Leading with Purpose.

UNIVERSITY OF ALBERTA

Two Postdoctoral Positions: Transportation and Electrical Engineering – 2025

Department: Civil and Environmental Engineering | Transportation Engineering
Department: Electrical and Computer Engineering | Power and Energy Systems

Description: Dr. Stephen Wong and Dr. Petr Musilek are recruiting two postdoctoral students to conduct innovative research related to resilient transportation, EV integration to the grid, electrical grid resilience, operational strategies for power systems at the University of Alberta to start **in Fall 2025**. Full funding will be available for one year (ranging from $50,000 to $60,000), with a possibility for extension. Research will be conducted as part of Resilient & Clean Energy Systems (RCES) for the theme on "Clean Transportation through Electrification."

Qualifications
Both Positions

- Excellent written and oral communication skills including technical writing experience
- Demonstrated ability to write and publish journal articles, reports, and other deliverables
- Demonstrated ability to write, modify, and understand Python

Position #1: Advised by Dr. Wong

- Ph.D. in Civil and Environmental Engineering or related engineering discipline
- Background and research experience in electric vehicles, agent-based modelling, power systems, grid resilience, charging infrastructure, evacuations, active transportation, and/or allocation models

Position #2: Advised by Dr. Musilek

- Ph.D. in Electrical Engineering, Computer Engineering, or related engineering discipline
- Background and research experience in advanced power systems, energy management, electrical operations strategies, charging infrastructure, grid resilience, electric vehicles, and/or computational intelligence methodologies

* Those who are underrepresented in engineering are especially encouraged to apply.

Application Process
All interested applicants **must** fill out this form (https://forms.gle/7Z6BSsmpTN5DSrBa8) with the following information to be considered.

- A current CV
- A cover letter detailing research experience and plans (2 pages)
- A published journal article
- Transcripts from MSc/PhD

All applications are due by May 30, 2025. Top candidates will be interviewed via a video call.

NOTE: Submissions via email will be disregarded.

Department of Civil and Environmental Engineering
Resilient and Sustainable Mobility and Evacuation Group

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About

Dr. Stephen Wong

Dr. Stephen Wong is an Assistant Professor in the Department of Civil and Environmental Engineering at the University of Alberta and leads the Resilient and Sustainable Mobility and Evacuation (RESUME) Group. Dr. Wong's research focuses on the intersection of disasters/emergencies, decision-making, and transportation and works to create more resilient, environmentally friendly, and equitable transportation systems. Dr. Wong is actively involved in multiple committees at the Transportation Research Board, the International Association for Fire Safety Science, and the Society for Fire Protection Engineers related to research and practice in resilience, disasters, and human behaviour. Dr. Wong has completed and continues to work on a number of research projects related to resilient and sustainable topics including evacuations, shared mobility, smart charging for electric vehicles, power outages, and resilience hubs.

Dr. Petr Musilek

Dr. Petr Musilek is a Professor in the Department of Electrical and Computer Engineering at the University of Alberta and the Associate Dean for Research Operations in the Faculty of Engineering. Dr. Musilek's energy-related research focuses on the use of ICT to support the design and operation of future electric power grids. He studies the integration of renewables and distributed energy resources (DER) in power systems, concentrating on energy management of grid-connected photovoltaic (PV) systems, battery energy storage systems (BESS), and electric vehicles. He also examines how weather impacts the energy production and consumption patterns, and the characteristics and integrity of the power delivery infrastructure (dynamic thermal rating, ice accretion). To deal with the complexity and uncertainty of modern distributed energy systems, he often employs high-performance computing and methods of computational intelligence, including machine learning, neural networks, fuzzy systems, evolutionary computing, and swarm systems. He is a registered Professional Engineer in Alberta (APEGA), and a Senior Member of IEEE.

Resilient and Sustainable Mobility and Evacuation (RESUME) Group

The RESUME Group is a collaborative collection of researchers and students at the University of Alberta working to build more resilient and sustainable transportation systems in Canada and beyond. To tackle both the cause and effect of climate change, the Group employs a mixed-method research approach and brings together diverse fields of engineering, social science, and public policy to guide governments and practitioners in decision-making, planning, and preparedness. The Group is committed to compassionate research, collaboration, and mentorship that promotes diversity and inclusion at our university and in the communities we serve. The RESUME Group has seven current or incoming graduate students and three current undergraduate students. The majority of students are from traditionally underrepresented groups in engineering. https://www.wong-stephen.com/resumegroup

ENergy digiTizAtIon Lab (ENTAIL)

The ENTAIL Research Group at the University of Alberta focuses on the digitization of electrical energy systems across all levels of the modern power grid. Our work bridges edge-level IoT devices—enabling real-time sensing and control—with cloud-based platforms that manage and analyze the vast data streams produced by smart grids. Our mission is to develop intelligent, resilient, and sustainable energy solutions that support Canada's energy transition and global climate goals. We explore innovations in smart grid automation, AI-based forecasting, and decentralized energy management, working closely with utilities, industry partners, and communities. ENTAIL brings together expertise in electrical engineering, data science, and systems design. The group emphasizes inclusive mentorship, interdisciplinary collaboration,

and practical impact. We support a number of graduate students, undergraduate researchers, many from traditionally underrepresented backgrounds in engineering. https://entail.group/

University of Alberta
The University of Alberta is one of Canada's top universities and among the world's leading public research-intensive universities, with a reputation for excellence across the humanities, sciences, creative arts, business, engineering, and health sciences. With over 100 years of history and 250,000 alumni, the U of A is known globally for equipping graduates with the knowledge and skills to be tomorrow's leaders. Home to nearly 40,000 students, including more than 7,000 international students from over 150 countries, the U of A fosters a supportive and multicultural atmosphere within a vibrant research environment. The U of A is located in Edmonton, Alberta, a dynamic city with one million residents and the major hub for Alberta's thriving energy industry.