

# Karina Garbesi

## Curriculum Vitae

Associate Professor  
Geography & Environmental Studies, Cal State East Bay  
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<http://class.csueastbay.edu/geography/>

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### EDUCATION

- Postdoctoral Fellowship (1993 – 1995) Lawrence Berkeley National Laboratory
- Ph.D., Energy and Resources (1993) University of California, Berkeley (UCB)
- MS, Energy and Resources (1988) University of California, Berkeley
- BA, Physics, High Honors (1986), University of California, Berkeley

### CURRENT POSITIONS

Fall 1999 - present California State University, East Bay (CSUEB, formerly Hayward, CSUH), Associate Professor

Spring 1998 - present University of California, Berkeley  
Affiliated Faculty, Energy and Resources  
Affiliate, Renewable and Appropriate Energy Lab.

### RESEARCH INTERESTS/Expertise

Sustainable Resource Management: alternative energy to improve the environmental and social prospects of current and future generations, sustainable urban environmental forms, sustainable resource policy, environmental justice

Environmental Science and Technology: pollution, energy technologies, environmental design of buildings and cities

### AWARDS AND DISTINCTIONS

- Switzer Environmental Leadership Grant, 2000/2001
- Distinguished Faculty Mentor, San José State University, 1997
- Alexander Hollaender Distinguished Postdoctoral Fellowship, 1993 - 1995
- Switzer Environmental Fellowship, 1992 - 1993
- Associated Western Universities/Department of Energy Fellowship for Achievements in Science, 1989 - 1992
- Bachelor's Degree conferred with High Honors in Physics and High Distinction in General Scholarship, 1986

- Sigma Pi Sigma Physics Honor Society, 1985
- Cyril Gail Scholarship Academic Excellence Award, 1983

## TEACHING AND ADVISING

**Courses at CSUEB (6000 level = graduate, <5000 - undergraduate)**

<b>Geog 3450</b>	Literature and Research Aides
<b>Geog 6660</b>	Human Impacts on the Natural Environment (*)
<b>Geog 6800</b>	Urban and Regional Planning and Development
<b>Geog 6750</b>	Environmental Planning (*)
<b>Geog 4320</b>	Energy and Society (*)
<b>Geog 3000</b>	Resource Management (*)
<b>EnvS 2000</b>	Introduction to Environmental Studies
<b>EnvS 3400</b>	Resource Analysis (*)
<b>EnvS 3480</b>	Applied Field Studies
<b>EnvS 4800</b>	Senior Seminar (*)
<b>EnvS 4900</b>	Independent Study (*)
<b>EnvS 4910</b>	Internship in Environmental Studies

(\*) taught in the past 3 years

**Courses at SJSU (200 level = graduate, 100 level = undergraduate)**

<b>EnvS 101</b>	Sustaining the Earth—lower division undergraduate
<b>EnvS 133</b>	Alternative Energy Strategies—upper division undergraduate
<b>EnvS 116</b>	Solar Energy Design—upper division undergraduate
<b>EnvS 119</b>	Energy and the Environment—upper division undergraduate
<b>EnvS 184</b>	Independent Reading
<b>EnvS 196</b>	Research Topics in Environmental Science—co-taught with CE and Geology
<b>EnvS 198</b>	Senior Seminar in Environmental Studies
<b>EnvS 199</b>	Senior Thesis in Environmental Studies
<b>EnvS 200</b>	Graduate Methods Seminar
<b>EnvS 297</b>	Research and Proposal Development

(≥200 = graduate courses. ≤199 = undergraduate courses)

## Master's Thesis Advising

### IN PROGRESS

- Dipti Vaghela, Community Participation in Microhydro Projects in Orrisa, India, SJSU, Principal Advisor
- Kevin Johnson, An Evaluation of the City of San Francisco's Green Business Program, CSUEB, Chair.
- Denise Populis, Environmental Justice of SFBA Housing: Proximity to Heavily Trafficked Streets, CSUEB, Chair.
- Jennie Sexton, A Web-Guide to the Development of 'Green' Urban Parks, CSUEB, Chair.

- Kieron Slaughter, Evaluation of Transit Oriented Development in the San Francisco Bay Area, CSUEB, Chair.

#### COMPLETED THESES

- Cathy Green, (December 2004) Efficiency's Potential to Reduce San Francisco's Electricity Use and Air Pollution (CSUH, Chair)
- Narinder Bansal, (June 2003) US Low-Income Energy Assistance Programs Before and After Deregulation, Principle Advisor (CSUH, Chair).
- Sharada Thattey. (May 2002) Effectiveness of San Jose's Solar Access Guidelines a Policy Evaluation, SJSU, (SJSU, Principal Advisor).
- John Galloway, (May 2001) Solar Hot Water in California: Policies and Models to Enhance Performance and Market Viability, (UC Berkeley, Principal Advisor).
- Annette Grønlund (May 2000) California Residential Energy Saving Tips (CREST: a GIS-based computer program to make climate-specific energy-efficiency recommendations for home energy use in CA) (SJSU, Principal advisor).
- Lisa Bennett (December 1999) Roles of Municipalities in Watershed Monitoring of Nonpoint Source Pollutants, SJSU, Principal advisor.
- Teri Davis Patane (1999) Hazardous Materials Regulation and Small Business Compliance in Santa Clara County. Dept. of Environmental Studies (SJSU, Principal Advisor).
- JoAnn Baumgartner (1999) Bird and Arthropod Predation of Coddling Moth Species (*Cydia pomonella*) in Apple Orchards. Dept. of Environmental Studies (SJSU).
- Chris Wellise (1999) Effect of Carbamate Pesticide on Cd and Zn Bioaccumulation in a Bivalve. Dept. of Environmental Studie (SJSU).
- Karen Rosen (1998) An Assessment of Potential for Utility-Scale Wind Power Generation in Eritrea. Dept. of Environmental Studies, (SJSU, Chair).
- Jacquie Chu (1998) Social and Environmental Restoration Through Therapeutic Community Gardens. Dept. of Environmental Studies (SJSU, Chair).
- Brandolyn Patterson (1997) Assessment of Selenium Concentrations in Ephemeral Pools at Kestersen Reservoir. Dept. of Environmental Studies (SJSU).
- Christine Hoeflich (1995)--Alternative Fuels for Vehicles: Assessment of Technologies and External Costs. Dept. of Environmental Studies (SJSU).

#### **EMPLOYMENT HISTORY prior to "current"**

- Assistant Professor, Geography and Environmental Studies, Cal State Hayward (1999 – 2003)
- Assistant Professor, Environmental Studies, San Jose State University (1995 – 1999), • Graduate Coordinator (AY 97/98, 98/99), • Energy Program Leader, • Chair, SJSU University-wide Environmental Forum (AY 98/99).
- Guest Scientist, (1995 - ) Lawrence Berkeley National Laboratory, Indoor Environment Program, Environmental Energy Technologies Division
- Research Fellow F93 - S94. Department of Environmental Science, Policy, and Management, University of California, Berkeley, CA, 94270

- Alexander Hollaender Distinguished Postdoctoral Fellow F93 - S95. Lawrence Berkeley Laboratory, Berkeley, CA. Research on contaminant transport through soils and biogeochemical cycling of C from an alpine meadow soil.
- AWU-DOE Graduate Student Fellow S89 - Sm93. Dissertation research: Experimental and theoretical investigation to resolve significant model-measurement discrepancies of radon entry into houses. Development of technique to determine soil air-permeability at variable length scales. Advisors: R.G. Sextro and W.W. Nazaroff.
- Other AWU-DOE supported research: Energy conservation in buildings using urban trees for shading and latent heat loss. Water/energy tradeoffs of urban trees in the arid western US. (with A. Rosenfeld).
- Graduate Student Research Assistant Sm86 - S89. Masters research. Lawrence Berkeley Laboratory, Berkeley, CA. Laboratory and field studies and modeling were used to investigate the gas-phase transport of volatile organic contaminants in the subsurface, and their entry into houses via pressure-driven flow (with R.G. Sextro).
- Graduate Student Research Assistant: F88 - S89. University of California, Berkeley, Energy and Resources Group. Studied the effect of agricultural pesticides and selenium on natural ecosystems in California, and studied the effects of ozone pollution on California's forests and chaparral. Participated in development of appropriate policy responses to protect biodiversity from such threats (with J. Harte).
- Senior Engineering Aid for University of California/California Institute of Technology Keck Telescope Project. 1985 Responsible for data handling and programming for a project studying the optical properties of the near-ground atmosphere at the site of the 10-Meter Telescope (with D. Cudaback).

## **UNIVERSITY SERVICE**

### University Service, CSU System Wide

- **CSU Sustainability Advisory Subcommittee on Education and Research**, Current. Purpose to develop sustainability policy for CSUEB.
- **California Urban Environmental Research and Education Center**, Representative of San Jose State University on the Grants Management Board, 1999. Evaluated the relative merits of proposals submitted or grants funding.
- **Reviewer for new CSU Degree Program**. July 1998. Proposal for a Master of Science in Environmental Science at CSU, Chico.

### University Service, CSUEB

- **Committee on Budget and Resource Allocation**, Current. CHAIR since Fall 2005. Cofounder and member since Fall 2003. Committee reviews CSUEB budgets and spending, and reports to the Academic Senate.
- **President's University Planning, Assessment, and Budget Committee**, Current. Advise the president on university budget matters.
- **Academic Senate**, regular member (AY06/07, AY05/06, AY03/04, AY02/03), Interim member S02.

- **Search Committee for Vice President of Administration and Finance and CFO of CSUEB**, Current.
- **Faculty Marshal, University Commencement** SP 2006, 2005, 2003, 2002, 2001, 2000.
- **Strategic Planning Steering Committee**, Appointed by CSUEB President Rees, AY05/06. The Steering Committee guides development of 5-year planning goals and objectives for CSUEB, reports to the president.
- **Budget Advisory Committee** AY03/04 – 05/06. Advises the CSUEB President on budget allocations.
- **Initiator of 1 MW CSUEB Solar Electric Facility**: Completed March 2004. Proposed and facilitated installation of photovoltaic array on the CSUEB campus. The largest such facility on any campus in the nation, the one megawatt system is installed on the rooftops of four campus buildings: Meiklejohn, PE, Music and Business, and Art and Education. It covers 76,000 square feet and delivers 30% of the campus's peak electricity demand.
- **Encouraged Green Building Design for Building and Technology Center**: Proposed to the President and VP of Administration and Business Affairs in 2003 that CSUEB's new building be designed according to green building principles, to save the campus on energy operations costs, reduce environmental impacts of the building, and generate enthusiasm among students, alumni, and the community. In 2004, the President committed to using green building design in the new construction, which began in 2005.
- **Science GE Committee** AY03/04. Develop criteria and learning outcomes for lower division and upper division science GE courses.
- **ALSS Election Committee** AY 03/04.
- **Executive Committee of the Academic Senate**, The committee supervises the work of the Academic Senate and Prepares its agenda. Regular Member (AY03/04, 02/03), Interim Member (Spring 03).
- **ALSS Curriculum Subcommittee** (AY 02/03) Review proposed curriculum within the College, report recommendations to the Council of Chairs
- **California Faculty Association, Hayward Chapter, Budget Crisis Committee Chair** (AY02/03)
- **Chair, ALSS Technology Committee** (AY00/01, 01/02) The committee oversees and develops policy on all technology procurement and services for the School of Arts Letters and Social Sciences. The primary concern in AY00-01 was management of the Schools extensive computer resources, procuring a network servicing contract, hiring a ITS Director, and developing a strategic budget for computing resources.
- **Honors Convocation**, invited to present graduating honors students Judy Antone (Environmental Studies) and Denise Populis (Geography) (S02).
- **Honors Scholarship Luncheon**, invited faculty member to accompany Denise Populis (S02), Cathy Green (S01).
- **University Information Technology Advisory Committee Member** (AY00/01, 01/02, 02/03, 03/04)

- **Basic Skills Writing Requirements Appeals Panel.** AY99/00, AY00/01, AY01/02. Reviewed and participated as a panel judge on student appeals to the university writing requirement.
- **California Faculty Association, Hayward Chapter (Faculty Union)** • Chair, Budget Crisis Committee AY 02/03 • Department Representative • Organizer, Budget Crisis Forum, May 2003 • Lobbied Lonnie Hancock, 14<sup>th</sup> Assembly District Rep. on Behalf of CSU, March 10, 03 • CFA interviewer of 14<sup>th</sup> Assembly District candidates, December 3, 2001, 2 – 5pm. •AY01/02 CFA teach-in LA CFA system wide meeting AY 01/02. San Francisco Marriot Hotel demonstration •CFA representative at meeting with Senator Liz Figueroa, May 25, 2001, CSUH. •Diehr for PERS Board campaign.

### Department Service, Geography & Environmental Studies, CSUH

- **Environmental Studies Major Advisor,** Fall 2002 - Present.
- **Range Elevation Committee Chair,** Fall 2005, Chair committee conducting departmental evaluation of range elevation candidates.
- **Environmental Science Advisor,** Fall 2002 – Spring 2004.
- **Geography and Environmental Studies Curriculum Coordinator.** Conducted Major Revamp of Environmental Studies Curriculum, coordinating with contributing departments (Fall 2003 – Spring 2005).
- **New Course Development.** Eenvt 3400 (Resource Management), and Eenvt 3480 (Applied Field Study).
- **G&ES Assessment Committee,** AY01/02.
- **California Faculty Association, Department Rep.** AY 00/01, 01/02, 02/03, 04/05, 05/06. Active in numerous special actions including: Meeting with Senator Liz Figueroa, May 25, 2001, CSUH, interviewing state assembly candidates, phone banking to elect Gloria Romero to the state senate, gathering endorsements for George Diehr for CalPERS Board, and participation in meetings and actions in Los Angeles and San Francisco.
- **Environmental Studies Internship Coordinator,** AY 00/01, 01/02.
- **Fall Admissions Day. Department Representative,** Saturday, October 20, 2001.
- **Faculty Participant, Majors/Minors Faire (F01, F00, F99).** Booth set-up and student advising on the mall. (We won a prize for best booth both times!)
- **Department Webpage Committee, F1999.**

### University Service, San Jose State University

- **Chair, SJSU Environmental Forum** AY 98/99. Mission: to coordinate and enhance environmental programs, education, and opportunities at SJSU. Major accomplishments: initiated EF Web site (outreach for all environmental programs on campus); initiated spring speaker series (Prof. Stephen Schneider: Climate Warming: Real Science or Media Hype); faculty workshop on incorporating Environmental Justice case studies in GE classes; preliminary planning for Environmental Curriculum Faire and Environmental Honors Scholarships.
- **College of Social Science Curriculum Committee,** SJSU (AY 97/97); reviewed proposals for new courses and curriculum changes in the College of Social Science.

- **Environmental Initiative, Research Committee** (AY 94/95), Facilitated environmental research collaborations on campus by developing a data base of all SJSU faculty interested in or conducting environmental research and or projects.
- **SJSU Environmental Forum** (member AY 97/98, chair AY 98/99). Representative of the Department of Environmental Studies in multi-college forum to enhance environmental programs at SJSU.

#### Department Service, Environmental Studies, SJSU

- **Graduate Coordinator** (S97, AY 97/98, AY 98/99), I managed all aspects of the Environmental Studies Graduate Program, which had between 40 and 50 active students.
- **Advisor for Energy Concentration** BS in Environmental Studies (I designed and manage the Concentration and advice of all of its students);
- **Computer Services Committee** (AY 97/99). I got all ES faculty connected to Internet, oversaw the department web site, and arranged computer system backup and digital scanning for the Department.
- **Equipment Committee** (AY 98/99).
- **Curriculum Committee** (AY 95/96, 96/97, 97/98), I was a major player in the redesign of the Environmental Studies Curriculum (AY 97/98) and in setting standards and developing departmental syllabi for the independent reading course and the senior thesis courses.

#### **PROFESSIONAL SERVICE (see also Invited Talks and Guest Lectures)**

- Sponsor/Host: Environmental Footprint Curriculum Workshop for K-12 teachers. Arranged for the Department of Geography and Environmental Studies to sponsor and host a curriculum development workshop for K-12 teachers to incorporate ecological footprint concept in classroom teaching. Event was put on by Redefining Progress, an Oakland non-profit and co-sponsored by the US-EPA.
- Proposal review: National Science Foundation, Geography and Regional Science Unit (Environmental Justice)
- Mentor to Switzer Graduate Fellowship Grant recipient Scott Fruin, Doctoral candidate in the Environmental Science and Engineering Program, UCLA.
- Interviewer for Switzer Environmental Fellowship, the San Francisco Foundation, San Francisco, CA: May 2000 and May 1995.
- Women Energy Associates, Board of Directors, 1998.
- Peer review for archival journals: *Environmental Science and Technology*, *Health Physics*, *Soil Science Society of American Journal*
- Book Reviews, Prentice Hall, Addison and Wesley, Rowman and Littlefield.
- Peer review for institutional reports: Lawrence Berkeley Laboratory, United States Geological Survey
- International Summer School on Science and World Affairs, Energy and Environment Group. Princeton University, Princeton, NJ. (Sm91, participant), Moscow, USSR (Sm920, participant), and Shanghai, China (Sm93, keynote speaker)

- Conference Organizer: *Star Wars and National Security: A Conference on the Strategic Defense Initiative*, October 9 - October 11, 1986, University of California, Berkeley.

## **PUBLIC INTEREST CONSULTING**

### Consulting Projects

- Consultant to the *Environmental Law and Justice Clinic (ELJC)*, *Golden Gate Law School*, (1999 – 2003) Goal: Analysis of means to minimize energy impacts to the San Francisco, Hunter's Point Community. Issues: new transmission and power plant siting proposals, power plant decommissioning, alternative power supply and efficiency options. (See Consulting Reports)
- Expert Witness for the San Francisco Alliance for Environmental Justice, an Intervenor in the Potrero Power Plant Unit 7 licensing case. Testimony delivered to the California Energy Commissioners in administrative court proceedings, on December 9, 2002. California Public Utilities Commission Auditorium, 505 Van Ness Ave, San Francisco. Written and oral testimony and cross-examination addressed issues of how Unit 7 would compare to other alternatives in its effects on the local and statewide transmission and distribution systems.
- Consultant to the *Alameda Center for Environmental Technologies*, Alameda, CA (AY 00/01), Review of energy technologies amenable for technology transfer from the national laboratories and for green business incubation in the context of California's energy crisis.
- Consultant to: *Native American Renewable Energy Education Project (NAREEP)*. Consulted on curriculum development for the NAREEP Tribal College Summer Workshop, July 28 – August 3, 1996 in Berkeley, California, UCB Clark Kerr Campus, developed teaching modules on renewable energy and nuclear energy.

### Consulting Reports

- K. Garbesi and E. Bartholomew, *The Potential for Solar Electricity Generation in San Francisco*, A Report to the Environmental Law and Justice Clinic of Golden Gate University Law School, July 1, 2001.
- C. Green and K. Garbesi, *The Potential to Reduce The City of San Francisco's Electricity Demand through Implementation of Commercially Available Energy Efficient Technologies*, A Report to the Environmental Law and Justice Clinic of Golden Gate University Law School, July 1, 2001.
- K. Garbesi, *Comments on the San Francisco Peninsula Long-Term Electric Transmission Technical Study (2004 – 2009): DRAFT FINAL REPORT*, Prepared for the Environmental Law and Justice Clinic of Golden Gate University Law School on Behalf of the Southeast Alliance for Environmental Justice, October 7, 2000.
- K. Garbesi, *Comments by Professor Karina Garbesi on the CEC Preliminary Staff Assessment (PSA) of the Potrero Unit 7 Project*, Project Alternatives Section. Comments presented to Professor Alan Ramo, Environmental Law and Justice Clinic, Golden Gate University Law School. June 2, 2001.
- ELJC, *Data Requests to Southern Energy (now Mirant), Potrero Power Plant Unit 7 Project*, Golden Gate University Law School, Environmental Law and Justice

Clinic. (00-AF C-4). I coordinated the development of and was the lead author on the data requests. 27 pp.

## **PUBLIC SERVICE**

- Volunteer: October 2005. Rehabilitation of Berkeley low income apartments for Katrina relief victims. A collaborative project of the City of Berkeley, Prospect Sierra School, and two non-profits: Rebuilding Together Albany-Berkeley-Emeryville and Affordable Housing Associates.
- Kensington Fire Protection District (KFPD) Board of Directors: 2001. The District is the lead agency for the prevention and suppression of fire and for emergency preparedness and medical response. Key issues of interest to me include ecological vegetation management and fire-safety at the urban/wildland interface.
- Kensington Emergency Preparedness Council: I represented KFPD on the Council.
- Kensington Hilltop Elementary School •Member (1999 - 2002) PTA, KEF, Dad's Club. •Guest Lecture/Fieldtrip for 2<sup>nd</sup> Graders (Rms 9 & 4), "Weather Data and Weather Stations: How Scientists Use Them"October 29, 2001 •Delivered a Solar Energy Lecture to Room 20 Classroom (June 13, 2001), see Talks •Active member of the Dad's club for which I have volunteered numerous hours doing seismic retrofits. •Organizer (F99) PM Kindergarten Spanish program (AY99/00). •Science Fair judge (AY 00/01, 02/02)•Organizer and donator of guest lecture delivered to three first grade classrooms: The Ecological Importance of Bats, delivered by Maggie Hooper, director of Nightflight and the Bat Conservation Fund, Berkeley, CA (May 31, 2001). •Carnival volunteer (AY 22/00, 00/01, 01/02) •Garden Party Fund Raiser volunteer (AY 22/00, 00/01, 01/02) •Organizer and chef for Duxbury Reel Tidepool visit (May 29, 2001).
- City of San Jose, Comments submitted to the Environmental Services Division regarding establishment of rules for city-aggregated greenpower purchases. In preparation for Renewable Energy Programs Workshop, January 28, 1999.
- City of San Jose, Invited Juror. Jury Process for Local Government Electricity Restructuring Projects. Provided advice to the City of San José on its selection of potential energy programs through which it might pursue in the restructured electricity market. September 22, 1998, Hayes Conference Center, San José.
- Supervisor of summer research of high-school teacher research assistant Sm92 Sharon Tannenbaum, Lawrence Berkeley Laboratory TRAC Project. Research on modeling and interpretation of radon transport in soils.
- Teacher, California Invitational Chemathon: April 27, 1991; Demonstrations and lectures on the source, exposures, and health risk of indoor 222-Rn to California high school students.
- Principal Author and Organizer: *Petition and Letter to Congress from Scientists and Energy Professionals Concerning the National Energy Strategy*. Used in US Congressional testimony by Rep. George Miller, Congressional Record, Sept. 26, 1991. Adopted by the Union of Concerned Scientists in support an Alternative National Energy Strategy.

- Expert Witness: May 10, 1989; Gave testimony before the Natural Resources Committee of the California Assembly in support of AB348, the California Reforestation and Urban Forestry Act of 1990.
- Expert Witness: April 3, 1989; Gave testimony before the Ways and Means Committee of the California Assembly in support of AB348, the California Reforestation and Urban Forestry Act of 1990.

## **GRANTS RECEIVED**

- Environmental Finance Center, EPA Region 9. AY05/06, 06/07. Grant funds used to operate the Finance Center in support of green business in the region. Activities include organization of California Chemical Policy Symposium, environmental product and behaviors placement on prime time television, toxic waste reduction on tribal lands.
- Pollution Prevention Grant, USEPA. AY05/06, 06/07. Purpose of Grant us to reduce toxics exposures from products used in beauty salons.
- Switzer Environmental Leadership Grant, 2000/2001. To support consulting work to the ELJC, see Consulting, above.
- Probational Faculty Professional Activities Grant, 2000/2001, School of Arts, Letters, and Social Sciences, CSUH.
- RSCA Mini Grant From CSU Hayward. For “System Performance and Economics of Net-Metered Solar Electric Systems in the SF Bay Area”, 1999 – 2000.
- College of Social Science Foundation Research Grant. San Jose State University Foundation research support for the project: "Investigation of the Potential for City-Community Collaboration to Enhance Renewable Energy in the Restructured Electricity Market”, 1998 – 1999.
- University of California Sustainable Agriculture Research and Education Program, Oct. 95 – Dec. 96, Support for graduate student J. Chu thesis: "Social and Environmental Restoration through Urban Therapeutic Gardens", I am the Project Director.
- Environmental Initiative Grant F96, SJSU Inter-college collaborative. Award for 20% time to formulate research proposal for interdisciplinary environment research.
- CSU Award for Research, Summer 96, Awarded two months of summer salary by the California State University for research on the project: "Wind Energy Resource Assessment for Eritrea, Africa".
- Professional Development Grant, Sp96 San Jose State University Lottery Fund support for the project: "Wind Energy Resource Assessment for Eritrea, Africa".
- Affirmative Action Faculty Development Grant, Sp96 reduced course load for S96 to conduct research, plus research funds, San Jose State University Foundation research support for the project: "Wind Energy Resource Assessment for Eritrea, Africa".
- College of Social Science Foundation Research Grant, 11/95 – 11/96. San Jose State University Foundation research support for the project: "Wind Energy Resource Assessment for Eritrea, Africa".

- Grant to Faculty for Graduate Student Stipend, 11/95 – 11/96. San Jose State University Foundation grant to support Environmental Studies graduate student, Karen Kello, for research assistance on the project: "Wind Energy Resource Assessment for Eritrea, Africa".
- Kearny Foundation of Soil Science Grant, F93 - F94. The Structure of Soil Heterogeneity and its Effect on Bulk Flow of Gas-Phase Contaminants Through Soil: A Study of the Scale Dependence of Soil Permeability to Air and its Causes. With J. Harte.

## **PUBLICATIONS**

### **Articles in Peer-Reviewed Journals**

- K. Garbesi, A.L. Robinson, R.G. Sextro, and W.W. Nazaroff (1999) "Radon Entry into Houses: The Importance of Scale-Dependent Permeability", *Health Physics*, **77**(2): 183 – 191.
- K. Rosen, R. Van Buskirk, and K. Garbesi (1999) "Wind Energy Potential of Coastal Eritrea: An Analysis of Sparse Wind Data", *Solar Energy*, **66**:3, 201-213.
- K. Garbesi and T. Patane (1999) "Improving Hazardous Materials Handling Compliance through Education: A Silicon Valley Case Study", *EM Magazine*, September, 13 –17.
- R. Van Buskirk, K. Garbesi, K. Rosen (1998) "Wind Resource Assessment of Eritrea, Africa: Preliminary Results and Status", *Journal of Wind Engineering and Industrial Aerodynamics*, **74–76**, 365–374.
- K. Garbesi, R.G. Sextro, A.L. Robinson, J.D. Wooley, J.A. Owens, and W.W. Nazaroff (1996) "Scale dependence of soil permeability to air: Measurement method and field investigation", *Water Resources Research*, **32**, 547-560.
- K. Garbesi, R.G. Sextro, W.J. Fisk, M.P. Modera, and K.L. Revzan (1993) "Soil-Gas Entry into an Experimental Basement: Model-Measurement Comparisons and Seasonal Effects," *Environmental Science and Technology*, **27**, 466–473.
- A.T. Hodgson, K. Garbesi, R.G. Sextro and J.M. Daisey (1992) "Transport of Volatile Organic Compounds from Soil into a Residential Basement," *Journal of the Air and Waste Management Association*, **43**, 277–283.
- K. Garbesi and R.G. Sextro (1989) "Modeling and Field Evidence of Pressure-Driven Entry of Soil Gas into a House Through Permeable Below-Grade Walls," *Environmental Science and Technology*, **23**, 1481–1487.

### **Encyclopedia Article**

- K. Garbesi, 'The Implications of Global Warming for Energy Production and Consumption,' in 'Theme 1.4. Natural Resource System Challenge II: Climate Change, Human Systems, and Policy' (Ed. A. Yotova)', in *ENCYCLOPEDIA OF LIFE SUPPORT SYSTEMS*, EOLSS Publishers Co, Oxford, UK, 2002." INVITED article.

### **Papers in Conference Proceedings**

- K. Garbesi, K. Rosen, R. Van Buskirk, "Wind Power in Eritrea, Africa: A Preliminary Resource Assessment", In: *Proceedings of the American Wind Energy Association: Wind Power 1997*, Austin, Texas, June 15 - 18, 1997.
- R. Van Buskirk, K. Garbesi, and K. Rosen, "Wind Resource Assessment of Eritrea, Africa: Preliminary Results and Status", In: *Proceedings of the 2nd European & African Conference on Wind Engineering, Vol. 1*, Ed. Giovanni Solari, Genova, Italy, June 22 - 26, 1997.
- K. Garbesi, J.A. Owens, and J. Harte, "A Study of the Scale Dependence of Soil Permeability to Air", In: *Reactions of Pollutants in Soil Systems*, Kearney Foundation of Soil Science 1993 - 1994 Annual Report, 269-285. Presented at the Kearney Foundation Conference, Berkeley, California, September 8 - 9, 1994.
- K. Garbesi, R.G. Sextro, W.F. Fisk, and W.W. Nazaroff, "Toward Resolving the Model Measurement Discrepancy of Radon Entry into Houses: A Study of the Scale Dependence of Soil Permeability to Air," In: *Indoor Air '93, Vol. 4: Particles, Microbes, Radon*, 4, Kalliokowski, P., Jantunen, M. and Seppänen, O., Ed. Indoor Air '93: Helsinki, 1993, 575 – 580.
- A.L. Robinson, R.G. Sextro, W.J. Fisk, K. Garbesi, J. Wooley, and H.A. Wollenberg, "A study of the Influence of Gravel Subslab Layer on Radon Entry Rate Using Two Basement Structures," In: *Indoor Air '93, Vol. 4: Particles, Microbes, Radon*, 4, Kalliokowski, P., Jantunen, M. and Seppänen, O., Ed. Indoor Air '93: Helsinki, 1993, 651 – 653.
- A.T. Hodgson, K. Garbesi, R.G. Sextro, and J.M. Daisey, "Transport of Volatile Organic Compounds from Soil into a Residential Basement," Paper no 88-95B.1 in: *Proceedings of the 81st Annual Meeting of the Air Pollution Control Association*, APCA, Pittsburgh, PA, 1988.

### **Conferences: Special Sessions Organized**

- K. Garbesi (Chair), *Renewable Energy Developments in California, Paper Session*, American Association of Geographers Annual Conference, Hyatt Regency, San Francisco. Organizer of special session (Accepted for Spring 2007)
- K. Garbesi (Chair), *Renewable Energy Developments in California, Panel*, American Association of Geographers Annual Conference, Hyatt Regency, San Francisco. Organizer of special session (Accepted for Spring 2007)

### **Conference Papers, Presentations, and Panels**

- K. Garbesi, et al., "Are Rail-Sited Transit-Oriented-Developments in the San Francisco Bay Area Achieving Sustainable Cities Goals?", Paper in Special Session: *From theory to practice: Can new planned development be sustainable?*, Association of Geographers Annual Conference, Hyatt Regency, San Francisco, Accepted for Spring 2007.
- K. Garbesi and A. Ramo, Invited Talk, "Deregulation, Crisis, and the Public Interest: California's Slippery Slope", Association of American Geographers Annual Meeting, 2002, Los Angeles, March 10 – 23, Los Angeles.

- K. Garbesi, Invited Panelist, “What Happened to the California Energy Crisis?”, Association of American Geographers Annual Meeting, 2002, Los Angeles, March 10 – 23, Los Angeles.
- K. Garbesi, Special Session – Invited, “Energy Options in a Warming World: A Clear Imperative” Presented at the 97<sup>th</sup> Annual Meeting of the Association of American Geographers, Energy and Environment Specialty Group. February 27<sup>th</sup> – March 3, 2001, New York, New York.
- K. Garbesi, Special Session – Invited, “Women in Solar Energy: Overcoming the Barriers”, American Solar Energy Society’s Year 2000 Conference, Madison, Wisconsin, June 20, 2000, 10:30 am.
- K. Garbesi, J.A. Owens, R.G. Sextro, A.L. Robinson, and W.W. Nazaroff, "Scale Dependence of Soil Permeability to Air: Technique, Field Measurements and Implications", presented at the American Geophysical Union Fall Meeting, San Francisco, December 1995. EOS **76**(46): F205, 1995.
- K. Garbesi, R.G. Sextro, and W.W. Nazaroff, “Soil Physics Study to Explain Large Model-Measurement Discrepancies of Radon Entry into Houses”, presented at the American Geophysical Union Fall Meeting, San Francisco, December 1993. EOS **74**(43): 261-262, 1993.
- K. Garbesi, R.G. Sextro, and W.W. Nazaroff, “A Field Study of the Scale Dependence of Soil Permeability to Air”, presented at the American Geophysical Union, Spring Meeting, Baltimore, May 1993. EOS, **74**(16): 142, 1993.

#### **Theses and Dissertation**

- K. Garbesi, "Toward Resolving Model-Measurement Discrepancies of Radon Entry into Houses", Doctoral Dissertation University of California, Berkeley, December 1993. Also published as: Report No. LBL-34244 Rev., Lawrence Berkeley Laboratory, Berkeley, CA, October 1994, 169 pages.
- K. Garbesi, "Experiments and Modeling of the Soil-Gas Transport of Volatile Organic Compounds Into a Residential Basement," MS Thesis, University of California, Berkeley, May 1988. Also published as: Report No. LBL-25519, revised, Lawrence Berkeley Laboratory, Berkeley, CA. 1988, 97 pages.
- K. Garbesi, “Lunar Occultation Observation of SAO-079170”, Physics Honors Thesis, University of California, Berkeley, May 7, 1986.

#### **Book Sections**

- K. Garbesi, "Estimating Water Use by Various Landscape Scenarios", *Cooling Our Communities: A Guidebook and Tree Planting and Light-Colored Surfacing*, US Environmental Protection Agency Report, 22-2001, January 1992, 157 – 172.
- J. Arey, R. Atkinson, K. Garbesi, and B. Nordman, "Implementation Issues: Water Use, Landfills, and Smog," In *Cooling Our Communities: A Guidebook and Tree Planting and Light-Colored Surfacing*, US Environmental Protection Agency Report, 22-2001, January 1992, 53 – 62.

## Research Reports

- K. Garbesi, K. Kello, and R. Van Buskirk, Preliminary Wind Energy Resources Assessment for Eritrea, a Report to the Eritrean Department of Energy, July, 1996.
- G., L. Myer, P. Persoff, S. Finsterle, J. Apps, D. Vasco, S. Muller, P. Yen, P. Williams, K. Garbesi, J. Owens, and K. Pruess. *First-Level Field Demonstration of Subsurface Barrier Technology Using Viscous Fluid*, Lawrence Berkeley National Laboratory, Berkeley, CA, LBL-37520, 1995, ~250 pages.
- K. Garbesi, R.G. Sextro, A.L. Robinson, J.D. Wooley, J.A. Owens, and W.W. Nazaroff, Scale Dependence of Soil Permeability to Air: Measurement Method and Field Investigation, Report No. LBL-35369, Lawrence Berkeley Laboratory, Berkeley, CA, November 1995, 51 Pages.
- K. Garbesi, R.G. Sextro, and W.W. Nazaroff, A Dynamic Technique for Measuring Soil Permeability to Air Over Variable Length Scales, Report No. LBL-322723 Rev. Lawrence Berkeley Laboratory, Berkeley, CA, January 1994, 27 pages.
- K. Garbesi, R.G. Sextro, W.J. Fisk, M.P. Modera, and K.L. Revzan, Soil Gas Entry Into an Experimental Basement: Model-Measurement Comparisons and Seasonal Effects, Report No. LBL-31873, Lawrence Berkeley Laboratory, Berkeley, CA, March 1992, 26 pages.
- K. Garbesi, R.G. Sextro, W.J. Fisk, and W.W. Nazaroff, Toward Resolving the Model-Measurement Discrepancy of Radon Entry Into Houses: A Study of the Scale Dependence of Soil Permeability, Report No. LBL-33522, Lawrence Berkeley Laboratory, Berkeley, CA, January 1993, 6 pages.
- W.J. Fisk, M.P. Modera, R.G. Sextro, K. Garbesi, H.A. Wollenberg, T.N. Narasimhan, T. Nuzum, and Y.W. Tsang, "Radon Entry into Basements: Approach, Experimental Structures, and Instrumentation of the Small Structures Research Project," Report No. LBL-31864, Lawrence Berkeley Laboratory, Berkeley, CA, February 1992, 21 pages.
- K. Garbesi, "Threats from Pesticide Use", Appendix C In *In Our Own Hands: A Strategy for Conserving Biological Diversity in California* by D.B. Jensen, M. Torn, and J. Harte, California Policy Seminar Research Report, 1990, C1-C13.
- K. Garbesi, "Tropospheric Ozone Pollution in CA: Effects on Forests and Chaparral", Appendix B In *In Our Own Hands: A Strategy for Conserving Biological Diversity in California* by D.B. Jensen, M. Torn, and J. Harte, California Policy Seminar Research Report, 1990, B1-B6.
- K. Garbesi, "The Selenium Problem in California: An Overview", Appendix A In *In Our Own Hands: A Strategy for Conserving Biological Diversity in California* by D.B. Jensen, M. Torn, and J. Harte, California Policy Seminar Research Report, 1990, A1-A6.
- K. Garbesi and R.G. Sextro, Modeling and Field Evidence of Pressure-Driven Entry of Soil Gas Into a House through Permeable Below-Grade Walls, Report No. LBL-26980, Lawrence Berkeley Laboratory, Berkeley, CA. March 1989.
- A.T. Hodgson, K. Garbesi, R.G. Sextro, and J.M. Daisey, "Evaluation of Soil-Gas Transport of Organic Chemicals into Residential Buildings," Report No. LBL-25465, Lawrence Berkeley Laboratory, Berkeley, CA. 1988, 90 pages.

### **Edited Volume**

- K. Garbesi, H. Akbari, and P. Martien (Editors) *Controlling Summer Heat Islands*, The Proceedings of the Workshop on Saving Energy and Reducing Atmospheric Pollution by Controlling Summer Heat Islands, February 23-24, 1989, University of California, Berkeley, CA. Report No. LBL-27872, Lawrence Berkeley Laboratory, Berkeley, 1989, 351 pages.

### **Newsletters and Letters to Editors**

- K. Garbesi, “Watson’s November 18 Open Forum piece green-washes the Bush administration’s disastrous history of public lands management...”, *San Francisco Chronicle*, December 5, 2004.
- K. Garbesi, “ Nuclear Not and Option,” Commentary in *The Pioneer*, April 19, 2001, page 4.
- K. Garbesi, “Cesar Chavez a Unifier,” Commentary in *The Pioneer*, March 29, 2001, page 4.
- K. Garbesi, “California’s Restructured Electricity Market: An Example Not to Follow”, Invited Submission to the Switzer Fellowship Newsletter, 6(2): (web page distribution, <http://www.switzernetwork.org>, 3 pages), 1998.

### **INVITED TALKS & Guest Lectures (See also Conference Talks)**

(see also Conference Presentations and Professional Service)

- Guest Lecture in Environmental Science at UCB: “Deregulation, Crisis, and the Public Interest: California’s Slippery Slope”, for Environmental Science 98/198, 182 Dwinelle Hall, UC Berkeley Campus, March 6, 2002.
- Guest Lecture, Physics, CSUH: “Solar Energy from Low-Cost Low-Tech to High-Tech Grid Connect”, For Kris Wedding’s Energy Class, February 27, 2002.
- Guest Lectures, Geography & Environmental Studies, CSUH: ‘Wind Power in California’ Lead field trips at Altamont Pass Wind Farm for Professor David Larson’s Geog 4300, Environmental Field Class. June 2001. May 17, 2002.
- Invited Talk, PV Solar Alliance, Industry Forum: “The Potential for Solar Electricity Generation in San Francisco”, California PV Alliance Solar Forum, December 14, 2001, Pacific Energy Center, San Francisco, 2:00 – 2:30.
- Invited Laboratory Talk at UCB: “Electricity Deregulation in California—The Erosion of Public Goods”, November 7, 2001. 12:00 – 1:30. Renewable and Appropriate Energy Laboratory, UC Berkeley.
- Guest Lecture/Demo at Hilltop School: “Solar Energy for Heating, Cooking and Electricity”, A guest lecture/demonstration to first graders at Kensington Hilltop School on solar energy, how it works, and what it can be used for. The lecture also taught the fundamentals of electricity. The kids hooked up solar electric (PV) panels and oriented them for optimal water pumping efficiency. We also made cookies in a solar cooker (a big hit!) and saw how sunlight heats up water bags laying on black surfaces much more effectively than those laying on white surfaces (June 13, 2001, Rm 20).

- Biella Room Lecture at CSUH: “California’s Energy Crisis: Muddling Markets, Environment, and Justice”, California State University, Hayward, May 9, 2001, 12 – 2pm, Biella Room.
- Guest Lecture in Environmental Science at UCB: K. Garbesi, “California’s Energy Crisis: The Implications for Efficiency, Renewables, and Environmental Justice”, Invited Speaker for Environmental Science (98/198), a lecture series course titled: “Think Globally, Act Locally”, 182 Dwinelle Hall, UC Berkeley Campus, January 31, 2001.
- Invited Talk in Environmental Engineering at UCB: K. Garbesi, “Energy Options in a Warming World”: Civil and Environmental Engineering Seminar Series, UC Berkeley, April 28, 2000.
- Guest Lecture in Geography at CSUH: Professional Biography, for Prof. H. Eder’s, Seminar on Research Theory and Philosophy of Geography, F1999.
- Invited Talk for Geography and Environmental Studies at CSUH: “Urbanization and Sustainability”, Geography and Environmental Studies, California State University at Hayward, June 19, 1999.
- Invited Talk, Hampshire College: “Science and Education for Environmental Problem Solving”, Hampshire College, Massachusetts, April 6, 1998.
- Invited Talk, Mt. Holyoke College, “Environmental Research: An Interdisciplinary Collaborative Process”, Mt. Holyoke College, February 2, 1998.
- Panel Discussion for Professional Forum: with M. Walpert, M. Tucker, "Bay Area Solar Development," Talk and panel discussion for Women Energy Associates. January 6, 1998, Sinbad's in San Francisco.
- Invited Panelist for “Public Forum”: with 4 other Bay Area Scientists. November 18, 1996, Oakland, CA. Part of Panel lead by Former California Governor Jerry Brown. We interpreted and answered the public's questions about the "World Scientist's Warning to Humanity". The document was written on November 18, 1992, by 1575 scientists from 69 countries including 99 out of 196 living scientists who are Nobel laureates, warning the world's citizens about the seriousness of the global environmental predicament.
- Invited Talk, Environmental Engineering, Princeton University: “Where was all that Radon Coming From? New Insights into Soil-Gas Transport of Radon into Houses”. Major Talk, Department of Civil and Environmental Engineering, Water Resources Program, Princeton University, February 7, 1994.
- Invited Talk, Environmental Engineering, Princeton University: “Issues of Heterogeneity and Scale in Soil Processes”. Major Talk, Department of Civil and Environmental Engineering, Water Resources Program, Princeton University, February 7, 1994.
- Invited Talk, Environmental Engineering, Princeton University: “Where was all that Radon Coming From? New Insights into Soil-Gas Transport of Radon into Houses” Department of Civil and Environmental Engineering, Water Resources Program, Princeton University, February 7, 1994.
- Invited Talk Environmental Engineering, UCB: “Where was all that Radon Coming From? New Insights into Soil-Gas Transport of Radon into Houses” Environmental Science, Policy, and Management, UC Berkeley, February 2, 1994.

- Invited Laboratory Talk: "How much Radon is Really Getting into Houses?" Meeting of Women in Science and Engineering, November 28, 1994, Lawrence Berkeley Laboratory, Berkeley, CA 1994.
- Invited Talk, International Forum: "A Global Perspective on Human Health, Airborne Pollutants, and the Environment", delivered to the International Summer School on Science and World Affairs, Energy and Environment Group, Shanghai, China, August, 1992.
- Invited Talk, International Forum: "Environment and Security: Inextricable Links", plenary talk for the International Summer School on Science and World Affairs, Energy and Environment Group, Moscow Institute of Physics and Technology, Aksakovo, USSR-June - July, 1991.
- Invited Talk, International Forum: "Global Warming and Ozone Depletion: Mechanisms and Ecosystem Impacts", Pacific, Gas and Electric Co. Marketing Meeting, Red Lion Hotel, San Jose, CA.--Sept. 17, 1990.