

Agency Policy on Scientific Integrity

December 2018

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Agency Policy on Scientific Integrity

1. Effective date

1.1. This policy takes effect on December 13, 2018.

2. Context

2.1 This policy is issued pursuant to the May 15, 2017 and June 1, 2017 Memoranda of Agreement between the Treasury Board and the Professional Institute of the Public Service of Canada (PIPSC) in Respect of Scientific Integrity.

3. Authorities

3.1. This policy should be read in consultation with the *Values and Ethics Code for the Public Sector*[\[1\]](#) as adopted April 2, 2012, the *Directive on the Management of Communications*[\[2\]](#), and the *Policy on Conflict of Interest and Post-Employment*[\[3\]](#).

3.2. Where there is conflict or incompatibility between this Policy and legislation and/or a provision of any relevant collective agreement, the provisions of the legislation or relevant collective agreement take precedence.

3.3. Where there is conflict or incompatibility between this Policy and a mandatory Policy instrument of the Treasury Board (i.e. policy, directive or standard), the provisions of the Treasury Board mandatory Policy instrument take precedence.

3.4. Where there is conflict or incompatibility between this Policy and a voluntary Policy instrument of the Treasury Board (i.e. guidelines or tools), the provisions of this Policy take precedence.

3.5. The Canadian Environmental Assessment Agency (the “Agency”) will maintain a record of all instances of conflict or incompatibility between this Policy and legislation, collective agreements, or Treasury Board policy instruments and/or Agency policy instruments, and submit this record as part of the performance evaluation as *per* s. 7.9 of this Policy.

3.6. In consultation with representatives of PIPSC, the President has authority to support science integrity by establishing relevant and applicable standards for the design, conduct, management, review and communication of research and science within the Agency.

4. Objectives and expected results

The objectives of this Policy are to:

4.1. Foster a culture that supports and promotes scientific integrity in the design, conduct, management, review and communication of research, science, and related activities.

4.2. Increase public, employee and stakeholder trust in the credibility and reliability of Agency research and scientific activities.

4.3. Set out expectations regarding the design, conduct, management, review and communication of research, science, and related activities.

4.4. Enhance employee understanding of the contributions of research and science to evidence-informed decision-making, as well as the role of managers, communication specialists, researchers and scientists in the development of government policy and advice.

The expected results of this Policy are that:

4.5. Employees involved in the design, conduct, management, review, use or communication of research, science, or related activities understand and conduct themselves in manner consistent with the principles of scientific integrity.

4.6. The Agency is recognized by employees, stakeholders, and the public as a reliable and credible source of research and scientific information.

4.7. As appropriate and to the extent possible, allegations of breach of the principles of scientific integrity as defined in s. 6 are addressed through a fair, impartial, efficient, confidential and respectful process.

4.8. Employees understand and seek to enhance the contributions of research and science to science advice, government policy and evidence-informed decision-making.

5. Application

5.1. This Policy applies to Agency employees who design, conduct, communicate, manage, review or make use of Agency research, science or related activities.

5.2. Nothing in this policy supersedes any relevant collective agreements. Neither does the policy extend provisions of relevant collective agreements to employees not subject to those agreements.

6. Scientific integrity principles

The Agency recognizes that stakeholder trust in the research and scientific information provided by governments depends upon the integrity of the process by which such information is produced, managed and communicated. So too does trust in the decision-making process that makes use of such information.

Furthermore, the Agency recognizes that scientists and researchers must uphold and conform to standards of excellence accepted by the wider research and scientific community.

To this end, in designing, conducting, managing, reviewing, using or communicating research, science and related activities, Agency employees shall:

6.1. Ensure that all such activities are carried out in a manner that is consistent with all relevant and applicable standards of scientific excellence, research ethics, and responsible research conduct.

6.2. Ensure that the conduct of Agency research and science and any research or scientific products, as well as any associated communications, are free from political, commercial, client and stakeholder interference.

6.3. In the absence of clear and compelling reasons for limiting disclosure, ensure that research and scientific information produced by the Agency is made available to the public in a timely manner and in keeping with the Government of Canada's *Directive on Open Government*.

6.4. Accurately represent and appropriately acknowledge the contributions of both themselves and others to their research or scientific work.

6.5. Avoid conflicts of interest, and ensure that any real, potential or apparent conflict of interest is explicitly recognized, reported and appropriately managed.

6.6. Encourage discussion based on differing interpretations of research and scientific evidence as a legitimate and necessary part of the research and scientific processes and, where appropriate, ensure that these differences are made explicit and accurately represented.

6.7. Ensure that the significant and meaningful contribution of researchers and scientists to government programs, policies, regulations, and decision-making is acknowledged in official publications or communications, including the names and roles of those who made significant contributions to these products and activities.

6.8. Report any breach of these principles (i.e. a breach of scientific integrity) to their supervisor, manager or designated official.

7. Requirements

7.1. Implementation

7.1.1. This Policy will be communicated to all employees by the President, with special attention to its implications to Agency communications policies.

7.1.2. The Agency will continue to develop and implement the additional procedures, policies, guidelines, tools, training and professional development opportunities necessary to support this Policy.

7.1.3. The Agency will ensure that contractors and/or collaborators involved in, or providing services in support of, research, science or related activities are informed of this policy and encouraged to comply with its provisions and intent.

7.2. Fostering a culture of science integrity

The Agency recognizes two complementary approaches to fostering a culture of scientific integrity. One focuses on instilling the virtues that underlie responsible conduct in research, science and related activities (s. 7.2.1). A second focuses on the

procedure for bringing allegations of breaches forward, the investigation of these allegations, and the consequences of a finding that a breach has occurred (s. 7.2.2)

7.2.1. Science virtues

In accordance with relevant collective agreements and the TBS *Policy on Learning, Training and Development*[\[4\]](#):

7.2.1.1. The Agency recognizes the importance of research networking with national and international peers and active participation in the business and organization of relevant scientific and professional societies, which form an important part of ensuring scientists and researchers understand and are held to the standards of their communities.

7.2.1.2. The Agency recognizes the importance of the virtues underlying scientific excellence, including intellectual curiosity and honesty, constructive skepticism, meticulousness, avoidance of bias, humility in the discovery and use of science evidence, and the limitations of scientific inquiry. To this end, it will ensure that learning policies support training, education and professional development opportunities that allow employees to further their understanding of, and appreciation for, these virtues.

7.2.1.3. The Agency will ensure its learning policies support training, education, and professional development opportunities to inform and educate employees about responsible conduct in research, research ethics, and the annotation, management and archiving of research and scientific data.

7.2.1.4. The Agency will encourage the development and implementation of a science integrity mentorship program for researchers and scientists, whereby mentors exhibiting exemplary science virtues in their conduct and work are paired with more junior employees.

7.2.2. Breaches of scientific integrity

7.2.2.1. In cases of alleged breaches of scientific integrity, employees at all levels shall seek to resolve the issue in a fair and respectful manner and consider informal processes such as dialogue or mediation. In such cases, employees are encouraged to discuss and resolve these matters with their immediate supervisor. They can also seek advice and support from other appropriate sources within the Agency.

7.2.2.2. The President will appoint an Agency Science Integrity Lead to address allegations of breaches of this Policy.

7.2.2.3. The Science Integrity Lead will ensure that alleged breaches of this Policy shall be promptly and thoroughly reviewed and investigated by the Agency.

7.2.2.4. The Agency will endeavor to protect personal information and otherwise provide safeguards to ensure that employees may bring forward, in good faith, allegations of breach of scientific integrity or participate in an investigation procedure without prejudice or fear of reprisal.

7.2.2.5. When public servants have information that could indicate a serious breach of the *Values and Ethics Code for the Public Sector* they can avail themselves of the procedures laid out in the *Public Servants Disclosure Protection Act*^[5].

7.3. *Openness, transparency and timeliness*

The Agency recognizes and understands the importance of openness and transparency about all elements of the research and scientific process as well as the timely release of scientific and research information. It nonetheless also recognizes that there may be legitimate and compelling reasons that may limit the disclosure or availability of research or scientific information to employees, stakeholders or the public.

7.3.1. This policy, as well as any associated policies, directives or guidelines, may be posted on the Agency's public website in permission-less downloadable form.

7.3.2. As the current policy and any associated policies, guidelines or tools are amended and revised, the Agency will maintain an annotated electronic archive of all such changes, with all archive elements available in permission-less downloadable form.

7.3.3. No Agency employee shall suppress, alter or otherwise impede the timely release of research or scientific information in the absence of clear and compelling reasons for doing so.

7.3.4. Agency employees shall ensure that research and scientific information (including that produced by contractors, grantees, or other partners who participate in, or assist with, the design, conduct, use or management of research, science or related

activities) is produced and disseminated in a timely and transparent manner, in the absence of clear and compelling reasons for not doing so.

7.4. *Public communication of research and scientific information*

The Agency recognizes the right to freedom of expression by researchers and scientists on matters of research or science. It also recognizes the important role of researchers and scientists in communicating research and scientific information to the public.

Moreover, the Agency recognizes that as public servants, scientists, researchers and indeed all employees are subject to the *Values and Ethics Code for the Public Sector* as adopted April 2, 2012. It further recognizes the need for caution and prudence in the public communication of classified or sensitive scientific or research information, as well as existing legal constraints on information disclosure. Finally, the Agency recognizes that effective public communication requires certain skills, and that researchers and scientists may have different degrees of comfort with public fora.

7.4.1. Researchers and scientists^[6] shall have the right, and are encouraged, to speak about or otherwise express themselves on science and their research without approval or pre-approval and without being designated as an official spokesperson. In doing so, they must respect the information disclosure provisions of the *Access to Information Act*,^[7] and the *Values and Ethics Code for the Public Sector* as adopted April 2, 2012.

7.4.2. In any public communications, employees must be familiar with and respect any legal restrictions on information disclosure such as privacy rights, matters before the courts, and cabinet confidences. They must also respect the *Values and Ethics Code for the Public Sector* as adopted April 2, 2012, and the *Access to Information Act*. Unless explicit approval to do so has been given by supervisors or managers, classified or sensitive research or scientific information shall not be discussed in any public communication.

7.4.3. In the case of planned formal public communication events with sufficiently long lead times (e.g. public talks or lectures), employees should notify their supervisor/manager of the upcoming event and provide a copy of their communication material for information purposes only and without prejudice.

7.4.4. In the case of formal public communication events with short lead times (e.g. media interviews) that effectively preclude prior notification, employees should notify their supervisor/manager as soon as possible after the event for information purposes only and without prejudice.

7.4.5. Pursuant to s. 7.4.2 and 7.4.3, the Agency will ensure that employees are provided with guidelines consistent with relevant collective agreements and the *Directive on the Management of Communications*, to assist them in determining the types of public communications for which supervisor/manager notification is desirable or required, and the appropriate timing and form of any such notifications.

7.4.6. Researchers and scientists are under no obligation to act as public Agency subject matter experts or appear in public fora, and may decline any such invitation or request without prejudice, unless explicitly given this task by management.

7.4.7. Any public communication which describes work conducted by researchers or scientists must be reviewed and approved by them or their designates before publication or dissemination, and must acknowledge their contribution(s). In cases where a researcher or scientist does not wish authorship and/or their contribution to be acknowledged, they should be consulted as to whether, in their view, the work is accurately described and findings interpreted appropriately.

7.4.8. Researchers and scientists are encouraged to participate in media training provided by the Agency, but this is not a requirement for them to express themselves about science or their research.

7.4.9. Where a researcher or scientist is speaking in the role of an official spokesperson, they must identify themselves by name and position and speak on the record for public attribution.

7.5. *Dissemination of research and scientific findings*

The Agency recognizes that communication among researchers and scientists is critical to the development of scientific and scholarly knowledge. Moreover the Agency recognizes that its researchers and scientists are part of a global community of scientific and scholarly expertise, their contribution to which is critical to maintaining and

enhancing the credibility and reputation of Agency experts, the reputation and credibility of Agency, and the contribution of Agency to the knowledge economy.

As with public communications, researchers or scientists disseminating or communicating information through research or scientific media are subject to, and bound by, the *Access to Information Act*, the *Values and Ethics Code for the Public Sector* as adopted April 2, 2012 and must abide by Treasury Board of Canada's *Directive on the Management of Communication* where it does not conflict with the relevant collective agreements. To this end, Agency must have publication approval processes that are compatible with the relevant collective agreements. Approval to publish will not be unreasonably withheld.

The Agency's publication policies shall be examined to ensure that they are consistent with the following principles and procedures:

7.5.1. Drafts of publications authored by Agency researchers or scientists should be forwarded to their manager or supervisory and discussed in a timely fashion. An electronic copy of the final version should be provided to the supervisor after acceptance and prior to publication by a publisher or other third party acceptance of the product.

7.5.2. Notwithstanding article 7.5.1, Agency research or scientific communications that do not contain explicit comments or recommendations on, or explicit discussions about, federal statutory, regulatory or policy matters do not require approval of managers, supervisors or other relevant personnel before being submitted for publication or otherwise communicated or disseminated to relevant audiences.

7.5.3. Any communication that includes explicit comments or recommendations on, or explicit discussions about, federal statutory, regulatory or policy matters does require the approval of managers, supervisors or other relevant personnel before submission for publication or being otherwise communicated or disseminated.

7.5.4. For communications that do require approval, managers, supervisors or other relevant personnel may require revisions or editorial changes. In the event that approval is contingent upon incorporation of such revisions or changes, and the author(s) are not in agreement with the suggested changes, the work will not be attributed to the employee if the employee so requests. In the event that approval is withheld, the author(s) shall be so informed in writing of the reasons.

7.5.5. In support of Articles 7.5.2 -7.5.4 and in consultation with PIPSC representatives, the Agency will provide guidelines to assist researchers, scientists, managers and supervisors in identifying and distinguishing communications that do/do not require manager or supervisor approval.

7.5.6. The responsible author(s) of any research or scientific communication must ensure that:

- - Approval of all listed authors and contributors is obtained;
 - The work in question is not a republication of original work except when the republication involves translation or dissemination to diverse audiences and is consistent with existing standards on republication;
 - All contributions to the work are appropriately acknowledged in a manner conforming to accepted standards of the relevant discipline(s) and publication(s);
 - The Agency's authors' federal affiliations are listed;
 - The communication has been subjected to appropriate independent peer review and that technical and/or editorial changes that may result from this review have been addressed;
 - Matters related to acknowledgements and official languages have been appropriately managed and administered;
 - The possibility of publishing in Open Access journals for scientific and technical papers has been explored;
 - They have exercised due diligence in ensuring that all issues related to intellectual property and related matters have been resolved;
 - They understand relevant terms and conditions for publication, including copyright and level of authority required for approvals.

Moreover, researchers and scientists should seek credible and reputable outlets for academic publication that conform to established practices and standards of academic publishing, including particularly rigorous peer review practices.

7.5.7. In cases where Agency scientists or researchers have provided data or information to be used in a government document (e.g. a report, briefing note, etc.), management and those responsible for preparing the documents should consult with the scientist or researcher concerned to ensure that the data/information is used and interpreted appropriately.

7.6. Contributions to the scientific community

The Agency recognizes that the participation of Agency researchers and scientists in the global scholarly community depends upon domestic and international collaboration and partnerships. Such collaborations and partnerships provide important opportunities for Agency researchers and scientists to leverage their expertise, knowledge and infrastructure in developing research and scientific knowledge to the benefit of Canadians.

To this end, Agency will:

7.6.1. Encourage and facilitate domestic and international research or scientific collaborations and partnerships between Agency researchers and scientists and the external research and development communities in universities and colleges; provincial, territorial or indigenous governments; industry and business; and civil society.

7.6.2. Make a reasonable effort to appropriately resource participation in relevant scientific and professional societies, working committees, conferences, workshops and symposia identified by both researchers and scientists as well as management.

7.6.3. Make a reasonable effort to ensure appropriate engagement or participation of researchers and scientists in international science and research-based fora of which Canada is a formal member.

Furthermore:

7.6.4. The Agency encourages activities related to collaboration with the extramural research and development communities, including the appointment of Agency researchers and scientists to adjunct professorships.

7.7. Role of employees in science advice and evidence-informed decision-making

The Agency recognizes that researchers and scientists have important roles to play in providing advice that informs federal programs, policy, regulations and law. Research and scientific findings are an important source of evidence that must be appropriately considered in evidence-informed decision-making.

Moreover, researchers and scientists have an important role to play in providing advice not only on the research required to resolve today's issues, but also to identify emerging scientific and technical issues, research directions and opportunities.

To this end and in consultation with PIPSC representatives, the Agency will develop and deploy transparent and systematic mechanisms and procedures for:

7.7.1. Gathering, evaluating and incorporating scientific advice into the Agency policy and regulatory decision-making process.

7.7.2. Engaging employees in the design, development, and evaluation of robust and resilient research programs that will be able to meet the research needs of the future.

7.7.3. Identifying and prioritizing areas of federal authority for which the current federal science or research capacity is inadequate or where federal investment in research and development is likely to provide substantial benefits to Canadians.

In addition, the Agency will:

7.7.4. Support the development of training and professional development opportunities devoted to the roles of science and research in developing evidence to support evidence-informed decision-making. Such opportunities may be made available to all employees who engage in, supervise, manage, support, review, use or report on research and scientific activities; analyze, curate or communicate data or information generated by these activities; and/or seek to use information derived from these activities in decision-making.

7.8. Responsible conduct of research

The Agency is committed to ensuring that Agency research and science conforms to the highest standards of responsible research conduct and shall strive to follow the relevant

and applicable research practices honestly, accountably, openly and fairly in the development and dissemination of research and scientific knowledge.

7.8.1. Scientific integrity involves the application of concepts of transparency, openness, high quality work, avoidance of conflict of interest and ensuring high standards of impartiality and research ethics. Employees involved in science or research shall conform to the standards of responsible research. Such standards include, but are not limited to ensuring that:

1. All research and scientific activities (including study design and implementation; recording, analyzing, and interpreting data; and in reporting and publishing data and findings) are conducted with the highest scientific rigour;
2. Complete and accurate records of data, methodologies and findings, including graphs and images, are maintained in a manner consistent with best practices. This curation is essential to the verification and/or replication of the work by others;
3. Referencing and, where applicable, obtaining permission for use of all published and unpublished work, including data, source material, methodologies, findings, and images as appropriate;
4. Authorship consent is obtained, and that all those and only those who have made a substantial (conceptual and/or material) contribution to, and who accept responsibility for, the contents of the publication or document;
5. Individuals, organizations or institutions who have sponsored and/or funded the research are appropriately described and acknowledged;
6. All and only those individuals who have participated in the research are appropriately recognized and acknowledged;
7. The contribution of those and only those who have contributed to research, including funders and sponsors, is appropriately described and acknowledged;
8. Any real, perceived or potential conflict of interest is reported and appropriately managed;
9. Information included in grant or award applications is accurate and complete, including information on partners, collaborators, co-applicants, and that their permission to be listed has been obtained.

10. Research involving humans or animals conforms with the Tri-council principles and procedures as specified in the *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans*[\[8\]](#) and the *Canadian Council on Animal Care Guide to the Care and Use of Experimental Animals*[\[9\]](#) respectively.

7.8.2. Employees involved in science or research shall avoid breaches of responsible research conduct. Such breaches include, but are not limited to:

1. *Fabrication*: Making up data, source material, methodologies or findings, including graphs and images;
2. *Falsification*: Manipulating, changing, or omitting data, source material, methodologies or findings, including graphs and images, without acknowledgement and which results in inaccurate findings or conclusions;
3. *Destruction of research records*: The destruction of one's own or another's research data or records to specifically avoid the detection of wrongdoing or in contravention of this or any other applicable policies and/or laws, regulations and professional or disciplinary standards;
4. *Plagiarism*: Presenting and using another's published or unpublished work, including theories, concepts, data, source material, methodologies or findings, including graphs and images, as one's own, without appropriate referencing and without permission where required;
5. *Redundant publication or self-plagiarism*: The re-publication of one's own previously published work or part thereof, including data, in any language, without adequate acknowledgment of the source, or adequate justification;
6. *Invalid authorship or contributions*: Inaccurate attribution of authorship, including attribution of authorship to persons other than those who have made a substantial contribution to, and who accept responsibility for, the contents of a publication or document. Invalid authorship also includes the failure to acknowledge those who have made substantial contributions to the work in question;
7. *Mismanagement of conflict of interest*: Failure to appropriately identify and address any real, potential or apparent conflict of interest;
8. *Inaccurate grant and awards application*: Providing incomplete, inaccurate or false information in a grant or award application or related document, such as a letter of support or a progress report;

9. *Inaccurate statement of collaborations.* Listing of co-applicants, collaborators or partners without their agreement.

7.9. *Monitoring and performance evaluation*

The Agency should review this and associated policies, guidelines or tools to ensure they remain relevant and seek employee and applicable bargaining agent input and feedback on the implementation of this Policy and provide performance indicators as practical.

7.9.1. In consultation with the Office of the Chief Science Advisor (OCSA) and PIPSC representatives, the Agency will design, develop and implement a monitoring plan for this Policy that will provide information on (a) the extent to which the policy has achieved its objectives (that is, policy performance); and (b) future policy and associated instrument (e.g. guidelines, directives, etc.) adjustments, modifications or changes likely to improve policy performance. Any such plan must have regard for other government initiatives or circumstances that may affect estimated performance independent of, or in concert with, the Policy.

7.9.2. Any plan developed under article 7.9.1 must explicitly identify (a) the performance indicators that will be monitored; (b) how the data on these indicators will be collected, annotated and curated; (c) how performance baselines will be characterized; and (d) how changes from baseline will be estimated and evaluated.

7.9.3. A copy of all data and information collected as part of the monitoring plan will be forwarded annually to the Office of the Chief Science Advisor (OCSA), the appropriate National Union-Management Consultation Committee and the Governance Committee for Implementation of Government-Wide Scientific Integrity Policy comprised of the Secretary of the Treasury Board, the Chief Science Advisor and the President of the Professional Institute of the Public Service of Canada.

8. Responsibilities

President The President and its delegates are responsible for fostering an environment that encourages excellence and integrity in research, science and related activities, and for promoting a culture of open communication where employees may disclose, in good

faith, information concerning breaches of scientific integrity. The President is also responsible for:

- ensuring that this Policy is communicated to all employees;
- monitoring compliance with this Policy within the Agency and taking corrective action as needed;
- performance evaluation of this Policy;
- providing an annual confirmation of the compliance and reporting with this Policy as requested by the Governance Committee for Implementation of Government-Wide Scientific Integrity Policy.

Directors, managers and supervisors

Directors, managers and supervisors are responsible for implementation of this Policy. Such responsibilities include:

- informing employees about this Policy and ensuring that they are aware of their rights and responsibilities and obligations under the Policy;
- ensuring compliance with this Policy, providing to employees information about the processes available to them if they wish to make an allegation under this Policy, and addressing all allegations of breach of scientific integrity that are brought to their attention or of which they are aware;
- ensuring that employees are aware of professional development and training opportunities that may be available in support of this Policy.

Specific responsibilities will be articulated in procedures and guidelines that will be developed to support this Policy.

Agency employees who conduct research, science or related activities

All Agency employees involved in the design, conduct, management, review, use or communication of research, science or related activities, and all persons conducting research, science or related activities under the auspices of the Agency will have primary responsibility for:

- ensuring their behaviour and conduct conforms to the principles of scientific integrity;

- ensuring that they design, conduct, manage, review, use or communicate research or science in a manner fully consistent with this Policy;
- reporting a suspected breach of scientific integrity as soon as possible; and
- participating in good faith in any inquiry or investigation conducted pursuant to this Policy.

9. Definitions

Alteration (of a scientific or research work): any change in the form or content of a research or scientific work that may affect the interpretation of the work and/or its implications.

Breach (of scientific integrity): failure to abide by any of the provisions described in s. 6 or s. 7 of this Policy.

Classified or sensitive research or scientific information: research or scientific information which would normally be considered to be exempt from disclosure under the *Access to Information Act*.

Clear and compelling reasons (for withholding publication of scientific or research information): legitimate reasons include, but are not limited to: (a) disclosure of such information is exempt under the *Access to Information Act*[\[10\]](#) or the *Security of Information Act*; (b) technical or technological constraints limit or prevent making the information available.

Client: any person, institution or organization, whether internal or external to government, who is the recipient and/or user of research or scientific data, products, services or information, and who is involved with establishing the question or topic of the research or scientific work in question.

Collaborator: any person, organization or institution with whom/which an Agency employee undertakes the design, conduct, management, review or communication of research, science, or related activities and who/which does not receive direct or indirect remuneration.

Communication (of science): science communication involves any exchange of scientific or research information (including research results and interpretations thereof, methods, protocols, data, and products) in any form, between or among researchers or scientists

(science and research producers) and the consumers or users of this information, including the public, other scientists or researchers, other government employees, and clients.

Compelling evidence: evidence of sufficient strength to convince the decision-maker that it is likely that the claim for which the evidence is adduced is true.

Employee: this is in most cases to be interpreted broadly to cover all employees within a department or agency, all of whom have a greater or lesser role to play in the scientific integrity procedures described in this Policy.

Interference: any action that alters or suppresses the work or the impartiality of a scientist or researcher, as understood within the *Values and Ethics Code for the Public Sector*, including the expectation that they provide decision makers with all the information, analysis and advice they need, while striving to be open, candid and impartial. Interference also includes alteration or inappropriate suppression of research methodology and results or dissuasion of reporting of results by any party, including clients.

Related activity: any activity that (a) supports science or research (e.g. laboratory operations and management; infrastructure (including information and communication infrastructure); (b) uses research or scientific information as an input (e.g. solicitation or preparation of science advice; evaluation of research or scientific evidence); (c) involves the curation, communication or archiving of scientific or research data or information.

Research: any undertaking intended to extend knowledge through a disciplined inquiry or systematic investigation[\[11\]](#).

Researcher: employees primarily involved in the application of comprehensive scientific and professional knowledge to the planning, conduct, evaluation and management of fundamental or applied research, knowledge enhancement, technology development and innovation relevant to defence science, historical research and archival science, mathematics and the natural sciences. (*N.B.* These definitions follow the RE occupational group definition for the public service[\[12\]](#).)

Science: the pursuit and application of knowledge and understanding of the natural world through application of one or more elements of the scientific method. In the context of the current policy, it is understood to include both fundamental and applied

natural, physical, biomedical and social science, as well as engineering and mathematics[13].

Scientific integrity: the condition resulting from adherence to concepts of transparency, openness, high quality work, avoidance of conflict of interest and ensuring high standards of impartiality and research ethics.

Scientist: employees primarily involved in the application of comprehensive scientific and professional knowledge to one of the applied science programs involving actuarial science, agriculture, biology, chemistry, forestry, meteorology or physical sciences, which include physics, planetary and earth sciences, scientific regulation and patents. (N.B. These definitions follow the SP occupational group definition for the public service[14].)

Suppression (of a scientific or research work): the deliberate withholding of a scientific or research work, or any portion thereof, from publication or dissemination, in the absence of clear and compelling reasons for doing so.

Timely manner: within a time frame that is consistent with usual review and approval processes, and consistent with logistical and resource constraints. The Agency or external collaborators may impose reasonable embargo periods to respect the right of a principal investigator to first publication.

10. Enquiries

For further information on this policy, contact the Director of Science Policy.

[1] *Values and Ethics Code for the Public Sector*: <https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=25049>

[2] *Directive on the Management of Communications*: <https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=30682>

[3] *Policy on Conflict of Interest and Post-Employment*: <https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=25178>

[4] *Policy on Learning, Training and Development*: <https://www.tbs-sct.gc.ca/pol/doc-eng.aspx?id=12405>

[5] *Public Servants Disclosure Protection Act*: <http://laws-lois.justice.gc.ca/eng/acts/P-31.9/>

[6] For the purposes of Article 7.4, the term “researcher(s)” and “scientist(s)” are understood to mean researchers (RE) and applied scientists (SP) as specified in the occupation group definitions for the public service – see s. 9 of the Policy. This definition may expand as additional bargaining units sign on to similar scientific integrity agreements.

[7] *Access to Information Act*: <http://laws-lois.justice.gc.ca/eng/acts/A-1/>

[8] *Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans*: <http://www.pre.ethics.gc.ca/eng/policy-politique/initiatives/tcps2-eptc2/Default/>

[9] *Canadian Council on Animal Care Guide to the Care and Use of Experimental Animals*, Vol. 1 (2nd edition):

https://www.ccac.ca/Documents/Standards/Guidelines/Experimental_Animals_Vol1.pdf

[10] *Access to Information Act*: <http://laws-lois.justice.gc.ca/eng/acts/A-1/>

[11] Adopted from the 2008 Tri-Council definition of research, available at:

http://www.pre.ethics.gc.ca/policy-politique/initiatives/docs/Definition_of_Research_-_January_2008_-_EN.pdf

[12] Research Group Definition: <https://www.canada.ca/en/treasury-board-secretariat/services/collective-agreements/occupational-groups/research.html#grp-re>

[13] Adopted from the Science Council: <https://sciencecouncil.org/about-science/our-definition-of-science/>

[14] Applied Science and Patent Examination Group

Definition: <https://www.canada.ca/en/treasury-board-secretariat/services/collective-agreements/occupational-groups/applied-science-patent-examination.html#grp-sp>