Precision Nutrition in Inflammatory Bowel Diseases

Request for Proposals (RFP)

The program is made possible through a generous
donation from Jonathan D. Rose, MD, PhD,
Chair, Intestinal Pathology Research Program

Program Guidelines & Policies

Effective July 2nd, 2019

Crohn's & Colitis Foundation
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Key Dates

RFP Announcement	**July 2, 2019**
LOI Application deadline	**September 3, 2019**
Notification to submit full proposal	**September 13, 2019**
Full proposal deadline	**October 14, 2019**
Notification of award	**January, 2020**

1. Overview

The long-term goal of the Precision Nutrition initiative is to be able to answer the IBD patient's key question, "what should I eat", based on the patient's personal response to different foods; so that diets can be tailored to the individual clinical, biological and life style characteristics of the patient.

The discovery of the relationship between dietary composition, the human gut microbiome, and immune response, presents a tremendous opportunity for data-driven research to answer the question of managing IBD with diet. Learnings from the emerging field of nutrigenomics suggest that variations in our genome can influence the impact of food on the microbiome, immune response, and the lining of the gut, while individual compositional variation of gut microbiota leads to different microbe functional potential, microbial metabolite production, and modulation of host metabolism. Thus, interpersonal variability in gut microbiome, genetic background and lifestyle, are critical factors defining the mechanism by which nutrition plays a role in heath and disease. Harnessing the knowledge from nutrigenomics and metabotyping analysis will be key to establishing the framework for implementation of precision nutrition in IBD management. Thus, the goal of the research initiative on precision nutrition in IBD is to develop approaches that will enable measuring and incorporating individual characteristics of a patient, together with the mechanistic understanding of food effects on disease outcomes, into a comprehensive personalized nutrition plan. All together this knowledge will be integrated into the discussion between patients and practitioners about personalized IBD management.

2. Scope

The Crohn's & Colitis Foundation has identified the need to understand how diet affects IBD, particularly at the individual patient level, as a critical gap in the understanding and management of IBD, and as an area of opportunity to make a significant impact on the quality of life of patients. As such, proposals submitted to this RFP, should focus on one or both of the following approaches to advance the emerging field of precision nutrition in IBD:

1. **Patient-based prospective studies to identify signatures and/or mechanisms of response to food in IBD patients and their correlation with disease outcomes.** These studies will focus on the identification of biological parameters that reflect and/or predict IBD patient's physiological response to food based on the analysis and integration of one or more patient's derived data such as: nutrigenomics, epigenomics, microbiomics, metabolomics, proteomics; together with food consumption, physical activity and relevant patient outcomes (e.g., exacerbation, relapse, remission, etc.).

   The overarching goal of these studies will be to develop patient stratification tools to predict, based on these biological signatures/biomarkers, in what patients a given food is a trigger of disease (e.g., relapse, exacerbation, etc.) and/or what patients are responders

and non-responders (e.g., symptom improvement, disease remission, etc.) to foods with putative therapeutic effects, according to the characteristics of each patient**.**

Ideally, identified signatures should also provide a source of hypothesis to implement studies aimed to understand the exact mechanism of action (MoA) of foods with beneficial or deleterious effects in response to the unique biology of each patient**. Thus, multidisciplinary proposals that incorporate patient-based prospective studies together with experimental preclinical MoA studies are highly encouraged.**

This RFP does not advocate for a particular food type, so studies can be based on food consumption diaries, fixed diets, or individual food components. Similarly, there is not a mandate on the type of 'omics' data to be explored for signature identification. **However, the integration of one or more 'omics' data together with physical activity, food/food component(s) challenge and clinical outcomes is a requirement.**

These studies can be designed to create new or use existing IBD patient cohorts. Applicants are encouraged to leverage the Foundation's longitudinal adult cohort SPARC IBD (For more information please contact Cecile Norris cnorris@crohnscolitisfoundation.org).

It is expected that at the end of the funding period, these studies will provide a significant advance towards the design of evidence-based clinical trials, with the end goal of predicting individual responses of patients to their nutritional intake; and that bring us closer to the implementation of the concept of tailoring diets based on the biological and clinical characteristics of each patient.

2. **Experimental model-based preclinical studies to identify signatures and/or mechanisms of response to food and their correlation to IBD pathophysiological readouts.** These studies will use state of the art humanized *in vitro* and/or *in vivo* models for identification of biological signatures that reflect and/or predict IBD patients' physiological responses to food challenges based on the analysis and integration of one or more experimental model-derived data such as: genomics, epigenomics, microbiomics, metabolomics, proteomics; together with food exposures and relevant IBD pathophysiological readouts (e.g., mucosal integrity/damage/healing, inflammatory response, disease severity index, EMC deposition, myofibroblast activation, etc.).

   Identified signatures should also provide a source of hypothesis to implement studies aimed to understand the exact MoA of foods with beneficial or deleterious effects in response to patient-simulated unique biology**.** Examples of humanized experimental *in vitro* and *in vivo* model systems include but are not restricted to: patient-derived gut on a chip system, human intestinal microbial environment simulators, humanized FMT transfer

models in mice carrying IBD genetic risk variants, humanized T-cell transfer model, human microbial metabolite libraries, etc.

These experimental studies are not restricted to particular food types or food components, so studies can be based on exposures of the model systems to different food types, food components or combination of both. Multiplex analysis of several food types and/or components is encouraged. Similarly, there is not a mandate on the type of 'omics' data to be explored for signature identification. **However, the integration of one or more 'omics' data together with food/food component challenge, and IBD pathophysiological readouts is a requirement.**

It is expected that at the end of the funding period, these studies provide a significant experimental evidence that inform the evidence-based design of precision nutrition interventional clinical trials.

In summary, IBD patient-based or experimental model research proposals will be considered. Multidisciplinary / multicenter proposals that integrate both patient-based studies and experimental MoA studies are preferred. When using *in vitro* or in *vivo* models, these should be directly relevant to human IBD (humanized IBD models). Identified signatures and mechanisms in response to food/food components challenge should correlate to a specific IBD clinical outcome(s) and/or experimental IBD pathophysiological readout(s).

3. Eligibility

Applications from a team with the relevant expertise is required, with one lead Principal Investigator (PI) and at least one Co-PI.

- The lead PI must be a senior faculty member (Professor, Head of Research, Associate Professor, etc.) with relevant expertise in nutrition sciences preferably and/or in IBD. Nutrition experts in other therapeutic areas are encouraged to apply in collaboration with a Co-PI with expertise in IBD research (basic or clinical).
- Applications from multiple PIs (Co-PIs) and institutions are allowed, however at least one Co-PI must be a junior Co-PI (Instructor or Assistant Professor, prior to receiving an independent RO1 grant or international equivalent) with experience in IBD (basic research or clinical), who is committed to IBD research as a part of his or her career development. Generally, junior Co-PI candidates should not be more than ten years beyond the attainment of their doctoral degree at the time of application.
- PI and Co-PIs must be employed by an institution (public non-profit, private non-profit, or government) engaged in health care and/or health related research. Collaborations of lead PI with subcontracted for-profit organizations are eligible. International applicants are also eligible to apply and there are no geographical restrictions regarding research site location(s).

- **If PI and junior co-PI are not full-time nutrition researchers, the team must include an additional co-PI who is a scientist with proven record of a career devoted to nutrition research in IBD or another therapeutic area.**

4. Grant Funding Terms

Option 1- Individual agreement

3 independent awards will be granted for 3 years with a maximum amount of $ 320,000 per year/per project, inclusive of all indirect expenses. The proposal can be submitted by a multicenter consortium or by an individual research group. Milestones will be agreed upon project onset, and continued funding in years 2 and 3 is dependent on acceptable reasonable progress towards specified milestones. Indirect expenses must not exceed 10%.

Option 2 – Collaboration agreement

The Foundation will select several potentially complementary studies and will negotiate a collaboration agreement among the selected investigators to optimize the use of funds and leverage the expertise and resources of these teams. In this case, a 1 year funding of $ 160,000 will be allocated to a pilot planning study that will integrate the complementary study arms, and that will provide the grounds for a revised harmonized multicenter / multidisciplinary additional three-year proposal with a budget of up to $ 900,000 per year inclusive of all indirect expenses. Continued funding in years 2 and 3 is dependent on acceptable reasonable progress towards specified milestones. Indirect expenses must not exceed 10%.

The Foundation's decision to implement an individual or a collaboration agreement, will depend on the types of submitted proposals and the outcomes of the review committee meeting. Accordingly, the initially submitted proposal budget should be based on the individual agreement funding terms as explained above (option 1). The funding terms and budget may change if the Foundation decides that a collaboration agreement (option 2) to integrate several projects will be more adequate to reach the goals of the precision nutrition initiative.

The Foundation will review progress of the individual or collaborative projects through oversight meetings to ensure harmonization of research efforts, effective funding utilization, and successful achievement of the yearly milestones.

5. How to apply

The investigators should submit the LOI by the specified deadline (see *Key Dates,* above). The LOIs will be evaluated based on the alignment of the proposed study with the scope of the program and the feasibility of success of the study, as described in more detail in Appendix A (below). Only investigators who submitted an LOI and were invited to submit a full proposal are eligible to apply.

The investigators should provide a full research proposal and the accompanying document by the application deadline (see *Key Dates*, above) and according to the guidelines for proposal preparation and electronic submission (Appendix 1, below).

All applications should be submitted through the proposalCENTRAL portal at the following URL: https://proposalcentral.altum.com/. Please refer to **Appendices A and B** for complete instructions of the application process.

6. Application Review and Selection Criteria

The proposals will undergo peer review by a multidisciplinary review committee and evaluated based on the following criteria:

- **The scope:** The proposed study should align with the scope of the Precision Nutrition in IBD RFP

    i. Hypothesis derived from patient-based observations.
    ii. IBD patient-based studies to identify stratification signatures and/or mechanisms of response to food/food components
    iii. Experimental humanized model-based preclinical studies to identify signatures and mechanisms of how food/food components affect IBD pathophysiology.
    iv. Correlation of identified signatures and mechanism with disease outcomes and/or IBD pathophysiological readouts.
    v. Priority will be given to studies that integrate both patient-based and experimental models-based MoA studies.

- **Clinical relevance to IBD:** The central hypothesis and the aim should be based on an established link to IBD or have strong rationale for a novel IBD-related study in patients with IBD, and/ or experimental humanized IBD models from human IBD biosamples. Translational potential of the study to impact the quality of life of people living with IBD will be assessed.
- **Research strategy:** The proposal should demonstrate high feasibility and should have a translational approach, which is relevant for clinical application, sufficient preliminary data, well defined specific aims, clear experimental design and contingency strategies. The proposal must be well written and understandable by the scientific audience. The lay summary must clearly summarize the proposal and be understandable for non-scientific reviewers. (**Note*:*** scoring of the proposal by the non-scientific patient reviewer will depend on his/her understanding of a well written lay summary. A poorly written lay summary will negatively impact the score provided by the patient reviewer).
- **Research team:** The factors to be considered are complementary expertise of the PIs and the collaborators, personnel expertise to carry out the aims of the research project, appropriate infrastructure and organizational resources. The senior investigator must show a successful track record in acquiring funding and published research in the field of

nutrition research and/or IBD. The junior investigator should be on the clear trajectory for and have prior accomplishments required to becoming an independent investigator in the field of IBD and/or IBD nutrition. If PI and junior co-PI are not full-time nutrition researchers, the team must include an additional co-PI who is a scientist with proven record of a career devoted to nutrition research in IBD or another therapeutic area.

7. Reporting

Oversight and progress report

The funded investigators will be required to submit a progress report using the Foundation's progress report template found in proposalCentral. In addition to the progress report, as PI, you will be expected to present progress in oral presentations, including:

b. Teleconference with Foundation staff during the first and third quarter of the project year.
c. Mid-year oversight teleconference with Foundation staff and members of the relevant oversight committee.
d. Research Initiatives oversight meeting, including all Research Initiatives PIs and members of the oversight committees, to held in person in New York City at the conclusion of each project year. During the project year, this face-to-face is expected to be held in December 2019. The Foundation will reimburse for travel and hotel expenses related to attendance at the oversight meeting.

Intellectual property

The Foundation requires notification of any intellectual property (IP) arising out of or resulting from this scientific proposal within 30 days of receiving an invention disclosure or other notice indicating existence of intellectual property. Grantee shall provide the Foundation with written notice, via proposalCentral, of all inventions and patents as required by the Foundation Patent and Intellectual Property Policy (Appendix C). Upon accepting the award and signifying this Grant Agreement, both Principal Investigator and Authorized Institutional Officer express agreement and compliance with the terms of the Foundation Patent and Intellectual Property Policy.

10. Contact Information

For additional information regarding the application process please submit your queries to Dr. Nataly Shtraizent, Research Manager: NShtraizent@crohnscolitisfoundation.org

APPENDIX A: Letter of Intent (LOI) Submission Guidelines

Deadline: September 3, 2019

Before submitting the LOI, please read the Crohn's and Colitis Foundation's *Precision Nutrition in IBD* Request for Proposals (RFP) guidelines to ensure that the proposed study matches the scope of the program and that the applicant team and organization(s) meets the eligibility criteria.

The LOI should be submitted electronically on proposalCENTRAL. The LOI electronic submission form will include the following fields:

Title (100 characters limit)

Priority area and relevance to IBD (200 characters limit): State, what population of IBD patients the study will potently benefit (Crohn's disease/ Ulcerative colitis). Explain the relevance of the main objective of the study for the IBD field and the scope of the Precision Nutrition RFP. Explain how the proposed study is aligned with the focus areas of 2019 Challenges in IBD research.

Budget: State the total requested budget for the proposed study. Estimate is acceptable and may be revised if a full proposal is submitted.

Primary Investigator (PI) and Institution, as defined by the primary performance cite and the primary point of contact for budget management, and for research progress and financial reporting.

Co-PI, secondary PI: If the primary PI is a junior investigator the co-PI should be a senior faculty member and primary investigator in an NIH-funded laboratory (or national equivalent funding agency for international applicants). **If PI and junior co-PI are not full-time nutrition researchers, the team must include an additional co-PI who is a scientist with proven record of a career devoted to nutrition research in IBD or another therapeutic area.**

Abstract (2000 characters limit): Briefly describe the main goal or the problem that the study will address, state hypothesis (if applicable), specific aims, research approach (including preliminary data), types of samples and/or the model methods that will be used, expected outcomes and the translational potential of the study. Please clearly state how the proposed study aligns with the scope of the Precision Nutrition RFP.

Study approach: Select one or both from the two categories below:

a. Patient-based prospective studies to identify signatures and/or mechanisms of patients' response to food and their correlation with disease outcomes
b. Preclinical model-based studies to identify signatures and/or mechanisms of response to food and their correlation to IBD pathophysiological readouts

Scientific rationale and research plan: This section should provide a clear concise overview of the proposed work, including the background, objective, or hypothesis, its supporting rationale, specific aims, and proposed methodology. Space limit 3 pages (8000 characters).

Research team (1000 characters limit): Briefly describe your team and explain how the PI's and the co-PI's expertise will contribute to the successful performance of the proposed work.

Attachments:

- NIH Biosketches for key personnel
- References cited in application

Selection criteria

Reviewers of LOIs are asked to comment on the following selection criteria:

1. Alignment of the proposed study to the scope of the *Precision Nutrition in IBD* initiative and with the 2019 *Challenges in IBD Research* publication
2. Scientific strength of research proposal, rationale, specific aims and methodology
3. Study approach: patient-based prospective studies and/or preclinical model-based studies using humanized models (*in vitro and/or in vivo)*
4. Strength of the scientific team, research environment and resources
5. Translational potential of the study to impact the quality of life of people living with IBD

For more information and questions please contact Dr. Nataly Shtraizent nshtraizent@crohnscolitisfoundation.org .

APPENDIX B: Full Application Submission Guidelines

General information

The full application is due on **October 14, 2019.**

The application should be submitted to proposalCENTRAL at: https://proposalcentral.altum.com

Paper copies of the application are not accepted.

To start the application process, follow the steps below:

i. If you are a first-time user, register by clicking on “First time user.” This will generate a confirmation number, which will be emailed to the email connected to this account. Confirm your registration by submitting this number when prompted.

ii. Once you are a registered user, please click on “Grant opportunities” on the far right of the page and select Crohn’s & Colitis Foundation under “Filter by Grant Maker” drop down menu on the upper left of the page.

iii. Locate the “Precision Nutrition in IBD” announcement and click “Apply now”.

iv. To activate the navigation bar on the left, enter the title of your proposal on the title page and “save” the application. The navigation bar on the left will now become interactive for you to continue your application.

v. Once completed, please validate and submit the application.

The Full Application form will include the following fields:

Title Page: Enter your title and “save” the application

Templates and Instructions: PI Biosketch and a New Vendor Form are available for download.

New Vendor Form *Required (part of Attachments section): Complete this form to authorize your institution to receive payment from the Foundation. This document contains the instruction on how payment will be transferred to your institution and should not include information on the Investigator. This is required even if institution has received Foundation funding in the past.

Enable other Users to Access the Proposal: Add personnel that can have access to review and edit the proposal.

Applicant /PI: Principal Investigator (PI) is defined as the one person responsible to report to the Foundation for scientific and technical direction of the project. Although Co-PI is required, only one person can be indicated as the main point of contact. Note: If the research (entirely or partially) is to be conducted in the Co-PI’s laboratory, a subcontract budget needs to be proposed.

Institution and Contacts: Provide contact information of the signing staff officials at the institution where the lead PI is located and where the study will take place.

Co-PI(s), Collaborator and Key Personnel: Add the roles and the contact information for Co-Principal Investigator (Co-PI) and key personnel whom you would like to include on this application. Effort: Percentage Estimation of Amount of Time Allocated to this Project: Describe how the time (in percentages of full-time effort) is allocated in your current position at this institution.

Summary

Lay Summary

The Foundation has instituted a Stakeholder Reviewer Program, in which selected lay patients or caregivers participate as voting members of the various review committees. The Lay Summary should provide a clear, concise overview, in a lay language, of the proposed work, including the main goal(s) or the central hypothesis of the study, the aims, the relevance to IBD and the alignment of the study with Challenges in IBD; In addition, please provide a brief impact statement describing the potential of the study to impact IBD research and/or healthcare; explain how the results of the study will potentially provide a novel solution or improve the current practices in IBD healthcare and disease management. Also include a brief glossary of any scientific terms included in your lay summary.

Please note that a lay summary that is not clearly written using lay language could affect the score provided by the Stakeholder Reviewer.

Scientific Summary of the Project

The Scientific Summary should provide a clear, concise overview of the proposed work, including the background, objective(s), specific aims, research approach (including preliminary studies, if available, types of samples and/or the model methods that will be used), expected outcomes and the translational potential of the study. Please include references and upload a Cited References document as an attachment.

Relevance to IBD:

Re-state, what population of IBD patients the study will potently benefit (Crohn's disease/ Ulcerative colitis). Explain the relevance of the main objective of the study for the IBD field. Explain how the proposed study is aligned with the focus areas of 2019 *Challenges in IBD research*.

Budget Period Detail

Start and End Dates

Specify date on which you expect to start this project. Enter dates for 3 years in 1-year increments.

Complete the e-form total budget.

The budget requested per year may not exceed $320,000 inclusive of 10% indirect cost (Direct costs: $290,910; indirect costs: $29,090).

Budget Summary Detail: The total budget request for year 1 must not exceed $320,000 inclusive of 10% indirect cost. Salaries are capped at NIH limits. The total budget for 3 years is $960,000 inclusive of 10% indirect costs (Direct costs: $872,727; indirect costs: $87,273). Justification of the budget for the 3-year period must be provided.

Current and Pending Financial Support: Please provide information on additional ongoing funding that currently supports this research project.

Organization Assurance: Human/Animal Studies Approval/Recombinant DNA

All activities involving human subjects or vertebrate animals must be approved by an appropriate institutional review board (IRB/IACUC) or equivalent prior to the start date of award. Indicate with "Yes" or "No" response, and if yes indicate date of approval and attach approval in that Attachments Section.

Copies of the IRB approval should be provided to the Foundation's Research Department. If approval is not available at the time of application, provide a date of anticipated approval. **This approval must be received before the start date of the approved grant.**

Human and/or Animal Approvals: Upload IRB/IACUC approvals for human and animal research

Upload Attachments:

- **Cover page**
  Describe background and expertise of the PI, Co-PI and the relevant investigators, and the role/ tasks to be performed by each investigator
- **Research Plan/Protocol**
  The description of the proposed research project must include the following items in sufficient detail to permit evaluation of the scientific merit of the study. This cannot exceed 10 pages, single spaced. The page limits distribution indicated below are included as a guideline and not required.
    - Overall Objectives and specific aims (no more than 1 page)
        - Briefly outline the general scientific objectives
        - Describe concisely and realistically what the specific research described in this application is intended to accomplish. Specifically outline Aims for

year 1, year 2 or year 3, goals, 6-month-interval milestones and timelines. State any hypotheses to be tested.

- Background -including preliminary data (no more than 3 pages)
  - Outline the previous work in the area by others, and the preliminary data or previous studies by the investigator(s). Enough preliminary data should be included in the application to demonstrate that the project is feasible and that the investigator is likely to complete the project successfully in the duration of the grant. Provide evidence that supports clinically relevant observations made in patients
- Detailed description of methods and materials to be used (no more than 5 pages)
  - Provide a detailed discussion of the experimental design, procedures, and materials to be used to accomplish the Specific Aims.
  - Describe protocols, including methods for new techniques, and explain the advantages over existing methodologies.
  - Discuss the kinds of data expected to be obtained and the means by which data will be analyzed and interpreted.
  - Justify the use of any animal models (i.e., choice of species, number used, etc.).
  - Discuss potential difficulties and/or limitations of the proposed procedures and alternative approaches to achieve aims.
- Significance and relevance of the proposed research to Crohn's disease and/or ulcerative colitis and to the Precision Nutrition in IBD RFP (no more than 1 page). Justify the significance of the results of this project to the understanding of the etiology, pathogenesis, therapy, and prevention of IBD. Specifically identify the gaps this project is intended to fill related to the Precision Nutrition in IBD RFP.
- Facilities Available to carry out the Proposed Studies (one or two paragraphs)
  - Describe the facilities available, including square footage, equipment, animal care facilities, and other environmental factors. Pay particular attention to those items required for successful completion of this proposal. Include a description for each facility to be involved.
- References (no more than 2 pages)
  - Literature citations should be listed in this section, at the end of the Research Plan. ***These are not counted as part of the 10-page limit.

- **Biosketches for Key Personnel**
  Biosketch (NIH format) for PI, Co-PI, and nutritional research expert (required), and additional key personnel (optional).

- **Letters of Collaboration**
  Attach supporting letter(s)

- **References/ Appendices (optional)**
  Uploaded reference material may include, but not limited to:

a. Article references
b. Abstracts
c. Original Pictures
d. Other Letters of Support

- **Signed Signature Pages**
  This document is generated by the PDFs and Signature Pages module after submitting all the forms and uploading all the required documents. Module PDFs and Signature Pages is located on the navigation bar on the left-hand side.

- **Timeline and Milestones**
  Timeline for completion of project (Gantt chart or similar format): List of milestones projected for every six months of the project period.

Validate: Click *Validate* to check for any missing REQUIRED information or files. All missing required information will be listed on the screen.

PDFs and Signature Pages

Click *Print Signature Pages* to be signed by the applicant and the organization officials. Upload the signed document on the Upload Attachments module.

Click *Print Signature Pages and Attached PFD Files* if you would like to save the full application for your records. Do not upload the full application with the signed signature pages in Upload Attachment module.

Submit

Only the primary PI is authorized to submit the application.

APPENDIX C: IP policy

All inventions or intellectual property ("Property") that results from research supported, in whole or in part, by grant awards from the Foundation must be reported in writing at the earliest possible time to Foundation. The grantee institution agrees to notify the Foundation within a reasonable time, preferably within 30 days, of receiving an invention disclosure or other notice indicating existence of a Property and to notify the Foundation immediately of the decision to apply for letters of patent or other legal protection for the Property. The Foundation agrees to keep all information confidential and not to release any information relating to such inventions, intellectual property or applications for protection to any third party, except as specifically set forth below or upon written agreement with the grantee institution, which consent cannot be unreasonably withheld. All patenting expenses or intellectual property application expenses shall be borne by the grantee institution.

Title to all Property shall reside with the grantee institution to the extent that such title is claimed by the institution under its institutional patent policy or procedure. If a grantee institution has no established institutional patent policy or procedure for administering inventions or intellectual property, or if the institutional patent policy or procedure does not claim rights for the institution or individual inventor, then Foundation shall have the right to determine the disposition of the Property rights in accordance with the provisions set forth below.

Distribution of income derived from any Property, which might include equity disposition, shall be shared by the grantee institution and the Foundation on mutually agreeable terms, such terms to be determined as soon as practicable, preferably prior to any licensing or commercial exploitation of the Property, and in any event no later than six months after first receipt of income. Such distribution shall be guided by the principle that the Foundation's proportion of the income shall be reasonably related to the Foundation's proportion of support for the research leading to the Property. The grantee institution agrees to notify the Foundation within a reasonable time of beginning negotiations with potential licensees and to notify the Foundation upon execution of any license or other agreement to commercialize the Property. The grantee institution will provide a copy of the license or other agreement, or an excerpt of the financial terms relevant to the Foundation's right to income from the Property together with the name of the licensee, the subject matter of the license and any other terms relevant to the foundation, including without limitation whether such license is exclusive or nonexclusive.

If any Property is made with or results from the joint support of the foundation and another organization, that organization, the grantee institution, and the Foundation will confer, in good faith, to arrive at a mutually satisfactory disposition of the Property rights guided by the principle that distributions of income be made in proportion to each party's contribution of support for the research leading to the Property.

No patent, patent application or other type of protection for a Property shall be abandoned without first notifying the Foundation and giving the Foundation a reasonable opportunity to take title to the Property.

If grantee institution does not effectuate a license to Property within four (4) years from the date that such Property is disclosed in writing through an invention disclosure or similar form to the grantee institution by the principal investigator, then the Foundation shall have the right to

introduce to the grantee institution one or more bona fide potential licensees and the grantee institution shall enter into good faith negotiations for license of the Property with such potential licensee(s). Upon consummation of any such license, the Foundation's introduction of the licensee to the grantee institution shall be counted to the benefit of the Foundation in calculating its share of any income from the Property.

The grantee institution agrees that when it licenses a Property, it will use reasonable efforts to obligate the licensee to exert its best efforts to commercialize or cause to be commercialized the Property as rapidly as practical, consistent with sound and reasonable business practices and judgment, and reserve the right to terminate the license upon a failure by licensee to do so. If the grantee institution relicenses any Property, the Foundation shall be entitled to a share of any relicensed Property income according to the principles set forth above.

The Foundation reserves the right to public acknowledgment for Property resulting from research supported by the Foundation. However, the Foundation's name and logo may not be used in association with any Property without the prior written approval of the Foundation.

The Foundation shall have use of the Property without payment of royalties or license fees solely for the use by the Foundation for its own intramural or public education purposes, but not for any of its grantee institutions.

Awardees and grantee institutions are responsible for ensuring that there are no inconsistencies in their consulting or business agreements that conflict with this policy