

Dr. V. Shashikala, Assistant Professor, joined in Osmania University in the year 2013 with 6 years of research experience as Visiting Scientist in Korea Institute of Science and Technology (KIST), Seoul, South Korea. She completed her doctoral work on “Catalytic approach for drinking water purification: I. Control of microorganisms using supported nano-silver catalysts. II. Defluoridation of ground water over carbon supported activated aluminas” under able guidance of Dr. K. S. Ramarao, Senior Scientist, Retired Head of the C and PC division, Indian Institute of Chemical Technology (IICT), Hyderabad. She received Ph.D. degree from Osmania University in 2007. She is the recipient of ‘National Eligibility Test for Lectureship’ from CSIR, New Delhi, after completion of her Masters in Chemistry (Inorganic Chemistry) from Osmania University in 1999. She has 17 years of research and 6 years of teaching (UG and PG) experience. She worked in various projects during this period. In her credit there are total of 6 patents (4 – US, 1 – Indian, 1 – Korean) granted and 13 papers were published in reputed International and national journals. She attended in many international and National Conferences/Seminars/Workshops and presented her work in Posters and Orals. Her area of research work is synthesis of Catalysts, Nano-materials and studying their characterizations and applications. Her interested areas in the application are water purification, petrochemicals, nano-electrodes etc. She is expert in construction in online reaction systems. Presently she is working on the project ‘Synthesis, Stabilization and characterization of nano Cu – ink’ sponsored by UGC, New Delhi, Under UGC-BSR startup research grant. She is guiding 4 research students. She is the life member of Catalysis Society of India, Indian Science Congress. She is expertise in handling the following instruments for experiment:

- **TPR, TPD, TPO analyzer** (make: BEL Japan INC) with TCD detector
 - **FT-IR, model-Spectrum GX** (make: PerkinElmer, USA) with DTGS detector. **Nicolet-380 FT-IR** (make: Thermo Nicolet, USA) with MCT-A detector.
 - **In-situ FTIR** (CO adsorption for surface chemical analysis)
 - **Micromeritics ASAP 2000 Surface area and pore size analyzer** (make: Micromeritics, USA)
 - **Lab XRD-6000, Shimadzu X-ray Diffractometer** (make: Shimadzu corporation, Japan), **Desk Top XRD MiniFlex** (make: Rigaku corporation, Japan) with Scintillator – NaI (T1) detector.
 - **TPMS** using **Quadstar™- 421(version-3.04) Quadruple mass analyzer** (Blazers Ltd.) with MID (multiple ion detector) and MCD (multiple concentration detector).
 - **UV-Vis spectroscopy** (make: Varian INC corporate, USA)
 - *Very good experience in handling all-glass high vacuum systems for the characterization of various heterogeneous catalysts for gas adsorption measurements.*
 - **GC-6000 Acme** (make: Yongline instruments, South korea), **GC-17A & GCMS-QP5050A** (make: Shimadzu corporation, Japan) with TCD and FID detectors.
 - **Advanced Ion Chromatography** (make: Metrohm Ltd., Switzerland) with conductivity, Electrochemical VA and UV-VIS detectors.
- ✓ *Expertise in predicting the data obtained from the above instruments for characterization and also data obtained from DTA/TGA, SEM, TEM, EDX, XPS/ESCA etc analyses.*

Publications

Patents:

1. A process for the preparation of highly efficient carbon supported activated alumina adsorbent for removal of fluoride ion from water.
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 patent - 2006254989 (A1), Indian Patent CSIR Ref. No: PT-486
2. Process for preparing silver deposited carbon covered alumina catalyst.
K.S. Rama Rao, B. David Raju, A.H. Padmasri, V. Siva Kumar, **V. Shashikala**, P. Seetharamulu, B.M. Nagaraja, S. Sreevardhan Reddy, A. Naga Ratnakar, S. Venkatamohan, P.N. Sharma and Krishnaprasad
US patent - 7,662,741, Indian CSIR Ref No: NF-500/04 PT-473
3. A Vapor 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 and S. Sreevardhan Reddy
US Patent – 7015359, Indian Patent No. 1661/DEL/2005A
4. Method for the synthesis of n-butenes
Kwang-Deog Jung, Oh-Shim Joo, Oh Jun Woo, **Veldurthi Shashikala**.
US 2013/0072738 A1, Korean Patent: Keaps 7.1 2011-09-20

Papers:

1. Promotional effects of Cu on Pt/Al₂O₃ and Pd/Al₂O₃ catalysts during n – butane dehydrogenation
Shashikala Veldurthi, Chae Ho Shin, Oh Shim Joo, Kwang Deog Jung, _
Catalysis today 185-1(2012) 88-93
2. n-Butane dehydrogenation on PtSn/carbon modified MgO Catalysts
Shashikala Veldurthi, Chae Ho Shin, Oh-Shim Joo, Kwang Deog Jung
Catalysis Letters 143 – 7 (2013) 651 - 656
3. Template free Synthesis of Mesoporous MgO Single Crystals using Precipitation Method
Shashikala Veldurthi, Chae Ho Shin, Oh-Shim Joo, Kwang Deog Jung
Microporous and mesoporous materials 152 (2012) 31-36
4. Stereospecific growth of densely populated rutile mesoporous TiO₂ nanoplate films: a facile low temperature chemical synthesis approach

Go-Woon Lee, Swapnil B Ambade, Young-Jin Cho, Rajaram S Mane, **V Shashikala**, Jyotiprakash Yadav, Rajendra S Gaikwad, Soo-Hyoung Lee, Kwang-Deog Jung, Sung-Hwan Han and Oh-Shim Joo

Nanotechnology **21** (2010) 105603 (6pp)

5. A Study on Control of Microorganisms in Drinking Water Using Ag-Cu/C Catalysts
K. Hari Prasad Reddy, **V. Shashikala**, N. Anand, C. Sandeep, B. David Raju and K.S. Rama Rao.
The Open Catalysis Journal, 2011, 4, 47-53.
6. Carbon - alumina composite materials as adsorbents for carbon dioxide removal.
Shashikala, V., Raju, B. David; Rao, K. S. Rama; Prasad, P. S. Sai.
Journal of Applied Geochemistry (2010), 12(4), 573-577.
7. Advantages of nano silver-carbon covered alumina catalyst prepared by electrochemical method for drinking water purification.
V. Shashikala, V. Siva Kumar, A.H. Padmasri, B. David Raju, S. Venkata Mohan, P. NageswaraSarma^a and K.S. Rama Rao
Journal of Molecular Catalysis A. 268 (2007) 95-100
8. 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. ShakuntalaMadhavendra, B. David Raju and K.S.Rama Rao,
Journal of Molecular Catalysis A 223 (2004) 313
9. A highly efficient Cu/MgO catalyst for vapor phase hydrogenation of furfural to furfuryl alcohol.
B.M. Nagaraja, V. Siva Kumar, **V. Shashikala**, A.H. Padmasri, B. Sreedhar, B. David Raju and K.S. Rama Rao
Catalysis Communications, 4 (2003) 287-293
10. Promotional effect of magnesia addition to active carbon supported Pd catalysts on the characteristics and hydrodechlorination activity of CCl₂F₂.
J. Krishna Murthy, S. Chandra Shekar, A.H. Padmasri, A. Venugopal, V. S. Kumar, B.M. Nagaraja, **V. Shashikala**, B. David Raju, P. Kanta Rao and K.S. Rama Rao
Catalysis Communications, 5 (2004) 161
11. Role of acidic and basic sites of Al₂O₃ in predicting the reaction pathway of Isophorone transformation.
V. Siva Kumar, B.M. Nagaraja, **V. Shashikala**, P. Seetharamulu, A.H. Padmasri, B. David Raju and K.S. Rama Rao
Journal of Molecular Catalysis A, 223 (2004) 283

12. Advantage 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 and K.S. Rama Rao
Journal of Molecular Catalysis A, 223 (2004) 329

13. 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 and K.S. Rama Rao
Journal of Molecular Catalysis A, 223 (2004) 339