

THE HEISER PROGRAM FOR RESEARCH IN LEPROSY AND TUBERCULOSIS

2006



The Heiser Program for Research
in Leprosy and Tuberculosis
909 Third Avenue
New York, New York 10022 U.S.A.

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Dr. Victor George Heiser was orphaned at the age of 16; his parents perished in the great Johnstown, Pennsylvania, flood of May 31, 1889. Yet he trained himself as a physician, graduating from Jefferson Medical College, Philadelphia, and devoted his life to the study and treatment of tropical diseases, leprosy in particular. As Associate Director of the International Health Division of the Rockefeller Foundation, he circled the earth 17 times on his medical missions, and recounted his experiences in a best-selling autobiography, *AN AMERICAN DOCTOR'S ODYSSEY*, published in 1936 (used copies are available for a nominal sum on the Web).

In 1969, Dr. Heiser recalled that “sixty years ago it became my responsibility and duty to gather up 10,000 lepers in the Philippines and transport them to a leper colony. The hope then was that isolation could reduce the incidence of the disease and perhaps eventually wipe it out. It didn't work. Now we have a new system – the clinic system – and that, too, has had practically no effect whatever in statistically reducing the incidence of leprosy. Indeed, it is apparently increasing in many parts of the world. But we must not sit idly by while so many people suffer from this horrible disease.”

The Scientific Advisory Committee:

Patrick J. Brennan, Ph.D., Chairman
Stewart T. Cole, Ph.D.
Jerrold J. Ellner, M.D.
Gilla Kaplan, Ph.D.
Thomas Shinnick, Ph.D.

The current world leprosy situation has vastly improved since Dr. Heiser's time. The World Health Organization has estimated the current global registered prevalence of leprosy at 286,063 cases compared to over 10 million in 1985 and the number of new cases detected in 2004 was 407,791 (<http://www.who.int/lep/>). The disparity between prevalence figures and new cases (a surrogate for incidence, in the absence of a laboratory-based test for leprosy) over many years emphasizes unknown questions about the transmission and incubation period of leprosy. Leprosy disabilities, during and after successful chemotherapy, are still serious problems. In the past, major workshops have been convened to address research needs in leprosy, with support from The Heiser Program for Research in Leprosy and Tuberculosis, the National Institutes of Health (NIH), USA, the International Federation of Anti-Leprosy Associations (ILEP), the International Leprosy Association (ILA), and the proceedings and recommendations published ("Leprosy Research in the Post-Genome Era," Curtiss, III, R. *et al.*, *Leprosy Review*, 72: 8-22, 2001; "Leprosy Research at the New Millennium," Editor L. Levy, *Leprosy Review*, Supplement 71: S1-S192, 2000; Report of the International Leprosy Association Technical Forum, *Leprosy Review* 73: S1-S62, 2002, and *Int. J. Lepr.* 70: S3-S62, 2002). An important report has also recently been issued by the World Health Organization, "Global Strategy for Further Reducing the Leprosy Burden and Sustaining Leprosy Control Activities (plan period: 2006 – 2010)" WHO/CDS/CPE/CEE/2005.53. WHO, Geneva). The activities of the IDEAL consortium (see below) are well summarized in "Report of the First Meeting of the IDEAL (Initiative for Diagnostic and Epidemiological Assays for Leprosy) Consortium held at Armauer Hansen Research Institute, ALERT, Addis Ababa, Ethiopia on 24-27 October 2004. *Leprosy Review* 76: 147-159, 2005).

In 1972, the will of Dr. Heiser established the Heiser Grant, to be administered by The New York Community Trust for charitable purposes, and has operated since then under the leadership of Dr. Maelyn McCarty, Dr. W. Lane Barksdale, Dr. Barry Bloom, Dr. Charles C. Shepard, Dr. Roy Curtiss III, and present membership, as succeeding Scientific Advisory Committees, and Mr. Herbert B. West, Ms. Barbara M. Hugonnet, Ms. Joyce Bove, and Mr. Len McNally, representing The Trust. Since its inception the Program has contributed to research on the control of leprosy through research grants and post-doctoral training fellowships, and continues to do so. However, in more recent times, it has invested sizable amounts from Dr. Heiser's original bequest in major research projects, such as sequencing of the genome of *Mycobacterium leprae* and the Rifampin-Ofloxacin-Minocycline intervention trial in South India. More recently (since 2004) the Heiser Program has supported IDEAL (Initiative for Diagnostic and Epidemiological Assays for Leprosy), a consortium of basic researchers world-wide, working in unison on the application of new antigens for detection of sub-clinical leprosy and new genetic markers of the leprosy bacillus so as to allow the epidemiological tracking of individual isolates within a community. A large proportion of the resources of the Heiser Program are being directed towards this initiative over the next few years and further requests for funding in these topics should be directed to the IDEAL consortium [Dr. Linda Oskam, Secretary, KIT (Royal Tropical Institute), Amsterdam, Netherlands l.oskam@kit.nl]. However, the Heiser Program welcomes requests for grants in other areas of leprosy research and postdoctoral fellowships in all areas.

Leprosy and tuberculosis are caused by the same genus, *Mycobacterium*, namely *M. leprae* and *M. tuberculosis*, respectively. According to the World Health Organization (www.who.int) the estimated number of cases of tuberculosis worldwide in 2003 was 8,810,000 of which 3,897,000 were sputum positive, and deaths from tuberculosis were 1,747,000. It is estimated that there are currently 2.1 billion people worldwide who are infected with the tubercle bacillus in whom the infection could be reactivated. The ominous emergence of multidrug-resistant tuberculosis is of great concern: in developed countries resistance to isoniazid, the major drug, is 10-15 percent, and in parts of Central Asia and Eastern Europe, resistance to isoniazid is virtually 100 percent. A particularly dangerous form of tuberculosis is multidrug-resistant TB (MDR-TB). Rates are very high in some countries, especially in the former Soviet Union, and threaten tuberculosis control efforts. Compounding the impact of tuberculosis is the co-epidemic of HIV/AIDS; tuberculosis is the leading cause of death among people who are HIV-positive, accounting for about 13% of deaths worldwide.

The Heiser Program for Research in Leprosy and Tuberculosis continues to commit funds in the form of post-doctoral fellowships for research on tuberculosis, particularly in the areas of the molecular basis of disease pathogenesis, diagnostics, vaccine, and new drug development.

THE AWARDS

In accordance with Dr. Heiser's stipulation at the time that he set up his fund in The New York Community Trust, the income is used not for treatment of patients but for basic laboratory research directed at a better understanding of the diseases and their bacterial agents. The ultimate aim is to find measures for the prevention and cure of these diseases that will serve to bring them under control. Two types of awards have been established to foster these objectives: (1) postdoctoral fellowships, designed to attract qualified and highly motivated young biomedical scientists to train in the relevant fields of research in leprosy and/or tuberculosis; (2) research grants that will support the training efforts of laboratories involved in research on leprosy, or that will provide funds for the initiation of new leprosy research projects in the field.

Details regarding these awards are set forth below:

RESEARCH GRANTS IN LEPROSY

Purpose:

To provide support to basic scientists to allow them to contribute to the global goal of leprosy elimination, in particular, the application of the new available tools towards diagnosis and molecular epidemiology through the IDEAL consortium, but also: (1) investigation of mechanisms of nerve damage and reactions and the means to predict and to prevent leprosy; (2) development of more effective chemoprophylaxis,

immunoprophylaxis, and more rapidly bactericidal drugs; and (3) development of methods for detection of the extent of drug resistance. Other areas of importance are: an improved understanding of the immune response in leprosy; use of the genome of *M. leprae* to develop new drug targets, and identification of immunologically important molecules.

In exceptional circumstances, the Scientific Advisory Committee will continue to consider larger awards for multi-year/multi-component/multi-institute projects. In these cases, applicants are asked to first submit letters of intent. The letters will be reviewed by the Advisory Committee and, if appropriate, proposals will be invited.

Deadline for research grant application: March 1, 2006.

Eligibility:

Applications for leprosy research grants should come from laboratories that have experience in leprosy research and have ongoing, productive interactions with corresponding laboratories in endemic regions and/or leprosy field sites/workers.

Terms of awards:

Grants are generally limited in duration to one year. However, in the case of particularly successful progress, renewal applications will be considered, accompanied by a progress report and evidence of accomplishment.

Decisions will be announced by June 1, 2006, and successful applicants must activate the grant between July 1 and December 31. A budget is requested as part of the application. Awards for research grants will not exceed \$35,000 for the one-year period, the same amount to apply should application for a second year be approved. No more than 10 percent of the award will be used for the salaries of senior personnel. Grants will be paid through the institution's fiscal office. The Heiser Program does not pay institutional overhead costs. A final report is required.

Application instructions:

A face sheet is provided for the basic data and a summary of the proposed research project.

Additional items to be submitted:

1. A detailed description of the proposed project, not to exceed five single-spaced typewritten pages (15 pages in the case of larger, multi-component applications), exclusive of bibliography, tables, and figures.
2. Proposed budget.
3. *Curriculum vitae* and relevant bibliographies of scientists participating in the project(s).

4. Statement of current grant support available to the laboratory/laboratories.

POSTDOCTORAL RESEARCH FELLOWSHIPS

Purpose:

To support biomedical scientists in early postdoctoral training for research in leprosy and/or tuberculosis.

Deadline for application: March 1, 2006

Eligibility:

Applicants should have an M.D., Ph.D., or equivalent degree. Although there is no age limit, candidates should be at an early stage of postdoctoral research training. Generally, postdoctoral training should be planned in an institution other than the one in which the applicant obtained his or her doctorate or is currently employed.

Terms of fellowships:

Awards will be announced by June 1, and successful applicants must activate the fellowship between July 1 and December 31. Initial awards are for one year, renewable for a second year, at stipend levels between \$35,000 and \$40,000 per annum depending on location. Successful applicants for these fellowships will be paid through the host institutions.

Application instructions:

1. Face sheet (form attached).
2. Supplement No. 1 (form attached).
3. Supplement No. 2 (form attached).
4. Research proposal prepared by applicant. The presentation should be a detailed description of the proposed research, not to exceed five single-spaced, typewritten pages. Literature may be cited separately, and figures and tables may also be added.
5. Specific plans for the application of knowledge and experience gained through fellowship training and expected future in the field of research in leprosy and/or tuberculosis.
6. *Curriculum vitae*.

Additional items required:

7. Letter from proposed supervisor, indicating acceptance in the laboratory if fellowship is awarded and degree of contribution in selecting and/or writing the proposal.
8. List of sponsor publications during last five years.
9. Letters from three former teachers or supervisors as listed on the face sheet, to be forwarded directly to: The Heiser Program, c/o The New York Community Trust, 909 Third Avenue, New York, NY 10022, U.S.A.

Proposals should be submitted electronically.

Please save the Heiser Application (the Face Sheet) PDF (located on The New York Community Trust Web site under the Special Projects section) to your desktop or folder, complete the form, attach it and the proposal narrative to an e-mail, and send to lm@nyct-cfi.org.

Address inquiries to:

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