Dr. Saikat Dutta

Assistant Professor, Department of Chemistry

National Institute of Technology Karnataka (NITK), Surathkal, Mangalore 575025, Karnataka, India

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Personal Information:

Date of Birth: February 05, 1984

Sex: Male

Nationality: Indian

Languages: 1. English: Proficient, 2. Hindi: Proficient, 3. Bengali (native): Proficient

Hobbies: Gardening, Traveling, Cooking

Mailing Address: 610 Science Block, Dept. of Chemistry, NITK, Surathkal, Mangalore-575025, Karnataka, India.

Educational Qualifications:

Bachelor of Science (2001-2004) in Chemistry (Honors.) along with Physics and Mathematics from the University of Calcutta, Kolkata, India. Secured **First Class** (72.38%) and ranked **7th** in the university.

Master of Science (2004-2006) in Chemistry from Indian Institute of Technology Kanpur (IITK), Kanpur, India. Secured **First Class** (8.2/10, 82%).

Doctor of Philosophy (2006-2010) at the Department of Chemistry, University of Iowa, Iowa City, Iowa, USA. Passed all qualifying exams and exempted from taking any undergraduate coursework. Degree awarded on the 14th of May, 2010.

Professional background:

Assistant Professor (June, 2015 – To Date):

Assistant Professor at the Department of Chemistry, National Institute of Technology Karnataka (NITK), Surathkal, Mangalore-575025, Karnataka, India. Responsibilities include teaching chemistry (both theory and practical) to undergraduate and graduate students, write research proposal for external funding, mentor M.Sc. and Ph.D. students, and administrative responsibilities.

Assistant Professor (July, 2014 – May, 2015):

Assistant Professor at the Department of Chemistry, University of Petroleum & Energy Studies (UPES), Dehradun-248007, Uttarakhand, India. Responsibilities included teaching chemistry (both theory and practical) courses to B.Tech., research and development activities, and administrative academic.

Post-doctoral Research Associate (June, 2010 – June, 2014)

Post-doctoral research associate at the Department of Chemistry, University of California Davis, Davis, California 95616, USA.

Research Experience:

Visiting researcher at the University of California Davis, CA95616, USA: (June, 2018 – November, 2018)
Title of Research: *Catalytic isomerization of biomass-derived isosorbide*

Post-doctoral research at the University of California Davis, CA95616, USA: (June, 2010 – July, 2014)
Title of Research: *Renewable, efficient syntheses of fuels and chemicals from cellulose-derived 5-(chloromethyl)furfural*

Doctoral research at the University of Iowa, Iowa City, IA52242, USA: (August, 2006 – May, 2010)
Title of Thesis: *Solid-state reactions in co-crystals: Applications in synthetic chemistry and materials science*

M.Sc. research at the Indian Institute of Technology Kanpur (IITK), India: (Jan, 2006 – April, 2006)
Title of Thesis: *Modular synthesis of self-assembled porous structures using multidentate ligands*

Profile in Google Scholar:
https://scholar.google.com/citations?hl=en&user=qPFwWdcAAAAJ&view_op=list_works&sortby=pubdate

Total Citations: 980; h-index: 17, i10-index: 22.

Courses Taught:

Graduate Courses:
Analytical Chemistry-I (CY705)
Organic Chemistry Practical-I (CY707)
Spectroscopy (CY754)
Spectroscopy: Applications in Chemistry (CY804)
Applied Organic Chemistry (CY864)

Undergraduate Courses:
Chemistry (CY110) (theory)
Chemistry (CY111) (lab)

Research Grants:

1. Research grant awarded by CSIR, India worth **Rs. 12.5 L** for the research proposal titled "Chemo-catalytic Conversion of Cellulosic Biomass into Fuels and Specialty Chemicals via 5-(Trifluoroacetoxymethyl)furfural". (May, 2017 – April, 2020)
2. Research grant awarded by Department of Science and Technology (DST-SERB), India worth **Rs. 28.99 L** for the research proposal titled *"Renewable synthesis of hydrocarbon fuels and specialty chemicals from cellulose-derived angelica lactone".* (April, 2016 – March, 2019)

3. Research grant by Karnataka State Council for Science and Technology (KSCST) under the Student Project Program (SPP) for the proposal titled 'Chemical-catalytic valorization of paper wastes at the NITK campus' Rs. 5,500 (May, 2016-July, 2016)
4. Research grant by Maire Tecnimont S.p.A. Milan, Italy through Indian Subsidiary Tecnimont Private Limited, Mumbai, through Maire Tecnimont for research in Waste Management and Circular Economy NITK Surathkal-under NITK-KREC Endowment Fund-reg. worth for **Rs. 6.8 L** titled "Food Waste to hydrogen using Aqueous Phase Reforming". (MTE-PDF)

Thesis Guidance:

Master of Science (M.Sc.):
Eleven completed, **One** ongoing
Doctor of Philosophy (Ph.D.):
THREE awarded; **Nine** ongoing
Post-Doctoral Fellow (PDF):
One ongoing

Awards & Honors:

1. **Travel allowance** for attending Indo-US International Conference on Advanced Lignocellulosic Biofuels (Indo-US CALB-2014) at Indian Institute of Chemical Technology (IICT), Hyderabad, India; awarded by the University of Petroleum & Energy Studies (UPES), Dehradun 248007, Uttarakhand, India (November, 2014).
2. **Travel fellowship** for the 247th National ACS Conference, Dallas, TX, 2014; awarded by the University of California Davis, Davis, California, USA (March, 2014)
3. **Summer fellowship** awarded by the University of Iowa, Iowa City, USA (May, 2009).
4. **Travel fellowship** for the 235th National ACS Conference, New Orleans, LA, 2008; awarded by the Department of Chemistry, University of Iowa, Iowa City, USA.
5. Graduate Record Examination (92%, 2006) in Chemistry. **Scored 1270/1600** in computer-based GRE in English and **250/300** in the computer-based Test of English as Foreign Language (TOEFL).
6. GATE (AIR 6, 99.47%, 2006), LS+JRF (shortlisted for SPM scholarship), JAM (AIR 12, 2004).

Professional Training/Workshop:

1. Month-long training on 'Information & Communication Technologies (ICT)' in Engineering Education: Jan, 2015 from Indian Institute of Technology Bombay (IITB), Mumbai, India.

Publications:

1. **Dutta, S.**; Georgiev, I. G.; MacGillivray, L. R.**,** Metal-Organic Frameworks with Photochemical Building Units. Book Chapter, John Wiley & Sons Inc. DOI:10.1002/9780470606858.ch10
2. Mascal, M.; **Dutta, S.**, Synthesis of the natural herbicide δ-aminolevulinic acid from cellulose-derived 5-(chloromethyl)furfural. *Green Chem.*, **2011**, *13*, 40-41. DOI:10.1039/C0GC00548G (**I.F. 11.034**)

3. **Dutta, S.**; Bučar, D. -K.; MacGillivray, L. R., Resorcinol-templated synthesis of a cofacial terpyridine in crystalline π-stacked columns. *Org. Lett.*, **2011**, *13*, 2260-2262. DOI:10.1021/ol200532t **(I.F. 6.027)**

4. Mascal, M.; **Dutta, S.**, Synthesis of ranitidine (Zantac) from cellulose-derived 5-(chloromethyl)furfural. *Green Chem.*, **2011**, *13*, 3101-3102. DOI:10.1039/C1GC15537G **(I.F. 11.034)**

5. **Dutta, S.**; Bučar, D. -K.; Elacqua, E.; MacGillivray, L. R., Single-crystal-to-single-crystal direct cross-linking and photopolymerisation of a discrete Ag(I) complex to give a 1D polycyclobutane coordination polymer. *Chem. Commun.*, **2013**, *49*, 1064-1066. DOI:10.1039/C2CC36458A **(I.F. 6.222)**

6. Mascal, M.; **Dutta, S.**; Gandarias, I., Hydrodeoxygenation of the angelica lactone dimer, a cellulose-based feedstock: simple, high-yield synthesis of branched C_7–C_{10} gasoline-like hydrocarbons. *Angew. Chem. Int. Ed.*, **2014**, 53, 1854-1857. doi/10.1002/anie.201308143. DOI:10.1002/anie.201308143 **(I.F. 15.34)**

7. Chang, F.; **Dutta, S.**; Becnel, J. J.; Estep, A. S.; Mascal, M., Synthesis of the insecticide prothrin and its analogues from biomass-derived 5-(chloromethyl)furfural. *J. Agric. Food Chem.*, **2014**, *62*, 476-480. DOI:10.1021/jf4045843 **(I.F. 5.895)**

8. Mascal, M.; **Dutta, S.**, Chemical-catalytic approaches to the production of furfurals and levulinates from biomass. *Top. Curr. Chem.*, **2014**, *353*, 41-84. DOI:10.1007%2F128_2014_536#page-1 **(I.F. 8.905)**

9. Hutchins, K. M.; **Dutta, S.**; Loren, B. P.; MacGillivray, L. R., Co-Crystals of a Salicylideneaniline: Photochromism Involving Planar Dihedral Angles. *Chem. Mater.*, **2014**, *26*, 3042-3044. DOI:10.1021/cm500823t **(I.F. 10.508)**

10. **Dutta, S.**; Mascal, M., Novel Pathways to 2,5-Dimethylfuran via Biomass-Derived 5-(Chloromethyl)furfural. *ChemSusChem*, **2014**, *7*, 3028-3030. DOI:10.1002/cssc.201402702/abstract **(I.F. 9.140)**

11. **Dutta, S.**; Wu, L.; Mascal, M., Efficient, metal-free production of succinic acid by oxidation of biomass-derived levulinic acid with hydrogen peroxide. *Green Chem.*, **2015**, *17*, 2335-2338. DOI: 10.1039/C5GC00098J **(I.F. 11.034)**

12. Wu, L.; **Dutta, S.**; Mascal, M., Efficient, chemical-catalytic approach to the production of 3-hydroxypropanoic acid by oxidation of biomass-derived levulinic acid with hydrogen peroxide. *ChemSusChem*, **2015**, *8*, 1167-1169. DOI:10.1002/cssc.201500025 **(I.F. 9.140)**

13. **Dutta, S.**; Wu, L.; Mascal, M., Production of 5-(chloromethyl)furan-2-carbonyl chloride and furan-2,5-dicarbonyl chloride from biomass-derived 5-(chloromethyl)furfural (CMF). *Green Chem.*, **2015,** *17*, 3737-3739. DOI:10.1039/C5GC00936G **(I.F. 11.034)**

14. Chang, F.; **Dutta, S.***; Mascal, M.*, Hydrogen-economic synthesis of gasoline-like hydrocarbons by catalytic hydrodecarboxylation of the biomass-derived angelica lactone dimer. *ChemCatChem*, **2017**, *9*, 2622-2626. DOI:10.1002/cctc.201700314 **(I.F. 5.497)**

15. Onkarappa, B. S.; **Dutta, S.***, High-Yielding Synthesis of 5-(alkoxymethyl)furfurals from Biomass-Derived 5-(halomethyl)furfural (X=Cl, Br). *ChemistrySelect*, ***2019***, *4*, 5540-5543. DOI:10.1002/slct.201900279 **(I.F. 2.307)**

16. Mohan, A.; **Dutta, S.**; Madav, V., Characterization and upgradation of crude tire pyrolysis oil (CTPO) obtained from a rotating autoclave reactor. *Fuel*, **2019**, *250*, 339-351. DOI:10.1016/j.fuel.2019.03.139 **(I.F. 8.035)**

17. Tiwari, R.; Mal, S. S.*****; **Dutta, S*.,** A scalable and high-yielding synthesis of 2-(2-furyl)1,3-dioxolane from biomass-derived furfural and ethylene glycol using heteropoly acids as green catalyst. *Asian J Chem*., **2019**, *31*, 1599-1602. DOI:10.14233/ajchem.2019.21994 **(I.F. 0.14)**

18. Onkarappa, S. B.; Javoor, M.; Mal, S. S.*; **Dutta, S.*,** Efficient and Scalable Production of Alkyl Levulinates from Cellulose-Derived Levulinic Acid Using Heteropolyacid Catalysts. *ChemistrySelect*, **2019**, *4*, 2501-2504. DOI:10.1002/slct.201803641 **(I.F. 2.307)**

19. Onkarappa, B. S.; **Dutta, S.*,** Phase Transfer Catalyst Assisted One-Pot Synthesis of 5-(Chloromethyl)furfural from Biomass-Derived Carbohydrates in a Biphasic Batch Reactor. *ChemistrySelect*, **2019**, *4*, 7502-7506. DOI:10.1016/j.fuproc.2019.106192 **(I.F. 2.307)**

20. Fraqueza G.; Fuentes J.; **Dutta, S.**; Mal, S. S.; Roller, A.; Giester, G.; Rompel, A.; Aureliano, M., Inhibition of Na^+/K^+- and Ca^{2+}-ATPase activities by phosphotetradecavanadate. *J. Inorg. Biochem.*, **2019**, *197*, 110700. DOI:10.1016/j.jinorgbio.2019.110700 **(I.F. 4.336)**

21. Tiwari, R.; Rahman, A.; Bhat, N. S.; Onkarappa, S. B.; Mal, S. S.*; **Dutta, S.*,** Efficient Preparation of Alkyl Benzoates by Heteropolyacid-Catalysed Esterification of Benzoic Acid under Solvent-Free Condition. *ChemistrySelect*, **2019**, *4,* 9119-9123. DOI:10.1002/slct.201902208 **(I.F. 2.307)**

22. Onkarappa, S.B.; Tiwari, R.; Mal, S.S.*; **Dutta, S.***, Straightforward synthesis of calcium levulinate from biomass-derived levulinic acid and calcium carbonate in egg-shells. *Materials today: Proceedings* (**2019**). DOI: 10.1016/j.matpr.2019.06.403

23. Onkarappa, B. S.; Bhat, N. S.; Parashuram, D.; **Dutta, S.***, Catalytic Conversion of Biomass-Derived Carbohydrates into Levulinic Acid Assisted by a Cationic Surface Active Agent. *ChemistrySelect*, **2019**, *4*, 13021-13024. **(I.F. 2.307)**

24. Mascal, M.; **Dutta, S.,** Synthesis of highly-branched alkanes for renewable gasoline. *Fuel Process Technol.*, **2020**, *197*, 106192. DOI:10.1016/j.fuproc.2019.106192 **(I.F. 8.129)**

25. Onkarappa, S. B.; Bhat, N. S.; **Dutta, S.***, Preparation of alkyl levulinates from biomass-derived 5-(halomethyl)furfural (X = Cl, Br), furfuryl alcohol, and angelica lactone using silica-supported perchloric acid as a heterogeneous acid catalyst. *Biomass Convers. Biorefin.*, **2020**. DOI:10.1007/s13399-020-00791-1 **(I.F. 4.050)**

26. Anchan, H. N.; **Dutta, S.***, Recent advances in the production and value addition of some hydrophobic analogs of biomass-derived 5-(hydroxymethyl)furfural. *Biomass Convers. Biorefin.*, **2021**. DOI: 10.1007/s13399-021-01315-1 (**I.F. 4.050**)

27. **Dutta, S.***, Production of 5-(formyloxymethyl)furfural from biomass-derived sugars using mixed acid catalysts and upgrading into value-added chemicals. *Carbohydrate Res.*, **2020**, *497*, 108140. DOI: 10.1016/j.carres.2020.108140 (**I.F. 2.975**)

28. Bhat, N. S., Vinod, N., Onkarappa, S. B.; **Dutta, S.***, Hydrochloric acid-catalyzed coproduction of furfural and 5-(chloromethyl)furfural assisted by a phase transfer catalyst. *Carbohydrate Res.*, **2020**, *496*, 108105. DOI: 10.1016/j.carres.2020.108105 (**I.F. 2.975**)

29. Bhat, N. S., Mal, S. S. **Dutta, S.***, $[Et_3NH][HSO_4]$ as an efficient and inexpensive ionic liquid catalyst for the scalable preparation of biorenewable chemicals. *Biomass Convers. Biorefin.*, **2020**. DOI: 10.1007/s13399-020-01052-x (**I.F. 4.050**)
30. **Dutta, S.***, Bhat, N. S., Catalytic synthesis of renewable *p*-xylene from biomass-derived 2,5-dimethylfuran: a mini review. *Biomass Convers. Biorefin.*, **2020**. DOI:10.1007/s13399-020-01042-z (**I.F. 4.050**)
31. Friscis, T.; Elacqua, E.; **Dutta, S.**; Oburn, S. M.; MacGillivray, L. R., Total Syntheses Supramolecular Style: Solid-State Construction of [2.2] Cyclophanes with Modular Control of Stereochemistry. *Cryst. Growth Des.*, **2020**, *20*, 2584-2589. DOI: 10.1021/acs.cgd.9b01712 (**I.F. 4.010**)
32. Vinod, N.; Tiwari, R.; Bhat, N. S.; Mal, S. S.*; **Duta, S.***, High-yielding synthesis of alkyl stearates from stearic acid within a closed batch reactor using heteropolyacids as efficient and recyclable catalyst. *AIP Proceedings*, **2020**, *2225*, 070004. DOI: 10.1063/5.0005580
33. **Dutta, S.***; Bhat, N. S.; Vinod, N. Oxidation and Reduction of Biomass-Derived 5-(Hydroxymethyl)furfural and Levulinic Acid by Nanocatalysis. In *Advanced Heterogeneous Catalysts Volume 1: Applications at the Nano-Scale*, pp. 239-259. **DOI:** 10.1021/bk-2020-1359.ch008
34. Tiwari, R.; Bhat, N.S.; Mal, S.S.*; **Dutta, S.***, The hydrogen peroxide-mediated oxidation of biorenewable furfural to 2(5H)-furanone using heteropolyacids supported on ammonium Y zeolite as the catalyst. *Materialstoday: Proceedings*, **2021**. DOI: 10.1016/j.matpr.2020.12.1180
35. Bhat, N. S.; Kumar, R.; Jana, A.; Mal, S. S.; **Dutta, S.***, Selective oxidation of biomass-derived furfural to 2(5H)-furanone using trifluoroacetic acid as the catalyst and hydrogen peroxide as a green oxidant. *Biomass Convers. Biorefin.*, **2021**. DOI:10.1007/s13399-021-01297-0 (**I.F. 4.050**)
36. Bhat, N. S.; Mal, S. S.; **Dutta, S.***, Recent advances in the preparation of levulinic esters from biomass-derived furanic and levulinic chemical platforms using heteropoly acid (HPA) catalysts. *Molecular Catal.*, **2021.** DOI: 10.1016/j.mcat.2021.111484 (**I.F. 5.089**)
37. Mohan, A.; **Dutta, S.**; Balusamy, S.; Madav, V., Liquid fuel from waste tires: novel refining, advanced characterization and utilization in engines with ethyl levulinate as an additive. *RSC Adv.*, **2021**, *11*, 9807-9826. DOI: 10.1039/D0RA08803J (**I.F. 4.036**)
38. **Dutta, S.***; Bhat, N. S., Recent advances in the value addition of biomass-derived levulinic acid: A review focusing on its chemical reactivity patterns. *ChemCatChem*, *13*, 3202-3222. DOI: 10.1002/cctc.202100032 **(I.F. 5.497)**
39. Santhra, K. P.; Salin, A.; **Dutta, S.**; Mandal, S., A roadmap to UV-protective natural resources: classification, characteristics, and applications. *Mater. Chem. Front.*, **2021**. DOI: 10.1039/D1QM00741F **(I. F. 8.683)**
40. Aravind Kumar, J; Krithiga, T; Vijai Anand, K; Sathish, S.; Karthick Raja Namasivayam, S.; Renita, A. A.; Hosseini-Bandegharaei, A.; Praveenkumar, T. R.; Rajasimman, M., Bhat, N. S.; **Dutta, S.***, Kinetics and regression analysis of phenanthrene adsorption on the nanocomposite of CaO and activated carbon: Characterization, regeneration, and mechanistic approach. *J. Mol. Liquids*, **2021**, *334*, 116080. DOI: 10.1016/j.molliq.2021.116080 **(I. F. 6.633)**

41. Saska, J.; **Dutta, S.**; Kindler, J.; Zuend, S. J; Mascal, M., Efficient and Scalable Production of Isoidide from Isosorbide. *ACS Sustainable Chem. Eng.*, **2021**, *9*, 11565-11570. DOI: 10.1021/acssuschemeng.1c04141 **(I. F. 9.224)**
42. Vinod, N.; **Dutta, S.***, Energy Densification of Biomass-Derived Furfurals to Furanic Biofuels by Catalytic Hydrogenation and Hydrodeoxygenation Reactions. Sustainable Chem., 2021, *2*, 521-549. DOI: 10.3390/suschem2030029**.**
43. **Dutta, S.***, Valorization of biomass-derived furfurals: reactivity patterns, synthetic strategies, and applications. *Biomass Convers. Biorefin.*, **2021**. DOI: 10.1007/s13399-021-01924-w**. (I. F. 4.050)**
44. Kella, T.; Vennathan, A. A.; **Dutta, S.;** Mal, S. S.; Shee, D., Selective dehydration of 1-butanol to butenes over silica supported heteropolyacid catalysts: Mechanistic aspect. *Mol. Catal.*, 2021, *516*, 111975. DOI: 10.1016/j.mcat.2021.111975. (**I. F. 5.089**)
45. **Dutta, S.***; Bhat, N. S., Catalytic transformation of biomass-derived furfurals to cyclopentanones and their derivatives: A review. ACS Omega, 2021, 6, 35145-35172. DOI: 10.1021/acsomega.1c05861 (**I. F. 4.132**)
46. **Dutta, S.***; Bhat, N. S., Chemocatalytic value addition of glucose without carbon-carbon bond cleavage/formation reactions: Overview. RSC Adv., 2022, 12, 4891-4912. DOI: 10.1039/D1RA09196D (**I. F. 4.036**)
47. Bhat, N. S.; Hegde, S. L.; **Dutta, S.***; Sudarsanam, P.*, Efficient synthesis of 5-(hydroxymethyl)furfural esters from polymeric carbohydrates using 5-(chloromethyl)furfural as a reactive intermediate. *ACS Sustainable Chem. Eng.*, 2022, *10*, 5803-5809. DOI: 10.1021/acssuschemeng.1c08571 (**I. F. 9.224**)
48. Anchan, H. N.; Bhat, N. S.; Vinod, N.; Prabhakar, P. S.; **Dutta, S.***, Catalytic conversion of glucose and its biopolymers into renewable compounds by inducing C–C bond scission and formation. *Biomass Convers. Biorefin*., 2022. DOI: 10.1007/s13399-022-03105-9. (**I. F. 4.050**)
49. **Dutta, S.***, Greening the Synthesis of Biorenewable Fuels and Chemicals by Stoichiometric Reagentless Organic Transformations. Industrial & Engineering Chemistry Research, 2022, 61, 12884-12904. DOI: 10.1021/acs.iecr.2c02322. (**I. F. 4.326**)
50. Vinod, N.; Onkarappa, S. B.; Girija, V. M.; **Dutta, S.***, A straightforward preparation of levulinic esters from biorenewable levulinic acid using methanesulfonic acid supported on silica gel (MSA-SG) as an efficient heterogeneous catalyst. Materials Today: Proceedings, 2022. DOI: 10.1016/j.matpr.2022.08.389.

Patents:

1. Dutta, S.; Mascal, M.; Masuno, M., Methods for preparing alkylfurans US9556137B2 (**Granted**). https://patents.google.com/patent/US9556137B2/en
2. Dutta, S.; Mascal, M., Synthesis of alkylfurans US9868712B2 (**Granted**) https://patents.google.com/patent/US9868712B2/en
3. Dutta, S.; Mascal, M.; Wu, L., Preparation of compounds from levulinic acid US10647670B2 (**Granted**) https://patents.google.com/patent/US10647670B2/en

4. Dutta, S.; Mohan, A.; Madav, V., Method, system and apparatus for upgrading tire pyrolysis oil Indian Patent 347787 (**Granted**)
5. Dutta, S.; Wu, L.; Mascal, M., Methods for preparing acid halide compounds WO2016191682 A1 https://www.google.com/patents/WO2016191682A1?cl=en
6. Dutta, S.; Saska, J.; Mascal, M., Isomerization of isohexides (**Published**, PCT/EP2020/076254)
7. Dutta, S.; Wu, L.; Mascal, M., Methods for preparing acid halide compounds WO2016191682A1 (**Published**)
8. Dutta, S.; Mascal, M.; Gandarias, I., Gasoline prepared from biomass-derived levulinic acid US20160264876A1 (**Published**)
9. Dutta, S.; Bhat, N. S.; Mal, S.S.; Onkarappa, S. B., Efficient production of furanics and levulinic acid from carbohydrates in aqueous hydrochloric acid using quaternary ammonium salt as surfactant Indian Patent, Patent Number 403776 (**Granted)**.

Media Highlights:

1. Mascal, M.; **Dutta, S.**; Gandarias, I. *Angew. Chem. Int. Ed.*, 2014, 53, 1854-1857. doi/10.1002/anie.201308143. Highlighted in Chemical and Engineering News (C&EN), 2014, link: http://cen.acs.org/articles/92/i6/High-Octane-Biogasoline.html.
2. Mascal, M.; **Dutta, S.**; Gandarias, I. *Angew. Chem. Int. Ed.*, 2014, 53, 1854-1857. ABC news highlight: http://abc7news.com/automotive/lab-breakthroughs-promise-new-fuels/84734/.
3. **Dutta, S.;** Wu, L.; Mascal, M. *Green Chem*, **2015**, *17*, DOI:10.1039/C5GC00098J AND Wu, L.; **Dutta, S.**; Mascal, M. *ChemSusChem*, **2015,** DOI: 10.1002/cssc.201500025 Highlighted in Chemical and Engineering News (C&EN), 2015, http://cen.acs.org/articles/93/i11/Flipping-Switch-Biobased-Chemicals.html

Recent Invited Research Talks:

1. "Chemicalcatalytic Value Addition of Biomass: Challenges and Opportunities": Online conference on Recent Trends on Advanced Chemistry, 08-13, June, 2020, University of Petroleum & Energy Studies (UPES), Dehradun, Uttarakand, India.
2. "Chemical-catalytic Value Addition of Cellulosic Biomass: Challenges and Opportunities": Online webinar, October 31, **2020**, Dept. of Chemistry, NIT Manipur.
3. "Heteropoly acids as efficient and recyclable catalysts for esterification of alkyl- or aryl carboxylic acids": International conference on Advances in Chemical and Materials Science, October 17-19, **2019**, Department of Chemistry, Mangalore University, Karnataka.
4. "Transforming Biomass Waste into Transportation Fuels and Chemicals: Opportunities and Challenges": State Level Conference on Materials for Renewable Energy Applications: Challenges in Condensed Matter Physics, December 14, **2021**, Dept. of Physics, St. Aloysius College (Autonomous), Mangalore, Karnataka, India.
5. "Rediscovering the Role of Organic Synthesis in Biomass Value Addition": Online Webinar (RUSA 7 DST-FIST Supported), February 7, **2022**, Dept. of Chemistry, Sree Narayana College, Punalur, Kerala, India.