

Research and Design Summer Projects at the University of Calgary's Interactions Lab

Prof. Wesley Willett and Prof. Sheelagh Carpendale are currently looking for excellent and motivated undergraduate or graduate students who wish to work on exciting research and design projects in Spring and Summer 2019 (for approximately 4 months) in the areas of information visualization, design and human-computer interaction.

These summer **research and design projects** are conducted within the framework of an ongoing research project with the National Energy Board (NEB) of Canada in designing information visualizations to share information about topics such as energy data, pipeline safety, and energy infrastructure. The overall goal is to meaningfully engage Canadians and support an informed energy dialogue using interactive visualizations. The [Energy Visualization Project](#) is an open data initiative that has been focused on developing advanced, interactive data visualizations that will help make Canada's energy data publicly accessible, transparent and understandable.



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EXPLORING CANADA'S ENERGY FUTURE

Energy is important to Canada. It heats our homes, fuels our vehicles, and is a key aspect of Canada's economy.

Based on data from our Energy Futures reports, this interactive tool allows you to explore energy production and consumption trends and forecast them into the future. You can explore the data from the most recent report, or refer to previous reports.

[Methodology](#)
[About](#)

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EXPLORE BY REGION EXPLORE BY SECTOR EXPLORE ELECTRICITY GENERATION EXPLORE SCENARIOS

You will work closely together with the research and design teams and the stakeholders in the Interactions Lab (Math Sciences 680). All projects require the ability to think outside the box, be creative and work well in a team.

Projects

Possible summer research and design project topics include, but are not limited to:

- Create/design/prototype interactive visualizations of subsets of NEB data. This requires good to excellent programming skills, and it is an advantage to also have experience with visualization toolkits (e.g., d3.js).
- Visualize infrastructure mapping data (e.g., pipelines and above-ground infrastructure such as pump stations).
- Scripting and data wrangling.
- Assisting with qualitative studies (stakeholders interviews, transcribing and analyzing video data).
- Develop a prototype tool for spatially analyzing qualitative data from studies with stakeholders on large displays.
- Research on adapting existing web-based visualizations to smartphones and other mobile devices and extracting ways to develop complex but mobile-friendly visualizations.
- Work with world-leading experts on color to conduct research on the use of color in visualizations (e.g. objective use of color, supporting people with color blindness).
- Support the production of a document that records the design process and repository of sketches that have been generated to date during the Energy Visualization Project.

Please note that summer research students are not responsible for all topics listed above. Final projects will be clarified through discussions with Drs. Willett and Carpendale and selected students.

Successful candidates should demonstrate the ability to work effectively in a team environment, be creative and be able to work with constructive criticism. Experience with interactive visualization tools (like Tableau) and graphic design software (Adobe Photoshop/Illustrator) are strongly preferred.

Application details:

Please apply by email to project coordinator Claudia Maurer: claudia.maurer@ucalgary.ca .

In your email describe your interest in the position, attach your current resume, informal transcript, and any relevant information (portfolio, projects, etc.) that you would like to share, and provide the name and contact info of a reference such as a professor you have taken a course with.