

# INVESTIGATORS IN THE PATHOGENESIS OF INFECTIOUS DISEASE (PATH)

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**Pre-proposal deadline:**

July 14, 2022

**Invited full proposal deadline:**

November 15, 2022

BURROUGHS  
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FUND 

## TABLE OF CONTENTS

<b>Key Dates and Program Background</b>	<b>3</b>
<b>Eligibility Requirements</b>	<b>4</b>
<b>Important Notes</b>	<b>4</b>
<b>Selection Process</b>	<b>4</b>
<b>Terms of Grant / Use of Funds</b>	<b>5</b>
<b>Instructions on How to Prepare and Submit a Complete Proposal</b>	<b>6</b>
Application Process Workflow	6
How to Submit an Online Pre-proposal Application	7
Pre-Proposal Elements and Checklist	7
How to Submit an Online Full Proposal	8
Full Proposal Elements and Checklist	8
Submission Process	12

# KEY DATES

<b>Pre-proposal applications due</b>	July 14, 2022 by 2:00 pm Eastern Time
<b>Invitation to submit a full proposal</b>	October 7, 2022
<b>Full proposal due</b>	November 15, 2022 by 2:00 pm Eastern Time
<b>Finalist interviews</b>	April 17-19, 2023
<b>Notice of award</b>	May 24, 2023
<b>Award start date</b>	July 1, 2023
<b>Award end date</b>	June 30, 2028

# PROGRAM BACKGROUND

The Investigators in the Pathogenesis of Infectious Disease program provides opportunities for assistant professors to bring multidisciplinary approaches to the study of human infectious diseases. The goal of the program is to provide opportunities for accomplished investigators still early in their careers to study what happens at the points where the systems of humans and potentially infectious agents connect. The program supports research that sheds light on the fundamentals that affect the outcomes of these encounters: how colonization, infection, commensalism, and other relationships play out at levels ranging from molecular interactions to systemic ones.

This award provides \$500,000 over a period of five years to support accomplished investigators at the assistant professor level to study pathogenesis, with a focus on the interplay between infectious agents and their hosts, shedding light on how both are affected by their encounters. Associate professors may not apply. This is a career development award for individual investigators and does not support collaborative teams.

The awards are intended to give recipients the freedom and flexibility to pursue new avenues of inquiry and higher-risk research projects that hold potential for significantly advancing understanding of the pathogenesis of infectious disease. Researchers who start from the human host are appropriate applicants, as are those who start from the microbe or virus. Research on under-studied infectious diseases, including emerging diseases as well as well-established ones, is encouraged. Work on fungal, protozoan, and metazoan diseases and emerging infections is especially of interest. In addition, excellent animal models of human disease, including in veterinary research settings, are within the program's scope. Interdisciplinary approaches are encouraged. Work connecting pathogenesis itself to climate change is also encouraged. Work that additionally involves more elements, for example, vector biology, is very welcome.

# ELIGIBILITY REQUIREMENTS

The ideal candidate is an accomplished investigator at the mid-to-late assistant professor level with an established record of independent research in a tenure-track position or its well-supported equivalent in non-tenure offering departments.

Applications must be approved and signed by an official responsible for sponsored programs (generally from the grants office, office of research, or office of sponsored programs) at a degree-granting institution. Candidates will generally have a Ph.D. and/or a clinical doctorate (M.D., D.V.M., etc.).

- Candidates must have an established record of independent research.
- Citizens and non-citizen permanent and temporary residents of the U.S. and Canada who are legally qualified to work in the U.S. or Canada are eligible. Candidates who are temporary U.S. residents must hold a valid U.S. visa (J-1, H1B, F-1 or O-1 visas). Temporary Canadian residents must hold a valid Canadian visa (Study Permit, C-43, C44, C-10, or C-20 work permits/visas).
- Candidates who will be promoted to Associate Professor by November 13, 2022 are not eligible to apply.
- Candidates who have completed a Burroughs Wellcome Fund career development award (CAMS or CASI) are encouraged to apply but must contact BWF before writing the pre-proposal. Having had BWF travel, career guidance for trainees, preterm birth, regulatory science, or PDEP grants does not impact PATH support.
- Microbiome-related proposals must be infectious disease-focused to compete well in this program.

## Important Notes

- BWF strongly encourages applications from women and underrepresented minorities.
- BWF encourages submissions from those working in protozoan and metazoan parasites, protists, and fungi. Viral, bacterial, immune, and multi-species work is likewise encouraged. Work related to malaria, tuberculosis, and AIDS is appropriate for this program. BWF particularly encourages human health-relevant applications from veterinary scientists.
- The PATH award can only be made to accredited, degree-granting institutions in the U.S. or Canada. An Internal Revenue Service determination letter of the institution's non-profit status may be requested by BWF staff if one is not on file in our office.
- BWF encourages submissions focusing on climate change and its impact on the pathogenesis of infectious disease and human health.

## SELECTION PROCESS

The [PATH Advisory Committee](#) will review pre-proposals and full proposals, interview finalists, and make recommendations to BWF's [Board of Directors](#) for funding.

See Key Dates on Page 3 for important grant deadline dates.

BWF does not provide critiques of unfunded proposals.

# TERMS OF GRANT/ USE OF FUNDS

## **Indirect costs may not be charged against BWF grants.**

PATH is a career development award made to a degree-granting institution on behalf of an awardee. Institutions are responsible for disbursing the funds and for maintaining adequate supporting records and receipts of expenditures.

Award recipients are required to devote at least 75 percent of their overall time to research-related activities. There is no explicit minimum percent effort that must be dedicated to the PATH award.

Awardees must provide BWF with an annual report detailing scientific progress. Institutions must provide an annual financial report. Both reports must be submitted (on forms that will be provided) by September 1 of each award year. Continued funding will depend on both the timely submission of these reports and their favorable review by BWF and its program advisory committee.

Award recipients may obtain funds from other sources for research in areas similar to that conducted under these grants, so long as there is no conflict with meeting the BWF award's specific aims. Award recipients may not hold concurrent BWF career development awards.

The support allocated for research is under the control of the awardee and may be used flexibly for items such as equipment, consumable supplies, travel to scientific meetings, and salaries for laboratory personnel working with the awardee. Prior approval by BWF is required when, within an award year, purchases of equipment exceed \$20,000 or travel costs exceed \$8,000. The PATH award may not be used to pay student tuition.

Burroughs Wellcome Fund allows for an institutional allowance of up to 10% of the total award to support the cost of fringe benefits, such as health insurance premiums, vacation, or retirement for the named investigator. When the cost of fringe benefits exceeds the institutional allowance, the institution is expected to cover these costs as an indication of support for the named investigator. Any portion of the institutional allowance which is not used to support the named investigator's benefits will be added to the named investigator's research allowance.

During the award period, unused research funds may be carried over to the succeeding year. Unused funds greater than \$500 held by institutions when awards expire or are terminated must be returned to BWF. Awardees may receive no-cost extensions per approval by the program officer.

Awards may be transferred only with written approval of BWF. Requests must be received at least three months prior to any move explaining why a transfer is requested. Awardees who change institutions may take with them any equipment or supplies purchased under the award, as well as the balance of any unused award funds. Awards, supplies and equipment cannot be transferred to government institutions, for-profits, and some non-profits.

Awardees who want to take a sabbatical year in order to acquire new research skills must submit to BWF a written request that includes appropriate justification.

Scientific publications or presentations that result from these awards must acknowledge the awardee's receipt of a Burroughs Wellcome Fund Investigator in the Pathogenesis of Infectious Disease Award. Copies of journal articles and other publications related to work supported by this award should be sent to BWF along with the annual progress report.

Awardees must adhere to all federal, state or provincial, and local regulations regarding the participation of human subjects, use of animals, radioactive or hazardous materials, and recombinant DNA in their research projects. BWF expects the appropriate federal, state, and local guidelines with regard to scientific misconduct are in place and enforced at all institutions with which BWF awardees are affiliated.

Awardees should share scientific findings in a timely manner via the standard means of scientific communication, including publications and/or presentations in scientific forums. Awardees should follow their institutions' patent, copyright, and intellectual property policies regarding discoveries that result from research conducted under these awards. BWF will not retain any rights to published results or patents that result from the research.

# INSTRUCTIONS ON HOW TO PREPARE AND SUBMIT A COMPLETE PROPOSAL

## Application Process

Applying for this award is a two-stage process:

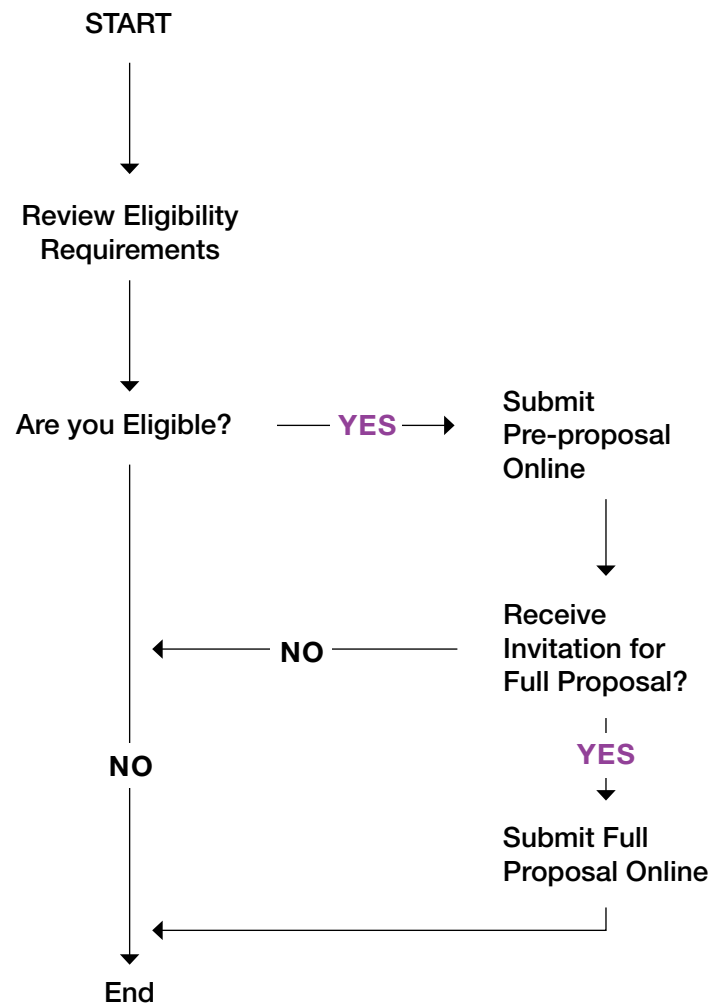
- 1. Pre-proposals.** Interested candidates who meet the eligibility criteria may submit one online pre-proposal through BWF's Internet Grant Application Module (IGAM) by **July 14, 2022 2:00 pm Eastern Time**. Though the pre-proposal is short, it should be well thought out and prepared with care: only a fraction of those submitting pre-proposals will be invited to submit a full proposal.
- 2. Full proposals.** Submission of full proposals will be by invitation only after review of pre-proposals. By October 7, 2022, those who make it to the next round will be invited to submit a full research proposal. Instructions on how to prepare a full research proposal (elements listed below) will be provided by email with the invitation to participate. Full proposals will be due **November 15, 2022 by 2:00 pm Eastern Time**.

All communications, including the invitation to submit a full proposal and declinations, will be made through email.

BWF does not provide critiques of pre-proposals or of full proposals.

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## Application Process Workflow



## How to Submit an Online Pre-proposal Application

To begin a pre-proposal submission use this link: [pre-proposal](#)

First complete the eligibility quiz to determine if you are eligible to apply. If you meet the eligibility criteria, you will be allowed to access the application form.

To return to a pre-proposal already in progress you must use this link: [saved pre-proposal](#)

Applicants should bookmark this page to return to a pre-proposal in progress. Using the first link of the two immediately above will return you to the eligibility quiz. This error does not destroy a started proposal.

## Pre-proposal Elements and Checklist

A complete pre-proposal consists of fields submitted through the online IGAM application plus a single PDF attachment. The detailed components of the complete pre-proposal are shown below.

### Online pre-proposal form – available through IGAM *(see links above)*

- Applicant Information
- Applicant Demographics
- Institutional Information (degree-granting only)
- Signing Official Information (degree-granting only)
- Proposal Information

### Single PDF Attachment:

Prepare in advance the following required documents. Combine and order the supporting materials and upload into one (1) PDF file. Name the file using this format only: LastName, FirstName PATH 2023.

[Download Forms and Templates](#)

### A. Cover Sheet

Name  
Academic Rank at Time of Application  
Education and Training Background  
Project Title  
Keywords  
Anticipated year of promotion

### B. Five Critical Questions

1. What is your proposed research question?  
*(50 words)*
2. Why is the work you propose interesting and important? How will it change our understanding of how disease unfolds?  
*(200 words)*
3. How will you do it? What is your approach?  
*(200 words)*
4. What about your outlook / background / training gives you great insight into this problem?  
*(100 words)*
5. How is this work innovative and different than that supported by your other external funding?  
*(100 words)*

### C. Candidate's Biosketch

The publications section of your CV should, in order, list your educational details in chronological order; then your research publications, with your name in bold type, in chronological order divided into Graduate School, Postdoctoral Fellowship, and Faculty categories; then a list of your reviews, book chapters, and other publications, also in chronological order. The CV should otherwise be typical, listing your education details and funding history.

### D. Institutional Certification

All applicants must submit a completed signed certification form.

### E. Signature Page

Using the template provided, complete the form including signature of the applicant and an authorized signing official of the degree-granting institution.

# INSTRUCTIONS ON HOW TO PREPARE AND SUBMIT A COMPLETE PROPOSAL

## Application Process

**Full proposals.** Instructions on how to prepare a full research proposal (elements listed below) will be provided by email to those invited to submit.

Full proposals are due by  
**November 15, 2022 by 2:00 pm EST.**

Invited Full Proposal Elements:

- Institutional Letter of Support
- Curriculum Vitae (CV)
- Scientific Abstract (one page limit)\*
- Importance\*
- Research Plan (required; 5-page limit)
- Bibliography (required)
- Budget and Budget Justification\*
- Facilities and Resources\*
- Reprints (1 minimum and 3 maximum)
- Recommender's Information Page\*\*
- Signature Page Form\*\*
- Confidential Letters of Recommendation (3)

BWF does not provide critiques of pre-proposals or of full proposals.

\*required template provided

\*\*required form provided

## How to Submit an Online Full Proposal Application

An email will be sent to the invited candidate with a link to the full proposal application. Applicants should bookmark this link to return to the full proposal in progress. The link is **not** on the BWF website.

## Full Proposal Elements and Checklist

A complete full proposal consists of fields submitted through the online Internet Grant Application Module (IGAM) application plus a single PDF attachment. The information in the data fields is carried over from the pre-proposal application, so please make sure the information is correct and update if needed. The detailed components of the complete full proposal are shown below.

### Online full proposal form – available through IGAM (see invitation email)

- Applicant Information
- Applicant Demographics
- Institutional Information
- Signing Official Information
- Proposal Information
- Lay Abstract

### Single PDF Attachment:

Prepare in advance the following required documents. Put the supporting materials in order and combine into a single PDF. Name the file using this format only: **LastName, FirstName PATH 2023 Full App**, then upload the file.

[Download Forms and Templates](#)

#### A. Institutional Letter of Support

The Institutional Letter of Support should be written on behalf of the applicant's institution by the chair, dean, division director, or other senior official who can best communicate the institution's commitment to the applicant and the applicant's fit within the institution's plans and ambitions. **This statement of the institution's investment in and commitment to the applicant's scientific, academic, and personal development is a critical part of a successful application for this career development award.** Letters that lack detail, specificity, or clear enthusiasm for the applicant and his or her career can undermine an otherwise competitive proposal.



- The letter should describe the focus and direction of the institution's research programs that are relevant to the proposed work and discuss how the applicant's research fits into the organization. The letter should also describe all program and institutional support that will be provided for the candidate, including such things as salary support, mentoring for career development, and protection of 75 percent of the grantee's time for research.
- The letter must contain a signature and a signature block and be on institutional letterhead.
- The letter should be forwarded to the applicant for inclusion in the online application.

#### **B. Curriculum Vitae (CV)**

The publications section of your CV should, in order, list your educational details in chronological order; then your research publications, with your name in bold type, in chronological order divided into Graduate School, Postdoctoral Fellowship, and Faculty categories; then a list of your reviews, book chapters, and other publications, also in chronological order. The CV should otherwise be typical, listing your education details and funding history.

#### **C. Scientific Abstract (required template provided)**

Using the Abstract Form provided, describe the proposed work in a Scientific Abstract that is understandable to a multidisciplinary group of scientific reviewers.

#### **D. Importance**

Using the Importance Form provided, describe how the aims presented here depart from or move beyond currently funded work or, if the first substantial Federal grant has not yet been reached, beyond current proposals.

#### **E. Research Plan**

(5-page limit) In no more than five pages (including figures, tables, graphs, and images), describe the Research Plan. It should be a complete, cohesive, and coherent scientific document that is easy to read.

In the order listed below, the plan should describe:

- Specific aims.
- Background and significance.
- Experimental methods and procedures.
- Long-term objectives. If the applicant has received or applied to other sources for extended support to cover research in the area of this proposal, explain in detail how the research to be supported by BWF's award will differ from or enhance the research supported by the other sources.
- Use standard 11- or 12-point font for the text, and no smaller than a 9 to 10-point font for figures, legends, and tables. This requirement will be strictly enforced. Text must be single-spaced, with one-half inch or larger margins on all sides. Number the pages of the research plan. Do not include a table of contents or appendices. A bibliography is a separate required attachment and is not considered part of the five-page limit.

#### **F. Bibliography**

Provide a list of literature references directly relevant to the research plan. The bibliography is not included in the five-page limit for the research plan.

#### **G. Budget and Budget Justification**

Using the Budget Form provided, prepare a budget that explains how the funds will be utilized, to include the following:

- Proposed research expenses in general categories (e.g., equipment, consumable supplies, and travel).
- Summary justification of budget expenses.
- Justification for proposed use of the award for salary support for the applicant (for example, to allow time for mentoring trainees) or for other laboratory or personnel who will work with the applicant.

### **Budget stipulations:**

- No indirect costs may be charged against the grant. Student tuition and student fees are not allowed, but student stipends and benefits for supported trainees are allowed.
- Award recipients are allowed up to \$20,000 per year for their own salary support, including fringe benefits. There is no limit on use of the award for salary support for other laboratory or clinical personnel working with awardees.
- Equipment purchases beyond \$20,000 per year and travel costs beyond \$8,000 per year require written authorization from BWF.

### **H. Facilities and Resources**

Using the Facilities and Resources Form provided, describe the laboratory space, equipment, and other resources for research and training that will be available to the investigator.

### **I. Reprints**

Provide up to three publications or manuscripts submitted for publication that demonstrate the applicant's capabilities and relevant research accomplishments.

- Manuscripts in preparation may not be included, but preprints are allowed. At least one reprint is required and up to three are allowed.

### **J. Recommender's Information page**

#### **Signature Page**

NOTE: This will be a separate attachment upload, NOT part of the combined PDF file. Complete the Signature Form using the template provided. Include signatures of the applicant and an authorized signing official of the degree-granting institution.

**BWF only makes grants to degree-granting institutions. Institutional information and the institution's submission signature must be from a degree-granting institution.**

### **Confidential Letters of Recommendation**

Three confidential Letters of Recommendation from individuals who are familiar with the applicant's qualifications are required.

- At least one letter should come from someone involved in training the applicant.
- One letter must be from a recommender not connected to the applicant's institution or its affiliates.
- Letters of Recommendation should be on letterhead and include a signature block.
- Recommendations must not be viewed by the applicant.
- Each recommender must individually upload their Recommendation Letter in advance of the application deadline for the application to be submitted.
- It is the responsibility of the applicant to ensure that the recommenders have submitted their letters on time. An application cannot be submitted without all three recommendation letters uploaded by the recommenders by the application deadline.
- Letters of collaboration will not be accepted.
- The letter must be converted to PDF and uploaded to your online application by each recommender.

#### **Applicant instructions to obtain confidential letter:**

- 1.** Send an email to your recommender from within the online system (Recommender tab) requesting this letter.
- 2.** The email will contain a link that the recommender must use to log into the system and upload their letter to your proposal.
- 3.** The link is specific and unique to your application and the letter writer.

4. Once the letter has been uploaded by your recommender, it will be displayed as an uploaded file on the “Attachments” tab in the applicant’s online application.
5. Letters are confidential and should not be viewed by the applicant. You will only be able to see that the letter has or has not been uploaded to your application.

*Note: Recommendation letters sent separately or after the application due date will not be accepted.*

**Recommender instructions to submit confidential letter:**

- Complete your letter offline using any standard word processing software.
- Convert the document to a PDF file. Save the letter as a .pdf file on your system.
- Return to the applicant’s email request and click on the web link which will take you to a log-in page on BWF’s grant application system. Log in using the same email address at which you received the request from the applicant. Retain this log-in information in the event you wish to “reload” a revised letter at a later date.
- Select the title: “Letters of Recommendation” from the drop down list provided on the page.
- “Browse” to select the letter from your system which will populate the “File Name” field.
- Click the “Upload” button.
- Click the “Finished” button.
- View the acknowledgment thanking you for your submission.
- If you have problems with the email link, copy and paste the entire link into your web browser. Be certain you are entering the correct email address to log in to the site.
- Once your letter has been uploaded, the applicant will be able to see whether or not your letter has been submitted, but cannot view the content of the letter.
- An application **CANNOT BE SUBMITTED** until the recommendation letters have been uploaded and attached to the application. Please submit your letter **BEFORE** 2:00 pm EST on the grant deadline, November 15th, 2022. The full proposal application cannot be submitted unless all three recommendation letters are received in advance of the deadline.

## Submission Process

Upload a single, combined pdf file containing all of the supporting documents to the “Attachments” tab of the online application. Click the “Review Your Application” option on the Attachments tab to see if any errors are identified in your application. If the “SUBMIT” button does not become available, check your work. All information must be provided before the “SUBMIT” button is available. Click the “SUBMIT” button to transmit the application. An automated message will confirm that the application was successfully submitted. If you do not receive a confirmation email, your application has not been successfully submitted.

### Note:

Full proposals will not be accepted after 2:00 pm EST on November 15, 2022. The online application system shuts down automatically at the deadline and the “SUBMIT” button will no longer be available. Recommenders should upload their letters well in advance of the deadline to allow ample time to troubleshoot any issues. Applicants, too, should plan to submit applications well in advance of the grant deadline to allow adequate time to troubleshoot any issues. NO EXCEPTIONS OR EXTENSIONS WILL BE GRANTED.

After the deadline, applicants with incomplete proposals and those not adhering to instructions will be disqualified.

Only full proposals submitted through BWF online application website IGAM will be accepted.

## Questions?

Please review our online [Frequently Asked Questions](#) first. Questions should be directed in advance to BWF program staff by contacting:

Victoria McGovern, Ph.D., Senior Program Officer  
[vmcgovern@bwfund.org](mailto:vmcgovern@bwfund.org), 919-991-5112

Darcy Lewandowski, Program Associate  
[dlewandowski@bwfund.org](mailto:dlewandowski@bwfund.org), 919-991-5132