Beatriz Dantas

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Education

West Virginia University — Morgantown, WV, USA
Ph.D. Student, Chemical Engineering – GPA: 4.0/4.0 — *Aug 2022 – May 2027 (Expected)*

Federal University of Campina Grande — Campina Grande, Paraiba, Brazil
B.Sc., Chemical Engineering – GPA: 3.49/4.0 — *Apr 2017 – Apr 2022*

Research Experience

West Virginia University — Morgantown, WV, USA
Graduate Research Assistant (Ph.D.) — *Aug 2022 – Currently*

- Proton Exchange Membrane Water Electrolysis (PEMWE) system assessment via flexibility and operability analysis
- Modeling and simulation of ex-situ carbon mineralization and rare earth elements extraction using coal fly ash

Federal University of Campina Grande — Campina Grande, Paraiba, Brazil
Undergraduate Research (B.Sc.) — *Sept 2020 – Sept 2021*

- B.Sc. final project: "Integrated platform developed in C# to evaluate the intensification of ethylbenzene production using the GREENSCOPE methodology

Federal University of Campina Grande — Campina Grande, Paraiba, Brazil
Undergraduate Research (B.Sc.) — *Sep 2019 – Apr 2022*

- Research and development for PETROBRAS: Modeling and evaluation of explosive atmospheres due to the biphasic release of liquids and fluids
- Evaluation of the effect of obstacles on the dispersion of gases for area classification
- Application of CFD techniques in the risk area classification study for the technological development of industrial processes

Work Experience

Columbia University — New York, NY, USA
Research visit (Ph.D.) — *Jul. 2023*

- Understand the production of carbonates from industrial waste via carbon mineralization on a laboratory scale
- Apply the knowledge of Process System Engineering to perform process scale-up

Accenture — Campina Grande, Paraiba, Brazil
Automation Analyst (Full-Time) — *Dec 2021 – Jun 2022*

- Application of the AVEVA PI System and Aspen InfoPlus.21 software to collect, store, view, analyze, and share operational data with users
- Understand and refine processes, working with clients to simplify, standardize and automate work and business processes found in manufacturing

West Virginia University — Virtual Appointment
Summer Intern — *May 2021 – Aug. 2021*

- Multi-stage membrane configuration for direct air capture

Accenture — Campina Grande, Paraiba, Brazil
Automation Analyst (Part-Time) — *Nov 2020 – Nov 2021*

- Application of the AVEVA PI System and Aspen InfoPlus.21 software to collect, store, view, analyze, and share operational data with users
- Understand and refine processes, working with clients to simplify, standardize and automate work and business processes found in manufacturing

Research publications and presentations - Complete list on my Google Scholar.

Beatriz Dantas, Deniz Talan, and Fernando V Lima. "Process Operability Analysis of the Recovery of Rare Earth Elements from Coal Fly Ash". In: *2023 AIChE Annual Meeting*. AIChE. 2023.

Ícaro Almeida, Beatriz Dantas, Fernanda Andrade, Heloyse Reges, Wilton Lima, Fernando V Lima, and Heleno Bispo. "Comparative Study for Evaluation of Thermal Integration Projects Based on Pinch Technology". In: *2022 AIChE Annual Meeting*. AIChE. 2022.

Esmael Gadelha, Igor Guerra, Natalya AB Almeida, Beatriz Dantas, Fernando V Lima, and Heleno Bispo. "Development and Application of Customized Symbols in PI Vision for KPI Monitoring Based on the Greenscope Methodology". In: *2022 AIChE Annual Meeting*. AIChE. 2022.

Vitor V Gama, San Dinh, Victor Alves, Beatriz NA Dantas, Brent A Bishop, and Fernando V Lima. "Modeling and Process Operability Analysis ofa Direct Air Capture System". In: *IFAC-PapersOnLine* 55.7 (2022), pp. 316–321.

Skills

Programming: Python, MATLAB, C#, Visual Basic for Applications (VBA), R

Technologies/Platforms: AVEVA PI System, Git, GitHub

Process simulation: Aspen Plus, AVEVA Process Simulation, Ansys CFX

Languages: English and Portuguese

Relevant Coursework

Required coursework: Transport Phenomena, Advanced Chemical Engineering Thermodynamics, Chemical Reaction Engineering, Statistical and Numerical Methods for Chemical Engineering

Electives coursework: Advanced Process Systems Engineering, Electrochemical Energy Technologies, Linear and Nonlinear Optimization, Oil and Gas Refining