



# Azrieli Science Grants Program Request for Applications

RNA and the Brain

Application Manual

**Due date for Letter of Intent (LOI)**

**Friday May 15, 2020; 6:00 pm EDT**

**Due date for Full Applications**

**Friday July 17, 2020; 6:00 pm EDT**

## Background

Since its establishment in 1989, the [Azrieli Foundation](#) has funded institutions and programs in Canada and Israel in eight impact areas, including Science, Research and Healthcare. We support scientific research from bench to bedside and enable the training of scientists and clinicians. Our mission is to advance discoveries and novel approaches that address the core of challenging biomedical problems. To achieve this, we strive to initiate and sustain programs that chart new scientific territory and change paradigms. The Azrieli Foundation supports research in the neurosciences to drive discovery in molecular, cellular and physiological processes of normal and abnormal brain development and homeostasis that could lead to effective treatments, interventions and prevention of neurodevelopmental disorders (NDD).

## The Azrieli Science Grants Program

We are pleased to announce our first **Request for Applications (RFA): “RNA and the Brain”**.

The Azrieli Science Grants Program has three main **objectives**:

- 1) To enable scientific advances in basic and translational neuroscience
- 2) To bring new ideas and talent to the field of neurodevelopmental disorders
- 3) To catalyze collaborative networks of neuroscience researchers around specific research themes.

## Description of the Opportunity

In this **“RNA and the Brain”** RFA, we seek to support research projects that deepen our understanding of the molecular events downstream of RNA transcription that diversify gene expression and function in embryonic and early postnatal development of the nervous system. The emphasis will be on how these mechanisms contribute to normal nervous system development, physiological homeostasis and/or neural cell function, and/or how their dysfunction may contribute to neurodevelopmental disorders. Researchers not currently working in neural systems who have an interest in moving into the field of neuroscience are also encouraged to apply, provided that preliminary feasibility studies have been documented. All applicants will be required to demonstrate the applicability and potential impacts of their work to fundamental neurosciences and to neurodevelopmental disorders.

### **For the purposes of this RFA, we define neurodevelopmental disorder as follows:**

A condition affecting the nervous system that manifests in the prenatal and/or early postnatal developmental period(s). This includes developmental brain dysfunction, which is evident as neuropsychiatric problems, learning, language or non-verbal communication impairments and/or impaired motor function.

Our long term vision is that discoveries made possible by this RFA could lead to the development of mechanism-based treatments that address the fundamental molecular features that underlie neurodevelopmental conditions.

Applications will be evaluated by an international peer-review committee who will score and rank applications and provide recommendations to the Azrieli Foundation.

### Project and Topic Eligibility

1. Post-transcriptional regulation of gene expression in the nervous system, including (*but not limited to*):
  - a. RNA splicing, stability, and localization
  - b. Circular RNA biogenesis and function
  - c. Regulation of RNAs by miRNA and RNA binding proteins (RBP)
  - d. Composition and role of RNA-associated granules and bodies
2. Regulation of protein translation in the nervous system, including (*but not limited to*):
  - a. Ribosome elongation, termination and quality control
  - b. Localization of protein translation
  - c. Regulation of protein degradation
  - d. Phase separation of protein complexes
3. Spatial and temporal regulation of the above post-transcriptional mechanisms in neuronal development and/or associated neurodevelopmental conditions
4. Systems biology approaches that also include functional validation, that are designed to uncover the above post-transcriptional and post-translational mechanisms in the nervous system, neuronal development and/or associated neurodevelopmental conditions
5. Applications using any relevant model/experimental system will be accepted, provided the focus is relevant to the nervous system.
6. Proposals must be anchored in an hypothesis driven project, but some funding may be budgeted for development of tools and technologies that enable discovery and analysis in the above areas.

### Funding available

Projects will be funded to a maximum of **Cdn\$150,000** per year for a maximum of three years. **We expect to fund the top six applications.**

## **Applicant eligibility**

- Research funded by the Azrieli Foundation must be hosted at accredited Canadian universities or Research Institutions that have Canadian Registered Charity status
- Applications may be submitted by individual researchers or teams
- For a team application:
  - Each team must have a Nominated Principal Investigator who will be responsible for managing the collaboration and whose institution will distribute the funds to the co-Principal Investigator(s)
  - Co-Principal Investigators may be from the same or different institution(s), provided that each is an accredited Canadian University or Research Institution with Canadian Registered Charity status
  - Collaborators may be from any institution and jurisdiction, but will not receive funding
- Each applicant (Nominated Principal Investigator and co-Principal Investigators) must be an independent researcher, with mandate to direct their own research program and manage their own funding
- Early Career Investigators are encouraged to apply individually, or as a member of a team
- Applications may be submitted in French, but will be translated to English for review

## **Eligible Expenses**

- Salary support for trainees and research staff
- Consumable laboratory materials and reagents
- Purchase and care of laboratory animals
- Small laboratory equipment if essential to proposed research project (<\$10,000 total)
- Laboratory services or core facility fees such as for microscopy, sequencing
- Computer software
- Travel expenses for research dissemination and collaborative research related to the project up to \$5000/year

## **Ineligible Expenses**

- Salary of applicants (Nominated Principal Investigator, co-Principal Investigators, Collaborators)
- Consulting fees for preparation of the application
- Research space renovations
- Indirect or overhead costs associated with managing the research project

Please note that this list is not exhaustive, and budgeted expenses will be reviewed by the Azrieli Foundation for the final decision on eligibility.

## Key Dates

Week of March 9: Program Launch

May 15, 2020: Due date for Letter of Intent

**July 17, 2020: Due date for Full Application**

September 2020: Review Committee adjudication

October 2020: Award Notification

November 2020: Funding begins, pending signed agreements

## Application Process

An online application portal will be available on or before April 14, 2020 for Letter of Intent and Full Application submissions. Details and links will be provided on the Azrieli Foundation website on or before April 14, 2020.

### 1) Letter of intent (LOI) **Due date: Friday May 15, 2020; 6pm EDT**

- The LOI will be used to confirm application eligibility and to prepare peer review committee
- LOI content:
  - Project Title
  - Statement of Purpose describing what the project is expected to achieve (30 words or less)
  - Project Summary including scientific goals, methods and experimental model system(s), significance and relevance to neurodevelopmental disorders (500 words or less)
  - List of applicants (Nominated Principal Investigator, Co-Principal Investigators, Collaborators - refer to definitions at the end of this document), institutional affiliations and email contact for each applicant
  - List of potential reviewers (also include suggestions from outside Canada)
  - List of researchers who should not be reviewers due to conflict of interest
  - Note: A budget is not required at the LOI stage

### 2) Full Application **Due date: Friday July 17, 2020; 6pm EDT**

Full application content:

- Project Title (from LOI, *modifications permitted*)
- Statement of Purpose of the project (up to 30 words from LOI, *modifications permitted*)
- Scientific Summary (up to 500 words, from LOI, *modifications permitted*)
- List of applicants (Nominated Principal Investigator, Co-Principal Investigator(s), Collaborators), institutional affiliations and contact

information for each PI (from LOI, *modifications permitted, except for the Nominated Principal Investigator*) and their roles in the project

- List of Key Personnel (trainees and research staff) and their roles in the project
- Project Proposal (up to 5 pages): background, hypothesis, scientific aims, methodology, expected timelines, potential outcomes and significance
  - Figures (no limit)
  - References (no limit; list should indicate key publications by applicants that are relevant to the proposal; preprints permitted)
- Additional sections (up to 250 words each):
  - Training and Mentorship plan
  - Data Sharing/Knowledge Translation plan
  - Impact on Neurodevelopmental Disorders
- Budget (maximum \$150,000/year for a maximum of 3 years) in spreadsheet form with the following sections (downloadable template will be provided)
  - Research Personnel
  - Consumables, Small Equipment & Computing
  - Animals
  - Services & Core Facility fees
  - Travel (does not include travel to Azrieli Foundation symposium)
  - Costs for open access publication
- Budget Description (approximately 1 page) justifying the research costs in relation to project aims
- **Nominated PI and Co-PI Curriculum Vitae- please include these details**
  - Current position
  - Education
  - Employment history
  - Funding: Grants, Fellowships and Awards (last 5 years)
  - Prizes
  - Publication List (last 5 years)
    - For unpublished manuscripts include only those that are in press or submitted
  - Other contributions (last 5 years)- for example
    - Invited talks, conferences, workshops
    - Teaching
    - Scientific or other community service
  - Names of past and current trainees, (include dates and degree level)
  - Most Significant Contributions (scientific works, scientific community contribution, training and mentorship achievements); *this section is optional, up to 500 words*

## Review Criteria (Full application)

- Quality of the research proposal
- Feasibility of the project
- Feasibility based on the expertise of the applicant(s)
- Potential for generation of new knowledge
- Potential impact of the proposed research
- Quality of the training environment
- Potential for development of early-career researchers

## Azrieli Foundation Funding Policies

- Funds must be used for activities related to the project aims and as described in the application, with some flexibility, to be reviewed by the Azrieli Foundation.
- Awarded researchers will be required to demonstrate their adherence to ethical standards of research practice, including animal care, informed consent, laboratory health and safety prior to release of funding
- Nominated Principal Investigators are required to submit annual scientific and financial reports on behalf of all co-applicants
- No-cost extensions, and carry over of unused funds to the following year will be considered on a case-by-case basis, after written request directed to the Azrieli Foundation, accompanying the progress report
- Awarded researchers are expected to participate in an annual symposium. Travel costs for this activity will be covered separately by the Azrieli Foundation (not from the grant)
- The Azrieli Foundation strongly encourages open and rapid dissemination of research results and data, methods and reagents to accelerate discovery and innovation

## Definitions

1. **Nominated Principal Investigator:** an independent researcher (with mandate to direct own research and manage own funding) at an accredited Canadian university or research institute with Canadian Registered Charity status; if the application is a Team submission, is authorized to provide consent for this LOI on behalf of the team, and is responsible for managing the collaboration. The Nominated Principal Investigator's host institution will direct funds to the Co-Principal Investigator(s).

2. **Co-Principal Investigator:** an independent researcher (with mandate to direct own research and manage own funding) at an accredited Canadian university or research institute with Canadian Registered Charity status.
3. **Collaborator:** any researcher or individual who contributes to the proposed project, from any jurisdiction, but who will not receive funding
4. **Early-career Researcher:** an independent researcher, who is within 5 years of their first independent research/academic position, taking into account time used for official leaves of absence (medical, parental, for example)
5. **Neurodevelopmental Disorder:** A condition affecting the nervous system that manifests in the prenatal and/or early postnatal developmental period(s). This includes developmental brain dysfunction, which is evident as neuropsychiatric problems, learning, language or non-verbal communication impairments and/or impaired motor function.