



2022 INNOVATOR AWARDS

The **Innovator Award** provides seed funding for **innovative** research which has the potential to transform the field of hydrocephalus. This award will support research projects aligned with the Hydrocephalus Community Research Priorities. The complete list of priorities can be found in Appendix A. These priorities cover a wide range of topics under the following categories:

Developing novel non-invasive and/or one-time therapies

The hydrocephalus community wants new therapies to be developed to prevent, treat, manage, and reduce the damage caused by hydrocephalus with a focus on non-invasive and one-time treatments.

Reducing the burden of current treatments

The hydrocephalus community wants current treatments to be less invasive, have lower failure rates, and be easier to monitor. This includes the development of ways to accurately and easily monitor shunt function, improvements in current treatments (lower failure rates and new methods to unblock shunts), and better ways to determine the correct treatment protocol for each person.

Improving the screening and diagnosis of hydrocephalus

The hydrocephalus community wants to improve outcomes for people not yet diagnosed. This includes improving our understanding of why hydrocephalus develops, improving early screening and diagnosis, and improving our understanding of who needs to be treated to decrease the burden of the condition on future generations.

Improving quality of life

The hydrocephalus community wants to improve long-term outcomes and quality of life for those living with hydrocephalus. This includes reducing headaches and migraines and decreasing the burden of psychological, cognitive, and physical challenges caused by hydrocephalus.

Improving access to care

The hydrocephalus community wants better access to knowledgeable doctors and coordinated care teams including during the transition from pediatric to adult care.

In the Letter of Intent (LOI), investigators must indicate which priority statement(s) (Appendix A) are addressed by the project. Investigators studying **any etiology** of hydrocephalus are invited to submit a [letter of intent \(LOI\) by May 17, 2022](#). Employment of cross-disciplinary teams, use of machine learning/artificial intelligence, and/or phenotypic analysis is encouraged.

Award Details:

This award supports:

- projects that can be completed within a 12-month timeline.
- projects that can be completed at one of two funding levels, \$25,000 or \$50,000.

This award does not support:

- incremental progress of an established research program or project.
- projects in association with commercial development partners (i.e., participation of for-profit corporation(s)).

Eligibility Criteria:

To be eligible, applicants must:

- have a publication record containing research articles that are innovative and high impact.
- have demonstrated the ability to independently supervise staff and research.
- have completed one or more of the following degrees: MD, PhD, DSc, DO, Pharm.D, or equivalent.
- hold an assistant professorship, associate professorship, professorship, or any equivalent academic or non-academic position.
- be based at an accredited non-profit research or academic institution worldwide.
- be a member of the HA Network for Discovery Science (<http://hands.hydroassoc.org/>)

Final award decisions will depend on the number, scope and quality of the applications received and the research priorities determined by the Hydrocephalus Association. It is anticipated that two to six Innovator Awards will be funded during this grant cycle. This award provides no institutional overhead. All applications must be submitted in English.

All applicants must submit an LOI. LOIs must be submitted to research-loi@hydroassoc.org before 5:00 PM (Eastern) on May 17, 2022. LOI decisions and invitations to submit full proposals will be made in early-June

Application Details:

The Letter of Intent (LOI) components include:

[Click here for the LOI](#)

- A one-page summary of the project
- Identification of the supporting institution
- Identification of the Community Research Priorities addressed by project
- Identification of three potential reviewers

The Full Application components include:

[Click here for the Full Application](#)

- Contact details and other relevant administrative information (Face Page).
- Proposal Budget (Budget).
- Biographical sketches are required for the Applicant, Co-Investigator (if applicable), and Key Personnel. Biographical Sketches. Do not exceed five (5) pages each (BioSketch).
- Describe why this research is innovative. List any active or pending grant support that has or may appear to have a significant scientific or budgetary overlap with the research proposed in this application. Do not exceed one (1) page (Innovation).
- The Research Plan for the proposed project that contains a summary, specific aims and hypotheses, background and significance, research design and methods, next steps, and literature cited. Do not exceed six (6) pages. Note: Literature Cited does not count against the 6-page limit (Research Plan).
- Describe the Institutional Facilities and any Consultations/Collaborations if applicable. Do not exceed two (2) pages (Facilities and Collaborations).
- Applications from all candidates should also include a letter from the appropriate administrative institutional official confirming the institution's commitment to the responsible conduct of research, the candidate's eligibility and good standing, and that, if selected, the candidate would be able to accept the award.

All applicants must provide assurance of compliance with local research regulatory bodies and with local laws in advance of the start of research activities. Additionally, for applications using human embryonic stem cells or human tissue, the candidate must obtain appropriate Embryonic Stem Cell Research Oversight Committee (ESCRO) and human subjects research approvals in advance of the start of research activities.

Full applications are due before 5:00 PM (Eastern) on July 28, 2022. Grant finalists will be contacted in November 2022. For additional information, please contact the National Director of Research at research@hydroassoc.org or 240.483.4540.

Appendix A

Hydrocephalus Community Research Priorities

The Hydrocephalus Community Research Priorities is a list of research priorities developed by the hydrocephalus community at large through a validated process using the James Lind Alliance guidance.

Developing novel non-invasive and/or one-time therapies

The hydrocephalus community wants new therapies to be developed to prevent, treat, manage, and reduce the damage caused by hydrocephalus with a focus on non-invasive and one-time treatments.

- Develop new treatments that do not require brain surgery to manage hydrocephalus
- Develop new one-time treatments to manage hydrocephalus (i.e. permanent treatments that do not require additional interventions)
- Develop ways to prevent the development of hydrocephalus
- Develop therapies (e.g. stems cells, cellular regeneration) to repair brain damage for people affected by hydrocephalus

Reducing the burden of current treatments

The hydrocephalus community wants current treatments to be less invasive, have lower failure rates, and be easier to monitor. This includes the development of a better understanding and new ways to monitor shunt function, improvements in current treatments (lower failure rates and new methods to unblock shunts), and better ways to determine the correct treatment protocol for each person.

- Develop ways to monitor shunt function and detect shunt malfunction non-invasively and/or outside of the hospital
- Improve shunt components and surgical techniques to prevent shunt blockages and mechanical failure (e.g. broken valve, disconnected tubing, broken tubing)
- Develop methods to non-invasively or less-invasively unblock shunts
- Improve shunt designs and surgical techniques to enable less or non-invasive shunt placement and shunt revisions
- Develop a better understanding of the symptoms patients experience when their shunt is failing
- Determine which treatment strategy will be most effective for each patient by comparing clinical protocols and treatment options (e.g. shunt vs. ETV, programmable vs. non-programmable shunts)

Improving the screening and diagnosis of hydrocephalus

The hydrocephalus community wants to improve outcomes for people not yet diagnosed. This includes improving our understanding of why hydrocephalus develops, improving early screening and diagnosis, and improving our understanding of who needs to be treated to decrease the burden of the condition on future generations.

- Identify the causes and processes that lead to hydrocephalus (e.g. genetic influences, inflammation)
- Improve ways of diagnosing and screening for hydrocephalus to allow for earlier detection of the condition
- Develop ways to accurately determine if a patient would benefit from hydrocephalus treatment, such as shunt, prior to surgery

Improving quality of life

The hydrocephalus community wants to improve long-term outcomes and quality of life for those living with hydrocephalus. This includes reducing headaches and migraines and decreasing the burden of psychological, cognitive, and physical challenges caused by hydrocephalus.

- Improve our understanding and develop ways to reduce the emotional and psychological challenges (e.g. stress, anxiety, and depression) of living with hydrocephalus
- Improve our understanding and develop ways to reduce headaches and migraines related to hydrocephalus and hydrocephalus treatments
- Improve our understanding and develop ways to reduce impairments in attention, learning, memory, and problem solving related to hydrocephalus
- Improve our understanding and develop ways to restore physical function and motor control (e.g. walking, balance, and urinary continence) in people with hydrocephalus

Improving access to care

The hydrocephalus community wants better access to knowledgeable doctors and coordinated care teams including during the transition from pediatric to adult care.

- Determine how to improve patient access to doctors and hospitals that have expertise in hydrocephalus
- Determine how to improve coordinated care across medical specialties (e.g. neurosurgery, neurology, cognitive therapy, physical therapy, etc.) for people with hydrocephalus
- Determine how to improve a patient's transition from pediatric to adult medical specialists (doctors)

