed Oxides", *Advanced Materials Research*, 917, pp 360-364, 2014 [ISI, Scopus] doi:10.4028/www.scientific.net/AMR.917.360

2013

JOURNAL PAPERS

[1] **M. Abdus Salam***, Suriati Sufian and T Murugasen, "Catalytic hydrogen adsorption of nano-crystalline hydrotalcite derived mixed oxides," *Journal of Chemical Engineering Research and Design*, 91, pp-2639-2647, December, 2013 [ISI, Scopus] DOI: 10.1016/j.cherd.2013.05.024; <http://dx.doi.org/10.1016/j.cherd.2013.05.024>, **IF= 2.5**

[2] **M. Abdus Salam***, Suriati Sufian and T Murugasen "Characterization of nano-crystalline Mg-Ni-Al hydrotalcite derived mixed oxides as hydrogen adsorbent," *Journal of Material Chemistry and Physics*, 142, pp. 213-219, October, 2013; [ISI, Scopus] <http://dx.doi.org/10.1016/j.matchemphys.2013.07.008>, **IF= 2.3**

[3] **M. Abdus Salam***, Suriati Sufian, Ye Lwin, "Hydrogen Adsorption Study on Mixed Oxides using the Density Functional Theory" Journal of Physics and Chemistry of Solids 74 (4), pp.558-564, April, 2013, [ISI, Scopus] <http://dx.doi.org/10.1016/j.jpcs.2012.12.004>, **IF=2.04**

[4] **M. Abdus Salam***, Suriati Sufian and T Murugasen "Hydrogen storage of a fixed bed of Nano-crystalline mixed oxides," ISRN Nanomaterials, Volume 2013, pp. 1-10, January, 2013, [ISI, Scopus] <http://dx.doi.org/10.1155/2013/539534>, **IF =1.6**

[5] **M Abdus Salam***, Ye Lwin, Suriati Sufian, "Synthesis of Nano-structured Ni-Co-Al Hydrotalcites and Derived Mixed Oxides," Advanced Materials Research, Vol. 626, pp. 173-177, December, 2012, [ISI, Scopus]doi:10.4028/www.scientific.net/AMR.626.173, **IF= 0.6**

[6] **M Abdus Salam***, Suriati Sufian, T. Murugesan, "Hydrogen storage investigation of fixed bed of nano-crystalline Mg-Ni-Cr mixed oxides," Advanced material research, Vol. 701, pp 179-183, May, 2013, [ISI, Scopus], doi:10.4028/www.scientific.net/AMR.701.179, **IF =0.6**

[7] **M Abdus Salam***, Ye Lwin, Suriati Sufian, " Synthesis and Characterization of Nano-structured Mixed Oxides," Applied Mechanics and Materials Vols. 446-447, pp 196-200, 2014, [ISI, Scopus] doi:10.4028/www.scientific.net/AMM.446-447.196, **IF= 0.13**

CONFERENCE PAPER

[8] **M Abdus Salam***, Suriati Sufian, T. Murugesan, Hydrogen storage investigation of fixed bed of nano-crystalline Mg-Ni-Cr mixed oxides, Advanced material engineering and technology, 2013

[9] **M Abdus Salam***, Suriati Sufian, T Murugasen, "Synthesis and characterization of nano-structured Ni-Co-Cr hydrotalcite oxides derived mixed," Annual Postgraduate Conference (APC), 2013.

[10] **M Abdus Salam***, Suriati Sufian, T Murugasen, Synthesis and Characterization of Nano-structured Mixed Oxides, 3rd International Conference on Nanomaterials and Electronics Engineering, 2013.

2012

JOURNAL PAPERS

[1] **M Abdus Salam***, C.G. Jesudason, Keshav N. Shrivastava , M. Aminul Islam, "A structural-feature-based computational approach for toxicity prediction of water-soluble arsenicals," Physics and Chemistry of Liquids, Vol.50(2), pp.173-186, March, 2012, [ISI, Scopus] <http://dx.dio.org/10.1080/00319104.2010.527841>, **IF= 0.6**

CONFERENCE PAPER

[2] **M Abdus Salam***, Ye Lwin, Suriati Sufian, Hydrogen Adsorption Capacity Investigation of Ni-Co-Al Mixed oxides, International conference of process engineering and advanced materials (ICPEAM), 2012

2011

JOURNAL PAPERS

[1] M Abdus Salam*, "A DFT Calculation: Toxicity of Water Soluble Arsenicals," Bangladesh J. Sci. Ind. Res. **46(2)**, pp.177-182, June, 2011; DOI: <http://dx.doi.org/10.3329/bjsir.v46i2.6052>

2009

JOURNAL PAPERS

[1] **M. Abdus Salam***, B.P Barua, M.S.I. Aziz "Augmented space recursion method for the study of electronic states of binary alloys", Bangladesh J. Sci. Ind. Res., 44(3), pp.255-264, 2009; DOI: 10.3329/bjsir.v44i3.

[2] **M. Abdus Salam***, Kabir ahmed, A.J.M. Morshed, "Measurement of natural and artificial radionuclides of Stevia rebaudiana bertonii extract" Bangladesh J. Sci. Ind. Res., 44(4), pp. 467-472, 2009; DOI: 10.3329/bjsir.v44i4.4600

2007

JOURNAL PAPERS

[1] M. Abdus Salam*, B.P Barua, Minhaj Uddin "Studies on transition temperature of Superconducting materials related to Elastic constant", Bangladesh J. Sci. Ind. Res., Vol. 42(2) , pp.203-212, 2007;

BOOK PUBLICATION

1.

Publication Title	Structural Feature Based Computational Approach Of Toxicity Prediction: Anions and Cationic effect of Ionic liquids.
Authors	Md Abdus Salam, Habiur Rahman Buyian, Ali Awad
Publication Type	Book
Publication Date	March, 2017
Publisher	Lambert publication, USA
Publication Media	Printed Hardcopy /https://www.morebooks.de/bookprice_offer_daff584bc30a30727f727b9172ba6736e08ff817?auth_token=d3d3LmxhcC1wdWJsaXNoaW5nLmNvbToxMTU0NzlhN2E3YmU4Njl0NmFhMTVjODh0NjYyZFIyYg%3D%3D&locale=gb&currency=EUR

2.

Publication Title	Heat and Thermodynamics
Authors	Md Abdus Salam, Bikiran Prasad Barua
Publication Type	Book
Publication Date	2009
Publisher	Dikdarshon publication, Bangladesh
Publication Media	Printed Hardcopy

RESEARCH GRANTS

1. Project Title: Hydrogen Production from Sub quality Natural gas (SQNG)

Funding Organization: BCSIR
Duration: 2017-2018

2. Project title: Development of Molecular Sieve from available domestic biomass use in petrochemical refining industry.

Funding Organization: BCSIR
Duration: 2017-2018

3. Project Title: Understanding Reaction Mechanism for Hydrogen Production via Cracking of Hydrocarbons using the Density Functional Theory.

Funding Organization : Fundamental Research Grant Scheme (FRGS), MOSTI
Duration : 2015-2017

4. Project Title: A new study on catalytic mechanism of carbon nanofiber-supported catalyst in nitrogen hydrogenation reaction

Funding Organization : Fundamental Research Grant Scheme (FRGS), MOSTI
Duration : 2014-2016

5. Projects Title: A structure feature based toxicity prediction of Ionic liquids

Funding Organization : UTP (STIRF)
Duration : 2015-2016

6. Project title: Engineering students understanding of thermodynamics (ESUTH) – an innovative teaching and integrated research

Funding Organization : Centre for excellence in teaching & learning, UTP
Duration : 2015-2016