

## Internship Opportunities in Bioethics

The NIEHS is offering a limited number of internships in environmental policy and ethics. Interns participating in the Program in Environmental Health Policy and Ethics (PEHPE) examine policy issues and conduct research under the guidance of a faculty mentor. Potential projects examine issues in environmental regulation and policy, impact of new technologies on risk assessment and risk management, toxicogenomics, environmental justice, and protection of human subjects in research. Applicants with existing research projects and applicants interested in developing a project to satisfy the requirements of an academic degree are strongly encouraged to contact the program director prior to applying.

The program will begin with a one-week workshop on environmental regulation, health policy, and ethics. Following the workshop, interns will define a research project in association with the program director and a faculty mentor. Interns will participate in weekly seminars on issues in environmental policy and ethics, case discussions, and policy debates. Interns will present results of their research and analysis at a policy symposium in August.

Applicants should be pursuing an undergraduate or advanced degree in environmental health science, policy, law, ethics, philosophy, or a related field. In exceptional circumstances, consideration will be given to more established researchers and teachers. Interns will be selected on the basis of their previous accomplishments, commitment to scholarship, and professional interests. Internships should play an integral role in advancing the applicant's professional development. No prior experience in environmental health policy or ethics is necessary.

Internships are limited to five months. Stipends are based on academic and professional experience, in accordance with the current U.S. government schedule. Internships begin in late spring, typically soon after the end of the academic year, and end on or before September 30.

Interested applicants should submit an application including a résumé or curriculum vitae, a brief statement of interests and goals for the internship (750 words or less), two letters of reference, a writing sample, and academic transcripts. Application materials must be received by 1 March 2002.

Contact: Richard R. Sharp, PEHPE, NIEHS, PO Box 12233, 79 Alexander Drive, Building 4401, Room 108, Research Triangle Park, NC 27709-2233 USA, 919-541-3489, fax: 919-541-4397, e-mail: sharp@niehs.nih.gov

## Social and Cultural Dimensions of Health

Social scientists have made significant strides in shedding light on the basic social and cultural structures and processes that influence health. Social and cultural factors influence health by affecting exposure and vulnerability to disease, risk-taking behaviors, the effectiveness of health promotion efforts, and access to, availability of, and quality of health care. Social and cultural factors also play a role in shaping perceptions of and responses to health problems and the impact of poor health on individuals' lives and well-being. In addition, such factors contribute to understanding societal and population processes such as current and changing rates of morbidity, survival, and mortality. Consequently, social science research should be integrated into interdisciplinary, multilevel

studies of health. Linking research from the macro-societal levels, through behavioral and psychological levels, to the biology of disease will provide the integrative health research necessary to fully understand health and illness.

This PA invites applications for research on the social and cultural dimensions of health in the five following areas: 1) basic social and cultural constructs and processes used in health research, 2) etiology of health and illness, 3) consequences of poor health for individuals and social groups, 4) linking science to practice to improve prevention, treatment, health services, and dissemination, and 5) ethical issues in social and cultural research. The goal is to encourage further development of health-related social sciences research relevant to the missions of the NIH institutes and centers. These missions encompass a broad range of scientific questions related to the health and well-being of our nation's people. Information about the specific missions of the institutes and centers participating in this PA is posted on the NIH home page at <http://www.nih.gov/icd/>. More information on this PA is available online at <http://grants.nih.gov/grants/guide/pa-files/PA-02-043.html>.

The PHS 398 research grant application instructions and forms (rev. 5/2001) at <http://grants.nih.gov/grants/funding/phs398/phs398.html> must be used in applying for these grants and will be accepted at the standard application deadlines as indicated in the application kit.

Contact: Ronald P. Abeles, Office of Behavioral and Social Sciences Research, NIH, Gateway Building, Room 2C234, MSC 9205, 7201 Wisconsin Avenue, Bethesda, MD 20892-9205 USA, 301-496-7859, fax: 301-435-8779, e-mail: abeles@nih.gov. Reference: PA No. PA-02-043

## Development of Innovative Electronic Learning Products for Worker Safety and Health Training in Hazardous Waste and Chemical Emergency Response

The NIEHS Worker Education and Training Program (WETP), in considering the development and application of advanced training technology (ATT) to worker safety and health training, has realized that there is a substantial challenge in translating this new technology to our awardee organizations. This challenge is associated with the fact that each of the WETP awardee organizations is different with regard to its training target audience, the computer literacy and access to such technology among its target audience, the work its training target population performs, and training delivery methods and means, among other factors. In many ways, these challenges reflect the current reality of delivering job-related training content to any adult population in the United States. The "digital divide" in its various manifestations is a reality for anyone who attempts to use ATT approaches to effectively reach target populations with low levels of computer experience and knowledge. This concern for hazardous waste workers and chemical emergency responders has been particularly acute for a high-risk target population, which is characterized by ethnic and cultural diversity, low levels of formal education, and minimal prior computer fluency.

The NIEHS encourages applicants to this Small Business Innovative Research (SBIR) RFA to review the relevant program documentation, to pursue

partnerships and collaboration with WETP awardees, and to design new electronic learning products that can extend the existing NIEHS curricula and training programs into the digital world. The following four areas describe the type of electronic learning products that will be supported under this SBIR RFA. Examples include but are not limited to:

1) *Products to support electronic collaboration in safety and health training*: "E-collaboration in safety and health training" involves enabling collaborative development of course materials by personnel widely separated geographically within the same organization and between collaborators working for different organizations. In addition to traditional face-to-face meetings and phone calls, a number of electronic tools and online approaches can be used to facilitate distributed teams in their creating or updating of instructional products. These capabilities include e-mail, mail list groups, bulletin boards, chat rooms, threaded discussion groups, FTP, and Web-enabled database-oriented development tools.

2) *Products to support electronic certification in safety and health training*: "E-certification in safety and health training" involves preparing and maintaining instructor competence as a critical issue in creating and maintaining the quality of health and safety training delivery and assuring adequate worker protection. This ATT option entails the use of online resources to improve instructor competence. The role of the instructor is highly valued in the WETP. Many grantee programs have systematic approaches to train, certify, and maintain instructor competence in both the content matter and in teaching skills.

3) *Products to support electronic teaching in safety and health training*: "E-teaching in safety and health training" encompasses live or virtual classroom training as a significant part of effective safety and health training delivery. A key WETP core value relative to ATT is to preserve the role of the trainer/instructor in classroom-like environments in the modeling, teaching, and verification of skills and knowledge. This ATT option for safety and health training delivery looks directly at ways technology can be used appropriately in live instructor-led, face-to-face, and virtual classrooms.

4) *Products to support electronic learning in safety and health training*: "E-learning in safety and health training" involves technology deployment to provide individualized or small group-based training in learning centers, in a technology-enabled "smart classroom," or to learner's desktop is a core part of the technology-supported learning process. As an ATT option, electronic learning is used to enable individualized learning at the learners' convenience and own pace prior to, as part of, after, or in place of classroom training. Electronic learning capability is now available to learners at their workplace (desktop, shared computer/kiosk, or learning center) and optionally at home or at the union hall. While multimedia computers connected to the Internet are much more widely available each year, care must be taken to ensure that a targeted set of learners will in fact have the needed access to work stations or learning centers.

The deadline for letters of intent is 17 March 2002, with final applications due 17 April 2002. Applications received in response to this RFA are to be prepared as described in the PHS 398 instructions, which are available at <http://grants.nih.gov/grants/funding/phs398/phs398.html>.

Applicants should follow the instructions for SBIR Phase I submission with the modifications as noted in the online version of this RFA, available at <http://grants.nih.gov/grants/guide/rfa-files/RFA-ES-02-002.html>.

Projects may be presented for SBIR/STTR support at all stages of learning technology development. Projects will be evaluated on overall innovation and success potential. Future support will be contingent upon NIEHS programmatic evaluation to ensure that the investigators are accomplishing milestones and time lines presented in the original application.

Contact: Joseph T. "Chip" Hughes, Jr., WETP, Division of Extramural Research and Training, NIEHS, PO Box 12233, 111 T. W. Alexander Drive, MD EC-25, Research Triangle Park, NC 27709 USA, 919-541-0217, fax: 919-558-7068, e-mail: [hughes3@niehs.nih.gov](mailto:hughes3@niehs.nih.gov); Sharon Beard, WETP, Division of Extramural Research and Training, NIEHS, PO Box 12233, 111 T. W. Alexander Drive, MD EC-25, Research Triangle Park, NC 27709 USA, 919-541-1863, fax: 919-316-0462, e-mail: [beard1@niehs.nih.gov](mailto:beard1@niehs.nih.gov). Reference: RFA No. RFA-ES-02-002

#### **Studies of the Ethical, Legal, and Social Implications (ELSI) of Human Genetic Variation Research for Individuals and Diverse Racial and Ethnic Groups**

Although the ultimate goal of studies aimed at relating human genetic variation to disease risk is the improvement of human health, concerns have been raised that the findings of some genetic variation research may be misunderstood and misused. Concerns have also been raised that such findings, if interpreted incorrectly and misused, will exacerbate rather than ameliorate existing health disparities among racial, ethnic, and socioeconomic groups. The National Human Genome Research Institute (NHGRI), through its Ethical, Legal, and Social Implications (ELSI) Research Program, proposes a new initiative to encourage additional ELSI research on genetic variation research for both individuals and diverse population groups. Examples of the types of topics that would be appropriate for applications submitted under this initiative include but are not limited to the following:

1) How will individuals understand and use genetic information that suggests the possibility of a meaningful association between their genotype and increased or decreased risk for a particular common, complex disorder (or between their genotype and increased or decreased responsiveness to a particular medication or susceptibility to a potentially hazardous environmental substance)? How will genetic information that suggests the possibility of differences in frequencies among groups of the genetic variants that contribute to these traits be understood and used?

2) How will genetic information that suggests the possibility of group differences in the prevalence of a genotype associated with increased or decreased risk for a particular common, complex disorder (or increased or decreased responsiveness to a particular medication or susceptibility to a potentially hazardous environmental substance) be understood and used by health professionals? How will it be understood and used by various other societal decision makers (e.g., insurance companies, pharmaceutical

companies, employers, health care policy makers, environmental policy makers, educational institutions, courts, adoption agencies, the military)? How will this information differentially affect individual decision making over the life course (e.g., insurance, retirement age, savings)? How will this information affect public and institutional policy for the aged (e.g., Social Security, Medicare, retirement benefits) or for individuals with disabilities? What long-term effect, if any, will the use of this information have on health disparities among groups?

3) In reporting the results of human genetic variation research, how do investigators assign causality when a particular disorder is associated with both genetic and nongenetic (environmental, behavioral, social) risk factors? How do the media assign causality when reporting on such studies? What are the ethical obligations of investigators when they report the findings of disease-gene association research involving common, complex disorders? What are the ethical obligations of the media when they report on such studies?

4) How do investigators define and describe the groups with whom they conduct human genetic variation research? How do the media describe those groups when reporting on such studies? What are the ethical obligations of investigators when they define and describe the groups with whom they conduct genetic variation research? What are the ethical obligations of the media when they report on such studies?

5) What new problems arise for individuals and groups when genetic variation data are incorporated into social survey research? How will individuals and groups perceive the risks and benefits of participating in these surveys? How can these surveys be used to study the factors motivating participation?

6) How are the statements that "all human beings are 99.9% genetically the same" and "there is no biological basis for precise racial categorizations" understood by individuals who self-identify as members of particular racial, ethnic, or socioeconomic groups? How do such statements affect how groups define themselves or are defined by others? What is the impact of such statements on individual conceptions of self and group identity?

This RFA will use the NIH regular research project grant (R01) and small research project grant (R03) award mechanisms. The PHS 398 research grant application instructions and forms (rev. 5/2001) at <http://grants.nih.gov/grants/funding/phs398/phs398.html> must be used in applying for these grants. The deadline for letters of intent is 1 March 2002, with final applications due 10 July 2002. More information is available online at <http://grants.nih.gov/grants/guide/rfa-files/RFA-HG-02-003.html>.

Contact: Rudy Pozzatti, Office of Scientific Review, NHGRI, 31 Center Drive, Room B2B37, Bethesda, MD 20892-2033 USA, 301-402-0838, fax: 301-435-1580, e-mail: [rp7s@nih.gov](mailto:rp7s@nih.gov). Reference: RFA No. RFA-HG-02-003

#### **Cancer Prevention, Control, Behavioral, and Population Sciences Career Development Award**

The purpose of the Cancer Prevention, Control, Behavioral, and Population Sciences Career Development Award is to support the career development of investigators who wish to focus their research endeavors on cancer prevention, control, and behavioral and

population sciences. This mechanism provides support for 3–5 years of specialized didactic study and mentored research for individuals with a health professional or science doctoral degree who are not fully established investigators. Examples of relevant disciplines for this PA include any aspect of human cancer prevention (modifiable risk factors, new animal models and extrapolation of these models to human cancer, genetic predisposition to cancer and detection of precursor lesions, chemoprevention trials in human populations, and behavioral research and behavioral intervention trials in cancer prevention), epidemiology (biochemical, genetic, and molecular), biostatistics, human cancer genetics, clinical oncology, human nutrition, behavioral and social sciences, health promotion, health services and health policy research, and medical decision analysis, survivorship, and quality of life as they relate to cancer.

The award provides support for up to five consecutive 12-month periods. A minimum of 75% effort must be devoted to the program. The remaining 25% can be divided among other clinical and teaching activities and coursework only if these activities are consistent with the program goals. Both the didactic and research phases of the award are expected to develop necessary knowledge and research skills in scientific areas relevant to the career goals of the candidate in cancer prevention, cancer control, and behavioral and population sciences research. Candidates lacking skills in data management, statistics, epidemiology, study design, clinical trial design, hypothesis development, etc. can be provided the opportunity to participate in courses designed to overcome these deficiencies.

The award provides a career development opportunity for 1) individuals already proficient in general epidemiology, the behavioral sciences, or other relevant disciplines, and 2) individuals already trained in cancer epidemiology, etiology, prevention, control, and the behavioral and population sciences to become fully independent investigators. The scope of the research/didactic training may extend from the development and experimental testing of hypotheses, through the stage of confirming results using defined populations, to the development and demonstration of technology as applied to epidemiology, cancer prevention, cancer control, and the behavioral and population sciences as they relate to cancer.

This PA will use the NIH K07 award mechanism. The total project period for applications may not exceed 5 years. Awards made for a 5-year project period, or recommended by peer review for a shorter project period, are not renewable.

Applications are to be submitted on the grant application form PHS 398 (rev. 5/2001), available online at <http://grants.nih.gov/grants/funding/phs398/phs398.html>, and should use the instructions in Section IV of the application kit. The application will be accepted at the standard application deadlines for K-awards as indicated in the application kit. For further assistance, call 301-435-0714 or e-mail [GrantsInfo@nih.gov](mailto:GrantsInfo@nih.gov). Further information on this PA is available online at <http://grants.nih.gov/grants/guide/pa-files/PAR-01-135.html>.

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