Curriculum Vitae

Dr. Hareesha Dasary

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Currently pursuing as **Research Associate** at Analytical Department, **HPCL Green R&D centre**, Bangalore.

Research Proficiency

Projects at HPCL Green R&D Centre:

- **Ethylene Oligomerization**: Chromium catalyzed selective oligomerization of ethylene to *n*-alkenes. Various Schiff's base ligands with combination of P, N and S donor atoms, such as NNN, PNP, SNS, NNO, and PSP used.
- Synthesis of **sugar based gelators**: **Xylitol/Sorbitol based gelators** and their applications for oil-water separation and dye removal.
- Novel and cost-effective **Scale inhibitors/Anti-Scale formulations** for removal of various water-based scales.
- Developing **viscosity Improvement additives** to achieve **High Viscosity grade Bitumen (Hard grade bitumen)**.
- **Sulfur modified bitumen**: Addition of catalytic amount of sulfur results in: to improve the mix quality and to reduce the cost.
- **Sulfur Modified Bitumen Emulsions** (**SMBEs**): To obtain a product that can be used without the heating normally required when using cutbacks and paving grade bitumen.
- **Warm Mix Asphalts (WMA)**: Development of novel cost-effective additives to improve bitumen flow and stability properties.

PhD Project Description:

- **Ph.D. Supervisor: Prof. Dillip Kumar Chand** (Chemistry Department-**IIT Madras**)
- **Title of Ph.D. Thesis:** *"Self-assembled coordination complexes from palladium(II) components and urea spacered pyridine appended bi or tridentate ligands"*
- Ph.D. research work focused on synthesis and characterization of various self-assembled palladium(II) cages using urea spacered pyridine appended bidentate/tridentate ligands and their applications for **adsorption of CO_2 gas,** catalysis and Host-Guest Chemistry etc..

Post-Doctoral Fellowship: Pursued as **UGC-Dr. D. S. Kothari Post-Doctoral Fellow** under **Prof. Partha Sarathi Mukherjee** at Inorganic and physical Chemistry unit, Indian Institute of Science, Bangalore.

Research Experience:

- Experience in the field of designing and synthesizing new organic and inorganic compounds.
- Experienced in handling moisture and air sensitive inorganic, organic reagents and chemicals to carry out reactions under inert conditions.
- Experienced in structural elucidation of organic and inorganic compounds using 1D/2D **NMR**, **HRMS**, **ESI-MS**, **CHNS, TGA**, **DSC, SEM, ICP-OES, UV-Vis**, **IR** and **XRD** techniques.
- Experienced in isolation of organic compounds from mixture of compounds by **column chromatography** or by other purification techniques (Crystallization and Precipitation methods).
- Experienced in Characterization of **Bitumen-Asphalt binders** using **Penetration Point (ASTM D5)**, **Softening Point (ASTM D36)**, **Kinematic Viscosity at 60 °C and 135 °C (ASTM D4402)**, **RTFOT** and **SARA analysis**.
- Experienced in the handling of the **High Pressure Reactor** for high pressure and temperature reactions.
- Trained on **safe lab practices, fire extinguishers, gas bank management** and **emergency responsibilities.**

Teaching Experience:

- Conducted inorganic chemistry laboratory courses for B.Tech. and M.Sc. Students as Teaching assistantship.
- Supervised to M.Sc. and Ph.D. students for research project during Ph.D. course.

Skills:

Software Skills: MS Office/ ChemDraw/ Gaussian 09/ Origin-8/ Top Spin/ Scifinder/ Mercury/ ORTEP-3/ creation of cartoons for scientific publications by using PowerPoint and Photoshop software etc.

Education

Program	College/University	%/CGPA	Year
Ph.D. (Chemistry)	Indian Institute of Technology, Madras	CGPA - 8	2019
UGC-Dr. D. S. Kothari Postdoctoral Fellow	IPC unit, IISC-Bangalore	-	2019-20
CSIR-NET (Chemical Science)	Joint CSIR-UGC Test for JRF and NET	Rank-74	2011
M.Sc. (Organic Chemistry)	Sri Venkateswara University, Tirupati, A. P.	78%	2011
B.Sc. (Chemistry, Botany, Zoology)	Loyola Degree College, Pulivendla, A. P.	80.2%	2009
Intermediate (XII)	A.P. Residential Junior College, Banavasi, A. P.	89.5%	2006
SSC (X)	A. P. Residential School, Myalavaram, A. P.	83.6%	2004

Awards and Prizes

- **Prof. Werner Prize Award** by Indian Institute of Technology Madras for the **Best Ph.D. Thesis** in **Inorganic & Analytical Chemistry** for the year 2019.
- **Institute Research Award 2018-19 (Jul-Nov)** by Indian Institute of Technology Madras in recognition of the exemplary research work.
- **Best Poster Award** in Crystal Ball Vision on Science and Engineering for Societal Upliftment-2017 at Council of Scientific and Industrial Research-National Institute of Oceanography, Goa.
- **Best Poster Award** at 11th International Symposium on Macrocyclic and Supramolecular Chemistry-2016 at Seoul, South Korea.
- **Royal Society of Chemistry Books Prize** at 11th International Symposium on Macrocyclic and Supramolecular Chemistry-2016 at Seoul, South Korea.
- **Best Poster Award** in Chemistry in-house symposium-2014, Indian Institute of Technology Madras.
- **74th all India rank** in Joint Council of Scientific and Industrial Research-University Grants Commission Test for Junior Research Fellowship (June-2011).
- **Basic Research Education and Development Society (BREAD) Scholarship** for studies during 2009-2010.
- **1st and 2nd prizes** in university exams held at Loyola Degree College, Pulivendla during 2008-09 and 2007-08.

Research Publications

- Dasary, H., Jagan, R. and Chand, D. K. **Chem. Eur. J**., 2015, 21, 1499-1507.
  Octadecanuclear Gear Wheels by Self-Assembly of Self-Assembled "Double Saddle"-Type Coordination Entities: Molecular "Rangoli". (DOI: 10.1002/chem.201405255) (Hot Paper) (Twitted by ChemEurJ)
- Dasary, H., Jagan, R. and Chand, D. K. Chem. Eur. J., 2015, 21, 1499 ff.
  "**Inside Back Cover**: Molecular Rangoli". (DOI: 10.1002/chem.201590013)
- Dasary, H., Jagan, R. and Chand, D. K. **Inorg. Chem**., 2018, 57, 12222-12231.
  Ligand Isomerism in Coordination Cages. (DOI:10.1021/acs.inorgchem.8b01884) (Twitted by InorgChem)
- Dasary, H. and Chand, D. K. **Isr. J. Chem**., 2019, 59. (DOI: 10.1002/ijch.201800065) (Invited article)
  Structural and Dynamic Aspects of Palladium(II)-based Self-Assembled Binuclear Coordination Complexes.

Conferences participated

- Dasary, H. and D. K. Chand (2014)
  Octadecanuclear molecular rings by self-assembly of self-assembled trinuclear palladium(II) complexes
  Chemistry in-house symposium-2014, Indian Institute of Technology Madras, Chennai, India.
- Dasary, H. and D. K. Chand (2014)
  Molecular ''double-saddle'' type trinuclear self-assembled complexes and their further self-assembly
  Royal Society of Chemistry-Roadshow-2014, Indian Institute of Technology Madras, Chennai, India.
- Dasary, H. and D. K. Chand (2016)
  Octadecanuclear Gear Wheels by Self-Assembly of Self-Assembled "Double Saddle"-type Coordination Entities
  International Symposium on Macrocyclic and Supramolecular Chemistry-2016, Seoul, South Korea.
- Dasary, H. and D. K. Chand (2016)
  Molecular-Rangoli
  Science and Technology: Future Challenges and Solutions-2016, University of Mysore, Mysuru, India.
- Dasary, H. and D. K. Chand (2017)
  Self-assembled Octadecanuclear Molecular Rings
  Crystal Ball Vision on Science and Engineering for Societal Upliftment, Council of Scientific and Industrial Research-National Institute of Oceanography, Goa, India.

Personal Information

Name	: Dr. Hareesha Dasary
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Gender	: Female
Nationality	: Indian
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Languages	: English and Telugu
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References

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