



For immediate release

Wednesday, November 29, 2017

MANNING AWARDS FOUNDATION ANNOUNCES TOP 2017 CANADIAN INNOVATORS
36th annual prestigious awards recognise Canadian talent

Toronto, ON ... The Ernest C. Manning Awards Foundation announced the winners of the 2017 Manning Innovation Awards at a special dinner held at Toronto's Scotiabank Centre this evening. The seven Laureates will share \$145,000 in prize money in recognition of their contribution to improving the lives of Canadians and people around the world. This year's Laureates shine a light on the depth and breadth of Canadian innovation.

The Manning Innovation Awards have been called Canada's most prestigious, celebrating bright and passionate Canadians whose innovations are commercially viable, support Canada's provincial and national economies, and position Canada globally as an innovation leader.

"Canada's innovation heroes are among our most valuable natural resources," **says Foundation President Jennifer Diakiw.** "By sharing their stories, we hope to inspire others to innovate, and foster a sense of pride in our nation."

The three-part, Nobel-inspired evaluation and selection process ensures that each year's Manning Laureates are among Canada's top innovators. **The 2017 winners will be available for media interviews at the Manning Innovation Symposium at OCAD U Room 270, Great Hall, on Thursday, November 30th at 10:30 a.m. EST.**

This year's Ernest C. Manning Innovation Award winners are:

Principal Award: \$100,000 - Dr. Gary Kobinger and Dr. Xiangguo Qiu *Quebec City and Winnipeg*
ZMapp™ - ZMapp™ - The cure for Ebola Virus Disease, a highly infectious and deadly disease. First successfully used for compassionate, emergency treatment in 2014 for American medical missionaries, Kent Brantly and Nancy Writebol.

David E. Mitchell Award of Distinction: \$25,000 - Kevin Davies *Calgary, Alberta*
Hop Compost Ltd. - Canada's first inner-city compost facilities that have saved over 3 million pounds of food waste, and over 9 million pounds of emissions. It has also cut up to 83% of primary hauling costs, spurring food waste diversion. One bag of Hop's finished compost product provides the nutrients of 8.2 bags of standard compost, increasing organic crop yields.

Manning Innovation Award: \$10,000 - James Keirstead and Jim Qualie, P. Eng, B. Sc *Edmonton, Alberta*
GoConex Wire Free Switch - the world's first wire-free adaptable switch. By eliminating the need to physically connect switches to lights and other loads, this intuitive system reduces the economic costs and environmental impacts of wiring and electrical boxes, saving hundreds of feet of wiring and dozens of electrical boxes in a typical home installation.

Manning Innovation Award: \$10,000 - Russell Gray and Bryan Pfahl *Calgary, Alberta*
VSI Bovine Dystocia Simulator - the first life-size cow and calf model used as a hands-on teaching tool, allowing veterinary students to become proficient in diagnostic and practical skills. This reduces unnecessary harm or discomfort to live animals, along with avoiding the use of preserved or biological materials which are costly, can be difficult to obtain, and may pose a biohazard.

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MANNING AWARDS FOUNDATION ANNOUNCES TOP 2017 CANADIAN INNOVATORS, CONT.

The Ernest C. Manning Awards Foundation was established in 1980 by Alberta Energy Company CEO David Mitchell. Working with former Alberta premier Ernest C. Manning and others, he built the foundation to recognize and celebrate Canadian innovators of all ages and across all disciplines. The Foundation has built a national network of 3,000 young and adult innovators who are leaders in technology, business, engineering, and social innovation advancement. It has awarded innovation prizes to 273 Canadians who have demonstrated innovative talent in developing and successfully marketing a new concept, process or procedure. For more information visit: www.manningawards.ca.

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For more information, interview requests, or photo opportunities, please contact:

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BACKGROUND: INFORMATION ON 2017 MANNING INNOVATION AWARD WINNERS

Principal Award: \$100,000

Dr. Gary Kobinger and Dr. Xiangguo Qiu

Quebec City, Quebec and Winnipeg, Manitoba

ZMapp™ - Antivirus for Ebola Virus Disease

Thought by many as impossible, Dr. Kobinger and Dr. Qiu's intellectual achievement spanned a decade's search to find a treatment against the Ebola virus infection. Ebola Virus Disease is a highly infectious and deadly disease, transmitted through direct contact with bodily fluids, such as blood or semen, of an infected human or animal.

The largest outbreak occurred from December 2013 to January 2016 when Ebola swept across West Africa, resulting in more than 28,000 cases and more than 11,000 deaths.

Years before the deadly West Africa outbreak, Dr. Xiangguo Qiu and Dr. Gary Kobinger began researching and developing an antivirus while working at the Special Pathogens Program at the National Microbiology Laboratory, Public Health Agency of Canada.

First, they discovered and developed highly specific monoclonal antibodies (mAbs) that targeted and neutralized Ebola within the body. The efficacy of a cocktail of three antibodies was then confirmed in animal models of Ebola disease.

Secondly, they researched the pilot production ZMapp™ within different systems. ZMapp™ produced in prototype CHO cells and plants was used directly and successfully for compassionate, emergency use in humans for the first time in 2014.

American medical missionaries, Kent Brantly and Nancy Writebol, were infected with the Ebola virus while in Liberia in July, 2014. Following administration of ZMapp™, Kent went from unresponsiveness to taking a shower the following morning. Nancy, whose husband was preparing her funeral, was stabilized and able to travel back to the US where she completed her treatment with ZMapp™. Both fully recovered and are healthy today.

Brantly and Writebol were patients one and two, respectively, of 28 patients with the Ebola virus infection who were treated with ZMapp™, with or without advanced supportive care, on compassionate ground. Twenty five of the twenty eight patients survived and made a complete recovery from the severe, often fatal disease.

ZMapp™ is now the model driving the recent explosion of monoclonal antibody therapies against many other infectious agents such as HIV, Lassa, and Marburg among others.

Dr. Kobinger hopes that awareness of the Manning Innovation Awards will help showcase Canadian innovation and encourage others to follow their dreams. "The inspiration we receive and the opportunity to share knowledge drives the betterment of our environment. The acknowledgement of our work offers a pause to express gratitude for past and future inspirations."

The recipient of several awards and honours, Dr. Qiu is grateful to receive the Manning Foundation Innovation Award. "I am very honoured to be recognized for this award. As a scientist, I feel very lucky to see that our persistent efforts have resulted in saving people's lives."



David E. Mitchell Award of Distinction: \$25,000

Kevin Davies

Calgary, Alberta

Hop Compost Ltd.

In 2013, Kevin Davies recognised opportunity in the unaddressed food waste filling the dumpsters of his Green Start recycling company's clientele. However, the nearest compost facility was a rural operation, a two-hour roundtrip from Green Start's waste sources.

To commercialize capital-intensive cleantech for the first time in Canada, Kevin pioneered a triple revenue stream business model. As the first compost operation with complete vertical integration, Hop Compost profits on its inputs with compost hauling service, on its outputs with a compost product, and on its by-products with carbon credits.

Unifying food merchants and food growers in a closed loop, Hop Compost has saved more than 9 million pounds of food waste and more than 15 million pounds of emissions since February 2015. Plans are underway to expand to 14 additional cities in Canada and the United States over the next few years. Hop is 2000x cleaner than OMRI organic standards, improving human health in Canadian agriculture.

Compostable waste is a key problem in Canada, taking up more than 40% of all landfill area. Due to odours in the windrow production process which allows food to openly rot outdoors, most compost facilities cannot get regulatory approval to operate within cities where the majority of waste is produced. The long-haul trips to reach rural facilities create uneconomic service for potential compost haulers, reducing consumer adoption. The concept of an inner-city compost system piqued Kevin's interest.

But the inspiration for Hop Compost began after his dog Willy was poisoned by fertilizer in the family garden. Willy was ultimately nursed back to health, but the situation alerted Kevin to the danger of using chemical fertilizer to grow food. As more people share similar concerns, organic food production has reached record sales, but organic farms suffer up to 80% lower crop yields without fertilizer, so production cannot meet demand.

Kevin's research led him to HotRot, a compost cleantech developed by a small team of biologists and engineers out of the Wool Research Organisation of New Zealand. Kevin worked with HotRot on facility research and development for over a year, negotiating their first commercial exclusivity agreement to give Hop sole rights across ten North American cities. He later re-negotiated exclusivity to blanket all of North America, before ultimately negotiating the acquisition of all HotRot intellectual property.

Backed by HotRot cleantech which eliminates odours from production, Kevin created Canada's first inner-city compost facilities in Calgary and Vancouver, cutting up to 83% of primary hauling costs and spurring food waste diversion. He recruited food industry players such as Earls, the Hyatt, and DavidsTea, Royal Dinette, Market, and Matchstick Coffee Roasters to begin compost collections. Hop Compost has signed more than 150 food companies for compostable material collections, and that number will rise to more than 400 by the end of 2017.

After producing the most nutrient-rich compost tested in Canada, Hop's first batch of product was purchased by Grow Calgary, the largest urban farm in the country. One bag of Hop's finished compost product provides the nutrients of 8.2 bags of standard compost, increasing organic crop yields.

Hop's compost is now sold at more than 30 retailers in Western Canada including Whole Foods, Burnco, and Greengate, and will be available at more than 250 stores by spring 2018.

Kevin is thrilled to join the family of Manning Innovation Award Laureates. "I'm honoured to be a Manning Award recipient, and draw much inspiration from other recipients in this year and the past."



Manning Innovation Award: \$10,000

James Keirstead and Jim Qualie, P. Eng, B. Sc

Edmonton, Alberta

GoConex Wire Free Switch

Traditional building electrical wiring systems take a long time to install, require a large amount of materials, and must be installed during the construction process as it is difficult and expensive to make changes once construction is completed.

James Keirstead and Jim Qualie were inspired to create a wire-free adaptable switch that would reduce the economic costs and environmental impacts for home builders and homeowners. They had previously developed a wireless control system for the hot tub/spa industry and applied their skills and experience to adapt the technology for wireless electrical controls in homes.

Working tirelessly over a period of three years, they developed the world's first wire-free adaptable switch. GoConex sends radiofrequency commands to a receiver, located in the electrical junction box(es), thereby controlling an electrical load such as a light. By eliminating the need to physically connect switches to lights and other loads, this intuitive system reduces the economic costs and environmental impacts of wiring and electrical boxes, saving hundreds of feet of wiring and dozens of electrical boxes in a typical home installation.

Builders have found that residential installations are 30% faster, commercial installations are 65% faster and adding a switch is 95% faster with GoConex. The cost is actually less expensive than traditional wiring.

GoConex wireless switches can be mounted on brick, glass, drywall, tile, and at any height. Changing a switch location is easy, just take it off the wall and move it somewhere else. Renovations are inexpensive and simple as there's no need to cut holes in walls.

GoConex is sold at Home Hardware and Kent Building Supplies in Canada and at Crescent Electric and Destination Lighting in the US. GoConex will be available in RONA and Lowe's Canada stores by the end of 2017. Future plans include expanding GoConex sales in Canada and the US, and introducing the technology in Europe, Australia, Brazil, the Caribbean, and the Middle East.

James believes that celebrating role models through an award like this ignites a community's culture of innovation and diversity. "It is an honour to be selected as one of the Ernest C. Manning Innovation award recipients. More than ever, Canada is relying on its innovators to connect, collaborate, experiment and solve big problems. We have a moral responsibility to our global community and future generations. I take that very seriously."

An inventor since childhood with many patents to his name, Jim is humbled and grateful to receive the 2017 Manning Innovation Award. "It is wonderful that the Ernest C. Manning Foundation celebrates Canadian innovators taking risks to do new things, to create, and to be committed to what drives them. It feels amazing to receive an award for doing the things I love to do. Thank you!"



Manning Innovation Award: \$10,000

Russell Gray and Bryan Pfahl

Calgary, Alberta

Bovine Dystocia Simulator

Growing up, both Russell Gray and Bryan Pfahl had an innate curiosity about how things worked, often taking items apart and putting them back together.

While their creativity and problem-solving skills led them to careers designing and building props for the motion picture, television, and display industries, they never thought that they would one day design and build life-size cows for veterinary education.

The idea for the VSI Bovine Dystocia Simulator was sparked in 2009 following a conversation with Dr. Alastair Cribb, the dean of the Faculty of Veterinary Medicine at the University of Calgary. Hands-on experience is crucial for veterinary students but the traditional use of live and preserved cadavers or biological materials in the classroom is expensive, potentially hazardous, as well as an ethical concern.

Russell and Bryan love a challenge and their creativity, varied skill set and unique history of fabrication were a perfect fit to tackle the development of the first bovine simulator.

One year later the pair unveiled the VSI Bovine Dystocia Simulator, the first life-size cow and calf model. The cow bodies are made from steel reinforced epoxy resin-infused fibreglass, with a removable hatch granting access to inside the cow.

Veterinary professors can demonstrate dystocia (difficult birth due to a misaligned fetus) by placing the calf model in the Bovine Dystocia Simulator in different positions that could occur.

The cow also features a functional udder with replaceable silicone teats. Students are able to perform a California milk test, used to detect mastitis, or inflammation of the udder, which is a common disease in dairy cows.

Canadian designed and manufactured VSI Bovine Dystocia Simulators are used in 130 institutions in more than 35 countries. Russell, Bryan and their team are currently developing a canine dental surgery simulator.

According to Russ, winning an award, especially one as prestigious as the Innovation Award, was never even a remote consideration when the bovine dystocia project was started. "Our only mission was to try to create a well-designed, functional, and aesthetically pleasing model that would meet the needs of veterinary students and educators while reducing risk to animals. Being nominated and winning a Manning Innovation Award is a big honour, especially when considering the other amazing and talented innovators from across the country."

Bryan is exceedingly grateful and honoured that the Manning Foundation has recognized their work and products for their innovation. "We're pleased that the talents of artisans and the creators of practical industrial design have been acknowledged as important contributors in an era where high-tech often over-shadows utilitarian manufacturing."