

## *Institution*

Emily Carr University  
of Art + Design

## *Principal Researcher*

Eugenia Bertulis

## *Research Field*

Information and Computing  
Technology

## *Student Involvement*

28 student researchers  
3 employed students

## *Partners & Collaborators*

Rogers  
City of Vancouver

## *Funding Sources*

Rogers  
Natural Sciences and  
Engineering Research Council  
(NSERC)

## *Project Location*

Vancouver, Canada

## Technology on the Street Level

### Rogers I-BEAM

I-BEAM is a partnership between Emily Carr University of Art + Design, Rogers, and the City of Vancouver to create a street level cellphone tower design solution that would meet the explosive growth in demand for cellphone bandwidth in a way that is appealing to city residents.

Led by designer Eugenia Bertulis and with student design alumni Ada Chiu and Tyler Dennison, this project explored opportunities for stakeholder collaboration and connection in the design of public spaces.

Often there is conflict between public demand for increased bandwidth on the cellular telephone network and the willingness for the public to accept obtrusive large-scale network infrastructure in their neighbourhoods. With this project, the problem space was explored with the goal of designing a cellphone tower, or pole, that is beautiful, well adapted to the municipal streetscape, and technologically efficient. The final design concept was a series of cellular network sites that incorporates the added public amenity of electric vehicle chargers.

A functional prototype for the I-Beam pole was prototyped and built in 2012-2013. Working with a diverse group of stakeholders, the Emily Carr team brought the design process from concept and ideation to the creation of a working prototype. Students benefited from this project by working in a real-world design situation and engaging directly with stakeholders throughout the whole process. Rogers hired one of the student researchers as a direct result of their experience with this project. The results of this research can be used for large-scale deployment by Rogers or other cellular providers, in Vancouver or within other municipalities.

