

## RESUME

### Dr. Devaki Nandan

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### RESEARCH/TEACHING EXPERIENCE

- Working as an Assistant Professor (contract) at Government Degree College Tanakpur affiliated to Kumaun University, since 06 May 2020
- Worked as an Assistant Professor (contract) at L S M P G College Pithoragarh affiliated to Kumaun University, since 26 October 2019 to 05 May 2020
- Worked as an Assistant Professor (contract) in PG College Champawat affiliated to Kumaun University, India, from November 2018 to October 2019.
- Worked as a Postdoctoral Researcher under the supervision of Prof. Radek Zboril, and with the Consultancy of Prof. Rajender Varma (US EPA/RCPTM) at Regional Centre of Advanced Technologies and Materials, Faculty of Science, Palacky University, Olomouc, Czech Republic from 07/11/2016 to 11 July 2018 having the research topic "Catalytic properties of hybrid nanomaterials, advanced nanomaterials and its applications in Biomass, catalysis and energy".
- Worked as an assistant professor (contract) in SVPG College Lohaghat affiliated to Kumaun University, India, from October 2014 to October 2016.
- Doctoral research (Jan 2011 to June 2015) under the supervision of Dr. N. Viswanadham at CSIR-Indian Institute of Petroleum, Dehradun, India, towards "Synthesis of porous carbon composites and metal oxides for catalytic applications"
- During my PhD research I also worked in an Indo-Australia sponsored project titled "Functionalized hierarchical nano composites materials for synthetic and renewable fuels production" which provided me an opportunity to work in Prof. Ken Chiang's lab at CSIRO Earth Science & Resource Engineering, Australia for one month.
- Worked as a Project Assistant Level - II (Aug 2009 to Nov 2010) under the supervision of Dr. A.K. Siddhanta: In MoES funded project "Collection Identification and Chemical Investigation of Marine Flora" at Marine Biotechnology and Ecology Discipline, CSIR-Central Salt and Marine Chemicals Research Institute Bhavnagar (364 021), Gujarat, India. During this period, I have worked on
  - ❖ Synthesis, characterisation and catalytic evaluation of new acid functionalized porous carbon composites.
  - ❖ Synthesis, characterisation and catalytic evaluation of NiMo functionalized sulfonated carbon silica composites.
  - ❖ Development of Hierarchical porous zeolites for bulky molecular transformations (Tertiary butylation of phenol as a model reaction).
  - ❖ Development of magnetically separable nano-structured porous carbon supported metaloxides for selective hydrogenation reactions.
  - ❖ Synthesis of nano materials (copper nanoplate/copper nanotubes and AlPO<sub>4</sub>/ZnAlPO<sub>4</sub> nano-particles) for selective oxidation reactions.
  - ❖ Characterization of materials by TGA, GPC, FTIR, SEM, BET, TPD, XRD, TEM etc. and their catalytic evaluation in high pressure Parr reactors, micro-fixed down-flow reactor as well as in pilot plant.
  - ❖ Modification of poly-saccharides specially alginate, agarose and chitogen, with different organic molecules such as saccharin etc.

## AWARDS & FELLOWSHIPS

- Awarded Exchange Research Student by Australia India Scientific Research Fund(AIRSF) and visited CSIRO Earth Science & Resource Engineering Clayton South VIC3169,
- *CSIR Senior Research Fellowship* awarded in January 2013
- *CSIR Junior Research Fellowship* awarded in June 2010
- III<sup>rd</sup> Position in Seminar conducted by Department of Chemistry Govt P G College Pithoragarh 2007

## PATENTS

1. Nagabhatla Viswanadham, **Devaki Nandan**: Sulfonated carbon silica composite material and a process for the preparation thereof. Granted as US patent number **US8722573**, Year: May 2014
2. Nagabhatla Viswanadham, Peta Sreenivasulu, Sandeep K Saxena, Rajiv Panwar, **Devaki Nandan** and Jagdish Kumar A single-step catalytic process for conversion of naphtha to diesel-range hydrocarbons, 2017, US 9,598,649 B2.
3. Nagabhatla Viswanadham, Peta Sreenivasulu, Sandeep K Saxena, Rajiv Panwar, **Devaki Nandan** and Jagdish Kumar A single-step catalytic process for conversion of naphtha to diesel-range hydrocarbons, 2018 Saudi Arabian Application no. 516371948.
4. Nagabhatla Viswanadham, Peta Sreenivasulu, Sandeep K Saxena, Rajiv Panwar, **Devaki Nandan** and Jagdish Kumar A single-step catalytic process for conversion of naphtha to diesel-range hydrocarbons, 2017, Australia patent 2013342997.
5. Nagabhatla Viswanadham, Peta Sreenivasulu, Sandeep K Saxena, Rajiv Panwar, **Devaki Nandan** and Jagdish Kumar A single-step catalytic process for conversion of naphtha to diesel-range hydrocarbons, 2018, Russian Patent No. : 2648239
6. Nagabhatla Viswanadham, Peta Sreenivasulu, Sandeep K Saxena, Rajiv Panwar, **Devaki Nandan** and Jagdish Kumar A single-step catalytic process for conversion of naphtha to diesel-range hydrocarbons, 2016, South Africa, Patent No. 2015/03452

## PUBLICATIONS

H index: 8 i10-index: 8

Total Citations : Google Scholar

326

1. **Devaki Nandan**, Giorgio Zoppellaro, Ivo Medřík, Claudia Aparicio, Pawan Kumar, Martin Petr, Ondřej Tomanec, Manoj B. Gawande, Rajender S. Varma and Radek Zbořil, *Green Chemistry*, 2018, **20**, 3542-56, Cobalt-entrenched N-, O-, and S-tridoped carbons as efficient multifunctional sustainable catalysts for base-free selective oxidative esterification of alcohols. (Impact Factor 10.182)
2. Anitha V.C., Anandarup Goswami, Hanna Sopha, **Devaki Nandan**, Manoj B. Gawande, Klara Cepe, Siowwoon Ng, Radek Zboril, Jan M. Macak, *Applied Materials Today*, 2018, **10**, 86–92, Pt nanoparticles decorated TiO<sub>2</sub> nanotubes for the reduction of olefins. (Impact Factor 10.041)
3. **Devaki Nandan** and Nagabhatla Viswanadham, *RSC Advances*, 2014, **4**, 57223, Facile single step synthesis of an acid functionalized nano porous carbon composite as an efficient catalyst for tertiary butylation of phenol. (Impact Factor 3.361)
4. **Devaki Nandan**, Peta Sreenivasulu, Nagabhatla Viswanadham, Ken Chiang and Jarrod Newnham, *Dalton Transactions*, 2014, **43**, 12077, Synthesis of carbon embedded MFe<sub>2</sub>O<sub>4</sub> (M = Ni, Zn and Co) nano-particles as efficient hydrogenation catalysts. (Impact Factor 4.390)
5. **Devaki Nandan**, Sandeep Kumar Saxena, *Journal of Material Chemistry A*, 2014, **2**, 1054, Viswanadham Nagabhatla, Synthesis of hierarchical ZSM-5 using glucose as templating precursor. (Impact Factor 12.73.)

## PUBLICATIONS

- 6 **Devaki Nandan**, Peta Sreenivasulu, L.N. Sivakumar Konathala, Manoj Kumar and Nagabhatla Viswanadham, *Microporous and Mesoporous Materials*, 2013, **179**, 182. Acid functionalized carbon–silica composite and its application for solketal production (**Impact Factor 5.41**).
7. **Devaki Nandan** Peta Sreenivasulu, Sandeep K. Saxena and Nagabhatla Viswanadham, *Chemical Communications*, 2011, **47**,11537. Facile synthesis of a sulfonated carbon-silica-meso composite and mesoporous silica. (**Impact Factor 6.222**)
8. Nagabhatla Viswanadham, Suman Debnath, Peta Sreenivasulu, **Devaki Nandan**, Sandeep K Saxena, Ala'a H. Al-Muhtase, *RSCAdvances*, 2015,**5**, 67380-67383, Nano porous hydroxyapatite as a bi-functional catalyst for bio-fuel production. (**Impact Factor 3.361**)
9. Peta Sreenivasulu, **Devaki Nandan**, B. Sreedhar, and Nagabhatla Viswanadham, *RSC Advances*, 2013, **3**, 13651, Room temperature synthesis of ZnAlPO<sub>4</sub> nanoparticles and their catalytic applications. (**Impact Factor 3.361**)
10. Peta Sreenivasulu, **Devaki Nandan**, Manoj Kumar and Nagabhatla Viswanadham, *Journal of Material Chemistry A*, 2013, **1**, 3268, Synthesis and catalytic applications of hierarchical mesoporous AlPO<sub>4</sub>/ZnAlPO<sub>4</sub> for direct hydroxylation of benzene to phenol using hydrogen peroxide. (**Impact Factor 12.73**)
11. Peta Sreenivasulu, Nagabhatla Viswanadham, **Devaki Nandan**, L. N. Sivakumar Konathala and B. Sreedhar, *RSC Advances*,2013, **3**, 729, Synthesis and catalytic applications of amine interacted Cu<sub>2</sub>(OH)PO<sub>4</sub> nanoplates (copper NPs) and tubes (copper NTs). (**Impact Factor 3.361**)
12. Nagabhatla Viswanadham, Sandeep K. Saxena, Jitendra Kumar, Peta Sreenivasulu and **Devaki Nandan**, *Fuel* 2012, **95**, 298, Catalytic performance of nano crystalline H-ZSM-5 in ethanol to gasoline (ETG) reaction. (**Impact Factor 6.60**).
13. Sanjay Kumar, **Devaki Nandan**, Ramavatar Meena, Kamallesh Prasad & Arup K. Siddhanta, *Journal of Carbohydrate Chemistry*, 2011, **30**, 47, Sulfated Galactans of *Champia indica* and *Champia parvula* (Rhodymeniales, Rhodophyta) of Indian Waters. (**Impact Factor 1.629**)

## CONFERENCES/ SYMPOSIA

1. Applications of porous composite materials in catalysis, Devaki Nandan, webinar on application of nano-materials at Shri RAMSWAROOP MEMORIAL UNIVERSITY LUCKNOW, UP, 16/12/2021. **Key note speaker**
2. Porous Carbon Composites and their Catalytic Applications, Devaki Nandan, webinar on application of carbon materials, RMG College, Nagbhid, Chandrapur, Nagpur, Maharastra, 10<sup>th</sup> November 2020. **Invited Lecture**
3. Development of functionalized hierarchical carbon-silica composite material for catalytic applications. **D. Nandan**, A. Sharma, S. Saran, D. Tripathi and N. Viswanadham, "22<sup>nd</sup> National Symposium on Catalysis, CSIR-CSMCRI, Bhavnagar" held on 7-9 January 2015.
4. A novel method for the synthesis of hierarchical ZSM-5 for catalytic applications. **D. Nandan**, P. Sreenivasulu, K. L. N. Sivakumar, R. Singh and N. Viswanadham, "The National Symposia CATALYSIS FOR SUSTAINABLE DEVELOPMENT CATSYMP-21" held on Feb 11 to Feb 13, 2013 at CSIR-IICT Hyderabad.
5. Synthesis and catalytic applications of copper hydroxyl phosphate nanoplates (copper NPs) and tubes (copper NTs). P. Sreenivasulu, **D. Nandan**, S. Saran, G. M. Bahuguna and N. Viswanadham, "The National Symposia CATALYSIS FOR SUSTAINABLE DEVELOPMENT 32CATSYMP-21" held on Feb 11 to Feb 13, 2013 at CSIR-IICT Hyderabad.
6. Chemo-selective catalytic conversion of glycerol as a biorenewable source for oxygenated additive for the diesel fuel, N Viswanadham, S. K. Saxena, **D. Nandan**, P. Sreenivasulu, B. Kumar and M. O. Garg, International Mexican Congress on Chemical Reaction Engineering (IMCCRE 2012), Ixtapa-Zihuatanejo, Guerrero, Mexico, June 10-15, 2012.
7. Catalytic conversion of ethanol to transportation fuel. S. K. Saxena, P. Sreenivasulu, **D. Nandan**, S. Singh, N. Viswanadham, Oral PPT, 8<sup>th</sup> International Symposium on Fuels & Lubricants (ISFL) 5-7<sup>th</sup> March 2012, New Delhi.
8. Synthesis of a sulfonated carbon-silica-meso composite and mesoporous silica. **D. Nandan**, P. Sreenivasulu, S. K. Saxena and N. Viswanadham, Emerging Trends in Chemistry and Biology Interphase 3-4<sup>th</sup> November 2011, Kumaun University, Nainital.

## ACADEMIC QUALIFICATIONS

**PhD** : In Chemical Sciences from Academy of Scientific and Innovative Research (AcSIR) 2015  
**CSIR-SRF** : Awarded for CSIR-SRF January 2013  
**CSIR-JRF** : Qualified for **CSIR-JRF** (CSIR-UGC JRF Exam) held on June 2010  
**M.Sc.** : Chemistry (Organic) from Kumaun University Nainital with **64.41%** marks in 2008  
**B.Sc.** : From Kumaun University Nainital with **67.56%** marks in 2006

## RESEARCH INTERESTS

- **Research and development**
- **Teaching**
- **Nano Materials**
- **Renewable Energy**

## REFERENCES

### Recent Supervisors

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*The information given in this document is true as per the best of my knowledge and belief.*

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