

## **Aaron Golub**

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Post Doctoral Researcher, University of California Transportation Center

2614 Dwight Way, Berkeley, California 94720-1782

Phone: +1 510 643 4149, Cell: +1 510 219 2670, Fax: +1 510 643 5456, Email: goluba@ocf.berkeley.edu

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### **Education**

#### **University of California at Berkeley** (Berkeley, California)

Ph.D., Department of Civil and Environmental Engineering, 2003. Institute of Transportation Studies.  
Minors: City and Regional Planning, Statistics.

Dissertation: *Welfare Analysis of Informal Transit Services in Brazil and the Effects of Regulation*.  
Committee: Martin Wachs, Robert Cervero (Co-Chairs), Elizabeth Deakin, Samer Madanat

#### **Massachusetts Institute of Technology** (Cambridge, Massachusetts)

M.S. in Mechanical Engineering, August, 1996. Concentration in combustion and thermal sciences,  
specifically combustion engine design and technology.  
National Science Foundation Graduate Fellow 1994-1997

Thesis: *Modeling NO<sub>x</sub> Formation in a Small Bore, Lean Natural Gas, Spark Ignition Engine*.  
Advisor: Ahmed Ghoniem, Mechanical Engineering

#### **Virginia Polytechnic Institute** (Blacksburg, Virginia)

B.S. in Mechanical Engineering (Honors Program), Minor in Mathematics, May, 1994. Summa Cum  
Laude. Concentration in the thermal sciences.

### **Research Interests**

Public transportation planning, policy and regulation; Transportation and social equity and welfare; Urban transportation planning in developing countries; Urban travel behavior and mode choice; Advanced bus transit systems and vehicle technologies; Planning and policy for non-motorized transportation modes; Informal transportation providers and their regulation; Local pollutant and greenhouse gas emissions from transportation.

### **Experiences**

Postdoctoral Researcher, University of California Transportation Center and the Institute for Urban and Regional Development, UC Berkeley 5/2004 to present

Working on several projects, including: Manager of On-Board Transit Rider Survey for California Department of Transportation's Regional Express Bus study, Project Manager for study of household car ownership and travel behavior impacts of shared-car programs; Various other projects and consultations with local planning bodies and public transit agencies.

Consultant, World Bank, Washington D.C. 5/2005 to present  
Assisting the development of an on-line course about Sustainable Transportation concepts for decision makers in the developing world.

Consultant, United Nations Development Program (UNDP) 11/2004 to present  
Serving as an independent evaluator for non-motorized project funding requests made to the UNDP Global Environment Facility.

Consulting Engineer, Department of the Environment, Bogotá, Colombia 5/2004 to 8/2004  
Assisted the city with the development of a project scope, project budget and the evaluation and selection of consultant teams for upcoming air quality management program development.

Brazil Program Director, Institute for Transportation and Development Policy. 8/2003 to 6/2004

Program will support and assist city governments in Brazil in various bus rapid transit, non-motorized and pedestrian transportation planning activities. Currently retained as a consultant to the program.

Consulting Engineer, World Bank, Mexico City, Mexico 2/2002 to 2/2003  
Assisting Mexico City transit and environmental agencies with bus rapid transit system planning including modeling of the effects on pollutant emissions and developing a testing program for a fleet of alternative fueled buses for use in the system.

Research Assistant, W. A. Jones Foundation and International Energy Agency 3/2000 to 6/2002  
Assisting bus system planning activities in São Paulo, Brazil as part of the W. A. Jones Foundation multi-city advanced bus development project.

Graduate Student Representative, University of California, Berkeley Campus Transportation Commission Subcommittee on Bicycle Transportation. 2000 to 2003

Consulting Engineer, World Bank, Rio de Janeiro, Brazil 8/99 to 1/2000  
Developed basic regional model of transportation related pollutant emissions for the city of Rio de Janeiro, Brazil. Assisted in the development of a transportation related air quality management program and produced a statement of policy recommendations for the Bank staff.

Transportation Researcher, U.C. Berkeley 9/97 to 1/2000  
Performed cost and performance comparisons between three bus engine technologies, Diesel, Spark-Ignition Compressed Natural Gas (CNG) and Diesel CNG. Included in-vehicle monitoring of buses, driver and maintenance record keeping and modeling of emissions and fuel consumption.

Intern, Institute for Transportation and Development Policy 6/98 to 8/98  
Assessed current bike planning practices in São Paulo and Rio de Janeiro, Brazil. Worked with a community organization on bicycle/pedestrian access to a proposed tunnel project in the city of Santos, Brazil.

Junior Mechanical Engineer, Hughes Associates, Inc., Baltimore, Maryland 4/97 to 8/97  
Developed advanced concepts and prototypes in fire detection and alarm systems.

Intern, Urban Habitat Program, Earth Island Institute, San Francisco 9/96 to 12/96  
Assisted in data analysis for an historical and spatial study of San Francisco Bay Area transportation funding.

Graduate Researcher, Reacting Gas Dynamics Laboratory, MIT 9/94 to 8/96  
Developed a chemical model of fuel combustion in internal combustion engines to calculate pollutant formation and emissions. Applied model to natural gas engines and worked with gas engine makers to lower emissions.

Intern, Turbulent Combustion Laboratory, Penn State University Summer, 1993  
Studied the effects turbulence and heat transfer have on fuel ignition behaviors.

Engineering Design Research Center, Carnegie Mellon University Summer, 1992  
National Science Foundation Research Intern: Designed alternative shading system for production greenhouses.

Intern, Martin Marietta Laboratories, Baltimore, Maryland Summer, 1991  
Worked in the Coatings and Structures Department and conducted experiments concerning the high temperature electrical behaviors of superionic conducting materials.

### **Publications**

Golub, A. "Brazil's Buses: Simply Successful" in *Access*, No. 24, Spring, 2004.

Ferreira, E. and Golub, A. "The big bus trap: what formal bus operators could learn from the informal sector." in *Proceedings of CODATU XI: Urban Transport in Developing Countries*, Paris, 2004.

Golub, A and Ferreira, E. "The formal bus sector response to informality: the case of Rio de Janeiro, Brazil" in *Proceedings of XIII Pan-American Conference of Traffic and Transportation Engineering*, New York, 2004.

Ferreira, E. and Golub, A. "Sustainable Transportation Balances Economic Viability, Environmental Impacts and Social Equity: The Case Of Bogotá, Colombia." In Human Resource System Challenge VII: Human Settlement Development, edited by Saskia Sassen and Peter Marcotullio, in *Encyclopedia of Life Support Systems* (EOLSS), Developed under the auspices of the UNESCO, Eolss Publishers, Oxford, UK.

Contributing Author: *Bus Systems for the Future: Achieving Sustainable Transport Worldwide*. IEA, Paris, 2002.

A. Golub and A. Ghoniem, "Modeling NO<sub>x</sub> Formation in a Small Bore, Lean Natural Gas, Spark Ignition Engine" SAE Technical Paper 1999-01-3480, SAE, 1999.

A. Golub and S. Richard, H. B. Sequeira and D. Nagle. "High-Temperature Measurement of  $\epsilon_r$  and  $\mu_r$  of Superionic Materials" in *Proceedings of the 1992 Measurement Science Conference*, Anaheim, CA: Measurement Science Conference, 1992.

### **Conference Presentations**

Presented "Estimating the benefits of regulating informal transit services in Brazil." In the session: Institutional configuration and framework as a driver for system performance, at the 9<sup>th</sup> International Conference on Competition and Ownership in Land Passenger Transportation. Lisbon, Portugal, September, 2005.

Speaker, "Conferência Internacional: Mobilidade Urbana Experiência Nacional E Internacional. Londres – Bogotá – Rio De Janeiro – São Paulo" Center of Studies in Transportation and the Environment (Cetrama) of the Engineering School of the Federal University of Bahia. Salvador, Bahia, Brasil. November, 2003.

Panelist, Session 244, "Development at a Price: Transportation, Energy and Environmental Problems of Less Developed Countries," Transportation Research Board Annual Meeting, Washington D.C., January, 2001.

Presenter, Session: Modeling in SI Engines. Paper No: 99FL-269, "Modeling NO<sub>x</sub> Formation in a Small Bore, Lean Natural Gas, Spark Ignition Engine," Society of Automotive Engineering International Fuels & Lubricants Meeting & Exposition, Toronto, October, 1999.

Working Group Facilitator, "Assumptions of Progress: Ideology and Values in Science and Technology," 2000 California Symposium on Science and Technology, Berkeley, March, 2000.

### **Teaching Experiences**

Instructor: Public Transportation Engineering UC Berkeley, Department of Civil and Environmental Engineering	Spring, 2005
Instructor: Public Transportation Engineering UC Berkeley, Department of Civil and Environmental Engineering	Spring, 2004
Instructor: Introduction to City and Regional Transportation Planning UC Berkeley, Department of City and Regional Planning	Summer, 2003
Teaching Assistant: Public Transportation Engineering (Graduate) UC Berkeley, Department of Civil and Environmental Engineering	Spring, 2003

Teaching Assistant: Art & Science of Civil & Environmental Engineering Practice: Professional Ethics  
UC Berkeley, Department of Civil and Environmental Engineering Spring, 2002

Teaching Assistant: Methods of Planning Data Analysis (Graduate)  
UC Berkeley, Department of City and Regional Planning Fall, 2001

Lab Instructor and Teaching Assistant: Introduction to Computer Programming for Scientists and Engineers  
UC Berkeley, Department of Civil and Environmental Engineering Fall, 2000

Literacy Tutor, "Berkeley Reads" adult literacy program, Berkeley Public Libraries 1999-2002

Academic Tutor, "City Year" Youth-At-Risk Program, Boston, Mass. 1995-1996

### **Languages**

English: *Speak, Read, Write*. Portuguese: *Speak, Read, Write*. Spanish: *Speak, Read*.

### **References**

Martin Wachs  
Professor, Department of Civil and Environmental Engineering and  
Director, Institute of Transportation Studies  
109 McLaughlin Hall  
Berkeley, Ca 94720  
Phone: +1 510-642-1106  
Fax: +1 510-642-1246  
Email: [mwachs@uclink4.berkeley.edu](mailto:mwachs@uclink4.berkeley.edu)

Robert Cervero  
Professor, Department of City and Regional Planning  
228 Wurster Hall  
Berkeley, Ca 94720-1850  
Phone: +1 510-642-1695  
Fax: +1 510-643-9576  
Email: [robertc@uclink4.berkeley.edu](mailto:robertc@uclink4.berkeley.edu)

Elizabeth Deakin  
Professor, Department of City and Regional Planning  
Director, University of California Transportation Center  
2614 Dwight Way  
Berkeley, California 94720-1782  
Phone: +1 510-642-4749  
Fax: +1 510-643-5456  
Email: [edeakin@uclink.berkeley.edu](mailto:edeakin@uclink.berkeley.edu)

Lee Schipper  
Co-Director, EMBARQ  
World Resources Institute  
10 "G" St NE  
Washington DC 20002  
Phone: +1 202-729-7735  
Fax: +1 202-729-7798  
Email: [schipper@wri.org](mailto:schipper@wri.org)