

CENTERS, LABORATORIES, AND INSTITUTES

Independent research laboratories, centers, and institutes perform multidisciplinary research that extends beyond the scope of any one of the University's organized schools. Organizations in this section are listed alphabetically by their formal name.

OFFICE OF VICE PROVOST AND DEAN OF RESEARCH

Vice Provost and Dean of Research and Dean of the Independent

Laboratories, Centers, and Institutes: Ann M. Arvin

Offices: 450 Serra Mall, Main Quadrangle, Building 60

Mail Code: 94305-2064

Office Phone: 650-723-8789

Office Fax: 650-723-0662

Web Site: <http://www.stanford.edu/dept/DoR>

The following independent Laboratories, Centers, and Institutes report to the Vice Provost and Dean of Research:

BIOLOGICAL AND LIFE SCIENCES

Bio-X, the interdisciplinary program related to bioengineering, biomedicine, and biosciences

ENVIRONMENTAL SCIENCES

Global Climate and Energy Program (G-CEP)

Precourt Institute for Energy Efficiency

Woods Institute for the Environment

HUMANITIES AND SOCIAL SCIENCES

Center for Advanced Study in the Behavioral Sciences (CASBS)

Freeman Spogli Institute for International Studies (FSI)

Human-Sciences and Technologies Advance Research Institute (H-STAR), including SCIL, Media-X, and Center for the Study of Language And Information (CSLI)

Stanford Center on Longevity (SCL)

Stanford Humanities Center

Stanford Institute for Economic Policy Research (SIEPR)

PHYSICAL SCIENCES

Edward L. Ginzton Laboratory

Geballe Laboratory for Advanced Materials (GLAM)

Kavli Institute for Particle Astrophysics and Cosmology (KIPAC), operated jointly with SLAC

Photon Ultrafast Laser Science and Engineering (PULSE), operated jointly with SLAC

Stanford Institute for Materials and Energy Sciences (SIMES), operated jointly with SLAC

W. W. Hansen Experimental Physics Laboratory (HEPL)

OTHER ACADEMIC PROGRAMS AND CENTERS, AND INDEPENDENT RESEARCH LABORATORIES, CENTERS, AND INSTITUTES

The Center for Space Science and Astrophysics, the Institute for Research in the Social Sciences (IRiSS), and the Morrison Institute for Population and Resource Studies report to the School of Humanities and Sciences.

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. KIPAC, PULSE, and SIMES are operated jointly with SLAC and the Office of Vice Provost and Dean of Research.

CENTER FOR ADVANCED STUDY IN THE BEHAVIORAL SCIENCES (CASBS)

Director: Claude Steele

Deputy Director: Ann C. Petersen

Center Offices: 75 Alta Road, Stanford, CA 94305

Mail Code: 94305-2130

Web Site: <http://www.casbs.org>

The Center for Advanced Study in the Behavioral Sciences at Stanford (CASBS) is dedicated to advancing knowledge about human behavior and fostering contributions to society. CASBS does this through several programs, and primarily residential fellowships. Other programs are special projects within the residential year, extended seminars involving groups of scholars who meet at the Center over two to three years, and summer institutes. For all these programs, CASBS identifies the most accomplished and promising scholars in the fields represented by the Center.

CASBS programs seek to advance knowledge, advance fields of humanities and the social and behavioral sciences, and contribute to society. Groups of scholars gathered together at the Center stimulate each other to broaden and deepen their thinking. The specific methods of CASBS are the social interactive process of interdisciplinary stimulation, intellectual freedom and time, and staff support. These social structures in the microenvironment permit fellows to engage new and challenging ideas, to think clearly and analytically, and to write more profoundly and prolifically than at any other time in their careers. Young scholars especially benefit from this environment and build their fields in a way influenced by their experience at the Center.

CENTER FOR HISTORY AND PHILOSOPHY OF SCIENCE

Executive Director: Michael Friedman

HST Director: Jessica Riskin

LMPS Director: Michael Friedman

The Center for History and Philosophy of Science (CHPS) brings together faculty and research initiatives concerned with understanding science, technology and medicine from historical, philosophical, logical, methodological, and cultural points of view. CHPS comprises two divisions: the Division of History of Science and Technology (HST) and the Division of Logic, Methodology, and Philosophy of Science (LMPS). HST and LMPS, both separately and in cooperation, sponsor visiting scholars, postdoctoral researchers, workshops, and speakers, providing a bridge between the humanities and sciences.

HST involves primarily historians of science, technology, and medicine, and cooperates with other units concerned with the social and cultural context of these disciplines. LMPS involves primarily philosophers of science and logicians, and cooperates with other units concerned with logic and methodology. CHPS as a whole pursues the history and philosophy of all of these areas, and is connected in this way with the Program in History and Philosophy of Science and Technology (HPST). HPST is an interdisciplinary graduate program jointly administered by the History and Philosophy departments. Prospective students interested in applying to the graduate program should consult the "History and Philosophy of Science and Technology" section of this bulletin, and the admissions requirements of the department in which they wish to apply for an M.A. or Ph.D.

CENTER FOR SPACE SCIENCE AND ASTROPHYSICS

Emeriti: (Professors) Robert Cannon, I-Dee Chang, Daniel B. DeBra, W. Gary Ernst, Von R. Eshleman, Robert A. Helliwell, Bruce B. Lusignan, Ronald J. P. Lyon, Laurence A. Manning, Bradford W. Parkinson, J. David Powell, Peter A. Sturrock, G. Leonard Tyler (Electrical Engineering), Robert V. Wagoner, Alan T. Waterman; (*Associate Professor*) Bruce B. Lusignan (Electrical Engineering); (*Professors, Research*) Donald L. Carpenter, Aldo V. daRosa, Antony Fraser-Smith

Director: Robert V. Wagoner

Associate Directors: Umran S. Inan, Roger W. Romani, Philip H. Scherrer

Professors: Roger Blandford (Physics, SLAC), Elliot Bloom (SLAC), Lambertus Hesselink (Electrical Engineering), Umran S. Inan (Electrical Engineering), Steven Kahn (Physics, SLAC), Tune Kame (SLAC), Peter F. Michelson (Physics), Vahé Petrosian (Physics), Roger W. Romani (Physics), Norman H. Sleep (Geophysics)

Associate Professors: Tom Abel (Physics, SLAC), Steve Allen (Physics, SLAC), Sarah Church (Physics), Guenther Walther (Statistics), Howard Zebker (Electrical Engineering, Geophysics)

Assistant Professors: Stefan Funk (Physics, SLAC), Chao-Lin Kuo (Physics, SLAC), Risa Wechler (Physics, SLAC)

Professors (Research): C-W. Francis Everitt (HEPL), Philip H. Scherrer (Physics)

Consulting Professor: Martin Walt (Electrical Engineering)

SLAC Staff Physicist: Grzegorz Madejski

Center Offices: Varian, Room 316

Mail Code: 94305-4060

Phone: (650) 723-1439

Email: danav@stanford.edu

Web Site: <http://www.stanford.edu/group/CSSA>

The Center for Space Science and Astrophysics is an interdepartmental organization coordinating research in space science and astrophysics. Its members are drawn from the Department of Geological and Environmental Sciences in the School of Earth Sciences; the departments of Aeronautics and Astronautics, Electrical Engineering, and Mechanical Engineering in the School of Engineering; the departments of Applied Physics, Physics, and Statistics in the School of Humanities and Sciences; the W. W. Hansen Experimental Physics Laboratory; and the Stanford Linear Accelerator Center. Its membership also includes all faculty and appropriate staff at the Kavli Institute for Particle Astrophysics and Cosmology, located at SLAC and the Physics department.

Research now in progress covers a wide array of investigations and is approached in a variety of ways, including experiments flown on rockets, satellites, and space probes; ground-based observations made from the Hobby-Eberly Telescope, the Wilcox Solar Observatory, and from national observatories; and theoretical research including computer modeling. Topics currently being studied include cosmology, gamma-ray astronomy, gravitation theory and experiments, including gravitational waves (LIGO, LISA), guidance and control, high-energy astrophysics, ionospheric and magnetospheric physics, microwave and infrared astronomy, planetary sciences, solar physics, solar-terrestrial phenomena, theoretical astrophysics, x-ray astronomy, and the study of life in the universe. Some of these projects involve opportunities for collaboration with scientists at the Lockheed-Martin Research the NASA/Ames Research Center, and the SETI Institute.

Stanford is a member of the Universities Space Research Association, a consortium of universities which operates the Lunar Science Institute in Houston, Texas; the University Corporation for Atmospheric Research in Boulder, Colorado; and the San Diego Supercomputing Consortium.

Stanford is the lead institution for the GLAST gamma-ray

observatory, Gravity Probe B, and the Solar Oscillations Investigation on the Solar and Heliospheric Observatory spacecraft (SOHO). Stanford is also a member of the Hobby-Eberly Telescope Consortium which operates a 10-meter telescope at the McDonald Observatory of the University of Texas. Members are also involved in the design of the Large Synoptic Survey Telescope (LSST).

The facilities of the center are available to any interested and qualified student, who must be admitted by and registered in a department. The departments of Aeronautics and Astronautics, Applied Physics, Electrical Engineering, Mechanical Engineering, and Physics offer opportunities leading to an M.S. or Ph.D. degree for work in space science or astrophysics. The center also offers opportunities to undergraduates who may, for instance, participate in research projects in their junior or senior years, on a part-time basis during the school year or on a full-time basis during the summer. The Astronomy Course Program operates a small student observatory where students may gain practical experience in astronomical observing.

Further information is available from the director.

EDWARD L. GINZTON LABORATORY

Director: Robert L. Byer

Deputy Director: Olav Solgaard

Office: 450 Via Palou

Mail Code: 94305-4088

Phone: 650-723-0107

Fax: 650-725-7509

Web Site: <http://www.stanford.edu/group/ginzton>

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 scientific research in the fields of photonic science and engineering, quantum science and engineering, and nanoscience and engineering, including fiber optics, laser physics and applications, mesoscopic devices, microelectromechanical and microacoustic devices and systems, optoelectronic devices and systems, photonics, nanophotonics and photonic crystals, scanning optical microscopy, quantum cryptography and computing, tunneling and force microscopy, and ultrafast and nonlinear optics.

FREEMAN SPOGLI INSTITUTE FOR INTERNATIONAL STUDIES (FSI)

Director: Coit D. Blacker

Deputy Director: Michael A. McFaul

Institute Office: Encina Hall, 616 Serra Street

Phone: (650) 723-4581

Web Site: <http://fsi.stanford.edu>

The Freeman Spogli Institute for International Studies (FSI) is Stanford University's primary forum for interdisciplinary research on contemporary international issues and challenges. Working in partnership with the seven schools at Stanford and the Hoover Institution, FSI undertakes collaborative research and teaching which transcend disciplinary, school, and national boundaries. Priority areas of research include: efforts to prevent nuclear proliferation and ensure effective responses to acts of biological, chemical, or nuclear

terrorism; linkages among democracy, development, and the rule of law; global healthcare delivery and outcomes; political, economic, and social change in the Asia-Pacific region; national, regional, and multilateral security concerns in the region; European integration; trade-offs among energy, food security, and environmental degradation; global justice and human rights; overcoming barriers to conflict resolution; and the political, legal, and economic factors affecting the operation of modern energy markets.

Opportunities for undergraduate research include the CISAC Interschool Honors Program in International Security Studies and the CDDRL Undergraduate Honors Program. The institute manages five student fellowship programs and three faculty grant programs.

Constituent centers within FSI include: the Center on Democracy, Development, and the Rule of Law; the Center for Health Policy/Center for Primary Care and Outcomes Research; the Center for International Security and Cooperation; and the Walter H. Shorenstein Asia-Pacific Research Center.

FSI administers the following programs: the Forum on Contemporary Europe; the Program on Food Security and the Environment; the Inter-University Center for Japanese Language Studies; the Program on Energy and Sustainable Development; the Program on Global Justice; the Stanford Center on International Conflict and Negotiation; and the Stanford Program on International and Cross-Cultural Education.

For more information about particular FSI centers and programs, contact the center or program directly (area code 650):

- *Center on Democracy, Development, and the Rule of Law (CDDRL)*—724-7197, <http://cddrl.stanford.edu>, Michael McFaul, Director
- *Center for Health Policy/Center for Primary Care and Outcomes Research (CHP/PCOR)*—723-1020, <http://healthpolicy.stanford.edu>, Alan M. Garber, Director
- *Center for International Security and Cooperation (CISAC)*—723-9625, <http://cisac.stanford.edu>, Siegfried S. Hecker, Co-Director; Lynn Eden, Acting Co-Director
- *Walter H. Shorenstein Asia-Pacific Research Center (Shorenstein APARC)*—723-9741, <http://aparc.stanford.edu>, Michael H. Armacost, Acting Director
- *Program on Food Security and the Environment*—725-6851; <http://fse.stanford.edu>, Rosamond Naylor, Director
- *Forum on Contemporary Europe (FCE)*—725-1495, <http://fce.stanford.edu>, Amir Eshel, Director
- *Inter-University Center for Japanese Language Studies (IUC)*—725-1490, <http://www.stanford.edu/dept/IUC>, Steven Carter, Director
- *Program on Energy and Sustainable Development (PESD)*—724-1714, <http://pesd.stanford.edu>, David G. Victor, Director
- *Program on Global Justice (PGJ)*—723-0256, <http://globaljustice.stanford.edu>, Joshua Cohen, Director
- *Stanford Center on International Conflict and Negotiation (SCICN)*—723-2574, <http://www.law.stanford.edu/program/centers/scicn>, David J. Holloway, Allen Weiner, Co-Directors
- *Stanford Program on International and Cross-Cultural Education (SPICE)*—723-1116, <http://spice.stanford.edu>, Gary Mukai, Director

INTERSCHOOL HONORS PROGRAM IN INTERNATIONAL SECURITY STUDIES

Co-Directors: Michael M. May, Paul Stockton

The Center for International Security and Cooperation (CISAC) coordinates a University-wide interschool honors program in international security studies. Students chosen for the honors program intern with a security-related organization, attend the program's honors college in Washington, D.C. in September, attend a year-long core seminar on international security research, and produce an honors thesis with policy implications. Upon fulfilling individual department course requirements and completing the honors program, students graduate in their major with a certificate in Honors in International Security Studies. To be considered for the program, students must demonstrate sufficient depth and breadth of international security course work. Ideally, applicants to the program should have taken: POLISCI 114S, International Security in a

Changing World; MS&E 193, Technology and National Security; and at least one related course such as ECON 150/PUBLPOL 104, Economic Policy Analysis; STS 110/MS&E 197/PUBLPOL 103B, Ethics and Public Policy; SOC 160, Formal Organizations; PUBLPOL 102/SOC 166, Organizations and Public Policy; POLISCI 110B, Strategy, War, and Politics; and POLISCI 114T, Major Issues in International Conflict Management.

Students in the program enroll in IIS 199, Interschool Honors Program in International Security Studies, in Autumn, Winter, and Spring quarters.

Information about and applications to this program may be obtained from the Center for International Security and Cooperation, C223 Encina Hall Central, telephone (650) 723-9626, or <http://cisac.stanford.edu>.

CDDRL UNDERGRADUATE HONORS PROGRAM

The Center on Democracy, Development, and the Rule of Law (CDDRL) Honors Program provides students majoring in International Relations the opportunity to conduct an independent research project focused on issues of democracy, development, and the rule of law under CDDRL faculty guidance. Students interested in the program consult with their prospective honors advisers in their junior year and must submit their honors thesis proposal in the Spring Quarter of that year. Honors students present a formal defense of their theses in mid-May of the senior year. Prerequisites for the program are a 3.5 grade-point average, a strong overall academic record, and demonstrated skills in writing and conducting independent research.

Required course work includes INTNLREL 199, an honors research seminar that focuses on democracy, development, and the rule of law in developing countries as well as INTNLREL/POLISCI 114D, CDDRL's flagship undergraduate lecture course taught every Autumn Quarter. Honors students meet bi-weekly with faculty and their peers to present project theses and receive feedback. Students must attend honors college in September before Autumn Quarter classes begin and the weekly CDDRL seminar.

For more information, contact the Center on Democracy, Development, and the Rule of Law, Encina Hall C100, phone (650) 724-7197; or see <http://cddrl.stanford.edu>.

GEBALLE LABORATORY FOR ADVANCED MATERIALS (GLAM)

Director: Paul McIntyre
Associate Director: Droni Chiu
Offices: McCullough Building, 476 Lomita Mall
Mail Code: 94305-4045
Fax: 650-723-3044
Web Site: <http://www-glam.stanford.edu>

The Geballe Laboratory for Advanced Materials (GLAM) is an Independent Laboratory that reports to the Dean of Research. The Laboratory supports the research activities of more than 20 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 has a newly remodeled Stanford

Nanocharacterization Laboratory which provides advanced materials characterization and synthesis facilities for its members as well as for the Stanford materials research community at large. The instruments include a focused ion beam (FIB), scanning electron microscopy (SEM), scanning probe microscopy (SPM), transmission electron microscopy (TEM), x-ray diffraction analysis (XRD), x-ray photoelectron spectroscopy (XPS), and high resolution Auger electron spectroscopy (AES) 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. GLAM is also home to the Center for Probing the Nanoscale, a nanoscale science and engineering center sponsored by the National Science Foundation, the Stanford Center for Magnetic Nanotechnology, and the Center for Advanced Molecular Photovoltaics, funded by the King Abdullah University for Science and Technology (KAUST). GLAM also maintains a strong link to the Stanford Institute for Materials Energy Science (SIMES) on campus and at SLAC.

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

HOOVER INSTITUTION ON WAR, REVOLUTION AND PEACE

Director: John Raisian

Web Site: <http://www-hoover.stanford.edu>

The Hoover Institution, founded in 1919 by Stanford alumnus Herbert Hoover, is a public policy research center devoted to the advanced study of politics, economics, and political economy, both domestic and foreign, as well as international affairs. Hoover fellows are the foundation of the research program. This varied and distinguished community of scholars strives to conceive and disseminate ideas defining a free society within the framework of three programs:

American Institutions and Economic Performance—Focus is on interrelationships of U.S. political and legal institutions and economic activity, often referred to as political economy.

Democracy and Free Markets—Focus is on political economy in countries around the world.

International Rivalries and Global Cooperation—Focus is on interrelationships among countries, by examining issues of foreign policy, security, and trade.

By collecting knowledge, generating ideas, and disseminating both, the Institution seeks to secure and safeguard peace, improve the human condition, and limit government intrusion into the lives of individuals, all of which are consistent with three prominent values: peace, personal freedom, and the safeguards of the American system.

HUMAN SCIENCES AND TECHNOLOGIES ADVANCED RESEARCH INSTITUTE (H-STAR)

Executive Committee: Keith Devlin, Valerie Halperin, Roy Pea, Byron Reeves

Web Site: <http://hstar.stanford.edu>

H-STAR (Human Sciences and Technologies Advanced Research) is an interdisciplinary research institute focusing on how people use technology, how to better design technology to make it more usable and more competitive in the marketplace, how technology affects people's lives, and the innovative use of technologies in research, education, art, business, commerce, entertainment, communication, national security, and other walks of life. Among the problems at the heart of the H-STAR research agendas are:

- Reducing complexity of technology to enable its universal uses for work, learning and other vital sectors of life
- Closing digital divides across class, race, gender, age, and nations, so that access to and fluencies in technologies provide equal opportunities to learn and work productively
- Accelerating innovation in the creation and diffusion of products and services that better meet human needs
- Solving security and trust problems of computing, communications, and information systems at home and work and in governmental affairs
- Ensuring safety and health with human-centered technology innovations

Within H-STAR are two interdisciplinary centers, CSLI (the Center for the Study of Language and Information) and SCIL (the Stanford Center for Innovations in Learning), and an industry partners program, Media X.

CENTER FOR THE STUDY OF LANGUAGE AND INFORMATION (CSLI)

Director: Stanley Peters

Center Offices: Cordura Hall

Mail Code: 94305-4115

Web Site: <http://www-csli.stanford.edu>

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, at the cutting edge of the information revolution, 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. The center's industry research partners and sponsors have 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. CSLI partners can meet Stanford students studying in over 20 degree programs.

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

STANFORD CENTER FOR INNOVATIONS IN LEARNING (SCIL)

Director: Roy Pea

Center Offices: Wallenberg Hall (Building 160)

Web Site: <http://scil.stanford.edu>

The Stanford Center for Innovations in Learning (SCIL) conducts scholarly research to advance the science, technology, and practice of learning and teaching from early childhood through postsecondary education. The center brings together teachers, scholars, and students from around the world to study how to improve formal and informal learning across cultural boundaries.

SCIL is housed in Wallenberg Hall, a state-of-the-art testing ground for technology applications in the classroom. With the

support of SCIL technical and advisory staff, more than 70 professors and instructors have taught courses in Wallenberg Hall.

SCIL programs are multidisciplinary and collaborative in nature and include the LIFE Center (Learning in Informal and Formal Environments), a research endeavor funded by the National Science Foundation whose researchers are working toward the development of an integrated multidisciplinary science of learning. Engaging more than 40 faculty members and researchers from the learning sciences, psychology, education, communications, computer science, and developmental, cognitive, and social neuroscience, LIFE is a collaboration with the University of Washington and SRI International.

In addition to its research work, SCIL provides year-round technical and advisory support to University instructors.

MEDIA X

Web Site: <http://mediax.stanford.edu>

Media X builds bridges between faculty and student scholars at Stanford and thought leaders from influential companies to address questions of importance within academia and industry. Activities are driven by the inspiration that emerge at the intersections of industry need and academic research, of various disciplines addressing the same question, and of people and technology.

INSTITUTE FOR RESEARCH IN THE SOCIAL SCIENCES (IRiSS)

Director: Karen Cook
Executive Director: Chris Thomsen
Office: 450 Serra Mall, Building 370
Mail Code: 94305-2077
Phone: (650) 724-5221
Email: IRiSS-info@stanford.edu
Web site: <http://iriss.stanford.edu>

The Institute for Research in the Social Sciences (IRiSS) supports the research of Stanford faculty, graduate students, and undergraduate across the social sciences. IRiSS has a two-fold mandate: to advance discovery research in areas involving a mix of questions of anthropology, communication, economics, political science, psychology, and sociology, often addressing major societal challenges; and to build core research infrastructure that strengthens scientific inquiry.

IRiSS hosts the Stanford Center for the Study of Poverty and Inequality, the Stanford Center on Philanthropy and Civil Society, the Social Science History Program, and the Stanford Institute for the Quantitative Study of Society. Research projects consist of: the American National Election Studies (ANES), a collaboration with the University of Michigan's Institute for Social Research; Educational Diversity in Graduate Education in the Social, Behavioral and Economic Sciences (EDGE-SBE), a multi-university collaboration sponsored by the National Science Foundation aimed at increasing the number of under-represented minorities in the social, behavioral, and economic sciences who enter and complete Ph.D. programs; and the Minerva Project, a longitudinal study examining how scientific ideas, scholarly networks, and their institutional contexts influence each other.

In addition, the institute provides programs, funding opportunities, and technology initiatives to enhance research for faculty and graduate students. These include: annual awards made through a peer-reviewed proposal process for seed grants and faculty fellow appointments; an early career faculty program; an experimental research program for nonmedical subjects; and research methods training with a certification option for Ph.D. students. IRiSS also offers conferences and workshops to explore new collaborative research topics.

IRiSS participates in a collaborative program with the Stanford Libraries in providing access to Academic Technology Specialists

(ATS) for the social sciences. The technology resources they support include: the Secure Data Center, including the Stanford Branch of the Northern California Census Research Data Center; the development of geographic information systems (GIS); online survey design and implementation; and the creation of high performance computing grids and data visualization systems (for the manipulation of data sets).

SOCIAL SCIENCE HISTORY INSTITUTE

Directors: Stephen Haber
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Email: toney@stanford.edu
Web Site: <http://sshi.stanford.edu>

The goal of the Social Science History Program 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, such as the development of economies, political systems, and social structures, but they approach them with different and complementary methods and bodies of evidence. There is a great deal of potential for historians and social scientists to draw from the strengths of each other's methods to improve their own work and to foster increased interaction among the disciplines that employ history as a laboratory to operationalize social science theories. The Social Science History Program 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. Toward this end, SSHP offers conferences and research support for faculty and graduate students. The program is an affiliate of the Institute for Research in the Social Sciences.

STANFORD CENTER ON PHILANTHROPY AND CIVIL SOCIETY

Faculty Directors: Debra Meyerson, Rob Reich, Walter Powell
Managing Director: Malka Kopell
Office: 562 Salvatierra Walk
Mail Code: 94305-8620
Phone: (650) 723-72599
Email: malkak@stanford.edu
Web site: <http://haas.stanford.edu/index.php/item/1684>

The Stanford Center on Philanthropy and Civil Society was established in September 2006 as a program of the Institute for Research in the Social Sciences, a unit of the School of Humanities and Sciences. The center's goal is not to build a separate field of study, but to draw on current research by Stanford faculty, Ph.D. students, and advanced undergraduates on civil society and the public sphere and to infuse these topics into the core disciplines of the humanities and social sciences, while building on expertise located in the professional schools. The center's mission, therefore, is to engage students, faculty, and practitioners in examining ways in which philanthropic institutions, nonprofit organizations, and other key elements of civil society work to define and address public interests in the United States and abroad.

To pursue these goals, the Center offers Ph.D. fellowships, support for undergraduates writing honor's theses, seminar series and dialogues, undergraduate classes, and a Ph.D. workshop. Additionally, the center links theory and practice by engaging practitioners in the philanthropic and civil sector. By connecting students and faculty with practitioners through workshops, presentations, and structured conversations, the center is building a community of scholars and practitioners working to effect social change.

STANFORD CENTER FOR THE STUDY OF POVERTY AND INEQUALITY

Director: David B. Grusky
Office: 450 Serra Mall, Building 80
Mail Code: 94305-2029

Phone: (650) 724-6913
Email: inequality@stanford.edu
Web site: <http://www.inequality.com>

The Center for the Study of Poverty and Inequality supports research, training, and dissemination on issues of social, economic, and political inequality. A unit of the Institute for Research in the Social Sciences, the center has over 125 Stanford faculty affiliates, over 400 national and international fellows, and a program of visiting scholars.

The center supports a graduate training program in poverty and inequality in collaboration with the Public Policy Program. With funding from the Elfenworks Foundation, the center brings scholars of poverty and inequality to Stanford University to teach innovative classes, deliver public lectures, and develop new policy. The center sponsors the Berkeley-Stanford inequality workshop as well as a program of public lectures and seminars on poverty and inequality topics, including the Controversies in Inequality series.

Center faculty affiliates carry out research on a poverty and inequality topics, including causes and consequences, measuring techniques, and effects of interventions to reduce poverty and inequality.

In collaboration with Stanford University Press, the center sponsors the Controversies in Inequality series that addresses policy decisions about poverty and inequality and develops approaches to address them. In 2008, the center launched a web and hard copy magazine, *Pathways*. The center's web site serves as a clearinghouse for research, videos, podcasts, and trend data on poverty and inequality.

KAVLI INSTITUTE FOR PARTICLE ASTROPHYSICS AND COSMOLOGY (KIPAC)

Director: Roger Blandford
Deputy Director: Sarah Church
Campus Mailing Address: Physics Astrophysics Building, 452
Lomita Mall
Campus Mail Code: 94305-4085
SLAC Mailing Address: SLAC 2575 Sand Hill Road, M/S 29, Menlo
Park, CA 94025
Web Site: <http://www-group.slac.stanford.edu/kipac>

KIPAC is an independent laboratory funded in part by Stanford University and the Department of Energy. KIPAC was founded to explore new fronts and challenges in particle astrophysics and cosmology, including the study of the very large and the study of the very small as a source of fundamental questions.

MICHELLE R. CLAYMAN INSTITUTE FOR GENDER RESEARCH

Director: Londa Schiebinger
Associate Director: Michelle Cale
Program Manager: Jane Gruba-Chevalier
Accounting Associate: Eric Scarry
Artist in Residence: Valerie Miner
Art Curator: Heather Green
Residential Research Fellows: Deborah Kolb, Fredi Kronenberg,
Deboleena Roy, Nhung Tran
Institute Office: Serra House, 589 Capistrano Way
Mail Code: 94305-8640
Phone: (650) 723-1994
Web Site: <http://gender.stanford.edu>

Founded in 1974, the Clayman Institute contributes to the development of greater gender equity in society through the creation of innovative research studies and the dissemination of key findings to decision makers in universities, business, communities, and government.

The institute focuses primarily on gender issues in science, technology, engineering, and mathematics. It brings together faculty and students in interdisciplinary seminars, and organizes guest lectures and conferences open to the general public. It recently published a volume entitled *Gendered Innovations in Science and Engineering*, edited by Londa Schiebinger, and a report entitled *Dual Career Academic Couples: What Universities Need to Know* which is available for download from the institute's web site. In-house research projects include: why mid-level women leave technology jobs in Silicon Valley; and women in entrepreneurship and venture capital. The institute also offers prizes and awards to graduate students and faculty, including seven graduate dissertation fellowships, and hosts up to seven residential research fellows who contribute to the institute's research studies and broader research agenda. Each quarter, the institute hosts a new exhibition of gender-related art work, artists' salons and receptions, and meetings of its Professional Women Artists' Group.

MORRISON INSTITUTE FOR POPULATION AND RESOURCE STUDIES

Faculty: (Director) Marcus Feldman (Biology), William H. Durham (Anthropology), Paul R. Ehrlich (Biology), Lawrence H. Goulder (Economics and Freeman Spogli Institute for International Studies), Li Shuzhuo (Xi'an Jiaotong University, China), Shripad Tuljapurkar (Biology)

Institute Office: 371 Serra Mall (Gilbert 116)
Mail Code: 94305-5020
Phone: (650) 723-7518
Email: morrisoninstitute@stanford.edu
Web Site: <http://www.stanford.edu/group/morrinst>

Although Stanford University does not have a degree program in population studies, it does have scholars of international reputation in specialties such as demographic history, demographic methods, economic demography, epidemiology, population biology, population genetics, and the sociology and anthropology of populations.

The Morrison Institute for Population and Resource Studies is an interdisciplinary group serving three major functions: (1) encouraging graduate work in population and resource studies through fellowship grants and supervision, (2) instituting courses and seminars in population and resource studies, and (3) bringing visiting faculty to Stanford to strengthen existing course offerings. The institute also organizes an interdisciplinary Colloquium on Population Studies to introduce upper-division undergraduates and graduate students to issues in population-related specialties.

PHOTON ULTRAFAST LASER SCIENCE AND ENGINEERING (PULSE)

Director: Phil Bucksbaum
SLAC Address: 2575 Sand Hill Road, Menlo Park, CA 94025
Web Site: <http://photonscience.slac.stanford.edu/pulse/index.php>

PULSE (Photon Ultrafast Laser Science and Engineering) is based on the construction of the world's first x-ray free electron

laser. The construction of this new x-ray source, called the Linac Coherent Light Source (LCLS), is funded by the Department of Energy, and its operation is planned to begin toward the end of calendar 2008. LCLS will provide x-ray beams of unprecedented brightness, delivered in femtosecond pulses with full transverse coherence.

PULSE builds on, and leverages existing strengths in, atomic physics, chemistry, biology, and condensed matter physics. The center plans to focus on ultrafast structural and electronic dynamics in materials science, the generation of attosecond laser pulses, single molecule imaging, and the origin of efficient light harvesting and solar energy conversion in molecular systems during the first three years of operation.

PRECOURT INSTITUTE FOR ENERGY EFFICIENCY (PIEE)

Director: James L. Sweeney

Deputy Director: John Weyant

Institute Address: Yang and Yamazaki (Y2E2), Room 175, 473 Via Ortega

Mail Code: 94305-4205

Web Site: <http://piee.stanford.edu>

The Precourt Institute for Energy Efficiency (PIEE), founded in October 2006, conducts research and analysis through interdisciplinary teams of faculty, postdoctoral fellows, graduate students, and undergraduates students. The institute's mission is to improve opportunities for and implementation of energy efficient technologies, systems, and practices, with an emphasis on economically attractive deployment. Research includes technology development, economic analysis, policy analysis, and behavioral research.

PIEE adopts a broad systems approach, examining links among technology, policy, and market diffusion in areas such as: energy-efficiency problems in economic sectors such as buildings, transportation, and electric power; supply- and demand-side barriers and solutions to energy-efficiency challenges; combining engineering, economic, and political expertise in devising solutions to energy-efficiency challenges; and the decision making environment in corporations, public organizations, and households.

STANFORD CENTER ON LONGEVITY (SCL)

Director: Laura L. Carstensen, Ph.D.

Deputy Director: Thomas Rando, M.D., Ph.D.

Center Office: Encina Hall, East Wing, Fifth Floor, 616 Serra Street

Mail Code: 94305-6053

Web Site: <http://longevity2.stanford.edu>

The aim of the Center is to use increased life expectancy to bring about profound advances in the quality of life from early childhood to old age.

The center sponsors an interdisciplinary mobility project to integrate new technologies and to institute streamlined methods of assisting Stanford faculty with the development of innovative ideas. Major disciplines represented in this project are biology, medicine, engineering, psychology, economics, urban planning, and the d.school.

STANFORD HUMANITIES CENTER

Director: Aron Rodrigue

Associate Director: Matthew Tiewws

Web Site: <http://shc.stanford.edu>

The Stanford Humanities Center promotes research and education in the humanities 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 and undergraduate students; public presentations such as lectures, conferences, and publications; and a research workshop program 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.

STANFORD INSTITUTE FOR ECONOMIC POLICY RESEARCH (SIEPR)

Director: John B. Shoven

Deputy Director: Gregory Rosston

Institute Office: 579 Serra Mall

Phone: (650) 725-1874

Web Site: <http://siepr.stanford.edu>

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) facilitating graduate student and faculty research on economic policy issues; (2) building a community of scholars conducting policy research; (3) disseminating research findings broadly; and (4) linking academics at Stanford with decision makers in business and government.

SIEPR is a University-wide research institute, 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 its three research centers and six programs. The Stanford Center for International Development (SCID; Roger G. Noll, 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 center call (650) 725-8730. The Center on Employment and Economic Growth (CEEG; 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. The program on regulation is part of this center. The Center for Public and Private Finance (CPPF; John B. Shoven and Michael J. Boskin, co-Directors) encompasses work on macroeconomics and monetary

policy, tax and budget policy, and finance.

Separate research programs within SIEPR and their directors are the California Policy Program (Thomas MaCurdy); the Energy, Natural Resources, and the Environment Program (James L. Sweeney); the Knowledge Networks and Institutions for Innovation Program (Paul A. David); the Program on the Japanese Economy (Masahiko Aoki); and the Program on Market Design (Susan Athey and Paul Milgrom).

STANFORD INSTITUTE FOR MATERIALS AND ENERGY SCIENCES (SIMES)

Director: Z-X Shen
Campus Office: 476 Lomita, McCullough Bldg., Room 136
Campus Mail Code: 94305-4045
Campus Phone: 650-723-3458
SLAC Office: Building 137, Room 306, Stanford Linear Accelerator Center, 2575 Sand Hill Road, MS 69, Menlo Park, CA 94025
SLAC Phone: 650-926-5913
Web Site: <http://photonscience.slac.stanford.edu/xlam/index.php>

SIMES, a research unit within the Photon Science Directorate at SLAC, addresses key challenges associated with the Department of Energy's mission in the areas of condensed matter physics and materials science, providing scientific leadership in using and developing photon science devices and detectors and other SLAC facilities. SIMES also provides theoretical leadership and support for photon/materials-based experiments at SLAC. The emphasis of this core group is in scattering, spectroscopy, and imaging using the Stanford Synchrotron Radiation Laboratory (SSRL) and the Linac Coherent Light Source (LCLS).

The SLAC-based core capabilities include x-ray scattering, x-ray absorption and emission spectroscopy, angle-resolved photoemission, time-resolved scattering and spectroscopy, and spectro-microscopy. The emphasis has been the unique photon source at SLAC and its related spectroscopy and scattering expertise; there are plans for a strong computational component of this core to support the interpretation of experimental data. The SLAC photon based experimental techniques have been applied to strongly correlated materials, magnetic materials, low-dimensional materials, molecular solids, materials made of nano-clusters, surfaces and interfaces, and catalysis. XLAM programs plan to extend this effort to include matters under extreme conditions, such as high magnetic field and high pressure.

SIMES serves as a link between SLAC and the intellectual resources in other Stanford schools such as the Geballe Laboratory for Advanced Materials (GLAM). XLAM serves to couple SLAC and the Stanford campus by engaging the larger Stanford community to participate in DOE's basic energy science research enterprise. SIMES programs co-located with GLAM in the McCullough Building include materials synthesis, local probe microscopy, condensed matter theory, and organic/inorganic interfaces.

STANFORD INSTITUTE FOR THE QUANTITATIVE STUDY OF SOCIETY

Director: Norman H. Nie
Center Offices: 417 Galvez Mall, Encina Hall West, first floor
Mail Code: 94305-6048
Phone: (650) 723-7242
Web Site: <http://www.stanford.edu/group/siqss>

Founded in 1998, the Stanford Institute for the Quantitative

Study of Society (SIQSS) is a multidisciplinary research institute affiliated with Stanford University's Office of Research and Graduate Policy. The Institute is devoted to producing and sponsoring high-quality 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 develop 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. Examples of projects under way include unintended consequences of information and technology in society; education and its social outcomes; conducting the 2000 census under adversity; and an online scholarly journal, IT & Society at <http://www.stanford.edu/group/siqss/itandsociety/>.

Scholars participating in SIQSS research programs and activities are drawn from diverse disciplines throughout Stanford University and from other academic institutions. SIQSS currently supports quantitative research through the following: long-term institute-initiated research programs, Stanford faculty research grants and student research assistantships, Stanford faculty fellows, interdisciplinary seminars, and the American Empirical Series.

STANFORD LINEAR ACCELERATOR CENTER

Director: Persis Drell
Web Site: <http://www.slac.stanford.edu/>

The Stanford Linear Accelerator Center (SLAC) has two academic departments. The Particle and Particle Astrophysics Department includes several areas of research: theoretical and experimental elementary particle physics, particle astrophysics, cosmology, accelerator and beam physics, and detector instrumentation. The Photon Science Department includes all areas of science done at the Stanford Synchrotron Radiation Laboratory (SSRL), the Photon Ultrafast Laser Science and Engineering Center (PULSE), and Linac Coherent Light Source, currently under construction to become a state-of-the-art X-ray laser research facility.

SLAC is located on 425 acres of Stanford property west of the main campus and is operated under a contract with the United States Department of Energy. SLAC is operated by Stanford as a national facility allowing qualified scientists from Stanford and other universities and research centers worldwide to participate in the research programs. Graduate students at Stanford may carry out Ph.D. research 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 Stanford students by arrangement with individual faculty members. There are also opportunities for summer employment in the research groups at the center. Students interested in research in the areas of high energy physics, particle astrophysics, and accelerator physics should first contact Professor Rafe H. Schindler at the SLAC Graduate Studies Office. Students interested in research opportunities in photon science and SPEAR 3 should contact a member of the SSRL faculty, or other members of the Stanford faculty who use SSRL in their research programs; see <http://www.ssrl.slac.stanford.edu/faculty/>.

STANFORD SYNCHROTRON RADIATION LABORATORY (SSRL)

Director: Joachim Stöhr
Web Site: <http://www-ssrl.slac.stanford.edu>

SSRL, a division of the Stanford Linear Accelerator Center, is a National User Facility which provides synchrotron radiation, a name given to x-rays or light produced by electrons circulating in a storage ring at nearly the speed of light. These extremely bright x-rays can be used to investigate forms of matter ranging from objects of atomic and molecular size to man-made materials with unusual

properties. The obtained information and knowledge is of great value to society, with impact in areas such as the environment, future technologies, health, and national security. Many of SSRL's 22 faculty hold joint appointments with campus departments.

SSRL has research programs in materials science, chemistry, structural biology, and ultrafast science, as well as accelerator physics and development of advanced sources of synchrotron radiation, especially ultra short pulse, x-ray free electron lasers. The lab is interdisciplinary with graduate students pursuing degrees from Stanford campus departments that include 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; see <http://www-ssrl.slac.stanford.edu/faculty/>.

W. W. HANSEN EXPERIMENTAL PHYSICS LABORATORY (HEPL)

Director: Blas Cabrera
Deputy Director: Mark Kasevich
Office: Via Palou at Via Pueblo
Mail Code: 94305-4085
Phone: 650-723-0100
Fax: 650-725-8311
Web Site: <http://hepl.stanford.edu>

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.

WOODS INSTITUTE FOR THE ENVIRONMENT

Directors: Jeffrey R. Koseff, Barton H. Thompson, Jr.
Institute Office: Yang and Yamazaki (Y2E2), 473 Via Ortega
Mail Code: 94305-4205
Phone: (650) 736-8668
Web Site: <http://woods.stanford.edu>

The Woods Institute for the Environment harnesses the expertise of academics and decision makers to create practical solutions for people and the planet by sponsoring research that leads to solutions to global environmental sustainability issues; infusing science into policies and practices of the business, government, and NGO communities; developing environmental leaders for today and the future; and serving as catalyst and hub for the University's interdisciplinary work in environmental research, education, and action.

The Woods Institute focuses on these core areas: fresh water; climate and energy; land use and conservation; oceans and estuaries; and the sustainable built environment.

The Woods Environmental Venture Projects (EVP) program provides seed funding to interdisciplinary teams of Stanford faculty for innovative work in the core research areas. The institute also offers training in leadership and communications skills through the Leopold Leadership Program and other faculty training efforts.

Through its Strategic Collaborations and Uncommon

Dialogues, the institute brings together faculty with leaders from the private and public sectors to develop pragmatic solutions to major environmental challenges. Three strategic collaborations have been established in partnership with other organizations: the Natural Capital Project (partners: The Nature Conservancy and World Wildlife Fund); the Center for Ocean Solutions (partners: Monterey Bay Aquarium and MBARI); and the Program on Food Security and the Environment (partner: Freeman Spogli Institute for International Studies). Special workshops are held regularly on key environmental issues such as biofuels, climate change policy, the U.S. Farm Bill, Pacific salmon, and carbon offsets. During the academic year, the Woods Institute also sponsors public events, including the Energy Seminar and the Environmental Forum, which are open to the Stanford community.

Through this and other work, the Woods Institute is helping to ensure that we can meet the needs of not only the current generation but of generations to come.

Undergraduate Programs—The Woods Institute provides support for student group projects focusing on the environment and sustainability. For details, see <http://woods.stanford.edu/students/projects.html>.

The institute sponsors the University-wide Goldman Interschool Honors Program in Environmental Science, Technology, and Policy.

The Woods Institute also sponsors a weekly series of talks on a broad range of energy topics under the rubric of CEE/ENERGY 301, Energy Seminar. For more information, see <http://woods.stanford.edu/cgi-bin/energyseminar.php>.

GOLDMAN INTERSCHOOL HONORS PROGRAM IN ENVIRONMENTAL SCIENCE, TECHNOLOGY, AND POLICY

The Woods Institute for the Environment 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 sciences, 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 faculty members in the environmental field on an honors thesis that incorporates both scientific principles and policy aspects of 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 by phoning (650) 723-5697 and at <http://woods.stanford.edu/education/goldman.html>.