Jidnyasa Nandkishor Heda
B.Tech (Chemical Engineering)

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Examination	Institute	Year	CGPA/%
Graduation	UICT, Jalgaon	2017	7.98
HSC	M. J. College, Jalgaon	2013	81.33
SSC	P.N.L. Kanya School, Jalgaon	2011	100

Scholastic Achievements

- Awarded with **Dhirubhai Ambani scholarship** for meritorious performance in SSC in Maharashtra ['11]
- HSC Rank: **Within top 1%** students in **Maharashtra** ['13]
- Graduation (Chemical Engineering): **3rd rank in University** ['17]

Professional Experience

Project Assistant-II |CSIR-National Chemical Laboratory (NCL), Pune| *Guide: Dr. V.V.Bokade* [Feb'18-Till date]
Project: Catalysis for Sustainable Development (CSD-Mission Mode)

- Synthesized various types of **heterogeneous catalysts** such as mixed oxide, Modification of zeolites by different methods for catalytic conversion of biomass to **biofuel additives**
- Studied properties using techniques like **Powder XRD, NH_3-TPD, Pyridine IR, SEM, N_2 adsorption-desorption**
- Synthesized Biofuel Additive-**Ethyl Levulinate(EL)**, **5-Ethoxy Methyl Furfural(5-EMF)** catalytically from Glucose/cellulose/biomass over heterogeneous catalysts in batch reactor
- Identified different products in the reaction mixture using **GC** and **HPLC**
- **Scaled up reaction** for conversion of glucose to ethyl levulinate on optimized parameters **upto 1 L**
- **Scale up synthesis** of different zeolites upto **1Kg**

Research Publications

- Efficient Synergetic Combination of H-USY and SnO_2 for Direct Conversion of Glucose into Ethyl Levulinate Biofuel Additive) **Jidnyasa Heda**, Prashant S. Niphadkar, Vijay V. Bokade
***Energy Fuels*, 2019**, 33 (3), pp-2319-2317, **DOI:** 10.1021/acs.energyfuels.8b04395 [Feb'19]
- Highly Efficient Micro-Meso Acidic H-USY Catalyst for One Step Conversion of Wheat Straw to Ethyl Levulinate (Biofuel Additive) **Jidnyasa Heda**, Prashant S. Niphadkar, Sandeep Mudliar, Vijay V. Bokade
Under Review to ***Microporous and Mesoporous Materials*** (Manuscript ID- **MICMAT-D-20-00190**) [Mar'20]

Oral Presentations

- One Step Synthesis of Ethyl Levulinate (Biofuel Additive) from Wheat Straw over Modified Zeolite
Jidnyasa Heda, Dr. Prashant S. Niphadkar, Dr. Vijay V. Bokade
Presented on an event ***ETC2020*** held between 6-8th January 2020 at **VIT Vellore** [Jan'20]

Poster Presentations

- Direct Conversion of Glucose into Ethyl Levulinate over heterogeneous catalyst
Jidnyasa N. Heda, Dr. Prashant S. Niphadkar, Dr. Vijay V. Bokade
Presented on ***National Science Day 2019*** held on 26-27 February, ***2019*** at CSIR-National Chemical Laboratory, Pune [Feb'19]
- Bi-functional palladium sensor for hydrogen storage
Jidnyasa Heda, Mangesh Pise, Dr. Sankara Sarma V. Tatiparti
Presented on an event ***Internship-Poster Presentation 2017*** held on 1st May 2017 at IIT Bombay [May'17]

Internship and Bachelor's Thesis

INDIAN INSTITUTE OF TECHNOLOGY, BOMBAY| *Guide: Prof. Sankara Sarma V. Tatiparti* [Jan'17-June' 17]
Project: Metallic Bi-Functional Sensor for Hydrogen storage and leakage detection

- Deposited thin films of Pd on Pt Substrate using Electrochemical Potentiostatic and Cyclometric techniques

- Studied the Hydrogenation and Dehydrogenation effects using **OriginLab**
- Analyzed the Microstructures of thin films before and after Hydrogenation and Dehydrogenation using **SEM** (Scanning Electron Microscopy) and **AFM** (Atomic Force Microscopy)
- Concluded the analysis with factors like **Roughness, Porosity, Morphology** of thin films and validated it by detailed study of past research papers
- Deposited thin films can be used as sensor materials for leakage of hydrogen and storage purpose with detailed study of different substrates and device fabrication

Minor Project

UNIVERSITY INSTITUTE OF CHEMICAL TECHNOLOGY, JALGAON| *Guide: Prof. R.S. Sirsam* [April'16-May'16]

Project: Biodiesel Production from Vegetable Oil (Soyabean Oil) by Transesterification Using Microreactor

- Executed comparative study between Microreactor (Batch) and CSTR based on past research papers
- Identified relevant parameters Temperature, Catalyst Wt%, Molar ratio, flowrates and mixers to get **Optimized Batch** of Biodiesel as product and Glycerin as by-Product
- Analyzed Properties like Acidic Value, API Gravity, Diesel Index, % Conversion etc. of the produced Biodiesel

Other Skills| MS Excel, OriginLab, ChemDraw