



## **Academic Programming Application Guide**

### **Effective April 1, 2011**

#### **1. Program Overview**

The Research & Development Corporation's (RDC) academic programming focuses on building research and development (R&D) capacity in Newfoundland and Labrador's post-secondary institutions and other not-for-profit research facilities. Academic programs are designed to attract, develop and retain highly-qualified researchers, leverage public sector funding, and support and promote collaborative R&D among academia and industry.

Priority areas for funding include: energy, ocean technology, natural resources (minerals & mining, fisheries, aquaculture, forestry, and agriculture), manufacturing, information and communication technologies, and health and life sciences.

RDC funding for academic-led projects is delivered through three distinct programs: (i) IgniteR&D; (ii) LeverageR&D; and (iii) CollaborativeR&D.

#### **2. Purpose**

**IgniteR&D** attracts highly-qualified researchers and builds new R&D capacity in areas relevant to both industry and the Newfoundland and Labrador economy.

**LeverageR&D** attracts public funding for academic-led R&D in areas relevant to both industry and the Newfoundland and Labrador economy.

**CollaborativeR&D** increases R&D partnerships and collaboration between academia and industry in areas relevant to the Newfoundland and Labrador economy.

### 3. Eligibility

Eligible institutions are publicly-funded academic or not-for-profit research institutes and facilities in Newfoundland and Labrador. Private sector and federal government research organizations are ineligible applicants, but may be R&D project collaborators or partners.

Applicants must hold full-time positions for two or more years at an eligible institution.

For IgniteR&D, applicants from Memorial University of Newfoundland must apply within 12 months of their first appointment date to an eligible research position. Successful Memorial University applicants are required to submit external grant applications within 18 months of the start date of the IgniteR&D project.

Applicants that have previously received RDC funding are ineligible to apply for IgniteR&D.

For CollaborativeR&D, collaboration between academic institutions may be considered in exceptional cases. Projects that fail to engage RDC at an early stage will be deemed ineligible.

All applicants are required to demonstrate how the proposed project is relevant to industry and the Newfoundland and Labrador economy. Potential for economic impact is critical for projects that do not have industry relevance.

### 4. Level of Support and Timelines

	<b>IgniteR&amp;D</b>	<b>LeverageR&amp;D</b>	<b>CollaborativeR&amp;D</b>
<b>Assessment</b>	Projects should enable new or first-time researchers to ignite R&D activities that have industry relevance and significant potential for economic impact in Newfoundland and Labrador.	Projects should enhance R&D capacity through leveraged funding where the majority of funding is from public sources. Priority projects are those that align with industry needs and development opportunities.	Projects should enhance R&D capacity and academia-industry collaboration in priority areas with significant potential for economic impact in Newfoundland and Labrador.
<b>Contribution Rate</b>	Up to 100% of total eligible project costs	Up to 50% of total eligible project costs*	Up to 50% of total eligible project costs
<b>Maximum Contribution</b>	\$100,000	\$500,000**	\$500,000 (\$800,000 for industry co-funded projects)**

	<b>IgniteR&amp;D</b>	<b>LeverageR&amp;D</b>	<b>CollaborativeR&amp;D</b>
<b>Project Timelines</b>	Up to two years	Up to five years	Up to five years
<b>Start Date</b>	Within three months of approval	Within six months of approval	Within six months of approval

Table 1

\*Priority consideration will be given to projects with greater leveraging. Preference is given to projects with a direct and indirect leverage ratio of 1:5 (RDC: Non-RDC).

\*\*RDC may consider proposals that exceed the maximum contribution level where the proposal warrants the investment.

The project start date cannot be earlier than the application receipt date at RDC.

## 5. Eligible Project Costs

Costs incurred prior to receipt of application by RDC are ineligible. Each program has specific guidelines with respect to project costs.

### IgniteR&D

- Initial capital costs: equipment and minor laboratory renovations required to establish a research lab for a new researcher
- Wages and salaries for highly-qualified personnel: research assistants, graduate student researchers, and post-doctoral fellows
- Initial operating funds tied to a defined research project (can include travel for research purposes, collaboration and dissemination of results)

IgniteR&D financing requests should be appropriate in scale for the proposed project, reflecting the immediate associated research requirements of the applicant (ie. the maximum contribution is not automatic, and the project size and scope should reflect what researchers need to support their initial R&D activities).

### LeverageR&D

- Capital costs: building renovations, equipment and other R&D-related infrastructure
- Wages and salaries for highly-qualified personnel: researchers, research assistants, graduate student researchers, post-doctoral fellows and technical project managers
- Other direct operating funds related to materials, equipment, and maintenance

### CollaborativeR&D

- Capital costs: building renovations, equipment and other R&D-related infrastructure

- Wages and salaries for highly-qualified personnel: researchers, research assistants, graduate student researchers, post-doctoral fellows, technical support staff and technical project managers
- Other direct operating funds related to materials, equipment, and maintenance

## 6. Application Process

To apply for RDC's academic programming, an application package must be submitted to RDC at [application@researchnl.com](mailto:application@researchnl.com). The following documentation must be included as part of the application package:

- A signed, completed Application Form for the respective program element;
- A Curriculum Vitae for each listed applicant; and
- Copy of funding proposal(s) for other agencies (if applicable).

Applications from Memorial University are to be submitted through the Office of the Vice-President (Research), while College of the North Atlantic applications are to be submitted through the Office of Applied Research.

The self-assessment tool found on RDC's website should be used to help determine a project's eligibility for RDC's academic programs. It provides an opportunity to critique the project against the established goals of the program. This tool does not need to be submitted as part of the application process.

## 7. Completing the Application Form

The following information is intended to guide the applicant in completing the application form for each program. Specific guidance on how to complete a section for a specific program will be highlighted. Some general advice on preparing project proposals has also been included.

### 7.1 Planning a Proposal

When planning your proposal, there are some things that need to be addressed upfront:

- Projects must address industrial and economic relevance to Newfoundland and Labrador.
- Projects must serve to increase R&D capacity, through infrastructure, highly qualified personnel and specific research program investments.
- Projects must identify any planned and/or potential collaboration.

Common reasons why project proposals are not successful include:

- Industrial/economic relevance is not evident:
  - No industry partners have been actively engaged.
  - No commercialization plan has been established.
  - There is no clear line of sight to market.
- The focus is on development, with no research:
  - There is no defined research plan.
  - The research is new to the researcher, but is not novel in the wider community.
  - No peer-reviewed publications or patents are planned.
- The project does not build incremental R&D capacity:
  - No students are engaged.
  - Proposed infrastructure is not sustainable.
  - Research is isolated: it does not build on the work of others, nor include collaboration.

Sample preferred or desirable project types include:

- IgniteR&D
  - Facilitates start-up of new research activities.
  - Self-contained project which can be executed independently (eg. effective execution of the project is not contingent on other unconfirmed funding applications).
  - All resources necessary to complete the project are included in the application (students, materials, equipment).
  - Defined end point for the project.
- LeverageR&D
  - Leverages federal funding agencies (ACOA, NSERC, CFI, etc).
  - RDC funding is required for the project to proceed.
- CollaborativeR&D
  - Co-funded industry partnerships, to address an industry need or priority area.
  - Exceptional collaborations with other academic or research institutions.

In the event that an IgniteR&D proposal is related to, but not leveraging, other unconfirmed funding applications (such as an NSERC Discovery Grant), effective execution of the RDC project should not be contingent on the other funding. For example, if a larger project requires three graduate student stipends, some equipment and consumables, the RDC proposal should contain a portion of the project costs and scope that can be achieved independently. Projects

which contain only stipends with equipment costs coming from another source, or only equipment with no salaries included to complete the research, are undesirable.

## **7.2 Section 1: Applicant Details**

This section is intended to capture basic information about the primary and secondary applicant. The contact and institutional information is for the primary applicant only. The date of first employment should indicate the date at which the applicant was first employed with the institution in any capacity, and not the applicant's current position.

## **7.3 Section 2: Project Details**

This section is intended to gather the project details, to be used for analysis of projects by area, academic discipline and sector/industry focus.

### R&D Project Title

The project title should be kept brief and informative (around 50 characters), and should serve to educate a reader as to the nature of the project.

### Discipline

The discipline that most accurately represents the area in which the research is focused should be chosen from the dropdown box.

### Project Sector/Industry Focus

The sector focus section provides three opportunities to list the specific sectors/industries to which the research is most relevant. The most relevant sector/industry should be listed first, and at least one sector/industry must be listed. More than one sector focus may apply to your project; therefore there are primary, secondary and tertiary spaces available. For example, a project in the "Energy" sector may also have relevance to "Ocean Technology" and "Minerals/Mining". The sectors available for selection are:

1. Energy
2. Ocean Technology
3. Manufacturing
4. Information and Communication Technologies
5. Health and Life Sciences
6. Minerals and/or Mining
7. Fisheries

8. Aquaculture
9. Forestry
10. Agriculture
11. Other (at which time, a text box will be displayed in which to provide further information)

For the purposes of this classification, the ocean technology sector comprises knowledge based companies that invent, develop and produce technological products for specific use in or on the ocean, or provide knowledge-intensive, technology-based services, unique to the ocean. Research projects may be related to defence and security, marine transportation, environmental science, marine safety, among others.

#### **7.4 Section 3: Research Team**

This section should be used to list all team members who will be involved in this project, the nature and duration of their involvement.

##### Core Research Team and Confirmed Collaborators

All confirmed collaborators and researchers from all sources (industry, the originating institution, other institutions, etc) should be included in this table. The Position column should reference their position within their organization, while the Project Role column should reflect the active role being taken in the project. The Project Role column should be used to give details of exactly what the collaborator will contribute to the project. The Time Commitment should reflect how much time this individual will spend on the project, and the dropdown box should reflect if that commitment is total hours or average weekly hours.

##### Other Potential Collaborators

This table should be used to describe possible collaborators that have yet to be confirmed, and should be completed the same as the Core Research Team and Confirmed Collaborators table. The details of their potential involvement should be included under Project Role.

#### **7.5 Section 4: Project Planning Details**

This section illustrates any project planning considerations that have already been completed or are anticipated as a result of this project.

### Planned Start Date and Completion Date

These date fields should show the planned timeline for the project. The date formatting supplied in the application form should be used. The planned start date should not be before the date of application submission, and the project must commence as per the guidelines set out in Table 1. Note that the project start date is not the date that the application is submitted, but rather the date from which the project will incur costs.

### Questions

When responding to the question “Have you applied to or been approved by other funding sources?”, the applicant must consider other projects related to this proposal only. If Yes, then details about the related funding such as source, timing and conditions should be given in the space provided. A copy of the funding proposal and related notification documentation should also be attached to the RDC application.

When responding to the question “Have you made any financial or legal commitments for the project?”, the applicant must consider hiring that may have already occurred or contracts that may have been signed that relate to this project. If Yes, then details about the related commitment such as source, timing and implications should be given in the space provided. Any documentation related to the commitments should also be attached to the RDC application.

When responding to the question “Have any independent, scientific/technical or expert peer reviews been completed or anticipated within the next 12 months, on all or a portion of this project proposal?”, the applicant must consider any reviews that have occurred or are expected within one year on any component of the proposed research. Reviews may have occurred as a result of journal or conference submissions, other funding applications or graduate student thesis examinations. If Yes, then details about the reviews such as source, timing and subject matter should be given in the space provided. Any documentation related to the reviews should also be attached to the RDC application. If No, then the applicant must list two suggested reviewers that are qualified to review their proposal. The applicant must cite the preferred academic/professional background of potential reviewers, along with the contact information of the suggested referees. The reviewers must not be in conflict of interest with the applicant, based on the criteria outlined in the application form.

## **7.6 Section 5: Project Description and Statement of Work**

This section should be used to give the technical details of the proposed research project. Detail in this section is extremely important, for proper evaluation of the proposal. Much of the content from this section will be used directly in the resulting contract, in the event of a successful application, and will be the basis for future claims for payment, monitoring and reporting. Completed tables based on a sample Statement of Work have been included in Appendix A.

### Project Background and Rationale

This section should be used to provide an overview of the project, the origins of the research and the rationale behind why the work is being undertaken. This descriptive section will normally be a one page introduction to the project.

### Description of Major Activities

This table should provide an overview of all the major activities being completed for this project. Every activity should be a task with a defined beginning and end. The Activity Title should give a brief heading for the activity, while the main Description of Activity section should be used to provide all the details about the activity. This section should elaborate on what the activity will entail, describing how the activity will be achieved, techniques used, methodologies incorporated, etc. The Technical Challenges section should describe the main challenges to overcome for this activity to be successful. The plan to get past the identified challenges should also be given. The Required Resources field should highlight all physical and human resources that will be required to complete this activity.

### Project Location(s)

All locations that will be used in the completion of this project should be identified. If there is more than one location, indicate which one is the primary location, where most of the project activities will occur. Note that RDC is not obliged to consider the support of any costs incurred at locations other than the ones listed.

### Milestones

A milestone is a scheduled event signifying the completion of a major deliverable or a set of related deliverables and/or activities. Each milestone will be a decision point for the project, and is a key indicator of how the project is progressing. Project reporting will be based on milestones, so they must be discrete and measurable. Ultimately a series of successful milestones should result in a positive project outcome.

Each listed milestone should be labeled M1, M2, etc. for reference in subsequent tables. The Indicator of Achievement field should be used to show what metric will be used to measure the milestone's success. That indicator must be evaluated as a yes/no decision point. The Date field will be the anticipated milestone date based on the current project schedule.

### Project Schedule

The Activity Title of each of the major activities defined in the Description of Major Activities table will be repeated here, along with the Associated Milestones from the Milestones table already completed. Every major activity and milestone must be represented in the Project Schedule table. A single milestone may be associated with multiple activities, while several activities may feed the same milestone. The anticipated Start and End Dates for each activity should also be given. For a sample project schedule, with activities and milestones, refer to Appendix A.

### Technical Considerations

All technical considerations of the project should be discussed here. In particular, the following items should be addressed: technical feasibility, space and facility requirements, environmental and regulatory considerations, legislation impacts, IP rights, other risks and mitigation measures, etc. If a specific topic is not applicable, but could be relevant given the field of study, the application should state that it has been considered and the reason why no further discussion is required. If no comment is made, the evaluation may conclude that no consideration was given at all, which may indicate a lack of due diligence.

### Project Management

The management and oversight structure for the project should be discussed in this section. How the project will be managed, the team's ability to successfully complete projects, and how the results of the project will be tracked and reported are all important considerations in evaluating the likelihood that this project will have the expected outcomes.

### Anticipated Outcomes

This section should be used to discuss the expected outcomes of the project. Some key outputs may include: (i) enhanced R&D capacity; (ii) potential for commercialization; (iii) new product, service or process; and (iv) a resource development opportunity. In particular, the industry and economic relevance of the project should be described in detail. An important part of RDC's evaluation process is an analysis of how project outcomes will impact Newfoundland and

Labrador. The research team should be prepared to discuss relevance as an incentive for RDC to support their project. All expected outcomes should be discussed in this section.

#### Disclosable Project Description

This brief description should be accessible to people who are not experts in the field of research. Terms used should be non-technical, explain how the project relates to R&D, and be understandable to the residents of Newfoundland and Labrador.

### **7.7 Section 6: Confidentiality and Declaration**

This section must be signed by the lead researcher (Primary Applicant for the application) and co-signed by a responsible authority from the institution. The signature from the institution shows the high level support for this project.

### **7.8 Section 7: Detailed Project Cost**

In all cost tables, dropdown boxes should be used where provided. Descriptions should provide specific details about the cost category. Two amounts are required in each cost table, one for the total cost of the line item, and one for the amount requested of RDC for that item. The Comments field should be used to elaborate further where necessary.

### **7.9 Section 8: Project Cash Flow Forecast**

This section should be used to provide a forecast as to when RDC funds will be spent. Upon successful application, RDC will work with the researcher to update the cash flow forecasts as required throughout the project. This table should only represent RDC's contribution to the project, and reasonable estimates should be made based on the project schedule as to when funds will be disbursed. Each column represents a fiscal year, from April 1 to March 31. CY refers to current year, so the first CY column is for the current fiscal year, the second for the next fiscal year, etc. Only the number of columns equal to the duration of the project should be used.

### **7.10 Section 9: Detailed Project Financing**

In all financing tables, dropdown boxes should be used where provided. The details of contributions from both RDC and others to the project should be discussed in this section. For each source, the amount and % of that amount from the total project budget should be

provided. For non-RDC financing sources, other details are required, including the date at which the financing was secured, and the amount that has been spent to date. Details of the financing, including restrictions, re-profiling, matching requirements and timing of the funding should be given.

For projects requesting multi-year funding, the detailed budget breakdown should be given per year. As well, details of how project costs not being cost-shared by RDC are being financed should be discussed.

## **8. Evaluation Process**

The application package will be evaluated by RDC to ensure the program criteria are met, based on the following high level evaluation metrics:

<b>Selection Criteria</b>	<b>Criteria Weighting</b>
Alignment with program objectives	40%
Merits of the project proposal: research plan, financial considerations, industry relevance and potential for economic impact in Newfoundland and Labrador	60%

## **9. Disbursement**

RDC will be responsible for the disbursement of funds.

Prior to the project commencing, the project proponent must confirm that the balance of funds are in place to complete the project.

**Appendix A – Sample Statement of Work Tables**

Description of Major Activities

Activity Title	Description of Activity	Technical Challenges	Required Resources
<b>Lab Renovations</b>	The existing lab will be renovated to include the following infrastructure: <describe the infrastructure and summarize how it will be incorporated into the existing setup>.	Timelines can be compromised due to the tendering process. Finding an appropriate contractor that can work with such specialized equipment presents a risk, as does coordinating a schedule with the existing lab facilities. The research team plans to overcome these risks with effective project management, working with all parties to ensure a schedule that is realistic and achievable.	Person X, Contractor Y, Person Z, Facility A
<b>Equipment Acquisitions</b>	The following equipment will be purchased: <provide descriptions of the proposed equipment list>. The equipment will then be installed in the newly renovated lab: <describe how the equipment will be set up within the new infrastructure>.	There are long wait times associated with the tendering process and acquisition of specialized equipment. The research team will work to overcome these challenges by beginning the acquisition process early in the project, so that research can begin as soon as possible.	Person X, Person W, Facility A, Equipment M, Equipment N
<b>Prototype Design</b>	A Master’s student will be engaged at this stage in the project, and will take responsibility for production of the design. The design for the prototype will be developed according to the following specifications: <provide details of how the prototype will need to perform>.	Ensuring the student has been selected and is able to begin work as soon as the equipment is in place is critical to the success of the project. The prototype design has a number of obstacles to be considered, including: <discuss technical challenges and plans to overcome them here>.	Student S, Person X, Facility A, Equipment M, Equipment N, Equipment O

Activity Title	Description of Activity	Technical Challenges	Required Resources
<b>Prototype Development</b>	The research team will engage collaborators E, F and G on manufacturing of the prototype based on the previously developed design. The prototype will need to meet the following performance criteria to be successful: <describe success factors for the prototype here>.	Development of the prototype has a key technical challenge, common in this type of manufacturing: <discuss details of the technical challenge here>. Proven strategies to overcome this challenge will be used, including: <describe how the challenge will be overcome>. If design deficiencies are discovered during this phase, then that could negatively impact the schedule – contingency has been built into the schedule to accommodate some minor re-design.	Student S, Person X, Facility A, Facility B, Collaborator E, Collaborator F, Collaborator G
<b>Prototype Testing and Results Dissemination</b>	The following test strategy will be used to verify the performance of the prototype against the previously determined criteria: <discuss test strategy in detail>. The project results will be submitted for publication in a peer-reviewed journal and for presentation at a conference in January 2013.	Securing the test equipment amid competing priorities will be the main challenge, which has been mitigated by an agreed schedule early in the project.	Student S, Collaborator F, Facility C, Equipment P, Equipment Q

## Milestones

Project Milestone	Indicator of Achievement	Date of Completion
<b>M1: Renovations complete</b>	The renovated lab facility is able to accommodate 6 people, and the following equipment: <insert equipment list here>.	December 31, 2011
<b>M2: All equipment purchased</b>	All equipment is installed and operational in the renovated lab facility.	April 30, 2012
<b>M3: Prototype design complete</b>	A design document is produced that addresses all of the required specifications.	August 31, 2012
<b>M4: Prototype developed</b>	A prototype is produced that meets the design specifications.	December 31, 2012
<b>M5: Testing, publication submission and final report complete</b>	All testing of the prototype's performance is complete (as per the test strategy and with all specifications verified), with documented results. The project results are submitted for publication and a final report on the project is prepared for stakeholders.	February 28, 2013

## Project Schedule

Activity Title	Associated Milestones	Start Date	End Date
<b>Lab Renovations</b>	M1	April 1, 2011	December 31, 2011
<b>Equipment Acquisitions</b>	M2	April 1, 2011	April 30, 2012
<b>Prototype Design</b>	M3	May 1, 2012	August 31, 2012
<b>Prototype Development</b>	M4	September 1, 2012	December 31, 2012
<b>Prototype Testing and Results Dissemination</b>	M5	January 1, 2013	February 28, 2013



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