



ANGSHUMAN BURAGOHAIN

Process Design Specialist at Linde Engineering

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Summary

- Process design Engineer at Linde Engineering, Linde GmbH, Pullach
- Young professional with varied cumulative work experience in Process Engineering
- Experienced in process modelling, simulation and optimisation of Power-to-LNG plant at German Aerospace Centre, Stuttgart
- M.Sc. Chemical and Energy Engineering with master thesis on “Techno-economic analysis of renewable LNG production routes in the MENA region”
- Former process engineer in a petrochemical industry with focus on plant operations
- On-site experience in chemical industry, refinery, plastic recycling pilot plant and research institutions
- Effective communicator, team player and critical thinker with strong work ethics
- Certified in Engineering Project Management specialisation

EDUCATION

- Otto-von-Guericke University** *April 2018 – Jan 2021*
M.Sc. Chemical and Energy Engineering
Grade: 1.8 | Master thesis: 1.3
Thesis summary: [Master thesis on Power to X](#)
- Assam Engineering College** *Aug 2013 – Aug 2017*
B.E Chemical Engineering
Grade: 77.56% with Honours

EXPERIENCE

- Linde Engineering, Linde GmbH, Pullach** *Nov 2021 – present*
Process design engineer
- Process studies, engineering, proposal preparation and project execution
 - Process design, simulation and optimization of Natural gas and LNG plants
 - Documentation, PFD development, calculation of equipment specifications
 - Client negotiations and multi-disciplinary discussions during project development
 - R&D activities for improvement of existing processes
- German Aerospace Centre (DLR), Stuttgart** *April 2020 – Oct 2020*
Graduate research assistant
- Process design and simulation of Power-to-LNG using ASPEN v.10
 - Detailed engineering of process and sizing of equipment
 - Design of kinetic reactors for simultaneous CO and CO₂ methanation
 - Energy efficiency analysis and cost optimisation (according to AACE class 3)
 - Optimised process with >99% CO₂ conversion and ~98% molar CH₄ in product
- Brahmaputra Cracker and Polymer Limited, Lepetkata** *Sept 2017 – Feb 2018*
Graduate Engineer
- On-site field process engineer in petrochemical production
 - Monitoring and operation of processes through PLC
 - Process inspection, supervising safety procedures during maintenance
 - Methodological plant operation and man power management
- Bhabha Atomic Research Centre, Mumbai** *June 2016 – July 2016*
Project Intern
- Project on “Characterisation of dispersion through light scattering technique”
 - Optical analysis of stability of aqueous phase-in-oil type emulsions
 - Hands on experience in qualitative research and analysis
- Indian Oil Corporation Limited (Assam Oil Division), Digboi** *Dec 2015 – Jan 2016*
Industrial Trainee
- Industrial on-site training of unit processes in an oil refinery
 - Plant operation, analysis of process flow and P&ID diagram
 - Operation of distillation, quenching columns, heat exchangers, reactors
- Central Institute of Plastics Engineering and Technology, Guwahati** *June 2015*
Trainee
- Hands on experience in a pilot plant dedicated to plastic recycle
 - Plant operation for conversion of waste plastics to fuel oil
 - Supervised training in parameter optimisation and analysis of process scale-up
- Oil India Limited, Duliajan** *June 2014 – July 2014*
Trainee
- Laboratory training in the R&D of Oil exploration and extraction company.
 - Laboratory analysis on characterisation of oil samples using FID Gas Chromatograph.

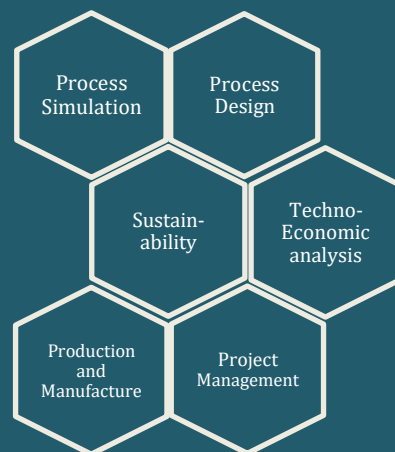
LANGUAGES

English	Fluent, C2
German	Intermediate, B1
Hindi	Fluent, C2
Assamese	Native, C2

SOFTWARE

ASPEN v.10	
ChemCAD	
Matlab	
Star CCM+	
Ansys	
MS Office	
SAP	

THEMATIC INTERESTS



ACTIVITIES

- Project management volunteer, Humane Warriors
- Member, ekipa Alumni Club
- Former volunteer, National Service Scheme, India
- Former member, Cultural team, Magdeburg Indians e.V
- Former student member, 12th International Symposium on Surface Engineering, Paints and Coating organized by SSPC India

PROJECTS

Techno-economic analysis for renewable LNG production routes in the MENA region

Master thesis

• Process modelling and simulation using ASPEN plus • Detailed engineering of upstream, midstream and downstream processes, equipment design and sizing • Reactor design, implementation of kinetic model data • Cost analysis using standard process (AAACE class 3) • Energy optimisation by heat integration • Process parameter determination and optimisation • Achieved >90% process efficiency • Optimised net production cost to 4.13€/kg LNG.

• Link: [Master thesis on Power to X](#)

“CO₂ from waste to value” - Challenge

Independent undertaking

• Challenge initiated by EnBW, organised by ekipa • Business ideation for CO₂ capture and utilisation • Plant material balances and capacity estimation • Process design and simulation using ASPEN • CO₂ capture and conversion to methanol integrated with biogas plant • Achieved technical feasibility and forecasted economic viability

• Link: <https://github.com/AngshumanBuragohain/CO2-Waste-to-value>

Simulation of Neopentyl glycol production using ASPEN plus

Otto-von-Guericke University

Process modelling and simulation of NPG production • Aldol condensation of formaldehyde and isobutyraldehyde • Custom molecule modelling of hydroxypivaldehyde • Distillation column design and stage analysis

• Link: <https://github.com/AngshumanBuragohain/ASPEN-plus-NPG-Manufacture>

Mathematical Simulations of Mechanical processes using MATLAB

Otto-von-Guericke University, Germany

• MATLAB programming and simulation of mechanical processes: *Crushing of Sand*, *Sieving Kinetics* and *Collision of particles* • Differential and integral equations modelling • FDM using Euler, RK4 • Statistics: Uniform and normal sampling • Monte Carlo methods • Residual monitoring and error reduction below 0.1%

• Link: <https://github.com/AngshumanBuragohain/Process-Simulation>

Modelling and Simulation of standard CFD nozzle using Star CCM+

Otto-von-Guericke University

• CAD modelling and meshing of nozzle geometry • Implementation of K- ϵ and K- Ω turbulence models for sudden expansion • Analysis and optimisation of results and convergence data to find the best model • Validation of the model by profile comparison with experimental data from three standard laboratory experiments

• Link: <https://github.com/AngshumanBuragohain/Star-CCM->

Literature Review on Pyrolysis of Lignocellulosic materials

Otto-von-Guericke University

• Pyrolysis of biomass to obtain biofuel • Study of kinetic models, kinetic parameter optimization for biomass pyrolysis • Description of commercially viable, open-source retort • Comparison of bio-oil and by-products from pyrolysis of various biomass

• Link: <https://github.com/AngshumanBuragohain/Pyrolysis-of-Lignocellulosic-Biomass>

Declaration

I hereby declare that the above-mentioned information is correct up to my knowledge and I bear the responsibility for the correctness of the above-mentioned particulars.

Munich, 16.02.2022

Place, Date

Angshuman Buragohain

Signature

ACHIEVEMENTS

Recipient of DAAD scholarship


Recipient of NEC Merit Scholarship

Recipient of Amul Vidyashree Award


OTHER INTERESTS



WEBSITES

 <https://github.com/AngshumanBuragohain>

 <https://linkedin.com/in/angshumanburagohain>

 <https://angshumanburagohain.com/>