

ANNOUNCEMENT

Alfred P. Sloan Foundation Grants for Research on the U.S. Science and Engineering Workforce

The Alfred P. Sloan Foundation is pleased to announce the second round of its small grants program to support creative research on the U.S. workforce and labor markets in science and engineering (“S&E”). The due date for submissions will be November 17, 2008.

In the second round of this research competition, the Foundation wishes especially to encourage proposals that focus on the complex nexus between the U.S. science and engineering workforce and international migration.

Our reasons for inviting proposals on these topics are as follows: Available data indicate that nearly 7.4 million persons are engaged in S&E occupations, representing about 5% of the civilian U.S. workforce of 147 million. Though a rather small percentage of the total, this S&E workforce is very highly skilled, and many are engaged in leading-edge R&D activities that are critical to the future economic wellbeing of the United States. In addition, a similar percentage of U.S. workers have earned at least bachelor’s degrees in S&E fields but are employed in non-S&E occupations; rather little is known about the latter category.

We believe that much could be gained from an improved understanding of the U.S. S&E workforce in relation to the domestic and international labor markets in which it operates. These subjects have long attracted a great deal of rhetorical and political commentary, yet objective research attention has been limited by the difficulty of obtaining needed grant funding.

Depending on the number and quality of proposals received, the second round of this grant program will provide up to six research awards. Awardees will be selected on the basis of recommendations by a peer review committee of leading researchers. Projects of up to two years in length will be considered. Proposed budgets requested cannot exceed a total of \$45,000, though we expect that most successful submissions will be smaller than this ceiling. No overhead or indirect cost deductions can be allowed; requested funds should be allocated entirely to the proposed research efforts.

We understand that grants of this size will not be sufficient to support substantial levels of original data collection. However, we encourage applicants to consider creative ways to make use of existing datasets such as those produced by the National Science Foundation, as well as of new and very large datasets emerging from the American Community Survey and the New Immigrant Survey.

We list below some examples of researchable questions, but we emphasize that submissions need not be limited to these examples:

1. “Mismatch” between education and occupation: With respect to U.S.-educated engineers and scientists, is there evidence of what some describe as “mismatches” between U.S. S&E

education and domestic occupational opportunities in S&E fields, and do foreign-educated scientists and engineers differ in this respect?

2. Sufficiency of supply: What are the sources and key arguments underlying continuing reports of “shortages” of U.S.-born scientists and engineers? What kinds of data, experiences, anecdotes, or other evidence are presented? What can be said empirically about the kinds of organizations and/or individuals that promote and oppose such arguments?
3. Longitudinal and/or synthetic data: Are there creative ways to take advantage of existing but under-utilized longitudinal datasets, or alternatively to develop improved longitudinal and/or synthetic data, that would allow us to better characterize and analyze career paths and remuneration trends of U.S.-born engineers and scientists, disaggregated by field? Are there similar approaches possible for scientists and engineers who are foreign-born but U.S.-educated? For those who are both foreign-born and foreign-educated?
4. Improving labor market projections: With due attention to the failure of past efforts and the difficulties involved, research to improve the sophistication and credibility of projections of supply and demand in S&E labor markets, including assessments of the oft-cited industry and occupation projections produced by the Bureau of Labor Statistics. Of special interest is how best to factor in future supplies of foreign-born scientists and engineers, along with any possible effects of such inflows upon domestic interest in these careers.
5. Proportions foreign-born: What are the most important factors underlying empirical patterns and trends (disaggregated by S&E field and type of institution or employer) in the proportions foreign-born among a) U.S. graduate students, b) postdocs, and c) those working in the U.S. in S&E occupations? What are the best ways to measure these? To what extent can they be accurately measured? What can be learned from non-U.S. databases about U.S.-trained scientists and engineers working outside the U.S.?
6. Return rates: For foreign-born graduate students and postdocs who have studied at U.S. universities, what have been historical and recent patterns in rates of short-to-medium-term return to home countries vs. long-term or full-career employment in the U.S., disaggregated by field and country of origin? Can leading indicators of changes in historical return-rate patterns be developed for rapidly-developing countries such as China and India?
7. Characteristics of student, temporary worker, and permanent admissions: What similarities and differences (e.g. skill levels; countries of origin; career experiences; sectors/disciplines of employment; etc.) can be discerned between S&E migrants admitted to the U.S. under differing provisions of law, e.g. a) as foreign students and exchange visitors; b) as temporary workers, e.g. H-1B; c) as legal permanent residents?
8. Uses and impacts of temporary worker visa programs: What can be shown empirically as to how U.S. universities use temporary visa programs? Non-academic employers? Are there any discernable effects of temporary visa programs upon the broader S&E workforce, e.g. alleged weakening of attachment of company, career, country? Alleged links to offshore outsourcing?
9. Case studies of key employers: Carefully-selected case studies of how the forces of globalization and technology are affecting domestic and international recruitment and careers of scientists and engineers in industries such as aerospace, computer, semiconductor, pharmaceuticals, or in multinational companies such as Boeing, IBM, etc.
10. Postdocs: What characteristics distinguish domestic and foreign scientists and engineer in postdoctoral status at U.S. institutions?

We emphasize that the above list of topics *is intended only to illustrate the kinds of topics we have in mind.* Our overarching goal is to encourage the development of innovative yet feasible research ideas that best emerge from the creative insights of researchers.

Eligibility

Grants can be made only to U.S. institutions of higher education and research that are eligible for Foundation grants. An appropriate officer of the institution must indicate its willingness to receive and administer the proposed grant.

Grant applicants must be faculty members or other regular employees of the eligible institution.

Application procedures:

Proposals may be submitted via regular mail or as email and attachments, by the program deadlines (see below).

Proposals must not exceed 20 pages double-spaced. Appendices with additional information may be attached if so wished.

The proposal should include, on the first page, a brief abstract of 100 words or less.

In addition, please attach:

- a brief (1-2 page) curriculum vitae for the researcher(s)
- a simple line-item budget of proposed expenditures.

Term and budget of proposed grants:

The term of proposed projects should be two years or less. These are intended to be small research grants; in no case should the total budget for the requested term exceed \$45,000, and we expect that the amounts requested by most successful submissions will be smaller than that limit. The proposal should include a simple line-item budget justifying the funding items requested, and confirming that no indirect costs or overhead charges will be applied by the institution.

The submission deadline for the second round of this grants program is:

November 17, 2008

Submissions and inquiries should be addressed to:

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