



Taking Canadian Astronomers Out of This World

Enriching Space Discovery and Our Understanding of the Universe

Project Name: The Canadian Advanced Network for Astronomical Research (CANFAR)

Project Lead: University of Victoria

CANARIE Contribution: \$2.3 M

Participants:

- University of British Columbia
- Canadian Astronomy Data Centre, Herzberg Institute of Astrophysics, National Research Council
- Compute Canada and WestGrid

What is CANFAR?

CANFAR is a system that helps unlock the universe by leveraging “cloud-computing” environments, allowing researchers to successfully access and use the vast and growing amounts of astronomical images and data.

This data flows across the high-capacity, high-speed CANARIE Network to scientists and researchers around the world.

International telescopes, such as the Canada-France-Hawaii telescope, Gemini, and the James Clerk Maxwell telescope atop Mauna Kea in Hawaii, produce hundreds of terabytes of one-of-a-kind images (like the one on the right). CANFAR provides astronomers with access to these kinds of datasets and resources that were previously unavailable to them.

CANFAR increases the potential for exciting discoveries and enhances the opportunities for collaboration for international science teams. This helps to maintain Canada’s role as a world leader in astronomy research.

Value to Research and to Canada:

- Significantly expands resources available to astronomers and provides access to new information that improves our understanding of the universe
- Provides cloud-computing resources to help scientists collaborate and use leading-edge instruments to observe space
- Fosters and enhances collaboration among Canadian and international scientists

Did you know?

CANFAR and the Canadian Astronomy Data Centre are among the most advanced elements of Canadian research infrastructure supporting large-scale cloud computing using Compute Canada resources and handling some of the world’s most massive astronomy datasets.



SCUBA-2 instrument installation on the James Clerk Maxwell telescope.



The Cocoon Nebula. Image acquired by the Canada-France-Hawaii telescope.
Credit: Canada-France-Hawaii Telescope/Coelum