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## The Circuit of Bachelard: a lumino kinetic interactive artwork at Ecole de technologie supérieure

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This peculiar combination of illuminated electro-technical elements honors the intellectual journey of philosopher Gaston Bachelard (1884-1962), who interlaced forward-thinking ideas underlying the complex interaction of reason and imagination, an important contribution to inspire us a society deeply marked by scientific and artistic creativity. Permanently installed in the main tunnel at École de technologie supérieure, Montreal, Canada, this interactive artwork reminds future engineers of the importance of the rationale-intuitive bilaterality in any technological innovation. The animation of lighting creates routes of running light blobs through the tunnel. Since the lighted tubes share the space with actual electrical and HVAC pipes, the lighting dynamics gives the impression of flow of useful elements (electricity, network data, air) in the building. A microphone is hidden in an electrical box at the center of the tunnel to allow interactive control. A sound recognition algorithm is used to identify blowing sounds: when users blow in an opening in this electrical box, the flow of light is accelerated, a symbol of the contribution of engineers in such technical systems. The artwork was designed as an innovation platform, for students to add elements to the installation in the future, allowing increased interactivity. This platform was successfully tested in 2015 by a team who created a luminous tug of war game in the tunnel, with players using their mobile phones as a controlling device. The installation was nominated at the Media Architecture Biennale awards ceremony, Sydney, 2016.

### Biography

Ghyslain Gagnon received the Ph.D. degree in electrical engineering from Carleton University, Canada in 2008. He is now an Associate Professor at Ecole de technologie supérieure, Montreal, Canada. He is an executive committee member of ReSMiQ and Director of research laboratory LACIME, a group of 10 Professors and nearly 100 highly-dedicated students and researchers in microelectronics, digital signal processing and wireless communications. Highly inclined towards research partnerships with industry, his research aims at digital signal processing and machine learning with various applications, from media art to building energy management.

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