# GALIB HASSAN KHAN

Ph.D. Candidate, Chemical Engineering, University of Tennessee, Knoxville, TN, USA

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## CONFERENCE PROCEEDINGS AND PUBLICATIONS

- **G. H. Khan** and M. A. Rahman, "Room Occupancy Detection from Temperature, Light, Humidity, and Carbon Dioxide Measurements Using Deep Learning," IEEE 2021 International Conference on Computer, Communication, Chemical, Materials and Electronic Engineering (IC4ME2), 2021, pp. 1-4, doi: 10.1109/IC4ME253898.2021.9768582.
- M. G. T. Ahmed, S. Y. A. Siddiki, **G. H. Khan**, K. B. Kabir and K. Kirtania, "Modeling Thermodynamic and Kinetic Simulation of Hydrogen Production from Dry Reforming of Natural Gas," IEEE 2021 International Conference on Computer, Communication, Chemical, Materials and Electronic Engineering (IC4ME2), 2021, pp. 1-4, doi: 10.1109/IC4ME253898.2021.9768458.
- **Galib Khan**, Carrie Sanford, Cong T. Trinh, "Medium Optimization to Produce Heterologous Proteins: Experimental Design, Metabolic Network Analysis, and Machine Learning" (in-preparation).

## ACADEMIC EDUCATION

- **The University of Tennessee, Knoxville**
  Ph.D. in Chemical Engineering (On-going) *2023 - present*
  Adviser: Dr. Cong T. Trinh
- **The University of Tennessee, Knoxville**
  Master of Science in Chemical Engineering *2023 - 2024*
  CGPA: 3.71/4.00
- **Bangladesh University of Engineering and Technology**
  Bachelor of Science in Chemical Engineering *2015 - 2019*
  CGPA: 3.09/4.00

## PROFESSIONAL EXPERIENCE

- **Graduate Research and Teaching Assistant**, *Jan 2023 - present*
  Department of Chemical and Biomolecular Engineering, The University of Tennessee, Knoxville, TN, USA
  - Modular cell and microbial community design for microbial biosynthesis of diverse chemical compounds using machine learning, omics, and heuristic optimization.
  - Inceasing in-vivo thermostability of enzymes using kinetic modeling and machine learning to enable high temperature biosynthesis (CBP to fuel team, Center for Bioenergy Innovation, Oak Ridge National Laboratory, USA).
  - Metabolic network modeling to study metabolic burden due to Heterologous protein expression in microbial cell.

- **Research Officer**, *Nov 2021 - May 2022*
  International Centre for Diarrhoeal Disease Research (ICDDR,B), Dhaka, Bangladesh
  - Wprked on the research project "Cleaner Brick Manufacturing in Bangladesh" jointly conducted by Stanford University, ICDDR,B and BUET led by Dr. Stephen Luby, Professor, Stanford University. *[Link]*
  - Led the technical on-field intervention team to implement process improvements to improve brick quality, and to reduce CO emission by 50 percent.
  - Collaborated with social scientists, brick kiln owners and workers about new process implementation and its progress.
- **Co-founder and Chairman**, *Nov 2019 - Aug 2021*
  Bohubrihi Technologies Ltd., Dhaka, Bangladesh
  An education technology company providing professional online education in native language in Bangladesh.
  - Led a diverse team of 30+ people including employees and freelancers.
  - Created online courses on Excel, SQL and PowerPoint which have 100000+ enrollments.
  - Jointly led the team that oversaw and negotiated the acquisition of the company by Shikho technologies Bangladesh Ltd.

## RESEARCH POSTER PRESENTATIONS

- **Galib Khan**, Carrie Sanford, Seunghyun Ryu, Nandhini Ashok, Adam Guss, Richard Giannone, and Cong T. Trinh, "Evaluation of Amino Acid Composition in Media as a Predictor for Enhanced Ketoacid Decarboxylase and Alcohol Dehydrogenase Performance in *Clostridium thermocellum*", Center for Bioenergy Innovation (CBI) Annual Science Meeting, Asheville, NC, USA, 2024.
- Carrie Sanford, Laura Brady, Khanh Ha, **Galib Khan**, Nandini Ashok, Sirisha N. Parimi, Nadia Ganjoloo, Qi Xu, Markus Alahuhta, Richard J. Giannone, Seunghyun Ryu, Yannick Bomble, Adam Guss, Cong T. Trinh, "Improving the Thermostability of Pyruvate Decarboxylase for Thermophilic Ethanol Production", Center for Bioenergy Innovation (CBI) Annual Science Meeting, Asheville, NC, USA, 2023.