NAME: *Prof. BHARI MALLANNA NAGARAJA*
(Prof. B.M. NAGARAJA)

DATE OF BIRTH: 03-03-1974

SEX: Male

NATIONALITY: Indian

MARITAL STATUS: Married

PRESENT ADDRESS
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EDUCATIONAL QUALIFICATIONS:

Degree	Year	Duration of Degree	Board/University	Subjects
B.Sc	1995	1992-1995	Gulbarga University, Gulbarga, India	Mathematics Physics Chemistry
B.Ed.	1997	1996-1997	Gulbarga University, Gulbarga, India	Physics and Mathematics
M.Sc	2000	1998-2000	Gulbarga University, Gulbarga, India	Physical Chemistry
Ph.D.	2008	2000-2006 Awarded-Jan 2008	Jawaharlal Nehru Technological University, Hyderabad, India (Work Done: Indian Institute of Chemical Technology, Hyderabad)	CHEMISTRY: Inorganic & Physical Chemistry

MEMBERSHIP & PROFESSIONAL ACTIVTIY:

1. **Life member** of ***Catalysis Society of India***
2. **Editorial advisory board member (Reviewer)**
   (i). The open Catalysis Journal and Current Catalysis (Bentham Science Publishers).

(ii). Catalysis Today, (iii). Applied Catalysis-A, (iv). International Journal of Hydrogen Energy (v). Bioresource Technology, (vi). Fuel. (vii). Catalysis Communications, (viii) RSC Advance and (ix). Journal of Industrial and Engineering Chemistry, (x). RSC advance, (xi). ACSCatalysis

3. Chair Person in 14th Japan-Korea Symposium on Catalysis held in Nagoya, Japan on July-1-3,2013.
4. Executive committee member in Catalysis Society of India-Bangalore Chapter-2015
5. Best researcher award from Jain University Trust 2016 & 2018

EMPLOYMENT HISTORY

Sl. No.	Date	Name & Address of Employer	Position Title	Nature of work/duties
1.	Since 10-12-2013	**Prof. B.M. Nagaraja** Professor Center for Nano & Material Science Jain University, Jakkasandra (Post) Kanakapura (Taluk), Ramanagara (District), Karantaka (State) INDIA-562112 Tel No.: +91 8105523666, Fax: +91 80 27577199 E-mail: bm.nagaraja@jainuniversity.ac.in	Full time Professor (India)	Project: 1. Production of hydrogen through the coupling of dehydrogenation and hydrogenation for the synthesis of cyclohexanone and furfuryl alcohol over different promoters supported on basic oxide catalysts. 2. Synthesis of mesoporous nano-structured bimetallic Cu-Ni/MgO-Al_2O_3 Material for dry reforming of methane to synthesis gas
2.	24-11-2011 to 24-11-2013	**Prof. Kwang-Deog-Jung** Principal Research Scientist Korea Institute of Science and Technology(KIST), Clean Energy Research Center P.O. Box No.:131 Cheongryang Seoul, South Korea Tel No.: +82-2958-5218 Fax: +82-2958-5219 E-mail: jkdcat@kist.re.kr	Visiting Scientist (South Korea)	Project: Dehydrogenation of butane and propane to hydrocarbons using mesoporous nano materials. Project II: SO_3 decomposition using SiC supported catalysts. Different supports were used such as ZrO_2, CeO_2, CeO_2- ZrO_2 and $\eta,\gamma,\theta,\delta$-$Al_2O_3$, active metals are Pt, Pd and the Cu, Sn, Zn acts as a promoters in the Butane dehydrogenation reaction.
3.	02-10-2008 to 01-10-2011 (IRCSET-ERA Europe	**Prof. Julian R.H. Ross** Professor & Senior Editor of Catalysis Today Chemical & Environmental Sciences Department University of Limerick Limerick, Republic of Ireland. Tel: +353 (0)91637482 Fax: +353 (0) 61 202734	Post Doctoral Researcher (Republic of Ireland)	Project: Chemical Activation of Carbon Dioxide and Methane to produce hydrogen and syn gas using nano Cu or Ni/MgO/ZrO_2/Al_2O_3 catalysts, Preparation of catalyst using robotic system, Identification of carbon deposition analyzing by Intelligent gravimetric system.

	an Fellowship	E-mail: Julian.Ross@ul.ie		
4.	30-01-2007 to 06-09-2008	**Prof. Kwang-Deog-Jung** Principal Research Scientist Korea Institute of Science and Technology(KIST), Clean Energy Research Center P.O. Box No.:131 Cheongryang Seoul, South Korea Tel No.: +82-2958-5218 E-mail: jkdcat@kist.re.kr	Visiting Scientist (South Korea)	Preparation of Mesoporous $BaSO_4$ nano material by dispersion & spray pyrolysis method and Pt support on $BaSO_4$ is used for the application of SO_3 decomposition. Finally this catalyst is used for sulphuric acid decomposition to hydrogen production.
5.	23-11-2000 to 30-10-2006	**Dr. K.S. Rama Rao** Scientist Inorganic & Physical Chemistry Division Indian institute of Chemical Technology, Tarnaka, Hyderabad, Andhra Pradesh (State) Hyderabad, INDIA-500 007 Tel. No.: +91-40-2719-1712 Fax: +91-40- 2716-0921 E-mail: ksramarao@iict.res.in	Senior Research Fellow (India)	Ph. D: Development of copper-magnesia based catalysts for vapor phase hydrogenation of furfural and dehydrogenation of cyclohexanol: A novel coupling process. Independent & simultaneous hydrogenation & dehydrogenation reactions. Industrial Projects: Method of preparation of catalyst, Characterization, Activity measurement, Involving in the project ie., Hydrodechlorination reaction, Aromatization of Isophorone, Removal of Fluoride ion & water purification using carbon supported catalysts. etc.,

RESEARCH PROFILE

(a). List of Project Involved

1. Hydrodechlorination of CH_2F_2 to CCl_2F_2 – (CFC to HFC).
2. Electro-chemical deposition method in controlling microorganisms in water using Ag/C catalyst.
3. Aromatization of isophorone transformation.
4. Removal of Fluoride ions from water by using carbon supported activated alumina catalysts.

5. **Ph.D. work:** Development of copper-magnesia based catalysts for vapor phase hydrogenation of furfural and dehydrogenation of cyclohexanol: A novel coupling process.

6. **Post Doctoral work**

South Korea (24-11-2011 to 24-11-2013): Dehydrogenation of Butane and Propane to C1-C6 hydrocarbons. Preparation of mesoporous of SiC catalyst for SO_3 decomposition

Republic of Ireland (02-10-2008 to 01-10-2011): Preparation and development of highly selective and stable catalyst and effect of potassium on Ni catalysts with different supports for dry reforming of methane to synthesis gas.

South Korea (30-01-2007 to 06-09-2008): Synthesis of mesoporous $BaSO_4$ nano material by dispersion & spray pyrolysis method and Pt support on $BaSO_4$ applicable at low temperature SO_3 decomposition

(b). Research experience and skills would help to contribute this role

My research experience and current work includes the preparation, synthesis, modification and characterization of mixed metal oxides, mesoporous and nano structured catalyst materials. I'm experienced in preparation of the catalysts by various methods viz., Coprecipitation, Impregnation, solid-solid wetting, dispersion and spray pyrolysis method cum preparation of granules by Yoldas process. Extensive experience of various catalyst characterization and analytical techniques such as XRD, BET surface area, N_2O decomposition, TPR, TPD, DTA/TGA, IGA, GC, GC-MS, FT-IR, SEM, TEM, IGA (Intelligent Gravimetric Analysis) and Ion-Chromatography. I am also experienced in conducting catalytic reactions under both liquid

phase and vapor phase conditions.

I completed Ph.D. work in a well established group working in the areas of heterogeneous catalysis (Hydrogenation and dehydrogenation reactions), hydrogenation & Dehydrogenation coupling reaction and/or environmental catalysis and have wide experience in the preparation, characterization and testing of heterogeneous catalysts.

In Postdoctoral experience I carried out reactions independently, developed high surface area mesoporous $BaSO_4$ nano material and this material was used for SO_3 decomposition (SI-cycle) and also I have experience in dry reforming of methane to hydrogen & synthesis gas using potassium promoted Ni catalysts with different supports (MgO-ZrO_2, MgO-Al_2O_3, MgO, ZrO_2 and Al_2O_3).

In my Ph.D. and post doctoral experience I guided M.S & Ph.D students. In my Ph.D and post doctoral experience published 39 papers, and 4 international (US) patents and attended many national and international conferences.

LIST OF PUBLICATIONS

1. Recent Developments in State-of-the art Silica-Modified Catalysts for Fixation of CO_2 into Epoxides to Organic Carbonates
   Navya Anna Raju, Divya Prasad, Puneeth kumar M. Srinivasappa, Ankush V. Biradar, Sandeep Suryabhan Gholap, Akshaya K. Samal, **Bhari Mallanna Nagaraja** & Arvind H. Jadhav* ***Sustainable Energy & Fuels (Accepted: 11-01-2022) DOI https://doi.org/10.1039/D1SE01916C: (IF:*** **6.367***)***

2. Selective Vapour-Phase Dehydrocyclization of Biomass-Derived 1,4-Butanediol to γ-Butyrolactone over Cu/$ZnAl_2O_4$-CeO_2 Catalyst
   Komal N. Patil, Divya Prasad, Vilas K. Manoorkar, Jayesh T. Bhanushali, Arvind H. Jadhav,
   Bhari Mallana Nagaraja*
   Journal of Industrial and Engineering Chemistry 106 (2022) 142-151 (IF: **6.064***)***

3. Engineered Nano-Foam of Tri-Metallic (FeCuCo) Oxide Catalyst for Enhanced Hydrogen Generation via $NaBH_4$ Hydrolysis
   Komal N. Patil, Divya Prasad, Bhagyashree, Vilas K. Manoorkar, Walid Nabgan**, Bhari Mallana Nagaraja***, Arvind H. Jadhav
   Chemosphere 281 (2021) 130988 (IF: **7.086***)***

4. Sustainable Catalytic Process for Fructose Dehydration using Dicationic Ionic Liquid Assisted ZSM-5 Zeolite
   Divya Prasad, Komal N. Patil, Vilas K. Manoorkar, Ramesh B. Dateer, **Bhari Mallana Nagaraja***, Arvind H. Jadhav
   Materials and Manufacturing Processes 36 (2021) 1571-1578 (IF:* 4.616*)

5. Paving way for sustainable earth-abundant metal based catalysts for chemical fixation of CO_2 into epoxides for cyclic carbonate formation
   Divya Prasad, Komal N. Patil, Nitin K. Chaudhari, Hern Kim, **Bhari Mallanna Nagaraja*,**
   Arvind H. Jadhav
   Catalysis Reviews: Science & Engineering (https://doi.org/10.1080/01614940.2020.1812212 (In press-2021) (IF:* 20.217*)

6. Chemoselective Hydrogenation of Cinnamaldehyde over Tailored Oxygen Vacancy Rich $Pd@ZrO_2$ Catalyst
   Komal N. Patil, Divya Prasad, Jayesh T. Bhanushali, Bhalchandra Kakade, Arvind H. Jadhav,
   Bhari Mallanna Nagaraja*
   New Journal of Chemistry 45 (2021) 5659-5681 (IF:* 3.591*)

7. Basicity controlled $MgCo_2O_4$ nanostructures as catalyst for viable fixation of CO_2 into epoxides at atmospheric pressure
   Divya Prasad, Komal N. Patil, Ramesh B. Dateer, Hern Kim, **Bhari Mallanna Nagaraja*,**
   Arvind H. Jadhav
   Chemical Engineering Journal 405 (2021) 126907 (IF:* 13.273*)

8. Simultaneous Dehydrogenation of 1,4- Butanediol to γ-Butyrolactone and Hydrogenation of Benzaldehyde to Benzyl Alcohol Mediated over Competent CeO_2-Al_2O_3 supported Cu as Catalyst.
   Jayesh T. Bhanushali, Divya Prasad, Komal N. Patil, K Saidulu Reddy, Kamaraju Seetha Rama Rao, Arvind H. Jadhav, **Bhari Mallanna Nagaraja***
   International Journal of Hydrogen Energy 45 (2020) 12874-12888 (IF:* 5.816*)

9. Tailoring the Catalytic Activity of Basic Mesoporous Cu/CeO_2 Catalyst by Al_2O_3 for Selective Lactonization and Dehydrogenation of 1,4-Butanediol to γ-Butyrolactone
   Jayesh T. Bhanushali, Divya Prasad, Komal N. Patil, K Saidulu

Reddy, Itika KainthlaKamaraju Seetha Rama Rao, Arvind H. Jadhav, **Bhari Mallanna Nagaraja***
Catalysis Communications 143 (2020) 106049 (IF:* 3.626*)

10. Cost-effective bio-derived mesoporous carbon nanoparticles-supported palladium catalyst fornitroarenereduction and Suzuki–Miyaura coupling by microwave approach.
Supriya1, Guddekoppa S. Ananthnag, Vijayendra S. Shetti, **B.M. Nagaraja**, GurumurthyHegde
***Applied Organometallic Chemistry 34 (2020) 5384 (IF:* 4.105**)

11. Sustainable Hydrogen Generation by Catalytic Hydrolysis of $NaBH_4$ Using TailoredNanostructured Urchin-like $CuCo_2O_4$ Spinel Catalyst
Komal N. Patil, Divya Prasad, Jayesh T. Bhanushali, Hern Kim, Amol B. Atar**, BhariMallanna Nagaraja**[*], Arvind H. Jadhav
Catalysis Letters 150 (2020) 586–604 (IF:* 3.186*)

12. Sustainable Fixation of CO_2 into Epoxides to form Cyclic Carbonates using Hollow Marigold$CuCo_2O_4$ Spinel Microspheres as a Robust Catalyst
Divya Prasad, Komal N. Patil, Jayesh T. Bhanushali, **Bhari Mallanna Nagaraja**[*]**,** Arvind H.Jadhav[*],
Catalysis Science & Technology 9 (2019) 4393-4412 (IF: 6.119)

13. Selectively regulated vapour phase dehydrogenation of 1,4-butanediol to γ-butyrolactoneemploying a copper based ceria catalyst.
Jayesh T. Bhanushali, Divya Prasad, Komal N. Patil, Gurram Venkata Ramesh Babu, ItikaKainthla, Kamaraju Seetha Rama Rao, Arvind H. Jadhava, **Bhari Mallanna Nagaraja**[*]
New Journal of Chemistry 43 (2019) 11968-11983 (IF:* 3.591*)

14. Highly efficient hydrogen production by hydrolysis of $NaBH_4$ using eminently competentrecyclable Fe_2O_3 decorated oxidized MWCNTs robust catalyst
Divya Prasad, Komal N. Patil, N. Sandhya, C.R. Chaitra, Jayesh T. Bhanushali, Akshaya K.Samal, Rangappa S. Keri, Arvind H. Jadhav, **Bhari Mallanna Nagaraja**[*]
Applied Surface Science 489 (2019) 538–551 (IF:* 6.707*)

15. Sulfonic acid functionalized PVA/PVDF composite hollow microcapsules: Highly phenomenal& recyclable catalysts for sustainable hydrogen

production**.**
Divya Prasad, Komal N. Patil, Chaitra C.R., Sandhya N., Jayesh T. Bhanushali, Suresh W.Gosavi, Arvind H. Jadhav, **Bhari Mallanna Nagaraja**[*]
Applied Surface Science 488 (2019) 714–727 (IF:* 6.707*)

16. Phosphorofluoridic Acid as an Efficient Catalyst for One Pot Synthesis ofDihydropyrimidinones under Solvent Free and Ambient Condition.
Sushil R. Mathapati, Divya Prasad, Amol B. Atar, **Bhari Mallanna Nagaraja**[*], Jairaj k. Dawle,Arvind H. Jadhav.
Materials Today: Proceedings 9 (2019) 661–668 (IF:* 0.576*)

17. Tetrabutylammonium Hydrogen Sulfate mediated Three-Component Reaction for the Synthesisof Thiadiazolo [2,3-b] Quinazolin-6-(7H)-ones and Antioxidant Activity.
Gopinath S. Khansole, Divya Prasad, Jaman A. Angulwar, Amol B. Atar, **Bhari MallannaNagaraja**[*]**,** Arvind H. Jadhav, Vijay N. Bhosale.
Materials Today: Proceedings 9 (2019) 653–660 (IF:* 0.576*)

18. Tailoring and Exploring the Basicity of Magnesium Oxide Nanostructures in Ionic Liquids forClaisen-Schmidt Condensation Reaction
Arvind H. Jadhav[*], Divya Prasad, Harsharaj S. Jadhav, **Bhari Mallanna Nagaraja**, Jeong GilSeo
Energy 160 (2018) 635-647 (IF:* 7.145*)

19. In-situ generation of Cu^0 supported on TiO2 aerogel as a catalyst for the vapour phase hydrogenation of nitrobenzene to aniline
Itika Kainthla, Venkata Ramesh Babu Gurram, Jayesh T. Bhanushali, Seetha Rama Rao Kamaraju, Rangappa S. Keri, Suresh W. Gosavi, Arvind H. Jadhav[**], **Bhari Mallanna Nagaraja**[*]
Catalysis Letter 148(2018)2891-2900 (IF:* 3.186*)

20. Quinoxaline and Quinoxaline-1,4-di-N-Oxides: An Emerging Class of Antimycobacterials Rangappa S Keri, Sudam S. Pandule, Srinivasa Budagumpi, **Bhari Mallanna Nagaraja** ***Archiv der Pharmazie 351 (1) (2018) 1700325 (IF:* 3.751*)***

21. Vapour phase selective hydrogenation of benzaldehyde to benzyl alcohol using Cu supportedMg-Al hydrotalicite catalyst
T.B. Jayesh, K. Itika, G.V. Ramesh Babu, K.S. Rama Rao, R.S. Keri, Arvind H. Jadhav[**],

B.M. Nagaraja*
***Catalysis Communications 106 (2018) 73-77 (IF:* 3.626**)

22. TiO_2-ZrO_2 composite: Synthesis, characterization and its application as a facile, expeditious and recyclable catalyst for the synthesis of 2-aryl substituted benzoxazole derivatives
Mahadeo R. Patil, Jayesh T. Bhanushali, **Bhari Mallanna Nagaraja***, Rangappa S. Keri*
Comptes Rendus Chimie 21 (2018) 399-407 (IF:* 3.117*)

23. An overview of benzo[b]thiophene-based medicinal chemistry
Rangappa S Keri, Karam Chand, Srinivasa Budagumpi, Siddappa Patil, **Bhari Mallanna Nagaraja**
European Journal of Medicinal Chemistry 138 (2017) 1002-1033 (IF: 6.514)

24. Vapor-phase dehydrogenation of ethylbenzene to styrene over V_2O_5/TiO_2-Al_2O_3 catalyst with CO_2
Itika Kainthla, Gurram Venkata Ramesh Babu, Jayesh T. Bhanushali, Rangappa S. Keri Kamaraju Seetha Rama Rao, **Bhari Mallanna Nagaraja***
New Journal of Chemistry 41 (2017) 4173-4181 (IF:* 3.591*)

25. Development of stable MoO_3/TiO_2-Al_2O_3 catalyst for oxidative dehydrogenation of ethylbenzene to styrene using CO_2 as soft oxidant
Itika Kainthla, Gurram Venkata Ramesh Babu, Jayesh T. Bhanushali, Kamaraju Seetha Rama Rao, **Bhari Mallanna Nagaraja***
Journal of CO_2 Utilization 18 (2017) 309-317 (IF:* 7.132*)

26. Synchronized dehydrogenation-hydrogenation reactions over partially reduced MoO_2 based catalyst for simultaneous synthesis of styrene and aniline
K. Itika, G.V. Ramesh Babu, T.B. Jayesh, K.S. Rama Rao, **B.M. Nagaraja***
***Catalysis Communications 90 (2017) 27-30 (IF:* 3.626**)

27. Catalytic Hydrogenation of Benzaldehyde for Selective Synthesis of Benzyl Alcohol: A review Jayesh T. Bhanushali, Itika Kainthla, Rangappa S. Keri, **Bhari Mallanna Nagaraja*** ***Chemistry SELECT 1(16) (2016) 3839-3853 (IF:* 2.109**)

28. Benzimidazole-core as an antimycobacterial agent
Rangappa S. Keri*, Chethana K. R., Siddappa A. Patil, **Bhari Mallanna Nagaraja**
Pharmacological Reports 68 (2016) 1254–1265 (IF:* 3.024*)

29. Effect of potassium addition on bimetallic PtSn supported θ-Al2O3 catalyst for dehydrogenation of propane to propylene
Mi-Hyun Lee, **Bhari Mallanna Nagaraja**, Prakash Natarajan, Ngoc Thanh Truong, Kwan Young Lee, Sungho Yoon, Kwang-Deog Jung*
Research on Chemical Intermediates 42 (2016) 123-140 (IF: 2.914)

30. Activity studies of various catalysts used for oxidative dehydrogenation of ethylbenzene to styrene: Review
Itika Kainthla, Jayesh T. Bhanushali, Rangappa S. Keri, **Bhari Mallanna Nagaraja***
Catalysis Science & Technology 5 (2015) 5062-5076 (IF: 6.119)

31. Recent progress in the drug development of coumarin derivatives as potent antituberculosis agents.
Rangappa S Keri*, B.S. Sasidhar, **Bhari Mallanna Nagaraja**, M Amélia Santos
European Journal of Medicinal Chemistry 100 (2015) 257-269 (IF: 6.514)

32. Recent Progress on Pyrazole Scaffold-Based Antimycobacterial Agents
Rangappa S. Keri*, Karam Chand, Thippeswamy Ramakrishnappa, **Bhari Mallanna Nagaraja**
Archive Pharma in Chemical Life Science 348 (2015) 1–16 (IF: 2.59)

33. Triazole: A Promising Antituburcular Agent
Rangappa S Keri*, Siddappa A. Patil, Srinivasa Budagumpi, **Bhari Mallanna Nagaraja**
Chemical Biology and Drug Design 86 (2015) 410-423 (IF: 2.817)

34. Comprehensive Review in Current Developments of Benzimidazole - Based Medicinal Chemistry.
Rangappa S Keri*, Asha Hiremathad, Srinivasa Budagumpi, **Bhari Mallanna Nagaraja**
Chemical Biology & Drug Design 86 (2015) 19-65 (IF: 2.817)

35. Effect of potassium addition on bimetallic Pt-Sn supported on sphere shaped θ-Al2O3 catalyst for butane dehydrogenation to olefins
Bhari Mallanna Nagaraja, Heon Jung, Dae Ryook Yang, Kwang-Deog Jung*
Catalysis Today 232 (2014) 40-52 (IF: 6.766)

36. Dehydrogenation of alkane to light olefin over PtSn/θ-Al_2O_3 catalyst: Effects of Sn loading. Mi-Hyun Lee, **Bhari Mallanna Nagaraja**, Kwan Young Lee, Kwang-Deog Jung* ***Catalysis Today 232 (2014) 53-62 (IF: 6.766)***

37. Selective and stable bimetallic PtSn/θ-Al_2O_3 catalyst for dehydrogenation of n-butane to n-butenes.
Bhari Mallanna Nagaraja, Chae-Ho Shin, Kwang-Deog Jung*
Applied Catalysis-A: General 467 (2013) 211-223 (IF: 5.706)

38. Potassium-doped Ni-MgO-ZrO_2 catalysts for dry reforming of methane to synthesis gas. **Bhari Mallanna Nagaraja**, Dmitri A. Bulushev, Sergei Beloshapkin, Julian R.H. Ross*. ***Topics in Catalysis 56 (2013) 1686-1694 (IF: 2.910)***

39. The effect of potassium on the activity and stability of Ni-MgO-ZrO_2 catalysts for the dry reforming of methane to give synthesis gas
Bhari Mallanna Nagaraja, Dmitri A. Bulushev, Sergei Beloshapkin, Julian R.H. Ross*.
Catalysis Today 178 (2011) 132-136. (IF: 6.766)

40. Production of hydrogen through the coupling of dehydrogenation and hydrogenation for the synthesis of cyclohexanone and furfuryl alcohol over different promoters supported on Cu- MgO catalysts.
Bhari Mallanna Nagaraja*, Aytam Hari Padmasri, Burri David Raju, Kamaraju Seetha Rama Rao*.
International Journal of Hydrogen Energy 36 (2011) 3417-3425. (IF:* 5.816*)

41. Synthesis of Cu/Fe/Ti/Al_2O_3 Composite Granules for SO_3 Decomposition in SI Cycle.
Bhari Mallanna Nagaraja*, Kwang-Deog Jung, Kye Sang Yoo*.
Catalysis letters 128(1) (2009) 248-252. (IF:* 3.186*)

42. Catalytic Decomposition of SO_3 over Pt/$BaSO_4$ Materials in Sulfur-Iodine Cycle for Hydrogen Production.
Bhari Mallanna Nagaraja, Kwang-Deog Jung, Byoung Sung Ahn, Haznan Abimanyu, Kye Sang Yoo*.
Industrial and Engineering Chemistry Research 48 (3) (2009)1451-1457. (IF:* 3.720*)

43. Vapour phase hydrogenation of furfural over palladium supported catalysts
P. Sangeetha, **B.M. Nagaraja,** K. Shanthi, K.S. Rama Rao, S. Narayanan*.
Bulletin of the Catalysis Society of India 8 (2009) 52-63.

44. Novel method for the preparation of mesoporous $BaSO_4$ material with thermal stability by spray pyrolysis.
Bhari Mallanna Nagaraja, Haznan Abimanyu, Kwang-Deog Jung, Kye Sang Yoo*.
***Bulletin of Korean Chemical Society 29(5) (2008) 1007-1012. (IF:* 0.969)**

45. Preparation of mesostructured barium sulfate with high surface area by dispersion method and its characterization.
Bhari Mallanna Nagaraja, Haznan Abimanyu, Kwang-Deog Jung, Kye Sang Yoo*.
***Journal of Colloid and Interface Science 316 (2007) 645-651. (IF:* 8.128)**

46. Vapor phase selective hydrogenation of furfural to furfuryl alcohol over Cu-MgO catalysts.
B.M. Nagaraja, A. H. Padmasri, B. David Raju. K.S. Rama Rao*.
***Journal of Molecular Catalysis A 265 (2007) 90-97.* (IF: 5.062)**

47. A highly active Cu-MgO-Cr_2O_3 catalyst for simultaneous synthesis of furfuryl alcohol and cyclohexanone by a novel coupling route - combination of furfural hydrogenation and cyclohexanol dehydrogenation
B.M. Nagaraja, A. H. Padmasri, P. Seetharamulu, K. Hari Prasad Reddy, B. David Raju, K.S. Rama Rao*.
***Journal of Molecular Catalysis 278 (2007) 29-37.* (IF: 5.062)**

48. Effect of method of preparation of copper-magnesium oxide catalyst on the dehydrogenation of cyclohexanol.
B.M. Nagaraja, V. Siva Kumar, V. Shashikala, A. H. Padmasri, B. David Raju, K.S. Rama Rao*.
***Journal of Molecular Catalysis A 223 (2004) 339-345.* (IF: 5.062)**

49. Highly efficient Ag/C catalyst prepared by electrochemical deposition method in controlling microorganism in water.
V. Siva Kumar, **B.M. Nagaraja,** V. Shashikala, A.H. Padmasri, M. Shakuntala Madhavendra,
B. David Raju*, K.S. Rama Rao*.
***Journal of Molecular Catalysis A 223 (2004) 313-319.* (IF: 5.062)**

50. Role of acidic and basic sites of Al_2O_3 in predicting the reaction pathway of

Isophorone transformation.
V. Siva Kumar, **B.M. Nagaraja,** V. Shashikala, P. Seetharamulu, A.H. Padmasri, B. David Raju*, K.S. Rama Rao*.
Journal of Molecular Catalysis A 223 (2004) 283-288. **(IF: 5.062)**

51. Role of hydrotalcite precursors as supports for Pd catalysts in hydrodechlorination of CCl_2F_2
A.H. Padmasri, A. Venugopal, V. Siva Kumar, V. Shashikala, **B.M. Nagaraja,** P. Seetharamulu, B. Sreedhar, B. David Raju*, P. Kanta Rao, K.S. Rama Rao*.
Journal of Molecular Catalysis 223 (2004) 329-337. **(IF: 5.062)**

52. Promotional effect of magnesia addition to active carbon supported Pd catalysts on the characteristics and hydrodechlorination activity of CCl_2F_2.
J. Krishna Murthy, S. Chandra Shekar, A.H. Padmasri, A. Venugopal, V. Siva Kumar, **B.M.Nagaraja,** V. Shashikala, B. David Raju, P. Kanta Rao, K.S. Rama Rao*.
Catalysis Communications 5 (2004) 161-167. (IF: **3.626**)

53. A highly efficient Cu/MgO catalyst for vapour phase hydrogenation of furfural to furfuryl alcohol.
B.M. Nagaraja, V. Siva Kumar, V. Shashikala, A.H. Padmasri, B. Sreedhar, B. David Raju*,
K.S. Rama Rao*. ***Catalysis Communications 4 (2003) 287-293***. ***(IF:*** **3.626**)

NATIONAL & INTERNATIONAL PATENTS

Sl. No.	Patent Title	Name of the Applicant (s)	Filed/Granted Patent No.	Award Date	Agency /Country	Status
1.	Application of Ni-Cu@SNTs catalyst for chemoselective hydrogenation of cinnamaldehyde to hydrocinnamaldehyde	**Bhari Mallanna Nagaraja,** Arvind H. Jadhav, Komal N. Patil Divya Prasad, Manikanta P.	Submitted: JAIN Ref. No.:JBR 1134 (Signed)	Ref. Date: 31-01-2022	India	Awaited
2.	Method for Solvent-free Transformation of Carbon Dioxide into Oxazolidinone Catalyzed by Porous Trimetallic Oxide Foam	Arvind H. Jadhav, **Bhari Mallanna Nagaraja,** Puneeth Kumar M Srinivasappa, Divya Prasad, Komal N. Patil, Navya Anna Raju	Submitted: JAIN Ref. No.:JBR 1123 (Signed)	Ref. Date: 26-11-2021	India	Awaited
3.	Method for Catalytic Transformation of Carbon Dioxide into Value-added Products using Trimetallic Oxide Scaffolds	Arvind H. Jadhav, **Bhari Mallanna N agaraja,** Divya Prasad, Komal N. Patil, Vilas K. Manoorkar, Puneeth Kumar MS	India Patent :Filed No .:TEMP/E-1/1262/2022- CHE	Filed Date:19-01-2022	India	Awaited

4.	Tri-metallic oxide catalyst composite and method for synthesis thereof	Arvind H. Jadhav, **Bhari Mallanna Nagaraja,** Divya Prasad, Komal N. Patil, Vilas K. Manoorkar, Puneeth Kumar MS, Navya Anna Raju	India Patent: Filed No.: TEMP/E-1/69635/2021- CHE	Filed Date: 30-12-2021	India	Awaited
5.	Vapor phase dehydrogenating catalyst composite and method for synthesis thereof	**Bhari Mallanna Nagaraja,** Arvind H. Jadhav, Komal N. Patil Divya Prasad, Vilas K. Manoorkar	India Patent: Filed No.: TEMP/E-1/69640/2021- CHE	Filed Date: 30-12-2021	India	Awaited
6.	Carbon Nanotubes-based catalyst composition and method for preparation thereof	**Bhari Mallanna Nagaraja,** Arvind H. Jadhav, Komal N. Patil Divya Prasad, Vilas K. Manoorkar	India Patent: Filed No.: TEMP/E-1/36928/2021- CHE	Filed Date: 28-07-2021	India	Awaited
7.	Organic-Inorganic hybrid catalyst composition and method for preparation thereof	Arvind H. Jadhav, **Bhari Mallanna Nagaraja,** Divya Prasad, Komal N. Patil, Vilas K. Manoorkar	India Patent: Filed: TEMP/E-1/19221/2021-CHE	Filed Date: 26-07-2021	India	Awaited

8.	Chemo selecti ve hydrogenation catalyst composition and method for preparation thereof	**Bhari Mallan na Nagaraja,** Arvind H. Jadhav, Komal N. Patil Divya Prasad, Vilas K. Manoorkar	India Pate nt: Filed: TEMP/E-1/5033/20 21-CHE	Filed Date: 03-02-2021	India	Awaited
9.	Method For Sustainable Chemical Fixation of CO_2.	Arvind H. Jadhav, **Bhari Mallan naNagaraja,** Divya Prasad, Komal N. Patil, Jayesh T. Bhanushali	PCT Paten t Filed No .: PCT/IN202 0/0 50708	Filed Date: 12-08-2020	India	Awaited
10.	Method For Sustainable Chemical Fixation of CO_2.	Arvind H. Jadhav, **Bhari Mallan naNagaraja,** Divya Prasad, Komal N. Patil, Jayesh T. Bhanushali	India Pate nt: Filed-TEMP/E-1/31925/20 19-CHE	Filed date: 13/08/20 19	India	Awaited
11.	Potassium-doped Ni-MgO-ZrO_2 catalyst for dry reforming of methaneto synthesis gas.	C. Chung, J.R.H. Ross, **B. M. Nagaraja,** D.A.Bulushev	US2015/03 75211 A1	31/12/20 15	United State o f Americ a	Granted
12.	A Vapour phase catalytic process for simultaneous furfural hydrogenation and cyclohexa noldehydrogenation	K.S. Rama Rao, B. David Raju, S. Narayanan, **B. M. Nagaraja,** A. H. Padmasri, V. Siva Kumar, V.	US 7,015,359 B1	21/03/20 06	United State o f Americ a	Granted

		Shashikala, P. Seetharamulu, S. Sreevardhan Reddy.				
13.	A catalytic process forsimultaneous furfur alhydrogenation-cyclohexanol dehydrogenation in vaporphase	K.S. Rama Rao, B. David Raju, S. Narayanan, **B. M. Nagaraja,** A. H. Padmasri, V. Siva Kumar, V. Shashikala, P. Seetharamulu, S. Sreevardhan Reddy.	IN200501661-I1	11/05/2007	India	Granted
14.	Process for preparing silver deposited carbon covered alumina catalyst	K.S. Rama Rao, B. David Raju, A.H. Padmasri, V. Siva Kumar, A.N. Ratnakar P. Seetharamulu, V. Shashikala, **B. M. Nagaraja,** S. Sreevardhan Reddy, P.N. Sarama, K. Krishna Prasad, S.R. Venkata Mohan.	US 2006/0254989A1	16/11/2006	United State of America	Granted

15.	A novel catalyst useful ofcontrolling microorganism in waterand a process for thepreparation thereof	K.S. Rama Rao, B. David Raju, A.H. Padmasri, V. Siva Kumar, A.N. Ratnakar P. Seetharamulu, V. Shashikala, **B. M. Nagaraja,** S. Sreevardhan Reddy, P.N. Sarama, K. Krishna Prasad, S.R. Venkata Mohan.	IN2005007 95-I1	19/06/20 09	India	Granted
16.	Novel carbon supported activated alumi na absorbent useful for the removal of fluride ions from water and process for a preparation thereof	K.S. Rama Rao, V. Shashikala, A. H. Padmasri, B. David Raju, V. Siva Kumar, **B.M. Nagaraja,** P. Seetharamulu, S. Sreevardhan Reddy, U.C. Kulshresh ta, K.V.R Chary.	US 2007/0210 004A1	13/09/20 07	United State o f Americ a	Granted
17.	Novel carbon supported activated alumi na absorbent useful for the removal of fluride ions from water and process	K.S. Rama Rao, V. Shashikala, A. H. Padmasri, B. David Raju, V. Siva Kumar, **B.M. Nagaraja,** P. Seetharamulu, S	657/DEL/20 06	07/06/20 13	India	Granted

	for a preparation thereof	. Sreevardhan Reddy, U.C. Kulshreshta, K.V.R Chary.				

TEACHING EXPERIENCE:

Sl. No.	Date	Name & Address of Employer	Position Title	Nature of work/duties
1.	Since 10-12-2013 Till date 28-03-2022 **(8 Years)**	**Prof. B.M. Nagaraja** Professor Center for Nano & Material Science Jain University, Jakkasandra (Post) Kanakapura (Taluk), Ramanagara (District), Karantaka (State) INDIA-562112 Tel No.: +91 8105523666, Fax: +91 80 27577199 E-mail: bm.nagaraja@jainuniversity.ac.in	Professor (India)	Research Project: 1. Production of hydrogen through the coupling of dehydrogenation and hydrogenation for the synthesis of cyclohexanone and furfuryl alcohol over different promoters supported on basic oxide catalysts. **Teaching experience: M.Sc. Chemistry (I, II, II semester), Physical Chemistry: Thermodynamics, Quantum mechanics, etc.,**
2.	24-11-2011 to 24-11-2013 **(2 Year)**	**Prof. Kwang-Deog-Jung** Principal Research Scientist Korea Institute of Science and Technology(KIST), Clean Energy Research Center P.O. Box No.:131 CheongryangSeoul, South Korea	Visiting Scientist (South Korea)	Project: Dehydrogenation of butane and propane to hydrocarbons using mesoporous nano materials. **Teaching experience: MS students, topic: Research Methodology**

POSTDOCTORAL EXPERIENCE:

Sl. No.	Date	Name & Address of Employer	Position Title	Nature of work/duties
1.	24-11-2011 to 24-11-2013	**Prof. Kwang-Deog-Jung** Principal Research Scientist Korea Institute of Science and Technology(KIST), Clean Energy Research Center P.O. Box No.:131 Cheongryang Seoul, South Korea Tel No.: +82-2958-5218 Fax: +82-2958-5219 E-mail: jkdcat@kist.re.kr	Visiting Scientist (South Korea)	Project: Dehydrogenation of butane and propane to hydrocarbons using mesoporous nano materials. Project II: SO_3 decomposition using SiC supported catalysts. Different supports were used such as ZrO_2, CeO_2, CeO_2- ZrO_2 and $\eta,\gamma,\theta,\delta$-$Al_2O_3$, active metals are Pt, Pd and the Cu, Sn, Zn acts as a promoters in the Butane dehydrogenation reaction.
2.	02-10-2008 to 01-10-2011 (IRCSET-ERA European Fellowship	**Prof. Julian R.H. Ross** Professor & Senior Editor of Catalysis Today Chemical & Environmental Sciences Department University of Limerick Limerick, Republic of Ireland. Tel: +353 (0)91637482 Fax: +353 (0) 61 202734 E-mail: Julian.Ross@ul.ie	Post Doctoral Researcher (Republic of Ireland)	Project: Chemical Activation of Carbon Dioxide and Methane to produce hydrogen and syn gas using nano Cu or Ni/MgO/ZrO_2/Al_2O_3 catalysts, Preparation of catalyst using robotic system, Identification of carbon deposition analyzing by Intelligent gravimetric system.
3.	30-01-2007 to 06-09-2008	**Prof. Kwang-Deog-Jung** Principal Research Scientist Korea Institute of Science and Technology(KIST), Clean Energy Research Center P.O. Box No.:131 Cheongryang Seoul, South Korea Tel No.: +82-2958-5218	Visiting Scientist (South Korea)	Preparation of Mesoporous $BaSO_4$ nano material by dispersion & spray pyrolysis method and Pt support on $BaSO_4$ is used for the application of SO_3 decomposition. Finally this catalyst is used for sulphuric acid decomposition to hydrogen production.

		E-mail: jkdcat@kist.re.kr		

Ph.D. GUIDED:

Sl. No.	Title	Name of Student	Institution/University	Month – Year of Completion/admission
1.	Transition Metal based Nano Catalysts for Hydrogenation, Dehydrogenation and Coupling Reactions	**Guide:** Dr. Itika Kainthla	JAIN (Deemed-to-be University)	**Awarded:** July-2018
2.	Metal based catalysts for individual and simultaneous hydrogenation and dehydrogenation reactions	**Guide:** Dr. Jayesh T. Bhanushali	JAIN (Deemed-to-be University)	**Awarded:** May-2020
3.	Transition Metal Based Catalysts for Various Hydrogenation and Dehydrogenation reactions	**Guide:** Dr. Komal N. Patil	JAIN (Deemed-to-be University)	**Awarded:** March 2022 (26-03-2022)

4.	Sustainable Catalytic Approach for Fixation of Carbon Dioxide in Organic Transformations	**Co-guide:** Ms. Divya Prasad	JAIN (Deemed-to-be University)	**Thesis Submitted:** November 2021
5.	Sustainable metal based catalysis for selective hydrogenation and dehydrogenation reactions	**Guide:** Mr. Manikanta P	JAIN (Deemed-to-be University)	**Registered for Ph.D:** August 2021

Ph.D. ADJUDICATED:

Sl. No.	Title	Name of Student	Institution/University	Month – Year
1.	Studies on catalysts for the conversion of Glycerol to valude added chemicals	Mr. Narsinga Raju	Osmania University	9th June, 2021
2.	A Study of Novel Photoswitchable dihetarylethenes exhibiting fluorescence	Mr. Kondaparthi Mahesh	Osmania University	3rd October, 2020
3.	Synthesis and characterization of carbon, silica and carbon-silica supported palladium nanoparticle catalysts for C-C and C=O coupling reactions	Mr. Thirupathaiah Ketike	Osmania University	15th May, 2019
4.	Design and approach for the Synthesis of Some Nitrogen Heterocycles	"Mr. Mathapati Sushil Ramakant	Swami Ramanand Teerth Marathwada (SRTM) University	October-2019

FUNDED RESEARCH PROJECTS

Sl. No.	Title of Project	Name of Funding Agency	Year of Sanction	Duration	Sanctioned Fund (in Rs.)	Received Fund (in Rs.)	Current Status
1.	Production of hydrogen through the coupling of dehydrogenation of Ethylbenzene and hydrogenation of Nitrobenzene for the synthesis of Styrene and Aniline over different promoters supported on basic oxide catalysts.	**Fast Track foryoung Scientists-** Science and Engineering Research Board (SERB), Department of Science and Technology, Government of India, New Delhi	Sept. 2014	36 months	2014-2017	25,00,000	completed (Principle Investigator)

2.	Alternative bimetallic CuSn and CuNi incorporated on nano MgO-ZrO2 support for dehydrogenation of butane to butenes is useful process for petrochemicals and rubber industry.	**National mission on Nano Science & Nano Technology** - Department of Science and Technology, Government of India, New Delhi	Oct 2015	36 months	2015-2018	2,89,57,200/-	completed (Co-Principle Investigator)

LIST OF PAPERS PRESENTED AT SYMPSIA/SEMINORS

Sl. No.	Name of Program	No. of Days	Date		Organizing Institution	National/ International	Nature of Paper Presented (Attended/ Paper Presented/ Poster presented)
			From	To			
1.	Frontiers of Catalysis Science & Technology and its Applications (FOCSTA-2020)	2	10-01-2020	11-1-2020	St. Joseph's College, Bangalore, India	National	Oral
2.	Frontiers of Catalysis Science & Technology and its	2	10-01-2020	11-1-2020	St. Joseph's College, Bangalore, India	National	Oral

	Applications (FOCSTA-2020)						
3.	Frontiers of Catalysis Science & Technology and its Applications (FOCSTA-2020))	2	10-01-2020	11-1-2020	St. Joseph's College, Bangalore, India	National	Oral
4.	Accelerating Innovations in Material Science-2020 (AIMS 2020)	4	4-08-2020	7-08-2020	Department of Chemistry, BMS Institute of Technology & Management, Bengaluru	International	Oral
5.	Accelerating Innovations in Material Science-2020 (AIMS 2020)	4	4-08-2020	7-08-2020	Department of Chemistry, BMS Institute of Technology & Management, Bengaluru	International	Oral
6.	Accelerating Innovations in Material Science(AIMS 2020)	4	4-08-2020	7-08-2020	Department of Chemistry, BMS Institute of Technology & Management, Bengaluru	International	Poster

7.	Accelerating Innovations in Material Science(AIMS 2020)	4	4-08-2020	7-08-2020	Department of Chemistry, BMS Institute of Technology & Management, Bengaluru	International	Poster
8.	Jyoti Summit 2020 - International Virtual Summit on Future Learning: New Trends and Perspectives	3	24-09-2020	26-09-2020	Jyothi Nivas College Post Graduate Centre, Bangalore	International	Oral
9.	Frontiers in Materials from Basic Sciences to Real-time Applications (F2DM),	4	13-03-2019	16-03-2019	JAIN (Deemed-to-be University) Bangalore, India	International	Poster
10.	Frontiers in Materials from Basic Sciences to Real-time Applications (F2DM),	4	13-03-2019	16-03-2019	JAIN (Deemed-to-be University) Bangalore, India	International	Poster
11.	5th International Conference	3	28-01-2019	30-01-2019	SRM Institute of Science and	International	Poster

	on Nanoscience and Nanotechnology (ICONN-2019)				Technology, Chennai, Tamil Nadu		
12.	5th International Conference on Nanoscience and Nanotechnology (ICONN-2019)	3	28-01-2019	30-01-2019	SRM Institute of Science and Technology, Chennai, Tamil Nadu	International	Poster
13.	5th International Conference on Nanoscience and Nanotechnology (ICONN-2019)	3	28-01-2019	30-01-2019	SRM Institute of Science and Technology, Chennai, Tamil Nadu	International	Poster
14.	5th International Conference on Nanoscience and Nanotechnology (ICONN-2019)	3	28-01-2019	30-01-2019	SRM Institute of Science and Technology, Chennai, Tamil Nadu	International	Oral
15	Green methods for separation, purification an	2	24-04-2018	25-04-2018	Centre for Nano and material Sciences,	International	Poster

	dnanomaterial synthesis (GMSNS-2018)				JAIN (Deemed-to-be Universi ty), Bangalore		
16	Green methods for separation, purification an dnanomaterial synthesis (GMSNS-2018)	2	24-04-2018	25-04-2018	Centre for Nano and material Sciences, JAIN (Deemed-to-be Universi ty), Bangalore	Internation al	Poster

17	Green methods for separation, purification and nanomaterial synthesis (GMSNS-2018)	2	24-04-2018	25-04-2018	Centre for Nano and material Sciences, JAIN (Deemed-to-be University), Bangalore	International	Poster
18	Carbon Capture and Its Utilization (CCU) at the CSIR	2	14-12-2018	15-12-2018	National Chemical Laboratory (CSIR-NCL), Pune	International	Oral
19	Green methods for separation, purification and nanomaterial synthesis (GMSNS-2018)	2	24-04-2018	25-04-2018	Centre for Nano and material Sciences, JAIN (Deemed-to-be University), Bangalore	International	Oral
20	Carbon Capture and Its Utilization (CCU) at the CSIR	2	14-12-2018	15-12-2018	National Chemical Laboratory (CSIR-NCL), Pune	International	Poster
21	Green Chemistry & Nanotechnology Opportunities and Challenges	2	27-02-2017	28-02-2017	St Aloysius College, Mangalore, India	International	Oral
22	New Trends in Applied Chemistry (NTAC-2017)	4	09-02-2017	12-02-2017	Sacred Heart College, Theva	International	Oral

					ra, Kochi, India		
23	New Trends in Applied Chemistry (NTAC-2017)	4	09-02-2017	12-02-2017	Sacred Heart College, Thevara, Kochi, India	International	Poster
24	9th Bangalore INDIA NANO-2017	2	07-12-2017	08-12-2017	Department of Science & Technology, Government of Karnataka, Lalit Ashok, Bangalore, Karnataka	National	Poster
25	Recent Advances in Chemistry &Chemical Engineering (ICRACE) -16,	3	11-07-2016	13-07-2016	Department of Chemistry, JNTU- H, Hyderabad	International	Oral
26	'Energy Innovations- Today and Tomorrow	2	14-10-2016	15-10-2016	Hindustan Petroleum Corporation Limited, HP Green R&D Centre, Bangalore	International	Oral

27	International Congress on Recent Advances In Chemistry And Chemical Engineering (ICRACACE)-16.	3	11-07-2016	13-06-2016	JNTU, Hyderabad, Telgana	International	Oral

28	Interdisciplinary approaches in chemical sciences centre for interdisciplinary research in basic sciences	1	16-12-2015	16-12-2015	Jamia Millia Islamia, New Delhi	National	Attended
29	Computer Aided Process Engineering (CAPE Forum) and Energy and Sustainable Environment Conference	2	27-03-2009	28-03-2009	Limerick, Republic of Ireland	National	Oral
30	14th International Congress Conference (ICC)	5	13-07-2008	18-07-2008	Seoul, South Korea	International	Oral

31	14th International Congress Conference (ICC)	5	13-07-2008	18-07-2008	Seoul, South Korea	International	Poster

PARTICIPATION OF SEMINARS:

Sl. No.	Name of Program	No. of Days	Date		Organizing Institution	National/ International	Nature of Paper Presented (Attended/ Paper Presented/ Poster presented)
			From	To			
1.	National Seminar on Frontiers in Materials and Chemical Sciences (NSFMC-2020)	5	31-08-2020	04-09-2020	Centre for Nano and material Sciences, JAIN (Deemed-to-be University), Bangalore	National	Attended
2.	AICHE spring national meeting (Topical 2: Advanced Fossil Energy Utilization)	1	20-03-2010	March 20th, 2010	United State of America	International	Attended

PARTICIPATION OF SYMPOSIUM:

Sl. No.	Name of Program	No. of Days	Date		Organizing Institution	National/ International	Nature of Paper Presented (Attended/ Paper Presented/ Poster presented)
			From	To			
1.	23rd National Symposium on Catalysis (CATSYMP 23)	3	17-01-2018	19-01-2018	Royal Orchid Convention Centre, Bangalore, India	National	Poster
2.	23rd National Symposium on Catalysis (CATSYMP 23)	3	17-01-2018	19-01-2018	Royal Orchid Convention Centre, Bangalore, India	National	Poster
3.	22nd National Symposium on Catalysis CATSYMP-22	3	07-01-2015	09-01-2015	CSMCRI, Bhavnagar, India	National	Poster
4.	22nd National Symposium on Catalysis CATSYMP-22	3	07-01-2015	09-01-2015	CSMCRI, Bhavnagar, India	National	Oral
5	14th Japan-Korea symposium on catalysis	3	01-07-2013	03-07-2013	Nogoya, Japan from 1-3 July, 2013.	National	Oral

6	21st National Symposium CATSYMP-21	3	10-02-2013	13-02-2013	CSIR, IICT, Hyderabad, Telgana	International	Oral
7	EuropaCat-X	5	28-08-2011	2-09-2011	University of Glasgow, Glasgow, Scotland, United Kingdom	International	Oral
8	6th EFCATS, Catalysis and Surface Science for Renewable Energy &	7	13-09-2010	19-09-2010	Izmir, Turkey	International	Poster
9	14th Nordic Symposium on Catalysis	3	29-08-2010	31-08-2010	Marienlyst, Denmark from	International	Poster
10	9th Novel Gas Conversion Symposium (NGCS)	4	30-05-2010	03-06-2010	Lyon, France	International	Poster
11	Korean Society of Industrial and Engineering Chemistry	2	2-09-2007	3-09 - 2007	Hankyong National University, Anseong, Republic of Korea	International	Poster
12	18th National workshop on catalysis CATSYMP-18	3	23-02-2006	25-02-2006	BHU, Varanasi, India	National	Poster

13	17th National symposium on catalysis CATSYMP-17	3	18-01-2005	20-01-2005	CSMCRI, Bhavanagar, India	National	Poster
14	16th National Symposium CATSYMP-16	3	06-02-2003	08-02-2003	CSIR, IICT, Hyderabad, Telangana	National	Poster
15	16th National Symposium CATSYMP-16	3	06-02-2003	08-02-2003	CSIR, IICT, Hyderabad, Telangana	National	Poster
16	16th National Symposium CATSYMP-16	3	06-02-2003	08-02-2003	CSIR, IICT, Hyderabad, Telangana	National	Poster
17	16th National Symposium CATSYMP-16	3	06-02-2003	08-02-2003	CSIR, IICT, Hyderabad, Telangana	National	Poster
18	16th National Symposium CATSYMP-16	3	06-02-2003	08-02-2003	CSIR, IICT, Hyderabad, Telangana	National	Poster

PARTICIPATION OF SYMPOSIUM:

Sl. No.	Name of Workshop	No. of Days	Date		Name of Organizer	National/ International
			From	To		
1.	17th National Workshop on Challenges in Catalysis Science and Technology	3	22-06-2016	24-06-2016	CSIR, IICT, Hyderabad, Telangana	National
2.	17th National Workshop on Challenges in Catalysis Science and Technology	3	22-06-2016	24-06-2016	CSIR, IICT, Hyderabad, Telangana	National

REFERENCES

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