



2009

Institutional Program Unifying Population and Laboratory Based Sciences

New institutional training awards to stimulate new connections between the population and computational sciences and the laboratory based biological sciences

Providing support for graduate-training programs at degree-granting U.S. and Canadian Institutions

Deadlines:

Letter of Intent: March 3, 2008

Application (by invitation only): May 15, 2008

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Program Background

The Burroughs Wellcome Fund's Institutional Program Unifying Population and Laboratory Based Sciences is a new institutional training award created to bridge the gap between the population and computational sciences and the laboratory based biological sciences. The award will stimulate formation of new connections between existing concentrations of research strength in population approaches to human health and in bench based biological sciences. The goal is to establish training programs that partner researchers working in schools of medicine and schools (or academic divisions) of public health. With those required institutional partners in place, programs have the freedom to involve a diverse range of other potential partners including those working in international settings, industrial settings, national laboratories, laboratories of federal agencies, quantitative population research groups outside of the life sciences (examples include but are not limited to econometrics, demographics, applied mathematics, anthropology, and other fields not typically represented by departments within medical centers.) The programs supported by these awards will develop young researchers who will be equally at home with the ideas, approaches, and insights generated at the molecular scale and at the population scale. Such programs may be free-standing graduate programs or newly defined tracks within existing programs. Trainees of such programs may bring new approaches to combining genomics with phenomics, addressing questions of population genetics, understanding molecular and environmental epidemiology, and a range of other issues important to understanding human health and its disruptors.

Program

These institutional training awards provide \$500,000 a year for five years. We anticipate that up to four awards will be made in the program's first round. This program will be offered again in 2009.

Understanding human health will be a focal priority for the programs that are funded. There is ample room for building on institutional strengths to achieve this focus, for example: institutional interests in chronic diseases, autoimmune diseases, infectious diseases, genetic diseases, toxicology and environmental exposures, reproductive health, and other areas where questions relating to human health are ripe for exploration at both the population and molecular scales. Likewise, institutional strengths in applied mathematics and modeling, statistics, genomics, bioinformatics and other informatics and data-driven sciences including geography and demographics, and phenomic approaches could provide excellent foundations for programs that encourage such work, as would strengths in population biology; epidemiology; human or disease ecology, anthropology, econometrics, and other population-focused quantitative fields.

Supported programs will train graduate students to the Ph.D. level, but programs may *additionally* propose giving training access to postdoctoral fellows, medical students, medical residents, masters students, undergraduates, or other kinds of trainees. Some examples of problems where such an approach would be beneficial include but are not limited to:

- multifactorial disease processes
- evolution of and relationships between host, pathogen, vector, and reservoirs
- biomarker identification and validation
- effects of environmental exposure to toxins, allergens, and immunogens

The deadline for electronic receipt of **letters of intent is March 3, 2008**. The deadline for electronic receipt of **full applications (by invitation only) is May 15, 2008**. Award recipients will be notified and announced in November 2008, and grants will begin in February 2009.

Guidelines

- Degree-granting institutions in the U.S. or Canada may submit applications.
- Proposals must be driven by core components within medical and public health schools, but beyond those required components, departments or centers located within non-medical parts of a university, existing inter-institutional collaboratives, research museums, free-standing research institutes, and other non-profit institutions that provide advanced-level training are all acceptable as potential additional partners. Dental, osteopathic, and veterinary medical schools are appropriate applicants.
- Comparative medicine and animal science departments are advised to discuss their planned proposal with the BWF program officer to ensure that their proposal will be human-focused enough to be competitive.
- Proposals that cross institutional boundaries are encouraged.
- Research groups working at national laboratories and within the federal government are allowable as partners, but funding to students doing research within these institutions must be channeled through an appropriate degree-granting institution.
- For-profit companies may not participate in the application, but could be valuable partners in such training programs. Proposals that may offer students access to research opportunities involving work in or data from the for-profit sector are welcome.

Selection

Selection will be based on the quality, innovation, and logic of the proposed training program and its relevance to the goals outlined in this request for proposals; the capacity of the proposed program to bring established investigators with disparate research approaches together in a lasting and meaningful way so that they can provide stable training environments; the feasibility of plans for interactions between and among students and faculty; the program's plan for recruiting excellent students; the track records of the participating groups for producing well trained graduates in a timely manner; and the quality of the proposing group's plans for implementing and evaluating the program and for maintaining the program beyond the term of this award.

Application Instructions

General Information

BWF requires ALL letters of intent and full applications for this program to be submitted electronically. **Applications not submitted electronically will not be reviewed.** The electronic application is submitted through proposalCENTRAL, a web-based grant application system developed and hosted by Altum. For further details, see links provided on BWF's website www.bwfund.org.

All documents required must be submitted to complete the application and must be uploaded to proposalCENTRAL as Adobe Portable Document Format (PDF) files.

Application Sections

Letter of Intent

Grant Application/Signature Page

- Not all data fields will be used.
- Information on this form is obtained from the following sections on proposalCENTRAL:
 - Title Page
 - Applicant Information (an applicant is the co-director whose institution will administer the award)
 - Nominating Institution & Contacts
 - Co-directors Contact Information
- Applicants must obtain relevant signatures for the Grant Application/Signature Page Form.

Proposal for Letter of Intent (LOI)

- Abstract (400 words or less)—Summarize the proposed training program, including its proposed scientific focus, the special value to be gained by its cross training of students, and the desired outcome for those trained by

the program. Include the title of the proposal as well as the names of co-directors to be located at each of the participating departments or groups. A template is provided on proposalCENTRAL and must be uploaded as a PDF file.

- Biosketch/CV—A biosketch/CV of the population sciences director and one of the laboratory based biological sciences director must accompany the letter of intent. A NIH-style biosketch template is provided and should not exceed four pages. Both biosketches must be uploaded as PDF files.

The Grant Application/Signature Page Form, the abstract, and the biosketches must be **electronically submitted by 4:00 p.m. Eastern Time, March 3, 2008**. A full application is by invitation only. We expect that most institutions submitting a letter of intent will be invited to submit full applications.

Full Application

Grant Application/Signature Page Form

- Upload the Grant Application/Signature Page Form.

Abstract

- Upload the abstract that was submitted with the letter of intent.

Biosketches

- Provide imaginary biosketches describing the background, training, and future career pathways of three "typical" trainees from the proposed program.

Budget

- Include costs for: training (number of students and costs per student); career development; co-directors and program administrators. A template is provided.

Evaluation Plan (one page)

- Provide plans for short-term and long-term evaluation of the program's outcomes, especially at training students who will bridge the gaps between the involved fields. A template is provided.

Institutional Proposal (up to seven pages)

Upload proposal that includes:

- Rationale/vision for the training program, including why the involved groups are uniquely suited for training students to take on the problem that is the program's focus.
- Program placement, including how the proposed program fits into the overall strategy of the involved institution(s) and how the program will be administered, including financially.

- Student experience, including strategies for recruiting and training students, core curricula, advanced courses, journal clubs, informal educational opportunities, and shared mentoring. Included should also be a description of the structure and focus of qualifying exams and how they will differ from those of students taking more traditional paths. Proposals should specifically address strategies for training students as true cross-disciplinary scientists fully skilled at both of the disciplines in which they have trained.
- Institutional commitment(s), including plans for long-term program evaluation and continuation.

Letters of Support

- Upload letters from chairs of each department involved in the collaboration spelling out commitment to the program and resources available. These letters should also detail how the proposed program fits into the department's and institution's overall plan and priorities and provide details of other support available or intended for the program.
- Multi-institutional proposals should also include letters from dean-level authorities at each member institution providing detailed descriptions of the institutions' commitments to the program, relevant past history (if any) of inter-institutional collaborations, and resources available.

Roster

- Include a roster of scientists involved in the proposed collaboration, highlighting among them those that have agreed to serve as mentors for students.

Timeline and Plan (not more than two pages)

- Submit a clear timeline and plan for the proposed program's launch, recruitment of faculty involvement, recruitment of students, and development of the program over time. A template is provided.

Training Plan (not more than four pages)

- Provide a plan for training that, among its other features, will connect students formally with a faculty member from at least one population based and one laboratory based approach involved in the partnership. Students must be truly co-mentored, not trained in one discipline with input from the other. A template is provided.

Successful budget proposals must communicate how the proposed program will stimulate development of lasting ties between institutions, departments, or centers which may have different cultures, expectations of their graduate students, and expectations of the student/faculty relationship. Proposals must make very clear how the graduate education offered through the program will shape a true, deep understanding of the involved population and basic science approaches. Of particular concern is that students trained between two disciplines may emerge unprepared for a productive academic career in either. Successful proposals will provide a convincing argument that the proposing institute's trainees will avoid this. Student experiences in such programs should include both intellectual training and active working use of ideas, techniques, and technologies from both approaches to bridge the gap between them.

Using proposalCENTRAL

Applicants (co-director whose institution will administer the award) MUST register on proposalCENTRAL. If a professional profile has already been created, then the applicant must verify the information for accuracy.

Applicants are NOT required to complete the online application in one sitting. The application may be accessed and changed multiple times as needed prior to the application deadline. However, once the deadline has passed, the application cannot be changed.

Assistance with Applications

Applicants are strongly encouraged to first read the descriptive program, general instructions, and application materials, including the FAQs which all can be found on the Burroughs Wellcome Fund website www.bwfund.org. If there are remaining questions, the Burroughs Wellcome Fund staff is available to assist you. For questions regarding eligibility, policies, and terms and conditions for this program, contact:

Victoria McGovern, Ph.D., Senior Program Officer
Email: vmcgovern@bwfund.org
Phone: 919.991.5112

or

Jean Kramarik, M.S., Senior Program Associate
Email: jkramarik@bwfund.org
Phone: 919.991.5122

For help with the electronic application process, contact:
proposalCENTRAL Help Desk
Email: pcsupport@altum.com
Phone: 800.875.2562 x227
301.916.4557 x227

Completing the Application

Applications must be completed electronically via proposalCENTRAL and include the sections below.

Sections Requiring Data Entry

- ☐ Title Page
- ☐ Applicant Information
- ☐ Institution and Contacts
- ☐ Co-Directors Contact Information

Sections Requiring Upload of Attachments

- ☐ Abstract (400 words or less)
- ☐ Biosketch (co-directors/typical trainee)
- ☐ Budget

- ☐ Evaluation plan (one page)
- ☐ Institutional Proposal (up to seven pages)
- ☐ Letters of Support
- ☐ Roster of Involved Scientists
- ☐ Timeline and Plan (two pages)
- ☐ Training Plan (four pages)

Section Requiring Printing and Uploading

- ☐ Signature Page form (original signatures and the page with contact information)

For in-depth application instructions visit our website:

www.bwffund.org

Terms

Awards are made to institutions. The institutions are responsible for disbursing the funds and for maintaining adequate supporting records and receipts of expenditures. BWF does not support indirect costs. Salaries of support personnel and materials appropriate to administering the program should be included as direct costs.

Institutions must provide BWF with an annual progress report detailing scientific or organizational progress and mentoring activities. Institutions must provide an annual financial report. Both reports must be submitted (on forms that are on our website at www.bwffund.org) within 30 days of the end of each award year. Continued funding will depend on the favorable review of these reports by BWF and its program advisory committee.

During the award period, unused research funds may be carried over to the succeeding year. Any unused funds (greater than \$500) held by institutions when awards expire or are terminated must be returned to BWF, unless BWF has granted prior permission to retain the funds. Institutions may receive a no-cost extension of up to 24 months; requests explaining why an extension is needed must be submitted in writing at least three months prior to the end of the award.

Scientific publications or presentations that result from these awards must acknowledge the institution's receipt of a Burroughs Wellcome Fund Institutional Program Unifying Population and Laboratory Based Sciences award. Copies of journal articles and other publications should be sent to BWF along with the annual progress report.

BWF will not retain any rights to published results or patents that result from the research. Awarded programs should follow their institutions' patent, copyright, and intellectual property policies regarding discoveries that result from research conducted under these awards.

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

Scientific findings should be shared in a timely manner via the standard means of scientific communication, including publications and/or presentations in scientific forums.

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Director, Biomolecular Systems
Pacific Northwest National Laboratories

E. Lynn Zechiedrich, Ph.D.

Associate Professor
Baylor College of Medicine

Note: Additional advisory committee members will be added.

Burroughs Wellcome Fund

The Burroughs Wellcome Fund is an independent private foundation dedicated to advancing the medical sciences by supporting research and other scientific and educational activities. Within this broad mission, BWF seeks to accomplish two primary goals—to help scientists early in their careers develop as independent investigators, and to advance fields in the basic medical sciences that are undervalued or in need of particular encouragement.

BWF's financial support is channeled primarily through competitive peer-reviewed award programs, which encompass five major categories—biomedical sciences, infectious disease, interfaces in science, translational research, and science education. BWF makes grants to degree-granting institutions on

behalf of individual researchers, who must be nominated by their institutions. To complement these competitive award programs, BWF also makes grants to nonprofit organizations conducting activities intended to improve the general environment for science.

BWF is governed by a board of directors composed of distinguished scientists and business leaders. BWF was founded in 1955 as the corporate foundation of the pharmaceutical firm Burroughs Wellcome Co. In 1993, a generous gift from BWF's sister philanthropy in the United Kingdom, the Wellcome Trust, enabled BWF to become an independent foundation. BWF is not affiliated with any corporation.

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Other Program Deadlines

Career Awards at the Scientific Interface

Fostering the early career development of researchers with backgrounds in the physical/mathematical/computational sciences whose work addresses biological questions.

Application deadline for 2009 awards: **April 15, 2008**

Career Awards for Medical Scientists

Fostering the career development of physician scientists from the postdoctoral level to faculty appointment.

Application deadline for 2009 awards: **October 1, 2008**

Clinical Scientist Awards in Translational Research

Providing physician-scientists the freedom and flexibility to explore fundamental scientific questions, to apply the resulting knowledge at the bedside, and to bring insights from the clinical setting back to the laboratory for further exploration.

Application deadline for 2009 awards: **October 1, 2008**

Investigators in the Pathogenesis of Infectious Disease

Investigating the overarching issues of how human hosts handle infectious challenge.

Application deadline for 2009 awards: **November 3, 2008**

Student Science Enrichment Program

Supporting creative inquiry-based science enrichment activities for primary and secondary students in North Carolina.

Application deadline for 2009 awards: **April 10, 2008**

For complete program information visit www.bwfund.org

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