CYSTIC FIBROSIS FOUNDATION THERAPEUTICS, INC.

Clinical Research Award
Spring 2018 Letter of Intent (LOI) and Full Application

POLICIES AND GUIDELINES

October 12, 2017
I. ABOUT THE CYSTIC FIBROSIS FOUNDATION

The mission of the Cystic Fibrosis Foundation (CFF) is to cure cystic fibrosis (CF) and to provide all people with the disease the opportunity to lead full, productive lives by funding research and drug development, promoting individualized treatment, and ensuring access to high-quality, specialized care.

To achieve this mission, various types of grants and awards are offered to support meritorious research in CF.

The Cystic Fibrosis Foundation Therapeutics, Inc. (CFFT), established in 2000, is the non-profit drug discovery and development affiliate of the Cystic Fibrosis Foundation. CFFT supports and governs activities related to cystic fibrosis drug discovery through the many stages of drug development and clinical evaluation.

II. CLINICAL RESEARCH AWARD (CRA) AWARD OVERVIEW

CFFT’s intent in funding the CRA program is to provide support for investigator-initiated clinical research projects that have the potential to make an important contribution to the CF Foundation’s mission. Clinical research projects may address diagnosis, treatment, management of disease or symptom, or the pathophysiology of CF. Applicants must demonstrate access to a sufficient number of CF patients from CF Foundation-accredited care centers and to appropriate controls.

Please note, clinical pilot and feasibility projects designed to determine the best strategies and methods for approaching a major question that ultimately will require assessment through a larger-scale research and/or multi-center, collaborative trials should apply to the Clinical Pilot and Feasibility Award. See the Clinical Pilot and Feasibility Awards Program guidelines published in the CFF website or proposalCENTRAL.

CFFT will provide up to US$150,000 per year, plus indirect costs of eight (8) percent, for up to three (3) years of support for single center clinical studies; and up to US$350,000 per year, plus indirect costs of eight (8) percent, for up to three (3) years for multi-center clinical studies. Awards may be approved for up to a 3-year period. Funding for Year 2 and Year 3 is contingent upon submission and approval of a renewal progress report and the availability of funds.

Application for support of these projects requires a two-step process. An applicant must first submit a Letter of Intent (LOI) by the announced deadline. Upon its approval, s/he may proceed to the full application. If not approved, a revised LOI may be resubmitted in the next LOI round, provided the applicant addresses, point-to-point, the limitations noted by the reviewers.

Eligibility:

- United States residents and applicants from outside the United States are welcome to apply.
- Applicants must be independent investigators.
- Industry-sponsored research projects are not eligible to apply and instead should consider applying to the Therapeutics Development Awards program or other programs.
• Fellows may submit applications; however, funding will only be considered if they will hold a faculty-level appointment at the time of the award.

Applicants must fully describe the potential impact of the proposed project on the pathological consequences of CF. It is the responsibility of the investigator(s) to develop the underlying hypothesis, rationale, approach and methods for submitted projects, and these should be thoroughly present in the application. Applications may be submitted for projects to be undertaken at a single institution or as a collaborative effort amongst a group of institutions. For collaborative efforts amongst institutions, the application should be submitted from the designated lead institution, with other centers as subcontractors.

A clinical trial application must originate from a CFF-accredited CF Care Center. Applicants must be able to demonstrate access to a sufficient number of patients and other appropriate subjects based on their CF Care Center’s available subjects, after adjusting for the protocol’s stated inclusion and exclusion criteria. A power analysis that justifies the sample size in the study design must be included. If further data collection is required to estimate the variance of clinical parameters, it must be described. CFFT requires that a biostatistician be included as a collaborator and consulted during the formulation of this application. If receiving an award, investigators will be expected to participate in an ongoing, constructive dialogue with CFFT scientific officers and must submit annual progress reports. Tangible progress must be demonstrated for investigators to receive continued funding.

NEW IN 2018

The CF Community and their Role in CFFT-funded Research:

A. RESEARCH VOICE

The CF Foundation is committed to making sure the CF community’s voice is heard in all that we do. In December 2014, the CF Foundation created Community Voice, formerly known as the CF Adult and Family Advisors group, to serve as a consultative body and partner to the Foundation on various activities. Research Voice, a sub-committee within Community Voice, consists of people with CF and their family members who undergo special training on the basics of clinical research to provide insight and feedback to the research community. Starting in 2018, some members of Research Voice will be selected to review Clinical Research Award applications as community representative reviewers.

B. AREAS OF ENCOURAGEMENT

People with CF, family members, and caregivers were invited to participate in a survey to identify the clinical research topic areas the CF community feels are the most important to them. Over 1,900 responses were collected from the survey and used to create research Areas of Encouragement. The top ten areas prioritized by the CF community are listed below. Applications may address any topic area advancing CF care, treatment, or research. However, applications addressing the following areas are particularly encouraged:

• Respiratory Microorganism Detection and Treatment
• Gastrointestinal symptoms (including, but not limited to, GERD, DIOS, and Pancreatitis)
• Reducing Treatment Burden
• CF-related Diabetes
• Diet and Nutrition
• Mental Health
• CF-related Liver Disease
• Exercise
• Sinus Disease
• Allergies and Asthma

III. REVIEW AND AWARD
Applications to the Clinical Research Awards program are reviewed by the Clinical Research Committee (CRC), community representative reviewers, and CFFT.

Applications are evaluated by the CRC and receive scores based on scientific merit and impact on the CF Foundation’s mission.

In addition, community representative reviewers will score applications based on study design and feasibility from the perspective of someone with CF. They will also evaluate the project on its relevance to the CF Foundation’s mission and the project’s potential to impact those living with CF. Community representative reviewers will not review an application for scientific merit. Reviews from the community representatives will be used to inform funding decisions.

Funding of awards is approved by the CFFT Board of Directors and is based on the availability of funds, priority score assigned to each application, and the recommendations of the CRC, community representative reviewers, and CFFT Program Officers. All awards are subject to compliance with applicable regulations and CFF policies.

Chief causes for assigning low priority scores to applications during review include the following:
• Insufficient information or documentation
• Inadequate statement of hypothesis, experimental design or methods
• Failure of the applicant to describe potential relevance of the proposed study to issues in CF
• Failure of the applicant to document the necessary skills or training to accomplish the goals of the proposal
• Failure of the applicant to meet all the criteria described in these guidelines

CFFT may withdraw applications receiving low scores, and/or those deemed nonresponsive to the program announcement before the CRC review meeting. In these cases, CFFT will notify applicants if their application has been withdrawn without discussion. Applications that have not been discussed in two review meetings will not be accepted for further consideration by CFFT. Applicants must address reviewer critiques in order to resubmit their applications during future application cycles.
IV. SUBMISSION INFORMATION & GENERAL TIMELINE

An LOI must be submitted and approved prior to submitting a full application.

Submit online submission at proposalCENTRAL: http://proposalcentral.altum.com/
(Refer to Section V and VI of these guidelines for specific submission instructions.)

Investigators with a previously approved LOI who did not submit a full application, and/or investigators submitting a revised application may bypass the LOI stage. These requests must be e-mailed to grants@cff.org with “CRA LOI Bypass Request” in the subject line. LOI bypasses are granted on a case-by-case basis and the CFF Grants and Contracts Office will send a notification of the final determination.

Applicants whose LOI was not approved in an earlier submission may resubmit the LOI with (1) appropriate revisions, and (2) an attachment that provides a point-by-point response to the limitations noted by the reviewers.

General Timeline:

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>LOI Submission Deadline</td>
<td>December 8, 2017</td>
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<tr>
<td>LOI Applicant Notified</td>
<td>End of January 2018</td>
</tr>
<tr>
<td>Full Application Deadline</td>
<td>March 23, 2018</td>
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<tr>
<td>Review by Clinical Research Committee</td>
<td>May 2018</td>
</tr>
<tr>
<td>Notification to Applicants</td>
<td>Late May 2018</td>
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<tr>
<td>Earliest Start Date for Awarded Projects</td>
<td>July 1, 2018</td>
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V. LETTER OF INTENT SUBMISSION GUIDELINES

LOI Submission Deadline: Friday, December 8, 2017 at 5:00 PM (ET)

LOIs must be submitted online at proposalCENTRAL: https://proposalcentral.altum.com/

An LOI will be considered incomplete if it fails to comply with these instructions, or if the submitted material is insufficient to permit adequate review. CFFT reviews LOIs electronically, and only documents submitted online at proposalCENTRAL will be reviewed. Late applications will not be accepted, and the deadline will not be waived.

Documents should be typed using:
- Font: Times New Roman 12 or Arial 11
- Margins: No less than a half inch on each side

Log-in at proposalCENTRAL: https://proposalcentral.altum.com/.

First-time applicants must register to create a user name and password for proposalCENTRAL and will need to complete a profile before applying. If you are already registered and cannot remember your
password, click on the “Forgot Your Username/Password?” link below the “Application Login” fields. 

*Note:* Use the Customer Service link on the top right of each screen as needed.

Grant and award opportunities, including this, are listed on the opening screen, but you must be logged in first to see them.

Select the gray tab labeled “Grant Opportunities” found in the upper right hand side of the page.

Click on the light blue “Filter by Grant Maker” button to the left and scroll down to locate Cystic Fibrosis Foundation Therapeutics in the list.

Locate the listing for the “Clinical Research Award with LOI” program. Click on the “Apply Now” button in the column on the far right to open the application.

Applicants may stop at any point, but must click the “Save” button before exiting in order to save their work. When logging in to continue, click on the blue tab, “Manage Proposals”, and then the “Edit” button.

The following sections are listed in the navigation menu to the left of the application screen. Click on each section and follow the directions.

1. **Title Page:** Enter the title of your project and indicate whether this is a new LOI or a resubmission of an earlier version.

2. **Download Templates & Instructions:** Download the available templates applicable to the project, fill them out and upload them when completed in Section #8. Templates available include: Cover Sheet, Biographical Sketch(es) of Key Personnel, Response to Prior LOI Critique (if resubmission), and LOI Project Description.

3. **Enable Other Users to Access this Proposal:** Complete this section online if you wish to designate access to another individual, such as an assistant who has registered on proposalCENTRAL. Enter the email address of the individual and in the “Permissions” column, use the pulldown menu to select the type of access you wish to give. Please note that only delegates who are granted “Administrator” rights can submit applications on behalf of the applicant. Check the “Auto Notify” box and then “Save”.

4. **Applicant/PI:** If a profile was completed upon registration, the fields in this section will already be populated with the information entered in your Professional Profile. If you need to make any changes, click the “Edit Professional Profile” button and follow the instructions. If a profile was not completed, enter the information in the required fields and click “Save”.

5. **Institution:** If a profile was completed upon registration, the Principal Investigator’s (PI) institution will be preloaded as the Lead Institution. If a profile was not completed, enter the required information and click “Save”. Be sure to use the full legal name of the institution.
6. **Abstracts/Relevance/Keywords:** In the space provided online for abstracts, provide a statement of no more than 2,000 characters (including spaces) explaining the subject of the research proposal and its relationship to CF. Two different abstracts are required as follows:
   - **Lay Abstract:** This statement will be used to inform the non-scientific departments of CFF and the general public of the nature of this work. Applicants should not include any confidential or proprietary information, including intellectual property, in the lay abstract.
   - **Scientific Abstract:** This statement will be used to inform the scientific community.

**Summary of Relevance to CFF mission**
All applications are reviewed and scored not only on scientific merit but also on relevance to CFF’s mission.

*The mission of the Cystic Fibrosis Foundation is to cure cystic fibrosis and to provide all people with the disease the opportunity to lead full, productive lives by funding research and drug development, promoting individualized treatment, and ensuring access to high-quality, specialized care.*

Provide a statement of no more than to 3,000 characters (including spaces) summarizing the relevance of the proposed research to the health and well-being of CF patients, for a non-scientific audience who may or may not have a background in the subspecialty of the proposed research. If applicable, describe how your project addresses one or more of the Areas of Encouragement identified by the CF community (see NEW IN 2018, item B, in Section II of these guidelines).

**Keywords:** from the lists of options provided in this section, select all applicable research type, research topics, and keywords for the proposed project. A minimum of one (1) option must be selected per category. Click each keyword you want to select, then the Add (+) icon, until you have all applicable keywords selected on the list to the right.

7. **Budget Summary:** Fill in the start date and end date and applicable amounts for each year of support requested by completing the online fields (Period 1, 2, 3). All Clinical Research Awards are awarded for a maximum of three (3) years, up to:
   - **US$150,000/year in direct costs** (plus 8% indirect costs) for a single center Clinical Research Award
   - **US$350,000/year in direct costs** (plus 8% indirect costs) for a multi-center Clinical Research Award

8. **Attachments:** Complete the templates downloaded from Section #2, and upload them here as PDF documents. Below are instructions specific to each template.

   **A. COVER SHEET (template available for download)**
   The Principal Investigator and any Co-Investigators (if applicable) are required to sign where indicated. (The Applicant Institution’s Authorized Institutional Official’s signature is not required for the LOI). Scan and upload.
B. BIOGRAPHICAL SKETCH(ES) OF KEY PERSONNEL (NIH template and example available for download)
CFF defines “key project personnel” as any individual with an advanced degree who will play an instrumental role in the research project. An NIH Biographical Sketch form should be completed for each key project personnel, and uploaded as PDF. The maximum length for each biosketch is five (5) pages. Personnel must include a biostatistician with at least 5% effort on the project.

C. RESPONSE TO PRIOR LOI CRITIQUE (if resubmission)
Resubmissions of LOI applications that were previously not approved are required to make a point-by-point response to the limitations noted in the critique of the earlier submission.

D. LOI PROJECT DESCRIPTION (template available for download)
Upload a PDF copy of the completed document. Maximum of 3 pages (not including the literature cited). Components should include:

a. Statement of Hypothesis and Specific Aims: State concisely and realistically the intent of the proposed research and the hypothesis to be tested. The specific aims should be relevant to the mission of the Cystic Fibrosis Foundation.

b. Brief Study Design: Describe the study design, including a statistical section. The statistical section must include a detailed power or a sample size analysis on the primary and major secondary analysis. These analyses should include formulas and estimates used to arrive at the sample.

c. Literature Cited: References should be numbered in the sequence that they appear in the text. Each citation must include the names of authors, the name of the journal or book, volume number, page number and year of publication (titles are optional).

9. Validate: Upon completing your LOI, click on the “Validate” button on the main screen. Attend to any omissions/errors as prompted onscreen, and then click “Validate” again.

10. Print Face Pages: Face Pages are not required for an LOI. Continue to Section #11.

11. Submit: Click on the gray button with blue lettering. CFFT will not receive your application unless the submit button is clicked.

Confirmation: Applicants will receive an e-mail confirmation from proposalCENTRAL (not from CFFT) that the LOI was successfully submitted. This e-mail will be your only acknowledgement. If you do not receive this confirmation, please contact proposalCENTRAL immediately to ensure the LOI was submitted.

VI. FULL APPLICATIONS GUIDELINES

Full Application Deadline: Friday, March 23, 2018 at 5:00 PM (ET)

Applications must be submitted online at proposalCENTRAL: https://proposalcentral.altum.com/
Applications received without an approved LOI will **not** be reviewed.

An application will be considered incomplete if it fails to comply with the instructions, or if the submitted material is insufficient to permit adequate review. CFFT reviews applications electronically, and only documents submitted online at proposalCENTRAL will be reviewed. Late applications will not be accepted, and the deadline will not be waived.

Documents should be typed using:
- Font: Times New Roman 12 or Arial 11
- Margins: No less than a half inch on each side

**Note:** When all the documents have been uploaded to proposalCENTRAL, the system will compile them into a single PDF file in the correct sequence as shown in Section VII. ELECTRONIC APPLICATION CHECKLIST.

Log-in at proposalCENTRAL: [https://proposalcenral.altum.com/](https://proposalcenral.altum.com/)

First-time applicants must register to create a user name and password for proposalCENTRAL and will need to complete a profile online before applying. If you are already registered and cannot remember your password, click on the “Forgot Your Username/Password?” link below the “Application Login” fields. **Note:** Use the Customer Service link on the top right of each screen as needed.

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Locate the listing for the “Clinical Research Award with LOI” program. Click on the “Apply Now” button in the column on the far right to open the application form.

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The following sections are listed in the navigation menu to the left of the application screen. Click on each section and follow the directions.

1. **Title Page:** Enter the title of your project and indicate whether this is a resubmission of an application that was reviewed earlier.
2. **Download Templates & Instructions:** Download the available templates applicable to the project, fill them out and upload them when completed in Section #10. Templates available include: Research Plan, Protocol Synopsis, Critique Response (if resubmission), Budget Detail, Budget Justification, Biographical Sketches of Key Personnel, Other Support, Facilities Available, Results of Past and Current CFF/CFFT Support, Names and Addresses of References for Junior Investigators, Data Safety Monitoring Plan, International Institution Form (if applicable), and Appendices.

3. **Enable Other User to Access this Proposal:** Complete this section online if you wish to designate access to another individual, such as an assistant who has registered on proposalCENTRAL. Enter the email address of the individual and in the “Permissions” column, use the pulldown menu to select the type of access you wish to give. Please note that only delegates who are granted “Administrator” rights can submit applications on behalf of the applicant. Check the “Auto Notify” box and then “Save”.

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5. **Institution & Contacts:** If a profile was completed upon registration, the Principal Investigator’s (PI) institution will be preloaded as the Lead Institution. If a profile was not completed, enter the required information and click “Save”. Be sure to use the full legal name of the institution.

6. **Letters of Reference for Junior Investigators**: CFF defines “junior investigator” as any individual who has not received a CFF/CFFT Research Grant or NIH equivalent (e.g. R01, R21, R23) as a Principal Investigator OR is within their first five years of their first academic appointment at the level of Assistant Professor or equivalent. Letters of Reference for junior investigators must be submitted by the following individuals:
   - **The Chair of the applicant’s department at the applicant institution** – The letter of reference from the Department Chair should indicate the release of sufficient space and facilities for the work described, as well as guarantee the time commitment of the investigator to the project. If the applicant is currently a fellow, the letter of reference should include confirmation of the pending faculty-level appointment.
   - **At least two other individuals** familiar with the applicant's scientific interests and abilities.

Enter the email addresses of the individuals who will be asked to submit Letters of Reference for the applicant. Automated emails (with instructions) will be sent to each Referee through the proposalCENTRAL website. The letters must be uploaded by the referees prior to submitting the application, preferably one (1) week before the application deadline. Additionally, applicants must complete the “Names and Addresses of References for Junior Investigators” template and upload it in Section #10.
Note: Detailed Instructions on how to invite referees to submit the letters of reference are also available in a downloadable document found in Section #2. Letters uploaded to proposalCENTRAL should not be password protected or otherwise encrypted. Such encryption will cause errors in assembling a single-print PDF of the application. The applicant should inform the individuals writing letters to not include password protection on their documents.

*Senior investigators are not required to submit Letters of Reference; however, if they are new to CF research, Letters of Support and/or Collaboration should be provided and uploaded as Appendices (in Section #10).

7. Abstracts/Relevance/Keywords: In the space provided online for abstracts, provide a statement of no more than 2,000 characters (including spaces) explaining the subject of the research proposal and its relationship to CF. Two different abstracts are required as follows:

- **Lay Abstract**: This statement will be used to inform the non-scientific departments of CFF and the general public of the nature of this work. Applicants should not include any confidential or proprietary information, including intellectual property, in the lay abstract.

- **Scientific Abstract**: This statement will be used to inform the scientific community.

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Provide a statement of no more than 3,000 characters (including spaces) summarizing the relevance of the proposed research to the health and well-being of CF patients, for a non-scientific audience who may or may not have a background in the subspecialty of the proposed research. If applicable, describe how your project addresses one or more of the Areas of Encouragement identified by the CF community (see NEW IN 2018, item B, Section II of these guidelines).

**Keywords**: From the lists of options provided in this section, select all applicable research type, research topics, and keywords for the proposed project. A minimum of one (1) option must be selected per category. Click each keyword you want to select, the Add (+) icon, until you have all applicable keywords selected on the list to the right.

8. **Budget Summary**: Fill in the start and end date and applicable amounts for each year of support requested by completing the online fields (Period 1, 2, 3). Up to three (3) years of funding may be requested. **Note: The Budget Detail template and Budget Justification template downloaded in**
Section #2 must be completed and uploaded in Section #10 for each year of the award and for each subcontract (if applicable).

9. **Organization Assurances**: Select the type of assurances that are applicable to the project and provide all required information (i.e. IRB, IACUC, and/or IBC/rDNA approval letter and status at the time of submitting your application). Refer to Section L. ORGANIZATION ASSURANCES & CERTIFICATIONS in these guidelines for details.

10. **Research Plan & Supporting Documents**: In this section, upload the completed templates downloaded in Section #2 above. Fill out the fields describing the attachment, select the attachment type from the pulldown menu, choose the file to be uploaded, and click the “Upload Attachment” button to upload the file. Do this for each attachment.

Below are instructions specific to each template as well as additional information regarding other application components.

**A. RESEARCH PLAN (template available for download)**
   - Key figures and legends must be included in the Research Plan. If uploaded as Appendices, they will NOT be reviewed.
   - At the top of each page, type the PI's name. Each page must be sequentially numbered at the bottom.
   - **Page limit**: Twelve (12) single-sided pages, not including the Literature Cited. Applications exceeding this page limit will not be reviewed. Include sufficient information to permit effective review without reference to previous applications. Information should be presented in a clear and concise manner, while being specific and informative.
   - If the application is a resubmission of an earlier one, revisions should be clearly indicated by a change in font, or bolded or underlined. CFFT will not review resubmissions that have not been revised.

   a. **Hypotheses and Specific Aims**: State concisely and realistically the intent of the proposed research and the hypothesis to be tested. Do not exceed one page. The focus of applications should be aligned with the mission of the Cystic Fibrosis Foundation: to cure cystic fibrosis and to provide all people with the disease the opportunity to lead full, productive lives by funding research and drug development, promoting individualized treatment, and ensuring access to high-quality, specialized care.

   b. **Background and Significance**: Briefly describe the background of the present proposal. Critically evaluate existing knowledge and specifically identify the gaps that the project is intended to fill. Concisely state the importance and rationale of this research by relating the specific aims to longer-term objectives. This section should also show the potential importance of the proposed work to CF. In addition, the applicant should describe the relationship of the proposed work to his/her long-term career goals. Preference will be given to those applicants who have an interest in a long-term career in CF-related research.
c. **Preliminary Studies:** Summarize any preliminary work pertinent to this application that has been undertaken by the Principal Investigator(s) and/or information that will establish the competence and/or experience of the investigator(s) to pursue the proposed study. Titles, complete references and supplemental charts, graphs, etc., may be submitted in the Appendix.

d. **Experimental Design and Methods:** Provide a detailed discussion of the experimental design and procedures to be used to accomplish specific aims. Please discuss: study hypothesis; primary and secondary outcome measures; study sample-inclusion and exclusion criteria; sample size estimates*; subject enrollment including age range; puberty status; gender distribution; randomization scheme if applicable; description of experimental procedures and schedule including a study time-line; drugs and dosage; measures of compliance; follow-up schedule including a study time-line for full project up to three years; efficacy and safety evaluation, data monitoring and quality control; and a description of your proposed data analysis and statistical procedures for your hypothesis testing. Although no page limit is specified for this section, make every attempt to be concise and succinct.

*For sample size estimates, please provide all estimates of means, standard deviations, rates or proportions used to calculate each of your sample size or power estimates. Please include in the statistical section whether you will use a one or two-tailed test, the power selected for such a test (if making a sample size calculation), and the reference for your sample size or power calculation. In instances of pilot studies where some of these parameters are unknown, we will accept your best estimates of the unknown parameters if preliminary data are not available, and if your calculation is a preliminary estimate before formal sample size can be calculated for a larger study. Please identify if you are making estimates from data or from personal estimates. This section must document access to adequate numbers of subjects.

Discuss the potential difficulties and limitations of the proposed procedures and alternative strategies for achieving the aims. If the Sponsor(s) is not a CF Center Director or Co-Director, a letter of support from the Center Director is required (upload as a PDF document in Section #10, as an Appendix).

e. **Consultant Arrangements:** If the proposed project includes consultant arrangements and/or collaboration with other individuals outside the applicant's group, describe the working relationships and support this description by letter(s) of intent signed by collaborating individual(s). If clinical material required by this award is to be furnished by other individuals, include a statement from these individuals agreeing to their participation and precautions taken to ensure anonymity of patients.

f. **Literature Cited:** References should be numbered in the sequence that they appear in the text and listed at the end of the Research Plan. Each citation must include the names of authors, the name of the journal or book, volume number, page number and year of publication (titles are optional).
B. PROTOCOL SYNOPSIS (template available for download, if applicable)
Complete the information required in the available template for each aspect of the study protocol.

C. CRITIQUE RESPONSE (template available for download, if applicable)
If the application is a resubmission of a previously declined full application, please provide a point-by-point response to the prior reviews. There is no page limit to your responses, but please be concise and succinct.

D. BUDGET DETAIL AND BUDGET JUSTIFICATION (separate templates available online)
Fill out the Budget Detail and Budget Justification templates for each and all years of support requested. In the space provided on each page, indicate the year or period as well as start and end dates for the proposed budget period. Up to three (3) years of funding may be requested. If there are subcontracts, each subcontract requires a separate Budget Detail and Budget Justification. (Be sure the Budget Detail matches the online budget summary in Section #8).

• Budget Guidelines
  a. For a single center project, the budget may not exceed **US$150,000 in direct costs** per year (plus 8% indirect costs) for a **maximum of three (3) years**. This amount is inclusive of the cost of any subcontracts.
  b. For a multi-center project, the budget may not exceed **US$350,000 per year in direct costs** (plus 8% indirect costs) for a **maximum of three (3) years**. This amount is inclusive of the cost of any subcontracts.
  c. Services that are part of routine medical care may not be included in the project budget. Whenever possible, the price of services (e.g., X-rays, EKGs, PFTs, etc.) provided by the institution should be negotiated to the lowest possible non-profit price.
  d. Separate professional fees for interpretation of data (e.g., from X-rays, lab tests, PFTs) may not be included when such interpretation is performed by the named investigator(s), co-investigator(s), or consultants as part of the project, other than in exceptional circumstances. In such cases, justification for these fees must be described in detail in the budget justification template.
  e. Under most circumstances, hospitalization costs of study subjects cannot be included in this budget.

• Budget Detail – Direct Costs
  Personnel – List the names and positions of all professional and non-professional personnel involved in the project, whether or not salaries are requested. Indicate the percent effort on the project for all personnel. For each individual, be sure to complete all fields on the Budget Detail in full on the template provided. In accordance with National Institutes of Health (NIH) policy, salary requests may not use an institutional base salary in excess of the current federal salary cap of US$187,000; when calculating salary requests, the NIH cap must be adhered to. Fringe benefits may be requested if
they are treated consistently by the applicant institution as a direct cost to all funding agencies and foundations.

**Consultant Costs** – Give the name and institutional affiliation of any consultant who has agreed to serve in this capacity, including statisticians and physicians in connection with patient care if they are not listed under personnel. Under budget justification, briefly describe services to be performed, the number of days, rate of compensation, per diem and any other associated costs.

**Equipment** – List all items of equipment greater than US$5,000 requested and the cost of each. If funds are requested to purchase equipment that is equivalent to items listed under “Facilities Available”, justify the duplication. Justify any item of equipment for which the need may not be obvious.

**Supplies** – Itemize supplies, such as glassware, chemicals, animals, etc., in separate categories and give the estimated cost of each category. If animals are involved, state the number, unit purchase cost, and unit care cost.

**Travel** – Describe the purpose of any CF-relevant travel. Up to US$2,000 per person, per year, may be requested. Please note: travel is limited to two research team members per site. Expenses for travel outside the North American continent for domestic applicants, including travel to Hawaii, Puerto Rico, and other U.S. territories are not allowable expenses without prior written approval from the Grants and Contracts Office. Registration fees associated with conferences should be listed under “Other Expenses.”

**Patient Research Costs** – Funds may be requested for patient research costs specifically related to the proposed research. The basis for estimating funds requested in this category should be justified, and applicants must provide detailed information regarding the proposed costs (e.g., number of procedures, cost per procedure, ancillary costs). The scientific need for patient research costs will be considered in the review. Please note that research participant reimbursement and compensation should be listed in "Other Expenses"; and consulting physician charges for research-related services should be listed under "Consultant Costs." Negotiation of these costs are between the applicant institution and the service provider.

If approved as part of the application, patient research costs are capped at the amount requested in the budget and under no circumstances is CFF or CFFT responsible for any costs that are later determined non-covered by third party insurers. Applicants and applicant institutions acknowledge that CFF and/or CFFT are solely a provider of funding for the research performed under an approved award and not a sponsor of the research.

**Other Expenses** – Itemize other expenses by major categories, such as subcontracts, duplication costs, publication costs, conference registration fees, computer charges, etc. Justify all items.
**Subcontracts** – The total cost of each subcontract (directs plus indirects) should be listed under “Other Expenses” and included in the applicant’s direct costs. Detailed budgets for each subcontract must be provided for each year of support (complete and upload a Budget Detail and Budget Justification template for each subcontract). Negotiations of subcontracts are between the applicant institution and the subcontractor.

- **Budget Detail - Indirect Costs**
  Indirect Costs up to eight (8) percent may be requested from CFFT. Indirect costs may be requested for all expenses except for the following:
  - Major equipment (items over US$5,000 in value)
  - Computer software
  - Software licenses
  - Tuition

  *For applications that include a subcontract with a third party, the applicant may request indirect costs only on the first US$25,000 of each subcontract per project period.*

- **Budget Justification**
  Describe and justify the line items in the Budget Detail. Use major categories, such as Personnel, Consultant Costs, Equipment, etc.

E. **BIOGRAPHICAL SKETCHES OF KEY PERSONNEL** (template available for download)
Complete and upload an NIH Biographical Sketch for all key project personnel, beginning with the Principal Investigator. (CFF defines “key project personnel” as any individual with an advanced degree that will play an instrumental role in the accomplishment of the research project.) Do not exceed five (5) pages per person.

F. **OTHER SUPPORT** (template available for download)
Complete and upload an “Other Support” form, for all key project personnel, beginning with the Principal Investigator. There is no page limitation.

G. **FACILITIES AVAILABLE** (template available for download)
Describe the facilities and equipment available at the applicant’s institution that will be used for this project, such as laboratory, clinical, animal, computer, office, etc. Provide any additional information about the environment, including any support services available that will be utilized. Describe their pertinent capabilities, proximity and anticipated extent of use. If facilities or equipment at a consultant’s or collaborative site will be used, they should be identified and clearly described. There is no page limit. Use continuation pages, if necessary.

H. **RESULTS OF PAST AND CURRENT CFF/CFFT SUPPORT** (template available for download)
Identify the results of past and current CFF/CFFT support (e.g., subsequent funding from other sources, journal articles, and invited presentations) and the CFF/CFFT award from which they resulted for the past five years. Please note that the following information must be included with each research project identified:
I. NAMES AND ADDRESSES OF REFERENCES FOR JUNIOR INVESTIGATORS (template available for download)
List the names, titles, and contact information of the individuals who have been asked to submit Letters of Reference on the applicant’s behalf. A PDF copy of the completed form should be uploaded. Though not required to submit Letters of Reference, Senior investigators should still check the box in the template that identifies them as Senior investigators and upload the form to proposalCENTRAL.

J. DATA SAFETY MONITORING PLAN (template available for download)
In compliance with Federal regulations, all applicants must submit a general description of the Data Safety Monitoring Plan (DSMP) for any proposed study that places human subjects at more than minimal risk. A DSMP helps to ensure subject safety, as well the validity and integrity of the data. Furthermore, a DSMP allows for the monitoring of study data to assess whether or not an early termination is necessary for safety or efficacy reasons.

The extent of monitoring required for a study is dependent on the level of risk involved for the subjects, as well as the size and complexity of the study. Large, multi-center CFFT-funded interventional clinical trials must utilize the CFFT Data Safety and Monitoring Board (DSMB). In addition, CFFT may require that investigators utilize the CFFT DSMB for any other interventional CF clinical trial that meets one or more of the following criteria:
- Multi-center;
- Randomized;
- Conducted in an emergency setting;
- Use high-risk interventions, such as gene therapy or gene transfer; or
- Include particularly vulnerable study populations, such as pediatric patients.

Note: On the available template, please check whether a DSMP is required and upload the template regardless of the response.

Address the following areas in the DSMP:

Assessment of Risk – Describe the level of risk the proposed research presents to subject participants and provide a detailed justification for the level of risk. Discuss who will monitor the study.

Level of Risk
- Minimal Risk
Study poses no more risk than expected in daily life (blood draw, physical exam, etc.)

Observational studies

Survey or questionnaire studies

- **Low Risk**
  - Post-marketing study Phase IV drug or device, as defined by FDA

- **Moderate Risk**
  - Substantial risk (>5%) of a Serious Adverse Event (SAE) originating from the underlying condition of the enrolled subject
  - Phase I or II study with available safety data in humans

- **High Risk**
  - Involves an intervention or invasive procedure with substantial risk
  - Involves the use of a new chemical or drug for which there is little or no toxicology data in humans
  - A gene therapy study or research involving recombinant DNA molecules (gene transfer)
  - Involves vulnerable populations (pediatric, pregnant, etc.)

**Anticipated Adverse Events and Grading Scale** – Describe anticipated adverse events (AEs), including expected frequency and the grading scale to be used. Discuss plans for addressing AEs.

**Reporting of AEs** – Detail the plan for reporting AEs, including who shall be notified in the event an AE should occur.

**Safety Monitoring Plan** – Describe all tests, evaluations, and exclusion criteria that will be implemented to ensure and monitor the safety of human subjects. Discuss plans for stopping the study if necessary.

**Safety Reviews** – Describe the process for monitoring and reviewing subject safety data, including the frequency of such reviews. Include details as to who will perform the monitoring and plans for reporting. If utilizing the CFFT DSMB, provide the frequency of meetings, the reporting requirements, including AEs, and the procedure for interim reporting as necessary. If this information is not available at the time of submission of the application, note that CFFT will not release awarded payments until it is provided.

**Registrations for Investigator-Initiated Clinical Trials:**

- **Clinicaltrials.gov (United States):** Applicants are required to register all non-exempt human subject studies in the ClinicalTrials.gov database to ensure information is freely available on CFFT-funded trials within the community. The registration should be no later than twenty-one (21) days after the first subject is enrolled. CFFT requires copies of documentation confirming this registration, when applicable.

- **EudraCT Registration (European Union):** For interventional clinical trials with medicinal products conducted in the European Union, the Institution must provide documentation to CFFT confirming registration of the clinical trial when applicable.
K. VERIFICATION OF APPLICANT INSTITUTION’S TAX STATUS (upload ad PDF documents)
The Grants and Contracts Office must have a copy of the applicant institution’s current W-9 and 501(c)3 letter, or other documentation verifying its Federal tax status and will not issue Award Letters to Awardees if these documents are not received and on file.

- Applicants from for-profit organizations must submit a copy of the applicant institution’s W-9 and IRS Form 147C, or other documentation verifying the organization’s Federal tax status. Awards are not issued prior to having these documents on file with the Grants and Contracts Office.
- Non-U.S. applicants must provide a copy of the W-8BEN-E form (required). In addition, a tax equivalency letter should be uploaded, if available. If a tax equivalency letter is not available, applicants must upload a letter stating this documentation is not available.

L. ORGANIZATION ASSURANCES & CERTIFICATIONS (if applicable and available, upload as PDF documents as Appendices)

Research Involving Human Subjects: CFFT policy pertaining to the protection of individuals as research subjects requires that for each proposal awarded, the applicant institution certify in writing that an Institutional Review Board (IRB) has reviewed and approved the procedures for the use of human subjects, or human organs, tissues and body fluids, in the proposed research, in accordance with Department of Health and Human Services policies found at https://www.hhs.gov/ohrp/regulations-and-policy/index.html. IRB status must be indicated on the “Organization Assurances” section of the application in proposalCENTRAL. CFFT will not release awarded funds until this certification of IRB approval is received and on file with the Grants and Contracts Office. This certification of IRB approval, if available at the time of application, should be included as an appendix to the application. For interventional and observational studies involving human subjects, the IRB submission date must occur within 30 days following award notification.

Research Involving Recombinant DNA: All research involving recombinant or synthetic nucleic acid and human gene transfer studies supported by CFFT must meet the requirements contained in the document NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules (updated April 2016). This publication and announcements of modifications and changes to the NIH Guidelines are available from the Office of Science and Policy, National Institutes of Health, 6705 Rockledge Drive, Ste 750, MSC 7985, Bethesda, MD, 20892-7985 or online at http://osp.od.nih.gov/office-biotechnology-activities/biosafety/ NIH-guidelines.

The purpose of the NIH Guidelines is to specify practices for the construction and handling of: (i) recombinant nucleic acid molecules; (ii) synthetic nucleic acid molecules, including those that are chemically or otherwise modified but can base pair with naturally occurring nucleic acid molecules, or (iii) cells, organisms, and viruses containing such molecules.

CFFT policy pertaining to recombinant and synthetic nucleic acid research requires that the applicant institution certify in writing that an IBC has reviewed and approved the procedures involving recombinant and synthetic nucleic acids in accordance with the NIH Guidelines. IBC
status must be indicated on the “Organization Assurances” section of the application in proposalCENTRAL. CFFT will not release awarded funds until this certification of IBC approval is received and on file with the Grants and Contracts Office. This certification of IBC approval, if available at the time of application, should be included as an appendix to the application.

**Research Involving Animals:** Award applications submitted to CFFT involving the use of animals must meet the guidelines of the National Institutes of Health found at [https://grants.nih.gov/grants/olaw/olaw.htm](https://grants.nih.gov/grants/olaw/olaw.htm), which require that all proposed studies be reviewed and approved by an Institutional Animal Care and Use Committee (IACUC). In addition, CFFT awardee institutions and laboratories must be accredited by the American Association for Accreditation of Laboratory Animal Care (AAALAC) and/or have other verifiable assurances that the institution and laboratory meet appropriate standards. IACUC status must be indicated on the “Organization Assurances” section of the application in proposalCENTRAL. CFFT will not release awarded funds until this certification of IACUC approval is received and on file with the Grants and Contracts Office. This certification of IACUC approval, if available at the time of application, should be included as an appendix to the application.

**M. INTERNATIONAL INSTITUTION FORM (template available for download, if applicable)**
Applicants whose awardee institution is not a United States based entity must complete the International Institution Form. **Upload a PDF version of the completed and signed form, together with the following documents***:

- A copy of the institution’s most recent Mission Statement.
- A copy of the institution’s Tax Exemption Letter or equivalent, if institution is a nonprofit.
- A brief description of other sources of support, such as official awards, private endowments, and commercial activities, received by the institution.
- A copy of the institution’s Standard Operating Procedure(s) or relevant policy to ensure that funds provided are neither distributed to terrorists or their support networks, nor are funds used for activities that support terrorism or terrorist organizations.
- For-profit institutions must submit a complete list of key employees, members of the governing board, and/or other senior management.

*Applicants must provide English translations for all non-English documents, including material provided in support of the Research Plan.*

**N. APPENDICES (template available online, upload materials as PDF documents, if applicable)**
Appendices are restricted to the following categories***:

- **Signed Letters of Support and/or Collaboration**:
  a. If the applicant is not a CF Center Director or Co-Director, a letter of support from the Center Director is required.
  b. If there are Co-Investigators, a letter of collaboration **is required** from each.
  c. Investigators new to CF research are required to consult/collaborate with an established CF investigator/clinician either at their own institution or another. The
letter from the collaborator/consultant should be explicit as to how the proposed work is relevant to CF and how he/she will assist the investigator new to CF research.

**Note:** Junior investigators must provide such letters by contacting referees via section #6 of the navigation bar.

- IRB Application and Informed Consent Documents, if available at the time of application. Certification of IRB approval, or other applicable organization assurances documents such as IACUC and IBC Approval Letters, if available at the time of application.
- Up to three (3) reprints of the applicant’s work relating to the general area of research proposed.
- Other materials pertinent to the proposal, not already described (e.g. Registration documentation for Investigator-Initiated Clinical Trials).

*No other types of appendices will be reviewed.*

11. **PI Data Sheet:** Fill in the required fields, save and exit.

12. **Validate:** Upon completing your application, click on the “Validate” button on the main screen. Attend to any omissions/errors as prompted onscreen, and then click “Validate” again.

13. **Print Face Pages:** Follow the prompts on the screen to generate and print a face page. The Face Page will be populated automatically with data entered in the online application (applicant’s name, institution, title of application, etc.). The Face Page must be signed by the Principal Investigator and Authorized Institutional Official. Co-Principal Investigators, if any, are not expected to sign the Face Page. Scan and email the signed Face Page to grants@cff.org in conjunction with the application submission on proposalCENTRAL. No hardcopy is required.

14. **Submit:** Click on the gray button with blue lettering. CFFT will not receive your application until and unless the “Submit” button is clicked.

**Confirmation:** Applicants will receive an e-mail confirmation from proposalCENTRAL (not from CFFT) that the application was successfully submitted. This e-mail will be your only acknowledgement. If you do not receive this confirmation, please contact proposalCENTRAL immediately to ensure that your submission was submitted and processed.
For technical support with the online application:

proposalCENTRAL at pcsupport@altum.com or
800-875-2562 on weekdays, 8:00 a.m. to 5:00 p.m. (Eastern)

For program/content information:

CFF Grants and Contracts at grants@cff.org or 301-841-2614
VII. ELECTRONIC APPLICATION CHECKLIST

LOI Submission Deadline: Friday, December 8, 2017 at 5:00 PM (ET)
Full Application Deadline: Friday, March 23, 2018 at 5:00 PM (ET)

Applications must be submitted at proposalCENTRAL: https://proposalcentral.altum.com/.

A PDF copy of the signed Face Page should be emailed to CFFT (grants@cff.org) by the same date. The complete application must be submitted online, and no other documents will be reviewed.

LETTER OF INTENT
☐ Signed Cover Sheet - (upload)
☐ Biographical Sketch(es) of Key Personnel - (upload)
☐ Response to Prior LOI Critique (if resubmission) - (upload)
☐ LOI Project Description - (upload)

FULL APPLICATION
Face Page which includes:
☐ Signatures
  ☐ Principal Investigator (Co-PI’s are not required to sign)
  ☐ The Official authorized to sign on behalf of the Applicant Institution
☐ Applicant/PI information - (online)
☐ Complete Institution and PI Contact information, including correct mailing address - (online)
☐ Organization Assurances (check those that apply online)
  ☐ Human Subjects Certification - Minimal patient risk only
  ☐ Recombinant DNA Biosafety information
  ☐ Research Involving Animals information

Research Plan, Supporting Documents and Appendix:
☐ Abstracts ~ Summary of Relevance ~ Keywords - (complete online)
☐ Research Plan - (upload)
  ☐ Hypothesis and Specific Aims
  ☐ Background and Significance
  ☐ Preliminary Studies
  ☐ Experimental Design and Methods
  ☐ Consultants/Collaborative Arrangements
  ☐ Literature Cited (not included in Research Plan page limitation)
☐ Protocol Synopsis – (upload)
☐ Critique Response (if resubmission) – (upload, if applicable)
☐ Budget Detail for each year and subcontract, when applicable - (upload)
☐ Budget Justification for each year and subcontract, when applicable - (upload)
☐ Biographical Sketches of Key Personnel - (upload)
☐ Other Support for all key personnel (NIH Format) - (upload)
☐ Facilities Available - (upload)
☐ Results of Past and Current CFF/CFFT Support - (upload)
☐ Letters of Reference for Junior Investigators - (invite referees to submit via proposalCENTRAL –
  **Note:** applicant will not be able to see the letters)
☐ Names and Addresses of References for Junior Investigators - (upload)
☐ Data Safety Monitoring Plan - (upload)
☐ Verification of Applicant Institution’s Tax Status - (upload)
  ☐ W-9 (US applicants) or W-8BEN-E (non-US applicants)
  ☐ 501(c)3, IRS Form 147C or equivalent tax status letter
☐ International Institution Form (non-US based entities only) - (upload, if applicable)
  ☐ Institution’s most recent Mission Statement
  ☐ Institution’s Tax Exemption Letter, if institution is not-for-profit
  ☐ Description of other sources of support
  ☐ Institution’s Standard Operating Procedure(s) or relevant policy to ensure that funds
    provided are neither distributed to terrorists or their support networks nor used for
    activities that support terrorism or terrorist organizations
  ☐ For-profit institutions must submit a complete list of key employees, members of the
    governing board, and/or other senior management
☐ Appendices - (upload as PDF documents, if applicable)
  ☐ Signed letter(s) of Support and/or Collaboration
  ☐ IRB Application and Informed Consent Documents, Certification of IRB approval, or other
    applicable organization assurances documents such as IACUC and IBC Approval Letters, if
    available at the time of application
  ☐ Up to three (3) reprints of the applicant’s work relating to the general area of research in
    the proposal
  ☐ Other materials pertinent to the proposal, not already described (e.g. Registration
    documentation for Investigator-Initiated Clinical Trials)