



**Azrieli Science Grants Program
Request for Applications**

New Ideas to Advance Knowledge in Neurodevelopment

Application Manual

Due date for Letter of Intent
Tuesday May 31, 2022, 18:00EDT

Due date for Full Applications
Friday July 29, 2022, 18:00EDT

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 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 **2022 Request for Applications (RFA): “New Ideas to Advance Knowledge in Neurodevelopment”**.

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

- 1) To enable scientific advances in basic and translational neuroscience, with particular focus on neural development and neurodevelopmental disorders
- 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

The purpose of the funding is to:

- Catalyze high-risk, high-reward research questions for which no other funding stream is available
- Encourage the exploration of highly innovative and creative research ideas that have the potential to advance knowledge in neural development and neurodevelopmental disorders
- Test a new hypothesis or develop new approaches to an intractable problem or that challenge prevailing paradigms
- explore a bold and risky research question with a proof-of-principle experiment

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 applications will be evaluated on the applicability and potential impacts of their work to fundamental neuroscience and in particular to neurodevelopment and 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.

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

- Research questions and hypotheses must pertain to neural development
- Projects will be curiosity- and discovery-driven, but where direct and indirect impacts to neurodevelopment and neurodevelopmental disorders can be envisioned and articulated
- Any model system or combination of model systems, technologies and tools are permitted
- Collaboration across disciplines is encouraged

Additional information:

- Promising ideas will most likely come from collaborative efforts; applicants are encouraged to include collaborators
- Applications using any relevant model/experimental system will be accepted, provided the focus is relevant to the nervous system
- Preliminary data are permitted but not required; but applicants must provide strong rationale for the hypothesis
- No overlap with any current funding or extensions of ongoing research is permitted
- The funding has a 1-2-year timeline- the goal is not to fund over- ambitious aims
 - projects with a high degree of novelty are prioritized

We acknowledge that not all projects will be successful. We will encourage dissemination of all funded projects in a Knowledge Mobilization Forum at the end of Year 2.

The following are **NOT eligible for funding:**

- Projects where development of a model of a disease is the sole purpose
- Research based on candidate risk genes or environmental risk factors that are not supported by well powered, statistically significant genome-wide association or epidemiological studies, respectively
- A drug discovery/screening project

Funding available

Projects will be funded to a maximum of **Cdn\$50,000** per year for a maximum of two years. **We expect to fund the top five applications.**

Applicant eligibility

- All career stages (faculty level)
 - Early Career Investigators are encouraged to apply
- 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
- Inter-institutional collaborative proposals are encouraged

- 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
- Applications may be submitted in French, but will be translated to English for review

Eligible Expenses

- Consumable laboratory materials and reagents
- Purchase and care of laboratory animals
- Small laboratory equipment if essential to proposed research project (<\$5,000 total)
- Laboratory services or core facility fees such as for microscopy, sequencing
- Computer software
- Cost of open access publication

Ineligible Expenses

- Salary of applicants (Nominated Principal Investigator, co-Principal Investigators, Collaborators), trainees and research staff
- Travel expenses
- Consulting fees for preparation of the application
- Research space renovations
- Indirect, overhead or administrative 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

Tuesday May 31, 2022: Due date for Letter of Intent

Friday July 29, 2022: Due date for Full Application

September/ October 2022: Peer Review

November 2022: Award Notification

March 2023: Funding and Project start

Application Process

The online application portal (Apply- by Survey Monkey) will be available on or before April 21, 2022 for the Letter of Intent. If Applicants are eligible, access to the Full Application form will be provided on Apply by June 7, 2022.

1) Letter of Intent **Due date: Tuesday May 31, 2022; 6pm EDT**

The Letter of Intent (LOI) will be used to confirm application eligibility and to prepare peer review committee

Letter of Intent content:

- **Project Title**
- **Statement of Purpose** describing what the project is expected to achieve (30 words or less)
- **List of keywords** (Up to 10, including model systems)
- **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 Investigator(s), Collaborator(s) - refer to definitions at the end of this document), institutional affiliations and email contact for each applicant
- **Peer Review Areas of Expertise** (at least one, refer to the list in the Peer Review Section)
- **Note: A budget is not required at the LOI stage**

2) Full Application **Due date: Friday July 29, 2022; 6pm EDT**

Following topic and applicant eligibility review, applicants will be notified by email if they are invited to submit the Full Application.

Full application content:

- **Project Title** (from LOI, *modifications permitted*)
- **Keywords** (up to 10)
- **Peer Review Areas of Expertise** (at least one, refer to the list in the Peer Review Section)
- **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), Collaborator(s)), institutional affiliations and contact information for each PI (from LOI, *modifications permitted, except for the Nominated Principal Investigator*) and their roles in the project
- **Project Proposal** (up to 5 pages): state of current knowledge, origin and rationale of the new idea, hypothesis being tested, methodology, expected timelines, predicted outcomes and significance

- Font (12 point; black type; do not use narrow font sizes or type density; smaller font size in figures permitted)
- Line spacing (single spaced; 1-inch margins)
- **Proposal Attachments** (for 1 & 2 below please upload as single PDF file)
 1. Figures (No limit)
 2. Graphical abstract of the project and/or outline the proposed experimental plan in a diagram (optional)
 3. Bibliography (no limit; list should indicate key publications by applicants that are relevant to the proposal; preprints permitted)
- **Additional Sections** (Narrative boxes, up to 250 words each):
 1. Lay summary
 2. Potential impact
 3. Relevance to developmental neuroscience and neurodevelopmental disorders
 4. Hypothesis being tested
- **Budget** (maximum \$50,000/year for a maximum of 2 years) in spreadsheet form with the following sections (downloadable template will be provided; upload as a PDF, ideally fit to a single legible page)
 1. Consumables, Small equipment & computing
 2. Animals
 3. Services & core facility fees
 4. Costs for open access publication
- **Budget Description** (up to 1 full page) justifying the research costs in relation to project aims
- **Nominated PI and Co-PI Curriculum Vitae**- please include these details
 1. Current position
 2. Education
 3. Employment history
 4. Funding: Grants, Fellowships and Awards (last 5 years)
 5. Publication List (last 5 years)
 6. Other contributions (last 5 years)- for example
 - Invited talks, conferences, workshops
 - Teaching
 - Scientific or other community service
 - Public science communications
 7. Names of past and current trainees, (last 5 years, include dates and degree level)
 8. Most significant contributions (scientific works, scientific and other community contribution, training and mentorship achievements); *up to 500 words*
 9. Personal Statement- briefly describe your role and suitability for this project based on previous or ongoing work, technical or other expertise, and mentorship of trainees who are part of this project. Indicate the average hours per week that you will give to this project

Additional information:

- Do not submit letters of support from Collaborators.
- The role and contributions of listed collaborators must be clarified within the proposal. Any extra materials submitted will be removed from the application.
- The Azrieli Foundation reserves the right to reject incomplete applications.

Peer Review Process**Peer Review Areas of Expertise**

1. Biomarkers
2. Genomics
3. Gene Regulation (ex: epigenetics, transcription, translation)
4. Cell Biology (ex: cell types, cellular dynamics, ion channels)
5. Synapses and Plasticity
6. Development and Stem cells (ex: cell fate, differentiation, regeneration)
7. Neural Circuits
8. Sensory and Motor Systems
9. Immunology, Inflammation, Microbiome
10. Behaviour, Memory & Cognition
11. Imaging
12. Computational and Theoretical Neuroscience
13. Novel Methods and Technology Development

Additional question: Tool? YES/NO

Review Criteria (Full application)

An international panel of peer researchers will score applications in the following categories (equal weight). Note that these criteria are identical to those provided to the reviewers.

1.) Impact and significance

- How does the proposed work address a novel research question?
- What is the potential for the proposed research to challenge, create new or shift paradigms in developmental neurosciences?
- Is there potential for the project to grow in scope and attract further funding?

2.) Quality and originality of the proposal

- Is the hypothesis novel and not currently being pursued? Is this project innovative?
- Is the research question well-articulated? Is there rationale for the new hypothesis?
- To what extent does the proposed research explore creative and potentially transformative concepts?
- High risk/high reward- acknowledges the unknowns and pitfalls, but which, if successful could have a big payoff, which must be clearly stated

3.) Scientific, Technical and Operational feasibility

- Is the research plan well-reasoned, organized and based on clearly stated rationale?
- Does the research plan incorporate a mechanism to assess progress/success at critical junctures?
- Are the timelines for this research realistic?
- To what extent are the methodology and experimental design appropriate to address the hypothesis?
- Does the research plan identify potential risks or pitfalls, and provide mitigating strategies?

4.) Applicants and Research Environment

- Qualifications of the applicant(s): Does the track record of the Nominated PI, (and Co-PIs if applicable) reflect the likelihood of delivering the proposed research?
- If the research is proposed by a team, is the expertise of the members complementary?
- Are adequate resources available to the applicant(s)? (either at the host institution or through the co-applicants) to accomplish the proposed research?

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.
- This RFA is not a “bridge funding” opportunity.
- 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 a final knowledge dissemination symposium. If this event is in-person and requires travel, these costs will be covered by the Azrieli Foundation.
- The Azrieli Foundation strongly encourages open and rapid dissemination of research results and data, methods and reagents to accelerate discovery and innovation.

Definitions

Nominated Principal Investigator (NPI): 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, the NPI is authorized to provide consent for the LOI and the full application on behalf of the team and is responsible for managing the collaboration. The NPI's host institution will direct funds to the Co-Principal Investigator(s).

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.

Collaborator: any researcher or individual who contributes to the proposed project, from any jurisdiction, but who will not receive funding.

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)

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.