Artful Science takes off at Pearson Airport

October 10, 2018 (Toronto, ON) – Today, on Stem Cell Awareness Day, passengers travelling through Toronto Pearson International Airport can view a new exhibit called Artful Science that celebrates stem cell art and much more.

According to the California Institute for Regenerative Medicine, Stem Cell Awareness Day highlights "one of the most promising fields of science in our time. The day is a global opportunity to foster greater understanding about stem cell research and the range of potential applications for disease and injury." Stem cells are a class of cells that have the remarkable potential to become many different cell types in the body. Regenerative medicine, including cell and gene therapy, harnesses the power of (stem) cells, biomaterials, molecules and genetic modification to repair, regenerate or replace diseased cells, tissues and organs.

"While the public may know that research underpins our innovation economy, they may not realize that science is also beautiful," says Professor Molly Shoichet, University of Toronto and curator of Artful Science. "This exhibit allows the public to share what we scientists see through the microscope. With art, we make science more accessible and thereby engage the public in science in a new and exciting way."

On now until December 2018, the Artful Science installation at Toronto Pearson, coordinated by the University of Toronto in partnership with CCRM and the Stem Cell Network, features a collection of 24 images by Canadian researchers intended to pique the interest of the travelling public. More than 47 million passengers travelled through Toronto Pearson in 2017.

Artful Science includes images from the annual "Cells I See" competition, hosted by CCRM and the Stem Cell Network, along with images from quantum physics and computational biology. All the images can be found across three bridges in Terminal 1, Departures Level.

"We are pleased to support the University of Toronto with installation of this exhibit at Toronto Pearson and provide our passengers the opportunity to appreciate the beauty in science," says Sarah Hall, Manager, Ambiance and Aesthetics, Greater Toronto Airports Authority.

About U of T
Established in 1827, the University of Toronto is Canada's largest university, recognized as a global leader in research and teaching. The university consistently ranks among the top 25 universities in the world. Its distinguished faculty, institutional record of ground-breaking scholarship and wealth of innovative academic opportunities continually attract outstanding academics and students from around the world and across its three campuses.

Research2Reality
Research2Reality shines a spotlight on Canadian researchers. R2R takes advantage of the power of film to tell stories and connect today's research with tomorrow's reality. Join us online www.research2reality.com on Twitter @r2rnow on Facebook r2rnow and on Instagram research2reality

About CCRM
CCRM, a Canadian not-for-profit organization funded by the Government of Canada, the Province of Ontario, and leading academic and industry partners, supports the development of regenerative medicines and associated enabling technologies, with a specific focus on cell and gene therapy. A network of researchers, leading companies, investors and entrepreneurs, CCRM aims to accelerate the translation of scientific discovery into new companies and marketable products for patients, with specialized teams, dedicated funding, and unique infrastructure. Visit us at ccrm.ca.

About the Stem Cell Network: Building Canada's stem cell and regenerative medicine research sector has been the raison *d'être* of the Stem Cell Network (SCN) since its inception in 2001. In just over 17 years, SCN has forged a national community that has transformed stem cell research and pushed basic research towards translational outcomes for the clinic and marketplace. SCN has catalyzed 18 clinical trials, 17 regenerative medicine start-up companies and leveraged a $100 million in partner contributions. SCN has invested over $100 million into research, which has benefitted 170 world-class research groups and more than 2,500 trainees from across Canada. stemcellnetwork.ca

About the Greater Toronto Airports Authority
The Greater Toronto Airports Authority (GTAA) is the operator of Toronto Pearson International Airport. The GTAA's vision is to make Toronto Pearson the best airport in the world. Towards this objective, the GTAA focuses on ensuring the safety and security of passengers and airport employees, enhancing the passenger experience and supporting the success of its airline

partners. Toronto Pearson served more than 47 million passengers in 2017, making it Canada's largest airport and the second-busiest North American international airport.

The area around Toronto Pearson is the second-largest employment zone in Canada. The airport facilitates 6.3% per cent of Ontario's GDP, directly employs 49,000 people and facilitates more than 300,000 jobs throughout the province of Ontario. Toronto Pearson believes that being a good neighbour means growing together with the communities it serves. To this end, the airport invests in social good and community-building initiatives through its community investment program, The Propeller Project.

For more information please visit Toronto Pearson on Twitter, Facebook or Instagram.

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Media Contacts:

University of Toronto Media Relations
media.relations@utoronto.ca
416-978-0100

Stacey Johnson
Director, Communications and Marketing, CCRM
416-946-8869
stacey.johnson@ccrm.ca

GTAA Media Office | media.relations@gtaa.com | (416) 776-3709

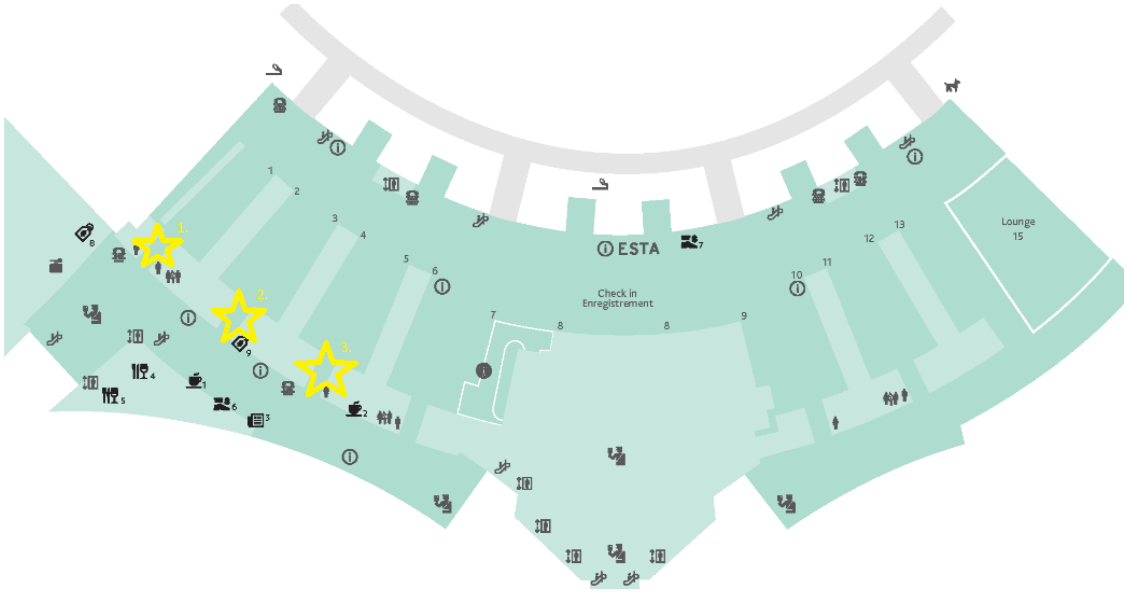
Additional resources/multi-media on Artful Science

Dropbox link to photography

https://www.dropbox.com/sh/oilg4iqyeeim64m/AADggMMwLNnfXPabDXoln1s7a?dl=0

Continues on next page…

Map of Galleries at Pearson Terminal I, Departures



Video footage

Facebook Live episode of Artful Science at location/bridge 3 (right side of map, above)

https://www.facebook.com/commercializinglivingtherapies/videos/1094567707334879/?comment_id=1094816557309994&notif_id=1537477975219850&notif_t=video_comment

The images and labs included in the exhibit

High resolution versions of the following images available upon request. For quantum physics and computational biology, please contact U of T. For stem cell images, please contact CCRM.

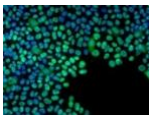
Bridge 1

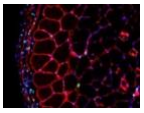
Title: Inner Spaces I and ll

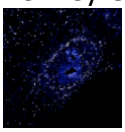
Description:
Inside all of us are trillions of cells that enable us to do everything - see, hear, smell, taste, feel, move, breathe and think. Cells divide, grow and have specific functions, depending on where they are located in the body. Embryonic stem cells are special because they have the capacity to become all of these cell types. Stem cells are used to promote tissue repair after injury or disease. The images displayed showcase different types of tissues and cells found in the human

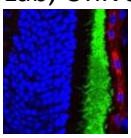
body. We can see these cells with microscopes and the use of coloured molecules that distinguish different types and parts of cells.

Images courtesy of Timothy Kieffer, University of British Columbia; Penney Gilbert and Molly Shoichet, University of Toronto; Centre for Commercialization of Regenerative Medicine: Cells I See contest entries, with the Stem Cell Network

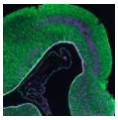
 *Stem cells destined to become any cell type in the body*, by Blair Gage, Timothy Kieffer Lab, University of British Columbia.

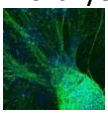
 *A view of skeletal muscle, a tissue necessary for movement*, by Moshen Afshar, Penney Gilbert Lab, University of Toronto.

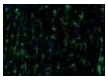
 *Immune cells within injured skeletal muscle tissue*, by Sadegh Davoudi, Penney Gilbert Lab, University of Toronto.

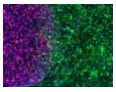
 *Cells in the retina of the eye required for vision*, by Nikolaos Mitrousis, Molly Shoichet Lab, University of Toronto.

Images courtesy of Matt Vickaryous, University of Guelph; Molly Shoichet and Alison McGuigan, University of Toronto; Centre for Commercialization of Regenerative Medicine: Cells I See contest, with the Stem Cell Network

 *Radial glial cells ready for neuron development*, by Rebecca McDonald, Matt Vickaryous Lab, University of Guelph.

 *Nerve cells of the spinal cord*, by Tobias Fuehrmann, Molly Shoichet Lab, University of Toronto.

 *Immune cells of the central nervous system*, by Tobias Fuehrmann, Molly Shoichet Lab, University of Toronto.

 *Cancer cells in the tongue*, by Elisa D'Archangelo, Alison McGuigan Lab, University of Toronto.

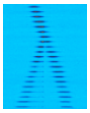
Bridge 2

Title: A new way of seeing reality

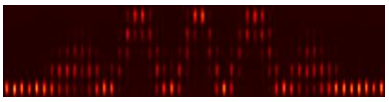
Description:
Quantum mechanics, which physicists since the 1920s have come to believe underlies all natural phenomena, is less of a "physical theory" than a new way of seeing reality in general. Quantum phenomena such as “entanglement” are also poised to enable extraordinary new technological capabilities, such as more powerful computers, 100% secure communications, and ever-more-precise measurement tools. These pictures are examples of the raw data we use to understand what our quantum matter is doing when we use lasers to cool it to one one-millionth of a degree above absolute zero – that is -273 °C.

Images courtesy of Aephraim Steinberg, University of Toronto

Quantum Nature of Atomic Magnets, by Ramón Ramos, Aephraim Steinberg Lab, University of Toronto.



Quantum Wave of Rubidium atoms, by Ramón Ramos, Aephraim Steinberg Lab, University of Toronto.

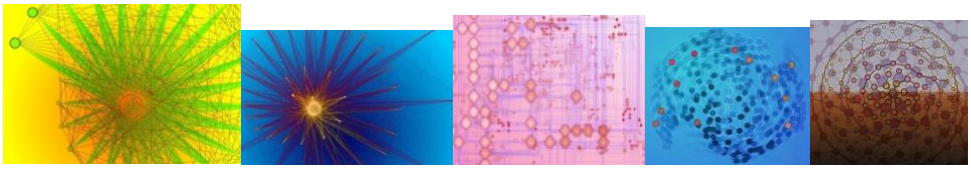


Using atoms as pitch-perfect tuning forks, by Ramón Ramos, Aephraim Steinberg Lab, University of Toronto.

Title: A cell’s social network

Description:
Cells have inner communication networks that can be captured using technology. Advanced software allows us to discover new connections in large data. These results have many applications including those in medical research, such as finding new genes in autism and new treatments for children with brain cancer. These images represent the inner workings of a cell: circles represent genes and lines show how the genes work together.

Images courtesy of Gary Bader, University of Toronto



Artistic rendition of gene interactions, by Vuk Pavlovic & Benjamin Elliot, Gary Bader Lab, University of Toronto.

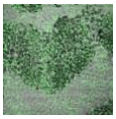
Bridge 3

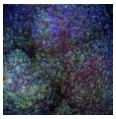
Title: Inner Spaces III and lV

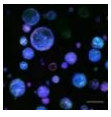
Description:
Inside all of us are trillions of cells that enable us to do everything - see, hear, smell, taste, feel, move, breathe and think. Cells divide, grow and have specific functions, depending on where they are located in the body. Embryonic stem cells are special because they have the capacity to become all of these cell types. Stem cells are used to promote tissue repair after injury or disease. The images displayed showcase different types of tissues and cells found in the human body. We can see these cells with microscopes and the use of coloured molecules that distinguish different types and parts of cells.

Images courtesy of Molly Shoichet, University of Toronto

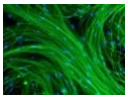
 *Lung cancer-like cells growing in 3D biomaterial*, by Roger Tam, Molly Shoichet Lab, University of Toronto.

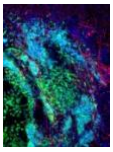
 *Retinal cells of the eye*, by Nikolaos Mitrousis, Molly Shoichet Lab, University of Toronto.

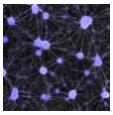
 *Cells of the central nervous system*, by Tobias Fuehrmann, Molly Shoichet Lab, University of Toronto.

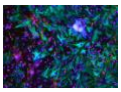
 *Breast cancer cells in 3D biomaterial*, by Alexander Baker, Molly Shoichet Lab, University of Toronto.

Images courtesy of Eve Tsai, University of Ottawa; Molly Shoichet and Derek van der Kooy, University of Toronto; Andras Nagy, Lunenfeld-Tanenbaum Research Institute; Centre for Commercialization of Regenerative Medicine: Cells I See contest entries, with the Stem Cell Network

 *Spinal cord neuron cells*, by Ahmad Galuta, Eve Tsai Lab, University of Ottawa.

 *Cells connecting the brain and spinal cord*, by Tobias Fuehrmann, Molly Shoichet Lab, University of Toronto.

 *Neuronal cells from induced pluripotent stem cells*, by Qin Liang, Andras Nagy Lab, Lunenfeld-Tanenbaum Research Institute.

 *Brain cells*, by Samantha Yammine, Derek van der Kooy Lab, University of Toronto.