Maximizing Research with UBC
Advanced Research Computing

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THE UNIVERSITY OF BRITISH COLUMBIA
ADVANCED RESEARCH COMPUTING

UBC Advanced Research Computing (ARC)

Why does ARC exist?

ARC offers powerful computing resources and guidance to researchers enabling them to reach their research goals.

ARC services are adapted to support the varying sizes and types of research projects.

https://arc.ubc.ca/

UBC | THE UNIVERSITY OF BRITISH COLUMBIA
Office of the Vice-President, Research & Innovation

VPRI Portfolio Support Throughout the Research Project Lifecycle

The Vice-President Research and Innovation portfolio helps to coordinate and provide the environment for you to pursue world-leading impactful research. Find the support you need below.

The academic research process is intricate, lengthy, and generally requires participation from both internal and external entities.

ARC can help you navigate this process. Red lines indicate with whom we work closely.

	Finding Funding	Developing Your Proposal	Submitting Your Proposal	Managing Your Funds	Conducting Your Research	Mobilizing Your Knowledge
	Finding funding deadlines, information and requirements	Support in preparing funding applications and projects	Ensuring that eligibility requirements are met and signatures obtained	Account set-up, management and reporting	Services, facilities, and support for regulatory compliance	Developing and translating your research into impacts
Start with...	1, 2	1, 2, 3	1, 3, 4	1, 4, 7	5, 6, 8, 9, 10, 11	12, 13, 14, 16
Then try...	3, 4, 5, 14	5, 6, 8, 9, 12, 16				5, 15, 17

ADMINISTRATION, MANAGEMENT & STRATEGIC SUPPORT

❶ Office of Research Services (ORS)
Helps you to find funding opportunities; obtain institutional signatures for grant applications; manage ongoing compliance requirements; set up a research account and spending limits; transfer research funds; and register a clinical trial. ors.ubc.ca | 604-822-8581

❷ Support Programs to Advance Research Capacity (SPARC)
Access strategic research development services and resources designed to increase success rate of Tri-Agency funding applications. sparc.ubc.ca | 604-827-4057

❸ Institutional Programs Office (IPO)
Receive support through the full cycle of major federal, provincial and regional research awards including those offered by the CFI, the BCKDF, Western Economic Diversification, CFREF, and CERCs. ipo.ubc.ca | 604-822-1352

❹ University-Industry Liaison Office (UILO) - Sponsored Research
Get support to establish research partnerships with industry, government and non-profit organizations through research contracts and industry grants uilo.ubc.ca | 604-822-8580

❺ Indigenous Research Support Initiative
Receive professional research support and services when undertaking collaborative research projects with Indigenous communities to ensure projects are based on community-led interests, reciprocal relationships, and principles of mutual accountability. irsi.ubc.ca | 604-827-2801

❻ Animal Care, Biosafety & Radiation Safety Committees
Receive guidance and obtain permits and approvals for research projects involving animals, biological materials, and/or radioactive materials to ensure safe and ethical conduct. animalcare.ubc.ca/acc | 604-827-5111

❼ Research Finance
Get help to resolve any funding issues, and to ensure that all of your sponsored research and specific purpose funds are spent in compliance with policies, and are reported appropriately to funders. finance.research.ubc.ca | 604-822-3275

❽ Office of Research Ethics - BREB & CREB
Get support to ensure your research achieves the highest ethical standards, access advice on emerging issues in research ethics, and attend training. Get support for regulatory compliance for US PHS funded studies. ethics.research.ubc.ca

FACILITIES & PLATFORMS

❾ Advanced Research Computing (ARC)
Get support for high-performance computing and data management needs. Access digital research infrastructure and consult with ARC personnel. arc.ubc.ca | 604-822-9274

❿ Animal Care and Use Program
Access research support, veterinary services, compliance, training, procurement, animal housing, technical services and administrative support. animalcare.ubc.ca | 604-822-6283

⓫ Shared Research Platforms
Access state-of-the-art equipment, training, services and support through facilities supported by the VPRI in partnership with Faculties and departments.
Plant Care Services plantcare.ubc.ca | 604-822-3283
Sequencing and Bioinformatics Consortium sequencing.ubc.ca | 604-822-0310
Facility for Infectious Disease and Epidemic Research (FINDER) finder.ubc.ca | 604-827-4807
Upright Open MRI uprightopenmri.ubc.ca
Pacific Centre for Isotopic and Geochemical Research (PCIGR) pcigr.ubc.ca
UBC Bioimaging Facility bioimaging.ubc.ca | 604-822-3354

INNOVATION, IMPACT & RECOGNITION

⓬ University-Industry Liaison Office (UILO) - Technology Transfer
Contact to disclose inventions and discoveries in order to obtain patents, find licensees and to form spin-off companies. uilo.ubc.ca | 604-822-8580

⓭ entrepreneurship@UBC
Get support to commercialize ideas and innovations through venture building. entrepreneurship.ubc.ca

⓮ Innovation Partnerships
Access Innovation Managers with sector-specific expertise to help stimulate innovation and connect you with partners in industry, non-profit or community groups. innovation.ubc.ca | 604-354-6851

⓯ Office of Research Prizes & Awards
Receive information, strategic advice & nomination support for major external research prizes and awards, and access UBC's internal faculty research awards program. prizes.research.ubc.ca | 604-827-0042

⓰ Knowledge Exchange Unit (Kx)
Helps you to collaborate with decision-makers, service providers, non-profit or community groups to develop and share impactful knowledge. innovation.ubc.ca/kx | 604-822-3090

⓱ UBC Press
Contact if you want to publish high-quality works of original scholarship with Canada's leading social sciences publisher. ubcpress.ca | 604-822-5959

Still not sure where to start?
604-822-1995 | vpri.support@ubc.ca

ARC Services

ARC provides specialized support to assist with your research needs.

arc.support@ubc.ca

Compute and storage

Free HPC cluster and object storage platform - key for big data or analysis.

Training and education

Regular training and education tailored to larger groups or individual research teams.
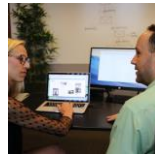
Privacy and security

A dedicated team to address your inquiries concerning privacy and security.

Research data management

Specialized data management support to research teams on an individual basis.

Discipline-specific expert consultation

ARC team is diverse with many backgrounds, including bioinformatics, medicine, chemistry, physics, library science, computer science, oceanography, and more!
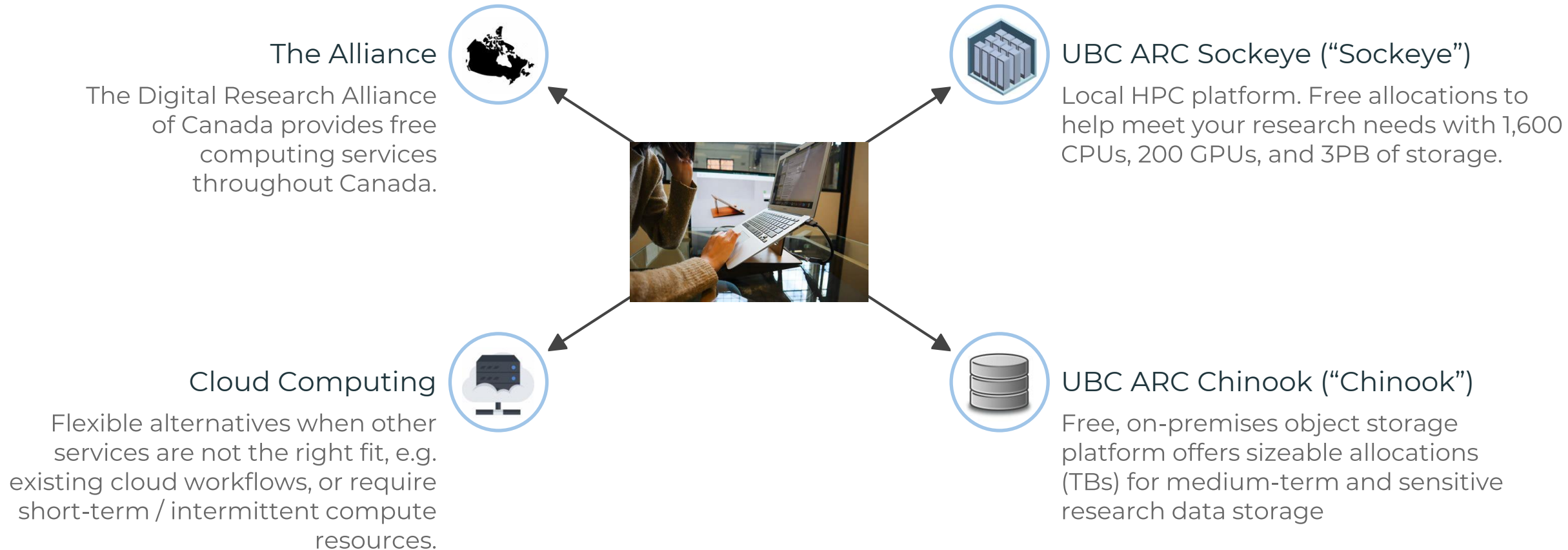
Software and platforms

We guarantee support for software and platforms used in research, e.g. the REDCap survey tool and the Globus data transfer tool.

# Digital Research Infrastructure – What does it mean for my research?

The Alliance

The Digital Research Alliance of Canada provides free computing services throughout Canada.

UBC ARC Sockeye ("Sockeye")

Local HPC platform. Free allocations to help meet your research needs with 1,600 CPUs, 200 GPUs, and 3PB of storage.

Cloud Computing

Flexible alternatives when other services are not the right fit, e.g. existing cloud workflows, or require short-term / intermittent compute resources.

UBC ARC Chinook ("Chinook")

Free, on-premises object storage platform offers sizeable allocations (TBs) for medium-term and sensitive research data storage

Talk to us about how you can leverage these systems to improve your research workflow -
arc.support@ubc.ca

Software and Platforms

3PB +

DATA transferred using Globus
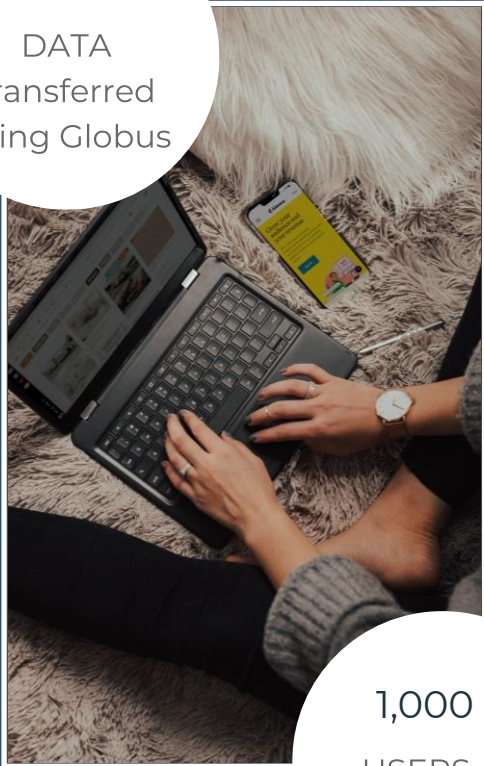
1,000 +

USERS on REDCap

1. HPC Software

Hundreds of software modules already installed on Sockeye

Need something not included? ARC will help.

2. Globus

Easy data transfer

Enables users to securely share large datasets from any location around the world. Integrated with Sockeye, Chinook, and Alliance clusters.

3. REDCap

Online tool

Research electronic data capture developed for surveys, data entry forms, longitudinal or one-time entry. Platform server is located at UBC.

https://arc.ubc.ca/

450+
ARC-supported research publications

" I must also knowledge the incredible amount of support I received from our departmental IT and UBC's Advanced Research Computing. We were initially worried about the compute, but the ARC team made it possible. "
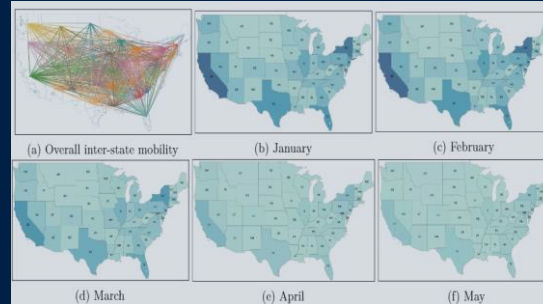
" Thanks for providing us this opportunity to have more computational power. This will substantially help perform quality research works at UBC. "

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" ...[access to] Sockeye has saved my research career. "

"
The performance on Sockeye has been great! "

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Some Highlighted Researcher Profiles

Dr. Muhammad Abdul-Mageed, Assistant Professor, School of Information and Department of Linguistics

His work focuses on developing large language models that can improve various technologies.

Muhammad's research involves large volumes of simulations to train language models using statistical learning and natural language socio-pragmatics.


Dr. Jessica K. Dennis, Assistant Professor, Department of Medical Genetics and BC Children's Hospital Research Institute

Jessica's lab conduct studies in large population datasets, working at the intersection of genetics, epidemiology, statistics, bioinformatics, and computer science.

A primary goal of her research is to reduce the suffering associated with psychiatric disorders, many of which first manifest in childhood and adolescence.
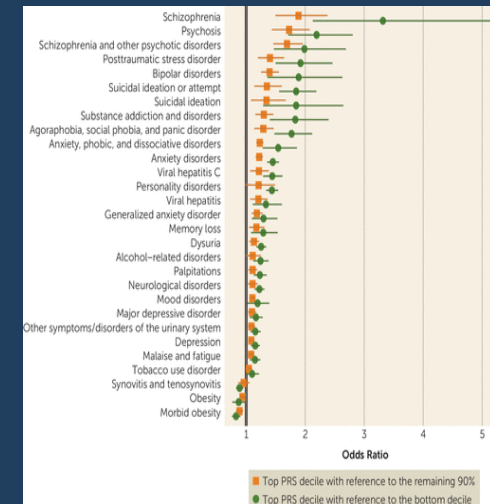
Some Highlighted Researcher Profiles

Dr. Simon Donner, Professor, Department of Geography

Simon's research program lies primarily at the intersection of climate change science, marine science, and policy.

Sockeye offers compute power for sizable data sets and use of climate models to examine climate change impacts on ocean.

Foundational Values and Design Principles for Pathways to Net-Zero

Dr. Alexandre Bouchard-Côté, Professor, Department of Statistics
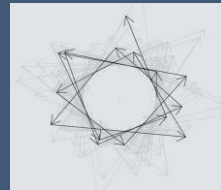

Alexandre's research is in computational statistics and statistical learning. He is interested in the mathematics behind it as well as applications to linguistics and biology.

His methods include: Monte Carlo methods such as SMC and MCMC, graphical models, non-parametric Bayesian statistics, randomized algorithms, and variational inference.
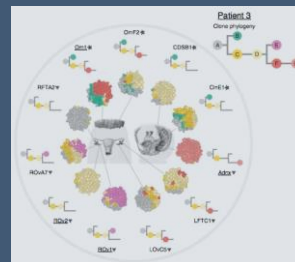
Partners

We work with partners to deliver services to researchers at UBC and across Canada.
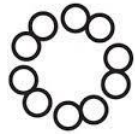
Thoughts? Questions?

Reach out with any questions or book a consultation
arc.support@ubc.ca

ARC Services

Links to specialized support to assist with your research needs.

Compute and storage

Sockeye - https://arc.ubc.ca/ubc-arc-sockeye

Chinook - https://arc.ubc.ca/chinook

Alliance - https://alliancecan.ca/en/services/advanced-research-computing/account-management/apply-account

RONIN - https://arc.ubc.ca/arc-cloud-platform-ubc-arc-ronin

Pilot Program - https://arc.ubc.ca/arc-beta-and-pilot-program

Research data management

RDM website - https://rdm.ubc.ca/

Reach out for a consultation: arc.training@ubc.ca

Training and education

Historical and upcoming training materials- https://confluence.it.ubc.ca/display/UARC/Training

Reach out for a consultation: arc.training@ubc.ca

Video recordings - https://www.youtube.com/@ubcadvancedresearchcomputi6355/featured
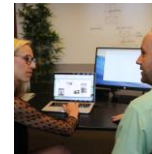
Discipline-specific expert consultation

Reach out for a consultation for grant proposals, or anything to do with our compute and storage systems: arc.support@ubc.ca

Privacy and security

Website overview - https://arc.ubc.ca/arc-research-cybersecurity-and-privacy-services

Reach out for a consultation with one of our experts: arc.support@ubc.ca

Software and platforms

Globus - https://arc.ubc.ca/globus

REDCap - https://arc.ubc.ca/redcap

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