

# CAREER AWARDS AT THE SCIENTIFIC INTERFACE (CASI)

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**Pre-proposal deadline:**

September 4, 2019

**Invited full proposal deadline:**

January 8, 2020

BURROUGHS  
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FUND 

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# KEY DATES

<b>Grant application portal available</b>	By July 1, 2019
<b>Pre-proposal applications due</b>	September 4, 2019
<b>Invitation to submit a full proposal</b>	By November 22, 2019
<b>Full proposal due</b>	January 8, 2020, 4:00 pm EST
<b>Finalist in-person interviews</b>	April 29-30, 2020
<b>Notice of award</b>	By May 30, 2020
<b>Award start date</b>	July 1, 2020
<b>Award end date</b>	June 30, 2025

# PROGRAM BACKGROUND

Recognizing the vital role cross-trained scientists will play in furthering biomedical science, the Burroughs Wellcome Fund developed the Career Awards at the Scientific Interface. These grants are intended to foster the early career development of researchers who are dedicated to pursuing a career in academic research. The specific target group are researchers who have transitioned from graduate work in the physical/mathematical/computational sciences or engineering into postdoctoral work in the biological sciences.

## Career Awards at the Scientific Interface (CASI)

BWF's Career Awards at the Scientific Interface (CASI) provide \$500,000 over five years to bridge advanced postdoctoral training and the first three years of faculty

service. These awards are open to U.S. and Canadian citizens or permanent residents as well as to U.S. temporary residents.

Scientific advances such as genomics, quantitative structural biology, imaging techniques, and modeling of complex systems have created opportunities for exciting research careers at the interface between the physical/computational sciences and the biological sciences. Tackling key problems in biology will require scientists trained in areas such as chemistry, physics, applied mathematics, computer science, and engineering.

Prior to 2010, candidates for this award were nominated by North American degree-granting institutions. Since 2010, eligible candidates for this award may self-nominate.

# ELIGIBILITY REQUIREMENTS

To understand the expectations of the Career Awards at the Scientific Interface program, it is important to read the eligibility requirements below, in addition to the proposal elements, terms of grant, and selection criteria prior to taking the eligibility quiz.

The FAQs may also provide eligibility clarification.

Candidates are expected to draw from their training in a scientific field other than biology to propose innovative approaches to answer important questions in the biological sciences. Examples of approaches include, but are not limited to, physical measurement of biological phenomena, computer simulation of complex processes in physiological systems, mathematical modeling of self-organizing behavior, building probabilistic tools for medical diagnosis, developing novel imaging tools or biosensors, developing or applying nanotechnology to manipulate cellular systems, predicting cellular responses to topological clues and mechanical forces, and developing a new conceptual understanding of the complexity of living organisms. Proposals that include experimental validation of theoretical models are particularly encouraged.

In addition:

- Candidates must hold a Ph.D. degree in one of the fields of mathematics, physics, chemistry, computer science, statistics, or engineering. This includes related areas of physical, mathematical, computational, theoretical, and engineering science. Exceptions will be made only if the applicant can demonstrate significant expertise in one of these areas, evidenced by publications, undergraduate major, or master's degree.
- Candidates whose Ph.D. is in biochemistry/biophysics/biology/cell biology/etc. may be eligible if significant accomplishment or competence in one of the areas of mathematics, physics, chemistry, computer science, statistics, or engineering can be shown (i.e., papers published, advanced coursework, or undergraduate major), and if the proposal draws on that background. Work must be interdisciplinary and make use of non-biological approaches.
- Candidates who hold an M.D. are eligible to apply if they hold both an M.D. and a Ph.D., and the Ph.D. is in one of the fields of mathematics, physics, chemistry, computer science, statistics, or engineering. This includes related areas of physical and computational science. Exceptions will be made only if the applicant can demonstrate significant expertise in one these areas, evidenced by publications, undergraduate major, or master's degree. In addition, the applicant cannot have spent more than 60 months in postdoctoral research since receipt of terminal degree. If the candidate holds an M.D. without also holding a Ph.D., the candidate is not eligible to apply to this program.
- Candidates who meet the other eligibility criteria must demonstrate that their work is truly interdisciplinary.
- Candidates must have completed at least **12 months but not more than 60 months** of postdoctoral research by the date of the full invited application deadline. Post Ph.D work experience in any scientific research field (including outside academia) cannot exceed 60 months. However, if a portion of the post Ph.D. work timeline was not in a science research field, and the total scientific work experience does not exceed 60 months, the candidate may be eligible but must gain prior approval from the BWF program officer. **No exceptions** to this requirement will be made.
- Candidates who are not titled "postdoctoral" fellows may be eligible if (1) work experience equals at least 12 months, but not more than 60 months of postdoctoral research experience, including time as, for example, a research associate, or non-tenure track research faculty, and (2) all other eligibility requirements are met.

- Candidates **cannot** hold nor have accepted, either in writing or verbally, a faculty appointment as a tenure-track assistant professor at the time of application –both pre-proposal and full application. This award cannot be made to a tenure-track faculty member because it is a transition award. If a faculty position is accepted after the full application deadline, the candidate may not start the new position until after the start date of the award.
- Candidates must be committed to a full-time career in research as an independent investigator at a North American degree-granting institution.
- Candidates must have at least one first-author publication, including papers on which “first authorship” is shared. Candidates who have submitted a first-author manuscript from graduate or undergraduate studies, but it has not yet been published, may apply if the manuscript is accepted for publication or in press.
- Candidates must be based at a non-profit *degree-granting* institution [501(c)(3) or equivalent] in the U.S. or Canada. A 501(c)(3) organization is an American tax-exempt, nonprofit organization. Candidates should check with institutional officials to confirm the institution’s classification.
- Candidate’s primary postdoctoral mentor must also hold an appointment at the same accredited, degree-granting institution in the U.S. or Canada. Two postdoc mentors are permitted; one must be designated as the primary mentor who will sign off on the pre-proposal application form. Mentors or institutions may not be changed after submitting a pre-proposal. Candidates moving to a new institution after submitting the pre-proposal will not be able to submit a full application, even if invited to do so.
- 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). If a grant is awarded and the candidate’s visa does not allow for such a stay, BWF may terminate the grant. BWF will not intercede on behalf of non-citizens whose stay in the U.S. may be limited due to their visa status. If invited to submit a full application, the postdoctoral institution must verify the candidate’s immigration status as part of the application.
- Candidates must not hold nor have accepted a K99 award from the U.S. National Institutes of Health.
- Candidates may apply from the U.S. National Institutes of Health (NIH) or HHMI’s Janelia Farm Research Campus, with the same restrictions listed above. The NIH/Janelia Farm will support these award recipients during the postdoctoral years, and BWF will support them for the faculty portion of the award only, for a total of \$360,000.
- Candidates with a K01 award from the NIH may apply for this award as long as they meet all the remaining criteria, however, if granted a CASI award, the NIH will need to fund the postdoc portion and BWF will only fund the faculty portion of the award.
- Candidates may not submit more than one pre-proposal.

## IMPORTANT NOTES

- BWF strongly encourages applications from women and persons from underrepresented groups, including Blacks or African Americans, Hispanics or Latinos, Native Americans, Alaskan Natives or Native Hawaiians.
- In determining eligibility, candidates may use either their Ph.D. defense date (or M.D. for M.D./Ph.D.) or the date their degree was conferred by the institution.
- Candidates who are postdocs at an independent research institute may be eligible if the research institute is a non-profit institution (501(c)(3) or equivalent) in the U.S. or Canada and the primary postdoctoral mentor holds an appointment at an accredited, degree-granting institution in the U.S. or Canada. If both criteria are met, the candidate is eligible to apply but must apply through the degree-granting institution. With the exception of eligible postdoctoral fellows at the National Institutes of Health, pre-proposals will not be accepted from federal facilities. These policies are non-negotiable.
- Grants can only be made to non-profit degree-granting institutions [501(c)(3) or equivalent] in the U.S. or Canada on behalf of the award recipient.
- Award recipients are required to devote at least 80 percent of their time to research-related activities.
- Indirect costs may not be charged against BWF grants.

**Candidates with questions about their eligibility must contact BWF in advance of the proposal deadline. BWF will make no exceptions to its policies.**

## SELECTION PROCESS

The [Interfaces in Science Advisory Committee](#) will review all pre-proposals, select candidates to invite for submission of full applications, interview finalists, and make recommendations for awards to the [BWF Board of Directors](#).

Selection will be based on:

- Depth and rigor of training in a scientific discipline other than biology.
- Importance of biological questions identified in the proposal, and innovation in the approaches chosen to answer them. Candidates should present clear evidence of already beginning to tackle a biological problem.
- Interdisciplinary nature of the research plan, the degree to which non-biological methods are integrated, and the degree to which the proposed work will open new fields of inquiry.
- Potential of candidate to establish a successful independent research career, evidenced by productivity during the postdoctoral period prior to application.
- Quality of proposed collaborations.
- All eligibility requirements having been met.

Candidates selected to submit a full application will be notified by November 22, 2019. The full application deadline is January 8, 2020.

Candidates not selected may reapply in the next award cycle, provided they meet the eligibility requirements.

**BWF does not provide critiques of unfunded proposals.**

# TERMS OF GRANT/ USE OF FUNDS

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

BWF's Career Awards at the Scientific Interface (CASI) provide \$500,000 over five years to bridge advanced postdoctoral training and the first three years of faculty service. These awards are open to U.S. and Canadian citizens or permanent residents as well as to U.S. temporary residents.

Grants are made to institutions on behalf of the named award recipients. The institutions must qualify as a degree-granting 501(c) (3) and the institution's most current Tax Determination Letter must be on file with the Burroughs Wellcome Fund (BWF). The institutions are responsible for disbursing the funds and for maintaining adequate supporting records and receipts of expenditures.

Award recipients must provide BWF with an annual progress report, and institutions must provide an annual financial report, using forms provided by BWF. 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 the same or similar areas as that conducted under these grants, so long as there is no conflict with meeting the terms of BWF's award. Award recipients may not hold concurrent BWF awards or NIH K99/R00 awards.

The support allocated for research is under the control of the award recipient and may be used flexibly for such items as equipment, consumable supplies, travel to scientific meetings, and laboratory personnel working with the award recipient. Prior approval by BWF is required when, within an award year, purchases of equipment exceed \$20,000 or travel costs exceed \$8,000.

During the award period, unused research funds may be carried over to the succeeding year. Unused funds greater than \$500 held by institutions when grants expire or are terminated must be returned to BWF. Award recipients may receive a no-cost extension up to the time they are reviewed for tenure; requests explaining why an extension is needed must be submitted in writing at least four months prior to the end of the award.

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.

BWF acknowledges that most postdoctoral fellows will receive offers from and will move to new institutions to begin their independent research careers; therefore, this award is "portable." Written approval from BWF is required, however, in order for the grant to be transferred to the new institution. Requests must be received at least four months prior to any move, and approval will be based on whether the move will enhance the award recipient's scientific growth and development, and whether the hiring institution demonstrates adequate commitment to the award recipient's career. Award recipients who change institutions may take with them any equipment or supplies purchased under the award. The balance of any unused award funds will need to be sent back to BWF and then will be transferred to the new institution.

When hiring a BWF award recipient to a tenure-track faculty position, the hiring institution must state in writing its intention to support an application for permanent residency if requested by the award recipient and if the permanent residency would take effect during the period of employment by the institution.

BWF prefers that award recipients do not move from one institution to another during their three years of faculty service. Special training opportunities that require faculty-level award recipients to spend up to a year away from their base institution may be considered; award recipients must submit to BWF a written request that explains why the training is needed.

Scientific publications or presentations that result from these awards must acknowledge the award recipient's receipt of a Burroughs Wellcome Fund Career Award at the Scientific Interface. Copies of journal articles and other publications should be sent to BWF along with the annual progress report.

Award recipients should follow their institutions' patent, copyright, and intellectual property policies regarding discoveries that result from research conducted under these awards. Award recipients are expected to adhere to all federal, state, and local regulations regarding the participation of human subjects, and the use of animals, radioactive and hazardous materials, and recombinant DNA in their research projects. BWF expects that appropriate federal, state, and local guidelines with regard to scientific misconduct are in place and enforced at all institutions with which BWF award recipients are affiliated.

Award recipients should share scientific findings in a timely manner via the standard means of scientific communication, including publications and/or presentations in scientific forums. BWF encourages, but does not require, that awardees publish in open access journals. BWF will not retain any rights to published results, intellectual property, 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 will need to submit one online pre-proposal through BWF's Internet Grant Application Module (IGAM) by **September 4, 2019, 4:00 pm EDT**. The grant application portal will be available by July 1, 2019. In brief, the pre-proposal includes applicant information (to be completed within the grant portal), a pre-proposal form with a lay abstract and required signatures, and a confidential primary postdoctoral mentor letter of recommendation.
- 2. Full proposals.** Submission of full proposals will be *by invitation only* after review of pre-proposals. By November 22, 2019, a selected group of applicants will be invited to submit a full application. 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 **January 8, 2020 by 4:00 pm EST**.

Invited Full Proposal Elements:

- Graduate Advisor Recommendation Letter (confidential)
- Signature Page Form (template)
- NIH Biosketch
- Personal Statement (1-page limit, template)
- Scientific Abstract (1-page limit, template)
- Research Plan (6-page limit)
- Bibliography (optional)
- Submitted Reprints (1 required, 2 optional)
- Collaboration Statements (2 optional)
- Institutional Certification Form (template)

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

BWF does not provide critiques or written comments of unfunded proposals.

## How to Submit an Online Pre-proposal Application

To begin a pre-proposal submission on or after July 1st use this link: [pre-proposal](#)

First complete the eligibility quiz to determine eligibility. If all eligibility criteria are met, access will be granted to the application form.

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

It is recommended that applicant bookmark this page to return to a pre-proposal in progress. Using the first link of the two immediately above will restart the eligibility quiz and would cause duplicate applications.

## Pre-proposal Elements and Checklist

All proposals must be submitted through the Burroughs Wellcome Fund Grant Application System IGAM application including a single uploaded PDF attachment, and a confidential recommendation letter to be uploaded by applicant's primary postdoctoral mentor.

Note that it is the responsibility of the applicant to ensure that the confidential letter is submitted by the deadline due date. Each element of the proposal must be completed before the application can be submitted, and an application will not be considered complete without this confidential recommendation letter.

Proposals that are not in compliance with instructions will be rejected out of fairness to all applicants.

All attachments must be uploaded as Adobe Portable Document Format (PDF) files.

The following supporting materials are required (All documents must have a minimum 11 point font with one-inch margin.)

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

- Applicant Information
- Applicant Demographics
- Institutional Information (degree-granting only)
- Proposal Information
- List of Publications
- Lay Abstract

## Confidential Recommendation Letter from Primary Postdoctoral Mentor (required)

- The letter must be converted to PDF and uploaded to the on-line application by the candidate's primary postdoctoral mentor by the application deadline.

### Applicant instructions to obtain confidential postdoc mentor letter:

1. Use the online system (Recommender tab) to send an email to the postdoc mentor requesting a letter.
2. The email will contain a link that the recommender must use to log into the system and upload his/her letter to the pre-proposal.
3. The link is specific and unique to the application and the letter writer.
4. Once the letter has been uploaded by the recommender, it will be displayed as an uploaded file on the "Attachments" tab in the applicant's online application.
5. Letters are confidential and cannot be viewed by the applicant. The candidate will only be able to see that the letter has or has not been uploaded to their application.

### Note:

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

### Recommender instructions to submit confidential letter:

- Complete the letter offline using any standard word processing software.
- Convert the document to a PDF file. Save the letter as a .pdf file.
- Return to the applicant's email request and click on the web link which will direct to a log-in page on BWF's grant application system. Log in using the same email address at which the request from the applicant was received. Retain this log-in information in the event a revision is necessary at a later date.
- Select the Title: "Letters of Recommendation" from the drop down list provided on the page.
- "Browse" to select the letter to populate the "File Name" field.
- Click the "Upload" button.
- Click the "Finished" button.
- View the submission acknowledgement screen.
- If there are problems with the email link, copy and paste the entire link into a web browser. Be certain the correct email address is being used to log into the site.
- Once the recommendation letter has been uploaded, the applicant will be able to see if the 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 by the grant deadline.

### Note:

It is a good idea for the candidate to copy and paste these recommender instructions in a separate email when requesting a letter from the primary postdoctoral mentor to ensure accuracy and timely submission.

### To upload a revised letter:

- Retrieve the initial email and web link originally provided by the applicant.
- Using the same email address, log in and access the “Recommender” page.
- Check the “Remove” box next to the html link for the initial letter.
- Click the “Remove” button.”
- “Browse” for the revised letter (.pdf file).
- Click “Upload.”
- Click the “Finished” button.
- View the acknowledgment that the letter has been submitted.

### Pre-proposal Form:

The pre-proposal form must be completed and uploaded as an attachment to the pre-proposal application.

[pre-proposal form](#)

Two signatures are **required** on the pre-proposal application form: (1) the applicant’s signature, and (2) the primary postdoctoral mentor’s signature. E-signatures are accepted on the form; typed names are not accepted.

- The completed, signed form must be uploaded to the pre-proposal application in the “attachments” section of the application. **Use the following naming convention for the file: Last Name, First Name, CASI Preproposal.** Be sure to save a copy of the completed form for recordkeeping. The primary postdoctoral mentor must check the three boxes just above his/her signature.
- The completed, signed pre-proposal form should be uploaded to the pre-proposal on the “Attachments” page of the online application by the deadline.

### Note:

Do not include a cover letter or supplemental materials. If extra materials are included, the pre-proposal application will be rejected out of fairness to all applicants.

## Submission Process

Click the “Review Your Application” on the Attachments tab to see if any errors are identified. 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.

### Note:

Pre-proposals will not be accepted after 4:00 pm EDT on September 4, 2019. The online application system shuts down automatically at the deadline and the SUBMIT button will no longer be available. Plan to submit the application 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 pre-proposals and those not adhering to instructions will be disqualified without prior notice.

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

It is the responsibility of the applicant to ensure that the confidential recommendation letter has been uploaded to their application and submitted by the deadline. Late submissions will not be accepted.

### Questions?

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

Melanie Scott, Senior Program Associate  
[mescott@bwfund.org](mailto:mescott@bwfund.org), 919-991-5107

Kendra Tucker, Senior Program Assistant  
[ktucker@bwfund.org](mailto:ktucker@bwfund.org), 919-991-5129

## Postdoc to Faculty Transitioning Information

### The Postdoctoral/Fellowship Portion of the Award

Career Awards at the Scientific Interface provide the following levels of support during the postdoctoral/fellowship portion of the award:

**Year 1:** \$70,000

**Year 2:** \$70,000

- Should last a minimum of one year and a maximum of two years.
- Provides maximum salary support of \$50,000 in year one and \$55,000 in year two. Awardee salary may be supplemented from other sources. BWF expects that support must meet or exceed the NIH pay scale appropriate to the trainee's level of experience. BWF does not set or cap the salary level of its awardees, nor does it require a minimum amount of the award be used for salary.
- Requires that any equipment purchased by the award recipient be transferable to the institution providing the faculty appointment.
- Encourages award recipients to use funds for advanced course work in biology (at any institution). Applicants should present a training plan in the proposal if they intend to use award funds for this purpose.
- Allows the unpaid balance of the postdoctoral portion of the award to be added to the faculty portion of the award if an award recipient moves to a faculty position in less than two years.

### The Faculty Portion of the Award

The award provides the following levels of support during the faculty portion of the award:

**Year 3:** \$120,000

**Year 4:** \$120,000

**Year 5:** \$120,000

- Will be \$500,000 minus the portion used during the postdoctoral year(s).
- Normally will be five years minus the postdoctoral portion of the award.
- Allows no more than 50 percent of the awardee's salary to be charged to the grant. BWF does not set or cap the salary level of its awardees, nor does it require a minimum amount of the award be used for salary.
- Allows awardees demonstrating adequate progress to be granted no-cost extensions up to the time they are reviewed for tenure.

## Salary and Fringe Benefits

- If an institution's salary scale for the position is higher than the salary amounts provided by the award, then the institution must supplement the awardee's salary.
- It is anticipated that institutions will make a contribution to the awardee's salary to maximize the amount that can be used for research.
- 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.
- The balance of the award is to be used to cover research expenses, at the discretion of the award recipient. These funds may be used flexibly for items such as equipment, consumable supplies, travel to scientific meetings, or laboratory personnel.

## Faculty Appointments

- Most award recipients will accept a faculty position at a different institution.
- Before approving the faculty portion of the award, BWF requires the hiring institution to make a significant commitment to the award recipient's career development as represented by the financial and professional situation offered.
- BWF strongly prefers tenure-track faculty appointments, accompanied by salary support and support for starting up a laboratory or research group.
- If an award recipient chooses to accept a faculty position at a research institute, the research institute must be closely affiliated with a degree-granting institution, and the degree-granting institution must offer the award recipient a joint tenure-track faculty position with some commitment to the award recipient. Funds are awarded to the degree-granting institution.
- If the institutional commitment to the award recipient is deemed inadequate, BWF reserves the right to terminate the faculty portion of the grant.
- Award recipients must be given the opportunity to take an adjunct or joint appointment in a second department, if desired.
- The institution must name at least one tenured faculty member in a discipline complementary to the award recipient's primary discipline who is willing to serve as a faculty mentor.