

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



DATE OF BIRTH: 03-03-1974

SEX: Male

NATIONALITY: Indian

MARITAL STATUS: Married

PRESENT ADDRESS

Professor
Centre for Nano & Material Science
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CORRESPONDENCE ADDRESS

Prof. B.M. Nagaraja, Professor
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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 ACTIVITY:

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). ACS Catalysis
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), Karnataka (State) INDIA-562112 Tel No.: +91 8105523666, Fax: +91 80 27577199 E-mail: bm.nagaraja@jainuniversity.ac.in	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 ₂ O 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: jkdcats@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 η,γ,θ,δ-Al ₂ O 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 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 ₂ O ₃ catalysts, Preparation of catalyst using robotic system, Identification of carbon deposition analyzing by Intelligent gravimetric system.
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: jkdcats@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 i.e., 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 , $\text{MgO-Al}_2\text{O}_3$, 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. The Efficacy of Fe-Doped ZrO₂ Nanoparticles as a Supplement in Polysulfone Membranes for Toxic Dye Removal
Manikanta P, Nagaraj S. Naik, Arun M. Isloor, Mahesh Padaki. **Bhari Mallanna Nagaraja***, Sébastien Déonc
Process Safety and Environmental Protection (<https://doi.org/10.1016/j.psep.2024.04.083>)
(Publication date: 19-04-2024) (IF: 7.8)
2. Novel nickel (II) phthalocyanine/reduced graphene oxide: electrochemical sensing platform for analysis of hydroquinone and chloramphenicol in environmental samples
Mounesh, P. Manikanta, Mounesh, Rohit Rangnath Nikam, Girish Tigari, **Bhari Mallanna Nagaraja***
Analytical Methods 16 (2024) 1770–1784 (IF: 3.1) (Publication date: 26-02-2024)
3. State-of-the-art for the development of Cu-based heterogeneous catalysts for efficient utilization of Furfural to value chemicals via liquid phase and gas phase reactions
Rohit Rangnath Nikam, Manikanta P, Komal N. Patil, Mounesh, Itika Kainthla, Siddappa A Patil, **Bhari Mallanna Nagaraja***
Catalysis Review, Science & Engineering: DOI - 10.1080/01614940.2023.2267286
(IF: 10.9) (Publication date: 24-10-2023)
4. Novel Nitrogen-rich Anchored Nickel (II) Phthalocyanine with composite MWCNTs on Modified GCE: Sensitive and Selective Electrocatalytic-activity of Nitrite
Mounesh, K. R. Venugopala Reddy, Anup Pandith, Gaber E. Eldesoky, **Bhari Mallanna Nagaraja***
Applied Organometallic Chemistry 38 (1) (2024) e7302 (IF: 3.9) (Publication date: 20-11-2023)
5. Individual and Simultaneous Electrochemical Detection of Allura Red and Acid Blue 9 in Food Samples Using a Novel La₂YCrO₆ Double Perovskite Decorated on HLNTs as an Electrocatalyst
Srujan Basavapura Ravikumar, Sanjay Ballur Prasanna, Santhosh Arehalli Shivamurthy, Sandeep Shadakshari, Bhari Mallanna Nagaraja, Jothi Ramalingam Rajabathar, Hamad A. Allohedan, Selvaraj Arokiyaraj
ACS Omega 9 (2024) 2568–2577 (IF: 4.1) (Publication date: 29-12-2023)
6. Development of Novel Microsphere Structured-Calcium Tungstate as Efficacious Electrocatalyst for the Detection of Antibiotic Drug Nitrofurantoin
P. Manikanta, Mounesh, Rohit Rangnath Nikam, S. Sandeep, **Bhari Mallanna Nagaraja***
Journal of Material Chemistry: B 11 (2023) 11600-11611 (IF: 7.0) (Publication date: 20-11-2023)
7. A Novel (2-Aminoethyl)piperazine Decorated Zinc (II) Phthalocyanine with Composite of MWCNTs: Electrochemical Sensor Development of an Antipsychotic Drug Promazine in Environmental Samples
Mounesh, K. V. Yatish, Anup Pandith, Gaber E. Eldesoky, **Bhari Mallanna Nagaraja***
Journal of Material Chemistry: B 11 (2023) 10692–10705 (IF: 7.0) (Publication date: 17-10-2023)

8. Individual and simultaneous electrochemical determination of nitrofurantoin and ascorbic acid in biological samples using a novel La₂YBiO₆ double perovskite deposited on MWCNTs as a nanocomposite
Srujan Basavapura Ravikumar, Sanjay Ballur Prasanna, Santhosh Arehalli Shivamurthy, Sandeep Shadakshari, **Bhari Mallanna Nagaraja**, Jothi Ramalingam Rajabathar, Selvaraj Arokiyaraj
New Journal of Chemistry 47 (2023) 21307-21317 (IF: 3.3) (Publication date: 25-10-2023)
9. CdO decorated with Polypyrrole Nanotubes Heterostructure; Potent Electrocatalyst for the Detection of Antihistamine Drug Promethazine Hydrochloride in Environmental Samples
P. Manikanta, Mounesh, Rohit Rangnath Nikam, Jubate mohanty, R. Geetha Balakrishna, S. Sandeep, **Bhari Mallanna Nagaraja***
Langmuir 39 (2023) 11099–11107 (IF: 3.9) (Publication date: 25-07-2023)
10. Novel Decorated Aluminium (III) Phthalocyanine Complex with Applianc of MWCNTs on Electrodes: Electrochemical Nonenzymatic Oxidation and Reduction of Glucose and Hydrogen Peroxide
Mounesh, P. Manikanta, K. R. Venugopala Reddy, Manickam. Selvaraj, C. C. Vidyasagar, **Bhari Mallanna Nagaraja***
RSC Advances 13 (2023) 20723-20736 (IF: 3.9) (Publication Date: 11-07-2023)
11. Designing Hybrid Nanocubes-like Cobalt Stannate with Applianc of MWCNT's Nano Composite for Electrochemical Detection of Dopamine in Bio-Clinical Samples
P.Manikanta, Mounesh, Rohit Rangnath Nikam, Jubate mohanty, S. Sandeep, **Bhari Mallanna Nagaraja***
Materials Chemistry and Physics 306 (2023) 128131 (IF: 4.6) (Publication Date: 23-06-2023)
12. Electrochemical ultrasensitive and selective detection of nitrite and H₂O₂: Novel macrostructured phthalocyanine with composite MWCNTs on modified GCE
Mounesh, Juan. M. Manriquez, K. R. Venugopala Reddy, K. G. Shilpa, **Bhari Mallanna Nagaraja***
Langmuir 39 (2023) 1665-1676 (IF: 3.9) (Publication Date: 16-01-2023)
13. State-of-the-Art and Perspectives in Transition Metal-Based Heterogeneous Catalysis for Selective Hydrogenation of Cinnamaldehyde
Komal N. Patil, Manikanta P, Puneethkumar M. Srinivasappa, Arvind H. Jadhav, **Bhari Mallanna Nagaraja***
Journal of Environmental Chemical Engineering 11 (2023) 109168 (IF: 7.7) (Publication Date: 16-12-2022)
14. Effect of precipitating agents on activity of co-precipitated Cu-MgO catalysts towards selective furfural hydrogenation and cyclohexanol dehydrogenation reactions
Komal N. Patil, Manikanta P, Rohith Rangnath Nikam, Puneethkumar M. Srinivasappaa, Arvind H. Jadhav, Hari Padmasri Aytam, Kamaraju Seetha Rama Rao, **Bhari Mallanna Nagaraja***
Results in Engineering 17 (2023) 100851 (IF: 5.0) (Publication Date: 16-12-2022)
15. Advanced Sensing of Antibiotics with Sr@Se Flower-Like Structure on Phosphorus-Doped g-C₃N₄ Composite: Application towards Detection of Chloramphenicol in Food Samples
Sanjay Ballur Prasanna, Gagan Kumar Sakaleshpur Kumar, Sandeep Shadakshari*, Santhosh Arehalli Shivamurthy, Karthik Chimatahalli Shanthakumar, Bhari Mallanna Nagaraja and Ren-Jei Chung

16. Exploring the Confined Space and Active Sites of Ni@OCNTs Catalyst for Chemoselective Hydrogenation of Cinnamaldehyde to Hydrocinnamaldehyde
Komal N. Patil, Manikanta P, Puneethkumar M. Srinivasappa, Arvind H. Jadhav*, **Bhari Mallanna Nagaraja***
Journal of Environmental Chemical Engineering 10 (2022) 108208 (IF: 7.968)
17. Sonochemically Prepared GdWNFs/CNFs Nanocomposite as an Electrode Material for the Electrochemical Detection of Antibiotic Drug in Water Bodies
P. Manikanta, B. R. Hariprasad, B. P. Sanjay, S. Sandeep*, A. S. Santhosh, C. S. Karthik, P. Mallu, Abdullah A. Al-Kahtani, Ammar Mohamed Tighezza, **Bhari Mallanna Nagaraja***, Muthusamy Karnan
Journal of Inorganic and Organometallic Polymers and Materials 32 (2022) 2482–2491 (Published: 18th May, 2022) (IF: 3.518)
18. Recent Developments in State-of-the art Silica-Modified Catalysts for Fixation of CO₂ 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 6 (2022) 1198–1248 (IF: 6.813)
19. Selective Vapour-Phase Dehydrocyclization of Biomass-Derived 1,4-Butanediol to γ -Butyrolactone over Cu/ZnAl₂O₄-CeO₂ Catalyst
Komal N. Patil, Divya Prasad, Vilas K. Manoorkar, Jayesh T. Bhanushali, Arvind H. Jadhav, **Bhari Mallanna Nagaraja***
Journal of Industrial and Engineering Chemistry 106 (2022) 142-151 (IF: 6.76)
20. Paving way for sustainable earth-abundant metal based catalysts for chemical fixation of CO₂ 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 64 (2) (2022) 356-443 (IF: 13.6)
21. Engineered Nano-Foam of Tri-Metallic (FeCuCo) Oxide Catalyst for Enhanced Hydrogen Generation via NaBH₄ Hydrolysis
Komal N. Patil, Divya Prasad, Bhagyashree, Vilas K. Manoorkar, Walid Nabgan, **Bhari Mallanna Nagaraja***, Arvind H. Jadhav
Chemosphere 281 (2021) 130988 (IF: 8.943)
22. 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 Mallanna Nagaraja***, Arvind H. Jadhav
Materials and Manufacturing Processes 36 (2021) 1571-1578 (IF: 4.783)
23. Chemoselective Hydrogenation of Cinnamaldehyde over Tailored Oxygen Vacancy Rich Pd@ZrO₂ 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: 3.925)

24. Basicity controlled MgCo₂O₄ nanostructures as catalyst for viable fixation of CO₂ 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: 16.744)
25. Simultaneous Dehydrogenation of 1,4- Butanediol to γ -Butyrolactone and Hydrogenation of Benzaldehyde to Benzyl Alcohol Mediated over Competent CeO₂-Al₂O₃ 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: 7.139)
26. Tailoring the Catalytic Activity of Basic Mesoporous Cu/CeO₂ Catalyst by Al₂O₃ for Selective Lactonization and Dehydrogenation of 1,4-Butanediol to γ -Butyrolactone
Jayesh T. Bhanushali, Divya Prasad, Komal N. Patil, K Saidulu Reddy, Itika Kainthla Kamaraju Seetha Rama Rao, Arvind H. Jadhav, **Bhari Mallanna Nagaraja***
Catalysis Communications 143 (2020) 106049 (IF: 3.51)
27. Cost-effective bio-derived mesoporous carbon nanoparticles-supported palladium catalyst for nitroarenereduction and Suzuki–Miyaura coupling by microwave approach.
Supriya¹, Guddekoppa S. Ananthnag, Vijayendra S. Shetti, **B.M. Nagaraja**, Gurumurthy Hegde
Applied Organometallic Chemistry 34 (2020) 5384 (IF: 4.072)
28. Sustainable Hydrogen Generation by Catalytic Hydrolysis of NaBH₄ Using Tailored Nanostructured Urchin-like CuCo₂O₄ Spinel Catalyst
Komal N. Patil, Divya Prasad, Jayesh T. Bhanushali, Hern Kim, Amol B. Atar, **Bhari Mallanna Nagaraja***, Arvind H. Jadhav
Catalysis Letters 150 (2020) 586–604 (IF: 2.936)
29. Sustainable Fixation of CO₂ into Epoxides to form Cyclic Carbonates using Hollow Marigold CuCo₂O₄ 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: 6.177)
30. Selectively regulated vapour phase dehydrogenation of 1,4-butanediol to γ -butyrolactone employing a copper based ceria catalyst.
Jayesh T. Bhanushali, Divya Prasad, Komal N. Patil, Gurrarn Venkata Ramesh Babu, Itika Kainthla, Kamaraju Seetha Rama Rao, Arvind H. Jadhava, **Bhari Mallanna Nagaraja***
New Journal of Chemistry 43 (2019) 11968-11983 (IF: 3.925)
31. Highly efficient hydrogen production by hydrolysis of NaBH₄ using eminently competent recyclable Fe₂O₃ 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: 7.392)
32. 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: 7.392)

33. Phosphorofluoridic Acid as an Efficient Catalyst for One Pot Synthesis of Dihydropyrimidinones 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)
34. Tetrabutylammonium Hydrogen Sulfate mediated Three-Component Reaction for the Synthesis of Thiadiazolo [2,3-b] Quinazolin-6-(7H)-ones and Antioxidant Activity.
Gopinath S. Khansole, Divya Prasad, Jaman A. Angulwar, Amol B. Atar, **Bhari Mallanna Nagaraja***, Arvind H. Jadhav, Vijay N. Bhosale.
Materials Today: Proceedings 9 (2019) 653–660 (IF: 0.576)
35. Tailoring and Exploring the Basicity of Magnesium Oxide Nanostructures in Ionic Liquids for Claisen-Schmidt Condensation Reaction
Arvind H. Jadhav*, Divya Prasad, Harsharaj S. Jadhav, **Bhari Mallanna Nagaraja**, Jeong Gil Seo
Energy 160 (2018) 635-647 (IF: 8.857)
36. In-situ generation of Cu⁰ 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: 2.936)
37. 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: 4.613)
38. Vapour phase selective hydrogenation of benzaldehyde to benzyl alcohol using Cu supported Mg-Al hydrotalcite 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: 3.51)
39. TiO₂-ZrO₂ 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)
40. 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: 7.088)

41. 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: 3.925)
42. 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 CO₂ Utilization 18 (2017) 309-317 (IF: 8.321)
43. 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: 3.51)
44. 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: 2.307)
45. 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: 3.919)
46. Effect of potassium addition on bimetallic PtSn supported $\theta-Al_2O_3$ 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: 3.134)
47. 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: 6.177)
48. 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: 7.088)
49. 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)
50. Triazole: A Promising Antitubercular Agent
Rangappa S Keri*, Siddappa A. Patil, Srinivasa Budagumpi, **Bhari Mallanna Nagaraja**
Chemical Biology and Drug Design 86 (2015) 410-423 (IF: 2.873)

51. Comprehensive Review in Current Developments of Benzimidazole - Based Medicinal Chemistry.
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Bhari Mallanna Nagaraja, Kwang-Deog Jung, Byoung Sung Ahn, Haznan Abimanyu, Kye Sang Yoo*.
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NATIONAL & INTERNATIONAL PATENTS

Sl. No.	Patent Title	Name of the Applicant (s)	Patent No.	Award Date	Agency /Country	Filed/Published /Granted Status
1.	Composition and method for fixation of carbon dioxide with metal oxide engineered dendritic fibrous nano silica	Arvind H. Jadhav, Bhari Mallanna Nagaraja , Navya Anna Raju, Puneeth Kumar M Srinivasappa. Hemavathi M	IN202241059398	28-10-2022	India	Published
2.	Bimetallic Metal Coated Silicon Nanotubes Catalyst Composition and Method for Synthesis Thereof	Bhari Mallanna Nagaraja , Arvind H. Jadhav, Komal N. Patil Puneeth Kumar M Srinivasapp, Manikanta P.	IN20224102865	03-06-2022	India	Published
3.	Tri-Metallic Oxide Foam Catalyst Composition for CO ₂ Conversion And Method For Synthesis Thereof	Arvind H. Jadhav, Bhari Mallanna Nagaraja , Puneeth Kumar M Srinivasappa, Divya Prasad, Komal N. Patil, Navya Anna Raju	IN202241028660	03-06-2022	India	Published
4.	Carbon-Di-Oxide Converting Trimetallic Oxide Catalyst and Method For Synthesis Thereof	Arvind H. Jadhav, Bhari Mallanna Nagaraja , Divya Prasad, Komal N. Patil, Vilas K. Manoorkar, Puneeth Kumar MS	IN202241002988	20-05-2022	India	Published
5.	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	IN202141061934	20-05-2022	India	Published
6.	Vapor phase dehydrogenating catalyst composite and method for synthesis thereof	Bhari Mallanna Nagaraja , Arvind H. Jadhav, Komal N. Patil Divya Prasad, Vilas K. Manoorkar	IN202141061929	20-05-2022	India	Published
7.	Carbon Nanotubes-based catalyst composition and method for preparation thereof	Bhari Mallanna Nagaraja , Arvind H. Jadhav, Komal N. Patil Divya Prasad, Vilas K. Manoorkar	IN202141033880	17-06-2022	India	Published

8.	Organic-Inorganic hybrid catalyst composition and method for preparation thereof	Arvind H. Jadhav, Bhari Mallanna Nagaraja , Divya Prasad, Komal N. Patil, Vilas K. Manoorkar	IN202141033 422	20-05-2022	India	Published
9.	Chemo selective hydrogenation catalyst composition and method for preparation thereof	Bhari Mallanna Nagaraja , Arvind H. Jadhav, Komal N. Patil, Divya Prasad, Vilas K. Manoorkar	IN202141004 727	20-05-2022	India	Published
10.	Method For Sustainable Chemical Fixation of CO ₂ .	Arvind H. Jadhav, Bhari Mallanna Nagaraja , Divya Prasad, Komal N. Patil, Jayesh T. Bhanushali	WO20210289 46	18-02-2021	Europe	Published
11.	Method For Sustainable Chemical Fixation of CO ₂ .	Arvind H. Jadhav, Bhari Mallanna Nagaraja , Divya Prasad, Komal N. Patil, Jayesh T. Bhanushali	IN201941032 708	19-02-2021	India	Published
12.	Potassium-doped Ni-MgO-ZrO ₂ catalyst for dry reforming of methane to synthesis gas.	C. Chung, J.R.H. Ross, B.M. Nagaraja , D.A. Bulushev	US2015/0375 211 A1	31-12-2015	United State of America	Granted
13.	A Vapour phase catalytic process for simultaneous furfural hydrogenation and cyclohexanol dehydrogenation	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.	US 7,015,359B1	21-03-2006	United State of America	Granted
14.	A catalytic process for simultaneous furfural hydrogenation-cyclohexanol dehydrogenation in vapor phase	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
15.	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 2006/025498 9 A1	16-11-2006	United State of America	Granted

16.	A novel catalyst useful of controlling microorganism in water and a process for the preparation 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.	IN200500795-I1	19-06-2009	India	Granted
17.	Novel carbon supported activated alumina absorbent useful for the removal of fluoride 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. Kulshreshta, K.V.R Chary.	US 2007/021000 4A1	13-09-2007	United State of America	Granted
18.	Novel carbon supported activated alumina absorbent useful for the removal of fluoride 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. Kulshreshta, K.V.R Chary.	657/DEL/2006	07-06-2013	India	Granted

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), Karnataka (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

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)	Awarded: April 2022 (22-04-2022)
5.	Development of Nanostructured Metal Oxides with Embellish of Carbon Materials for Electrochemical Sensing Application	Guide: Mr. Manikanta P	JAIN (Deemed-to-be University)	Registered for Ph.D: August 2021
6.	Catalytic approach for hydrogen transfer and evolution via transition metal-based material to obtain fuel derivative and value-chemicals	Guide: Mr. Rohit Rangnath Nikam	JAIN (Deemed-to-be University)	Registered for Ph.D: August 2022

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 for young 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-ZrO ₂ 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)