**nPOD Pancreas Slice Program - Request for Applications (RFA)**

**April 15, 2019**

As presented at the nPOD Annual Meeting in February 2019, the nPOD Pancreas Slice Group has concluded a pilot study and demonstrated the feasibility of producing live pancreas slices from organ donors that can be used for a multitude of studies. Specifically, the pilot study has shown at least proof of principle that it is feasible to:

* Produce viable pancreatic tissue slices from nPOD donors, with and without diabetes;
* Examine pancreas slices at the site of production and at a remote laboratory after overnight shipping;
* Obtain dynamic hormone secretion data from pancreas slices;
* Perform live cell imaging and signaling studies;
* Assess detailed 3D pancreas morphology;
* Culture tissue slices for prolonged time periods;
* Examine and image islet infiltrating lymphocytes in pancreas slices.

The nPOD slice group will therefore transition from its pilot stage into the **nPOD Pancreas Slice Program & Working Group (PSPWG)**. We envision this to be a collaborative effort involving nPOD Working Groups and nPOD Investigators. It should will be based on a synergistic, coordinated, and integrated approach to use pancreas slices from nPOD donors - with/without T1D – to investigate pancreas endocrine/ and exocrine function and dysfunction, autoimmunity, environmental factors, and more, in relation to the pathogenesis of T1D and to pancreas physiology. A major goal of this effort is to further validate the initial findings of the pilot study and expand to address additional questions.

To this end, nPOD is releasing this RFA to solicit applications from nPOD Working Groups, nPOD Investigators, or investigators who wish to join nPOD in this effort. We anticipate that existing nPOD Working Groups are willing to exploit the pancreas slice platform to address key questions, not limited to the broad ones listed below as general guidance:

* Islet Dysfunction Group: studies of islet function. Studies of exocrine cell function are also desirable.
* Autoimmunity Group: studies of lymphocytes involved in islet autoimmunity, including live imaging.
* Virus Group: studies of viruses linked to T1D, including effort to isolate virus that might be present, or examine effects of experimental viral infections on islet cell function.
* Extra-Cellular Matrix group: studies of extra-cellular matrix components in the context of islet cell function and autoimmunity.
* Other: we are open to suggestions!

A key limiting factor in the implementation of this program is the current capability of obtaining slices. Once an organ is received by the nPOD OPPC in Gainesville, viable pancreas slices must be obtained within a time frame of about 3 hours. This limits the number of pancreas slices that can be obtained from a given pancreas; it is estimated that about 120-150 slices can be obtained from most donors, a portion of which is retained by the nPOD OPPC to perform baseline assessments of viability and islet function. Yield may vary by donor, and for some it may not be possible to provide slices to all projects. It is estimated that at this stage nPOD may be able to provide slices in support of support of **6 projects**, with each project receiving up to **a maximum of 20 pancreas slices; laboratories receiving pancreas slices must be located in the North American continent so that slices can be shipped overnight**.

Please consider that it is also possible for investigators to study frozen or fixed slices, or media and supernatants, and that frozen or fixed material can be shared with collaborators even outside North America (if part of the plan or later with approval from the nPOD Tissue Prioritization Committee, TPC). We strongly encourage collaboration to maximize the amount of information that can be obtained from this limited material.

To facilitate coordination of working groups and joint applications we will hold a webinar discussion for each of the existing nPOD working groups. Please note that any investigator, whether formally participating in any of the groups or not, is welcome to attend any of these preparatory webinars. We have planned the following preparatory webinars:

April 23, 11 AM-12:30 PM EST, nPOD-Virus Group

(Webinar Chairs: Pugliese, Richardson)

April 24, 2 PM-3:30 PM EST, nPOD-Autoimmunity Group

(Webinar Chairs: Pugliese, Kent)

April 25, 9 AM-10:30 AM EST, nPOD-Extracellular Matrix Group

(Webinar Chairs: Bogdani, Pugliese)

April 26, 11 AM-12:00 PM EST, nPOD Islet Dysfunction Group and Exocrine Function Group

(Webinar Chairs: Speier, Mathews)

The webinars should help investigators in developing collaborative plans, which will be outlined in one or more formal project applications. To minimize the administrative burden, at this stage we are inviting interested investigators – individually, in groups, working groups (existing or new), to submit a concept proposal (please use the form provided) by May 15, 2019.

After applications are received, we will have one more Webinar discussion involving all of the applicants and groups, to find a constructive way to organize this work in a collaborative fashion and to maximize synergies. This Webinar will be held on May 22, 2019, 11AM to 2 PM (we may use less time, but think of it as a planning retreat). Following the webinar, and with the collective input, we should have a consensus on the overall goal of this effort, its structure, on the roles of various investigators, and the criteria for donor inclusion. We would then work together and write one or more joint experimental plans, which would then be reviewed by the nPOD TPC in July. It is possible that an investigator may submit an individual application. The Pancreas Slice Program would formally launch following TPC approval, approximately in August 2019.

The nPOD Slice Program will be established and operated according to following guidelines:

1. The study applications will be reviewed by the nPOD Tissue Prioritization Committee (TPC).
2. The criteria for donor inclusion and allocation of slices will be determined based on the scientific goals identified with collective input and/or by the approved projects.
3. If the number of concept proposals exceeds the current capacity to support studies with pancreas slices, potentially successful applications can be placed on a waiting list, if requested by the applicant. Depending on actual interest from the community, nPOD will explore the possibility to expand slicing capacity at the nPOD OPPC.
4. Based on information gained during the pilot phase allocation, slice shipment will be initially restricted to a maximum transport time of 24 hours. In practical terms, this means slices can be shipped only within North America. Investigators based in Europe or elsewhere are encouraged to identify a collaborator based in North America. We may be able to facilitate this, so please feel free to contact us at your earliest convenience: please email Alberto Pugliese ([apuglies@med.miami.edu](mailto:apuglies@med.miami.edu)) and Sirlene Cechin ([scechin@med.miami.edu](mailto:scechin@med.miami.edu)).
5. Applications will be also evaluated based on their complementarity. We will have to limit unnecessary overlap, to obtain as much valuable information as possible from each donor pancreas. Again, if possible, we will try to find ways that investigators with overlapping interests may collaborate.
6. Approved projects will be limited to the approved number of donor organs. An addendum application will be needed if it is desirable for these studies to continue and the addendum request will be reviewed by the TPC.
7. Investigators of approved projects and their team members will be invited to participate in regular group calls and are encouraged to attend the nPOD annual meeting. In addition, PIs participating in the slice program are required to submit regular progress reports to ensure the continuation of slice allocation.
8. After a trial period of maximum 5 received slice shipments, each Investigator should provide a report to the nPOD TPC to confirm feasibility of the proposed studies, including research data to support that continuing to provide slices according to the approved project will lead to meaningful results. Should there be problems with tissue viability or other technical problems, Investigators are encouraged to communicate with the nPOD OPPC (Irina Kusmartseva, [inkusmartseva@ufl.edu](mailto:inkusmartseva@ufl.edu)), as early as possible, so that we may assist in troubleshooting.
9. Investigators who are able to produce their own pancreas slices from non-diabetic donors should indicate this in the application. This is important ensure the most efficient distribution of nPOD slices to as many projects and sites as possible.

**Key steps and dates are listed below:**

* April 23, 11 AM-12:30 PM EST, nPOD Virus Group Webinar
* April 24, 2 PM-3:30 PM EST, nPOD-Autoimmunity Group Webinar
* April 25, 9 AM-10:30 AM EST, nPOD-Extracellular Matrix Group
* April 26, 11 AM-12:00 PM EST, nPOD Islet Dysfunction Group and Exocrine Function Group Webinar
* May 15, 2019 – deadline for submitting Concept Proposals
* May 22, 2019 – nPOD Pancreas Slice Group Discussion Webinar (11 AM to 2 PM EST)
* July 1, 2019 – Completion and submission of joint experimental plans or individual plans to the nPOD TPC
* July 17, 2019 – TPC review meeting, followed by notification
* August, 2019 – Program launches

WebEx access links to each of the above Webinar will be posted on the nPOD website.

**Contact information:**

For administrative questions, Webinar and WebEx assistance:

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