CANARIE invests in 9 innovative software projects and boosts Canadian researchers toward faster scientific discovery

Research Software Program funds the development of software tools and services for researchers, leveraging Canada’s powerful digital infrastructure

[OTTAWA, ON – FEBRUARY 12, 2014] - CANARIE, a vital component of Canada’s digital infrastructure supporting research, education and innovation, today announced a further $4M in investment to create nine software projects, selected from its Research Software Call for Proposals issued in June, 2013. These new software tools will enable researchers to access, process, manipulate, visualize, and share immense volumes of digital data and accelerate the progression of this data from collection to discovery and ultimately, to breakthroughs that enrich the lives of Canadians.

CANARIE has changed the paradigm for research software development by supporting two types of projects: New research platforms, called Network-enabled Platforms (NEPs), serve specific functions for research within a specific domain. These NEPs benefit from an existing toolkit of software services, called Research Platform Interfaces (RPIs), developed by other researchers in previous rounds of CANARIE funding. Developers of new NEPs may incorporate previously-created RPIs and add new ones to the suite, resulting in significant process and cost efficiencies through a powerful cycle of software development and reuse. CANARIE’s full suite of powerful RPIs is available at no cost to scientific research community at https://science.canarie.ca.

This current round of funding extends $27M in investments made during CANARIE’s 2007-2012 mandate, which supported 20 new research software platforms. Illustrating the powerful efficiencies of this collaborative model, the new projects will re-use 12 RPIs from the previous round of investments and contribute 21 new ones to this pool of resources. CANARIE is pleased to announce the following new projects, in disciplines ranging from astrophysics to genetics and disaster management:

- **HEP Data-Intensive Distributed Cloud Computing**: led by Dr. Randall Sobie, Department of Physics and Astronomy, University of Victoria – A software platform that expands cloud computing functionality for the globally-distributed facilities supporting the ATLAS high energy physics (HEP) experiments at CERN’s Large Hadron Collider.

- **Web-Enabled Awareness Research Network (WARN)**; led by Mr. Benoît Pirenne, Ocean Networks Canada – A software platform that implements very fast detection of on-land and off-shore sensor data to provide key information about impending disasters such as earthquakes and tsunamis.

- **SKA Global Science Data Delivery Platform**; led by Professor Russ Taylor, Department of Physics and Astronomy, University of Calgary – A software platform that evolves the collaborative global platform for the distribution, delivery and access to astronomical data from the Square Kilometre Array project.

- **M+M: Movement + Meaning Middleware**; led by Dr. Thecla Schiphorst, School of Interactive Arts and Technology, Simon Fraser University – A novel software platform that represents and visualizes sensor-based human movement for use in entertainment, gaming and quality of life applications.
- **Software-as-a-Service for Big Data Analytics;** led by Dr. Chris Pritchet, Department of Physics and Astronomy, University of Victoria – A software platform for a 7-country/14-institution collaboration to explore the universe and simulate the origin of stars. A second platform will support advanced image processing from the New Mexico Very Large Array of radio telescopes.

- **Research and Education Activities in Laboratory Mechatronics (REALM);** led by Dr. Michael Bauer, Department of Computer Science, University of Western Ontario – A software platform that enables a wide array of researchers to observe, control, and collect data from remote experiments, including the use of remote access of robotic devices.

- **Genetics and Genomics Analysis Platform (GenAP);** led by Dr. Guillaume Bourque, Department of Human Genetics, McGill University – A new software platform that facilitates the distribution and analysis of genetic and genomics data for the life science research community, including a web portal to facilitate data access, visualization, and analysis through distributed high performance computing (HPC) centres.

- **CBRAIN for High Performance Computing (CHPC);** led by Dr. Alan Evans, Montreal Neurological Institute, McGill University – A service that leverages the previously-funded “Canadian Brain Research And Informatics Network” platform to provide the research community with web-based access to powerful supercomputers across Canada and around the world.

- **Map-updating Web Service Based on Landsat-8 Imagery for the National Hydrographic Network;** led by Dr. Langis Gagnon, Centre de Recherche Informatique de Montréal (CRIM) – A new software service that processes satellite images for semi-automatic updating of lakes and large streams with Landsat-8 imagery.

“These new tools address a significant gap in software for scientific research. We’re proud to invest in the development of these software platforms that access and process the digital data produced from groundbreaking research taking place throughout Canada,” said Mark Wolff, CANARIE’s Chief Technology Officer. “Not only do many of these new services leverage the investments that CANARIE has made in previous rounds of its Research Software funding, but they also contribute new, world-class software tools that will continue to benefit the global scientific community.” CANARIE’s Research Advisory Committee, made up of research leaders from across the country and across a range of research disciplines, provided CANARIE with valuable guidance and advice in the selection of the projects. An upcoming announcement will feature the list of successful NEP projects from CANARIE’s second call for proposals that took place in September, 2013.
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About CANARIE

CANARIE designs and delivers digital infrastructure, and drives its adoption for Canada’s research, education and innovation communities. CANARIE keeps Canada at the forefront of digital research and innovation, fundamental to a vibrant digital economy.

CANARIE’s roots are in advanced networking, and CANARIE continues to evolve the national ultra-high-speed backbone network that enables data-intensive, leading-edge research and big science across Canada and around the world. One million researchers, scientists and students at over 1,100 Canadian institutions, including universities, colleges, research institutes, hospitals, and government laboratories have access to the CANARIE Network.

CANARIE also leads the development of research software tools that enable researchers to more quickly and easily access research data, tools, and peers. In support of Canada’s high-tech entrepreneurs, CANARIE offers cloud-computing services to help them accelerate product development and gain a competitive edge in the marketplace.

Twelve provincial and territorial network partners, together with CANARIE, collectively form Canada’s National Research and Education Network (NREN). This powerful digital infrastructure connects Canadians to national and global data, tools, colleagues, and classrooms that fuel the engine of innovation in today’s digital economy.

Established in 1993, CANARIE is a non-profit corporation, with the major investment in its programs and activities provided by the Government of Canada.

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