

Dr. EJAZ AHMAD

Coordinator-Sponsored Research and Industrial Consultancy

Assistant Professor

Department of Chemical Engineering

Indian Institute of Technology (Indian School of Mines) Dhanbad-826004

E-mail: ejaz@iitism.ac.in , Webpage: <https://ejazalchemy.wixsite.com/ejaz>



Research Interest:

- ❖ Heterogeneous Catalysis, Heteropolyacid, Esterification, Green Chemistry, Sustainable Energy, Bio-renewable Energy, Biofuels, Biomass Conversion, Thermo-catalytic Reforming, Solid Waste Management, Lignin Conversion, Metal Recovery from E-Waste and Li Batteries, Waste Plastic Conversion

Present Designation:

Assistant Professor, Department of Chemical Engineering, IIT (ISM) Dhanbad, 10/10/2019 to till date

Administrative Responsibilities:

Coordinator-Sponsored Research and Industrial Consultancy	18/05/2022 to till date
Innovation Ambassador , Innovation Ambassador under MHRD's Innovation Cell, MoE, under IIC 3.0	08/06/2021 to till date
FIC (T&P) , Dept of Chemical Engineering, IIT ISM Dhanbad	15/01/2021 to till date
Member , Committee for Creation of PG Laboratory and Shifting of Equipment Purchased for PG Laboratory, Deptt. Chem. Engg, IIT ISM Dhanbad,	07/10/2021 to 14/01/2021
Member , Resource Group Meeting for MoC PFR	27/12/2020 to till date
Member of Institution's Innovation Council (IIC) 3.0,	20/10/2020 to till date
Member , DPGC, IIT ISM Dhanbad	07/10/2020 to till date
Warden , Amber Hostel, IIT (ISM) Dhanbad,	01/07/2020 to 30/06/2022
Joint Secretary , IChE Regional Centre, IIT (ISM) Dhanbad,	27/02/2020 to till date
Faculty Advisor , ACS International Student Chapter, IIT (ISM) Dhanbad,	28/02/2020 to till date

Industrial Experience:

2010-2013: In different capacities in several industries as “**Process Engineer**” and “**Assistant Manager**” (**Process Eng. & Technology Development**)

Ø **Support to R&D and Process Development** - Wider knowledge on Patents, regularly provides input to R&D team for newer methods for Lab synthesis & improvements etc.

Ø **Unique Solutions** - Conceptualization of new process steps for cost-competitive technologies, the new design of equipment for improvement over conventional systems. Visualize the probable operational & design problems helps in removing constraints and minimizes startup problems.

Ø **Projects** – Complete process development, Basic process design, Basic engineering package of the process, including P&ID, IPDS, PDS, equipment design and sizing etc., Technical Bid evaluation, vendor finalization, execution follow-up, commissioning.

Academic Details:

Education Level	Educational Institute
PhD. Chemical Engineering	Indian Institute of Technology, Delhi
M. Tech – Chemical Engineering	Indian Institute of Technology, Delhi
B.E – Chemical Engineering	Jiwaji University, Gwalior

Dissertation Title:

- Understanding the Role of Catalyst Materials and Process Conditions in Bio-renewable Transformations (Ph.D. Thesis Title)
- Catalytic Conversion of Biomass-Derived Platform Molecules into Renewable Chemicals/Fuels (M. Tech)

PhD & M. Tech Supervision:

Ph.D.: 3 solely supervised PhD student on institute fellowship + 1 jointly supervised student at IIT Delhi on institute fellowship

M. Tech: 3 students (ongoing)

List of Ongoing Projects: 6 Nos.

S.N.	Project Title	Scheme	Funding Agency	Value	Status	Role
1.	Low-cost Bio-coal Production and Its Potential Impact on Steel Industries	A2K+ Events	Department of Scientific & Industrial Research (DSIR)	4.5 lakhs	Completed	PI
2.	Novel formulations and green additives as a replacement for carcinogenic Methyl tertiary-butyl ether (MTBE) and aromatics in gasoline	National Post-Doctoral Fellowship	Science and Engineering Research Board (SERB)	21.31 lakhs	Ongoing	Mentor
3.	Rational Design and Heterogenization of Heteropolyacid Catalysts for the Production of Alkyl Levulinates as Green Gasoline Additives	Start-up Research Grant	Science and Engineering Research Board (SERB)	30.91 lakhs	Ongoing	PI
4.	Delhi Cluster – Delhi Research Implementation and Innovation (DRIIV) Theme: Solid Waste Management	Delhi Science & Technology Cluster	Office of PSA to the Government of India	24.39 lakhs	Ongoing	PI
5.	Investigating Uncharted 2DCatalytic Materials for Lignocellulosic Biomass Transformation into High-	SUPRA	Science and Engineering Research Board (SERB)	30.25 lakhs	Ongoing	PI

	Value Platform Chemicals and Fuel					
6.	To strengthen the research facilities in the Department of Chemical Engineering	DST-FIST	Department of Science and Technology (DST)	156.00 lakhs	Ongoing	Co-PI
7.	Development of Eco-Friendly Decentralized Technologies for the Waste Plastic Conversion to Fuels and Carbon Nanotubes	--	IIT ISM Dhanbad	35.00 lakhs	Ongoing	PI
8.	Design and Construction of Smokeless and Compact Incinerators for Sanitary Waste Management	--	IIT ISM Dhanbad	30.0 lakhs	Ongoing	PI
9.	Synthesis of Novel Catalytic Materials for Microwave-Assisted Synthesis of Alkyl Levulinates as Green Gasoline and Jet Fuel Additives	FRS	IIT ISM Dhanbad	15.00 lakhs	Completed	PI
10.	An Alternative Technology to Produce Biomass-Based Food Grade Flavours, Fuels and Value-Added Chemicals	GYTI	BIRAC SRISTI	15 lakhs	Completed	Co-PI

Subjects Taught:

Course Code	Course Name	Class	Year
CHO402	Biofuels and Biomass Conversion Technology	7 th Sem, UG, Institute Open Elective	Monsoon 2022-2023
CHC204	Computational Tools for Chemical Engineers Lab	3 rd Sem, UG Chemical	Monsoon 2022-2023
CHO502	Fluidization Engineering	PG, Institute Open Elective	Winter 2021-2022
CHE530	Reaction Engineering	2 nd Sem, PG, Pharma	Winter 2021-2022
CHE17105	Fluidization Engineering	7 th Sem, UG Chemical	Monsoon 2021-2022
CHC17202	Equipment Design Lab/CAPD Lab	7 th Sem, UG Chemical	Monsoon 2021-2022
CHO502	Fluidization Engineering	PG, Institute Open Elective	Winter 2020-2021
CHE530	Reaction Engineering	2 nd Sem, PG, Pharma	Winter 2020-2021
CHE17107	Process Integration	7 th Sem, UG Chemical	Monsoon 2020-2021
CHE434	Advance Chemical Reaction Engineering	1 st Sem, PG & Ph.D.	Monsoon 2020-2021
CHC14202	Fuel Analysis Lab (Practical)	4 th Sem, UG Chemical	Winter 2019-2020
CHC16102	Mass Transfer – II (Theory)	6 th Sem, UG Chemical	Winter 2019-2020
CHC14501	Comprehensive Viva-Voce	4 th Sem, UG Chemical	Winter 2019-2020

CHC18501	Comprehensive Viva-Voce	8 th Sem, UG Chemicals	Winter 2019-2020
CHC18601	Excursions	8 th Sem, UG Chemical	Winter 2019-2020
CHC18801	Project	8 th Sem, UG Chemical	Winter 2019-2020

Memberships:

- Member Royal Society of Chemistry (MRSC), London
- Faculty Advisor, American Chemical Society International Students Chapter, IIT ISM Dhanbad
- Life Member of Indian Institute of Chemical Engineers Kolkata.
- Member of IChemE United Kingdom.

Awards and Honors:

- Recipient of **“Gandhian Young Technological Innovation Appreciation Award (GYTI, “BIRAC-SRISTI”)”** from honorable Science and Technology Minister for E-waste conversion in the year 2020
- Recipient of **“LKMT Best Thesis Award”** for the session 2019 from Loveraj Kumar Memorial Trust
- Recipient of **“FITT Award for Best Industry Relevant Project”** for the session 2018-2019 at Institute Level from Foundation for Innovation and Technology Transfer, during IIT Delhi Convocation 2019
- Recipient of **“INAE Special Mention Award”** 2019 from **Indian National Academy of Engineering** during INAE 3rd Youth Conclave 2019
- Recipient of **“Gandhian Young Technological Innovation Award (GYTI, “BIRAC-SRISTI”)”** 2018 **from the honorable President of India** sponsored by “BIRAC-SRISTI”
- Recipient of prestigious **“Prime Minister Fellowship for Doctoral Research”** since 2016-2019 from Government of India for high impact industrially relevant research
- Recipient of **“DAAD Bi-national Research Grant”** for session 2016-17 from German Academic Exchange Service (Germany)
- Visiting **“Research Scholar”** at **“Fraunhofer UMSICHT,”** Sulzbach Rosenberg, Germany” 2016-2017
- Recipient of **“ACS International Travel Grant”** in 2018 from American Chemical Society, Washington DC, USA
- **International Travel Support Grant, 2018**, by the Department of Science and Technology, GoI
- Founding member of **“ACS International Students Chapter at IIT Delhi”** from 2017
- Recipient of **“HPCL Research Scholarship”** since 2016-2019 for high-value industrial project (Hindustan Petroleum Corporation Limited, Government of India)
- Recipient of **“Petrotech Research Fellowship”** since 2015 to 2016 from Petrotech Society of India (Consortium of ONGC, HPCL, BPCL, and IOCL)
- Awarded **“First Prize”** for best poster on e-waste recycling during Industry Day 2017 at IIT Delhi

- Awarded “**First Prize**” by ACS International Student Chapter, IIT Delhi for best poster in Open House 2018 at IIT Delhi
- Elected “**Executive Council Member**” of IIT Delhi Alumni Association, 2019-2022
- **Coordinator of “17th National Workshop on Catalysis for Clean Energy and Sustainable Future**” jointly organized by IIT Delhi, Catalysis Society of India and Federation of Indian Petroleum Industry

Patents:

1. M. Ali Haider, Shelaka Gupta, **Ejaz Ahmad**, Md. Imteyaz Alam “A Process for the Production of Unsaturated C₉ Linear Ketones” (**Indian Patent Application Number: 2120/DEL/2015, Filed on 14/07/15), Granted**
2. K.K. Pant, **Shireen Quereshi**, Ejaz Ahmad, Suman Dutta, T.K. Naiya “Process of Preparation of Fuel Additives and Commodity Chemicals” Indian Patent Application # **201811017710**
3. K.K. Pant, Chandrakant Mukesh, Dinesh Gupta, **Ejaz Ahmad**, “Microwave assist one-pot liquefaction of lignocellulosic biomass to value added chemicals and biofuels using Brønsted ionic liquids and its deep eutectic solvent as catalyst as well as co-solvents” (IDF/03/2018/25)
4. K.K. Pant, K.D.P. Nigam, Prashant Jadhaio, **Ejaz Ahmad**, “A Process of Producing Fuels and Recovering Metals from Waste Electrical and Electronic Equipment” Indian Patent Application#**201911029549**

Editorial Role:

1. Associate Editor, **Materials Science for Energy Technologies Journal**, Elsevier
2. Guest Editors, K.K. Pant, A.K. Dalai, **Ejaz Ahmad**, “Special Issue on Contemporary State of the Art in Biomass and Bio-Renewable Resources Conversion to Fuels and Chemicals” in **Materials Science for Energy Technologies Journal**, Elsevier, 2022
3. Special Mention (one paragraph) in editorial of **Special Issue of ACS “I&EC Research**” on Biorenewable Energy and Chemicals, 2019 **for assisting Prof. K.K. Pant in proposing and executing the SI.**

Books:

1. Editors, K.K. Pant, Sanjay Gupta, **Ejaz Ahmad** “Catalysis for Clean Energy and Environmental Sustainability Volume-I, Biomass Conversion and Biorefinery” Springer Nature, <https://doi.org/10.1007/978-3-030-65017-9>
2. Editors, K.K. Pant, Sanjay Gupta, **Ejaz Ahmad** “Catalysis for Clean Energy and Environmental Sustainability Volume-II, Petrochemical and Refining” Springer Nature, <https://doi.org/10.1007/978-3-030-65021-6>

Books Chapters:

1. K. A. Ahmad, M. H. Siddiqui, M. I. Alam, M. A. Haider, **Ejaz Ahmad***, “Keggin Heteropolyacid Catalysts: Synthesis, Heterogenization, and Application in Conversion of Biomass-derived Molecules” Book Chapter, in Royal Society of Chemistry, **Catalysis**, 2022, **34**, 206–247, *Corresponding Author

2. D. Banerjee, N. Kushwaha, **Ejaz Ahmad***, S. Quereshi, K.D.P. Nigam, "Eco-Design Strategies for Recycling of E-waste" Book Chapter, in Solid Waste Management: Chemical Approaches – Vol. 1, **CRC Press**, accepted, *Corresponding Author
3. N. Kushwaha, D. Banerjee, S. Quereshi, K. K. Pant, **Ejaz Ahmad***, "Insights into COVID-19 Waste Management: Sources, Composition, Disposal and Challenges" Book Chapter, in in Solid Waste Management: Chemical Approaches – Vol. 1, **CRC Press**, accepted, *Corresponding Author
4. S. Quereshi, **Ejaz Ahmad***, K. K. Pant "Comprehending the Application of 2D Materials in Biomass Conversion" Book Chapter, in Royal Society of Chemistry, , **Catalysis**, **2021**, **33**, **214-243**, *Corresponding Author
5. S. Quereshi, Prashant R. Jadhao, Ashish Pandey, **Ejaz Ahmad***, K. K. Pant "Overview of Sustainable Fuel and Energy Technologies" Book Chapter, in **Sustainable Fuel Technologies Handbook** by **Elsevier**, **2020**, *Corresponding Author
6. A. Pandey, A. R. Mankar, **Ejaz Ahmad***, K. K. Pant "Deep Eutectic Solvents: A Greener Approach towards Biorefineries" Book Chapter, in **Lignin Biorefinery** by **Elsevier**, **2020**, *Corresponding Author
7. **Ejaz Ahmad**, A. Vani, K. K. Pant "Overview of fossil fuel and biomass-based integrated energy systems: co-firing, co-combustion, co-pyrolysis, co-liquefaction and co-gasification" Book Chapter, in **Fuel Processing and Energy Utilization** by **CRC Press**, 2019, 15-30
8. **Ejaz Ahmad**, K. K. Pant "Lignin Conversion: A Key to the Concept of Lignocellulosic Biomass based Integrated Biorefinery" Book Chapter, in **Waste Biorefinery** by **Elsevier**, 2018, 409-444
9. S. Quereshi, **Ejaz Ahmad**, K. K. Pant, S. Dutta "Recent Advances in Production of Biofuel and Commodity Chemicals from Algal Biomass" in **Algal Biofuels** by **Springer Publication**, 2016, 393-419
10. M. I. Alam, S. Gupta, **Ejaz Ahmad**, M. A. Haider "Integrated Bio- and Chemo- Catalytic Processing for Biorenewable Chemicals and Fuels" in **Sustainable Catalytic Processes** by **Elsevier**, 2015, 157-177

Journal Publications:

1. Khwaja Alamgir Ahmad, Mohammad Haider Siddiqui, Kamal K Pant, KDP Nigam, Nagaraj P Shetti, Tejraj M Aminabhavi, **Ejaz Ahmad*** "A critical review on suitability and catalytic production of butyl levulinate as a blending molecule for green diesel", **Chemical Engineering Journal**, 2022, 447, 137550, 1 Citation, **Impact factor:16.744**, <https://doi.org/10.1016/j.cej.2022.137550> *Corresponding Author
2. Debarun Banerjee, Nidhi Kushwaha, Nagaraj P. Shetti, Tejraj M. Aminabhavi, **Ejaz Ahmad*** "Green hydrogen production via photo-reforming of bio-renewable resources", **Renewable and Sustainable Energy Reviews**, 2022, 167, 112827, 0 Citation, **Impact factor: 16.799**, <https://doi.org/10.1016/j.rser.2022.112827> *Corresponding Author
3. Nidhi Kushwaha, Debarun Banerjee, Khwaja Alamgir Ahmad, Nagaraj P. Shetti, Tejraj M. Aminabhavi, Kamal K. Pant, **Ejaz Ahmad*** "Catalytic production and application of lignocellulosic biomass derived butyl

- butyrate as jet fuel blend- A Review*", **Journal of Environmental Management**, 2022, 310, 114772, 2 Citations, **Impact factor: 8.91**, <https://doi.org/10.1016/j.jenvman.2022.114772> *Corresponding Author
4. P. R. Jadhao, **Ejaz Ahmad**, Ahmad, K. K. Pant, K. D. P. Nigam "Advancement in the Field of Electronic Waste Recycling: Critical Assessment of Chemical Route for Generation of Energy and Valuable Products Coupled with Metal Recovery", **Separation and Purification Technology**, 2022, 289, 120773, 1 Citation, **Impact factor: 9.136**, <https://doi.org/10.1016/j.seppur.2022.120773>
 5. G Velvizhi, K Balakumar, NP Shetti, **Ejaz Ahmad**, KK Pant, TM Aminabhavi "Valorisation of lignocellulosic biomass to value-added products: Paving the pathway towards low-carbon footprint", **Fuel**, 2022, 313, 122678, 1 Citation, **Impact factor: 8.035**, <https://doi.org/10.1016/j.fuel.2021.122678>
 6. G Velvizhi, K Balakumar, NP Shetti, **Ejaz Ahmad**, KK Pant, TM Aminabhavi "Integrated Biorefinery Processes for Conversion of Lignocellulosic Biomass to Value Added Materials: Paving a Path Towards Circular Economy", **Bioresource Technology**, 2022, 343, 126151, 18 Citations, **Impact factor: 11.889**, <https://doi.org/10.1016/j.biortech.2021.126151>
 7. Khursheed B Ansari, Saeikh Zaffar Hassan, Rohidas Bhoi, **Ejaz Ahmad** "Co-pyrolysis of Biomass and Plastic Wastes: A Review on Reactants Synergy, Catalyst Impact, Process Parameter, Hydrocarbon Fuel Potential, COVID-19 Waste Management", **Journal of Environmental Chemical Engineering**, 2021, 9, 6, 106436, 7 Citations, **Impact factor: 7.968**, <https://doi.org/10.1016/j.jece.2021.106436>
 8. Vivek Narisetty, Rylan Cox, Rajesh Reddy Reddy Bommarreddy, Deepti Agrawal, **Ejaz Ahmad**, Kamal Kishore Pant, Anuj Kumar Chandel, Shashi Kant Bhatia, Dinesh Kumar, Binod Parameswaran, Vijai Gupta, Vinod Kumar "Valorisation of Xylose to Renewable Fuels and Chemicals, an Essential Step in Augmenting the Commercial Viability of Lignocellulosic Biorefineries", **Sustainable Energy & Fuels**, 2022, 6, 29–65, 6 Citations, **Impact factor: 6.813**, <https://doi.org/10.1039/D1SE00927C>
 9. **Ejaz Ahmad**, Kamal K Pant, M A Haider "Synthesis and application of TiO₂-supported phosphotungstic acid for ethyl levulinate production", **Materials Science for Energy Technologies**, 2022, 5, 189-196, 1 Citation, <https://doi.org/10.1016/j.mset.2022.02.001> *Corresponding Author
 10. A Negi, MI Alam, TS Khan, S Fatima, MA Haider, **Ejaz Ahmad*** "Techno-economic analysis of a biorenewable route to produce trimellitic acid", **Materials Science for Energy Technologies**, 2022, 5, 45-51, 1 Citation, <https://doi.org/10.1016/j.mset.2021.11.002> *Corresponding Author
 11. Akshay R Mankar, **Ejaz Ahmad**, Kamal K Pant "Insights into reductive depolymerization of Kraft lignin to produce aromatics in the presence of Pt/HZSM-23 catalyst", **Materials Science for Energy Technologies**, 2021, 4, 341-348, 3 Citations, <https://doi.org/10.1016/j.mset.2021.08.006>
 12. Vivek Narisetty, Yassin Amraoui, Alamri Abdullah, **Ejaz Ahmad**, Deepti Agrawal, Binod Parameswaran, Ashok Pandey, Saurav Goel, Vinod Kumar "High yield recovery of 2, 3-butanediol from fermented broth accumulated on xylose rich sugarcane bagasse hydrolysate using aqueous two-phase extraction system", **Bioresource Technology**, 2021, 337, 125463, 9 Citations, **Impact factor: 11.889**, <https://doi.org/10.1016/j.biortech.2021.125463>

13. Goldy Shah, **Ejaz Ahmad**, K.K. Pant, VK Vijay "Comprehending the Contemporary State of Art in Biogas Enrichment and CO₂ Capture Technologies via Swing Adsorption" **International Journal of Hydrogen Energy**, 2020, 46, 9, 6588-6612, 18 Citations, **Impact factor: 7.139**, <https://doi.org/10.1016/j.ijhydene.2020.11.116> *Corresponding Author
14. Prashant Jadhao, **Ejaz Ahmad**, K. K. Pant, KDP Nigam "Environmentally Friendly Approach for the Recovery of Metallic Fraction from Waste Printed Circuit Boards using Pyrolysis and Ultrasonication" **Waste Management**, 2020, 118, 150-160, 29 Citations, **Impact factor: 8.816**, <https://doi.org/10.1016/j.wasman.2020.08.028>
15. **Ejaz Ahmad***, T.S. Khan, M. I. Alam, K. K. Pant, M. A. Haider "Understanding Reaction Kinetics, Deprotonation and Solvation of Brønsted Acidic Protons in Heteropolyacid Catalyzed Synthesis of Biorenewable Alkyl Levulinates" **Chemical Engineering Journal**, 2020, 400, 125916, 26 Citations, **Impact factor: 16.744**, <https://doi.org/10.1016/j.cej.2020.125916> *Corresponding Author,
16. Richard Thomson, Philip Kwong, **Ejaz Ahmad**, K.D.P. Nigam "Clean syngas from small commercial biomass gasifiers; a review of gasifier development, recent advances, and performance evaluation" **International Journal of Hydrogen Energy**, 2020, 45, 41, 21087-21111, 43 Citations, **Impact factor: 7.139**, <https://doi.org/10.1016/j.ijhydene.2020.05.160>
17. S. Quereshi, **Ejaz Ahmad***, K. K. Pant, S. Dutta "Insights into Microwave-Assisted Synthesis of 5-Ethoxymethylfurfural and Ethyl Levulinate in the Presence of Tungsten Disulfide" **ACS Sustainable Chemistry & Engineering**, 2020, 8, 4, 1721-1729, 21 Citations, **Impact factor: 9.224**, (Cover page article) <https://doi.org/10.1021/acssuschemeng.9b03231> *Corresponding Author,
18. **Ejaz Ahmad**, M. I. Alam, K. K. Pant, M. A. Haider "Insights into the synthesis of ethyl levulinate under microwave and nonmicrowave heating conditions" **Industrial & Engineering Chemistry Research**, 2019, 58, 35, 16055-16064, 16 Citations, **Impact factor: 4.326**, <https://doi.org/10.1021/acs.iecr.9b01137>
19. Sonal, **Ejaz Ahmad**, Sreedevi Upadhyayula, K. K. Pant, "Biomass-derived CO₂ rich syngas conversion to higher hydrocarbon via Fischer-Tropsch process over Fe-Co bimetallic catalyst" **International Journal of Hydrogen Energy**, 2019, 27741-27748, 27 Citations, **Impact factor: 7.139**, <https://doi.org/10.1016/j.ijhydene.2019.09.015>
20. S. Quereshi, **Ejaz Ahmad***, K. K. Pant, S. Dutta "Synthesis and Characterization of Zirconia Supported Silicotungstic Acid for Ethyl Levulinate Production" **Industrial & Engineering Chemistry Research**, 2019, 58, 35, 16045-16054, 14 Citations, **Impact factor: 4.326**, *Equal Author, <https://doi.org/10.1021/acs.iecr.9b01659>
21. **Ejaz Ahmad**, N. Jäger, A. Apfelbacher, R. Daschner, A. Hornung, K. K. Pant "Integrated thermo-catalytic reforming of residual sugarcane bagasse in a laboratory scale reactor" **Fuel Processing Technology**, 2018, 171, 277-286, 34 Citations, **Impact factor: 8.129**, <https://doi.org/10.1016/j.fuproc.2017.11.020>

22. S. Quereshi, **Ejaz Ahmad**, K. K. Pant, S. Dutta "*Insights into the Metal Catalyzed Synthesis of Ethyl Levulinate from Biorenewable Feedstocks*" **Catalysis Today**, 2017, 291, 187-194, 31 Citations, **Impact factor: 6.562**, <https://doi.org/10.1016/j.cattod.2016.12.019>
23. D. Gupta, **Ejaz Ahmad**, K. K. Pant, B. Saha "*Efficient utilization of potash alum as a green catalyst for production of furfural, 5-hydroxymethylfurfural and levulinic acid from mono-sugars*" **RSC Advances**, 2017, 7, 41973–41979, 30 Citations, **Impact factor: 4.036**, <https://doi.org/10.1039/C7RA07147G>
24. **Ejaz Ahmad**, M. I. Alam, K. K. Pant, M. A. Haider "*Catalytic and Mechanistic Insights into the Production of Ethyl Levulinate from Biorenewable Feedstocks*" **Green Chemistry**, 2016, **18**, 4804-4823, 169 Citations, **Impact factor: 11.034**, <https://doi.org/10.1039/C6GC01523A> (Cover page article, Most Cited Article in Sustainable Segment of RSC journals 2019),
25. M. I. Alam, S. Gupta, A. Bohre, **Ejaz Ahmad**, T. S. Khan, B. Saha, M. A. Haider "*Development of 6-*amyl-a*-pyrone as a Potential Biomass-derived Platform Molecule*" **Green Chemistry**, 2016, **18**, 6431-6435, 31 Citations, **Impact factor: 11.034**, <https://doi.org/10.1039/C6GC02528E> (Inside Cover Page Illustration),

Invited Talks:

1. **Expert Lecture** on the topic "*Low Temperature Technologies for Biomass Conversion*" as Resource Person in a 14 days Refresher Course in Chemistry on Emerging Trends in Chemical Sciences at Ranchi University on 18.08.2021
2. **Expert Lecture** on the topic "*High Temperature Technologies for Waste to Wealth Conversion*" as Resource Person in a 14 days Refresher Course in Chemistry on Emerging Trends in Chemical Sciences at Ranchi University on 18.08.2021
3. **Expert Lecture** on the topic "*Urban & Rural solid Waste Management*" during Faculty Development program of National Power Training Institute, Shivpuri on 05-08-2021
4. **Invited Talk** on the topic "*Agro Residue Conversion Technologies*" during National Workshop on Solid Waste Management at IIT Delhi on 31-31st July 2021
5. **Expert lecture** on the topic "*Mechanistic Insights into Production of Fuels and Chemicals from Biorenewable Resources*" during six days Online Faculty Development Program (FDP) on Non-conventional Energy Sources: Technologies and Trends at Government Engineering College, Kozhikode from 26-31st July 2021
6. **Expert Lecture** on the topic "*Insights into Biomass Conversion Processes to Produce Energy and Fuels*" during the STTP-II Programme on Energy (Non-Conventional Sources of Energy) Organized by Department of Chemical Engineering, BEANT COLLEGE OF ENGINEERING & TECHNOLOGY, GURDASPUR between 26th April 2021-1st May 2021
7. **Expert Lecture** on the topic "*Understanding the Ethics and Structure of Scientific Writing*" during Faculty Training Academy of BS Abdur Rahman Crescent Institute of Science and Technology is organizing, AICTE – AQIS sponsored Six Days Short Term Training Programme (STTP), 15th-20th Feb., 2021

8. **Expert Lecture** during five days short term course on the *"Nanomaterials for Energy and Environmental applications"* under the theme "sustainable development" from the 18th December 2020 to 22nd December 2020 at MNIT Jaipur
9. **Invited Lecture** on the topic *"Catalytic Transformation of Biorenewable Resources to Fuels and Value-Added Chemical"* during Faculty Development Program on "Recent advances in Nanotechnology, Catalysis, and Biochemical Engineering " in virtual mode from 16th September to 20th September 2020 organized by Veer Surendra Sai University of Technology, Odisha
10. **Invited Lecture** on the topic *"E-waste Management"* during TEQIP faculty development program at Government Engineering College Bharatpur, 2019

Conferences:

1. Ashutosh Negi, Tuhin Surva Khan, Md Imteyaz Alam, M. Ali Haider, and **Ejaz Ahmad**, *"Techno-economic Analysis to Produce Trimellitic Acid from Biorenewable Sources"*, Oral, ACS Spring, April/ 2021.
2. Ashutosh Negi, Tuhin Surva Khan, Md Imteyaz Alam, M. Ali Haider, and **Ejaz Ahmad**, *"Trimellitic Acid production pathways from Biobased Platform Chemicals"*, Poster, 25th Annual Green Chemistry & Engineering Conference, June/ 2021.
3. Ashutosh Negi, Adipu Kiran Kumar, **Ejaz Ahmad**, M. Ali Haider, and S. Fatima, *"Noise Control Applications of Cellulosic Microfibrils Pretreated through Natural Deep Eutectic Solvents"*, Oral, ACS Fall, August/ 2021.
4. Ashutosh Negi, Adipu Kiran Kumar, **Ejaz Ahmad**, M. Ali Haider, and S. Fatima, *"A Process to Utilize Rice Straw for High-value Acoustics Applications"*, AIChE Annual Meeting, November/ 2021, Oral
5. Nidhi Kushwaha, Debarun Banerjee, **Ejaz Ahmad** "Beginner's Guide to Machine Learning Approaches for Application in Heterogeneous Catalysis" Poster, ACS Spring 2021, April/2021
6. Debarun Banerjee, Nidhi Kushwaha, **Ejaz Ahmad** "Environmentally Benign and Sustainable Production of Hydrogen from Lignocellulosic Biomass Derived Compounds via Photo-Reforming" AIChE Annual Meeting 2021
7. Nidhi Kushwaha, Debarun Banerjee, **Ejaz Ahmad** "Elucidating the Role and Catalytic Production of Lignocellulosic Biomass-Derived Butyl Butyrate as Jet Fuel" AIChE Annual Meeting 2021
8. **Ejaz Ahmad**, Shireen Quereshi, K.K. Pant *"Unfolding the Role of Dichalcogenides as Novel Catalytic Materials for Lignocellulosic Biomass Transformation into 5-ethoxymethylfurfural and High-Value Platform Chemicals"* Oral, **ChemCon**, Delhi, Nov/ 2019
9. **Ejaz Ahmad**, Tuhin Suvra Khan, M.I. Alam, K.K. Pant, M. Ali Haider *"Developing Descriptor of Keggin Heteropolyacid for Application in Biomass Conversion Catalysis"* Poster, **MRS Fall Meeting**, USA, Nov./ 2018
10. **Ejaz Ahmad**, K.K. Pant, M Ali Haider *"Catalytic Conversion of Lignocellulosic Biomass into Value Added Chemicals"* Poster, **Gordon Research Conference**, Boston, USA, August/2018
11. **Ejaz Ahmad**, M.I. Alam, K.K. Pant, M Ali Haider *"Microwave-Assisted Synthesis of Ethyl Levulinate in the Presence of Phosphomolybdic Acid"* Poster, **Gordon Research Seminar**, Spain, July/2018
12. **Ejaz Ahmad**, Shireen Quereshi, K.K. Pant, S. Dutta *"Application of transition metal dichalcogenides to*

- produce fuel and high-value chemicals from bio-renewable feedstocks*" Poster, **ACS Green Chemistry Conference**, Portland, USA, June/2018
13. **Ejaz Ahmad**, K.K. Pant *"Lignin Conversion for Sustainable Biorefineries"* American Chemical Society, Delhi University, February 2018
 14. **Invited to & attended "255th ACS National Meeting and Exposition"** New Orleans, Louisiana, USA. March 18-22, 2018
 15. **Ejaz Ahmad** *"Catalytic Valorization of Lignocellulosic Biomass into High Value Commodity Chemicals and Fuels"* (Invited Oral talk by DAAD at University of Kassel, Germany), **31st March 2017-2nd April 2017**
 16. **Ejaz Ahmad**, K.K. Pant *"Mechanistic Insights on Chemicals and Fuel Synthesis from Renewable Biomass Resources via Decarbonylation-Decarboxylation Route"* 6th EuCheMS Chemistry Congress 2016, Seville, Spain, (**Oral Presentation**, 11-15 September 2016)
 17. Yashi Agrawal, **Ejaz Ahmad**, K.K. Pant *"Production of Olefins from Biorenewable Resources: A key to the Future Sustainable Bio-refineries"* 6th EuCheMS Chemistry Congress 2016, Seville, Spain, (**Poster**, 11-15 September 2016)
 18. Yashi Agrawal, **Ejaz Ahmad**, K.K. Pant *"Insights on Catalytic Production of Commodity Chemicals and Light Olefins from Non-Edible Cottonseed Oil"* RESRB 2016; Wrocław (Poland), (**Poster**, June 22-24, 2016)
 19. Shireen Quereshi, **Ejaz Ahmad**, Wojciech Budzianowski, K.K. Pant, Suman Dutta *"Decarboxylation-Decarbonylation: A Promising Route for Production of Olefin and Fuel Range Hydrocarbons from Biorenewable Resources"* RESRB 2016; Wrocław (Poland), (**Poster**, June 22-24, 2016)
 20. Yashi Agrawal, **Ejaz Ahmad**, K.K. Pant *"Catalytic Conversion of Biomass Derived Platform Molecules into Renewable Chemicals/Fuels"* Poster, IITD Open House 2016
 21. Shelaka Gupta, **Ejaz Ahmad**, Md. Imteyaz Alam, M. Ali Haider *"Combined Bio- and Chemo- Catalytic Conversion of Biomass Derived Lactones into Chemicals"* AOC-5, Royal Society of Chemistry & Green Chemistry Network. (**Poster**, 15-17 Jan. 2015)
 22. **Ejaz Ahmad**, M. Ali Haider *"Catalytic Conversion of Biomass Derived Platform Molecules into Renewable Chemicals/Fuels"* Poster, IITD Open House 2015 (**2nd position in PG Category**)

Reviewer Assignments:

1. Reviewer of "Applied Energy" journal
2. Reviewer for Nature "Scientific Reports"
3. Reviewer for "Journal of Cleaner Production"
4. Reviewer for "Bioresource Technology"
5. Reviewer for "International Journal of Hydrogen Energy"
6. Reviewer for "Biomass and Bioenergy"
7. Reviewer for "New Journal of Chemistry"
8. Reviewer for "Chemical Engineering Science"
9. Reviewer for "Materials Science for Energy Technologies"

10. Reviewer for "Renewable Energy"
11. Reviewer for "RSC Advances"
12. Reviewer for "Food and Bioproducts Processing"
13. Reviewer for "ISCRE 26 and APCRE 9"
14. Reviewer of American Chemical Society Books

Other Technical Activities during Doctoral Degree:

- Development of Kinetic Model for the Methanol to Formaldehyde Reaction including by-product Formation, Haldor Topsoe A/S, Haldor Topsoes Alle 1, DK-2800, Denmark
- Evaluation of the Hot Gas Filtration System for Coal Gasifiers developed by Radhe Renewable Energy Development Private Limited, Rajkot, Gujarat, India

Other Awards and honors (during Bachelor Degree):

1. Won **best Paper Presentation Award** from Delhi Technological University, (22-25th Feb. 2010)
2. Won **best Paper Presentation Award** (2nd runner-up position) from Delhi Technological University, (23-27th Feb. 2009)
3. Won **best Paper Presentation Award** (1st position) from Institute of Professional Studies Gwalior, (27-30th April 2010)
4. Won **best Paper Presentation Award** (2nd runner-up position) from IIT ROORKEE, (20-22nd March 2009)
5. Won **best Paper Presentation Award** (2nd runner-up position) from NIT DURGAPUR, (26th Feb.-1st March 2009)
6. Won **best Paper Presentation Award** (1st position) from ITM University, Gwalior, (16-18th Nov. 2009)
7. Won **best Paper Presentation Award** (1st position) from I.E. JIWAJI UNIVERSITY Gwalior, (2008)
8. Participated in "**SRK-ISA-RC-24 International Conference on Water, Environment, Energy, and Society**". (28-30th June 2009)
9. Participated in more than 10 conferences and techfests.
10. Won **1st prize** during "**CULTURAL FEST**" organized by I.E. JIWAJI UNIVERSITY Gwalior.
11. Winner of "**War of Colleges**" organized by Radio Chaska and Idea Cellular.
12. Won Several Awards during School Life e.g. For Debate, Science Model etc.

Analytical Instruments Handled:

- Well Equipped on HPLC, GC-FID, GC-TCD, GC-MS, Proton and Carbon NMR, HPLC, UV-vis
- Familiar with TGA, TPR, TPD, BET, XRD, Raman, FT-IR, SEM, FESEM, HR-TEM, XPS
- Work experience on Anton Paar Microwave Reactor, Oil Bath Reactor, Parr Batch reactor up to 300 Bar.g pressure as well as 80 kg/h pilot plant for biomass conversion.

Software Skills:

- ASPEN, HYSYS, PROMAX, HTRI, MSP, MS EXCEL & Primavera
- Hands on Experience of Material Studio Dmol3 for DFT Calculations

Major achievements in Job:

- Worked as Assistant Manager Technology Development in Arcoy Biorefinery, World's first **12TPA Bagasse to furfural & Furfuryl Alcohol Plant based on Suprayield Technology** developed in collaboration with International Furan Technology and DalinYebo. Achieved commercial production up to 60%.
- Complete Gas Conditioning Package for BAIJI, IRAQ
- Complete package solution of Gas Conditioning Skid for ONGC Offshore
- Complete Process Engineering of Diesel Filtration Skid for Bharat Oman Refinery Limited (Consultant: Mott McDonald)
- Complete package Process Engineering of Gas Conditioning & Heating Skid for PD Oman (Consultant: ABB, Italy)
- Complete Process Engineering of Gas Conditioning & Heating Skid for PGPL (TATA PROJECTS LIMITED)
- Successfully Designed 2X450 Nm³/hr VPSA based Oxygen Plant for UHDE India based on latest technologies with capacity improvement by 12% from previous model & 25% reduction in the total size of the plant.
- Successfully Designed 3200 Nm³/hr Natural Gas Fired Inert Gas Generator for BARDSHEER Steel Industries in IRAN
- Successfully Completed PG Trial of 2X450 Nm³/hr VPSA based Oxygen plant commissioning

Declaration:

I hereby declare that above information is totally authentic and true.

Date:

Place: Dhanbad

(Ejaz Ahmad)