



Anish P. Jacob

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Professional profile

- Over 7 years' experience as a progressive and multi-talented academic with organisational skills, research and analytical abilities
- An year's hands-on experience in the petrochemical industry as process engineer

Organizational Experience

Asst. Professor, Dpt. Of Chemical Engr. - Madhav Institute of Technology & Science, Gwalior (May 2015 till date)

MITS Gwalior is a government-aided autonomous institute founded in 1957 in Gwalior, Madhya Pradesh.

Responsibilities:

- Conduct teaching activities including classroom instruction, directing projects, assisting with student research, internships:
 - Mentored 4 student project groups for the technical fest "**AZEOTROPY**" held at IIT Bombay during April 2016.
 - Organized two industry visits for students – i) Godrej Consumer Pvt. Ltd. Malanpur, ii) Gwalior Distilleries Pvt. Ltd., Bhind.
 - Published research papers in UGC approved & SCI indexed journals.
 - Guided 2 M. Tech. theses & 8 UG projects successfully.
 - Mentoring students for NPTEL online courses under the **Flexible Curriculum** introduced from 2017.
- Plan, evaluate and revise curricula, course content, course materials and methods of instruction:
 - Designed the introductory course "**Introduction to Chemical Engineering**" for first year students under the **Choice Based Credit System**.
 - Designed the syllabus of "**Mass Transfer – I**" course.
 - Lab manual preparation of Fluid mechanics, Chemical Reaction Engg., Process Control, Computational Methods & Process Modeling Simulation courses.
 - Member of the **Board of Studies** for the curriculum development both at institute & University level.
 - Use of Interactive Communication Tools (**ICT**) such as MOODLE, Power Point presentations, etc.
- Participate actively as the department coordinator in administrative committees, governance activities and student advising:
 - Class Coordinator, Outcome Based Education (OBE) Coordinator & Dept. Web Coordinator.
 - Anti Ragging Committee
 - Result Checking
 - Member of physical stock verification of sections & depts.
 - Preparation of Self Study Report (SSR) of institute for NAAC accreditation.
 - Preparation of Institutional Development Plan for TEQIP – III.
 - Member of Departmental Academic Integrity Panel (DAIP), committee for purchase of equipments/software, Media Development Cell, committee for employability skills training & Institute E-news letter committee.
- Collaborate with colleagues to address teaching issues
- Mentor and advise students on their development, including choices related to academic program, research projects and career directions:
 - Mentors group of first year students under the best practice of Mentor – Mentee Scheme.

External/Extra Curricular /Co Curricular Activities:

- Co – Coordinator in One day National Seminar on "Recent Trends in Waste Water Treatment" under TEQIP – II.

- Faculty Coordinator of Institute Journalism Society.
- Life member of Indian Water Works Association (IWWA).

Research Publications:

- Bhadoria S., Vedantam S., Prasad S. & Jacob A.P., CFD investigation of coal gasification: Effect of Particle Size, Int. Re. J of Engg. & Tech., Vol. 4, Issue 7, July 2017, pp 2597-2601
- Jacob A.P. , Bhadoriya N. S., & Pathak K.K., Waste Water Treatment by Tea Waste, Alum, Pre – Aluminium Chloride, Int. Re. J of Engg. & Tech., Vol. 6, Issue 5, June 2018, pp 1-3
- Suman H., Jacob A.P. & Malvi C.S., Graphene in nano solar cell, Int. J. of Ad. Engg. Sc. & Tech. Re., Vol. 6, Issue 4, Dec 2018, pp 115 – 118.
- Suman H., Srivastava R., Shrivastava S., Srivastava A., Jacob A.P. & Malvi C.S., DFT analysis of H₂S adsorbed zigzag & armchair graphene nanoribbons, Chem. Physics Letters, Vol. 745, 16th Apr. 2020 137280, PP 1- 9.

Trainings/ Workshops/ Conferences/ Faculty Development Programs Attended:

- Summer Training Program on **Active Learning** for Senior Faculty at IIT Indore from 25.06.2019 – 29.06.2019.
- AICTE – QIP sponsored one week Short Term course on **“Assuring Global Quality in Technical Education Through Outcome Based Education”** at MITS Gwalior from 10.03.2018 – 14.03.2018
- AICTE – QIP sponsored one week Short Term course on **“Sustainable Development: Methods & Practices”** at MITS Gwalior from 21.02.2019 – 25.02.2019.
- AICTE – QIP sponsored one week Short Term course on **“Chemical Engineering Thermodynamics Laboratory for Undergraduates”** at IIT Madras from 24.06.2019 – 29.06.2019.
- Int. conf. on Renewable Energy for Sustainable Development, MPCT, Gwalior, Oct 26-27, 2018
- Participated in National Conference on **“Impact of Assessment and Accreditation on Higher Professional Institutes”** under TEQIP – II at KIT, Kolhapur from 13.01.2017 – 14.01.2017.
- Participated in a two day National Workshop on **“Quality in Technical Education: A Challenge”** under TEQIP – II at MITS Gwalior from 18.11.2016 – 19.11.2016.
- Attended Two day workshop on **“ Effective Techniques of Question Paper Setting: An Outcome Based Education Approach”** organized by IQAC under TEQIP – III” at MITS Gwalior from 07.02.2018 – 08.02.2018.

Guest Faculty, Dpt. Of Chemical Engr. - Govt. Engineering College, Ujjain (Jul 2014 - Apr 2015)

Ujjain Engineering College was established by the Madhya Pradesh govt. in 1966.Its Chemical Engr. Branch opened in 1986.

Responsibilities:

- Conduct lectures and prepare study material for undergraduate (UG) and post graduate (PG) students
- Initiate, facilitate and moderate classroom discussions
- Coordinate and organize departmental activities
- Participate in campus and community events

Trained Graduate Teacher (TGT), BCM Prominent School, Ujjain (Aug 2012 - Apr 2014)

BCM Prominent School is a well-established educational institution under the affiliation of CBSE.

Responsibilities:

- Teach Chemistry and Physics for secondary and senior secondary students
- Mentor students for their all-round development

Assistant Executive Engineer (Production), Oil and Natural Gas Corporation Ltd (Apr - Jul 2012)

ONGC is an Indian oil and gas company. It is a central public enterprise under the Govt. of India

Responsibilities:

- Provide Oil Well completion and Testing (9WCT) services
- Coordinate with the chemist and drilling personnel

Graduate Engineer Trainee, Reliance Industries Limited (Aug 2011 - Apr 2012)

RIL is an Indian conglomerate holding company which is engaged in energy and petrochemicals among other businesses.

Responsibilities:

- Manage Operations of the Chlor-Alkali Plant at RIL-DMD as a Process Engineer
- Engage in trouble shooting and problem solving in business as usual (BAU) activities

Professional Qualification

2011 M Tech, Chemical Engineering, Indian Institute of Technology Madras (Chennai) with %CGPA of 8.64/10
2008 B Tech, Chemical Engineering, TKM College of Engineering, Kollam with %CGPA of 8.51/10

Research Interests/ Specialization

Modeling & Simulation, Microfluidics, Catalysis, Reaction Engg. & Process Control

Publications

1. Suman H., Srivastava R., Shrivastava S., Srivastava A., Jacob A.P., Malvi C.S., "DFT Analysis of H₂S adsorbed zigzag and armchair grapheme nanoribbons", Chemical Physics Letters 745 (2020) 137280, Pages 1-9
2. Suman H., Jacob A.P., Malvi C.S., "Graphene in nanosolar Cell", International Journal of Advanced Engineering Science & Technological Research (IJAESTR), Vol 6, Issue 4, Dec. 2018, Pages 115 – 118
3. Jacob A.P., Bhadoriya N.S., Pathak K.K., "Waste water treatment by Tea Waste, Alum, Pre-Aluminium Chloride", International Research Journal of Engineering & Technology (IRJET), Vol 6, Issue 5, June 2018.
4. Bhadoria S., Vedantam S., Prasad S., Jacob A.P., "CFD Investigation of Coal Gasification: Effect of Particle Size", International Research Journal of Engineering & Technology (IRJET), Vol 4, Issue 7, July 2017.

Scholastic Achievements

2009 116th Rank in GATE
2008 First Rank in B Tech, Chemical Engineering in Kerala University
2008 PV Jacob Gold Medal for securing highest marks in B Tech
2008 IChE-CGG Panicker Gold Medal

Positions of Responsibility

July 2018 – present Member of BoS at RGPV & MITS Gwalior
July 2018 – present Member of Media Development Cell at MITS Gwalior
July 2018 – present Member of equipment/ software purchase committee at MITS Gwalior
July 2018 – present Dept. Web & OBE Coordinator at MITS Gwalior
July 2018 – present Faculty Coordinator of MITS Journalism Society
July 2018 – June 2019 Member of DAIP committee at MITS Gwalior
Oct 2015-Sept 2017 Member of NAAC SSR preparation committee at MITS, Gwalior
July 2016 – June 2017 Member of committee for Institutional Development plan for TEQIP III
Feb 2016 Co – Coordinator of One day National Seminar on "Recent Trends in Waste Water Treatment"
Aug 2010-Apr 2011 M Tech Representative in Department Consultative Committee
Jul 2006-Apr 2008 Member of TKM – BPCL Encon Club
Jul 2005-Apr 2008 Member of Indian Institute of Chemical Engineers (IChE)
Mar 2007 Organizer, National Level Technical Symposium – Chem Fest 2007

Projects

May 2010-Apr 2011 Transport Processes in Micro channels
•The flow behaviour of immiscible liquids and mass transfer in micro channels is studied.
• Reaction systems in micro channels are modeled.

Nov 2007-Apr 2008 Design Realization and Qualification of LOx-LN₂ Sub-Cooler at VSSC
•The temperature of liquid oxygen is lowered from 143K to 111.98K using the sub – cooler and result is matched with the experimental value of 112K.

Key Skills

Technical know-how: Mechanical Operations, Fluid Mechanics, Heat Transfer Operations, Reaction Engineering and Process Control, Chemical Technology, Mass Transfer Operations, Process Modeling & Simulation

Software skills: C, C++, FORTRAN, MATLAB, ASPEN, SCILAB

Soft skills: Problem solving; strong research, analytical logical and mathematical abilities; planning and organizing; excellent presentation, facilitation & communication skills; team work

Interests

Listening to music, cooking, watching movies