Alexandre M. Bayen

Professor, Department of Electrical Engineering and Computer Science
Professor, Department of Civil and Environmental Engineering
Director, Institute for Transportation Studies
Faculty Scientist, Mechanical Engineering, Lawrence Berkeley National Laboratory

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Affiliations	Institute for Transportation Studies (ITS)
	Center for Information Technology and Research in the Interest of Society (CITRIS)
	Lawrence Berkeley National Laboratory (LBNL)
	Berkeley Artificial Intelligence Research (BAIR)

EDUCATION

Stanford University, Stanford, California
Ph.D. in Aeronautics and Astronautics, Jan. 2004
Dissertation title: *Computational control of networks of dynamical systems: application to the National Airspace System*

Stanford University, Stanford, California
M.S. in Aeronautics and Astronautics, June 1999
M.S. Project title: *Stability analysis of a trailing vortex*

Ecole Polytechnique, France
Eng. Deg. in Applied Mathematics, July 1998

AWARDS

Signatures Innovation Fellow, UC Berkeley	2017
Best Paper Award, UBICOMM 2015	2015
Liao-Cho Innovation Endowed Chair	2015
EECS Distinguished Teaching Award, EECS Department, UC Berkeley	2015
Walter L. Huber Civil Engineering Research Prize, ASCE	2014
Chancellor Professor, UC Berkeley	2014
Antonio Ruberti Young Researcher Prize, IEEE	2013
Okawa Foundation Research Award	2013
Best Application Paper Award, 9th IEEE CASE Conference	2013
Presidential Early Career Award for Scientists and Engineers (PECASE), The White House	2010
NASA Top 10 Innovators in Water Sustainability (Launch 2010)	2010
TRANNY Award, California Department of Transportation	2009
CAREER Award, National Science Foundation	2009
Best of ITS Award, citation for "Best Innovating Practice", 15th World Congress on ITS	2008
Clean Technology Innovation Prize, Berkeley Center for Entrepreneurship & Technology	2008
William F. Ballhaus Prize for Outstanding Doctoral Dissertation, Stanford University	2004

HONORS

Honorable Mention - Best Practices Award, 2017 City on a Cloud Innovation Challenge, Amazon Web Services	2017
Aging 2.0 Audience Choice Award	2017
NAE Gilbreth Lecture	2017
NAE China-America Frontiers of Engineering session organizer, China	2017
Excellent Reviewer, *Journal of Guidance, Control, and Dynamics* (JGCD)	2016
NAE EU-US Frontiers of Engineering speaker, Helsinki, Finland	2016
NAE EU-US Frontiers of Engineering speaker, Chantilly, France	2013

IBM Shared University Award	2012
Google Faculty Research Award	2012
Finalist, Best Student Paper Award (as advisor), IEEE Conference on Decision and Control	2010
NAE Frontiers of Engineering participant	2008
Outstanding Automatica Reviewer	2003
Graduate Fellow of the Delegation Generale pour l'Armement, France	1998 - 2002
Medaille de la Defense Nationale as a Second Lieutenant, Landau in der Pfalz, Germany	1996
Three Letters of Commendation as a Second Lieutenant, France	1996, 1997, 1998

ACADEMIC EXPERIENCE

Director, Transportation Center, Lawrence Berkeley National Laboratory	Feb. 2015 - Onward
Faculty Scientist, Mechanical Engineering, Lawrence Berkeley National Laboratory	Feb. 2015 - Onward
Director, Institute for Transportation Studies, UC Berkeley	Jul. 2014 - Onward
Professor, (50% appt.) Electrical Engineering and Computer Science, UC Berkeley	Jul. 2014 - Onward
Professor, (50% appt.) Civil and Environmental Engineering, UC Berkeley	Jul. 2014 - Onward
Associate Professor, (50% appt.) Electrical Engineering and Computer Science, UC Berkeley	Jul. 2011 - July 2014
Associate Professor, (50% appt.) Civil and Environmental Engineering, UC Berkeley	Jul. 2011 - July 2014
Associate Professor, (100% appt.) Civil and Environmental Engineering, UC Berkeley	Jul. 2010 - Jul. 2011
Assistant Professor, (100% appt.) Civil and Environmental Engineering, UC Berkeley	Mar. 2005 - Jul. 2010
Visiting Scientist, NASA Ames Research Center	Jan. 2001 - Dec. 2003
Research Assistant, Aeronautics and Astronautics, Stanford University	Sept. 1998 - Dec. 2003

VISITING PROFESSORSHIPS

Nanyang Technological University (NTU), Singapore, Electrical and Electronic Engineering   Jan. 2012 - Jan. 2014
Performing research in the area of intelligent buildings

MAJOR PROJECTS

Principal Investigator, *NestSense*   Sep. 2014 - Onward
Budget to date: ∼500K.
Team: 8 (1 PhD, 5 MEng, 1 staff, 1 nurse, 1 occupational therapist).
The goal of this project is to complete prototyping of the hardware ecosystem for in-home monitoring of patients with Alzheimer's disease (AD), to begin data collection with subjects, and to test novel algorithms based on this data. The hardware ecosystem consists of a combination of cameras, Android Wear smartwatches, Android phones, and bluetooth in-home sensors. Data collection will be achieved through a collaboration between clinicians at UCSF, UC Davis and a group of the EECS department at UC Berkeley.

Principal Investigator, *Connected Corridors project*   Sep. 2011 - Onward
Budget to date: ∼$21M.
Team: 50 researchers, engineers and administrative staff at its peak.
In charge of building and leading a team composed of faculty (co-investigators), post doctoral and staff researchers, Ph.D., M.S. and B.S. students, software engineers, policy analysts, and administrative staff. The ICM project will prototype, test and deploy a pilot architecture for control of a corridor in California, comprising highways, arterial streets and at least one public transit system. The team will build a backend system to control traffic flow through use of traffic lights, ramp metering lights and variable speed limits. The team will develop a smartphone app to incentivize the public to change their commute patterns (mode / route / time of departure) based on social networks and rewards for good behavior. Co-investigators include Profs. Horowitz (ME), Kanafani (CEE), Varaiya (EECS), Walker (CEE), Work (CEE) and Zhang (CEE).

Principal Investigator, *Mobile Millennium project*   Jan. 2008 - Sep. 2011
Budget: >∼ $5M.
Team: 25 researchers, engineers and administrative staff.
The *Mobile Millennium* project was the first traffic app and backend system deployed by Nokia (jointly with UC Berkeley) to gather traffic information from GPS enabled smartphones to reconstruct traffic information in real-time from streaming data. Nicknamed *Mobile Century*, a prototype system was tested on Feb. 8, 2008 on I80 for 10 hours, on 100 vehicles showcasing the first ever reconstruction of traffic from GPS data only. Subsequently, a field operational test, *Mobile Millennium*, led

and operated by UC Berkeley, was launched to test the system at the scale of California, and has been running to this day, gathering more than 60 million GPS points a day, which are fused with loop, radar and blutooth data. The system is now used by the State of California for procurement, to assess the quality of probe data to be acquired by California.

Principal Investigator, *Floating Sensor Network project* Jan. 2006 - Sep 2015
Budget: $2M.
Team: 10 researchers and students.
The *Floating Sensor Network* is the first semi-autonomous fleet of 100 robots based on Android smartphones built to broadcast parameters measured in rivers and estuarine environments to a backend system used for data fusion. The 100 robots have dual motors, diving capabilities, and sensor platforms capable of measuring depth, salinity, temperature and currents. The backend system fuses the streaming Lagrangian data into high fidelity hydrodynamic models for real-time nowcast and forecast of the currents, on 500 nodes of the NERSC computer cluster at LBNL.

Co-investigator, *NextGen Air Traffic Management System* Jan. 2005 - Feb. 2008
Budget: $2M.
Team: 3 students.
This project focused on network optimization of the National Airspace System (NAS) in the US. Over three years, I developed a NAS-wide network routing model and optimization framework to mitigate congestion in the en-route airspace, and was implemented to work ETMS/ASDI datastreams jointly with NASA Ames. Co investigators include Profs. Hansen (CEE), Sastry (EECS) and Tomlin (EECS).

GOVERNMENT EXPERIENCE

Major, Research Director, Autonomous Navigation Laboratory Jan. 2004 - Mar. 2005
Délégation Générale pour l'Armement, Ministère de la Défense, Vernon, France
In charge of a laboratory of 18 researchers focused on building UAVs with off the shelf components. In charge of procurement of UAV technology for the Navy and the Air Force.

First Lieutenant, Ecole Polytechnique, Palaiseau, France Sept. 1996 - Sept. 1998
Engineering training.

Second Lieutenant, 6th Maintenance Unit Regiment Sept. 1995 - Sept. 1996
Active duty. French Forces in Germany, Landau in der Pfalz, Germany

INDUSTRY EXPERIENCE

Consultant

Oliver Wyman 2016 - 2017
Planning for autonomous mobility solutions and infrastructure development for next generations cities

Kayrros 2016
Identification of data sources and methodologies for VMT accounting at various spatio-temporal scales

Nokia January 2012 - September 2012
Development of IP related to location based services (transportation, health, mobility)

BAE Systems October 2010 - December 2011
Development of a tracking system for UAV-based reconstruction of ground traffic

NAVTEQ June 2009 - December 2010
Development of traffic flow estimation tools for next generation probe-based monitoring systems.

Expert witness experience

Google vs. Traffic Information LLC 2010 - 2012
Patent US 6,466,862, Case No. 3:09-cv-00642-HU
Role: Technical expert for plaintiff, hired by Perkins Coie LLP

Core Wireless Licensing S.A.R.L. vs. Samsung L.G. 2015
Patent US 7,072,667, Case No. 2:14-cv-911-JRG-RSP and 6.14-cv-751
Role: Technical expert for plaintiff, hired by Hueston Hennigan LLP

Entrepreneurship

Co-founder, SafelyYou, Advisor 2015 - present

Development of a deep learning based Alzheimer patient camera monitoring system for assisted living

Co-founder, Advisor, KarMode   2012 - 2014
Development of a MirrorLink based tablet solution for integration of mobile apps and services in cars.

Co-founder, Advisor, StreetOwl   2011 - 2013
StreetOwl is a start up which develops smartphone enabled driving scores for insurance premium pricing.

Manager, Epigraph LLC   June 2009
Epigraph LLC is a consulting company focused on mobile internet services, location based services, and mobile sensing.

UC BERKELEY TEACHING EXPERIENCE

EE128-ME134   F13, F14
Feedback Control Systems [4 units]

CE291F-ME236-EE291c   F05, S06, S09, S10, F10, S12, S13, S14
Control and Optimization of Distributed Parameters Systems [3 units]

CE291G (taught under course number CE290 in Fall 2010)   S10
Advanced Control and Optimization of Distributed Parameters Systems [3 units]

CE191   F05, F06, F09, F16
Civil and Environmental Engineering Systems Analysis [3 units]

E7 (formerly E77)   S08, S10
Introduction to computer programming for scientists and engineers [4 units]

CE290Z   F06
Selected Topics in Air Transportation [2 units]

EE291e   F05
Hybrid and Embedded Systems (guest lecturer) [3 units]

CE301   F09, S10
Future Civil and Environmental Engineering Teaching Workshop [1 unit]

OTHER TEACHING EXPERIENCE

European Embedded Control Institute (EECI), Supelec, France   Spring 2008, Spring 2009
HYCON graduate school on control, *Verification and control of nonlinear systems*, class co-taught with Prof. Mitchell (UBC).

6th Maintenance Unit Regiment   Sept. 1995 - Sept. 1996
Professor of military German language for officers, French Forces in Germany, Landau in der Pfalz, Germany.

PAST RESEARCH SUPERVISION

Past Post Doctoral Researchers

Dr. Qingfang Wu   Sep. 2013 - Sep. 2015
Ph.D. Ph.D., UC Berkeley, CEE Environmental Engineering, 2013
Research topic: Real time flow estimation in channel networks using Lagrangian data.
Position shortly after: Research Engineer, US Geological Survey / UC Davis

Dr. Thomas Schreiter   Jan. 2013 - Aug. 2014
PhD Department of Civil and Environmental Engineering, DELFT, 2013
Research topic: Online imputation of missing data in sensor networks, application to traffic flow sensing
Position shortly after: Data Engineering Fellow, Insight Data Science, Palo Alto, CA.

Dr. Ethan Xuan   Sep. 2011 - Aug. 2014
Ph.D. Civil and Environmental Engineering, Transportation Engineering, UC Berkeley, 2011
Research topic: Incentivization mechanism for traffic for integrated corridor management.
Position shortly after: Software Engineer, FactSet, San Francisco, CA.

Dr. Nikos Bekiaris-Liberis   Aug. 2013 - Aug. 2014
PhD Department of Mechanical and Aerospace Engineering, UCSD, 2013
Research topic: estimation of crowds and traffic using mobile sensing
Position shortly after: Post Doctoral Researcher, Univ. of Crete.

Dr. Anastasios Kouvelas — Sep. 2012 - June 2014
Ph.D. Department of Production and Management Engineering, Univ. of Crete, 2011
Research topic: Use of probe data in arterial networks for integrated corridor management
Position shortly after: Research Engineer, TSS.

Dr. Ryan Herring — Jan. 2011 - May 2011
Ph.D. IEOR, University of California, Berkeley, 2010
Research topic: Design and development of machine learning algorithms for arterial traffic inference.
Position shortly after: Research Engineer, Apple.

Dr. Joos-Hendrik Bose — Oct. 2009 - May 2010
Ph.D. Computer Science, Freie Universität, Berlin, Germany, 2007
Research topic: Parallelization of machine learning algorithms for arterial traffic inference.
Position shortly after: Research Engineer, T-Mobile / Deutsche Telekom Labs.

Dr. Olli-Pekka Tossavainen — Aug. 2007 - Oct. 2010
Ph.D. Physics, University of Kuopio, Finland, 2007.
Research topic: Inverse modeling algorithms for Lagrangian sensor networks.
Position shortly after: Research Engineer, NAVTEQ.

Dr. Jeff Ban — May 2007 - Aug. 2008
Ph.D. CEE, University of Wisconsin-Madison, 2004.
Research topic: Sensor placement, mobile sensing, traffic information systems.
Position shortly after: Assistant Professor, Civil and Environmental Engineering, RPI.

Dr. Annalisa Scacchioli[1] — Jan. 2007 - Mar. 2008
Ph.D. EECS, University of L'Aquila, Italy, 2005.
Research topic: Prediction of uncertainty propagation in hybrid simulations.
Position shortly after: Assistant Professor, New York University.

Past Ph.D. Students

Walid Krichene, EE, advised since June 2011 — 2016
Ph.D. thesis: *Nash-Stackelberg games in horizontal queuing networks.*
Position shortly after graduating: Research Scientist, Google, Mountain View, CA

Jack Reilly, CEE Systems, — 2014
Ph.D. thesis title: *Security of Freeway Traffic Systems: A Distributed Optimal Control Approach.*
Position shortly after graduating: Research Scientist, Google, Mountain View, CA

Leah Anderson, CEE Systems, — 2014
Ph.D. thesis title: *Optimal control of buoyant drifters under hydrodynamic forcing.*
Position shortly after graduating: Product Quality Engineer, Palantir Technologies, Palo Alto, CA

Timothy Hunter, CS, — 2014
Ph.D. thesis title: *Large-scale, low-latency state estimation of cyberphysical systems, with an application to traffic estimation.*
Position shortly after graduating: Software Engineer, Databricks, San Francisco, CA

Samitha Samaranayake, CEE Systems, — 2014
Ph.D. thesis title: *Routing strategies for the reliable and efficient utilization of road networks.*
Position shortly after graduating: Assistant Professor, Cornell University, Ithaca, NY

Kevin Weekly, EECS robotics, — 2014
Ph.D. thesis title: *Applied Estimation of Mobile Environments.*
Position shortly after graduating: Research Scientist, Fitbit, San Francisco, CA

Qingfang Wu, CEE Env. Eng. — 2013
Ph.D. thesis title: *Real Time Flow Estimation in Channel Networks using Lagrangian Data.*
Position shortly after graduating: Research Engineer, USGS/Davis

Aude Hofleitner, Electrical Engineering — 2013
Ph.D. thesis title: *A hybrid approach of physical laws and data-driven modeling for estimation: the example of queuing networks.*
Position shortly after graduating: Research Engineer, Facebook Inc., Menlo Park, CA

Dr. Andrew Tinka, Electrical Engineering — 2013

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[1]Co-advised with Professor Božidar Stojadinović.

Ph.D. thesis title: *Actuated Mobile Sensing in Distributed, Unstructured Environments.*
Position shortly after graduating: Research Engineer, Kiva Systems, Boston, MA

Dr. Tarek Rabbani,[2] Mechanical Engineering   2013
Ph.D. thesis title: *Topics in Large-Scale Sparse Estimation and Control.*
Position shortly after graduating: Engineer at Level-up Analytics, Mountain View, CA

Dr. Sebastien Blandin, Civil and Environmental Engineering (Systems Engineering)   2012
Ph.D. thesis title: *Modeling, estimation and control of distributed parameter systems: application to transportation networks.*
Position shortly after graduating: Research Engineer, IBM, Singapore.

Dr. Mohammad Rafiee, Mechanical Engineering   2012
Ph.D. thesis title: *Data assimilation in large scale networks of open channels.*
Position shortly after graduating: Engineer, Marin Software.

Dr. Saurabh Amin,[3] Civil and Environmental Engineering (Systems Engineering)   2011
Ph.D. thesis title: *On cyber security for networked control systems.*
Position shortly after graduating: Assistant Professor, Civil and Env. Eng, MIT.

Dr. Daniel Work, Civil and Environmental Engineering (Systems Engineering)   2010
Ph.D. thesis title: *Real-time estimation of distributed parameters systems: application to traffic monitoring.*
Position shortly after graduation: Assistant Professor, Civil and Env. Eng & Electrical and Computer Eng., UIUC.

Christian Claudel, Electrical Engineering   2010
Ph.D. thesis title: *Convex formulations of inverse modeling problems on systems modeled by Hamilton-Jacobi equations. Applications to traffic flow engineering.*
Position shortly after graduation: Assistant Professor, Mechanical Engineering, KAUST University, Saudi Arabia

Dr. Ryan Herring, Industrial Engineering and Operations Research   2010
Ph.D. thesis title: *Real-time traffic modeling and estimation with streaming probe data using machine learning.*
Position shortly after graduation: Research Engineer, Apple.

Dr. Juan-Carlos Herrera, Civil and Environmental Engineering (Transportation Engineering)   2009
Ph.D. thesis title: *Assessment of GPS-enabled smartphone data and its use in traffic state estimation for highways.*
Position shortly after graduation: Assistant Professor, Civil Engineering, Pontificia Universidad Catolica de Chile.

Dr. Issam Strub, Civil and Environmental Engineering (Systems Engineering)   2009
Ph.D. thesis title: *Modelling and simulation of large scale distributed parameter systems.*
Position shortly after leaving UC Berkeley: Research Scientist, The Cambridge Strategy (Asset Management) Ltd.

Dr. Dengfeng Sun, Civil and Environmental Engineering (Systems Engineering)   2008
Ph.D. thesis title: *Large-scale modeling and optimization of en-route air traffic flow.*
Position shortly after graduation: Assistant Professor, Aeronautics and Astronautics, Purdue University.

Past M.S. Students

Nicolas Laurent-Brouty, CEE Transportation Engineering   2016
MS thesis / project title: *Negative externalities of GPS-enabled routing applications: a game theoretical approach*

Sami Malek, CEE Systems, (M.S. EECS), courtesy co-advising for Prof. Steven Glaser   2015
M.S. thesis / project title: *Real time ground measurement system*

Paul N. Gabet, CEE Systems   2014
M.S. thesis / project title: *Costs analysis of implementing Integrated Corridor Management tools.*

Boris Prodhomme, Industrial Engineering and Operations Research   2012
M.S. thesis / project title: *Data quality metrics for fusion of smartphone data.*

Paul Borokhov, CEE Systems   2012
M.S. thesis / project title: *Eco-routing with dynamic traffic forecast.*

Carlos Oroza, CEE Systems   2012
M.S. thesis / project title: *Depth echo sounder based autonomous drifter design for bathymetry mapping.*

Jonathan Beard, Mechanical Engineering, incoming   2012
M.S. thesis / project title: *Sliding mode control of a dual propeller Lagrangian sensor.*

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[2]Co-advised with Laurent El Ghaoui.
[3]Co-advised with Professor Shankar Sastry.

Jack Reilly, CEE Systems, UC Berkeley.   2010
M.S. thesis / project title: *iShake: using personal devices to deliver rapid, semi quantitative earthquake information.*

Leah Anderson, CEE Systems, UC Berkeley.   2010
M.S. thesis / project title: *Real-time integration of drifter data in hydrodynamic models.*

Pierre-Emmanuel Mazare, CEE Transportation, UC Berkeley.   2010
M.S. thesis / project title: *Dynamic routing in the presence of uncertainty in hybrid transportation networks.*

Matthieu Nahoum, CEE Systems, UC Berkeley   2010
M.S. thesis / project title: *Model based detection of errors in static sensor networks for transportation system.*

Christian Claudel, EE, UC Berkeley   2009
M.S. thesis / project title: *Solutions to switched Hamilton-Jacobi equations and conservation laws using hybrid components.*

Aude Hofleitner, Ecole Nationale des Ponts et Chausees, France   2009
M.S. thesis / project title: *Using cellular phones for traffic monitoring.*

Julie Percelay, Ecole Nationale des Ponts et Chausees, visiting graduate student   2008
M.S. thesis / project title: *Data assimilation algorithms for shallow water flows.*

Tarek Rabbani, ME, UC Berkeley,   2008
M.S. thesis / project title: *Differential flatness and optimization based control and estimation of hydraulic systems.*

Jessica Pannequin, EE, UC Berkeley   2007
M.S. thesis / project title: *Nonlinear model predictive control applied to multiple aircraft deconflicted path planning with weather avoidance constraints.*

Stephane Martinez, Ecole Nationale de l'Aviation Civile, France   2007
M.S. thesis / project title: *Dynamic sectorization of the airspace.*

Past MEng. Students

Jun Jie Ng, EECS, UC Berkeley	2016-2017
Chong Wee Tan, IEOR, UC Berkeley	2016-2017
Marie Douriez, IEOR, UC Berkeley	2016-2017
Ludovic Thea, IEOR, UC Berkeley	2016-2017
Yanrong Li, EECS, UC Berkeley	2016-2017

MEng title (group project): Machine Learning, Wearable Computing and Alzheimer's Disease

Fu-Chi Shih, IEOR, UC Berkeley	2017-2018
Anamika Tyagi, IEOR, UC Berkeley	2017-2018
Fu-Chi Shih IEOR, UC Berkeley	2017-2018
Anamika Tyagi IEOR, UC Berkeley	2017-2018

MEng title: Measuring and simulating the impact of routing services on congestion patterns in large scale cities

Past M.B.A. Students

Lauren Devos (as part of Lean Launchpad class, NestSense)	2015
Anna Stolyarova (as part of Lean Launchpad class, NestSense)	2015

Past undergraduate students and interns

(V): visiting student, (B): Berkeley student, year indicates period of visit, collaboration, or employment while at UC Berkeley

Carol Minna Zhang (B), Civil and Environmental Engineering	2016
Ana Jamshidnejad (V), TU Delft, The Netherlands	2016
Bradley Zylstra (V), Randolph College	2016
Oriana Peltzer (V), ENSAM, France,	2016
Oumaima Makhlouk, ENSAM, France,	2016
Pierre-Louis Ehret (V), ENSAM, France,	2016
Daniel Haziza (V), Ecole Polytechnique, France,	2016
Chedly Bourghiba (V), Ecole Polytechnique, France,	2016
Julien Jacquemot (V), Ecole Polytechnique Federale de Lausanne	2015
Cyril Tamraz (V), American University of Beirut, Lebanon	2015
Thomas Avice (V), Ecole Nationale Superieure des Arts et Metiers (ENSAM)	2015
Ramon Alonso (B), Electrical Engineering	2015

Nils Breyer (V), University of Linkoping, Sweden	2015
Deepak Talwar (B), Electrical Engineering and Computer Science	2014-2015
Mandy Huo (B), Department of Physics[4]	2014
Nicolas Signole (V), Ecole Nationale Superieure des Arts et Metiers (ENSAM)	2014
Martin Gouy (V), Ecole Nationale Superieure des Arts et Metiers (ENSAM)	2014
Han Zou (V), National University of Singapore,	2014
Fouad Tabsh (V), American University of Beirut	2014
Ziad Al Habibi (V), American University of Beirut	2014
Sadeel Mustafa (V), American University of Beirut	2014
Syrine Krichene (V), ENSIMAG, Grenoble	2014
Nicolas Plain (V), Ecole Polytechnique, France	2014
Milena Suarez (V), Ecole Polytechnique, France	2014
Antoine Grappin (V), Ecole Polytechnique / Ecole des Mines de Paris, France	2014
Rim Harriss (V), Ecole Polytechnique, France	2014
Paul van Erp (V), Transportation and planning, DELFT University	2014
Yi Zhou (B), IEOR,	2013
Nate Bailey (B), Mechanical Engineering	2013
Kevin Sheu (V), Electrical Engineering, UCLA	2013
William Nouet (V), Ecole Nationale Superieure des Arts et Metiers (ENSAM)	2013
Farhad Farokhi (V), KTH, Sweden	2013
Ahmed Alaoui (V) Ecole Normale Superieure / Ecole Polytechnique, France	2013
Benjamin Drighes (V), Ecole Polytechnique, France	2013
Jean-Baptiste Lespiau (V), Ecole Polytechnique, France	2013
Guillaume Sabran (V), Ecole Polytechnique, France	2013
Maria Laura Delle Monache (V), INRIA, France	2012
Mats Sandin (V), Linkoping University, Sweden	2012
Magnus Fransson (V), Linkoping University, Sweden	2012
Agathe Benoit (V), Ecole Polytechnique, France	2012
Axel Parmentier (V), Ecole Polytechnique, France	2012
Yasser Jebbari (V), Ecole Polytechnique, France	2012
Frederic Wylomanski (V), Ecole Polytechnique, France	2012
Thomas Cassou (V), Ecole Polytechnique, France	2012
Julien Nachef (V), Ecole Nationale Superieure des Arts et Metiers (ENSAM)	2012
Manuel Jakob (V), Technische Universität Darmstadt, Germany	2011-2012
Joao Rodriguez (V), University of Porto, France	2011-2012
Chiheng Huor (B), B.S. Mechanical Engineering,	2011-2012
Axel Barrau (V), Ecole Polytechnique, France	2011
Kenza Skali (V), Ecole Polytechnique, France	2011
Otilia Anton (V), Ecole Polytechnique, France	2011
Constant Bails (V), Ecole Polytechnique, France	2011
Emmanuel Malherbe (V), Ecole Polytechnique, France	2011
Samuel Rosat (V), Ecole Polytechnique, France	2011
Jean-Benoit Saint-Pierre (V), Ecole Polytechnique, France	2010
Jean-Baptiste Gariel (V), Ecole Nationale des Arts et Metiers, France	2010
Timothee Chamoin (V), Ecole Polytechnique, France	2010
Jerome Thai (V), Ecole Polytechnique, France	2010
Adrien Couque (V), Ecole des Mines, France	2010
Walid Krichene (V), Ecole des Mines, France	2010
Derek Speer (B), CEE	2010
Brenda Dix (B), CEE	2010
Mario Iglesias (B), CEE	2010
Jonathan Beard (B), B.S. ME	2010
Julien Monteil (V), B.S. ENTPE, France	2010
Mari Ervasti (V), M.S. VTT, Finland	2010
Pierre-Henri Reilhac (V), B.S. ENSIETA, France	2010
Paul Borokhov (B), B.S. CEE	2010
Sarah Stern (B), B.S. CEE	2009
Carlos Oroza (B), B.S. ME	2009
Romain Hill (V), BS Ecole des Mines de Paris, France	2009

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[4]Honor's Thesis: "add title here"

Nadine Moacdieh (V), American University of Beirut, Lebanon	2009
Tim Kazik (V), BS ETHZ, Zürich, Switzerland	2009
Alfred Tran (B), B.S. CEE	2009
Emmanuel Sevrin (V), Ecole Polytechnique, France	2009
Tania Abou Nasr (V), Ecole Polytechnique, France	2009
Pierre-Emmanuel Mazare (V), Ecole Polytechnique, France	2009
David Wood (B), EECS	2009
Colin Foe-Parker (B), ME	2009
Matt Holland (B), EECS	2009
Dennis Chan (B), EECS	2009
Martin Deterre (V), Ecole Polytechnique, France	2008
Fabien Chraim (V), American University of Beirut, Lebanon	2008
Marcella Gomez (B), ME	2008
Jason Wexler (B), ME	2008
Andrew Spencer (B), ME	2008
Nico Van Der Kolk (B), ME	2008
Sebastien Diemer (V), Ecole Nationale Superieure des Mines de Paris, France	2008
Florent Di Meglio (V), Ecole Nationale Superieure des Mines de Paris, France	2007
Jonathan Elithorpe (B), EECS	2006
Anwar Ghoche (V), CEE American University of Beirut, Lebanon	2006
Tarek Ibrahim (V), EECS American University of Beirut, Lebanon	2006
Nahi Ojeil (V), EECS American University of Beirut, Lebanon	2006
Elie El Khoury (V), EECS American University of Beirut, Lebanon	2006
Alaa Hilal (V), EECS American University of Beirut, Lebanon	2006
Ibtissam Ezzeddine (V), EECS American University of Beirut, Lebanon	2006
Remy Nollet (V), Ecole Polytechnique, France	2005
Antoine Bonnet (V), Ecole Polytechnique, France	2005
Christiane Zoghbi (V), CEE American University of Beirut, Lebanon	2005
Tarek Rabbani (V), ME American University of Beirut, Lebanon	2005

CURRENT RESEARCH SUPERVISION

Current Post Doctoral Researchers

Dr. Alexander Keimer   April. 2016 - April. 2018
PhD Department of Mathematics, Friedrich-Alexander-Universitât Erlangen-NÂ¸rnberg, 2015
Research topic: Development of new flow models for large scale network traffic analysis

Dr. Anthony Patire   Sep. 2010 - onward
Ph.D. Civil and Environmental Engineering, Transportation Engineering, UC Berkeley, 2010
Research topic: Integration of Lagrangian data into flow models, data fusion.

Dr. Qijian Gan   Dec. 2015 - April. 2017
PhD Department of Civil and Environmental Engineering, UC Irvine, 2014
Research topic: Macroscopic modeling and analysis of vehicular urban traffic.

Dr. Juliette Gamabra   Feb.2017 - onward
PhD Department of Civil and Environmental Engineering, UC Dallas, 2016
Research topic: HPC-enabled computations of Nash equilibria through distributed formulations of convex programs

Current Ph.D. Students

Abdulaziz Khyiami, CEE systems, advised since Sep. 2016   Expected Graduation: Spring 2020
Ph.D. thesis: *Application of game theory to energy flows*

Teddy Forscher, CEE systems / City and regional planning, advised since Sep. 2016   Expected Graduation: Spring 2020
Ph.D. thesis: *Regulation of mobile app users through congestion pricing*

Emily Porter, CEE systems, advised since Jan. 2017   Expected Graduation: Spring 2020
Ph.D. thesis: *PDE models for information based dynamic routing*

Jerome Thai, EECS, advised since Feb. 2012   Expected Graduation: Spring 2015
Ph.D. thesis: *Statistical learning for crowdsourced data.*

Cathy Wu, EECS, incoming Fall 2014 — Expected Graduation: Spring 2018
Ph.D. thesis: *Reinforcement learning based control of large scale urban networks*

George Netscher, EECS, advised since Fall 2014 — Expected Graduation: Spring 2018
Ph.D. thesis: *Using connected devices to monitor neuro-degenerative processes*

Student awards and honors

Samitha Samaranayake, Maria-Laura Delle Monache, FBF Award for High-Achieving Younger Researchers	2017
Cathy Wu, ITS Outstanding Graduate Student Award	2017
Walid Krichene, Heidelberg Laureate Forum	2017
Cathy Wu, ACM Future of Computing Academy	2017
George Netscher, Audience Choice Award, Aging 2.0	2017
Teddy Forscher, ENO Fellow, the ENO Foundation	2017
Cathy Wu, Rising Star Fellow, Carnegie Mellon University	2016
Chedly Bourghiba, Felicitations du Jury, Stage d'Option, Ecole Polytechnique	2016
Walid Krichene, Leon O Chua Award, UC Berkeley	2015
Cathy Wu, Eisenhower Fellow, US DOT (declined)	2015
Jack Reilly, Pikarsky Award in Science and Technology for best Ph.D., Council of Univ. Transportation Centers	2014
Sebastien Martin, Prix du stage d'Option, Applied Mathematics, Ecole Polytechnique	2014
Han Zou, Microsoft Indoor Localization Competition, IPSN, Berlin, third place	2014
Kevin Weekly, PhD Innovation Prize, EECS	2014
Walid Krichene, Outstanding GSI award for EE128/ME134 (F13), UC Berkeley	2014
Benjamin Drighes, Grand Prix du Stage de Recherche, Ecole Polytechnique	2013
Jean-Baptiste Lespiau, Prix du Stage de Recherche, Ecole Polytechnique	2013
Qingfang Wu, Delta-Science Fellowship, Delta Stewardship Council	2013
Ahmed El Alaoui, EECS Gold Fellowship, UC Berkeley	2013
Mats Sandin and Magnus Fransson, Prize for the best thesis of 2012, ITN Department, Linkoping University, Sweden	2013
Aude Hofleitner, Prix 2012 de la Chaire Abertis for best Ph.D. thesis, France	2013
Walid Krichene, Eltoukhy East-West Gateway Fellow	2012
Yasser Jebbari Félicitations du Jury de Stage d'Option, Ecole Polytechnique, France	2012
Walid Krichene, Chevron-Xenel Gateway Fellow	2011
Walid Krichene, EECS Excellence award. UC Berkeley	2011
Samitha Samaranayake, Eisenower Fellow, US Department of Transportation	2012
Andrew Tinka, Outstanding GSI Award, EE42/100 (F11), UC Berkeley	2011
Dan Work, Best Ph.D. Dissertation Award, IEEE Intelligent Transportation Systems Society	2011
Sebastien Blandin, UCTC Dissertation Grant, UC Transportation Center	2011
Timmy Siauw, Department Instructional Distinction Award, for E7, Civil and Environmental Engineering	2011
Aude Hofleitner, Eisenower Fellow, US Department of Transportation	2011
Sebastien Blandin, Finalist Best Student Paper Award , IEEE Conference on Decision and Control, Atlanta	2010
Timothee Chamoin, Prix de Stage d'Option, Mathematiques Appliquees, Ecole Polytechnique, France	2010
Sebastien Blandin, Eisenower Fellow, US Department of Transportation	2010
Christian Claudel, Leon O Chua Award, UC Berkeley	2010
Carlos Oroza, NSF IGERT Fellow, CiBER-IGERT PROGRAM, National Science Foundation	2010
Dan Work, Rodney E. Slater Award, ENO Transportation Foundation	2010
Dan Work, outstanding GSI award, GSI for CE191 (F09), UC Berkeley	2010
Dan Work, ENO Fellow, ENO Transportation Foundation	2010
Andrew Tinka, NASA Top 10 Innovators on water (Launch 2010), NASA	2010
Dan Work, Student of the Year Award, UC Transportation Center	2009
Dan Work, Eisenower Fellow, US Department of Transportation	2008
Timmy Siauw, Berkeley Teaching Effectiveness Award, UC Berkeley	2008
Claire Saint-Pierre, Outstanding GSI Award, Head GSI for E7 (S08) UC Berkeley	2008
Timmy Siauw, Outstanding GSI Award, GSI for E7 (S08), UC Berkeley	2008
James Lew, Outstanding GSI Award, GSI for E7 (S08), UC Berkeley	2008
James Lew, Oustanding GSI Award, GSI for E7 (S08), UC Berkeley	2008
Andrew Tinka, Clean Technology Innovation Prize, Berkeley Center for Entrepreneurship & Technology	2008
Andrew Tinka, NSERC Fellow, Canada	2007
Andrew Tinka, Outstanding GSI Award, CE191 (F07), UC Berkeley	2007
Charles Antoine Robelin, Oustanding GSI Award (F06), CE191, UC Berkeley	2006

ACADEMIC SERVICE (UC BERKELEY AND LBNL)

Service to the UC-wide system (incl. Lawrence Berkeley National Laboratory)

Member, UC-wide ITS Board, ex officio, UC Office of the President	2015 - present
Director, Transportation Center, LBNL	2014 - present
Steering Committee Member, SMART Mobility (DOE), LBNL	2015 - present
Steering Committee Member, OPTIMA (DOE), LBNL	2015
Vehicle Access and Alternative Transportation Advisory Group Member, LBNL	2016

Service to the Campus

Reviewer, CITRIS seed grant proposal program 2017	
Ad hoc committee for promotion of Professor [name confidential] to Full Professor	2017
Freshman admission committee member	2016 - present
Interviewer, Regents' and Chancellor's Scholarship Program	2015 - present
Director, Institute for Transportation Studies,	2014 - present
Reviewer, France Berkeley Fund	2014, 2016
Reviewer, UCCONNECT	2016
Reviewer, Peder Sather Center for Advanced Study	2013
Founding Director, Silicon Valley Innovation and Entrepreneurship Program	2013
Transportation Sustainability Research Center (TSRC), University of California	2011 - 2012
Ad hoc Committee for recruitment of an Adjunct Professor [name confidential]	2011
Taskforce for USACE - UC Berkeley Research Center Planning	2010
E7 Course Articulation Faculty, Office of Undergraduate Admissions	2010 - present

Service to the College of Engineering

CET Faculty Steering Committee	Fall 2013 - present
Chair, Committee on Computing and Computer Sciences Education	Spring 2010 - present
SUPERB committee	2010 - present
Ad hoc Committee on E7	Spring 2008 - present
Advisory Committee on International Collaboration	Spring 2008 - present
Committee on Computing and Computer Sciences Education	Spring 2007 - Spring 2010
Taskforce on Control Courses in the College of Engineering	Fall 2007
CITRIS Building Cyber Cafe Space Committee	Fall 2005 - Spring 2007

Service to the Civil and Environmental Engineering Department

Ad Hoc Committee, mid career [name confidential]	2016
Group leader, Systems Program	2014 - present
Search Committee for 2014-15 CEE Lecturer Pool in AP Recruit	2014 - 2015
Conflict of Interest Oversight Committee for students of Professor [Name confidential]	2013 - present
ASCE Faculty Advisor	2009 - 2011
CEE Taskforce on Teaching Workload	Spring 2010
Strategic Planning Committee	2007 - 2014
Systems Engineering Committee	2005-2013
Certificate Program in Intelligent Transportation Systems Taskforce	Fall 2005 - Spring 2006

Service to the Electrical Engineering and Computer Science Department

Recruiting committee	2017
Linear Prelims Committee Member	2016
Graduate Advising and Admissions Standing Committee	2011 - 2013
Undergraduate student faculty advisor	2010 - 2012

MILITARY STATUS

Major (Ingenieur Principal de l'Armement), Department of Defense, France
Promoted Major in 2004, on leave November 2004 – June 2010, active reserve since June 2010.

PROFESSIONAL AFFILIATIONS

IEEE, Institute of Electrical and Electronics Engineers (current)
AIAA, American Institute of Aeronautics and Astronautics (past)
ASCE, American Society of Civil Engineers (current)

PROFESSIONAL SERVICE

National Research Council, The National Academies

Member of the committee on 21st Century Cyber Physical Systems Education   2014

Member of the committee on the future US workforce for geospatial intelligence   2011
Role within committee: assessment of workforce exposure to participatory sensing and crowdsourcing.

Testimony and public hearings

California State Assembly Transportation Committee, Sacramento, CA, Mar. 14, 2016
Chair: Assemblymember Frazier, Highlights from University of California's Institute of Transportation Studies.

California Senate Budget and Fiscal Review Sucommittee No. 2, Sacramento, CA, Apr. 14
Chair Senator Wolk, Increased funding for the University of California Institute of Transportation Studies.

Conference Chair or Co-Chair

Steering Committee member   2016
"International Conference on Cyber Physical Systems (ICCPS)," Vienna, Austria

Conference General Chair   2015
"International Conference on Cyber Physical Systems (ICCPS)," Seattle, WA

Conference Program Committee Co-Chair   2014
"International Conference on Cyber Physical Systems (ICCPS)," Berlin, Germany

Workshop or Conference Organizer and other

Conference Program Committee Member "Machine learning for large scale transportation systems",   2016
Knowledge Discovery and Data (KDD) Mining, 2016, San Francisco

Institute for Pure and Applied Mathematics (IPAM), UCLA   Sep 2015 - Dec. 2015
Long progam title: "New Directions in Mathematical Approaches for Traffic Flow Management"
- Traffic Flow Management Opening Day Workshop   September 8, 2015
- Mathematical Approaches for Traffic Flow Management Tutorials   September 9-12, 2015
- Workshop I: Mathematical Foundations of Traffic   September 28 - October 2, 2015
- Outreach day: Advancing Traffic Control through Big Data and Connectivity   October 7, 2015
- Workshop II: Traffic Estimation   October 12-16, 2015
- Workshop III: Traffic Control   October 26-30, 2015
- Workshop IV: Decision Support for Traffic   November 16-20, 2015
- Culminating Workshop at Lake Arrowhead Conference Center   December 6-11, 2015

Member of the Program Committee   2013
2nd International Workshop on Urban Computing (UrbComp 2013)

Member of the Program Committee   2012
5th International Workshop on Computational Transportation Science (Redondo Beach, CA)

Workshop Chair and Host "Traffic modeling and estimation at the age of smartphones"   2011
IEEE Conference on Decision and Control, European Control Conference

Member of the Program Committee   2010
Workshop on Secure Control Systems (SCS), Cyberphysical Week 2010 (Stockholm, Sweden)

Member of the Program Committee   2008 - 2012
International Workshop Hybrid Systems: Computation and Control (HSCC)

Invited Session Organizer and Chair, "Multi Agent System Analysis"   2007
2007 American Control Conference

Organizing Committee Member   2002

5th International Workshop Hybrid Systems: Computation and Control (HSCC)

Workshop Chair, Co-Chair or Host

Workshop co-Chair   2015
"Set-valued Approaches to Control Problems with Applications in Traffic Flow Modeling"
2015 SIAM Conference on Control and Its Applications (CT15), Paris, France

Workshop co-Chair   2013
"Traffic Modeling and Management: Trends and Perspectives"
INRIA Sophia Antipolis, France

Workshop Participant   2012
"Analysis and Design of Cyber-Physical Transportation Systems: Challenges, Progress, and Future Directions"
American Control Conference, Montreal, Canada [talk presented by Dan Work]

Workshop Chair   2011
"Mathematics of Traffic Flow Modeling, Estimation and Control"
Institute for Pure and Applied Mathematics (IPAM), UCLA, Los Angeles, CA

Workshop Host   2011
"Active Transportation and Demand Management (ATDM) Workshop"
Federal Highway Administration (FHWA) – UC Berkeley, Berkeley, CA

Workshop Organizer and Co-Chair   2008
"Irrigation channels and related problems"
Consiglio Nazionale delle Ricerche (CNR), Italy

Workshop Organizer and Co-Chair   2008
2008 EU-US08: workshop on cyberphysical systems
KTH, Stockholm, Sweden

Workshop Organizer and Co-Chair   2007
Satellite workshop, "Modeling and control of physical networks"
10th International Workshop Hybrid Systems: Computation and Control (HSCC), Pisa, Italy

Tutorial Session Organizer and Co-Chair   2006
"Modeling, Optimization and Software in Air Traffic Management"
45th IEEE Conference on Decision and Control, San Diego, CA

Panels

Panel moderator: Big data, smart cities. How the confluence of the IOT, networks and big data can change everything 2017
UC ITS Policy Focum series, 2017, Sacramento, CA

Panelist: Driving Smart Cities forward, MIT-IDSS Launch Event Confirmation   2016
Massachusetts Institute of Technology, Cambridge, MA

Panelist: Machine learning for large scale transportation systems   2016
Knowledge Discovery and Data (KDD) Mining, 2016, San Francisco, CA

Panelist: Planning for Multi-Modal System Management & Operations – A Fire Side Chat   2015
California Transportation Planning Conference, Los Angeles, CA

Panel moderator: The future of Smart Cities and urban mobility   2015
CITRIS - INRIA Annual Workshop, UC Berkeley, CA

Panel moderator: The future of automated driving, a roundtable and panel   2014
Institute of Transportation Studies, UC Berkeley, CA

Panelist: Integrated Corridor Management   2014
ITS California, Santa Clara, CA

Panelist: Urban Life and Mobility Services   2014
EIT CT Labs, Rocket Space, San Francisco, CA

Panelist: Sensors and sensor networks   2014
Measuring Development, Energy & Environment, World Bank and CEGA, Berkeley, CA

Panelist: Good Morning California: Integrated Corridor Management 2014
TRB Mid-Year meeting, Beckman Center, Irvine, CA

Panelist: Challenges and opportunities in CPS education 2014
Committee on 21st Century Cyber-Physical Systems Education: Defining Needs and Identifying Challenges, National Academy of Sciences, Washington, DC

Panelist: Future directions for CPS in Europe 2014
CPS20: CPS 20 years from now - visions and challenges, CyPhERS 2nd Experts Workshop, CPSWeek 2014, Berlin, Germany, April 14, 2014

Panelist: Connected Commuting 2013
VERGE – Where tech meets sustainability, San Francisco, CA

Panelist: Debate on entrepreneurship in honor of Fleur Pellerin, Ministre PME - Innovation, Economie Numerique 2013
L'Atelier – Consulat de France, San Francisco, CA

Panelist: Digital technologies for making our cities a better place to live 2013
Berkeley-Stanford-INRIA workshop, Stanford University

Panelist: Tau Beta Pi 2013
Tau Beta Pi undergraduate research panel, UC Berkeley

Panelist: Visualizing the environment 2013
"Streams, gardens & clouds, visualizing dynamic data for engagement, education and the environment" UC Berkeley

Panelist: Making the city more attractive with information and communication technology 2012
California France Forum on Energy Efficiency Technologies (CAFFEET), UC Berkeley

Panelist: Citizen participation 2012
Urban Systems Collaborative, UCTC, UC Berkeley

Panelist: Probe Data Analysis, Challenges, & Opportunities 2012
IEEE Intelligent Transportation Systems (ITSC) Conference, Anchorage, AK

Panelist: The Big Payoff in Big Data 2012
UC Berkeley College of Engineering Dean's Society, Marvell corporate headquarters, Santa Clara, CA

Panel Chair: Student led Green initiatives (NTU/NUS) – Energy Carta, Earthlink, IET, and GSTS 2011
SinBerBest Kick-Off Workshop, Nanyang Technical University, Singapore

Panel Chair: Smart Transportation Panel 2011
SVC Wireless Annual Conference, Mountain View, CA

Panel Chair: Research Perspectives on Ecodriving 2011
2011 Eco-Driving Workshop, UC Berkeley, CA

Panel Participant: Water, the 21st Century Strategic Resource 2010
2010 CleanTech Open National Conference, Santa Clara, CA

Panel Participant: Enhancing Security and Privacy of Networked Control Systems 2010
TRUST Workshop on Secure Control Systems, Stockholm, Sweden

Panel Participant: Future Challenges in Embedded Reasoning: Intelligence in Embedded Systems 2010
AAAI Spring Symposia Series, Stanford, CA

Panel Session Chair: Industry Applications, VOLVO Week 2008
VOLVO Center for Future Urban Transport Workshop, Berkeley, CA

Service to Government Agencies

Member, Research Advisory Panel, *Land and Transportation* , Singapore 2015 - 2017

Board memberships

VIMADES Inc. 2007 - present
VIMADES Inc. is an engineering firm focused on the development of optimal control and viability based software products.

LASTRE 2003 - present
LASTRE, is a French nonprofit aimed at accelerating the deployment of optimal control and viability tools to industry.

Other service to the profession

Participant, *Microsoft Faculty Summit*, Seattle, WA 2013
Invited to participate to discussions with Microsoft Research Leadership about mobile and cloud computing

Member, *Connected Commuting Task Force*, New Cities Foundation 2012
My role in this task force was to lead research on social network data for traffic.

Member, *Technical Committee on Building Automation*, IEEE Robotics and Automation Society 2012 - present
My role in this committee is to advise on the use of mobile sensing for smart buildings

Member, *Advisory committee, META-CDM Air Traffic Control center* 2012 - Present
My role in this committee is to advise on the use of smartphone technologies to monitor pedestrians in aiports

Member, *TRB Subcommittee on Computational Transportation and Society* 2012 - Present
My role within this committee is to represent participatory sensing and crowdsourcing within the committee.

Member, *IEEE-CSS technical committee on distributed parameter systems* 2011 - Present
My role within this committee is to promote research on distributed parameter systems within the CSS (and IEEE)

Participant, *Google Faculty Summit*, Mountain View, CA 2010
Invited to participate to discussions with Google Senior Leadership and faculty colleagues about mobile and cloud computing

Co-organizer of the *CITRIS Distinguished Lectures on Intelligent Infrastructure Systems*, UC Berkeley, CA Fall 2009
Created the event, programmed lecture series, hosted the speakers and organized the live broadcast and archival of videos

Organizer of the *Nokia Distinguished Lectures on Cyber Physical Systems*, UC Berkeley, CA Fall 2008
Created the event, programmed lecture series, hosted the speakers and organized the live broadcast and archival of videos

Invited Professor, HYCON graduate school on control Jan. 12th-Jan. 16th, 2009
European Embedded Control Institute, Supelec, France
Course title: *Verification and control of nonlinear systems*

Invited Professor, HYCON graduate school on control Mar. 25th - Mar. 28th, 2008
European Embedded Control Institute, Supelec, France
Course title: *Verification and control of nonlinear systems*

Society of Women Engineers (SWE) *Mini University* high school outreach, Berkeley Mar. 2009, Mar. 2010, Apr. 2011
Course title: *Mobile sensing: applications of cellular phone technology*

Other service

Volunteer Mathematics Teacher, Frank Havens School, Piedmont, CA 2013 - 2014
Advisor, Openclassrooms (www.openclassrooms.com) 2016

Reviewer activities

- *Associate Editor*
  – IEEE Transactions on Automation Science and Engineering, Guest Associate Editor 2015
  – Transportation Research - Part C, Associate Editor 2012 - 2014
  – Discrete and Continuous Dynamical Systems, Guest Associate Editor 2013
  – Networks and Heterogeneous Media, Guest Associate Editor 2008, 2009, 2012

- *Proposal review*
  – *New York University AD*, Engineering Dean's Symposium Program 2017
  – *A∗STAR*, President Technology Award, Singapore 2015
  – *UCCONNECT, Institute for Transportation Studies*, UC Berkeley 2014
  – *Peder Sather Center for Advanced Study*, UC Berkeley 2013
  – *Netherlands Organisation for Scientific Research (NWO)*, The Netherlands 2010
  – *National Science Foundation (NSF)*, panel number(s) and directorate(s) confidential 2007
  – *Istituto Nazionale di Alta Matematica (INdAM)*, Italy 2005

- *Ph.D. thesis committee member, reviewer, rapporteur (outside of my own Ph.D. students)*
  – *UC Berkeley*, over 40 2005 - present
  – *National Technical University (NTU)*, School of EEE, Long Yushen (PhD) 2016
  – *University of Michigan*, Department of Mechanical Engineering, Jin Ge (PhD) 2016
  – *Georgia Institute of Technology*, Department of Aeronautics and Astronautics, Aude Marzuoli (PhD) 2015
  – *Universite Blaise Pascal*, Clermont Ferrand, France, Department of Mathematics, Sophie Martin (HDR) 2014

– *Universite Paris Est*, Paris, France, Department of Mathematics, Vincent Aguilera (HDR)	2014
– *University of Kaiserslautern*, Germany, Departement of Mathematics, Sebastian Kuhn (PhD)	2014
– *Ecole Nationale des Ponts et Chaussees*, France, IFSTAR, Aude Hofleitner (PhD)	2013
– *Agro Paris Tech*, France, Departement de Mecanique des Fluides, Simon Munier (PhD)	2009

- *Other reviewer activities*
  - Outstanding Automatica Reviewer 2003
  - European PhD Award on Control for Complex and Heterogeneous Systems 2014

- *Book referee*
  - AIMS (American Institute of Mathematical Sciences) 2016

- *Journal referee*

– AIAA Journal of Aerospace Computing, Information, and Communication	2009
– AIAA Journal of Aircraft	2007
– AIAA Journal on Guidance, Control and Dynamics	2003, 2005, 2016
– Air Traffic Control Quarterly	2003
– ASCE Journal of Infrastructure Systems	2005
– ASME Journal of Dynamic Systems, Measurement and Control	2008 - 2010
– Automatica	2002 - 2004, 2010
– Computer-Aided Civil and Infrastructure Engineering	2010, 2013
– Discrete and Continuous Dynamical Systems	2013
– Discrete Event Dynamic Systems	2013
– IEEE Transactions on Automatic Control	2002, 2006 - 2007
– IEEE Transactions on Automation Science and Engineering	2009
– IEEE Transactions on Control of Network Systems	2014
– IEEE Transactions on Control Systems Technology	2002 - 2004
– IEEE Transactions on Intelligent Transportation Systems	2004, 2010
– IEEE Transactions on Mobile Computing	2011 - 2012
– IEEE Transactions on Robotics	2008
– IFAC Control Engineering Practice	2003
– International Game Theory Review	2002
– International Symposium on Transportation and Traffic Theory	2016
– The International Journal of Powertrains (IJPT)	2014
– International Journal on Robust and Nonlinear Control	2005 - 2006
– Networks and Heterogeneous Media	2007
– Operations Research	2009
– Proceedings of the IEEE	2008
– Robotics and Autonomous Systems	2010
– SIAM Journal on Control and Optimization	2006, 2009 - 2010
– SIAM Journal on Applied Mathematics	2014
– Transportation Science	2006, 2008 - 2010
– Transportation Research Part B	2009 - 2012
– Transportation Research Part C	2011

- *Conference referee*

– ACM SIGSPATIAL International Workshop on Computational Transportation Science	2012
– AIAA Conference on Guidance, Control and Dynamics	2004 - 2006
– American Control Conference (ACC)	2002 - 2007, 2009, 2010, 2012
– International Conference on Cyber-Physical Systems (ICCPS)	2010
– International Symposium on Transportation and Traffic Theory (ISTTT)	2010
– IFAC World Congress	2014
– IEEE Conference on Decision and Control (CDC)	2001 - 2007, 2009
– IEEE Conference on Intelligent Transportation Systems (CITS)	2010, 2016
– International Workshop Hybrid Systems: Computation and Control	2001 - 2005, 2008 - 2010
– Mobile Systems and Applications (MOBISYS)	2010
– SIGKDD Conference on Knowledge Discovery and Data Mining (KDD)	2016
– Transportation Research Board	2009, 2010
– World Conference on Transportation Research (WCTR)	2007

PUBLICATIONS

Underlined names are students, post doctoral researchers or staff working as advisee.

Books

1. J.-P. Aubin, A. Bayen and P. Saint-Pierre, *Viability Theory: New Directions.* Springer-Verlag, Second Edition, 2011. ISBN 978-3-642-16683-9.

2. T. Siauw and A. Bayen, *An Introduction to MATLAB Programming and Numerical Methods for Engineers.* 2014, Academic Press, 1st Edition, Elsevier. ISBN: 9780124202283

Journal publications

Published, in press, accepted

1. W. Krichene, C. Bourghiba, K. Lam and A. Bayen, "On Learning How Players Learn: Estimation of Learning Dynamics in The Routing Game" *ACM Transactions on Cyber-Physical Systems*, TCPS-2016-0069.R1, 2017

2. S. Blandin, X. Litrico, B. Piccoli and A. Bayen, "Regularity and Lyapunov stabilization of weak entropy solutions to scalar conservation laws," *IEEE Transactions on Automatic Control*, in press 2016

3. Q. Gan, G. Gomes and A. Bayen, "Estimation of performance metrics at signalized intersections using loop detector data and probe travel times," *IEEE Transactions on Intelligent Transportation Systems*, submitted May 2016, T-ITS-16-05-0291, to appear 2017

4. S. Samaranayake, A. Parmentier, Y. Xuan, A. Bayen, "A mathematical framework for delay analysis in single source networks," *Networks and Heterogeneous Media*, in press 2016

5. A. Allstrom, J. Ekstrom, D. Gundlegard, R. Ringdahl, C. Rydergren, A. Bayen, A. Patire, "Hybrid Approach for Short-Term Traffic State and Travel Time Prediction on Highways," *Transportation Research Record*, 2554, pp.60-68, 2016, doi: 10.3141/2554-07

6. M. Jin, N. Bekiaris-Liberis, K. Weekly, C. Spanos, A. M. Bayen "Occupancy Detection via Environmental Sensing," *IEEE Transactions on Automation Science and Engineering*, 2016 [T-ASE-2016-280]

7. J. Thai and A. Bayen, "Imputing a Variational Inequality Function or a Convex Objective Function: a Robust Approach," *Journal of Mathematical Analysis and Applications*, JMAA-16-350R3, in press, 2016

8. M. Suarez Castillo, W. Krichene, A. Bayen, "On Social Optimal Routing Under Selfish Learning," *IEEE Transactions on Control of Network Systems*, in press, submission number 16-0142, 2016

9. J. Thai, C. Yuan, and A. Bayen, "Resiliency of Mobility-as-a-Service Systems to Denial-of-Service Attacks," *IEEE Transactions on Control Networked Systems*, in press, 16-0090, 2016

10. J. Reilly, S. Martin, M. Payer and A. Bayen, "Creating complex congestion patterns via multi-objective optimal freeway traffic control with application to cyber-security," *Transportation Research, Part B*, pp. 366-382, vol. 91, Sep. 2016, doi:10.1016/j.trb.2016.05.017

11. A. Marzuoli, E. Boidot, P. Colomar, M. Guerpillon, E. Feron, A. Bayen, and M. Hansen, "Improving Disruption Management With Multimodal Collaborative Decision-Making: A Case Study of the Asiana Crash and Lessons Learned," *IEEE Transactions on Intelligent Transportation Systems*, in press, pp. 1-19, Apr. 2016, doi: 10.1109/TITS.2016.2536733

12. A. Marzuoli, E Boidot, Emmanuel; P. van Erp, A. Ucko, A. Bayen, E. Feron, and M. Hansen, "Multimodal Impact Analysis of an Airside Catastrophic Event, a Case Study of the Asiana Crash," *IEEE Transactions on Intelligent Transportation Systems*, pp. 587 - 604, 17(2), Nov. 2015, doi: 10.1109/TITS.2015.2483743

13. A. Allstrom, J. Ekstrom, D. Gundlegard, R. Ringdahl, C. Rydergren, A. Bayen, A. Patire, "A hybrid approach for short-term traffic state and travel time prediction on highways," Transportation Research Record, N0 2554, 2016, DOI: 10.3141/2554-07.

14. F. Belletti, M. Huo, X. Litrico, and A. Bayen, "Prediction of traffic convective instability with spectral analysis of the Aw-Rascle-Zhang model," *Physics Letters A*, pp. 2319-2330, 379(38), Oct. 2015. doi:10.1016/j.physleta.2015.05.019

15. C. Wu, J. Thai, S. Yadlowski, A. Pozdnukhov and A. Bayen, "Cellpath: fusion of cellular and traffic sensor data for route flow estimation via convex optimization," *Transportation Research Part C*, pp. 111-128, vol. 59, Oct. 2015. doi:10.1016/j.trc.2015.05.004

16. J Reilly, W. Krichene, S. Samaranayake, M.-L. Delle Monache, P.Goatin, "Adjoint-Based Optimization on a Network of Discretized Scalar Conservation Laws with Applications to Coordinated Ramp Metering," *Journal of Optimization Theory and Applications*, pp. 733-760, 167(2), Nov. 2015, doi: 10.1007/s10957-015-0749-1

17. J. Reilly and A. Bayen, "Distributed Optimization for Shared State Systems: Applications to Decentralized Freeway Control via Subnetwork Splitting," *IEEE Transactions on Intelligent Transportation Systems*, pp. 3465-3472, 16(6), June 2015. doi: 10.1109/TITS.2015.2430014

18. W. Krichene, B. Drighes and A. Bayen, "Online Learning of Nash Equilibria in Congestion Games," *SIAM Journal on Control and Optimization*, pp. 1056-1081, 53(2), 2015. doi: 10.1137/140980685

19. A. Tinka, Q. Wu, K. Weekly, C. Oroza, J. Beard and A. Bayen, "Heterogenous Fleets of Active and Passive Floating Sensors for River Studies," *Journal of Field Robotics*, pp. 1-21, Sep. 2015. doi: 10.1002/rob.21623

20. A. Patire, M. Wright, B. Prodhomme and A. M Bayen, "How much GPS data do we need?", *Transportation Research – Part C*, pp. 325-342, vol. 58, Sep. 2015, 2015. doi:10.1016/j.trc.2015.02.011

21. Q. Wu and A. Bayen, "Variational Lagrangian Data Assimilation in Open Channel Networks," *Water Resources Research*, pp. 1916-1938, 51(4), Apr. 2015. doi: 10.1002/2014WR015270

22. K. Weekly, N. Biekaris-Liberis, M. Jin, and A. Bayen,"Modeling and estimation of the humans' effect on the CO2 dynamics inside a conference room," *IEEE Transactions on Control Systems Technology*, pp. 1770-1781, 23(5), Sep. 2015. doi: 10.1109/TCST.2014.2384002

23. N. Biekaris-Liberis, and A Bayen, "Nonlinear Stabilization of a Viscous Hamilton-Jacobi PDE," *IEEE Transactions on Automatic Control*, pp. 1698-1703, 60(6), Sep. 2014. doi: 10.1109/TAC.2014.2360653

24. J. Thai and A. Bayen, "State Estimation for Polyhedral Hybrid Systems and Applications to the Godunov Scheme," *IEEE Transactions on Automatic Control*, pp. 311-326, July 2014, 60(2), doi: 10.1109/TAC.2014.2342151

25. K. Weekly, A. Tinka, L. Anderson and A. Bayen, "Autonomous River Navigation Using the Hamilton-Jacobi Framework for Underactuated Vehicles," *IEEE Transactions on Robotics*, pp. 1250-1255, 30(5), June 2014. doi: 10.1109/TRO.2014.2327288

26. S. Dashti, J. Bray, J. Reilly, S. Glaser, A. Bayen and M. Ervasti,"Evaluating the Reliability of Mobile Phones as Seismic Monitoring Instruments," *Earthquake Spectra Journal, Earthquake Engineering Research Institute, Earthquake Spectra*, 30(2), pp 1–22, 2014. doi:10.1193/091711EQS229M

27. A. Hofleitner, T. Rabbani, M. Rafiee, L. El Ghaoui and A. Bayen, "Learning and estimation applications of an online homotopy algorithm for a generalization of the LASSO," *Discrete and Continuous Dynamical Systems*, pp. 502-523, 7(3), June 2014. doi: 10.3934/dcdss.2014.7.503

28. S.Samaranayake, J. Monteil, D. Holstius, E. Seto, S. Glaser, A. Bayen, "Real-time emissions estimation and dispersion modeling along the transportation network," *Computer-Aided Civil and Infrastructure Engineering (CACAIE)*, pp 546-558, vol. 29, 2014. doi: 10.1111/mice.12078

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PRESS RELEASES, INTERVIEWS, MEDIA ARTICLES

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- *Mobile Millennium*, UC Berkeley, CA   November 10, 2008
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- *Safe Trip 21*, Bay Bridge, Oakland, CA   June 26, 2008
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- *KQED/NPR*, "The Commonwealth Club, Climate One," Nov. 2, 2015, interview by Greg Dalton
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- *The Journal,* "Comment: Information must be protected," Dec. 18, 2008, by Maitland Hyslop
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- *CITRIS Report,* "Taming Traffic with Your Phone: The Mobile Millennium Project", Dec. 08, 2008, by Gordy Slack
- *NewsBITS,* "Berkeley Researchers' High Profile at the 15th annual ITS World Congress in NYC," Winter 2008, by Ann Brody-Guy
- *Cal Neighbors,* "Bay Area drivers can use cell phones to avoid traffic snarls," Fall 2008
- *CEE @ Berkeley Connections,* "Mobile Millennium Poised to Expand Bay Area's Reputation as High-tech leader," Fall 2008,
- *ARS Technica,* "Nokia collaboration may keep you out of traffic jams," Nov. 23, 2008, by David Chartier
- *Venture Beat,* "Nokia researchers show off the mobile experiences of the future," Nov. 20, 2008, by Dean Takahashi
- *US News & World Report,* "Volunteer to Have Your Driving Habits Tracked, Help Reduce Traffic," Nov. 19, 2008
- *Daily News Online,* "NAVTEQ dials into new traffic monitoring data," Nov. 18, 2008

- *Wi-Fi Cell Phones,* "Mobile Millennium- GPS Traffic Mapping," Nov. 18, 2008
- *This Week in Consumer Electronics -TWICE,* "Navteq/Nokia Offer Advanced Traffic Updates," Nov. 17, 2008, by Amy Gilroy
- *GNT,* "Mobile Millennium: Nokia teste l'info trafic par mobile GPS," Nov. 14, 2008, by C. Bruno
- *SDA Asia,* "Nokia Research Center puts Mobile Millennium to Curb Traffic Congestion," Nov. 13, 2008
- *ZD Net,* "Nokia working to reduce traffic congestion," Nov. 12, 2008, by Matthew Miller
- *Newsfactor.com,* "New Software Turns Cell Phones into Traffic Trackers," Nov. 12, 2008
- *MSNBC,* "GPS'li telefonar trafik bilgisi olusturacak," Nov. 12, 2008
- *Mobinaute,* "Nokia utilisera ses mobiles GPS pour eviter les embouteillages," Nov. 12, 2008
- *The Independent,* "Flu outbreaks and traffic jams," Nov. 12, 2008
- *Electricpig,* "Nokia launches next-gen traffic studies," Nov. 12, 2008
- *American Public Media,* "Software empowers cell phones to fight traffic congestion," Nov. 11, 2008
- *TMCnet,* "Nokia Intro Mobile Millennium to Help Reduce Roadway Traffic Congestion," Nov. 11, 2008
- *MIT Technology Review,* "Tracking Traffic with Cell Phones: A new project collects traffic data from GPS-enabled cell phones," Nov. 11, 2008
- *IT Pro,* "Nokia studies traffic with GPS-enabled mobiles," Nov. 11, 2008
- *Computer Zeitung,* "Pilotprojekt erprobt GPS-basierte Verkehrshcarichten in Echtzeit," Nov. 11, 2008
- *GPS Business News,* "Nokia, NAVTEQ in large scale trial for traffic information generated by GPS-phones," Nov. 11, 2008
- *PressDemocrat.com,* "Cell phones can help traffic flow," Nov. 10, 2008
- *impre.com,* "A olvidarse del caos vial," Nov. 10, 2008
- *VOIP IP Technology,* "Mobile Millennium Project, GPS and Mobile Phones To Ease Your Commute," Nov. 10, 2008
- *BlogoWogo,* "Free Traffic Info with Nokia's Mobile Millennium," Nov. 10, 2008
- *L'Atelier,* "Les mobiles GPS recreent le trafic routier de San Francisco," Nov. 10, 2008
- *Cellular-News,* "Using Mobile Phones to Monitor Road Traffic Congestion," Nov. 10, 2008
- *Computer World,* "Project turns GPS phones into traffic reporters," Nov. 10, 2008
- *Inside-handy.de,* "Neue Software nutzt Handys mit GPS als Stau-Sensoren," Nov. 10, 2008
- *Media Post,* "Mobile Program Sends Real-Time Traffic Info," Nov. 10, 2008
- *New Mobile Tech,* "Mobile Millennium Gives You Traffic Reports, For Free," Nov. 10, 2008
- *Pocket-lint,* "Nokia Announces Mobile Millennium Project," Nov. 10, 2008
- *SFist,* "UC Berkeley releases cell phone program to help ease traffic," Nov. 10, 2008
- *Slash Gear,* "Nokia Mobile Millennium GPS traffic monitoring project seeks volunteers," Nov. 10, 2008
- *Symbian Freak,* "Large scale public pilot to gather and analyse traffic information using GPS-enabled mobile devices," Nov. 10, 2008
- *Symbian-guru.com,* "Nokia launches public trial of Mobile Millennium," Nov. 10, 2008
- *TechRadar.com,* " Nokia's Mobile Millennium gives free traffic info," Nov. 10, 2008
- *Telecom Paper,* "Open-source-concurrentie in VS voor TomTom HD Traffic," Nov. 10, 2008
- *PC Magazine,* "Cell Phones Linked to Track Real-Time Traffic," Nov. 10, 2008
- *Mobile Messaging 2.0,* "Nokia Launches Mobile Millennium for Traffic Updates," Nov. 10, 2008
- *mocoNews.net,* "Nokia's Big Traffic Plans," Nov. 10, 2008
- *Gizmodo,* "Mobile Millennium Project is a Poor Man's Traffic Relaying GPS," Nov. 8, 2008
- *Dr. Dobb's Portal,* "Turning Mobile Phones into Traffic Cops," Nov. 7, 2008
- *Engadget,* "Mobile Millennium Project promises to track traffic with cellphones," Nov. 7, 2008
- *PC World,* "Camera Phones and GPS Are for SMBs Too, Says Startup," Nov. 7, 2008
- *RoadFlares.org,* "Mobile Millennium," Nov. 7, 2008
- *Slashdot,* "Project Turns GPS Phones into Traffic Reporters," Nov. 7, 2008
- *TransID,* "The Mobile Millennium project: GPS et informations trafic!," Nov. 7, 2008
- *Zimbio,* "Mobile Millennium project promises to track traffic with cellphones," Nov. 7, 2008
- *GPS World,* "NorCal GPS Cell Phone Traffic Probe Project Gets Underway," Nov. 7, 2008
- *CITRIS News,* "UC Berkeley and Nokia turn mobile phones into traffic probes with launch of pilot traffic-monitoring software," Nov. 6, 2008
- *PhysOrg.com,* "UC Berkeley, Nokia turn mobile phones into traffic probes," Nov. 6, 2008
- *UC Berkeley Newsroom,* "UC Berkeley and Nokia turn mobile phones into traffic probes with launch of pilot traffic-monitoring software," Nov. 6, 2008
- *CITRIS News,* "Intelligent Infrastructure: Public Service, Safety, and Security: Floating and Cellular Sensors," Jun. 2008
- *MIT Technology Review,* "New GPS Software," May 16, 2008
- *PR Web,* "Mobile Sensing- Lagrangian Sensor project receives Clean Tech Innovation prize," Apr. 22, 2008
- *GPS Daily,* "Nokia and UC Berkeley capture real-time traffic information," Feb. 12, 2008
- *TechGadgets.in,* "N95 phone gives real-time traffic info, thanks to Nokia and UC researchers," Feb. 12, 2008
- *Dr. Dobb's Portal,* "Cars and cell phones: maybe they're not so bad after all," Feb. 11, 2008
- *Largest Companies,* "Nokia & UC Berkeley capture real-time traffic info using GPS-enabled cell phones," Feb. 11, 2008

- *Dvice,* "Nokia phone will steer you around traffic better than your fancy GPS system," Feb. 11, 2008
- *CITRIS,* "Joint research project to capture traffic data," Feb. 11, 2008
- *PhysOrg,* "New research project captures traffic data using GPS-enable cell phones," Feb. 10, 2008
- *Machines Like Us,* "Capturing traffic data using GPS-enabled cell phones," Feb. 10, 2008
- *TechShout.com,* "Nokia and UC Berkeley experts build technology to offer real time traffic information," Feb. 9, 2008
- *eFluxMedia,* "Nokia and UC Berkeley tests GPS phones as traffic sensors," Feb. 9, 2008
- *Engadget,* "Nokia trial turns N95s into traffic sensing tools," Feb. 9, 2008
- *Gizmodo,* "Nokia GPS phones to fight the traffic plague," Feb. 9, 2008
- *Symbian Web Blog,* "Interesting GPS experiment by Nokia and UC Berkeley," Feb. 9, 2008
- *eNews 2.0,* "Nokia tests a traffic-tracking service," Feb. 9, 2008
- *Inside Bay Area,* "Area study tracks cell phones on highways to monitor traffic," Feb. 9, 2008
- *Inside Bay Area,* "GPS phone system tested by students," Feb. 9, 2008
- *TradingMarkets.com,* "Researchers test real-time traffic," Feb. 9, 2008
- *Nokia Phone Blog,* "Nokia conducts real time traffic test," Feb. 9, 2008
- *MobileTor.com,* "Nokia, UC researchers capture real-time traffic info using N95 handset," Feb. 9, 2008
- *HardOCP,* "The Next Traffic Sensor is Your Phone," Feb. 9, 2008
- *CanadaNOW,* "GPS Phones Used to Monitor Traffic," Feb. 9, 2008
- *Reuters,* "Nokia and UC Berkeley capture real-time traffic information using GPS enabled mobile devices," Feb. 8, 2008
- *The Tech Generation Daily,* "Nokia tracks traffic info with gang of GPS feeds," Feb. 8, 2008
- *My Digital Life,* "Trend of having GPS enabled cell phones for traffic monitoring," Feb. 8, 2008
- *IntoMobile,* "Mobile Century uses Nokia N95 as mobile GPS sensor," Feb. 8, 2008
- *Inside Bay Area,* "Profs test tracking GPS phone to gauge traffic," Feb. 8, 2008
- *Wireless and Mobile News,* "UCB & Nokia Test GPS for Traffic Flow and Monitoring," Feb. 8, 2008
- *MobilEdia,* "Nokia and UC Berkeley Monitors Highway Traffic," Feb. 8, 2008
- *MobiFrance,* "Interview avec Alexandre Bayen, chercheur et Professeur Francais à l'universite de Berkeley en Californie," Feb. 4, 2008
- *Slashdot,* "Cellphones to Monitor Highway Traffic," Feb. 3, 2008
- *ZD Net,* "Cell phones to monitor highway traffic," Feb. 1, 2008

TALKS

Plenary / keynote speaker

1. *Designing Innovative Transportation Systems Solutions: Starting with the Data*, Simons Institute, UC Berkeley, May 9, 2017, "Impact of transportation data and apps on large scale mobility and energy footprint of routing "

2. *ACM SigSpatial*, International Workshop on Computational Transportation Science, San Francisco, Oct. 31, 2016: Keynote talk: "Distributed Learning Dynamics Convergence in Routing Games".

3. *EC³ Stack-X meeting*, Lawrence Berkeley National Laboratory, Berkeley, CA, April 7 2015, Keynote lecture: "Distributed Learning Dynamics Convergence in Routing Games".

4. *CPS20: CPS 20 years from now - visions and challenges*, CyPhERS 2nd Experts Workshop, CPSWeek 2014, Berlin, Germany, April 14 2014, Keynote lecture: "Games in transportation networks: leveraging the power of smartphones for traffic monitoring and management".

5. *9th Annual Inter-University Symposium on Infrastructure Management*, UC Berkeley, June 7th, 2013, Keynote lecture: "Traffic information systems and traffic management systems at the age of the mobile internet and social networks".

6. *Workshop on Mathematical Foundations of Traffic*, INRIA Sophia Antipolis, France, March 20, 2013, "Perspectives and trends in mathematical foundations for traffic engineering".

7. *Supercomputing 2011*, Masterworks Presentation, Seattle Convention Center, Seattle, WA, Oct. 19, 2011, "Real-time estimation of distributed parameters systems: application to large scale infrastructure systems".

8. *13th Annual Inventor Recognition Banquet*, NAVTEQ, The Rookery, Chicago, June 3, 2010, "Technology innovations at the age of web 2.0 and participatory sensing".

9. *ARM TechCon³*, Santa Clara Convention Center, October 21, 2009, "Mobile Millennium: using GPS to reconstruct traffic"

10. *NAVTEQ Traffic Symposium*, Jacob K Javits Convention Center, New York, NY. November 17th, 2008, "Mobile Millennium: using GPS to reconstruct traffic"
The NAVTEQ Traffic Symposium coincides with the ITS World Congress and gathers about 200 academics and practitioners in the field of traffic monitoring and modeling.

Invited seminars, honorary lectures, named lectures

1. *University of Washington*, Seattle, WA, *Evans Lecture*, Department of Civil and Environmental Engineering, Host: Professor Greg Miller, "Distributed Learning Dynamics Convergence in Routing Games," May 11, 2017

2. *Massachussets Institute of Technology*, Cambridge, MA, *Pierce Lab Seminar Series*, Department of Civil and Environmental Engineering, Host: Professor Ali Jadbabaie, "Inference and Control in routing games."

3. *University of Southern California*, Los Angeles, CA, Department of Industrial Engineering and Systems, Host, Professor Jong-Shi Pang"Distributed Learning Dynamics Convergence in Routing Games"

4. *Cornell University*, *Ezra Lecture*, Department of Civil and Environmental Engineering, "Resilience and robustness of networks: from games to security," Aug. 26, 2016

5. *Cornell University*, CAM Colloquium, Department of Industrial Engineering, " Distributed Learning Dynamics Convergence in Routing Games," Aug. 26, 2016

6. *UC Berkeley, Simons Institute for the Theory of Computing, "Real-Time Decision Making"*, June 29, 2016, Host: Professor Richard Karp, "Distributed Learning Dynamics Convergence in Routing Games"

7. *Massachusetts Institute of Technology (MIT), Cambridge, MA, IDSS Distinguished Seminar Series*, April 5, 2016, Host: Professor Munther Daleh, "Distributed Learning Dynamics Convergence in Routing Games"

8. *University of California, Los Angeles*, Nov. 16, 2015, Host: Professor Christian Ratsch, IPAM, "ZUbers against ZLyfts Apocalypse: An Analysis Framework for DoS Attacks on Mobility-as-a-Service Systems"

9. *University of California, Davis, Institute of Transportation Studies*, May 1, 2015, Host: Professor Dan Sperling, "Nash-Stackelberg Games in Transportation Networks: Leveraging the Power of Smartphones for Traffic Monitoring and Management"

10. *Boston University, Department of Systems Engineering*, April 17, 2015, Host: Professor Mac Schwager, "Nash-Stackelberg Games in Transportation Networks: Leveraging the Power of Smartphones for Traffic Monitoring and Management"

11. *University of California, Berkeley, Urban Politics Seminar*, September 25, 2013, Host: Professor Alison Post, "Nash-Stackelberg Games in Transportation Networks: Leveraging the Power of Smartphones for Traffic Monitoring and Management"

12. *Georgia Tech, Department of Civil and Environmental Engineering*, February 19, 2013, Host: Professor Kari Watkins, "Nash-Stackelberg Games in Transportation Networks: Leveraging the Power of Smartphones for Traffic Monitoring and Management"

13. *King Abdulah University of Science and Technology*, November 27, 2012, Host: Professor Christian Claudel, "Nash-Stackelberg Games in Transportation Networks: Leveraging the Power of Smartphones for Traffic Monitoring and Management"

14. *University of Michigan, Department of Mechanical Engineering*, October 12, 2012, Host: Professor Gabor Orosz, "Nash-Stackelberg Games in Transportation Networks: Leveraging the Power of Smartphones for Traffic Monitoring and Management"

15. *UC Berkeley, Department of Mathematics*, April 4, 2012, Host: Professor Alexandre Chorin, "Estimation of Traffic Using Hamilton-Jacobi Equations"

16. *Intellisys – EEE Department*, Nanyang Technical University (NTU), Singapore, January 10, 2012, Host: Dr. Hock Beng Lim, "Real-time estimation of distributed parameters systems: Application to large scale infrastructure systems".

17. *Lawrence Berkeley National Laboratories*, National Energy Research Scientific Computing Center (NERSC) seminar, February 4, 2011, Host: Professor Kathy Yelick, "Integration of Lagrangian sensor data into large scale hydrodynamic models".

18. *University of California Office of the President*, Board Meeting, Berkeley, CA, October 27, 2010, Host: Professor Mark Yudof, "Mobile sensing in large scale infrastructure systems".

19. *AMP Lab retreat*, Asilomar, CA, December 8, 2010, Host: Professor Michael Franklin, "Cloud based implementations of machine learning algorithms applied to traffic monitoring".

20. *EECS Colloquium*, UC Berkeley, CA, September 29, 2010, Host: Professor Costas Spanos, "Real-time estimation of distributed parameters systems: application to large scale infrastructure systems".

21. *CEMAGREF*, Montpellier, France, July 2, 2010, Host: Dr. Xavier Litrico, "Mobile Floating Sensor Network for Environmental Monitoring and Emergency Response".

22. *Ecole Nationale des Ponts et Chaussees (ENPC), INRETS*, Marne la Vallee, France, July 1, 2010, Host: Professor Jean-Patrick Lebacque, "Mobile millennium: using smartphones to monitor traffic in privacy aware environments".

23. *Royal Institute of Technology (KTH), Transportation and Logistics Division*, Stockholm, Sweden, April 16, 2010, Host: Professor Haris Koutsopoulos, "Mobile millennium: using smartphones to monitor traffic in privacy aware environments".

24. *Berkeley Wireless Research Center (BWRC)*, UC Berkeley, Berkeley, CA, March 12, 2010, Host: Dr. Gary Kelson, "Mobile Millennium: using cell phones to monitor traffic".

25. *Los Alamos National Laboratories (LANL)*, Los Alamos, NM, December 8th, 2009, Host: Dr. Scott Backhaus, "Mobile Millennium: using cell phones to monitor traffic".

26. *UC Berkeley, EECS Department, TRUST Center*, September 10th, 2009, Host: Professor Shankar Sastry, "Mobile Millennium: using cell phones to monitor traffic".

27. *Massachusetts Institute of Technology (MIT), Department of Civil and Environmental Engineering*, Cambridge, MA, July 31st, 2009, Host: Professor Moshe Ben-Akiva, "Data assimilation for real time traffic flow reconstruction".

28. *Palo Alto Research Center (PARC)*, Palo Alto, CA, July 9th, 2009. Host: Dr. Craig Eldershaw. "Mobile millennium: using smartphones to monitor traffic in privacy aware environments".

29. *University of California Los Angeles (UCLA), Department of Electrical Engineering, Center for Embedded Networked Sensing Seminar*, UCLA, CA, June 19th, 2009. Host: Professor Per Deborah Estrin. "Mobile Millennium" using cell phones to monitor traffic".

30. *California Institute of Technology, Control and Dynamical Systems seminar*, Pasadena, CA, June 18th, 2009. Host: Professor Jerry Marsden. "Mobile Millennium using cell phones to monitor traffic".

31. *Princeton University, Department of Mechanical and Aerospace Engineering, Controls Seminar*, Princeton, NJ, June 16th, 2009. Host: Professor Naomi Leonard. "Mobile Millennium using cell phones to monitor traffic".

32. *Stanford University, Department of Aeronautics and Astronautics, Controls Seminar*, Stanford, CA, May 20th, 2009. Host: Professor Per Enge. "Mobile Millennium using cell phones to monitor traffic".

33. *Microsoft Research Symposium*, Seattle, WA, May 14th, 2009. Host: Dr. Eric Horvitz. "Mobile Millennium: using cell phones to monitor traffic".

34. *University of California, Davis, Civil and Environmental Engineering Department, Transportation Seminar*, Davis, CA, April 10th, 2009. Host: Professor Michael Zhang. "Mobile Millennium: using cell phones to monitor traffic".

35. *Eidgenossische Technische Hochschule Zurich (ETHZ), Electrical Engineering Department*, Zurich, Switzerland, March 24th, 2009. Host: Professor Manfred Morari. "Mobile Millennium: using cell phones to monitor traffic".

36. *University of Illinois at Urbana Champaign, Electrical Engineering Department, Coordinated Science Laboratory*, Urbana-Champaign, IL, March 18th, 2009. Host: Professor Daniel Liberzon. "Mobile Millennium: using cell phones to monitor traffic".

37. *Georgia Institute of Technology, Decision and Control Laboratory*, Atlanta, GA, March 13th, 2009. Host: Professor Eric Feron. "Mobile Millennium: using cell phones to monitor traffic".

38. *University of Pennsylvania, Electrical Engineering Department, Robotics Seminar*, Philadelphia, PA, March 5th, 2009. Host: Professor George Pappas. "Mobile Millennium: using cell phones to monitor traffic".

39. *UC Berkeley, Mathematics Department, Applied Mathematics Seminar*, Berkeley, CA, February 20th, 2009. Host: Professor Jon Wilkening. "Construction of lower semi continuous solutions to the Hamilton-Jacobi equation with internal boundary conditions: application to highway traffic monitoring".

40. *UCSD, Mechanical and Aerospace Engineering Department, Control Seminar*, La Jolla, CA, February 13th, 2009. Host: Professor Miroslav Krstic. "Mobile Millennium: using cell phones to monitor traffic".

41. *UC Berkeley, EECS-CEE-ME, Control Seminar* Berkeley, CA, February 27th, 2009. Host: Professor Ruzena Bajcsy. "Mobile Millennium: using cell phones to monitor traffic".

42. *Northwestern University, Civil Engineering, Transportation Seminar*, Evanston, IL, December 4th, 2008. Host: Professor Marco Nie. "Mobile Millennium: using cell phones to monitor traffic".

43. *UC Berkeley, CITRIS Research Exchange*, UC Berkeley, CA, April 16th, 2008. Host: Professor Paul Wright. "Integrating Motion into Infrastructure using Cell Phones".

44. *UC Berkeley, CITRIS - ITS seminar*, UC Berkeley, CA, February 8th, 2008. Host: Professor Paul Wright. "Mobile century: using GPS mobile phones as traffic sensors".

45. *UC Berkeley, CEE Department, ITS seminar*, UC Berkeley, CA, December 14th, 2007. Host: Professor Mark Hansen. "Travel time estimation using probe vehicle data: the Nokia N95 experience".

46. *UC Berkeley, Mathematics Department, Applied Math Seminar*, UC Berkeley, CA, November 29, 2006. Host: Professor John Willkening. "Control, estimation and simulation of dynamical systems using viability theory".

47. *UC Berkeley, CEE Department, ITS Seminar*. September 1,2006. Host: Professor Mark Hansen. "Network-based TFM optimization algorithms for aggregate flow models of the NAS".

48. *NASA AFC Air Traffic Management Seminar*. NASA Ames, Moffett Field, CA, July 31, 2006. Host: Dr. Banavar Sridhar. "Network-based TFM optimization algorithms for aggregate flow models of the NAS".

49. *University of Illinois at Urbana Champain, Department of Aeronautics and Astronautics, Aerospace Seminar*. February 6, 2006. Host: Professor Natasha Neogi. "Approximation algorithms for arrivial sequencing in congested airspaces".

50. *UC Berkeley, IEOR Department, IEOR Seminar*. September 26, 2005. Host: Professor Max Shen. "Approximation Algorithms for Arrival Sequencing in Congested Airspaces".

51. *UC Berkeley, CEE Department, ITS Seminar*. April 15, 2005. Host: Professor Mark Hansen. "Control of PDE Networks Via Adjoint-based Optimization: application to highways and air traffic control".

52. *Ecole des Mines de Paris Seminar, Centre d'Automatique et des Systèmes (CAS), Control Seminar*. Fontainebleau, France, March 8, 2004. Host: Professor Nicolas Petit. "Adjoint-based constrained control of Eulerian models of transportation networks".

53. *Institut Henri Poincaré, Viability Seminar*. Paris, France, March 2, 2004. Host: Professor Jean-Pierre Aubin, Université Paris Dauphine. "Adjoint-based constrained control of Eulerian models of transportation networks".

54. *Stanford University, Department of Aeronautics and Astronautics, AA297 Seminar in Guidance and Control*. Stanford, CA, October 1, 2003. Host: Professor Steven Rock. "Computational control of networks of dynamical systems: application to the National Airspace System".

55. *UC Berkeley, EECS Department, CHESS Seminar*. Berkeley, CA, October 7, 2003. Host: Professor Shankar Sastry. "Computational control of networks of dynamical systems: application to the National Airspace System".

56. *UC Berkeley, EECS Department, CHESS Seminar*. Berkeley, CA, April 29, 2003. Host: Professor Shankar Sastry. "A short introduction to Viability Theory".

57. *Stanford University, Mechanical Engineering Department, Mechanical Engineering Seminar*. Stanford, CA, April 22, 2003. Host: Professor Fritz Prinz. "Computational control of networks of dynamical systems".

58. *NASA AFC Air Traffic Management Seminar*. NASA Ames, Moffett Field, CA, March 17, 2003. Host: Dr. Banavar Sridhar. "Computational control of networks of dynamical systems".

59. *Massachusetts Institute of Technology, Department of Aeronautics and Astronautics, ICAT Seminar*. Cambridge, MA, April 9, 2003. Host: Professor Eric Feron. "Computational control of networks of dynamical systems".

60. *Stanford University, CS Department, CS-theory lunch Seminar*. Stanford, CA, April 3, 2003. Host: Professor Mihalis Yannakakis. "Computational control of networks of dynamical systems".

61. *Stanford University, MS&E Department, SOL Seminar.* Stanford, CA, April 2, 2003. Host: Professor Yinyu Ye. "Computational control of networks of dynamical systems".

62. *NASA AFC Air Traffic Management Seminar.* NASA Ames, Moffett Field, October 21, 2002. Host: Dr. Banavar Sridhar. "MILP solutions for partial automation of congested airspaces in arrival areas".

63. *Massachusetts Institute of Technology, Department of Aeronautics and Astronautics, ICAT Seminar.* Cambridge, MA, September 26, 2002. Host: Professor Eric Feron. "Mathematical and computational tools for hierarchical control of hybrid systems: application to the NAS".

64. *NASA Air Traffic Management Seminar.* NASA Ames, Moffett Field, CA, July 29, 2002. Host: Dr. George Meyer. "Delay predictive models for sector-based air traffic flow".

65. *University of Pennsylvania, EE Department, GRASP Seminar.* Philadelphia, PA, June 14, 2002. Host: Professor George Pappas. "ComputationalÃÂ¸Î©methods for hybrid systems, application to the National Airspace System".

Industry and government talks

1. *Cal Forum*, hosted by KQED's Michael Krasny, May 13, 2017, "The Impact of Routing Apps on Traffic: The Good, the Bad and the Ugly"

2. *Huawei*, Santa Clara, Jan. 11, 2017, "Mobile sensing for transportation and healthcare"

3. *LBNL ETA strategic review*, Jan. 11, 2017, "The sustainable transportation initiative"

4. *Bruce Meyer Salon*, Beverly Hills, Sep. 20, 2016, "The impact of new technology on mobility,,

5. *LBNL Advisory Board Meeting*, Lawrence Berkeley National Laboratory, June 2, 2016, "Transportation as a System"

6. *Big Ideas Summit*, Washington, DC, April 22, 2016, "Transportation as a System"

7. *Bay Area Legislative Caucus*, Sonoma, CA, Jan. 22, 2016, Host: Undersecretary Franklin Orr, DOE, "Transportation as a System"

8. *Oak Ridge National Laboratory (ORNL)* , Knoxville, TN, Nov. 9, 2015, "SMART Mobility: Decision Science"

9. *INRIX*, Seattle, WA, May 30, 2013, "Integration of mobile data in traffic management".

10. *California DOT*, Division of operations, Sacramento, CA, June 14, 2012, "Integrated Corridor Management".

11. *LA-Metro - California DOT CITRIS meeting*, Berkeley, CA, June 11, 2012, "Integrated Corridor Management".

12. *California DOT*, Division of operations, Sacramento, CA, May 25, 2012, "Integrated Corridor Management".

13. *NRC Committee on the future U.S. workforce for geospatial intelligence*, National Research Council, Irvine, CA, May 23, 2011, "Crowdsourcing and participatory sensing"

14. *California DOT*, Division of operations, Sacramento, CA, May 16, 2011, "Integrated Corridor Management".

15. *Delegation Paris Region Ile de France, Robert Lion*, UC Berkeley, CA, March 29, "Mobile Millennium"

16. *FWHA briefing*, [Webinar] Washington, DC, March 15, 2011, "Mobile Millennium: using phones as sensors"

17. *SIEMENS-Berkeley Meeting*, UC Berkeley, CA, March 9, 2011, "Next generation water sensors"

18. *SIEMENS-Berkeley Meeting*, UC Berkeley, CA, March 8, 2011, "Mobile Millennium: using phones as traffic sensors"

19. *Office for Naval Research*, Arlington, VA, January 28, 2010, "BASS: Buoyant Autonomous Sensor System".

20. *Banatao Board Meeting*, Palo Alto, CA, November 23, 2010, "Mobile sensing in large scale infrastructure systems".

21. *California Department of Transportation*, Sacramento, CA, November 17, 2010, "Future of data procurement policies".

22. *Orange Institute*, San Francisco, CA, November 15, 2010, "Mobile sensing in large scale infrastructure systems".

23. *INRIA-Berkeley meeting.* UC Berkeley, CA, November 12, 2010, "Mobile sensing in large scale infrastructure systems".

24. *California Department of Transportation*, Sacramento, CA, November 17, 2010, "ClearSky: real-time air quality monitoring system".

25. *Ericsson-CITRIS meeting*, Berkeley, CA, October 15, 2010, "Mobile Millennium, using phones as traffic sensors".

26. *The Bohemian Club*, San Francisco, CA, October 13, 2010, "Mobile Millennium, using phones as traffic sensors".

27. *Special forum of the UN General Assembly*, the New York Academy of Sciences / US Aid, New York, NY, September 22, 2010, "The Floating Sensor Network".

28. *T-Mobile-Berkeley Meeting*, UC Berkeley, September 16, 2010, "iShake: using smartphones to monitor earthquakes".

29. *IBM-Caltrans Meeting*, UC Berkeley, Setpember 16, 2010, "Data fusion for traffic monitoring".

30. *Telenav*, Santa Clara, CA, September 15, 2010, "Data fusion for traffic monitoring".

31. *HP-CITRIS Meeting*, UC Berkeley, CA, September 10, 2010, "Mobile Millennium, using phones as traffic sensors".

32. *IBM-CITRIS Meeting*, UC Berkeley, CA, August 27, 2010, "Mobile Millennium, using phones as traffic sensors".

33. *Swedish DOT Meeting*, UC Berkeley, CA, August 5, 2010, "Mobile Millennium Stockholm".

34. *Department of Homeland Security*, Moffett Field, CA, February 11, 2010, "Mobile Sensing for traffic, environmental monitoring and emergency response".

35. *US Army Corps of Engineers*, Vicksburg, MI, January 11th, 2010, "Mobile Floating sensor network for environmental monitoring and emergency response".

36. *Agilent Technologies*, Santa Clara, CA, December 11th, 2009, "Mobile Millennium, using phones as traffic sensors".

37. *Polaris*, Santa Clara, CA, November 19th, 2009, "Mobile Millennium, using phones as traffic sensors".

38. *VOLPE Center (US DOT)*, Boston, MA, November 13th, 2009, "Mobile Millennium".

39. *NAVTEQ*, Chicago, IL, September 28th, 2009, "Mobile Millennium".

40. *T-Mobile labs*, Mountain View, CA, September 18th, 2009. "Mobile Millennium, using phones as traffic sensors".

41. *NAVTEQ*, Chicago, IL, July 23rd, 2009. "Mobile Millennium".

42. *BMW*, Palo Alto, CA, July 21th, 2009, "Mobile millennium: using smartphones to monitor traffic in privacy aware environments".

43. *NAVTEQ - UC Berkeley traffic workshop*, UC Berkeley, CA, July 10th, 2009, "Mobile millennium: using smartphones to monitor traffic in privacy aware environments".

44. *Energy Efficiency; Cyber-Physical Systems; Medical Devices & Systems*, Siemens Corporate Headquarters, Munich, Germany, May 28th, 2009. "Mobile Phones as Sensors for Improved Energy Efficiency".

45. *Siemens – Berkeley Day*, Siemens Corporate Headquarters, Munich, Germany, May 27th, 2009. "Mobile Phones as Sensors for Improved Energy Efficiency".

46. *VOLVO Centers of Excellence Symposium*, Gothenborg, Sweden, April 19th, 2009. "Mobile Millennium: using cell phones to monitor traffic".

47. *South Bay Traffic Officials Association (SBTOA)*, San Jose, CA, March 10th, 2009. "Mobile Millennium: using cell phones to monitor traffic".

48. *NAVTEQ*, Chicago, IL, December 4th, 2008. "Mobile Millennium: using cell phones to monitor traffic".

49. *NAVTEQ Traffic Symposium*, "Mobile Millennium: using GPS to reconstruct traffic", New York, NY. November 17th, 2008.

50. *California DOT meeting*, "Mobile Millennium: using cell phones to monitor traffic", Richmond Field Station, CA, August 12, 2008.

51. *ITS Board of Directors meeting*, "Mobile Millennium: using cell phones to monitor traffic", Richmond Field Station, CA, August 6, 2008.

52. *Department of Water Resources*, "Lagrangian drifter technology for monitoring the Sacramento Delta", Sacramento, CA, July 25, 2008.

53. *Boeing-Berkeley meeting*, "Aggregate traffic flow models for the en route airspace", UC Berkeley, July 15th, 2008.

54. *Ministere des Transports – California DOT meeting*, Richmond, CA, January 23, 2008. "Mobile Millennium: using cell phones to monitor traffic".

55. *Federal DOT, California DOT (Caltrans)*, Sacramento, CA, June 16, 2007. "Mobile Millennium kick off".

56. *Siemens confidential briefing*, UC Berkeley, CA, April 9, 2008. "Sensors for the aquatic environment".

57. *Federal DOT, California DOT (Caltrans)*, Richmond Field Station, CA, June 12, 2007. "Mobile Century Results".

58. *Nokia Research Center*, Palo Alto, CA, June 11, 2007. "Mobile Millennium".

59. *Siemens strategic visit*, UC Berkeley, CA, April 9, 2008. "Mobility tracking in large scale physical systems".

60. *Nokia Research Center*, Palo Alto, CA, November 15, 2007. "Real time traffic monitoring from GPS phones".

61. *California DOT (Caltrans)*, Sacramento, CA February 2, 2007. "Optimal sensor requirements for corridor instrumentation guidelines".

62. *NSF - NITRD Workshop*, Alexandria, VA, October 5, 2006. "NAS-wide traffic modeling software for traffic flow management High Confidence Software and Systems".

63. *Sensis corporation*, Campbell, CA, May 15, 2006. "Development of decision support tools for air traffic management".

64. *SAGEM*, Le Ponant de Paris, France, December 9, 2004. "Interactions between defense industry and academia".

65. *NASA Joint University Program Meeting*, UCLA, Los Angeles, CA, September 26, 2003. "Adjoint-based constrained control of Eulerian network models of the National Airspace System".

66. *Boeing - DARPA SEC Meeting*, Stanford University, CA, April 15, 2003. "Conflict avoidance using differential games: application to high altitude traffic".

67. *Ambassade de France (French Embassy)*, Washington D.C., June 13, 2002. "Computational methods for hybrid systems, application to multivehicle systems".

68. *43th Aeronautics and Astronautics Industrial Affiliates Meeting*, Stanford University, CA April 23, 2002. "Delay predictive models of the National Airspace System".

69. *DARPA Meeting*, Stanford University, CA, March 11, 2002. "Design of network maneuvers and actuation policies for the National Airspace System".

70. *Dassault-Falconjet*, Saint-Cloud France, May 16, 2001. "Reachability computations for predictive models of dynamical systems and the National Airspace System".

Talks at workshops, conferences, or meetings

1. *Museum Talk*, the Bohemian Club, "The Science of Traffic,", the Bohemian Grove, CA, Jan. 11, 2017

2. *Transportation Research Board (TRB)*, as part of the *Low Carbon Transportation in Smart Cities* session, "The SMART DOE program," Washington, DC, Jan. 9, 2016

3. *The 5th International Workshop on Urban Computing (UrbComp 2016)* (as part of the 22th ACM SIGKDD 2016), "Distributed Learning Dynamics Convergence in Routing Games," San Francisco, Aug. 14, 2016

4. *NSF FORCES Meeting*, "Resilience and robustness of networks: from games to security," Boston, June 16, 2014

5. *France Berkeley Fund 20th Anniversary*, "Control and estimation of large scale infrastructure systems: water and traffic," Berkeley, May 5, 2014

6. *Ecole Polytechnique*, "Studying in a US University, the example of UC Berkeley" Nov. 25, 2014

7. *NAE - NATF Frontiers of Engineering*, "Nash-Stackelberg Games in Transportation Networks: Leveraging the Power of Smartphones for Traffic Monitoring and Management, " Chantilly, France, Nov. 28, 2013

8. *PCARI IIID Symposium*, "Mobile Millennium Manila," UC Berkeley, June 26, 2013

9. *Transportation Research Board*, Active Traffic Management: Technology, Data, and Users Session, "The Connected Corridor Program," UC Berkeley, January 16, 2013

10. *SinBerBEST Annual General Meeting on January 2013*, National University of Singapore, "Sensing, Data Mining and Modeling," January 9, 2013

11. *The 2012 Symposium on Emerging Topics in Control and Modeling: Networked Systems*, University of Illinois at Urbana Champaign, "Nash-Stackelberg Games in Transportation Networks: Leveraging the Power of Smartphones for Traffic Monitoring and Management," October 15, 2012

12. *Transportation Research Board*, special COTA session, Washington, DC, "The Mobile Millennium experience," January 22, 2012

13. *Transportation Research Board*, Washington, DC, "Best Practices and Lessons Learned Through Private Industry Partnerships with Public Agencies and Academia to Implement Research Results," January 24, 2012

14. *Future Urban Mobility Symposium*, National University of Singapore (NUS), Singapore, January 12, 2012, "The Mobile Millennium Project".

15. *SinBerBest Kickoff Workshop*, Nanyang Technical University (NTU), Singapore, January 11, 2012, "Sensing, Data Mining, and Modeling".

16. *Pacific Earthquake Engineering Research Center Annual Meeting*, Berkeley, CA, October 15, 2011, "The floating sensor network".

17. *Emerging Communications Conference (eComm)*, Millbrae, CA, June 28, 2011, "The phone to sense everything".

18. *The 2011 Santa Barbara Control Workshop: Decision, Dynamics and Control in Multi-Agent Systems*, Santa Barbara, June 24, 2011, "Real-Time Estimation of Distributed Parameters Systems -Application to Large Scale Infrastructure Systems".

19. *O'Reilly Where 2.0 Conference*, San Jose, CA, April 21, 2011, "A Real-Time Transportation Dashboard for Cities".

20. *Workshop on Pervasive Data for Transportation*, Transportation Research Board (TRB), Washington, DC, January 23, 2010, "Mobile Millennium: using cell phones to monitor traffic".

21. *Hyperbolic systems and control in networks*, Institut Henri Poincaré, Paris, France, October 20, 2010, "Optimization formulations for inverse modeling problems, with applications to Mobile Sensing"

22. *CITRIS review*, Berkeley, CA, October 25, 2010, "Mobile sensing in large scale infrastructure systems".

23. *ICRA10 workshop on Robotics and Intelligent Transportation Systems*, Anchorage, AK, May 7th, 2010, "Mobile Sensing for traffic and environmental monitoring" [Talk delivered by Andrew Tinka].

24. *PATH-Tsinghua workshop*, PATH, Richmond Field Station, Richmond, CA, April 7th, 2010, "Mobile Millennium: using cell phones to monitor traffic".

25. *AAAI Spring Symposia Series, Embedded Reasoning: Intelligence in Embedded Systems*, Stanford, CA, March 24th, 2010, "Mobile Millennium: using cell phones to monitor traffic".

26. *2009 IEEE Conference on Decision and Control, Special SIAM session*, Shanghai, China, October 21rd, 2009, "Dirichlet Problems for Some Hamilton-Jacobi Equations with Inequality Constraints".

27. *Position and Time, 3rd Annual Symposium*, Stanford University, Stanford Center for Navigation, Stanford, CA, October 21rd, 2009, "Mobile Millennium: using cell phones to monitor traffic".

28. *TTI - Vanguard "More from Less"*, Jersey City, NJ, October 1st, 2009, "Mobile Millennium, using smartphones to monitor traffic".

29. *2009 National Highway Data Workshop and Conference*, California Department of Transportation, Oakland, CA, September 23rd, 2009. "Mobile Millennium, using phones as traffic sensors

30. *CalDay College of Engineering Speaker*, UC Berkeley, Berkeley, CA, April 18th, 2009. "Mobile Millennium: using GPS to reconstruct traffic".

31. *15th World Congress on ITS*, Safe trip 21 session, New York, NY, November 18th, 2008, "Mobile Millennium: using GPS to reconstruct traffic".

32. *SUPERB seminar*, UC Berkeley, Berkeley, CA, July 3rd, 2008. "Mobile Millennium: using GPS to reconstruct traffic".

33. *CalDay*, UC Berkeley, Berkeley, CA, April 11th, 2008. "Mobile Century Traffic Project: GPS in your cell phone".

34. *Vincent Lo & Shanghai – CITRIS*, UC Berkeley, Berkeley, CA, November 14th, 2007. "Large scale infrastructure systems monitoring using cellular phones".

35. *Nokia delegation meeting – CITRIS*, UC Berkeley, Berkeley, CA, November 7th, 2007. "Large scale infrastructure systems monitoring using cellular phones".

36. *CITRIS - Tekes meeting*, UC Berkeley, Berkeley, CA, October 1, 2007 . "Large scale infrastructure monitoring using mobile sensor networks".

37. *National Airspace System Performance Workshop,* Asilomar, Pacific Grove, CA, September 6th, 2007. "Network based optimization for TFM aggregate flow models".

38. *HSCC 2007 satellite Workshop on modeling and control of physical networks*, Pisa, Italy, April 6, 2007. "Modeling and analysis of single flagellum bacterial motion".

39. *CEE Advisory Council*, UC Berkeley, CA, May 3, 2007. "Control and optimization of large scale infrastructure systems".

40. *NASA NGATS ATM airspace project first technical interchange Meeting*, NASA Ames, Moffett Field, CA, March 20, 2007. "A unified approach to strategic traffic flow models and performance evaluation for traffic flow management".

41. *Transportation Research Board, Innovation in Air Traffic Management Workshop (TRB)*, Washington, DC, Jan. 21, 2007. "Fundamental research in Traffic Flow Management".

42. *Optimization and Software in Air Traffic Management Tutorial Session*, part of the *45th IEEE Conference on Decision and Control*, San Diego, CA, December 12, 2006. "Linear Eulerian model of En-Route air traffic flow".

43. *Optimization and Software in Air Traffic Management Tutorial Session*, part of the *45th IEEE Conference on Decision and Control*, San Diego, CA, December 12, 2006. "The Berkeley Eulerian Toolbox Modeling".

44. *CTS-HYCON Workshop on nonlinear and hybrid control*, La Sorbonne University, Paris, France, July 12, 2006. Invited by the Conference Chair, Professor Françoise Lamnabhi-Larrigue. "Hybrid control of distributed parameter systems".

45. *National Airspace System Performance Workshop.* Asilomar, Pacific Grove, CA, March 16, 2006. "Towards a scientific basis for determining En Route capacity".

46. *44th IEEE Conference on Decision and control and European Control Conference.* Sevilla, Spain, December 14, 2005 "A viability approach to Hamilton-Jacobi equations: application to concave highway traffic flux functions".

47. *NSF CDATM Meeting.* University of Illinois at Urbana Champain, Urbana, IL, December 1, 2005. "Distributed Air Traffic Management: Control and Optimization".

48. *FAA-NEXTOR Meeting.* UC Berkeley, Berkeley, CA, July 20, 2005. "Strategic traffic flow models based on data-mining and system-identification techniques".

49. *American Control Conference.* Portland, OR, June 10, 2005. "Computation and control of solutions to the Burgers Equation using viabililty theory".

50. *C3UV Seminar, CCIT*, UC Berkeley, Berkeley, CA, April 18, 2005. "Reachability and viability analysis for navigation in the presence of stereo vision errors".

51. *43rd IEEE Conference on Decision and Control.* Paradise Island, Nassau, Bahamas, December 16, 2004. "An approximation algorithm for scheduling aircraft with holding time".

52. *AIAA Conference on Guidance Control and Dynamics.* Providence, RI, August 18, 2004. "Optimal arrival traffic spacing via dynamic programming".

53. *American Control Conference.* Boston, MA, July 2, 2004. "Eulerian network model of Air Traffic Flow in congested areas".

54. *American Control Conference.* Boston, MA, July 2, 2004. "Adjoint based constrained control of Eulerian transportation networks: application to Air Traffic Control".

55. *Workshop on Abstractions and Robustness*, University of Pennsylvania, Philadelphia, PA, March 29, 2004. Invited by the Workshop Organizer, Professor Eric Feron. "PDE control using viability and reachability analysis".

56. *7th International Workshop Hybrid Systems Computation and Control.* University of Pennsylvania, Philadelphia, March 25, 2004. "Network congestion alleviation using adjoint hybrid control: applications to highways".

57. *42nd IEEE Conference on Decision and Control.* Maui, Hawaii, December 12, 2003. "MILP formulation and polynomial time algorithm for an aircraft scheduling problem".

58. *2003 ETHZ-UCB-Stanford Workshop*, Stanford, CA, December 5, 2003. "MILP formulation and polynomial time algorithm for an aircraft scheduling problem".

59. *AIAA Conference on Guidance Control and Dynamics*, Austin TX, August. 11, 2003. "A differential game formulation of alert levels in ETMS data".

60. *American Control Conference.* Denver, CO, June 6, 2003. "Real-time control law synthesis for hybrid systems using MILP: application to congested airspace".

61. *41st IEEE Conference on Decision and Control.* Las Vegas, NV, December 13, 2002. "Conditional viability for impulse differential games".

62. *41st IEEE Conference on Decision and Control.* Las Vegas, NV, December 13, 2002. "Viability Kernels and Capture Basins of Sets under Differential Inclusions".

63. *AIAA Conference on Guidance Navigation and Control.* Monterey, CA, August 8, 2002. "A control theoretic predictive model for sector-based traffic flow".

64. *Journées sur les systèmes hybrides*, Institut Henri Poincaré, Paris, France, June 27, 2002. Invited by the Conference Chair, Professor Jean-Pierre Aubin, Université Paris Dauphine. "Computational methods for hybrid systems, application to the National Airspace System".

65. *American Control Conference.* Anchorage,ÃÃ¸Î©AK, May 8, 2002. "Delay predictive models of the National Airspace System using hybrid control theory".

66. *5th International Workshop Hybrid Systems Computation and Control.* Stanford, CA, March 25, 2002. "Guaranteed overapproximations of unsafe sets for continuous and hybrid systems".

67. *40th IEEE Conference on Decision and Control.* Orlando, FL, December 5, 2001. "A construction procedure using characteristics for viscosity solutions of the Hamilton-Jacobi equation".

68. *4th International Workshop Hybrid Systems Computation and Control.* Rome, Italy, March 29, 2001. "Validating a Hamilton-Jacobi approximation to hybrid system reachable sets".

RESEARCH GRANTS

Summary of research grants

The left table only includes grants for which I am the sole PI, or for which I am the PI for a multiple investigator grant. Please see additional sections below for additional sources of funding as a co-PI. The right table includes line items from the *Public Transportation Account* (left column), and ITS grants.

Year of award	Sole PI	PI	Total amount	ITS revenue	ITS PI
2005	$5,400	$381,565	$386,965		
2006	$537,999	$991,990	$1,529,989		
2007	$703,151	$\mathbb{E}$ur30,000; $30,000	$\mathbb{E}$ur30,000; $733,151		
2008	$2,627,500	$0	$2,627,500		
2009	$500,558	$658,283	$1,158,841		
2010	$3,431,619	$75,000	$3,506,619		
2011	$15,133,306	$109,391	$15,242,697		
2012	$282,982	$0	$282,982		
2013	$169,375	$101,471	$2,083,703		
2014	$0	$78,579	$78,579	$705,717	
2015	$152,332	$0	$152,332	$705,717	$507,350
2016	$7,019,998	$0	$7,019,998	$1,259,573	$880,477
2017	N.A.	N.A.	N.A.	N.A.	~$12,500,000

Grants and donations obtained as a sole PI

1. *Al Falah program in Science and Engineering* FY17-18 $7,500
   Proposal title: "Large scale urban modeling for energy efficient planning and operations"

2. *Lawrence Berkeley National Laboratory*: FY 17-18 $ 37,080
   Proposal title: "LDRD project: High Performance Computing for Large-Scale Mobility Modeling?

3. *Berkeley Deep Drive (BDD)*: FY 16-17 $20,000
   Proposal title: "Deep Reinforcement Learning based Optimization of Autonomous Vehicle Traffic"

4. *Lawrence Berkeley National Laboratory*: FY 15-16 $400,000
   Proposal title: "SPSA: ETA Priority Initiative on Transportation / LDRD: Transportation Systems Science"[5]

5. *California Department of Transportation*: FY 16-18 $6,599,998
   Proposal title: "Connected Corridors ICM2"

6. *Siemens*: FY 15-16, $22,500
   Proposal title: "SmartCampus."

7. *France Berkeley Fund*: FY 15-16 $11,500
   Proposal title: "Monitoring of neurodisabled patients with connected wearables."

8. *UCCONNECT: University of California Center on Economic Competitiveness in Transportation* FY 15-16 $118,332
   Proposal title: "SB-743: From LOS to VMT, VHT and beyond through data fusion: application to integrated corridor management."

9. *Delta Science / Delta Stewardship Council / Sea Grant* FY 13-15 $169,375
   Proposal title: "How do shallow water habitats work? Using smart drifters to understand how flow and geomorphology interact to establish high quality habitats."

10. *Google* FY 12-13 $60,000
    Faculty Research Award: "Arterial traffic patterns inference and map discovery from crowdsourced GPS data"

11. *IBM* FY 12-13 $15,000
    Shared University Award: "Smartphone based road pricing"

12. *University of California Transportation Center* FY 12-13 $66,506
    Proposal title: "Improve transit connectivity with incentives"

13. *NAVTEQ* FY 12-13 $131,476
    Proposal title: "Predictive Arterial Traffic Flow from Probe Data"

14. *France Berkeley Fund* FY 12-13 $10,000
    Proposal title: "Optimal Traffic Flow Management with GPS Enabled Smartphones"

15. *California Department of Transportation* FY 11-14 $14,971,306
    Proposal title: "Research and Innovation for Traffic Operations"

16. *NAVTEQ*. FY 11-12. $12,000
    Donation

17. *Renault*. FY 11-12. $150,000
    Donation

18. *California Department of Transportation* FY 10-11 $400,000
    Proposal title: "Collaboration with IBM on Multi-Sourced Traffic Information"

19. *California Department of Transportation* FY 10-11 $52,821
    Proposal title: "Applied research"

20. *Telenav* FY 10-11 $60,368
    Proposal title: "Using probes to produce highway traffic"

21. *Scientific Systems Company, Inc. (SSCI)* (subcontract from the Navy) FY 10-11 $35,000
    Proposal title: "Buoyant Active Sensor System (BASS) For Riverine Mapping"

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[5]For administrative reasons, PI is LBNL Dr. Anand Gopal.

22. *British Aerospace* (subcontract from DARPA) FY 10-12 $810,122[6]
    Proposal title: "Flow-based Information Theory Tracking (FITT)"

23. *Ericsson* FY 10-11 $55,000
    Donation

24. *California Department of Transportation* FY 10-11 $1,101,276
    Proposal title: "Pilot Procurement"

25. *California Department of Transportation* FY 10-11 $897,032
    Proposal title: "Hybrid data roadmap objectives and methods"

26. *National Science Foundation (NSF)*. FY 09-14. $400,000
    Proposal title: "CAREER: Lagrangian sensing in large scale cyber-physical infrastructure systems"

27. *University of California Transportation Center (UCTC)*. FY 09-10. $50,558
    Proposal title: "Assessment of accessibility in urban environments with unpredictable transit systems".

28. *Nokia*. FY 09-10. $50,000
    Donation

29. *Nokia*. FY 08-09. $50,000
    Donation

30. *Nokia*. FY 08-09. $75,000
    Donation

31. *Federal Department of Transportation (RITA)*. FY 08-09. $1,000,000
    Proposal title: "Mobile Millennium".[7]

32. *California Department of Transportation*. FY 08-09. $1,350,000
    Proposal title: "RTA: Mobile Millennium".

33. *California Department of Transportation*. FY 08-09. $150,000
    Proposal title: "TO 1029: Mobile Millennium".

34. *Portuguese Studies Program*. FY 08-09. $2,500
    Proposal title: "Estuary surveys using active Lagrangian sensor networks".

35. *Nokia* (donation) and *UC Micro Grant* (matching funds). FY 07-08. $32,685
    Proposal title (for UC Micro Grant): "Highway traffic flow reconstruction using mobile phone data".

36. *UC Center for water resources*. FY 07-09. $59,993
    Proposal title: "Prototyping and testing of a Lagrangian sensor network for distributed monitoring in the Sacramento – San-Joaquin Delta".

37. *Academic Senate, UC Berkeley, COR*. FY 07-09. $5,000
    Proposal title: "Prototyping of a real-time systems for Lagrangian sensing".

38. *Finnish Funding Agency for Technology and Innovation (TEKES)*. FY 07-08. $30,000
    Donation.

39. *University of California Transportation Center (UCTC)*. FY 07-08. $75,473
    Proposal title: "Congestion control for highway network systems".

40. *California Department of Transportation*. FY 07-08. $500,000
    Proposal title: "TO 1021: Deployment of value-added mobile traffic probes".

41. *California Department of Transportation*. FY 06-08. $299,999
    Proposal title: "Optimal sensor requirements".

42. *National Aeronautics and Space Administration (NASA)*. FY 06-07. $38,000
    Proposal title: "Dynamic sectorization of the airspace".

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[6]Reduced to $250,000 because UC Berkeley refused to take 6.3 funding from DARPA, which led to a reduction in the awarded amount.

[7]For contractual reasons, the award was given from the Federal Department of Transportation to the California Department of Transportation, under the name *Safe Trip 21*, for which Greg Larson at the California Department of Transportation is the PI. The grant is divided into two portions at Berkeley. I am the PI on this $1,000,000 portion, called *Mobile Millennium* through the *California Center for Innovative Transportation* (CCIT).

43. *National Science Foundation (NSF)*. FY 06-09. $200,000
    Proposal title: "Embedded viability computing".

44. *Academic Senate, UC Berkeley, COR*. FY 05-06. $5,400
    Proposal title: "Control of large scale networks".

Grants obtained as the PI for a multiple investigator grant

1. *CITRIS* FY 14-15 $53,579
   Proposal title: "Monitoring of Alzheimer patients with connected wearables"
   Co-Investigator: Prof. DeCarli (UC Davis)

2. *CITRIS* FY 14-15 $25,000
   Proposal title: "Wearable based monitoring of daily activities for patients with Alzheimer Disease"
   Co-Investigator: Prof. Trevino (Tecnologico de Monterrey)

3. *NASA* FY 13-14 $101,471
   Proposal title:"Adaptive air traffic control for maximizing on time arrival under uncertain weather conditions".
   Co-investigator: Prof.Dengfeng Sun (Purdue Univ.)

4. *Dowling Associates Inc.* (flow through from FHWA) FY 11-12 $109,391
   Proposal title: "Transformational Changes and Revolutionary Advances for Transportation Planning".
   Co-investigators: Prof. Alexander Skabardonis (UC Berkeley, CEE)

5. *CITRIS.* FY 10-11 $75,000
   Proposal title: "Floating Century".
   Co-investigators: Prof. Mark Stacey (UC Berkeley, CEE), Prof. Geoff Schladow (UC Davis, CEE)

6. *CITRIS.* FY 09-10 $75,000
   Proposal title: "iShake: early warning with smartphones".
   Co-investigators: Prof. Richard Allen (Earth & Plan. Sci.), Prof. Steve Glaser (CEE), Prof. Jon Bray (CEE)

7. *Nokia.* FY 09-12. $300,000
   Proposal title: "Real-time sensor-data driven traffic health impact assessment".
   Co-investigators: Prof. Steven Glaser (UC Berkeley, CEE), Dr. Edmund Seto (UC Berkeley, School of Public Health)

8. *California Department of Transportation.* FY 07-08. $30,000
   Ministere des Transports, France (matching funds). FY 07-08. $\mathbb{E}ur30,000$
   Proposal title: "Highway traffic flow reconstruction using mobile phone data".
   Co-investigators: Prof. Patrick Saint-Pierre, Université Paris Dauphine, France.

9. *National Science Foundation.* FY 09-12. $283,283
   Proposal title: "Physical modeling and software synthesis for self-reconfigurable sensors in river environments".
   Co-investigators: Prof. Jonathan Sprinkle (University of Arizona, ECE), Professor Sonia Martinez (UCSD, MAE)

10. *National Aeronautics and Space Administration (NASA).* FY 06-09. $991,990
    NASA Research Opportunities in Aeronautics (NRA), NNH06ZEA001N-AS
    Proposal title: "A unified approach to strategic models and performance evaluation for traffic flow management".
    Co-investigators: Prof. Mark Hansen (UC Berkeley, CEE), Dr. Robert Hoffman (Metron Aviation).

11. *National Aeronautics and Space Administration (NASA).* FY 05-07. $381,565
    NASA Research Opportunities in Aeronautics (NRA), NNH06ZEA001N-AS
    Proposal title: "Traffic flow investigation".
    Co-investigators: Prof. Mark Hansen (UC Berkeley, CEE), Prof. Mike Ball (University of Maryland), Prof. Dave Lovell (University of Maryland).

Grants obtained as a co-PI on multiple investigator grants

1. *National Science Foundation* FY 13-18 $9,300,000
   Budget for co-PI Bayen: FY 12-13 ∼$60,000/yr.
   Proposal title: "Collaborative Research: Foundations Of Resilient CybEr-physical Systems (FORCES)"
   Co-investigators: Prof. Shankar Sastry, PI, (EECS), Prof. Claire Tomlin, (EECS), Prof. Saurabh Amin (MIT CEE), Prof. Janos Stipanovic (Vanderbilt, EECS), et al.

2. *National Research Foundation (NRF), Singapore* FY 11-16 S$57,000,000
   Budget for co-PI Bayen: ∼$2,000,000.
   Proposal title: SinBerBest: Energy Efficient Buildings in the Tropical Climates
   Co-investigators: Prof. Costas Spanos (EECS), Khalid Mosalam (CEE), Bill Nazaroff (CEE), Claire Tomlin (EECS), Claudia Ostertag (CEE), Kameshwar Poolla (ME) et al.

3. *National Science Foundation* FY 11-16 $10,000,000
   Budget for co-PI Bayen: ∼$30,000/yr.
   Proposal title: "Algorithms Machine People (AMP)"
   Co-investigators: Prof. Michael Franklin, PI, (EECS), Prof. Ion Stoica (EECS), Prof. Randy Katz (EECS), Prof. Michael Jordan (EECS), Prof. Ken Goldberg (IEOR), et al.

4. *Various donors (consortium)*[8] FY 13-18   ∼$5,000,000
   Budget for co-PI Bayen: FY 12-13   ∼$30,000/yr.
   Proposal title: "Collaborative Research: Foundations Of Resilient CybEr-physical Systems (FORCES)"
   Co-investigators: Prof. Michael Franklin, PI, (EECS), Prof. Ion Stoica (EECS), Prof. Randy Katz (EECS), Prof. Michael Jordan (EECS), Prof. Ken Goldberg (IEOR), et al.

5. *INRIA* FY 12-13   Eur 30,000
   Budget for co-PI Bayen: FY 12-13   Eur 15,000
   Proposal title: "Optimal Traffic Flow Management with GPS Enabled Smartphones"
   Co-investigators: Prof. Paola Goatin, INRIA, France

6. *California Department of Transportation.* FY 12-13 $1,716,472
   Budget for co-PI Bayen: FY 12-13 $100,000
   Proposal title: "Tools for Operations Planning (TOPL5): Traffic Management, Decision Support System and I-680 CSMP Support"
   Co-investigators: Prof. Roberto Horowitz (PI, ME), Prof. Pravin Varaiya (EECS)

7. *CITRIS.* FY 09-10. $72,570.52
   Budget for co-PI Bayen: FY 09-10.   ∼$30,000
   Proposal title: "CITRIS seed grant: Delivering earthquake warnings using smartphones".
   Co-investigator: Prof. Richard Allen (PI, Berkeley Earth & Planetary Science)

8. *US Geological Survey (USGS).* FY 09-10. $99,872
   Budget for co-PI Bayen: FY 09-10.   ∼$50,000
   Proposal title: "*iShake*: using personal devices to deliver rapid, semi quantitative earthquake information".
   Co-investigator: Prof. Jonathan Bray (PI, Berkeley CEE), Prof. Steven Glaser (CEE Berkeley)

9. *NASA.* FY 07-09. $966,966
   Budget for co-PI Bayen: FY 07-09.   ∼$120,000
   NASA Research Opportunities in Aeronautics (NRA), NNH06ZEA001N-AS
   Proposal title: "Advanced stochastic network queing models of the impact of 4D trajectory precision on aviation systems performance".
   Co-investigator: Prof. Mark Hansen (PI, Berkeley CEE), Prof. Michael Ball, Prof. David Lovell (Univ. of Maryland), Prof. Amedeo Odoni (MIT).

10. *CALFED: California Bay-Delta Authority* FY 07-09. $390,869
    Budget for co-PI Bayen: FY 07-09.   ∼$180,000
    Proposal title: "Calibration-free approach to modeling".
    Co-investigator: Prof. Mark Stacey (PI, Berkeley CEE).

11. *FAA: Federal Aviation Administration.* FY 06-07. $541,464
    Budget for co-PI Bayen: FY 06-07.   ∼$50,000
    Proposal title: "Assessment of en-route sector performance and operational concept evaluation using fast-time computational model of human performance".
    Co-investigator: Prof. Mark Hansen (PI, Berkeley CEE).

12. *National Aeronautics and Space Administration (NASA).* FY 06-09. $1,300,000
    Budget for co-PI Bayen: FY 06-09.   ∼$180,000
    NASA Research Opportunities in Aeronautics (NRA), NNH06ZEA001N-AS
    Proposal title: "Integrating collision avoidance and tactical air traffic control tools".
    Co-investigators: Prof. Claire Tomlin (PI, Stanford), Prof. Shankar Sastry (Berkeley), Prof. Jason Speyer (UCLA), Dr. Dallas Denery (UCSC), Dr. Heinz Erzberger (UCSC).

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[8]Include in particular: Amazon, Google, SAP, Cisco, Ericsson, Facebook, Huawei, Intel, Microsoft, Oracle, Quantan Samsung, VMWare, Yahoo!

13. *California Department of Transportation.* FY 05-07. $244,000
    Budget for co-PI Bayen: FY 05-07.   ∼$60,000
    Proposal title: "Development of a practical computer tool for dynamic origin destination matrices estimation".
    Co-investigators: Prof. Samer Madanat (PI, UC Berkeley, CEE), Prof. Michael Zhang (UC Davis), Prof. Yafeng Yin
    (University of Florida).

Other sources of support

Over the years, the following companies, institutions or administrations have contributed around $3,000,000 either as funds,
as salary for members of my research group, or in kind (for example, equipment):

- *Monetary contributions:* Direction Generale de l'Aviation Civile, MEDAAT, Ministere de l'Agriculture (France), Ministere
  de l'Industrie et des Transports (France), Nokia, University of Lindkoping (Sweden), US Department of Transportation
  Eisenhower Fellowship program.
- *In kind contributions:* BTS, Cabsoptting, IBM,ITERIS, NAVTEQ, Nokia, TSS, Telenav, Roadify, Stamen Design, Waze

Grants obtained for ITS teams

ITS funding comes from two sources (beyond the research grants, not counted here). (1) Funds from the *Public Transportation Account* (PTA) as an appropriation from the Governor's Budget (SB826 for 2016). (2) Grants to support ITS activities.
It serves ITS Berkeley, Davis, Irvine and UCLA

AB1/SB1 2017 (all ITS units):

Based on 10 years of funding from the bill: ∼$50,000,000 (ITS Berkeley: ∼$12,500,000)   Governor's budget

Public Transportation Account funding (all ITS units):

Fiscal year 2014	$980,000 (ITS Berkeley: $705,717)	PTA
Fiscal year 2015	$980,000 (ITS Berkeley: $705,717)	PTA
Fiscal year 2016	$3,980,000 (ITS Berkeley: $1,259,573)	PTA and SB826

ITS Grants for UC Berkeley

1. *California Office of Traffic Safety* FY 14-15 $507,350
   Proposal title: "Safety Assessment for California Communities"
   Co-investigator: Laura Melendy (Tech Transfer)

2. *California Office of Traffic Safety* FY 15-16 $280,000
   Proposal title: "Safety Assessment for California Communities"
   Co-investigator: Laura Melendy (Tech Transfer)

3. *California Department of Transportation* FY 15-17 $600,477
   Proposal title: "Tribal Safety Assessment for Indian Nations in California"
   Co-investigator: Laura Melendy (Tech Transfer)