# Beatriz Dantas

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## Education

**West Virginia University** — Morgantown, WV, USA
*Ph.D. Student, Chemical Engineering;* — *Aug 2022 – May 2027 (Expected, flexible)*

**Federal University of Campina Grande** — Campina Grande, Paraiba, Brazil
*B.Sc., Chemical Engineering;* — *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.
- Collaboration with Columbia University: Modeling and simulation of ex-situ carbon mineralization using coal fly ash.
- Collaboration with University of Maryland: Techno-economic analysis for depolymerization of plastics using electrified spatiotemporal heating.

**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 CSharp to evaluate the intensification of ethylbenzene production using the GREENSCOPE methodology.

## Work Experience

**Columbia University** — New York, NY, USA
*Visiting Scholar (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.

**Federal University of Campina Grande** — Campina Grande, Paraiba, Brazil
*Undergraduate Research* — *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.

**West Virginia University** — Virtual Appointment
*Undergraduate Research* — *May 2021 – Aug. 2021*

- Multi-stage membrane configuration for direct air capture.

**Accenture** — Campina Grande, Paraiba, Brazil
*MES MOM and Automation Associate (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.

**Accenture** — Campina Grande, Paraiba, Brazil
*MES MOM and Automation New Associate (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.

## Selected Research Contributions- 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.

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, CSharp, Visual Basic for Applications(VBA), Markdown, LaTeX and exposure to R

**Technologies/Platforms:** AVEVA PI System, Git, GitHub, Simulink

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

**Languages:** English and Portuguese

## Relevant Coursework

**Major coursework:** Transport Phenomena, Advanced Chemical Engineering Thermodynamics, Chemical Reaction Engineering, Statistical Methods, Oil and Gas Refining

**Minor coursework:**Advanced Process Systems Engineering, Electrochemical Energy Technologies, Linear and Nonlinear Optimization