



## Queen's University RDM Survey

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#### Purpose of the Research

In order to become better prepared to support Research Data Management (RDM) practices in sciences and engineering, Queen's University Library together with the University Research Services are conducting a research study of all ranks of faculty members, as well as postdoctoral fellows and graduate students at the Faculty of Engineering & Applied Science, Departments of Biology, Chemistry, Computer Science, Geology, Mathematics & Statistics, and Physics & Astronomy in the Faculty of Arts and Science.

Your participation in this research is important and will help to

- determine how Queen's University science and engineering faculty manage and share research data beyond their project
- determine how Queen's University Library might help to facilitate data management activities
- Understand some of the differences in research data management practices and needs across disciplines and sub-disciplines.

#### Description of the research

You are invited to participate in this research project by completing this survey electronically using Fluid Survey software. Your participation is completely voluntary. You may withdraw from the survey at any time before hitting the submission button. Please note, once you submit your answers and close your browser you will no longer be able to withdraw your answers from the study.

The survey will ask you how you work with research data, how you share your data, your awareness of funding mandates for research data management, and basic demographic questions about your professional status. At the end of the survey you will have an opportunity to provide your feedback on the survey content, your thoughts on research data management practices as well as any additional comments you might have about the survey. Your answers will be kept private and confidential. Any personal identifying information will be removed from the research data and destroyed when it is no longer needed to authenticate the research results. Any personal identifying information will be stored in a password-protected file in a secure location. The research data will not include any personal identifying information and be archived for the possible future use by other researchers. Survey findings may be published in professional journals or presented at scientific conferences but the information will be in a composite form and the researchers will have no ability to trace the information back to the participants.

The estimated time to complete the survey is approximately 15-30 minutes. We would appreciate your response by December 18, 2015.

#### What are the potential benefits of participating in this survey?

Your participation in this survey will potentially benefit your Faculty or Department as information gathered will help Queen's University Library to understand current practices and become better prepared to support faculty's RDM needs in anticipation of ongoing development of the *Tri-Agency Statement of Principles on Digital Data Management (Draft)*. RDM practices are becoming increasingly important to faculty and researchers who may begin to face requirements to submit research data or data management plans along with any journal submissions or funding applications. In addition, well-managed data is increasingly recognized as contributing to the reach and impact of research.

### What are the potential risks involved in participating in this survey?

There are no known risks to participate in this research.

### Access to research information

Data will be stored electronically on secure Queen's University servers, in password protected folders accessible only to the research team for an indefinite length of time. Data collected will help Queen's University Library design services for the benefit of Queen's University academic community and it will be necessary to keep the data for as long as it serves this purpose.

Access to the survey data as collected will be limited to the research team. Survey findings may be published or presented in scholarly communications. Any personal information that could identify you will be removed or changed before data files are shared with other researchers or made public.

This study has been granted clearance according to the recommended principles of Canadian ethics guidelines and Queen's policies.

Should you have further questions about the research study please contact the Principal Investigator Dr. Nasser Saleh at 613-533-6846 or [nasser.saleh@queensu.ca](mailto:nasser.saleh@queensu.ca). If you have any ethical concerns regarding your participation in the study or how the study was conducted please contact the Chair of the General Research Ethics Board at 613-533-6081 or [chair.GREB@queensu.ca](mailto:chair.GREB@queensu.ca)

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By clicking on the 'yes I agree' button below, you agree:

- That the goals of the study have been explained to you and that you have had the opportunity to have your questions answered
- That the survey research team has your consent to use the information submitted to prepare library programs and to publish or present findings in scholarly communications
- That the survey research team has your consent to the use of your information as described in this form
- To take part in this study

Yes I agree, proceed to take the survey

No I do not want to participate in the survey

If you experience technical difficulties accessing or submitting the survey please contact research team member Alexandra Cooper by phone 613-533-6000 ext.77481 or email [coopera@queensu.ca](mailto:coopera@queensu.ca).

**\*\* You should print this form for your records \*\***  
**Thank you for your participation!**

### In this survey

- a '**researcher**' can include any individual who worked on the research project that could legitimately claim academic authorship of the research project if the results of the research project were to be published in a scholarly work
- a '**research project**' can be defined as the research associated with investigating a hypothesis or group of hypotheses (and applicable set of predictions) aimed at answering a distinct or specific research question. A single research grant may support one research project or multiple research projects. In the context of this survey, a research project is associated with a distinct set of research data and is considered to be a subset of a research program, research activity or research area you may investigate
- '**research data**' can be defined as any data that are collected, observed, created or analyzed to produce research results. Research data could include:
  - Observational data such as sensor readings, telemetry, survey results, images
  - Experimental data such as gene sequences, chromatograms, magnetic field
  - Simulation data such as climate models, economic models, Monte Carlo calculations
  - Derived or compiled data such as text and data mining, compiled database, 3D models which can come in many forms including text, numerical, multimedia, models, software, discipline specific or instrument specific
- '**big data**' can be defined as volume of information that may be difficult to process using traditional databases and software programs. For the purpose of this survey, we define big data as volume of information over 1 TB.

Section 1: Working with Research Data

In this section you will be asked questions about your research data, including how you work with them, document them and store them.

How many research projects did you lead in the past year, for example, as a Principal Investigator or project lead? Select one:

- 1-2 research projects
- 3-5 research projects
- >5 research projects
- Not sure
- Not applicable

How much data storage do you estimate you use in an average research project? Select one:

- <50GB (Gigabyte)
- 50GB to <500GB
- 500GB to <1000GB
- 1TB to <4TG (Terabyte)
- 4TB to 500TB
- >500TB
- Not sure

Not Applicable, please explain:

How do you transfer your (big) data?

Big data can be defined as volume of information over 1 TB.

- using Compute Canada Globus Portal
- deposit into a cloud-based system and give permissions
- I don't know

Other, please specify...

Which of the following best describes the type of research data you generate or use in a typical research project? Select all that apply:

- Geospatial - (e.g. raster, vector, grid)
- Instrument specific – (e.g. Olympus Confocal Microscope Data Format, FLIR Infrared Camera (SEQ))
- Models – (e.g. 3D, statistical, similitude, macroeconomic, causal)
- Multimedia– (e.g. JPEG, TIFF, MPEG, Quicktime, Bitmap)
- Numerical – (e.g. CSV, MAT, XLS, SPSS)
- Software– (e.g. Java, C, Perl, Python, Ruby, PHP)
- Text - (e.g. TXT, DOC, PDF, RTF, HTML, XML)
- Other (e.g. discipline specific such as CIF, FITS, DICOM) please specify:

Do you write your own program source script?

- Yes
- No

Do you share your program source script?

- Yes
- No

I do not share program source script because:  
Select all that apply ...

- it takes lots of time to clean up the script before it can be released
- it potentially could be used without proper citation
- there is a possibility to patent the software
- only I understand the script
- others may get an advantage
- my script might be used in commercial applications

dealing with questions from the users about the script is extremely time consuming

Other, please specify ...

**How do you share the program source script?  
Select all that apply ...**

send by request

deposit to file exchange repository

post on my website

Other, please specify...

**Please list any software used for analysis or manipulation of your research data, if applicable:**

**Please indicate where you store research data from your current project(s).  
Select all that apply:**

Flash drive/USB

CD/DVD

Computer hard drive (i.e. local hard drive)

Laptop hard drive

External hard drive

Hard drive of the instrument/sensor which generates the data

Share drive/ university or departmental server

Cloud/web based solution (e.g. Dropbox, Google Drive, Amazon Cloud, Microsoft Cloud)

External data repository (e.g. Protein Data Bank, Cambridge Structural Database, GitHub, Dryad, Figshare)

Grid/high performance computing (HPC) centre

Physical copy retained (in boxes, cabinets, etc.)

Not sure

Other, please specify:

Is there sufficient documentation and description (for example, file naming, cells & values, defined parameters, scripts to run) for another person outside your lab to understand and use the research data?

- Yes
- No
- Not sure

Is there sufficient documentation and description (for example, file naming cells & values, defined parameters, scripts to run) retained in the same file, folder or document as the research data for another person outside your lab to replicate the methodologies that produced the data?

- Yes
- No
- Not sure

Use the chart below to indicate the length of time after project completion that you typically *intentionally* keep each type of research data. Project completion could include until publication or patent approval, for example.

	I only keep data for the length of the project	Less than 3 years	Between 3-5 years	Between 5-10 years	More than 10 years	Until the data becomes inaccessible or lost
Source material/ Raw data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Intermediate/ working data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Processed data ready for publication. Processed data may include supporting information such as spectra, synthesis methods.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

## Section 2. Data Sharing

*In this section you will be asked about your current practices and opinions on sharing your research data.*

Which methods of sharing your research data do you currently use? Check all that apply. If you do not currently share your data, choose 'not currently sharing'.

- Not currently sharing
- Share by personal request only
- Share online with restricted access
- Upload online to an institutional or personal website
- Include as part of supplementary material files to a journal publisher
- Deposit in a general or discipline-specific repository, such as Protein Data Bank, Cambridge Structural Database, GitHub, Dryad, Figshare.

If you selected 'deposit in a general or discipline-specific repository, such as Protein Data Bank, Cambridge Structural Database, GitHub, Dryad, Figshare', please specify:

Some research data cannot be shared because of legal or privacy restrictions or embargoes. Which of the following restrictions or embargoes may limit your ability to share your data with others? Select all that apply. If there are no restrictions or embargoes, choose 'there are no restrictions or embargoes on sharing my data with other parties'.

- There are no restrictions or embargoes on sharing my data with other parties
- I need to publish my data before I can share them
- Sharing my data may jeopardize Intellectual Property rights
- I plan to file for a patent
- My data are commercially vulnerable
- I have a contractual obligation with a third party
- My data are subject to privacy or confidentiality restrictions (e.g. patient data)
- My data are a matter of public safety or of a sensitive nature

I'm unsure if I am allowed to share my data

Other, please specify:

If your research data were not affected by such restrictions or embargoes, with whom would you be willing to share them? Select all that apply:

- Nobody
- My immediate collaborators
- Researchers in my department/institute/centre
- Researchers at Queen's University
- Researchers in my field
- Researchers outside my field
- Anybody, including the general public

What, if any, are the reasons you would not be willing to share your research data and associated methods/algorithms? Select all that apply. If you are willing to share, choose 'I am willing to share them'.

- They are incomplete or not finished
- I still wish to derive value from them
- I do not have the technical skills or knowledge
- I do not hold the rights to share them
- Funding body does not require sharing
- I believe they should not be shared
- I did not know I could share them
- Insufficient time
- Lack of standards to make them usable by others
- Lack of funding
- No place to put them
- They are not useful to others
- There are privacy, legal or security issues

I am willing to share them

Other, please specify:

What benefits do you see to sharing your research data? Select all that apply. If you see no benefits, choose 'I see no benefits to sharing my data'.

**I see no benefits to sharing my data**

Data availability provides safeguards against misconduct, data fabrication and falsification

Data sharing and/or replication studies help in the training of next generation researchers

Data sharing enables my data to be cited and increases my research impact

Data sharing encourages collaborative science

Data sharing encourages interdisciplinary research

Data sharing moves my field of research forward

Data sharing reduces redundant data collection

Data sharing supports open access to knowledge

Re-analysis of data helps verify results

Well-maintained data helps retain data integrity

Other, please specify:

Are you aware of any discipline-specific research data repositories related to your field? Please list. If you are not aware of any discipline-specific data repositories related to your field please say 'none'.

### Section 3. Funding Mandates and Research Data Management Services

*In this section you will be asked about your awareness of funding mandates for research data management, as well as your interest in potential research data management services.*

Data management plans typically address questions about research data types and formats; standards to be used for describing data; ethics and legal compliance; plans for preservation, access, sharing, and reuse; and responsibilities assigned and resources needed.

If you were asked to draft a data management plan as part of a grant application, which of the following statements would best describe your situation? Select one:

- I would be able to draft a data management plan that would address these types of questions without assistance
- I would be able to draft a data management plan that would address these types of questions, but would prefer to have assistance and/or guided documentation to ensure the success of my application
- I would need assistance and / or or guided documentation to appropriately address some or all of the sections

If data management plans were made part of grant applications from funding bodies such as NSERC, SSHRC, and CIHR, how interested would you be in the following services? Please rate your interest in each service. If the service does not apply to your situation, choose 'not applicable'.

	very interested	interested	not interested	not applicable
Workshops on best practices in data management for faculty.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Workshops on best practices in data management for graduate students.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Personalized consultation on data management practices for specific research groups or projects.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communication and information about funding requirements and journal requirements regarding research data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assistance preparing data management plans to meet funding requirements, or assistance creating formal or documented data management policies.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Digitization of physical records, such as lab notebooks.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assistance with documenting and describing data (i.e. metadata creation).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

	very interested	interested	not interested	not applicable
Assistance with issues associated with data preservation and/or sharing (confidentiality, privacy, legal, intellectual property rights).	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Data storage and backup during active research projects.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
An institutional repository for long-term access and preservation of research data.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assistance with depositing research data in appropriate disciplinary or other external data repositories.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assignment of permanent digital object identifiers (DOIs) for datasets.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assistance in finding and accessing data sources.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

If there are other services you would like to see offered, please specify:

Type here

**Section 4. Demographic & General Questions**

*In this section you will be asked basic questions about your rank, departmental and research affiliations and funding sources so we can put your answers into context.*

**Please indicate your rank at Queen's University:**

- Graduate Students
- Postdoctoral Fellow
- Lecturer
- Adjunct Professor
- Assistant/Associate/Full Professor
- Professor Emeritus

Other, please specify:

**Please, select your faculty, home institute or department at Queen's University. If your faculty, institute or department is not listed, please select the one with which you are most closely affiliated:**

- Department of Chemical Engineering
- Department of Civil Engineering
- Department of Electrical and Computer Engineering
- Department of Mechanical and Materials Engineering
- The Robert M. Buchan Department of Mining
- Department of Biology
- Department of Chemistry
- Department of Geological Sciences and Geological Engineering
- Department of Mathematics and Statistics
- Department of Physics, Engineering Physics & Astronomy
- School of Computing
- School of Environmental Studies



Other, please specify...

Type here

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Please indicate your research institute or centre, if applicable. Select all that apply:

- Analytical Services Unit
- Applied Magnetism Group
- Biomedical Computing Group
- Bioremediation (Research) Group
- Centre for Energy and Power Electronics Research
- Fudan-Queen's Network for Environment and Sustainability Research
- Fuel Cell Research Centre
- genera Research Group (gRG)
- GeoEngineering Centre
- Geographic Information Systems Laboratory
- High Performance Computing Virtual Laboratory (HPCVL)
- Information Processing and Communications Laboratory
- Macromolecular Process and Product Development Group
- Mass Spectrometry and Proteomics Services Unit
- Mathematical Biology Research Group
- Mathematics, Science and Technology Education Group
- Northern Studies Group
- Paleocological Environmental Assessment and Research Laboratory (PEARL)
- Parallel Computation Group / Parallel Computation Laboratory
- Probability and Statistics Group
- Queen's - RMC Advanced Materials and Manufacturing Group (AMMG)
- Queen's Facility for Isotope Research (QFIR)
- Queen's University Numerically Intensive Computing Group (QNIC)

Sudbury Neutrino Observatory Institute (SNOLAB)

Sustainable Development Research Group

Virtual Laboratory (HPCVL)

Other, please specify:

Please indicate your cross-discipline affiliation outside of your home department, if applicable. Select all that apply:

Department of Biology

School of Computing

Department of Economics

Department of Geography

Department of Geological Sciences and Geological Engineering

Department of Mathematics and Statistics

Department of Physics, Engineering Physics and Astronomy

School of Medicine

I do not have a cross affiliation

Prefer not to specify

Other, please specify:

Which funding sources have you used within the past 5 years, or are planning to apply for in the next 5 years? Please exclude funding earmarked exclusively for operations and infrastructure. Select all that apply:

Alfred P. Sloan Foundation

Canadian Foundation for Innovation (CFI)

Canadian Blood Services

Canadian Institute of Advanced Research

Canadian Institutes of Health Research (CIHR)

Canadian Space Agency

CDQM: Consortium for Drug Discovery

- Department of the Navy (U.S.)
- Environment Canada
- Industry
- MaRS Innovation
- National Institutes of Health (US)
- Network of Centres for Excellence: Arcticnet
- Network of Centres of Excellence: Canadian Institute for Photonic Innovations
- Network for Centres of Excellence: Carbon Management Canada
- NSERC Industry Partnership Program: Collaborative R&D Grant
- NSERC Industry Partnership Program: DND - NSERC Research Partnership Program
- NSERC Industry Partnership Program: Engage Grants (EG) Program
- NSERC Industry Partnership Program: Idea to Innovation (I2I)
- NSERC Industry Partnership Program: Strategic Grants (Individual & Group)
- NSERC Industry Partnership Program: Strategic Research Networks
- NSERC Research Grant: Collaborative Health Research Project
- NSERC Research Grant: CREATE Program Grant
- NSERC Research Grant: Discovery Grant
- NSERC Research Grant: Discovery Accelerator Supplement
- SSHRC
- United States Air Force
- United States Department of the Navy
- United States Environmental Protection Agency
- United States National Institutes of Health (NIH)
- Prefer not to specify
- Other, please specify:



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### Section 5. Feedback, follow-up and additional information about the survey

*In this final section you will be asked for your comments on the survey itself, as well as your willingness to be contacted for follow-up. This section also contains information about how the data collected in this survey will be used.*

Please provide feedback on the survey content, or your thoughts on research data management practices. Any comments you have will be helpful.

Type here

We would be happy to follow up with any faculty or postdoctoral fellows who require immediate assistance from the library for current research data management practices or to help facilitate future collaborations. Are you willing to be contacted for follow up?

Yes, please provide your email address:

No

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This is the end of the survey.  
Thank you for taking the time to participate in the Research Data Management survey at Queen's University!

You may withdraw from the survey at any time before hitting the submission button. Please note, once you submit your answers and close your browser you will no longer be able to withdraw your answers from the study. Anonymized survey submissions cannot be withdrawn. Any personal identifying information will be kept private and all data will be anonymized in the event that results collected will be published.

Please click the "**Submit**" button to submit your completed survey.

