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Education

B.Sc (Chemistry)	: Calcutta University, 1998
B.Tech (Chemical Engineering)	: Calcutta University, 2001
M.E. (Chemical Engineering)	: Jadavpur University, 2003
PhD (Chemical Engineering)	: Indian Institute of Technology Kanpur, 2008

Experience

Postdoctoral Fellow	: Centre for Catalysis Research and Innovation, University of Ottawa, Canada (2008-2010)
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Research Interests

Group research interests include catalysis over supported metals and metal oxides, multi-functional catalysts, nanostructured catalysts, fuels and chemicals from renewable sources, activation of light hydrocarbons, direct conversion CO₂ to chemicals and structure reactivity correlation, in-situ characterization, and reaction kinetics.

Publications

Updated publications list: [Google Scholar](#); [Scopus](#)

1. Deepak Raikwar, Saptarshi Majumdar, **Debaprasad Shee**, *Synergistic effect of Ni-Co alloying on hydrodeoxygenation of guaiacol over Ni-Co/Al₂O₃ catalysts*, **Molecular Catalysis** **2020** (Accepted)
Impact Factor: 3.687
2. Anjana Anandan Vannathan, Sukanya Maity, Tatinaidu Kella, **Debaprasad Shee**, Partha Pratim Das, and Sib Sankar Mal, *In situ vanadophosphomolybdate impregnated into conducting polypyrrole for supercapacitor*, **Electrochimica Acta** **364** (**2020**) 137286-137297 **Impact Factor: 6.215**

3. Santosh Kumar Sriramoju, Varahala Babu, Pratik Swarup Dash, Saptarshi Majumdar, **Debaprasad Shee**, *Effective Utilization of Coal Processing Waste: Separation of Low Ash Clean Coal from Washery Rejects by Hydrothermal Treatment*, **Mineral Processing and Extractive Metallurgy Review 2020** (Accepted) **Impact Factor: 2.785**
4. Venkata Chandra Sekhar Palla, **Debaprasad Shee**, Sunil K Maity, *Production of aromatics from n-butanol over HZSM-5, H-Beta, and γ -Al₂O₃: Role of silica-alumina mole ratio and effect of pressure*, **ACS Sustainable Chemistry & Engineering** 8 (2020) 15230-15242. **Impact Factor: 7.632**
5. Sparsha Kumari, Sukanya Maity, Anjana A. Vannathan, **Debaprasad Shee**, Partha Pratim Das, Sib Sankar Mal, *Improved electrochemical performance of graphene oxide supported vanadomanganate (IV) nanohybrid electrode material for supercapacitors*, **Ceramics International** 4 (2020) 3028-3035. **Impact Factor: 3.83**
6. Pankaj Kumar, Sunil K Maity, **Debaprasad Shee**, *Hydrodeoxygenation of stearic acid using Mo modified Ni and Co/alumina catalysts: Effect of calcination temperature*, **Chemical Engineering Communication** 207 (2020) 904-919. **Impact Factor: 1.802**
7. Sudhakara Reddy Yenumala, Pankaj Kumar, Sunil K Maity, **Debaprasad Shee**, *Hydrodeoxygenation of karanja oil using ordered mesoporous nickel-alumina composite catalysts*, **Catalysis Today** 348 (2020) 45-54. **Impact Factor: 5.825**
8. Sudhakara Reddy Yenumala, Pankaj Kumar, Sunil K Maity, **Debaprasad Shee**, *Production of green diesel from karanja oil (Pongamia pinnata) using mesoporous NiMo-alumina composite catalysts*, **Bioresource Technology Reports** 7 (2019) 100288
9. Deepak Raikwar, Saptarshi Majumdar, **Debaprasad Shee**, *Thermocatalytic depolymerization of Kraft lignin to guaiacols using HZSM-5 in alkaline water-THF co-solvent: A realistic approach*, **Green Chemistry** 21 (2019) 3864-3881. **Impact Factor: 9.480**
10. Pankaj Kumar, Sunil K Maity, **Debaprasad Shee**, *Role of NiMo Alloy and Ni Species in the Performance of NiMo/ Alumina Catalysts for Hydrodeoxygenation of Stearic Acid: A Kinetic Study*, **ACS Omega** 4 (2019) 2833-2843. **Impact Factor: 2.87**
11. Deepak Raikwar, Meghana Munagala, Saptarshi Majumdar, **Debaprasad Shee**, *Hydrodeoxygenation of Guaiacol over Mo, W and Ta Modified supported Nickel Catalysts*. **Catalysis Today** 325 (2019) 117-130. **Impact Factor: 5.825**
12. **Debaprasad Shee**, Goutam Deo, *In situ DRIFT Studies of Alkane Adsorption on Vanadia Supported Titania-doped Catalysts*. **Catalysis Today** 325 (2019) 25-32. **Impact Factor: 5.825**

13. **Debaprasad Shee**, Brishti Mitra, Komandur V.R. Chary, Goutam Deo, *Characterization and reactivity of sol-gel synthesized TiO_2 - SiO_2 supported vanadium oxide catalysts*. **Molecular Catalysis**, 451 (2018) 228-237. **Impact Factor: 3.687**
14. Sudhakara Reddy Yenumala, Sunil K Maity, **Debaprasad Shee**, *Reaction mechanism and kinetic modeling for the hydrodeoxygenation of triglycerides over alumina supported nickel catalyst*. **Reaction Kinetics mechanisms and Catalysis** 120 (2017) 109-128. **Impact Factor: 1.464**
15. Vishnu P. Yadav, Sunil K. Maity, **Debaprasad Shee**, *Etherification of Glycerol with Ethanol over Solid Acid Catalysts: Kinetic Study Using Cation Exchange Resin*. **Indian Chemical Engineer** 59 (2017) 117-135.
16. Venkata Chandra Sekhar Palla, **Debaprasad Shee**, Sunil K Maity, *Conversion of n-butanol to gasoline range hydrocarbons, butylenes and aromatics*. **Applied Catalysis A: General** 526 (2016) 28-36. **Impact Factor: 5.006**
17. Sudhakara Reddy Yenumala, Sunil K Maity, **Debaprasad Shee**, *Hydrodeoxygenation of karanja oil over supported nickel catalysts: influence of support and nickel loading*. **Catalysis Science & Technology** 6 (2016) 3156-3165. **Impact Factor: 5.721**
18. Vimala Dhanala, Sunil K Maity, **Debaprasad Shee**, *Oxidative steam reforming of isobutanol over $Ni/\gamma-Al_2O_3$ catalysts: A comparison with thermodynamic equilibrium analysis*. **Journal of Industrial and Engineering Chemistry** 27 (2015) 153-163. **Impact Factor: 5.278**
19. Vimala Dhanala, Sunil K Maity, **Debaprasad Shee**, *Roles of Supports (Al_2O_3 , SiO_2 , ZrO_2) and Performance of Metals (Ni, Co, Mo) for Steam Reforming of Isobutanol*. **RSC Advances** 5 (2015) 52522-52532. **Impact Factor: 3.119**
20. Pankaj Kumar, Sudhakara Reddy Yenumala, Sunil K Maity, **Debaprasad Shee**, *Kinetics of hydrodeoxygenation of stearic acid using supported nickel catalysts: Effects of supports*. **Applied Catalysis A: General** 471 (2014) 28-38. **Impact Factor: 5.006**
21. Venkata Chandra Sekhar Palla, **Debaprasad Shee**, Sunil K Maity, *Kinetics of hydrodeoxygenation of octanol over supported nickel catalysts: a mechanistic study*. **RSC Advances** 4 (2014) 41612-41621. **Impact Factor: 3.119**
22. Vimala Dhanala, Sunil K Maity, **Debaprasad Shee**, *Steam reforming of isobutanol for the production of synthesis gas over $Ni/\gamma-Al_2O_3$ catalysts*. **RSC Advances** 3 (2013) 24521-24529. **Impact Factor: 3.119**
23. **Debaprasad Shee**, Abdelhamid Sayari, *Light hydrocarbon dehydrogenation over Mesoporous Cr_2O_3 - Al_2O_3 Catalysts*. **Applied Catalysis A: General** 389 (2010) 155-164. **Impact Factor: 5.006**

24. **Debaprasad Shee**, Goutam Deo, Andrew M. Hirt, *Characterization and Reactivity of Sol-Gel Synthesized TiO₂-Al₂O₃ Supported Vanadium Oxide Catalysts*. **Journal of Catalysis** 273 (2010) 221-228. **Impact Factor: 7.888**
25. Sudhir C Nayak, **Debaprasad Shee**, Goutam Deo, *The promotion of Vanadia-Alumina and Vanadia-Titania by Surface Molybdenum Oxide for the Propane ODH Reaction*, **Catalysis Letters** 136 (2010) 271-278. **Impact Factor: 2.555**
26. Abdelhamid. Sayari, **Debaprasad Shee**, Nabil Al-Yassir, Yong Yang, *Catalysis over Pore-expanded MCM-41 Mesoporous Materials*, **Topics in Catalysis** 53 (2010) 154-167. **Impact Factor: 2.484**
27. **Debaprasad Shee**, Goutam Deo, *Adsorption and ODH Reaction of Alkane on Sol-Gel Synthesized TiO₂-WO₃ Supported Vanadium Oxide Catalysts: In-situ DRIFT and Structure-Reactivity study*, **Journal of Molecular Catalysis A: Chemical** 308 (2009) 46-55. **Impact Factor: 3.687**
28. **Debaprasad Shee**, Goutam Deo, *Characterization and Reactivity of TiO₂/SiO₂ Supported Vanadium Oxide Catalysts*, **Catalysis Letters** 124 (2008) 340-351. **Impact Factor: 2.555**
29. **Debaprasad Shee**, T. V. Malleswara Rao, Goutam Deo, *Kinetic parameter estimation for supported vanadium oxide catalysts for propane ODH reaction: Effect of loading and support*, **Catalysis Today** 118 (2006) 288-297. **Impact Factor: 5.825**

Book Chapter

1. Mallesham Baithy, Deepak Raikwar, **Debaprasad Shee**, *The role of catalysis in green synthesis of chemicals for sustainable future*, **Advanced functional solid catalysts for biomass valorization**, Elsevier 2020, Chapter 1, Page 1-38, ISBN: 978-0-12-820236-4.
2. Mallesham Baithy, **Debaprasad Shee**, *Supported Metal Nanoparticles as Heterogeneous Catalysts for Valorization of Biomass-derived Platform Chemicals*, **Sub-nanometric-Scale Catalysts: Bridging the Gap between Homogeneous and Heterogeneous Catalysts**, ACS Symposium Series 2020 (Accepted)
3. Mallesham Baithy, Deepak Raikwar, **Debaprasad Shee**, *Efficient Nanocomposite Catalysts for Sustainable Production of Biofuels and Chemicals from Furans*, **Catalysis for Clean Energy and Environmental Sustainability: Biomass Conversion and Green Chemistry**, Springer Nature 2020 (Accepted)

Patent

1. Santosh Kumar Sriramoju, Pratik Swarup Dash, Raja Banerjee, Saptarshi Majumdar and Debaprasad Shee, *A system and process for segregation of low ash clean coal from coal tailing*, **Indian Patent** (Appl. no: 202031005007 dated 05/02/2020)

CONFERENCE AND WORKSHOP

1. Deepak Raikwar, Saptarshi Majumdar, Debaprasad Shee, Reactivity of Ni-Co/ γ -Al₂O₃ catalysts for hydrodeoxygenation of guaiacol, **AIChE Annual Meeting**, Orlando, USA, November 10-15, 2019
2. **Debaprasad Shee**, Tuning of Activity of Modified Supported Nickel Catalysts for Hydrodeoxygenation of Guaiacol, Advanced Materials for Energy and Environmental Applications (AMEEA-2018, **NIT Rourkela**, 12-14 December 2018
3. Pankaj Kumar, Sunil K Maity, **Debaprasad Shee**, Hydrodeoxygenation of stearic acid over NiMo/ γ -Al₂O₃ catalyst, **ACS Meeting 2018**
4. Deepak Raikwar, Saptarshi Majumdar, Debaprasad Shee, Conversion of kraft lignin to value added aromatic based chemicals, **AIChE Annual Meeting 2018**, Pittsburgh, USA
5. Meghana Munagala, Deepak Raikwar, **Debaprasad Shee**, Hydrodeoxygenation of Guaiacol Over Supported Nickel-Iron Bimetallic Catalysts, **Chemference 2018** IIT Bombay
6. **Debaprasad Shee**, Brishti Mitra, Goutam Deo, In situ DRIFT studies of alkane adsorption on vanadia supported titania-doped catalysts. **9th International Symposium on Group Five Elements, 22-24th November 2017**, New Delhi, India
7. Deepak Raikwar, Meghana Munagala, Saptarshi Majumdar, **Debaprasad Shee**, Hydrodeoxygenation of Lignin derived Guaiacol over Mo, W and Ta Modified supported Nickel Catalysts, **9th International Symposium on Group Five Elements, 22-24th November 2017**, New Delhi, India
8. **Debaprasad Shee**, Catalytic Conversion of Biomass-derived Oxygenates to Hydrocarbon, **3rd Indo-German Workshop, 23rd to 25th February 2016**, IIT Guwahati, India
9. Rashmitha Perambudoori, Venkata Chandra Sekhar Palla, **Debaprasad Shee**, Sunil K. Maity. Hydrodeoxygenation of Octanol over Supported Bimetallic Catalysts. **CHEMCON-2015**, IIT Guwahati, Assam, India, December 27-30, 2015
10. Venkata Chandra Sekhar Palla, **Debaprasad Shee**, Sunil K. Maity. Selective conversion of Anisole to Cyclohexane, **CHEMCON-2015**, IIT Guwahati, Assam, India, December 27-30, 2015.
11. Venkata Chandra Sekhar Palla, **Debaprasad Shee**, Sunil K. Maity. Conversion of Bio-Butanol to Hydrocarbons, **NAM24**, Pittsburgh, USA, June 14-19, 2015.
12. Sudhakara Reddy Yenumala, Sunil K. Maity, **Debaprasad Shee**, Hydrodeoxygenation of Karanja oil for the production of green diesel. **64th Canadian Chemical Engineering Conference**, Canadian Society for Chemical Engineering, Niagara, ON, Canada, 19-22 October, 2014.
13. Venkata Chandra Sekhar Palla, **Debaprasad Shee**, Sunil K. Maity. Hydrodeoxygenation of 1-Octanol over Supported Nickel Catalysts, **TOCAT7**, Kyoto, Japan, June 1-6, 2014.

14. Vimala Dhanala, Sunil K. Maity, **Debaprasad Shee**, Cobalt supported γ -Al₂O₃ catalyst for steam reforming of isobutanol for production of synthesis gas. **Seventh Tokyo Conference on Advanced Catalytic Science and Technology (TOCAT7)** at Kyoto, Japan, June 1-6, 2014
15. Vijaya lakshmi A, Venkata Chandra Sekhar Palla, **Debaprasad Shee**, Sunil K. Maity. Photo-catalytic Conversion of biomass derived compounds to Hydrogen over Titania Supported Metal Catalysts, **ICCBPE-IN 2013**, NIT Warangal, Andhra Pradesh, India, November 16-17, 2013. ISBN 9788192831404
16. Vimala Dhanala, Sunil K. Maity, **Debaprasad Shee**, Steam reforming of isobutanol for production of synthesis gas: Effects of metals. **World Congress on Petrochemistry and Chemical Engineering, Hilton San Antonio Airport**, United States 78216, November 18-20, 2013.
17. Vishnu P. Yadav, Sunil K. Maity, **Debaprasad Shee**, Utilization of glycerol: etherification with ethanol, International conference on **Advances in Chemical Engineering-ACE 2013**, IIT Roorkee, Roorkee, India.
18. Venkata Chandra Sekhar Palla, **Debaprasad Shee**, Sunil K. Maity. Hydrodeoxygenation of 1-Octanol, **CHEMCON-2012**, NIT Jalandhar, Punjab, India, December 27-30, 2012.
19. Pankaj Kumar, Sudhakara Reddy Yenumala, Sunil K. Maity, **Debaprasad Shee**, Hydrodeoxygenation of Stearic Acid Using Supported Nickel Alumina Catalysts. **CHEMCON-2012**, Dr. B.R. Ambedkar National Institute of Technology, Punjab, India, 27-30 December, 2012.
20. Vishnu P. Yadav, Sunil K. Maity, **Debaprasad Shee**, Etherification of glycerol with ethanol using cation exchange resin, **CHEMCON 2012**, NIT Jalandhar, Punjab, India
21. Vimala Dhanala, Sunil K. Maity, **Debaprasad Shee**, Steam reforming of isobutanol for the production of synthesis gas over Ni/Al₂O₃ catalysts, **CHEMCON 2012**, NIT Jalandhar, Punjab, India
22. **Debaprasad Shee**, Abdelhamid Sayari, *Alkane Dehydrogenation over Mesoporous Cr₂O₃/Al₂O₃ Catalysts*, **21st Canadian Symposium on Catalysis**, Banff, Alberta, Canada, 2010.
23. **Debaprasad Shee** Goutam Deo, *Alkane ODH Reaction on V₂O₅/TiO₂-Al₂O₃ Catalysts: In-situ DRIFT and Reactivity studies*, **8th World Congress of Chemical Engineering (WCCE8)**, Montreal, Canada, 2009.
24. **Debaprasad Shee**, Goutam Deo, *DRIFT Study and Kinetic Parameter Estimation for V₂O₅/TiO₂-WO₃ Catalysts for Alkane ODH Reaction*, **CHEMCON-2007**, Kolkata, India.
25. **Debaprasad Shee**, Goutam Deo, *ODH of Ethane and Propane over V₂O₅/TiO₂-SiO₂ Catalysts: Effect of Loading on Kinetic Parameters*, **CHEMCON-2006**, IChE Annual meeting, Gujarat, INDIA.
26. Soumik Chakraborty, **Debaprasad Shee**, Goutam Deo, *Mechanistic study of ODH of Propane over V₂O₅/SiO₂ Catalysts: Analysis of Kinetic Parameters*, **CHEMCON-2006**, Gujarat, India.

27. **Debaprasad Shee**, Goutam Deo, *ODH of Propane over Several V_2O_5/TiO_2-SiO_2 and V_2O_5/TiO_2 Catalysts: Understanding the Structure-Reactivity Relationship*, **AICHE Annual meeting-2006**, San Francisco CA, USA.
28. **Debaprasad Shee**, Goutam Deo, *ODH of Propane over V_2O_5/TiO_2-SiO_2 Catalyst: Effect of Titania content on Structure-reactivity and Kinetic parameter*, **CHEMCON-2005**, IITDelhi, New Delhi, India.
29. **Debaprasad Shee**, T.V.Malleswara Rao, Goutam Deo, *Increasing the Propane Conversion and Propene Yield over Supported Vanadium Oxide Catalysts by Understanding Variation in Kinetic Parameter*, **1st SCHEMCON 2005**, IIT Guwahati, India.
30. T.V.Malleswara Rao, **Debaprasad Shee**, Goutam Deo, *Tuning the Inverse Activity-Selectivity Relationship over Vanadium Oxide Catalysts: Propane ODH Reaction*, **5th World Congress on Oxidation Catalysis-2005**, Sapporo Japan.
31. **Debaprasad Shee**, T.V.Malleswara Rao, Goutam Deo, *Kinetic Parameter Estimation for Supported Vanadium Oxide Catalysts for the Propane ODH Reaction: Understanding the Effect of Loading and Support*, **5th International symposium on group five compounds-2005**, Massachusetts, USA.
32. **Debaprasad Shee**, Rudra Pratap Singh, Goutam Deo, *The effect of Vanadium Oxide Loading on the Kinetic Parameters for the ODH of Propane over well-characterized V_2O_5/TiO_2 Catalysts*, **CHEMCON-2004**, Mumbai, India.
33. DST SERC School on *Modeling of Industrial Reactors* at IITKanpur, Kanpur. India, July 12-17, 2004.