



Funding Opportunity: HIRN Emerging Leaders in T1D Award (2020)

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Key Dates

Posted Date:	June 15, 2020
Letter of Intent Due Date:	September 30, 2020
Application Due Date:	October 30, 2020
Scientific Review:	November 2020/December 2020
Start Date:	February 1, 2021
Expiration Date:	October 31, 2020

Section I. Funding Opportunity Purpose

The [Human Islet Research Network \(HIRN\)](#) announces a new funding initiative to provide support and protected time for senior postdoctoral fellows seeking to pursue studies that will enhance their transition toward independent research careers. Applications are sought from experienced postdoctoral fellows with a minimum of two years of ongoing postdoctoral experience who intend to continue research careers in scientific areas supported by the Human Islet Research Network. This opportunity is designed specifically for applicants proposing research that does not involve leading an independent clinical trial, a clinical trial feasibility study, or an ancillary study to a clinical trial that is itself comprised of a clinical trial intervention.

The long-term goal of this career development program is to ensure that a robust pipeline of new and talented investigators will continue to pursue successful research careers in type 1 diabetes (T1D). The initiative will support research studies under the guidance of an experienced mentor or sponsor. Applicants must propose aims focused on an original scientific idea or question that is distinct from the mentor's currently funded research.

In addition to obtaining support for their research, awardees will participate in an array of HIRN collaborative activities and networking opportunities, including ongoing meetings of the HIRN consortia and the annual investigator meeting. In this way, the "HIRN Emerging Leaders in T1D" award will provide senior postdoctoral fellows with an opportunity to increase their understanding of key questions in the field, to independently network, and to establish unique and potentially long-lasting collaborations that will propel their careers forward.

Section II. Funding Opportunity Description

II-1. Background

Type 1 diabetes (T1D) is a disease caused by the autoimmune destruction of insulin-secreting beta cells in the pancreas. While the incidence of T1D is increasing worldwide, research continues into mechanisms contributing to disease onset and severity, and into development of therapeutic strategies to effectively prevent or intervene in the disease process.

In 2014, NIDDK established the Human Islet Research Network (HIRN; www.hirnetwork.org) to support collaborative research in T1D. HIRN is jointly supported by NIDDK and the type 1 diabetes special funding program, and its overall mission is to better understand how human beta cells are lost in T1D and to find innovative strategies to protect or replace functional beta-cell mass in diabetic patients. The HIRN program is configured as a modular network of research consortia, each defined by a specific set of research priorities. All HIRN research consortia are focused on human disease biology, the use of human cells and tissues, and the development of tools and disease-modeling platforms that can help further our understanding of the human disease process. It is anticipated that HIRN efforts will ultimately lead to new and innovative treatment strategies for T1D patients.

II-2. Objectives and Scope

Research supported by these awards should be based on original questions and ideas that address significant barriers in T1D research. The studies should be pursued in the context of a career development program that includes robust mentoring and sponsorship. In addition, the scientific opportunities to be pursued should fit conceptually within the framework of goals of an existing consortium within the Human Islet Research Network.

The five current HIRN consortia include:

- (1) The Consortium on Beta Cell Death and Survival ([HIRN-CBDS](#)) is using human tissues to identify early disease mechanisms, discover highly specific biomarkers of beta-cell injury in asymptomatic T1D, and develop strategies to stop beta-cell destruction early in the disease process;
- (2) The Consortium on Human Islet Biomimetics ([HIRN-CHIB](#)) is combining advances in beta-cell and stem cell biology with tissue engineering technologies to develop microdevices that support functional human islets and immune cells;
- (3) The Consortium on Modeling Autoimmune Interactions ([HIRN-CMAI](#)) is developing innovative approaches to model basic aspects of human T1D immunobiology and pathobiology in vivo, and develop strategies to interrupt immune activation in T1D;
- (4) The Consortium on Targeting and Regeneration ([HIRN-CTAR](#)) is developing methods to increase or maintain functional beta cell mass in T1D through targeted manipulation of islet plasticity, or through engineering protection of islet beta cells from immune-mediated destruction; and
- (5) The Human Pancreas Analysis Consortium ([HIRN-HPAC](#)) is investigating the physical and functional organization of the human islet tissue environment, the cell-cell relationships within the pancreatic tissue ecosystem, and the contributions of non-endocrine components (acinar, ductal, vascular, perivascular, neuronal, lymphatic, immune) to islet cell function and dysfunction.

Research Opportunities

Possible research opportunities that could be pursued related to current HIRN consortia include, but are not limited to:

- Using human islets and pancreatic tissues to identify components of the beta cell and its environment required for maintenance and function and/or instrumental in its pathogenic destruction;
- Identifying therapeutic targets of early disease to prevent the development of a fully developed autoimmune response, or to protect and replenish residual beta cell mass in at-risk or recently diagnosed individuals;
- Using humanized in vivo models for exploration of the T1D pathogenesis and/or to test potential therapies;
- Developing new miniaturized assays for metabolism that could be adapted for use in biomimetic systems;
- Developing a biomimetic system that will allow for the exploration of immune-beta cell interactions;
- Identifying novel biomarkers of T1D or developing synthetic reporter systems to monitor disease initiation, progression and response to therapy; and
- Developing methods for the non-invasive measurement of beta cell mass or function that may be used as endpoints in studies of preventing or ameliorating T1D.

The following activities are non-responsive and should not be pursued under this award:

- Clinical Trials
- Research focused on non-human cells

Section III. Award Information

Funding Instrument:	Subcontract, awarded from the Human Islet Research Enhancement Center (HIREC) at City of Hope
Application Types Allowed:	New
Funds Available & Anticipated Number of Awards:	HIRN intends to commit funds in FY2020-2021 to support up to 5 awards
Award Budget:	Application budgets composed of salary and research costs are limited to \$125,000 direct costs for up to 1 year.
Award Project Period:	The maximum project period is 1 year with an option for an additional 1 year no cost extension.

Section IV. Other Award Budget Information

- Salary:** HIRN will contribute up to \$50,000 per year toward the salary/fringe of the career award recipient.
- Other Expenses:** HIRN will contribute up to \$75,000 per year toward research costs of the award recipient, which must be justified and consistent with the stage of development of the candidate and the proportion of time to be spent in research or career development activities.
- Salary for mentors, administrative assistants, etc. is not allowed.
- Indirect Costs:** As is customary for NIDDK supported career development awards, Indirect Costs (Also known as Facilities & Administrative [F&A] Costs) are reimbursed at 8% of modified total direct costs.

Section V. Eligibility Information

V-1. Eligible Organizations

Higher Education Institutions

- Public/State Controlled Institutions of Higher Education
- Private Institutions of Higher Education

The following types of Higher Education Institutions are encouraged to apply for support as Public or Private Institutions of Higher Education:

- Hispanic serving Institutions
- Historically Black Colleges and Universities (HBCUs)
- Tribally Controlled Colleges and Universities (TCCUs)
- Alaska Native and Native Hawaiian Serving Institutions
- Asian American Native American Pacific Islander Serving Institutions (AANAPISIs)

Nonprofits Other Than Institutions of Higher Education

- Nonprofits with 501(c)(3) IRS Status (Other than Institutions of Higher Education)
- Nonprofits without 501(c)(3) IRS Status (Other than Institutions of Higher Education)

For-Profit Organizations

- Small Businesses
- For-Profit Organizations (Other than Small Businesses)

Foreign Institutions

- Non-domestic (non-U. S.) Entities (Foreign Institutions) **are NOT** eligible to apply.
- Non-domestic (non-U. S.) components of U.S. Organizations **are NOT** eligible to apply.
- Foreign components, as [defined in the NIH Grants Policy Statement](#), **are NOT** allowed.

V-2. Eligible Individuals

APPLICANTS

Requirements for applicants applying to this FOA include:

- Candidates must hold a Ph.D., M.D., M.D./Ph.D, or equivalent degree signifying comparable research experience to the Ph.D, M.D., or MD/Ph.D.
- Candidates for this award must have a research or health-professional doctoral degree or equivalent and have completed at least two, but no more than seven, years of research training experience beyond a doctoral degree prior to submitting an application. Research experience beyond the doctoral degree should have been in an area clearly relevant to the mission of NIDDK.
- Candidates must obtain an eRA Commons ID and Open Research and Contributor ID (ORCID)
- Individuals must currently be in a mentored, postdoctoral training position
- Any candidate with the skills, knowledge, and resources necessary to carry out the proposed research as the Program Director/Principal Investigator (PD/PI) is invited to work with his/her mentor and organization to develop an application for support. Individuals from underrepresented racial and ethnic groups as well as individuals with disabilities are always encouraged to apply for NIH support. Multiple PDs/Pis are not allowed.
- Candidates must be able to propose an original scientific project to be pursued under this initiative. Proposed project should not be an aim or component of a currently funded project; there should be no overlap with any currently funded research project.
- Candidates should devise and present clear milestones and objectives for their research and career development
 - Progress will be evaluated based on publications, progress reports, and ultimately, applications for supplemental NIH funding.
- There is no citizenship requirement for the applicant. Applicant may be a citizen or a non-citizen national of the United States, have been lawfully admitted for permanent residence (i.e., possess a currently valid Permanent Resident Card USCIS Form I-551, or other legal verification of such status), or be a non-U.S. citizen.

Individuals are not eligible if they:

- Have currently or previously held an independent research faculty or tenure-track faculty position, or its equivalent, in academia, industry, or elsewhere; or
- Have been an independent PD/PI on NIH research grants (e.g. R01, R03, R21), NIH career development awards (e.g., K01, K07, K08, K23, K25), or other peer-reviewed NIH or non-NIH research grants over \$100,000 direct costs per year, or serve as project leaders on sub-projects of program project (P01) or center (P50) grants.

MENTORSHIP

The candidate must designate the mentor who will supervise the career development and research experience to be pursued under this HIRN award. The mentor should be an active investigator in the area of the proposed research and be committed both to the career development of the candidate and to the direct supervision of the candidate's research. The mentor need not be currently affiliated with

the Human Islet Research Network. The mentor's statement (described in the Appendix) must document the availability of sufficient research support and facilities to enhance the candidate's proposed research. The candidate must work with the mentor in preparing the application. The mentor should have a successful track record of mentoring individuals at the candidate's career stage.

Section VI. Application and Submission Information

VI-1. Requesting an Application Package

Applicants may access the application package associated with this funding opportunity on the HIRN website under "Funding", specifically at: <https://hirnetwork.org/emergingleaders2020>

VI-2. Content and Form of Application Submission

Application Forms: It is critical that applicants follow the instructions in the HIRN Application Guide (see Appendix 1). Conformance to the requirements in the Application Guide is required and will be strictly enforced. Applications that are out of compliance with these instructions may be returned without review.

Letter of Intent: Although a letter of intent is not required, it is not binding, and does not enter into the review of a subsequent application, the information that it contains allows HIREC staff to estimate the potential review workload and plan the review. By the due date listed above prospective applicants are asked to submit a letter of intent that includes the following information:

- Descriptive title of proposed activity
- Name, address and telephone number of the applicant
- Participating institution
- Names of other key personnel
- Name, title and institutional affiliation of mentor
- Name of the one HIRN consortium most closely related to the project aims and goals

The letter of intent should be sent in electronic form to:

The Human Islet Research Enhancement Center (HIREC) City of Hope, Duarte, CA at:
hirncc@coh.org

VI-3. Instructions for Application Submission

Applications should be submitted directly to the Human Islet Research Enhancement Center (HIREC) **NOT** to the Division of Receipt and Referral at the NIH. The link to the online application will be posted at: <https://hirnetwork.org/emergingleaders2020>

VI-4. HIRN Research Plan

All instructions in the HIRN Application Guide must be followed, including provision of a face page, detailed budget, budget justification, NIH biosketch and research plan. The research plan should conform to the following instructions with careful attention to use of the headers and word limits outlined below:

Research alignment with HIRN goals (500 words): Describe how your objectives and research design are related to, but distinct from, ongoing studies in HIRN.

Candidate's suitability for career development award (500 words): Describe your prior training and how it relates to the objectives of this proposal and to your long-term career plans. Provide a brief narrative of your research efforts to this point including any publications, prior research interests, and experience.

Project Description (up to 8 pages): Describe the scientific problem that you propose to address, its importance, and explain how solving this problem would have a major impact on T1D research. Why is the planned research uniquely suited to the "HIRN Emerging Leaders in T1D" award program, rather than a traditional grant mechanism? Briefly summarize the project Specific Aims, and describe the overall strategy, methodology, and analyses to be used to accomplish these aims. Describe the experimental design and methods proposed and how they will achieve robust and unbiased results. Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims. If the project is in the early stages of development, describe any strategy to establish feasibility, and address the management of any high-risk aspects of the proposed work. The application should explain how the project relates to your prior work and describe how support under the program will position you for future career advancement.

Innovation (up to 500 words): State clearly and concisely what makes your project innovative. If the approaches entail a high degree of risk, what will you do if these approaches are not successful?

Mentor Selection (up to 500 words): Describe the primary mentor who will provide research and career guidance during the duration of this HIRN award. The mentor should be recognized as an accomplished investigator in the proposed research area and have a track record of success in training postdoctoral fellows. Explain how the mentor's track record and expertise relate to the stated aims of the proposal, and how the mentor is uniquely suited to promote your research objectives and career development.

Note: *Bibliographic citations are not required but if included must fit within the page limit. Figures and illustrations may be included but must also fit within the page limit.*

Resource Sharing Plan: Individuals are required to comply with instructions for providing Resource Sharing Plans as provided in [NIH guidance](#). Post-award, grantees will be expected to comply with HIRN consortium-specific resource sharing and confidentiality agreements.

Supporting Documents

- **Mentor's Statement:** Each application should include a statement from the mentor outlining his/her research qualifications and previous experience as a research supervisor, the nature of

the supervision and mentoring that will occur, and a plan for monitoring the candidate's research progress and productivity.

- **Collaborators:** Signed statements must be provided by all collaborators and/or consultants listed as "Key Personnel" confirming their participation in the project and describing their specific roles.
- **Letters of Support:** Support letters attesting to the applicant's abilities or future potential are NOT allowed and will NOT be accepted. Any application containing letters of support will be returned without review for noncompliance.

VI-5. Planned Enrollment Report

DO NOT INCLUDE. Studies meeting the current NIH definitions of Clinical Research or Clinical Trials will **NOT** be eligible for support under this funding opportunity. For current definitions, please see guidance at: <https://grants.nih.gov/grants/glossary.htm#C>

Section VII. Application Review Information

VII-1. Criteria

Only the review criteria described below will be considered in the review process. Consistent with the HIRN program mission, all applications submitted will be evaluated for scientific and technical merit using external peer review.

Overall Impact

Reviewers will provide an overall impact score to reflect their assessment of the likelihood for the project to exert a sustained, powerful influence on the research field(s) involved, in consideration of the following review criteria and additional review criteria (as applicable for the project proposed).

Scored Review Criteria

Reviewers will consider each of the review criteria below in the determination of scientific merit, and give a separate score for each. An application does not need to be strong in all categories to be judged likely to have major scientific impact.

- **Significance:** Does the project address an important problem or a critical barrier to progress in the field? Is there a strong scientific premise for the project? Is the project an appropriate vehicle for a Senior Postdoctoral Fellow?
- **Candidate:** Does the candidate have potential to develop as an independent and productive researcher? Are the candidate's prior training and research experience appropriate for the aims and for this HIRN award? Is the candidate's research record of high quality?
- **Innovation:** Does the application use novel theoretical concepts, approaches or methodologies, instrumentation, or interventions? Alternatively, is a refinement, improvement, or new application of existing theoretical concepts, approaches or methodologies, instrumentation, or interventions proposed?

- **Approach:** Are the overall strategy, methodology, and analyses well-reasoned and appropriate to accomplish the specific aims of the project? Has the applicant presented strategies to ensure a robust and unbiased approach, as appropriate for the work proposed? Are potential problems, alternative strategies, and benchmarks for success presented?
- **Mentor and Mentoring Plan:** Are the qualifications of the mentor appropriate? Does the mentor describe the quality and extent of his/her role in providing guidance? Is there evidence of the mentor's prior success in fostering career development, and a track record of research productivity and peer-reviewed support? What is the likelihood that the plan will contribute to the scientific development of the candidate?
- **Environment:** Will the scientific environment in which the work will be done contribute to the probability of success? Are the institutional support, equipment and other physical resources available to the investigator adequate for the project proposed? Does the applicant have strong mentorship to support the proposed project?

Additional Review Criteria: As applicable for the project proposed, reviewers will evaluate the following additional items while determining scientific and technical merit, and in providing an overall impact score, but will not give separate scores for these items.

Protections for Human Subjects: DO NOT INCLUDE. Studies meeting the current NIH definitions of Clinical Research or Clinical Trials will **NOT** be eligible for support under this funding opportunity. For current definitions, please see guidance at: <https://grants.nih.gov/grants/glossary.htm#C>

Inclusion of Women, Minorities, and Children: DO NOT INCLUDE. Studies meeting the current NIH definitions of Clinical Research or Clinical Trials will **NOT** be eligible for support under this funding opportunity. For current definitions, please see guidance at: <https://grants.nih.gov/grants/glossary.htm#C>

Vertebrate Animals: When relevant, reviewers will evaluate the involvement of live vertebrate animals as part of the scientific assessment according to the following criteria: (1) description of proposed procedures involving animals, including species, strains, ages, sex, and total number to be used; (2) justifications for the use of animals versus alternative models and for the appropriateness of the species proposed; (3) interventions to minimize discomfort, distress, pain and injury; and (4) justification for euthanasia method if NOT consistent with the AVMA Guidelines for the Euthanasia of Animals.

Biohazards: Reviewers will assess whether materials or procedures proposed are potentially hazardous to research personnel and/or the environment, and if needed, determine whether adequate protection is proposed.

VII-2. Review and Selection Process

Applications will be evaluated for scientific and technical merit by external peer reviewers convened by the HIREC using the stated review criteria.

As part of the scientific peer review, all applications:

- May undergo a selection process in which only those applications deemed to have the highest scientific and technical merit (generally the top half of applications under review) will be discussed and assigned an overall impact score.
- Will receive a written critique.
- Appeals of the HIREC peer review **will NOT** be accepted for applications submitted in response to this funding opportunity.

Applications will compete for available funds with all other recommended applications submitted in response to this funding opportunity. Following initial peer review, recommended applications will receive a second level of review by an *ad hoc* group of HIRN External Scientific Panel members. NIH staff affiliated with HIRN will make final funding decisions, with consideration of the following:

- Scientific and technical merit of the proposed project as determined by scientific peer review.
- Availability of funds.
- Relevance of the proposed project to program priorities.

VII-3. Anticipated Announcement and Award Dates

After peer review and secondary review of the applications are complete, the recipient will be notified by the HIREC as to funding decisions in February 2021.

Appendix I. Application Guide

The following items will be collected as part of the application:

- [Public Health Service Grant \(PHS\) 398: Face Page \(form page 1\)](#)
- [Public Health Service Grant \(PHS\) 398: Detailed Budget for Initial Budget Period \(form page 4\)](#)
- [Investigator Biographical Sketch \(Biosketch\) \(5 page max length\)](#)
- Research Plan (as detailed in Section V-4)
- [NIH Checklist](#)

Supporting Documents:

- **Mentor's Statement:** Each application should include a statement from the mentor outlining his/her research qualifications and previous experience as a research supervisor, the nature of the supervision and mentoring that will occur, and a plan for monitoring the candidate's research progress and productivity (include link to PHS form as before if desired).
- **Collaborators:** Signed statements must be provided by all collaborators and/or consultants listed as "Key Personnel" confirming their participation in the project and describing their specific roles.
- **Letters of Support:** Support letters attesting to the applicant's abilities or future potential are NOT allowed and will NOT be accepted. Any application containing letters of support will be returned without review for noncompliance.