

Saniya Danenova

C & J Nyheim Plasma Institute, Drexel University, 200 Federal Street, Suite 500, Camden, NJ 08103
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EDUCATION

PhD Mechanical Engineering and Mechanics, *in progress* September 2022 - Present
Drexel University, Philadelphia, PA, USA *GPA: 3.83*
Department of Mechanical Engineering and Mechanics

BS Mechanical and Aerospace Engineering August 2018 - June 2022
Nazarbayev University, Astana, Kazakhstan *GPA: 3.23*
Department of Mechanical and Aerospace Engineering

RESEARCH PROJECTS

**Electron scattering and precipitation by Kinetic Alfvén Waves
(KAWs) from the plasma injection regions** September 2022 - present
Drexel University

- Identifying periods of plasma injection and pinpointing magnetic structures
- Processing and analyzing multi-spacecraft THEMIS measurements of near-Earth plasma injections
- Evaluating electron drift speed as a function of electron energy and equatorial pitch-angle

Assessment of green hydrogen production October 2021 - June 2022
Nazarbayev University

- Used ArcGIS to assess resources availability for the green production of Hydrogen
- Analysed data to perform sensitivity analysis of critical minerals
- Calculated the environmental impact factor for green hydrogen production in Kazakhstan using the Life-Cycle Assessment Approach

Numerical analysis of blood flow in coronary arteries June 2021 - October 2021
Nazarbayev University

- Simulated blood flow in four coronary artery tree models using a physiologically-based algorithm (PBA) implemented in Ansys CFX
- Predicted the blood flow in blood vessels using Physics Informed Neural Network (PINN)

WORK EXPERIENCE

Graduate Research Assistant

September 2022 - present

Drexel University

- Modeling of energetic electron precipitation to the Earth's atmosphere

Teaching Assistant

September 2022 - present

Drexel University

- Tutoring undergraduate courses: Introduction to Nuclear Engineering, Fundamentals of Plasmas, Power Plant Design, and Engineering Reliability
- Assisting faculty members with classroom instruction, exams, grading assignments, and other miscellaneous projects; Communicating with students

Undergraduate Research Assistant

July 2020 - June 2022

Nazarbayev University

- Techno-economic modeling of resource for producing green hydrogen in Kazakhstan
- Assisted graduate students (both modeling and experimental work) in their research projects

ACHIEVEMENTS

President Scholarship Award

2021

Nazarbayev University, Astana, Kazakhstan

International Baccalaureate Diploma

August 2014 - June 2018

Nazarbayev Intellectual School, Astana, Kazakhstan

GPA: 4.72

Higher Levels: Physics, Mathematics, and English

PUBLICATIONS AND CONFERENCE PRESENTATIONS

- American Geophysical Union Fall Meeting, December 2020. Presented (online): "Geochemical and mineralogical alteration of sandstone in west Kazakhstan reservoir after the injection of CO₂"
- World Hydrogen Energy Conference, June 2022. Presented: "Preliminary assessment of the green hydrogen production potential in Kazakhstan"
- Tleubergenova, A., Abuov, Y., Danenova, S., Khoyashov, N., Togay, A., and Lee, W. (2023). Resource assessment for green hydrogen production in Kazakhstan. Manuscript submitted for publication in *International Journal of Hydrogen Energy*
- Andrey Yankin, Gaini Serik, Saniya Danenova, Yerassyl Alipov, Ali Temirgali, Didier Talamona, and Asma Perveen (2023). Optimization of Fatigue Performance of FDM ABS and Nylon Printed Parts. Manuscript submitted for publication in *Micromachines*