

# AMAL G. S.

M. Tech., Chemical Engineering



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Proactive potential chemical engineer with 2+ years of experience in academia and industry. Possess an M. Tech. Degree in Chemical Engineering and expertise in various software. Looking forward to leveraging my knowledge and experience in gaining international education and becoming an academician par excellence.

## EXPERIENCE

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### ASSISTANT PROFESSOR ON CONTRACT

*Thangal Kunju Musaliar (TKM), College of Engineering, Kollam*  
August 2020 – July 2021

- Courses handled: Fluid and Particle Mechanics, Water and Wastewater Engineering, Project Engineering and Process Plant Economics, Principles of Management, Numerical Methods for Process Engineers, Chemical Process Principles
- Labs handled: Chemical Technology and Environmental Engineering, Programming and Process Simulation
- Project, Design Project and Seminar guidance, Organised webinars and workshops, advisory
- Scrutiny of University Exam Question Papers

### ASSISTANT PROFESSOR ON CONTRACT

*Thangal Kunju Musaliar (TKM), College of Engineering, Kollam*  
August 2019 – July 2020

- Courses handled: Chemical Engineering Design, Numerical Methods for Process Engineers, Life Skills, Programming in C, Chemical Process Calculations, Inorganic Chemical Technology
- Labs Handled: Chemical Reaction Engineering, Chemical Technology and Environmental Engineering, C Programming, Programming and Process Simulation
- Project, Design Project and Seminar guidance, Administrative works – NBA/NAAC Accreditation, advisory

### ASSISTANT PROFESSOR ON CONTRACT

*National Institute of Technology, Calicut*  
Dec'17 - May'18

- Courses handled: Chemical Process Optimization, Environmental Engineering, Food Technology, Labs handled: Mass Transfer Operations
- Aided in syllabus modification of under and postgraduate courses

## EDUCATION

Degree / Exam	Board/ University	Year	Aggregate (%)
M. Tech. Chemical Engineering	National Institute of Technology (NIT) Jalandhar	2015 - 2017	85.3
B. Tech. Chemical Engineering	National Institute of Technology (NIT) Calicut	2011 - 2015	84.2
AISSCE (12 <sup>th</sup> )	Central Board of Secondary Education (CBSE)	2011	89.2
AISSE (10 <sup>th</sup> )	Central Board of Secondary Education (CBSE)	2009	94.6

## PROJECTS

- ❖ **M. Tech. Thesis:** "*Optimization of treatment of reverse osmosis concentrate using Co and Ni nanoparticles*":- Used nanoparticles (Co and Ni) and conducted batch adsorption studies on real and synthetic reverse osmosis concentrates to determine TDS removal efficiency.

### Publications:

**Book/ Monograph:** Amal G. S., N. K. Srivastava, "*Treatment of Reverse Osmosis Concentrates: Optimization using Cobalt and Nickel Nanoparticles*", ISBN: 978-620-2-53120-7, Lambert Academic Publishing, Germany, 2020.

**Journal Paper:** Amal G. S., N. K. Srivastava, "*Optimization of treatment of reverse osmosis concentrates using Cobalt and Nickel nanoparticles using Response Surface Methodology*", JECE – S – 21 – 11554, Journal of Environmental Chemical Engineering, 2021 (submitted)

- ❖ **B. Tech.:** "*Removal of hexavalent chromium using a novel biosorbent*":- Studied the reaction kinetics, identified parameters affecting the rate of biosorption using a novel biosorbent for removal of hexavalent chromium.

### Projects Guided:

- ❖ Novel synthesis of fibre reinforced polymer from waste printed circuit boards, Aug 2020 – Mar 2021
- ❖ Simulation of Industrial PENEX Isomerisation unit using DWSIM, Aug 2020 – Mar 2021
- ❖ Optimisation of preparation of emulsion liquid membrane for the removal of divalent copper from wastewater, Aug 2019 – Jul 2020
- ❖ Small Scale Biodiesel Reactor for the utilisation of Waste Cooking Oil, Aug 2019 – Jun 2020
- ❖ Design and Simulation of a Distillation Column, Aug 2019 – Dec 2019
- ❖ Oil recovery from oil sludge using pressurised carbon dioxide and water, Aug 2019 – Dec 2019

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## INDUSTRIAL TRAINING / INTERNSHIPS

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- ❖ **KMML, Kollam: (Training, March 2019 – July 2019)** Underwent training at various units of the plant and earned sufficient knowledge in the operation of spray roasters, absorbers, fluidized bed reactors, oxidizers, batch reactors, plug flow reactors, compressors, blowers, turbines, pumps etc.; and handling of hazardous chemicals like chlorine, carbon tetrachloride, LPG etc.
- ❖ **BPCL, Kochi: (Summer Internship June 2014)** Two-week in-plant training, was able to get an insight into the operations in a refinery, extend the theoretical definitions of various unit operations to practical sense like distillation, evaporator, heat exchanger, cooling tower, etc.
- ❖ **KMML, Kollam: (Winter internship December 2013)** One-week in-plant training, learned the manufacturing process of pigment grade Titanium Dioxide from ilmenite by a walk through various units present thereby correlating them to the theoretical framework.

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## AREAS OF INTEREST

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Process Modelling and Simulation, Artificial Intelligence, Data Science and Computer Vision, Petroleum Refining Processes and Operations, Industrial and Environmental Pollution Control, Risk Analysis and HAZOP, New and Renewable Sources of Energy

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## SKILLSET

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- ❖ Software (Attended Certificate Courses): MATLAB, DWSIM, ANSYS FLUENT, ASPEN, OpenFOAM, Simulink, Origin, Design Expert 10, COMSOL, Scilab, Octave, MS Office, C, C++, Python, Fusion 360, OpenCAD, MOODLE, G Suite (Google for Education), LaTeX.
- ❖ Linguistic ability: Malayalam, English, Hindi, German (A1) and Tamil (Speak Only)

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## ACHIEVEMENTS and RESPONSIBILITIES

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- ❖ Student Coordinator of a national level conference held at NIT Jalandhar
- ❖ Class Representative at various academic levels
- ❖ Executive member of Chemical Engineering Students Society at NIT Jalandhar
- ❖ Attended and organised Faculty Development Programmes (FDPs) and webinars on many core areas like Electrochemical Engineering, Computational Fluid Flow, Machine Learning and Data Science, Python Programming, Artificial Intelligence, Fuel Cell Technology, Nano Technology, Safety Engineering, Academic Research, Research Planning, etc.
- ❖ Qualified GATE 2021, 2017, and 2015
- ❖ Qualified IELTS and A1 level German Language Exam
- ❖ Presented papers in conferences and attended industry-institute interaction programmes
- ❖ Hobbies include reading thriller novels, organizing, driving and gardening