

Academic Programs and Centers, and Independent Research Laboratories, Centers, and Institutes

Vice Provost and Dean of Research and Graduate Policy and Dean of the Independent Laboratories, Centers, and Institutes: Charles H. Kruger
Associate Dean of Research: Ann M. Arvin
Associate Dean of Graduate Policy: George G. Dekker

Independent Research Laboratories, Centers, and Institutes perform multidisciplinary research that extends beyond the scope of any one of the University's organized schools.

The following laboratories, centers, and institutes report to the Vice Provost and Dean of Research and Graduate Policy:

Stanford Institute for Economic Policy Research
Geballe Laboratory for Advanced Materials
Edward L. Ginzton Laboratory
W. W. Hansen Experimental Physics Laboratory
Stanford Humanities Center
Institute for International Studies
Center for the Study of Language and Information
Stanford Institute for the Quantitative Study of Society
Institute for Research on Women and Gender

The Hoover Institution on War, Revolution and Peace and the Stanford Linear Accelerator Center (SLAC) report to the President and Provost. SLAC is independently operated under a contract with the Department of Energy.

Following is a description of each organization's activities, including research activities and, where applicable, courses offered.

CHICANO RESEARCH, STANFORD CENTER FOR

Faculty Executive Committee: Al Camarillo (History, Comparative Studies in Race and Ethnicity), Kenji Hakuta (Education), Jim Leckie (Engineering), Yvonne Maldonado (Medicine)

The Stanford Center for Chicano Research (SCCR) is an affiliated research unit of the Center for Comparative Studies in Race and Ethnicity (CSRE) and one of the founding member institutions of the Inter-University Program for Latino Research (IUPLR). The objective of the SCCR is to facilitate basic and policy-oriented research on the nation's second largest ethnic minority group, Mexican Americans. As part of the IUPLR consortium, the SCCR also serves as one of the sites to support research projects involving faculty and graduate students and is currently supported through various grants from government agencies.

The participating faculty of SCCR include professors from several departments in the School of Humanities and Sciences, as well as faculty from Business, Education, Engineering, Law, and Medicine. The SCCR was founded in 1980 and remains the only research center of its kind at a major private university.

STANFORD INSTITUTE FOR ECONOMIC POLICY RESEARCH

Director: John B. Shoven

Deputy Director: Gregory Rosston

The primary mission of the Stanford Institute for Economic Policy Research (SIEPR) is to encourage and support research on economic policy issues in areas such as economic growth, technology policies, environmental and telecommunication regulation, tax reform, international trade, and monetary policy. SIEPR pursues four interrelated goals in support of this mission: (1) stimulating graduate student and faculty research on economic policy issues of continuing importance; (2) communicating its findings broadly; (3) building a community of scholars conducting research on policy issues; and (4) linking the policy community at Stanford with decision makers in business, government, and academia.

SIEPR is a University-wide research center, involving economists from the schools of Business, Engineering, Law, Humanities and Sciences, as well as the Hoover Institution and the Institute for International Studies. Affiliated faculty and students maintain appointments in their home departments while working on SIEPR projects. In addition, scholars visiting from other institutions may apply for affiliation with SIEPR.

Much of the research at SIEPR takes place in research centers or research programs. The Center for Research on Economic Development and Policy Reform (Anne O. Krueger, Director) fosters research on the economic problems of developing economies and economies in transition, as well as analyzing the political aspects of economic policy reform and historical episodes of reform. For more information about this program call (650) 725-8730. The Center for Research on Employment and Economic Growth (Tim Bresnahan, Director) is focusing on the relationship between long-term economic growth, the economic success of individuals and families in their jobs and careers, and the role played by higher education and how it can supply workers and technology in the work force.

Research programs within SIEPR and their directors are Energy, Natural Resources, and the Environment Program (James L. Sweeney); the Finance Program (John B. Shoven); the High Technology Impact Program (Paul A. David); the International Economy Program (Anne O. Krueger); the Program on the Japanese Economy (Masahiko Aoki); the Macroeconomics and Monetary Policy Program (John B. Taylor); the Program in Regulatory Policy (Roger Noll); and the Tax and Budget Policy Program (B. Douglas Bernheim, Michael J. Boskin, and John B. Shoven).

SIEPR does not offer courses for academic credit, admit students, or award degrees. SIEPR is located on the first floor of the Landau Economics Building, 579 Serra Mall, at the corner of Serra and Galvez Streets, telephone (650) 725-1874, or see <http://siepr.stanford.edu>.

GEBALLE LABORATORY FOR ADVANCED MATERIALS

Director: Alexander L. Fetter

The Geballe Laboratory for Advanced Materials (GLAM) supports the research activities of a number of faculty members from the departments of Applied Physics, Chemical Engineering, Chemistry, Electrical Engineering, Materials Science and Engineering, Mechanical Engineering, and Physics. The multidisciplinary foundations of faculty, students, and research provide a dynamic academic environment for a broad spectrum of scientific research areas including high temperature superconducting materials and devices, mesoscopic devices, magnetic recording and storage media materials, electronic materials, opto-electronic materials, nanoscale materials and phenomena, nanoprobe devices, highly correlated electronic systems, computational materials science,

condensed matter theory and physics, polymeric and biological materials, crystal growth, and thin film synthesis of complex oxides.

GLAM also provides advanced materials characterization and synthesis facilities for its members as well as for the Stanford materials research community at large. They include electron microprobe analysis (EMPA), scanning electron microscopy (SEM), scanning probe microscopy (SPM), transmission electron microscopy (TEM), x-ray diffraction analysis, and x-ray photoelectron spectroscopy (XPS) for characterization and thin film deposition capabilities for synthesis of materials. These facilities are managed by professional staff who also conduct research and development of new tools and techniques in areas related to advanced materials synthesis and characterization.

The Geballe Laboratory for Advanced Materials is housed in the new Moore Materials Research Building McCullough Building complex.

EDWARD L. GINZTON LABORATORY

Director: David A. B. Miller

The Ginzton Laboratory houses the research activities of a number of faculty members from the departments of Applied Physics, Electrical Engineering, and Mechanical Engineering. The multidisciplinary foundations of faculty, students, and research provide a dynamic academic environment for a broad spectrum of scientific research including acoustic and optical techniques for semiconductor measurements, fiber optics, laser physics and applications, mesoscopic devices, microelectromechanical devices and systems, optoelectronic devices and systems, photonics, scanning optical microscopy, solid state physics, squeezed light, tunneling and force microscopy, and ultrafast and nonlinear optics.

W. W. HANSEN EXPERIMENTAL PHYSICS LABORATORY (HEPL)

Director: Robert L. Byer

HEPL is an independent laboratory celebrating over 50 years of fundamental science and engineering research. HEPL faculty and students are engaged in research in accelerator physics, astrophysics, dark matter in the universe, free electron lasers, fundamental tests of relativity in space, gamma ray observations, gravitational wave detection, quantum condensed matter, and space based solar physics studies. Many of the programs involve satellite-based studies in fundamental physics and engineering.

HOOVER INSTITUTION ON WAR, REVOLUTION AND PEACE

Director: John Raisian

The Hoover Institution, founded in 1919 by Stanford alumnus Herbert Hoover, is a public policy research center where a distinguished group of scholars analyze, study, refine and disseminate ideas designed to strengthen society within the context of three core values: individual freedom, private enterprise, and limited representative government.

Three thematic areas have been established that focus on the interaction of politics and government. Research centers on three broad programs:

American Institutions and Economic Performance, which explores ways to enable the U.S. economy and education, legal, and legislative systems to perform better, thereby providing an ever higher quality of life, increased economic opportunity, and greater economic freedom for all citizens.

Democracy and Free Markets, which seeks to understand and foster both the development of democratic processes and institutions and the shift from state control of economies to greater reliance on free markets.

International Rivalries and Global Cooperation, which examines not only questions of war and peace but all types of rivalries and cooperation (economic, political, religious, and cultural) and focuses on interrelationships between countries.

Hoover multi-year initiative programs within each of these three areas typically address issues relating to balancing government and private initiatives, promoting individual freedom, and strengthening free market economies and democratic institutions.

STANFORD HUMANITIES CENTER

Director: John Bender

Associate Director: Susan E. Dunn

External Faculty Fellows: Anna Maria Busse Berger (Music, University of California, Davis), Paul Berliner (Music, Northwestern University), Laura Chrisman (English, Ohio State University), Marcel Detienne (Classics, Johns Hopkins University), Mae Henderson (English, University of North Carolina, Chapel Hill), Marc Perlman (Music, Brown University), Kevin Platt (Slavic Languages and Literatures, Pomona College), Michael Saler (History, University of California, Davis), Aladdin Yaqub (Philosophy, University of New Mexico)

Rockefeller Fellows in Black Performing Arts: Louise Meintjes (Music, Duke University), Sandra Richards (African American Studies, Northwestern University)

Internal Faculty Fellows: David Beaver (Linguistics), Avner Greif (Economics), Agnieszka Jaworska (Philosophy), Gavin Jones (English), Rob Reich (Political Science), Janice Ross (Drama/Dance), Debra Satz (Philosophy), C. P. Haun Saussy (Asian Languages, Comparative Literature), Brent Sockness (Religious Studies)

Geballe Dissertation Graduate Student Fellows: Ilias Chrissochoidis (Music), Dawn Coleman (English), Michael Foster (Asian Languages and Literatures), Daphne Kleps (Classics), Arzoo Osanloo (Cultural and Social Anthropology), Molly Schwartzburg (English), Ethan Segal (History), Jason Weems (Art History)

Pre-doctoral Graduate Student Fellows: Mia Bruch (History), Robin Valenza (English)

The Stanford Humanities Center promotes humanistic research and education at Stanford and nationwide. In particular, it stresses work of an interdisciplinary nature, accomplished through the following programs: one-year residential fellowships for Stanford faculty, faculty members from other institutions, and Stanford graduate students; public presentations (such as lectures, conferences, and publications); and a research workshop program sponsored by the Mellon Foundation that brings faculty and graduate students together regularly to advance ongoing research on topics of interdisciplinary interest.

Fellows are selected on the basis of an open competition. They pursue their own research and participate in a weekly seminar at the center throughout the year. Faculty fellows also contribute to the intellectual life of the Stanford community through activities such as giving departmental courses, participating in ongoing research workshops, or organizing conferences. The courses given by fellows in 2001-02 are listed below.

COURSES

ASIAN LANGUAGES

201. Proseminar

5 units, Spr (Saussy)

DRAMA

156R. Performances of Memory in the Black Atlantic

4 units, Spr (Richards)

PHILOSOPHY

178. Ethics in Society Honors Seminar—(Same as Ethics in Society 190.)
3 units, Win (Satz)

SLAVIC LANGUAGES AND LITERATURES

330. Making the Russian Nation: Writing a Usable Past
1 unit, Win (Platt)

INSTITUTE FOR INTERNATIONAL STUDIES (IIS)

Director: David Holloway
Deputy Director: Coit Blacker

The Institute for International Studies promotes individual and collaborative research on contemporary, policy-relevant issues that are international and interschool in character. Working in partnership with the seven schools at Stanford (Business, Earth Sciences, Education, Engineering, Humanities and Sciences, Law, and Medicine) and with the Hoover Institution, IIS fosters excellence in research and teaching across disciplinary, school, and national boundaries. The priority areas of research are in the fields of international and regional peace and security; economic development and political change in East and Southeast Asia; the global environment challenge; and the delivery of health care in a comparative perspective.

Opportunities for undergraduate research include the Goldman Interschool Honors Program in Environmental Science, Technology, and Policy and the CISAC Interschool Honors Program in International Security. The institute also manages 10 undergraduate and graduate fellowship programs.

The constituent centers and programs within IIS include the Asia/Pacific Research Center, the Bechtel Initiative for Global Growth and Change, the Center for Environmental Science and Policy, the Center for Health Policy, the Center for International Security and Cooperation, the European Forum, and the Stanford Japan Center—Research.

In the areas of public service and outreach, IIS administers the Stanford Program on International and Cross-Cultural Education (SPICE), which develops internationally-oriented curricula for use by public school teachers.

The IIS central office is located at 100 Encina Hall, telephone (650) 723-4581. For more information about particular IIS programs, contact the programs directly (area code 650):

Asia/Pacific Research Center (A/PARC), 723-9741, Andrew Walder,
Director

Bechtel Initiative on Global Growth and Change, 723-1737, Coit Blacker,
Managing Director

Center for Environmental Science and Policy (CESP), 725-2606, Walter
P. Falcon, Pam Matson, *Co-Directors*

Center for Health Policy (CHP), 723-1020, Alan M. Garber, M.D., *Director*

Center for International Security and Cooperation (CISAC), 723-9625,
Scott Sagan, Christopher Chyba, *Co-Directors*

European Forum, 723-4716, Timothy Josling, *Convenor*

Inter-University Center for Japanese Language Studies, 725-1490

Stanford Program on International and Cross-Cultural Education
(SPICE), 723-1116

Stanford Japan Center-Research, 011 75-752-7073, extension 40

UNDERGRADUATE PROGRAMS

INTERSCHOOL HONORS PROGRAM IN ENVIRONMENTAL SCIENCE, TECHNOLOGY, AND POLICY

The Center for Environmental Science and Policy (CESP) coordinates a University-wide interschool honors program in environmental science, technology, and policy. Undergraduates planning to participate in the honors program are required to pursue studies in environmental scienc-

es, technology, and policy, with a concentration in a single discipline. After completion of the prerequisite units, students join small group honors seminars to work with specific faculty members in the environmental field on an honors thesis that incorporates both scientific principles and the policy aspects of selected environmental issues.

Courses in environmental studies appear under the course listings of the schools of Earth Sciences, Engineering, and Humanities and Sciences. Information about and applications to this program may be obtained from CESP, E401 Encina Hall East; telephone (650) 723-5697.

COURSES

195. Interschool Honors Program in Environmental Science, Technology, and Policy—Students from the schools of Humanities and Sciences, Engineering, and Earth Sciences analyze important problems in a year-long small group seminar. Combines research methods, oral presentations, preparation of an honors thesis by each student, and where relevant, field study.

9-15 units, Aut, Win, Spr (Naylor, Falcon, Freyberg, Goulder, Matson, Schneider)

INTERSCHOOL HONORS PROGRAM IN INTERNATIONAL SECURITY

The Center for International Security and Cooperation (CISAC) coordinates a University-wide interschool honors program in international security. Students selected for the honors program will fulfill individual department course requirements, attend a year-long seminar on international security research, and produce an honors thesis with policy implications. In order to qualify for the program, students must demonstrate sufficient depth and breadth of international security course work. Ideally, applicants to the program should have taken Management Science and Engineering (MS&E) 190/Political Science 138 (International Security in a Changing World), MS&E 193/Political Science 134P (The Role of Technology in National Security), Political Science 134A (Strategy, War, and Politics), and at least one related course such as Economics 150 (Economics and Public Policy), Science, Technology, and Society 110 (Ethics and Public Policy), Sociology 160 (Formal Organizations), Sociology 166 (Organizations and Public Policy), and Political Science 143S (Major Issues in International Conflict Management).

Information about and applications to this program may be obtained from the Center for International Security and Cooperation, E201 Encina Hall East, telephone (650) 723-1625.

COURSES

199. Interschool Honors Program in International Security—Students from the schools of Humanities and Sciences, Engineering, and Earth Sciences meet in a year-long seminar to discuss, analyze, and conduct research on international security. Combines research methods, policy evaluation, oral presentation, and preparation of an honors thesis by each student.

9-15 units, Aut, Win, Spr (Chyba, Fearon, May, Lederberg, Sagan, Stedman)

CENTER FOR THE STUDY OF LANGUAGE AND INFORMATION (CSLI)

Director: Byron Reeves

CSLI supports research at the intersection of the social and computing sciences. It is an interdisciplinary endeavor, bringing researchers together from academe and industry in the fields of artificial intelligence, computer science, engineering, linguistics, logic, education, philosophy, and psychology. CSLI's researchers are united by a common interest in communication and information processing that ties together people and interactive technology.

The technologies of interest at CSLI are at the cutting edge of the information revolution. They include natural language processing, voice user interfaces, ubiquitous computing, collaborative work environments, handheld devices, information appliances, automatic language translation, conversational interfaces, machine learning, intelligent agents, electronic customer relationship management, and distance learning applications.

A primary goal of CSLI is to have a substantial and long-term intellectual impact on the academic and business communities involved with interactive technology. Our industry research partners and sponsors have a broad and facilitated access to ideas, faculty, students, and laboratories. Partners can share in the intellectual property of CSLI, and in the governance committees of the Center that establish research directions and funding priorities. CSLI accelerates knowledge transfer to products and services by involving executives and researchers in Stanford classrooms. Via CSLI, our partners meet Stanford students studying in over 20 different degree programs across campus.

Course work related to the research at CSLI can be found in the "Program in Symbolic Systems" section of this bulletin.

CSLI is located at the corner of Campus Drive West and Panama Street, in Ventura Hall and Cordura Hall; telephone (650) 723-3084.

STANFORD INSTITUTE FOR THE QUANTITATIVE STUDY OF SOCIETY (SIQSS)

Director: Norman H. Nie

The Stanford Institute for the Quantitative Study of Society (SIQSS) is a multidisciplinary research institute. Founded in 1998, the institute is devoted to creating, fostering, and sponsoring significant empirical social science research about the nature of society and social change.

The central mission of SIQSS is to provide social knowledge for the larger society and to contribute to the development of the empirical social sciences as a primary tool for understanding social reality. SIQSS seeks to fulfill this mission by undertaking large-scale, socially relevant, theoretically important, and methodologically sound social research.

Distinguished scholars participating in SIQSS research programs and activities are drawn from diverse disciplines throughout Stanford University and similar academic institutions. They are attracted to the institute by their mutual interest in data-driven research methods and the use of survey data as a tool for understanding how society works. SIQSS provides institute grantees with research support that includes a technologically advanced research infrastructure, facilities organized specifically to support quantitative research, multiple opportunities for debate and discussion with experts in myriad academic fields, and funding for specific research projects.

SIQSS currently supports quantitative research through the following: (1) Long-Term Institute-Initiated Research Programs; (2) Stanford Faculty Research grants and Student Research Assistantships; (3) SIQSS Visiting Scholars Program; (4) Stanford Faculty Fellows; (5) the Future of American Society Workshop; (6) the Don Nickelson Distinguished Lecture series; and (7) the American Empirical Series.

INSTITUTE FOR RESEARCH ON WOMEN AND GENDER

Director: Laura L. Carstensen

During the last decade, research on women and gender has had a profound influence on the social and medical sciences, and the humanities. Since its founding, the Institute for Research on Women and Gender's

primary mission is to support scholarship on subjects related to women and gender and to organize educational programs that communicate these findings to a broader public.

Stanford faculty, staff, graduate students, and members of the community work together to stimulate a more informed analysis of issues concerning gender.

Institute projects span a wide range of disciplines, but rest on certain shared premises: that gender is a vital category of analysis for contemporary scholarship and policymaking and that the experiences of women as individuals and as a group can best be understood within their historical, social, and cultural contexts. The institute sponsors interdisciplinary research seminars and conferences that examine gender issues in areas such as aging, art, education, employment, family structures, health care, history, law, literature, and psychology. Many scholarly publications have resulted from these activities.

SOCIAL SCIENCE HISTORY INSTITUTE

The goal of Social Science History Institute is to re-engineer the manner in which students in social science departments learn about historical institutions and data, and the manner in which students in history and related disciplines are trained in social science methods. Historians and social scientists share many of the same substantive interests (the development of economies, political systems, and social structures, for example), but they approach them with different and complimentary methods and bodies of evidence. There is, however, a great deal of potential for historians and social scientists to draw on the strengths of each other's methods to improve their own work and to foster increased interaction among the various disciplines that employ history as a laboratory to operationalize social science theories. The Social Science History Institute seeks to realize this potential by transplanting state of the art research methods from classics, economics, history, political science, and sociology across the boundaries of each discipline.

A B.A. degree with an emphasis in History and Social Science is offered through the Department of History. The History degree is an HMIE (History Majors with Interdisciplinary Emphasis) program designed to acquaint students with the application of the analytic and quantitative tools of the social sciences to issues in historical causality and explanation. See the "History" section of this bulletin.

Ph.D. MINOR

The first element of the Ph.D. minor in Social Science History is a methods requirement. This requirement may be fulfilled in one of the following three ways:

1. A one quarter, graduate-level course in quantitative methods
2. A graduate-level course in case study methods
3. History 206/306, The Logic of History

The second element is a requirement that students focus on a substantive area of social science history. Students must take a group of three courses outside their major department with a strong social science history component. These three courses are selected by students with the advice and approval of a Ph.D. minor adviser, who also must be from outside the student's major department. The courses should be chosen with an eye toward providing a coherent curriculum in a substantive issue that is useful in the development of a dissertation topic. For example, a student might focus on economic history by taking Problems in American Economic History (Economics 226), European Economic History (Economics 227), and Institutions in Economic History (Economics 228).

The final requirement is a capstone course, the Workshop in Comparative Politics and Historical Analysis (History 480/Political Science 313). This is a workshop for students working on or planning dissertations on topics related to social science history.

STANFORD LINEAR ACCELERATOR CENTER (SLAC)

Director: Jonathan Dorfman

The Stanford Linear Accelerator Center is devoted to experimental and theoretical research in elementary particle physics and astrophysics, to the development of theory and new techniques in high energy accelerators, and to research and development in particle detectors. The Stanford Synchrotron Radiation Laboratory (SSRL), a division of SLAC, operates the SPEAR storage ring as a source of intense vacuum ultraviolet and x-ray beams for research in biology, chemistry, material science, and physics. The center is on 425 acres of Stanford property west of the main campus and is operated under a contract with the Department of Energy. In a new initiative, the Pehong and Adele Chen Particle Astrophysics and Cosmology Institute is being established on the SLAC campus.

SLAC is operated by Stanford as a national facility so that qualified scientists from universities and research centers throughout the country and world, as well as those at Stanford, may participate in the high energy physics research program of the center. Stanford graduate students may, with the approval of their departments, carry out research for the Ph.D. degree with members of the SLAC faculty. Graduate students from other universities also participate in the research programs of visiting groups.

Research assistantships are available for qualified students by arrangement with individual faculty members. There are also opportunities for summer employment in the research groups at the center. Interested students should contact Professor Rafe H. Schindler, the Graduate Student Adviser.

STANFORD SYNCHROTRON RADIATION LABORATORY (SSRL)

Director: Keith O. Hodgson

SSRL is a national research facility supported by the Department of Energy for the utilization of synchrotron radiation for research in the natural sciences, medicine, and engineering. SSRL is a division of the Stanford Linear Accelerator Center.

SSRL has research programs in accelerator physics and development of advanced sources of synchrotron radiation, including short-wavelength free electron lasers. The lab is interdisciplinary with students from the following Stanford departments actively pursuing degrees: Applied Physics, Chemical Engineering, Chemistry, Earth Sciences, Electrical Engineering, Materials Science and Engineering, Physics, and Structural Biology.

Students interested in working at the facility should contact a member of the SSRL faculty, one of the assistant directors, or other members of the Stanford faculty who use SSRL in their research programs.

This file has been excerpted from the *Stanford Bulletin*, 2001-02, pages 680-684. Every effort has been made to ensure accuracy; late changes (after print publication of the bulletin) may have been made here. Contact the editor of the *Stanford Bulletin* via email at arod@stanford.edu with changes, corrections, updates, etc.