

1. Introduction

ArcticNet is a Network of Centres of Excellence of Canada (NCE) that brings together scientists and managers in the natural, human health and social sciences with their partners in Inuit organizations, northern communities, federal and provincial government agencies, and the private sector to study the impacts of environmental change in the coastal Canadian Arctic. The central objective of ArcticNet is to generate the knowledge and assessments needed to formulate the adaptation strategies and policies that will help northern societies and industries prepare for the full impacts of the transformation of the Arctic.

The wealth of knowledge and data generated by ArcticNet research must be managed, to ensure and maximize the exchange and accessibility of relevant data, and to leave a lasting legacy. The ArcticNet Data Management Committee (ADMC) was formed by the Research Management Committee (RMC) on 1 March 2006, and was tasked with developing the ArcticNet Data Management Plan that includes the ArcticNet Data Policy (ADP) as presented here, and the development of the ArcticNet Database that includes a database of metadata (the ArcticNet MetaDatabase) and accessible archives of certain data sets. Additionally, the ADMC with guidance from legal counsel has formulated the Terms of Use Agreement (Appendix A), which addresses the use of the ArcticNet Database for uploading metadata and data, and for information-searching within the databases.

2. Objectives

The central goal of the ADP is to facilitate exchange of information about the Canadian Arctic among researchers and other user groups including northern communities and international programmes. The specific objectives are:

- To implement systems that facilitate information exchange among Arctic researchers and user groups, including northern communities and international programs.
- To develop, maintain, and update an ArcticNet MetaDatabase, with emphasis on international standards and compatibility across multiple platforms.
- To work with other relevant projects (both national and international, for example the International Polar Year) towards integrated data management systems.

3. Principles

The following principles will be adhered to in addressing the ADP objectives:

- Respect confidentiality requirements and researcher rights to publication.
- Recognize that human health and sociological studies will have specialised issues when it comes to data and privacy.
- Ensure that the databases are widely and easily accessible to a variety of users.
- Ensure the long term preservation of ArcticNet data sets.
- Ensure that there are strong linkages to Canadian and international IPY data management processes.
- Use existing knowledge and infrastructure, wherever appropriate; i.e., ensure connectivity of data, but not duplication of systems.
- Develop the ArcticNet approach as a “system of systems”.
- Encourage excellence in data collection, management and accessibility.

4. ArcticNet Data Definition

ArcticNet data are those data collected and generated by ArcticNet scientists and collaborators and by ArcticNet-funded projects during the ArcticNet timeframe (2004-2011).

All ArcticNet Network Investigators (NIs) must promptly provide metadata for all projects and subprojects that benefit from ArcticNet, including those that are partially funded by ArcticNet or benefit from the networking. All uploading of metadata and data, and all searching of the ArcticNet Database, must abide by the Terms of Use Agreement (Appendix A).

5. Hosting and management of the metadata and the data

The ArcticNet MetaDatabase and its input and output systems have been produced in close collaboration between ArcticNet and the Canadian Cryospheric Information Network (CCIN).

5.1 Metadata

The ArcticNet MetaDatabase is a database of metadata that describes, catalogues and identifies access points to the diverse data sets that are currently being generated in ArcticNet. It is structured in Federal Geographic Data Committee (FGDC) format, which is compatible with ISO-standards. The ArcticNet MetaDatabase is characterized by an input form and information tags, a data registration module, a keyword search facility, and a transmission system for XML file transfer to the Department of Fisheries and Oceans of the Government of Canada (DFO), and ultimately to GeoConnections and the NASA Global Change Master Directory (GCMD). A back-up mirror site was setup at DFO for transfer of all metafiles. The ArcticNet MetaDatabase has also been adopted by the Canadian Arctic Shelf Exchange Study (CASES), and is described in more detail in Michaud et al. (2008).

Entry of information into the ArcticNet MetaDatabase is by NIs, and research team members acting under the responsibility of the NI. Annual funding allocations to NIs are conditional on entry of data into the MetaDatabase. The entries are editable by the NI (via password-protected access). It is the responsibility of each researcher to ensure the quality and accuracy of the data, and the completeness of the metadata entry to allow understanding of the nature and limitations of the data.

5.2 Data and data sets

All metadata are accessible to the general public, both Canadian and International, immediately after entry into the ArcticNet MetaDatabase. To ensure the completion of the analysis of data and the publication of scientific manuscripts, the access to ArcticNet data will be limited to ArcticNet participants for a period of three years after the end of an individual project; however, real-time use of data may be required prior to the three year period for the production of the Integrated Regional Impact Studies and Regional Assessments. After this three year period, ArcticNet data must be made available fully, freely, openly, and within the shortest feasible timescale. Researchers must comply with these terms unless negotiated otherwise with the ADMC.

The availability of data after its release into the public domain will be determined by the ADMC in agreement with the data service provider on the basis of an agreement that may include obligation by the users to contact the relevant data supplier before using the data and obligation to acknowledge the supplier and the ArcticNet program in any publication using these data (see Appendix A). Various security levels can be programmed via password protection, according to dataset requirements.

Exceptions to this policy of full, free, and open access are (adopted from the Canadian IPY 2007-2008 Data Policy):

- Where human subjects are involved, privacy and confidentiality must be protected. Access to personal information and human biological samples may be provided in accordance with applicable legislation, regulations, ethics approvals and policies;
- where local and traditional knowledge is concerned, rights of the knowledge holders shall not be compromised;

- where data release may cause harm, specific aspects of the data may need to be kept protected (for example, locations of nests of endangered birds or locations of sacred sites); and
- where pre-existing data are subject to access restrictions.

The International Council for Science (ICSU) 2004 defines “Full and open access” as equitable, non-discriminatory access to all data preferably free of cost, although some reasonable cost-recovery for distribution of the data is acceptable. The World Meteorological Organisation (WMO) Resolution 40 uses the term “Free and unrestricted” and defines this as a non-discriminatory and without charge. “Without charge”, in the context of this resolution, means a charge that is no more than the cost of reproduction and delivery and without charge for the data and products themselves.

6. Permanent Archiving

The ArcticNet metadata will be permanently archived by CCIN and by the Integrated Science Data Management (ISDM; formerly the Marine Environmental Data Service MEDS) of DFO. Back ups of the data will also be made and archived at different locations. All researchers must address the issue of long term archiving according to the type of data they are generating and state explicitly what their plans are for long term storage. The data should be archived using relevant existing databases and if these facilities do not exist, researchers should seek support from the ADMC. Certain datasets will be housed at various locations (e.g., Health Canada; Centre d’études nordiques) and access will be subject to the rules of each institution.

7. Data ownership, authorship, and publications

7.1 Obligations of those holding data

As stipulated in the ArcticNet NCE Agreement (Appendix B), in all presentations and publications of results of research supported partially or fully by ArcticNet, the NI shall acknowledge the author’s participation in ArcticNet and the support of the NCE Program and Granting Agencies, and shall also refer to industrial support where appropriate (subject to written permission to do so where appropriate). As stated above, annual funding allocations to NIs will be conditional on entry of required information into the ArcticNet MetaDatabase.

7.2 Ownership and intellectual property

Ownership of Network-Supported Intellectual Property (NSIP) shall be determined by applicable Canadian law and the policies of the relevant Participating Institution(s). The Parties agree that the authority and responsibility for making decisions with regard to legal protection and commercialization of NSIP shall rest with the owners of the NSIP. Where there are two or more owners of the NSIP, they shall designate an agent to act on their behalf. For greater certainty and without limitation, unless otherwise agreed to in writing on a case-by-case basis by the owners of NSIP, no one shall have any rights in the NSIP, other than the right to a non-exclusive license provided for in clause (b) of Article 7 of ArcticNet’s Network Agreement (Appendix B).

7.3 Authorship guidelines

Given that most publications will use data collected by two or more participants from different laboratories or teams, the co-authorship question must be addressed. The following guidelines have been modified from the CASES Data Management Plan and modified from the Canadian JGOFS formula:

- A. Cross-sector syntheses that contribute to the understanding of the ecosystem are the ultimate goal of the highly integrated network approach used in ArcticNet. Accordingly, many publications will use data collected by two or more participants from different

laboratories or teams. Authorship is a sensitive issue. Intellectual contributions of researcher to a given publication must be recognised. As well, in all fairness, co-authorship should not be automatically justified for technical or clerical contributions to a central data set repeatedly used in a large number of studies.

- B. Accordingly, the following set of rules for publications have been approved by the ADMC.
- C. Early drafts of any publication (e.g., presentations at meetings, papers, book chapters) must be submitted to each NI responsible for one or several of the data sets used in the publication. The NI then consults his/her research associates, post-doctoral fellows, students, and technicians to assess eventual rights to authorship.
- D. Within three weeks of reception of the draft, NIs involved in the paper must inform the senior author of their wish to contribute (or not) to the publication, to see themselves or members of their team included in the list of co-authors, or to be mentioned in the Acknowledgements.
- E. In cases where NIs and the senior author or original co-authors of the draft cannot reach an agreement, the conflict will be resolved by the ADMC.

7.4 Data Acknowledgment

The users of ArcticNet data must formally acknowledge data originators, contributors, and sources. This acknowledgment should appear as a citation, such as when citing a book or journal article. In instances when formal citations are not possible, such as with some medical and social science data, the use of ethical policies for data collection and data use are recommended. Such models are available in Article 8(j) of the 1992 Convention on Biological Diversity.

8. Confidentiality

The NI shall ensure that the appropriate agreements concerning the disclosure of Confidential Information and the transfer of biological and other materials are entered into prior to any disclosure of Confidential Information or transfer of material by the NI.

Where such information is disclosed or material is transferred, it shall be in accordance with the form of the Confidentiality Agreement or the Material Transfer Agreement available on the NCE website (<http://www.nce.gc.ca/>).

9. References

Convention on Biological Diversity. 1992. Article 8(j): Traditional Knowledge, Innovations and Practices. <http://www.biodiv.org/programmes/socio-eco/traditional/default.asp>

ICSU (International Council for Science). 2004. ICSU Report of the CSPR Assessment Panel on Scientific Data and Information http://www.icsu.org/1_icsuinscience/DATA_Paa_1.html

Michaud, J., Braithwaite, L., Garneau, M.-E. & Vincent, W.F. 2008. An ocean of data: The CASES legacy. In: D.G. Barber (ed.). Physical and Biological Processes of the Ocean-Sea Ice-Atmosphere System in the Southern Beaufort Sea. Aboriginal Issue Press, Winnipeg, Manitoba (in press).

Appendix A – Terms of Use of the ArcticNet Database

The ArcticNet Database, as described in the ArcticNet Data Policy, is composed of a database of metadata (the ArcticNet MetaDatabase) and accessible archives of certain data sets.

1. Use of this Database

This Database is owned by ArcticNet Inc. ("ArcticNet") and operated by The Canadian Cryospheric Information Network ("CCIN"). Your use of this Database is subject to the following terms and all applicable laws. By accessing and browsing this Database, you accept, without limitation or qualification, these terms. If you do not agree with any of the terms, please do not use this Database.

This Database is formed of specific data and metadata provided by recognized researchers ("Researcher"), with their express consent. For the purpose of these terms, the data and metadata provided by Researcher include, without limitation, design, HTML text, graphics, files, photographs, codes, software layout, images, illustrations, articles, design forms and the selection and arrangement thereof (the "Content").

Please note that the addition of such Content in the Database does not constitute an endorsement by ArcticNet or CCIN of any such Content provided by the Researcher. ArcticNet and CCIN have no control or power over such Content.

2. License and Database access

Researcher grants you a limited license to make personal use only of their Content. Such grant does not include, without limitation: (a) any resale or commercial use of this Content; (b) modification, adaptation or translation of any data not intended to be modified, adapted or translated; (c) copying, imitating, mirroring, reproducing, distributing, publishing, downloading, displaying, performing, posting or transmitting any Content in any form or by any means, including, but not limited to, electronic, mechanical, photocopying, recording or otherwise. Except as noted above, you are not conveyed any right or license by implication, estoppel, or otherwise in or under a patent, trademark, copyright, or proprietary right of ArcticNet, CCIN, the Researcher or any third party.

If you want to accomplish an act that is clearly forbidden under this Section, you have to contact the Researcher owning the Content you are targeting in order to obtain written consent from him/her authorizing you to act.

ArcticNet or CCIN may terminate this license and your use of or access to the Database if you make or permit any unauthorized use of this Database or Content. Such actions by you may violate applicable laws including, without limitation, copyright, patents and trademark laws and communications regulations and statutes.

3. Exclusion of Warranties

ArcticNet or CCIN makes no representation or warranty regarding the functionality or condition of this Database, its suitability for use, or that its use will be uninterrupted or error-free. **THE DATABASE AND ALL ITS CONTENT ARE PROVIDED TO YOU "AS IS" WITHOUT WARRANTIES OF ANY KIND. ARCTICNET OR CCIN DISCLAIM ALL WARRANTIES OR CONDITIONS, WRITTEN OR ORAL,**

STATUTORY, EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION, NO REPRESENTATION OR WARRANTY THAT (I) THE CONTENT CONTAINED IN OR MADE AVAILABLE THROUGH THE DATABASE WILL BE OF MERCHANTABLE QUALITY AND FIT FOR A PARTICULAR PURPOSE, (II) THE DATABASE OR ITS CONTENT WILL BE ACCURATE, COMPLETE, CURRENT, RELIABLE, OR TIMELY, (III) THAT THE OPERATION OF THE DATABASE WILL BE UNINTERRUPTED OR ERROR-FREE, (IV) THAT DEFECTS OR ERRORS IN THE DATABASE OR THE CONTENT, BE IT HUMAN OR COMPUTER ERRORS, WILL BE CORRECTED, (V) THAT THE DATABASE WILL BE FREE FROM VIRUSES OR HARMFUL COMPONENTS, AND (VI) THAT COMMUNICATIONS TO OR FROM THE DATABASE WILL BE SECURE AND/OR NOT INTERCEPTED. The Content is not intended to provide specific technical, business, accounting or other advice for your individual circumstances, and you should consult your own professional advisors to determine how any information or material provided on this Database apply to your individual circumstances. These exclusions are in addition to any specific exclusion otherwise provided in these terms. To the extent that the jurisdiction to which you are subject does not allow exclusion of certain warranties, such exclusions which are not permitted, do not apply.

4. Limitation of Liability

ARCTICNET OR CCIN WILL NOT BE LIABLE FOR ANY DAMAGES, EITHER DIRECT OR INDIRECT, INCIDENTAL, SPECIAL OR CONSEQUENTIAL, FOR USE OF OR INABILITY TO USE PRODUCTS OR SERVICES OF ANY KIND, DELAY OF OR PARTIAL DELIVERY, TERMINATION OF RIGHTS OR LOSS OF PROFITS, DATA, BUSINESS OR GOODWILL, WHETHER ON A CONTRACTUAL OR EXTRACONTRACTUAL BASIS, OR TO PROVIDE INDEMNIFICATION OR ANY OTHER REMEDY TO YOU OR ANY THIRD PARTY. THE FOREGOING LIMITATION SHALL APPLY EVEN IF ARCTICNET OR CCIN KNEW OF OR OUGHT TO HAVE KNOWN OF THE POSSIBILITY OF SUCH DAMAGES. Your sole and exclusive remedy is to discontinue using and accessing this Database. To the extent that the jurisdiction to which you are subject does not allow any part of such limitation, such part does not apply.

5. Ownership and Confidentiality

The Content is provided by Researcher, and ArcticNet or CCIN does not represent or warrant that such Content does not infringe the rights of any other person or entity.

Furthermore, you acknowledge that information or material which you provide electronically through your access to or usage of this Database is not confidential or proprietary, except as may be required under applicable law, and acknowledge that unprotected e-mail communication over the Internet is subject to possible interception, alteration or loss. Trademarks and logos (collectively, "Marks") displayed on this Database are registered or unregistered Marks of ArcticNet, CCIN or others, are the property of their respective owner, and may not be used without written permission of the owner of such Marks.

6. Links

Links and references to other Internet websites are provided to you as a convenience only. ArcticNet or CCIN have not reviewed and do not expressly or impliedly endorse other Internet websites or any information or material, or the accessibility thereof, via such links, and do not assume any responsibility for any such other Internet websites, information or material posted thereon, or products or services offered thereon.

Permission from ArcticNet must be requested to create links from other Internet websites to the Database. To obtain permission, contact our Data Manager at: arcticnet@arcticnet.ulaval.ca

7. Damage to Others

You agree not to introduce into or through this Database any information or material which may be harmful to others. Among other things, you agree not to include, knowingly or otherwise, any error or defect in Content which may, among other things, be a libel, slander, defamation or obscenity, or promote hatred or otherwise give rise to a criminal offence or civil liability on the part of any person or entity.

8. Governing Law

This Database is owned by ArcticNet, located in the Province of Québec, and these terms shall be governed by the laws of the Province of Québec and the applicable laws of Canada without reference to principles of conflict of laws. You agree to be bound by such laws and to submit to the jurisdiction of the courts of Québec City in connection with the interpretation or application of these terms.

9. Changes to Terms

ArcticNet may modify, alter or otherwise update the terms applicable to this Database from time to time without notice, and you agree to be bound by such terms as are in effect at the time at which you access the Database.

10. How can you contact ArcticNet?

If you have any questions or concerns about the Database terms, practices or about your personal information if you provide any, please contact ArcticNet:

By phone at: 1-418-656-5830
By email at: arcticnet@arcticnet.ulaval.ca
By mail at: ArcticNet Inc.
Pavillon Vachon
1045 Ave. de la Médecine
Local 4081
Université Laval
Québec (Québec) G1V 0A6

Privacy Policy

ArcticNet is committed to preserving and safeguarding your right to privacy. As part of this commitment and since the Database is housed at the Canadian Cryospheric Information Network (CCIN), their Privacy Policy applies to the use of the Database. Please visit: <http://www.ccin.ca/privacy.cfm>

CCIN maintains strict client information privacy policies and uses state of the art technologies to safeguard user information and communications from unauthorized intrusions.

CCIN recognizes that the growth of online services, including Internet services, has created additional privacy concerns.

Online privacy concerns focus primarily on the protection of "user identifiable" information, which an individual or other user reasonably expects to be kept private. As the term suggests, "user identifiable" information is information that, when associated with an individual identifies that individual, for example, a user's name, address, telephone number, and e-mail address.

CCIN's Online Privacy Policy: Informed Choice

CCIN has put in place the following Online Privacy Policy. This policy covers all of CCIN. CCIN will continue to protect user information derived from its on-line services consistent with federal laws and with federal regulations issued by Communications Canada.

How CCIN Protects Your Privacy Online

Collection and Use: CCIN will collect and apply user identifiable information for shipping purposes, to anticipate and resolve problems with your service, or to create and inform you of products and services that better meet your needs. CCIN or ArcticNet will never use your user identifiable information to market new services or information to you, unless it is critical for the requested order.

When you access the Internet, the computers that host Web sites you visit (Web servers) automatically receive some anonymous information. This "usage data" may include a record of which pages a Web browser has visited. CCIN servers receive usage data when users visit CCIN Web sites, and when CCIN members visit other sites as well. CCIN or ArcticNet may use usage data to provide demographic information for research purposes for internal use. CCIN or ArcticNet will not use information about your activities on the Internet together with any information that identifies you without your consent.

Small files called "cookies" may be attached to your Web browser. These files identify your browser and save information such as passwords so that Web sites can recognize you. You can set your browser to disable cookies, but CCIN Web pages may not work properly if you do this.

Disclosure: CCIN or ArcticNet will not sell, trade, or disclose to third parties any user identifiable information derived from the registration for or use of an CCIN online service -- including user names and addresses -- without the consent of the user (except as required by subpoena, search warrant, or other legal process or in the case of imminent physical harm to the users or others). When CCIN uses other agents, contractors or companies to perform services on its behalf, CCIN will ensure that the organization protects your user identifiable information consistent with this Policy. If CCIN includes your name and any other user identifiable information in a directory that CCIN creates from information we receive as an online service provider, the organization will give you the opportunity to have your information excluded from that directory.

Security: CCIN has implemented technology and security features and strict policy guidelines to safeguard the privacy of your user identifiable information from unauthorized access or improper use, and we will continue to enhance our security procedures as new technology becomes available.

E-mail Contents: The organization will not read or disclose to third parties private e-mail communications that are transmitted using CCIN services except as required to operate the service or as otherwise authorized by law.

Improper Conduct: CCIN may also use user identifiable information to investigate and help prevent potentially unlawful activity or activity that threatens the network or otherwise violates the user agreement for that service.

Account Information: CCIN honors requests from users to review all user identifiable information maintained in reasonably retrievable form, which currently consists of your name, address, e-mail address, telephone number and/or shipping information, and will correct any such information which may be inaccurate. Users may verify that appropriate corrections have been made.

Changes in Practices: CCIN will keep this Policy current. The organization will inform you of any changes that we make.

Notice

If you are a user with concerns about the CCIN online privacy policy or its implementation you may contact us at info@ccin.uwaterloo.ca.

Appendix B

Appendix A to the NCE Funding agreement

**STANDARD NCE NETWORK AGREEMENT
AMONG
««ARCTICNET INC.»»
AND
UNIVERSITÉ LAVAL
CARLETON UNIVERSITY
DALHOUSIE UNIVERSITY
INSTITUT NATIONAL DE RECHERCHÉ SCIENTIFIQUE - ETE
INSTITUT NATIONAL DE RECHERCHE SCIENTIFIQUE - UCS
MCGILL UNIVERSITY
MEMORIAL UNIVERSITY
QUEEN'S UNIVERSITY
ROYAL MILITARY COLLEGE OF CANADA
RYERSON UNIVERSITY
TRENT UNIVERSITY
YORK UNIVERSITY
UNIVERSITÉ DE MONTRÉAL
UNIVERSITÉ DU QUÉBEC À RIMOUSKI
UNIVERSITÉ DU QUÉBEC À TROIS-RIVIÈRES
UNIVERSITÉ DU QUÉBEC À MONTRÉAL
UNIVERSITY OF ALBERTA
UNIVERSITY OF CALGARY
UNIVERSITY OF BRITISH COLUMBIA
UNIVERSITY OF GUELPH
UNIVERSITY OF MANITOBA
UNIVERSITY OF NEW BRUNSWICK
UNIVERSITY OF NORTHERN BRITISH COLUMBIA
UNIVERSITY OF OTTAWA
UNIVERSITY OF TORONTO
UNIVERSITY OF VICTORIA
UNIVERSITY OF WATERLOO
UNIVERSITY OF WESTERN ONTARIO**

WHEREAS the Network has been selected to be funded under the Networks of Centres of Excellence Program;
WHEREAS in discharging its obligations under its Funding Agreement with the Granting Agencies, the Network will fund certain research activities carried out at Participating Institutions by Network Investigators;
WHEREAS the Funding Agreement obliges the Network to enter into an agreement with Participating Institutions, setting out the obligations of the parties and providing for such matters as reporting requirements, use of research funds, and ownership and exploitation of intellectual property;
NOW THEREFORE IN CONSIDERATION of the premises and of the mutual covenants contained herein, the Parties agree as follows:

1. DEFINITIONS

In this Agreement, the following terms are defined as follows:

Administrative Centre means the central administrative offices of the Network located at the Network Host.

Agreement means this NCE Network Agreement including all attachments and appendices as may be amended from time to time.

Confidential Information means knowledge, materials, know-how or any proprietary information, whether in electronic, written, graphic or other tangible form and any such oral information that has been reduced to writing within two weeks of its disclosure.

Granting Agencies means the Canadian Institutes of Health Research (CIHR), the Natural Sciences and Engineering Research Council (NSERC) and/or the Social Sciences and Humanities Research Council (SSHRC).

Intellectual Property means all materials, concepts, know-how, formulae, inventions, improvements, industrial designs, processes, patterns, machines, manufactures, compositions of matter, compilations of information, patents and patent applications, copyrights, trade secrets, technology, technical information, software, prototypes and specifications, including any rights to apply for protections under statutory proceedings available for those purposes, provided they are capable of protection at law.

NCE Funds means funds provided to the Network by the Granting Agencies particulars of which are set out in the NCE Funding Agreement.

NCE Funding Agreement means the agreement entered into between the Granting Agencies, ArcticNet Inc. and the Network Host.

Network means ArcticNet Inc., a not-for-profit corporation incorporated under Part II of the Canada Corporations Act (R.S. 1970, c. C-32).

Network Affiliate means a company, government agency or other organization that is involved in a specific aspect of Network research or other Network activity or provides support to the Network and that has been accepted as an Affiliate of the Network by the Board of Directors and that has entered into a Network Affiliate agreement with the Network.

Network Funds means all funds managed by the Network, including NCE Funds and non-NCE funds provided by Network Affiliates and Network Members and funds provided by other sources in support of the activities of the Network. Network funds result from

agreements between the Network and any of the following: Network Affiliates, Network Members and third parties.

Network Host means the Participating Institution or other organization that houses the Administrative Centre and that has signed the Funding Agreement.

Network Investigator means:

- a) a person employed or otherwise given academic status by a Participating Institution who is responsible for a specific aspect of Network Research;
- b) who has been accepted as an Investigator in the Network by the Board of Directors; and,
- c) who has signed the Acknowledgment attached as Appendix A to the Network Agreement.

Network Manager means the individual responsible for the general management of the Network's day-to-day operations.

Network Member means a Participating Institution, the Network Host and any other organization accepted for membership by the Board of Directors.

Network Research means research projects substantially supported by Network Funds and carried out under the supervision of Network Investigators.

Network Strategic Plan means a description of the proposed activities of the Network comprised of two primary elements: the research plan, including its objectives and milestones, its anticipated achievements and the value added of a network approach to the research and research management; and the business management plan outlining the strategic importance of the research to Canada and its potential economic and social benefits, the intellectual property management and technology transfer mechanisms, and the details of the proposed management structure.

Network-Supported Intellectual Property (NSIP) means Intellectual Property created or invented during a Network Research project.

Net Revenues means proceeds received from commercialization of Network-Supported Intellectual Property (NSIP) minus reimbursement of out-of-pocket expenses incurred in obtaining legal protection for and/or commercialization of the NSIP.

Non-NCE funds means funds provided by Network Affiliates, Network Members and by other sources in support of the activities of the Network.

Participating Institution means any university, post-secondary educational institution hospital, institute or other organization eligible to receive research funds from any Granting Agency and that employs or otherwise gives academic status to one or more Network Investigators.

Parties means the signatories to this Agreement.

Scientific Director means the individual appointed by the Board of Directors to be responsible for directing the scientific development of the Network and overseeing Network Research and the Network Strategic Plan.

Technology Transfer Office means the office at the Participating Institution or Network Member where a Network Investigator is employed or holds academic status that has responsibility for commercializing Intellectual Property.

2. OBLIGATIONS OF PARTICIPATING INSTITUTIONS

A. FINANCIAL MANAGEMENT AND REPORTING REQUIREMENTS

Participating Institutions shall hold Network Funds in trust for use by the Network and the Network Investigators in accordance with the Funding Agreement, the terms established by the Network, the policies of the Participating Institutions and the requirements of the NCE Program.

- a) Each Participating Institution shall provide to the Administrative Centre, by June 30 of each year of this Agreement, financial reports for all Network Funds they receive in accordance with the requirements of the Network and the NCE Program.
- b) Each Participating Institution receiving Network Funds shall:
 - i) ensure that adequate financial controls consistent with the rules and guidelines of the NCE Program and the Natural Sciences and Engineering Research Council of Canada rules and regulations are maintained with respect to Network Funds;
 - ii) keep proper accounts and records of all eligible expenditures;
 - iii) provide the Administrative Centre with the name and address of the person at the Participating Institution responsible for the administration and accounting of Network Funds and the name and address of the responsible person at the Technology Transfer Office;
 - iv) work in concert with the owners and inventors of the NSIP, the inventor's employer and the Network, in the commercialization of NSIP;
 - v) provide their Network Investigators with sufficient space, time and institutional support to allow them to contribute to Network Research;
 - vi) promptly notify the Administrative Centre in the event that a Network Investigator ceases to be employed by a Participating Institution or otherwise ceases to hold academic status at that Institution;

B. CONFIDENTIAL INFORMATION AND MATERIAL TRANSFER

In carrying out the activities contemplated by this Agreement, it is anticipated that the Participating Institutions may disclose certain information or material which is considered by the disclosing party to be confidential. Where such information is disclosed or material is transferred, it shall be in accordance with the form of the Confidentiality Agreement attached as Appendix B to the Network Agreement or the Material Transfer Agreement attached as Appendix C to the Network Agreement, as the case may be.

C. OTHER REQUIREMENTS

- a) Each Participating Institution shall obtain in writing an acknowledgment, in the form set out as Appendix A from each of their respective Network Investigators that he or she understands and agrees to be bound by the provisions entitled "Obligations of Network Investigators" set out in Article 3 of this Agreement;

- b) Each Participating Institution shall use its best efforts to ensure that the Network Investigator has complied with the requirement that students and all others members of the Network Investigator's research team have entered into agreements containing substantially similar terms to those governing the Network Investigator set out in this Agreement;
- c) Each Participating Institution shall ensure that Network Investigators obtain appropriate certification and/or approval regarding use of humans, animals and/or biohazards in the conduct of Network Research in accordance with the requirements of the NCE Program and the three Funding Agencies:
- d) Research involving human subjects shall meet the requirements of the Tri-Council Policy Statement: Ethical Conduct for Research Involving Humans;
- e) Research requiring the use of animals shall be conducted in accordance with the policies and guidelines of the Canadian Council on Animal Care: Guide to the Care and Use of Experimental Animals;
- f) Research involving biohazards shall be conducted in accordance with the requirements of the Health Canada Population and Public Health Branch: Laboratory Biosafety Guidelines.

3. OBLIGATIONS OF NETWORK INVESTIGATORS

In signing the Acknowledgement attached as Appendix A, a Network Investigator agrees as follows:

A. PUBLICATIONS

In all presentations and publications of results of Network Research, the Network Investigator shall acknowledge the author's participation in the Network and the support of the NCE Program and Granting Agencies, and shall also refer to industrial support where appropriate (subject to written permission to do so where appropriate).

B. DISCLOSURE AND COMMERCIALIZATION OF NSIP

- a) The Network Investigator shall promptly disclose in writing to the Network Manager and to the Technology Transfer Office, any results of Network Research that the Network Investigator believes have the potential to be commercialized;
- b) The Network Investigator shall withhold publication for the longer of 90 days or for such period as is provided by the policies of his/her Participating Institution, any such material pending evaluation by the Network Manager and/or his/her delegate and the Technology Transfer Office of his/her Participating Institution to determine whether contents contain patentable, commercializable or confidential information. For greater clarity Network Investigators shall not be restricted from presenting at symposia, national, or regional professional meetings, or from publishing in abstracts, journals, theses, or dissertations, or otherwise, whether in printed or in electronic media, methods and results of research carried out pursuant to this Network Agreement, except where such publication or presentation would result in the public disclosure of NSIP or Confidential Information.
- c) Furthermore, upon request by the Network or the Participating Institution, the Network Investigator shall further delay publication of NSIP for up to 6 months to

provide time for the Network or the Participating Institution to seek patent protection for the NSIP. The Network Investigator will work with the Technology Transfer Office and the Dean of Graduate Studies to ensure that any such delays do not interfere with a student's thesis defence or the graduation of the student.

- d) The Network Investigator shall promptly disclose in writing to his/her Participating Institution, and to the Administrative Centre any conflict of interest that may arise pursuant to the terms of Section D of this Article 3.
- e) The Network Investigator shall promptly disclose in writing to the Network Manager and to the Technology Transfer Office existing Intellectual Property and any prior art which could limit the extent to which proposed and/or ongoing Network Research could be commercialized.

C. CONFIDENTIAL INFORMATION AND TRANSFER OF MATERIAL

The Network Investigator shall ensure that the appropriate agreements concerning the disclosure of Confidential Information and the transfer of biological and other materials are entered into prior to any disclosure of Confidential Information or transfer of material by the Network Investigator.

Where such information is disclosed or material is transferred, it shall be in accordance with the form of the Confidentiality Agreement attached as Appendix B or the Material Transfer Agreement attached as Appendix C.

D. CONFLICT OF INTEREST AND RESEARCH ETHICS

- a) The Network Investigator shall abide by the Tri-Council Policy Statement on Integrity in Research and Scholarship governing the use of grant funds and the conduct of research.
- b) Each Network Investigator shall abide by the provisions of his/her Participating Institution's policies and guidelines with respect to conflict of interest and conflict of commitment and by the provisions of the NCE Conflict of Interest Policy Framework, as outlined in the NCE Program Guide. To the extent that there may be a conflict between these policies, the more stringent requirements shall prevail.
- c) The Network Investigator shall be responsible for ensuring appropriate certification and/or institutional approval is obtained for their Network Research that involves human subjects, or requires the use of animals or biohazards.

E. RECORDS AND REPORTS

- a) The Network Investigator shall submit research progress reports to the Administrative Centre as required by the Network;
- b) The Network Investigator shall ensure that students and all other members of his or her research team have entered into agreements containing substantially similar terms to those governing the Network Investigator set out in this Agreement;
- c) The Network Investigator shall ensure that students and all other members of his or her research team maintain effective record keeping for experiments carried out as part of Network Research.

F. OTHER OBLIGATIONS

- a) The Network Investigator shall use reasonable efforts to attract complementary research funding;
- b) The Network Investigator shall work in concert with the Network, the Participating Institutions, Network Affiliates and other inventors in the commercialization of Network-Supported Intellectual Property including, but not limited to, the prosecution of patents, all in accordance with Articles 6 (Ownership of Intellectual Property) and 7 (Principles of Commercialization of Intellectual Property).
- c) Participate on Network committees and in other Network activities as required.
- d) The Network Investigator(s) who is (are) the primary user(s) of equipment purchased with NCE funds, and the Participating Institution owning this equipment, agree(s) to provide other Network Investigators with reasonable access to the equipment for the pursuit of other Network Research projects, and other non-Network Research projects, with Network Research having priority access.
- e) The Network Investigator(s) shall promptly provide to the Network Manager a description of all equipment costing more than \$25,000 which was purchased with NCE Funds.

G. TERMINATION OF PROJECT FUNDING

Where the Network determines that a Network Investigator has failed to comply with he duties and responsibilities set out in this Agreement, it shall promptly notify the Participating Institution and the Network Investigator of the particulars. The Network Investigator shall have thirty (30) days within which to remedy the failure, failing which the Network may terminate funding of the Network Research carried out by the Network Investigator. Notwithstanding the termination of funding, the Network Investigator will co-operate with the Network to ensure an orderly transfer of responsibilities and phase-out of activities and shall continue to be bound by the provisions of this agreement governing intellectual property, publication, confidentiality and any other provisions which are necessary for the Network to fulfill its obligations to the NCE Program.

4. DISCLAIMERS OF WARRANTY AND LIABILITY

Each Party to this Agreement acknowledges that any and all research results, including information, Intellectual Property and other tangible and intangible materials that it may receive pursuant to this Agreement are to be used with caution and prudence, since all of their characteristics are not known. Each party disclaims all liability for any damages however arising from the use of such research results. Each Party further acknowledges that such research results, information, Intellectual Property and other tangible or intangible materials are provided without warranty of merchantability or fitness for a particular purpose or any other warranty of any sort, express or implied, and that the provider makes no representations that the use of the same will not infringe any patent or other proprietary right. This Article survives the provisions of Article 10 of this Agreement (Withdrawal).

5. EQUIPMENT

- a) Title to equipment purchased with NCE Funds shall vest with the Participating Institution that purchased the equipment.
- b) The Board of Directors shall have the right to direct the relocation of equipment purchased with NCE Funds costing more than \$25,000 from one Participating Institution to another. In such event, ownership will be transferred to the receiving Participating Institution and the relevant Parties agree to execute any documents that may be reasonably necessary to effect this transfer. The cost of any such relocation shall be borne by the Network.
- c) To avoid unnecessary inconvenience, the Board of Directors shall, in directing the relocation of equipment from a Participating Institution, take into account the existing commitments of the Participating Institution for the use of the equipment.

6. OWNERSHIP OF INTELLECTUAL PROPERTY

Ownership of Network-Supported Intellectual Property (NSIP) shall be determined by applicable Canadian law and the policies of the relevant Participating Institution(s). The Parties agree that the authority and responsibility for making decisions with regard to legal protection and commercialization of NSIP shall rest with the owners of the NSIP. Where there are two or more owners of the NSIP, they shall designate an agent to act on their behalf. For greater certainty and without limitation, unless otherwise agreed to in writing on a case-by-case basis by the owners of NSIP, no one shall have any rights in the NSIP, other than the right to a non-exclusive license provided for in clause (b) of Article 7 of this Agreement.

7. PRINCIPLES OF COMMERCIALIZATION OF INTELLECTUAL PROPERTY

- a) Pursuant to the mandate of the NCE Program, every reasonable effort must be made to have the results of Network Research exploited in Canada for the benefit of Canadians. Accordingly the Parties shall act in accordance with the Benefit to Canada Working Guidelines, as outlined in the NCE Program Guide.
- b) Upon written request to the owner(s) of the NSIP, the Network Members shall be offered a non-transferable, non-exclusive, royalty-free, perpetual licence to use and modify all NSIP solely for research and educational purposes provided that the terms and conditions of such licence will not interfere with efforts to commercialize the NSIP.
- c) Within 30 days after the receipt of a written disclosure, the NSIP owner(s), the inventor's employer or the Network shall call a meeting of all interested parties to discuss the history of support, the potential for commercialization, a plan for management, share of returns and commercialization of the intellectual property.

8. SHARING OF NET REVENUES

- a) The owner, the inventor, the inventor's employer, the Network and the relevant Network Affiliate or Network Member, shall be entitled to a share of the Net Revenues commensurate with their contributions related to the NSIP, in accordance with the applicable Participating Institution's official policies, those of other Network Members as appropriate, as well as the terms of any relevant Network Affiliate agreement.
- b) The parties shall negotiate the terms in good faith.

9. DISPUTE RESOLUTION

- a) Consultation/Negotiation. In the event of a controversy or dispute between or among any Parties arising out of or in connection with this Agreement or regarding its interpretation or operation, the disputing Parties agree to shall use their best efforts to resolve the dispute amicably.
- b) Mediation. If the Parties are unable to resolve their dispute within sixty (60) days after beginning the consultation/negotiation process, any Party to the dispute may serve written notice on the other Party(s) requiring that they submit the dispute to non-binding mediation. The Parties shall mutually agree on a single mediator to mediate the dispute in accordance with mediation procedures suggested by the mediator and agreed to by the Parties. The Parties agree to use best efforts to participate in the mediation process and attempt to resolve their dispute. Each party shall pay its own costs and an equal share of all other costs of the mediation.
- c) Arbitration. If the mediation fails to resolve the dispute with 60 days following the day the mediator is appointed, or if one Party refuses to cooperate or participate in good faith in the mediation process, any Party to the dispute serve written notice on the other Parties that the dispute be submitted to binding arbitration in the following manner:
 - i) The Parties shall mutually agree on a single arbitrator to adjudicate the dispute. If the Parties cannot agree on a single arbitrator within fifteen (15) days of receipt of the written notice requiring arbitration, they shall each appoint a single arbitrator and those arbitrators shall have a further fifteen (15) days to select a third person who will serve as chair of the arbitral panel.
 - ii) Unless otherwise agreed to by the parties, the arbitration shall be conducted in English and according to the governing law of this Agreement and in accordance with arbitral procedures in place in that jurisdiction.
 - iii) The arbitration shall be carried out no later sixty (60) days from appointment of the single arbitrator or chair of the arbitral panel, as the case may be.
 - iv) Unless the Parties to the dispute otherwise agree, the arbitration shall be held in the City where the Network Host is located.
 - v) Each party shall pay its own costs and an equal share of all other costs of the arbitration.
 - vi) The award rendered by the arbitration shall be final and binding on all Parties and may be entered as an order in any court having jurisdiction.

This Article survives the provisions of Article 10 of this Agreement (Withdrawal).

10. WITHDRAWAL FROM AGREEMENT

- a) Voluntary Withdrawal: A Participating Institution shall be entitled to withdraw from this Agreement upon ninety (90) days written notice to the Chair of the Network Board of Directors and to the Scientific Director.
- b) Involuntary Withdrawal: Where the Network determines on the basis of at least a two-thirds majority vote of the Board of Directors that a Participating Institution has failed to comply with the duties and responsibilities set out in this Agreement, it shall promptly notify the Participating Institution(s) of the particulars. The Participating Institution shall have thirty (30) days within which to remedy the failure, failing which the Participating Institution may be deemed to have withdrawn from this Agreement.
- c) Consequences of Withdrawal: Upon the effective date of withdrawal of a Participating Institution, the withdrawing Participating Institution shall submit to the Network a full accounting and all unused and uncommitted funds advanced by the Network. The withdrawing Participating Institution and Network Investigator(s) will co-operate with the Network to ensure an orderly transfer of responsibilities and phase-out of activities.

Upon the withdrawal of a Participating Institution, that Institution's Network Investigators will no longer be able to receive Network Funds through that Participating Institution. Notwithstanding withdrawal from this Agreement, the Participating Institution and the Network Investigator shall continue to be bound by the provisions of this Agreement governing intellectual property, publication, confidentiality and any other provisions which are necessary for the Network to fulfill its obligations to the NCE Program.

SIGNATURES

Signed for and on behalf of «ArcticNet Inc.» by its duly authorized officer:

Name and Title

Date:_____

Signed for and on behalf of the Host Institution Université Laval by its duly authorized officer:

Name and Title

Date:_____

Signed for and on behalf of the [insert name of the 1st Participating Institution that is party to this agreement] by its duly authorized officer:

Name and Title

Date:_____

Appendix “A” to NCE Network Agreement

Acknowledgement

I, {insert name of Network Investigator, name of Participating Institution (University)»} acknowledge that I have read, understood and agree to be bound by the Obligations of Network Investigators (Item 3) set out in this Network Agreement.

Name of Network Investigator

Name and Title

Date:_____

[IN THE CASE OF A STUDENT OR OTHER MEMBER OF THE NETWORK INVESTIGATOR’S TEAM]

Acknowledgement

I, {insert name of Student or Member} participating in Network Research conducted by {name of Network Investigator} of {name of Participating Institution»} acknowledge that I have read, understood and agree to be bound by the Obligations of Network Investigators set out in this Network Agreement.

Name of Member of Network Investigator’s Team

Name and Title

Date:_____