Alexandre M. Bayen

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

EDUCATION

Stanford University, Stanford, California, Ph.D. in Aeronautics and Astronautics, Jan. 2004
Stanford University, Stanford, California, M.S. in Aeronautics and Astronautics, June 1999
Ecole Polytechnique, France, Eng. Deg. in Applied Mathematics, July 1998

ACADEMIC APPOINTMENTS

Faculty Scientist, Mechanical Engineering, Lawrence Berkeley National Laboratory	Feb. 2015 - 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
Visiting Professor Nanyang Technological University (NTU), Singapore, EEE Department	Jan. 2012 - Jan. 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

ACADEMIC LEADERSHIP EXPERIENCE

Director, Institute for Transportation Studies (ITS), UC Berkeley Jul. 2014 - Onward
ITS is an Organized Research Unit (ORU) on campus, encompassing 200 staff and faculty funding over 100 PhD students. It spans 7 Departments over 3 Colleges. It is organized in 7 research centers, with an annual research budget around ∼40M. It comprises a tech transfer program which includes a startup accelerator, and an executive education program in transportation dispensing ∼80 classes to 3,000 students yearly. ITS manages a library (transportation focused), and test facilities located at the Richmond Field Station (RFS) off campus. Main ITS achievements since 2014:

- Launch of the Transportation Initiative (DOE funded, at LBNL), 2015, annual budget: ∼$5M/yr.
- State budget augmentation as line item in AB1/SB1, passed in 2016, and previously through the Public Transportation Account (PTA), annual budget increase secured in 2016: $5M/yr.
- Launch of the Berkeley Deep Drive (BDD) industry consortium, 2017, budget raised to date: ∼$17M.

Director, Transportation Initiative, Lawrence Berkeley National Laboratory (LBNL) Feb. 2015 - July 2018
The Transportation Initiative at LBNL is a group of around 50 researchers spanning two LBNL divisions, ETA (Energy Technology Area), and CRD (Computational Research Division). Since its creation in 2015, launched by $1.5M in LDRD (seed) funding, the Transportation Initiative has secured a yearly budget of around $5M/yr. from the DOE, focused on transportation as a system (SMART program), and parallel computing (HPC program).

GOVERNMENT EXPERIENCE

Major, Research Director, Autonomous Navigation Laboratory Jan. 2004 - Mar. 2005
Working at Délégation Générale pour l'Armement, Ministère de la Défense, Vernon, France. Director of an 18 researchers lab building UAVs with off the shelf components. 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, Landau in der Pfalz, Germany Sept. 1995 - Sept. 1996
Officer training completed at Saint-Cyr Military Academy (3rd Battalion) followed by active duty within French Forces in Germany, in support of 2nd Artillery Regiment.

INDUSTRY EXPERIENCE

Technical and management consulting

- **Uber**, mapping, routing, mobility systems design 2018-2019
- **Waze/Google**, shared mobility services 2018
- **Oliver Wyman**
  - Future mobility competitivity index, mobility forum 2018
  - Pulse: autonomous mobility solutions / infrastructure development for NEOM 2016 - 2017
- **Kayrros**, data science and methodologies for VMT accounting at various spatio-temporal scales 2016
- **Nokia** development of IP for location based services (transportation, health, mobility), Jan. 2012 - Sep. 2012
- **BAE Systems**, development of a tracking system for UAV-based reconstruction of ground traffic, Oct. 2010 - Dec. 2011
- **NAVTEQ**, development of traffic flow estimation tools for probe-based monitoring systems. June 2009 - Dec. 2010

Expert witness

- **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
- **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

Entrepreneurship

- **Co-founder, Chief Scientist, SafelyYou Inc.** 2015 - 2018
  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.

Executive and corporate education, technical advising

- **Founding Director, Learn2Launch**, hosted at the Institute of Transportation Studies (ITS) 2013-present
  Learn2Launch, the Silicon Valley Innovation and Entrepreneurship Program at UC Berkeley, is an intensive, immersive, and hands-on approach to the study of innovation and entrepreneurship. This graduate-level program is a semester-long curriculum that combines lectures, workshops, field trips, and discussions by Berkeley faculty from engineering, business, law, communications, and other disciplines, and guest lecturers by innovators in the Silicon Valley.
- **Instructor, short executive education programs**. Topics: smartcities, transportation, automation, machine learning. Customers: Dubai Eletricity and Water Agency (DEWA), UAE, 2018; Guangdong Province Executive Delegation, China, 2018; Executive Masters Program, Ecole Polytechnique, France, 2018, 2019; Aguia Branca, Brazil, Mayor's Office, 2017; Huawei, China, 2017; Inasmuch / USCEC Executive Delegation, China, 2016; Sinomach and SAFEA Group, China, 2016; China National Machinery Group (CNMIC), China, 2015.
- **Advisor, board member**
  - Member, Research Advisory Panel, *Land and Transportation Authority* (LTA), Singapore 2015 - 2017
  - Board member, VIMADES Inc., France (engineering firm focused on viability-based software 2007-present
  - Board member, LASTRE, France (nonprofit aimed at accelerating deployment of viability tools to industry) 2003 - present

MAJOR RESEARCH PROJECTS

Principal Investigator, *FLOW* Jan. 2018 - Present
Budget to date: ∼2M
Team: 15 (1 post doc, 7 PhD, 5 MEng, 2 undergraduate students).
FLOW leverages state-of-the-art deep RL libraries and the open-source microsimulator, SUMO, enabling the use of reinforcement learning to design and train controllers in traffic settings. It develops deep-RL algorithms applicable to mixed autonomy traffic, which will ultimately be deployed for both self-driving trucks and cars.
Project URL: `http://berkeleyflow.github.io/`

Principal Investigator, *NestSense*, startup spin-off: *SafelyYou Inc.* Sep. 2014 - Oct. 2018
Budget to date: ∼500K in UC funding, +∼2.5M in NIH/NSH company funding, ∼$5.2M in VC funding
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 achieved through a collaboration between clinicians at UCSF, UC Davis. Company pivot after launch: video camera only based system.
Project URL: `http://safely-you.com/`

Principal Investigator, *Connected Corridors project* Sep. 2011 - Present
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), Pozdnoukhov (CEE), Varaiya (EECS), Walker (CEE).
Project URL: `https://connected-corridors.berkeley.edu/`

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.
Project URL: `http://traffic.berkeley.edu/`

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.
Project URL: `http://float.berkeley.edu/`

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).

AWARDS

IEEE TCCPS Mid-Career Award 2018
Signatures Innovation Fellow, UC Berkeley 2017
NAE Gilbreth Lecture 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 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

UC BERKELEY TEACHING EXPERIENCE

EECS127/227A Optimization models in engineering F18, S19
EE290O Applications of Machine Learning / Reinforcement Learning in Urban Mobility and Mixed Autonomy F18
EE128-ME134 Feedback control systems [4 units] F13, F14
CE291F-ME236-EE291c Control and opt. of distributed param. sys. [3 units] F05, S06, S09, S10, F10, S12, S13, S14
CE291G (taught under CE290 in S10) Adv. control and opt. of distributed parameters systems [3 units] S10
CE191 Civil and environmental engineering systems analysis [3 units] F05, F06, F09, F16
E7 (formerly E77) Introduction to computer programming for scientists and engineers [4 units] S08, S10
CE290Z Selected topics in air transportation [2 units] F06
EE291e Hybrid and embedded systems (guest lecturer) [3 units] F05
CE301 Future civil and environmental engineering teaching [1 unit] F09, S10 f

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.

EQUITY, DIVERSITY, INCLUSION

Ecole Bilingue, Berkeley, CA 2019-present
Member of the Board of Trustees, elected in 2019, committee assignment pending

Society of Women Engineers of Santa Clara Valley, Santa Clara, CA 2019
Host/organizer, UC Berkeley activities / lab visits, "Get Science Engineering and Technology" (GetSET) summer camp

Self e$^{\mathbf{STEM}}$, Oakland, CA 2019
Host/organizer, UC Berkeley activities / lab visits, summer camp

Playing at Learning, Oakland, CA 2019
Host/organizer, Northern California First Lego League Championship (UC Berkeley campus, 1,000 people event)

Piedmont Makers, Piedmont, CA 2017-present
Outreach team, Ecole Bilingue (2018), Bentley School (2019)
Participant, Piedmont Makers Faire, First Lego League (2018)
Co-founding coach, First Lego League subsection of Piedmont Makers (enrollments: 2017: 40; 2018: 120)
Coach, Piedmont Purple (2017-2018), Mission Woof (2018-2019)

Openclassrooms (www.openclassrooms.com) 2016
Advisor, remote and distant learning

Frank Havens School, Piedmont, CA 2013-2014
Volunteer Mathematics Teacher, "Circles" program, kindergarten grade

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

PAST RESEARCH SUPERVISION

Past Post Doctoral Researchers

Dr. Juliette Gamabra Feb.2017-July 2018
PhD Department of Civil and Environmental Engineering, UC Dallas, 2016
Research topic: HPC-enabled computations of Nash equilibria through distributed formulations of convex programs

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 Inc.

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

Cathy Wu, EE, advised since 2013 2018
Ph.D. thesis title *Learning and Optimization for Mixed Autonomy Systems-A Mobility Context*
Position shortly after graduating: Assistant Professor, MIT, Cambridge, MA

Jerome Thai, EECS, advised since Feb. 2012 2018
Ph.D. thesis: *On learning game-theoretical models with application to urban mobility*
Position shortly after graduating: Research engineer, Lyft, San Francisco, CA

Francois Belletti, CS, advised since Aug. 2014 2017
Ph.D. thesis title: *Alternate Representations for Scalable Analysis and Control of Heterogeneous Time Series*
Position shortly after graduating: Research Scientist, Google, Mountain View, CA

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
Ph.D. thesis title: *Actuated Mobile Sensing in Distributed, Unstructured Environments.*

[1] Co-advised with Professor Božidar Stojadinović.

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

Sami Malek, EECS CIR, 2019
M.S. thesis: *Daily data assimilation of a hydrologic model using the ensemble Kalman filter*

George Netscher, EECS CIR 2016
M.S. thesis: *Using deep learning for fall detection in memory care facililities*

Mogeng Yin, EECS CIR, 2017
M.S. thesis: *Large scale geodata analytics for mobility modeling*

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

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

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

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.*

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

Stefanus Hinardi, EECS, UC Berkeley 2017-2018
Frank Shyu, EECS, UC Berkeley 2017-2018
Shuai Yao, EECS, UC Berkeley 2017-2018
Michael Zhao, EECS, UC Berkeley 2017-2018
Yexin Wuang, EECS, UC Berkeley 2017-2018
MEng title: Assessing the impact of routing apps on congestion

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[4]

Arjun Sridhar (B), UC Berkeley EECS	2019
Rayyan Nasr (V), American University of Beirut	2019
Yousef Ballout (V), American University of Beirut	2019
Nathan Lichtle (V), Ecole Normale Superieure (Cachan)	2019
Ashkan Yousefpour (V), UT Dallas EECS doctoral student	2019
Ethan Hu (B), EECS	2018-2019
Michael Wehrmeyer, (B), CEE	2019
Huan Yu, (V), PhD student UCSD MAE	2018
Luc Le Flem, (V), Ecole Polytechnique, France	2018
Nathan Mandi, (B), EECS	2018
Leah Dickstein, (B), EECS	2018
Kathy Jang, (B), Computer Science	2017-2018
Theophile Cabannes, (V), Ecole Polytechnique, France	2017
Marco Sangiovanni-Vincentelli, (V), Ecole Polytechnique, France	2017
Kanaad Parvate, (B), Electrical Engineering and Computer Science	2017-2018
Nishant Kheterpal, (B), Electrical Engineering and Computer Science	2017-2018
Ananth Kuchibhotla, (B), Electrical Engineering and Computer Science	2017-2018
Arjun Sridhar, (B), Electrical Engineering and Computer Science	2017-2018
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[5]	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

[4]Initial (V): visiting student, (B): Berkeley UG student, year indicates period of visit, collaboration, or employment while at UC Berkeley
[5]Honor's Thesis

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
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

CURRENT RESEARCH SUPERVISION

Current Post Doctoral Researchers

Dr. Yashar Zeiynali Farid — June 2018-present
PhD in Civil and Environmental Engineering, University of Massachusetts Amherst, 2016
Research topic: integration of deep-RL with traffic microsimulation and cloud computing

Dr. Shuxia Tang — April 2018-present
PhD Mechanical and Aerospace Engineering, UCSD, 2016
Research topic: Extending dynamic traffic assignment to PDE-governed networks

Dr. Alexander Keimer — April. 2016-present
PhD, Mathematics, Friedrich-Alexander-Universitat Erlangen-Nurnberg, 2015
Research topic: Development of new flow models for large scale network traffic analysis

Dr. Anthony Patire — Sep. 2010-present
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-present
PhD Department of Civil and Environmental Engineering, UC Irvine, 2014
Research topic: Macroscopic modeling and analysis of vehicular urban traffic.

Current Ph.D. Students

Fanyu Wu, EECS, CIR, advised since Sep. 2018 — Expected Graduation: Spring 2022
Ph.D. thesis: *End-to-end pixel learning for mixed autonomy multi agent traffic*

Theophile Cabannes, EECS CIR, advised since Sep. 2018 — Expected Graduation: Spring 2022
Ph.D. thesis: *Selfish routing in network games*

Marsalis Gibson, EECS CIR, advised since Sep. 2018 — Expected Graduation: Spring 2022
Ph.D. thesis: *Deep-RL algorithms for mixed autonomy traffic*

Alben Rome Bagabaldo, CEE systems, advised since Sep. 2018 — Expected Graduation: Spring 2022
Ph.D. thesis: *Deep-RL algorithms for flow smoothing*

Joy Carpio, CEE systems, advised since Sep. 2018 — Expected Graduation: Spring 2022
Ph.D. thesis: *Deep-RL algorithms for automated intersections*

Fang-Chieh Chou, ME, advised since Sep. 2018 — Expected Graduation: Spring 2020
Ph.D. thesis: *Automation of truck platoons*

Aboudy Kreidieh, CEE systems, advised since Sep. 2017 — Expected Graduation: Spring 2020
Ph.D. thesis: *Deep learning-based automation of trucking*

Saleh Albeaik, CEE transportation, advised since Sep. 2017 — Expected Graduation: Spring 2020
Ph.D. thesis: *Deep learning-based automation of trucking*

Eugene Vinitsky, ME, advised since Sep. 2016 — Expected Graduation: Spring 2021
Ph.D. thesis: *Deep-RL algorithms for Lagrangian control of mixed autonomy traffic*

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

Jessica Lazarus, CEE transportation, advised since Jan. 2018 — Expected Graduation: Spring 2020
Ph.D. thesis: *Regulation of mobile app users through congestion pricing*

Current M.S. and MEng Students

Kathy Jang, EECS, CIR, advised since Sep. 2019 (as UG since 2017) — Expected Ph.D. Graduation, Spring 2022
M.S. thesis: *Policy transfer in deep-RL for mixed autonomy traffic*

Kaila Cappello, EECS MENG — 2018-2019
Umang Sharaf, EECS MENG — 2018-2019
Fangyu Wu, EECS MENG — 2018-2019

Crystal Yan, EECS MENG 2018-2019
Xiao Zhao, EECS MENG 2018-2019
Lucas Fisher, IEOR MENG 2018-2019
Anna Matsokina, CEE MENG 2018-2019
MEng title: FLOW: integration of deep-RL, microsimulation and cloud computing

Student awards and honors Kathy Jang, ACTIVATE Diversity & Inclusion Scholarship 2019
Fangyu Wu, Fung Institute Technical Contributions Award , UC Berkeley 2019
Fangyu Wu, Sevin Rosen Funds Award, EECS Department, UC Berkeley 2019
Jessica Lazarus, ENO Fellow 2019
Kathy Jang, Recurse Center Research Fellow 2019
Cathy Wu, Milton Pikarsky Memorial Award, CUTC 2018
Fangyu Wu, Eisenhower Fellow 2018
Jessica Lazarus, Eisenhower Fellow 2018
Theophile Cabannes, Prix du stage recherche, Ecole Polytechnique 2017
Teddy Forscher, ENO Fellow, ENO Foundation 2017
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

Member, Moffett Field Faculty Steering Committee	2019-2020
Executive Committee member, Global Metropolitan Studies Program	2018-2019
Steering Committee member, The Accelerator (LBNL/VCR)	2018-2019
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 - 2018
Chair, Committee on Computing and Computer Sciences Education	Spring 2010 - 2017
SUPERB committee	2010 - 2017
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 Electrical Engineering and Computer Science Department

Faculty recruiting committee	AY1718, AY1819
Linear Prelims Committee Member	2016, 2018
Graduate Advising and Admissions Standing Committee	2011 - 2013
Undergraduate student faculty advisor	2010 - 2012, 2016, 2018

Service to the Civil and Environmental Engineering Department

Ad Hoc Committee, mid career, PIR [name confidential]	2016, 2018
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

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

Chair — 2020
International bi-annual symposium on Dynamic Traffic Assignment, Seattle, WA

General Chair — 2018
21th International IEEE Conference on Intelligent Transportation Systems, Maui, Hawaii

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

Session organizer (jointly with C. Wu) "Special session on transportation and reinforcement learning," ITSC 2019

Session Chair "Intelligent Transportation,", *2017 NAE-CAE Frontiers of Engineering*, Shanghai, China — 2017

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

Tutorial Co-organizer
"Tutorial on Deep Reinforcement Learning and Transportation,"
2018 IEEE Intelligent Transportation Systems Conference, (ITSC), Maui, Hawaii, 2018

Workshop Co-organizer
"Workshop on Reinforcement learning for Transportation,"
2018 IEEE Intelligent Transportation Systems Conference, (ITSC), Maui, Hawaii, 2018

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

Computing and Algorithms Panel, workshop on Advanced Computing for Connected and Automated Vehicles 2019
Lawrence Berkeley National Laboratory (LBNL), Berkeley, CA

Corps des Mines AI panel-economics, ethics, actors 2017
BNP L'Atelier, UC Berkeley, BAIR forum, Berkeley, CA

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

Other service to the profession

Member, *IEEE Technical Committee on Cyber-Physical Systems (CPS)* 2019 - present

Participant, *Real-Time Decision Making program*, Simons Institute, UC Berkeley Spring 2018

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*

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)*, CISE (2007), CMMI/CIS (2018)
  - *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
  - Tenure or promotion letter writer: OSU CEE [2018], NUS EEE (Singapore) [2017], KACST (KSA) [2018], Univ. of Delaware [2019], Temple Univ. [2015], Univ. of Michigan [2018], Georgia Tech. [2017], USC [2018], UW [2017], Univ. of Sheffield (UK) [2016], MIT [2018,2019], Duke University [2019] Stanford University [2018]
- *Book referee*
  - AIMS (American Institute of Mathematical Sciences) 2016
  - The MIT Press 2017
- *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, 2018
  - 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, 2018
  - 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
  - Proceedings of the National Academy of Science (PNAS) 2019
  - 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, 2018
- 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
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PUBLICATIONS

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

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- *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
- *Blogo Wogo*,"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 at 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. *AI Summit*, re: AWS invent, "The Future of Mixed-Autonomy Traffic," Las Vegas, NV, Nov. 28, 2018

2. *Vanderbilt Initiative for Smart-City Operations Research*, 2018 Multi-Modal Mobility Workshop, Vanderbilt, Nashvill, TN, Jan. 18, 2018, "Incentives,"

3. *Supercomputing 2017*, Masterworks Presentation, Denver, CO, Nov. 15, 2017, "Inference and control in routing games"

4. *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 "

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

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

7. *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".

8. *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".

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

10. *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".

11. *13th Annual Inventor Recognition Banquet*, NAVTEQ, The Rookery, Chicago, June 3, 2010, "Technology innovations at the age of web 2.0 and participatory sensing".

12. *ARM TechCon*^{3}, Santa Clara Convention Center, October 21, 2009, "Mobile Millennium: using GPS to reconstruct traffic"

13. *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.

Distinguished / honorary / named lectures

1. *George Mason University*, Fairfax, VA *Metron Endowed AI seminar*, Department of Systems Engineering and Operations Research. Host: Professor Vadim Sokolov, "Mobile vehicle control at large and local scales in mixed autonomy traffic: optimization and deep-RL approaches," July 20, 2019

2. *University of Delaware*, Wilmington, DE, *Jack R. Vinson Distinguished Lecture*, Department of Mechanical Engineering, Host: Professor Andreas Malikopoulos, "Inference and control in routing games," Apr. 6, 2018

3. *University of Washington*, Seattle, WA, *Edward Wenk, Jr. Endowed Lecture*, Department of Civil and Environmental Engineering, Host: Professor Greg Miller, "Inference and control in routing games," Nov. 16, 2017

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

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

Invited seminars

1. *UC Berkeley*, Host: Professor Dick karp, "Improving Traffic Flow Using Autonomous Vehicles," *Simons Institute*, June 3, 2019

2. *University of Pennsylvania*, Host: Professor George Pappas, "Inference and control in routing games," Apr. 4, 2018

3. *Simons Institute*, UC Berkeley, *Applications in the Natural Sciences and Physical Systems* series, Host: Professor Josh Bloom, "Inference and Control in routing games," Oct., Mar. 1, 2018

4. *ETHZ*, Zurich, Switzerland, *Control Seminars Series*, Department of Electrical Engineering, Host: Professor John Lygeros, "Inference and Control in routing games," Oct., 30, 2017

5. *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," March 22, 2017

6. *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," Jan. 31, 2017

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

8. *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"

9. *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"

10. *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"

11. *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"

12. *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"

13. *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"

14. *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"

15. *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"

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

17. *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".

18. *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".

19. *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".

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

21. *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".

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

23. *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".

24. *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".

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

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

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

28. *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".

29. *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".

30. *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".

31. *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".

32. *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".

33. *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".

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

35. *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".

36. *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".

37. *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".

38. *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".

39. *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".

40. *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".

41. *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".

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

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

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

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

46. *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".

47. *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".

48. *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".

49. *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".

50. *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".

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

52. *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".

53. *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".

54. *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".

55. *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".

56. *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".

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

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

59. *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".

60. *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".

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

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

63. *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".

64. *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".

65. *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".

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

Industry and government talks

1. *Amazon re:MARS*, Las Vegas, NV, "Improving Traffic Flow Using Autonomous Vehicles," June 7, 2019

2. *World Executive Forum, Executive breakfast*, organized by Oliver Wyman, Jan. 23, 2019, "Launching the Future Mobility Competitiveness Index (FMCI)"

3. *Fall 2018 BDD/BAIR Workshop*, Nov. 28, 2018, "Cloud + micsosim + deep-RL,"

4. *Deutsches Zentrum fur Luft- and Raumfahrt*, Oct. 30, 2018, "Cloud + micsosim + deep-RL,"

5. *PTV Board*, Berkeley, CA, Apr. 19, 2018, "Cloud + micsosim + deep-RL,"

6. *TTI/Vanguard*, Los Angeles, hosted by Len Kleinrock, Mar. 6, 2018, "IS networked GPS making traffic flow worse?"
7. *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"
8. *Huawei*, Santa Clara, Jan. 11, 2017, "Mobile sensing for transportation and healthcare"
9. *LBNL ETA strategic review*, Jan. 11, 2017, "The sustainable transportation initiative"
10. *Bruce Meyer Salon*, Beverly Hills, Sep. 20, 2016, "The impact of new technology on mobility,,
11. *LBNL Advisory Board Meeting*, Lawrence Berkeley National Laboratory, June 2, 2016, "Transportation as a System"
12. *Big Ideas Summit*, Washington, DC, April 22, 2016, "Transportation as a System"
13. *Bay Area Legislative Caucus*, Sonoma, CA, Jan. 22, 2016, Host: Undersecretary Franklin Orr, DOE, "Transportation as a System"
14. *Oak Ridge National Laboratory (ORNL)* , Knoxville, TN, Nov. 9, 2015, "SMART Mobility: Decision Science"
15. *INRIX*, Seattle, WA, May 30, 2013, "Integration of mobile data in traffic management".
16. *California DOT*, Division of operations, Sacramento, CA, June 14, 2012, "Integrated Corridor Management".
17. *LA-Metro-California DOT CITRIS meeting*, Berkeley, CA, June 11, 2012, "Integrated Corridor Management".
18. *California DOT*, Division of operations, Sacramento, CA, May 25, 2012, "Integrated Corridor Management".
19. *NRC Committee on the future U.S. workforce for geospatial intelligence*, National Research Council, Irvine, CA, May 23, 2011, "Crowdsourcing and participatory sensing"
20. *California DOT*, Division of operations, Sacramento, CA, May 16, 2011, "Integrated Corridor Management".
21. *Delegation Paris Region Ile de France, Robert Lion*, UC Berkeley, CA, March 29, "Mobile Millennium"
22. *FWHA briefing*, [Webinar] Washington, DC, March 15, 2011, "Mobile Millennium: using phones as sensors"
23. *SIEMENS-Berkeley Meeting*, UC Berkeley, CA, March 9, 2011, "Next generation water sensors"
24. *SIEMENS-Berkeley Meeting*, UC Berkeley, CA, March 8, 2011, "Mobile Millennium: using phones as traffic sensors"
25. *Office for Naval Research*, Arlington, VA, January 28, 2010, "BASS: Buoyant Autonomous Sensor System".
26. *Banatao Board Meeting*, Palo Alto, CA, November 23, 2010, "Mobile sensing in large scale infrastructure systems".
27. *California Department of Transportation*, Sacramento, CA, November 17, 2010, "Future of data procurement policies".
28. *Orange Institute*, San Francisco, CA, November 15, 2010, "Mobile sensing in large scale infrastructure systems".
29. *INRIA-Berkeley meeting*. UC Berkeley, CA, November 12, 2010, "Mobile sensing in large scale infrastructure systems".
30. *California Department of Transportation*, Sacramento, CA, November 17, 2010, "ClearSky: real-time air quality monitoring system".
31. *Ericsson-CITRIS meeting*, Berkeley, CA, October 15, 2010, "Mobile Millennium, using phones as traffic sensors".
32. *The Bohemian Club*, San Francisco, CA, October 13, 2010, "Mobile Millennium, using phones as traffic sensors".
33. *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".
34. *T-Mobile-Berkeley Meeting*, UC Berkeley, September 16, 2010, "iShake: using smartphones to monitor earthquakes".
35. *IBM-Caltrans Meeting*, UC Berkeley, Setpember 16, 2010, "Data fusion for traffic monitoring".
36. *Telenav*, Santa Clara, CA, September 15, 2010, "Data fusion for traffic monitoring".
37. *HP-CITRIS Meeting*, UC Berkeley, CA, September 10, 2010, "Mobile Millennium, using phones as traffic sensors".
38. *IBM-CITRIS Meeting*, UC Berkeley, CA, August 27, 2010, "Mobile Millennium, using phones as traffic sensors".
39. *Swedish DOT Meeting*, UC Berkeley, CA, August 5, 2010, "Mobile Millennium Stockholm".

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

71. *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".

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

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

74. *43th Aeronautics and Astronautics Industrial Affiliates Meeting*, Stanford University, CA April 23, 2002. "Delay predictive models of the National Airspace System".

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

76. *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. *4th NYUAD Transportation Symposium*, "Microsim + deep-RL + cloud: Disrupting the Future of Mixed Autonomy," NYU Abu Dhabi, Nov. 16, 2018

2. *2018 Homecoming week end, UC Berkeley College of Engineering*, "150 years of innovation panel,"

3. *3rd NYUAD Transportation Symposium*, "Inference and control in routing games," NYU Abu Dhabi, Nov. 20, 2017

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

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

6. *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

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

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

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

10. *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

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

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

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

14. *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

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

16. *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

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

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

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

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

21. *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".

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

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

24. *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"

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

26. *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].

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

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

29. *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".

30. *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".

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

32. *2009 National Highway Data Workshop and Conference*, California Department of Transportation, Oakland, CA, September 23rd, 2009. "Mobile Millennium, using phones as traffic sensors

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

34. *15th World Congress on ITS*, Safe trip 21 session, New York, NY, November 18th, 2008, "Mobile Millennium: using GPS to reconstruct traffic".

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

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

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

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

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

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

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

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

43. *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".

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

45. *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".

46. *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".

47. *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".

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

49. *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".

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

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

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

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

54. *43rd IEEE Conference on Decision and Control.* Paradise Island, Nassau, Bahamas, December 16, 2004. "An approximation algorithm for scheduling aircraft with holding time".

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

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

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

58. *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".

59. *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".

60. *42nd IEEE Conference on Decision and Control.* Maui, Hawaii, December 12, 2003. "MILP formulation and polynomial time algorithm for an aircraft scheduling problem".

61. *2003 ETHZ-UCB-Stanford Workshop*, Stanford, CA, December 5, 2003. "MILP formulation and polynomial time algorithm for an aircraft scheduling problem".

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

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

64. *41st IEEE Conference on Decision and Control.* Las Vegas, NV, December 13, 2002. "Conditional viability for impulse differential games".

65. *41st IEEE Conference on Decision and Control.* Las Vegas, NV, December 13, 2002. "Viability Kernels and Capture Basins of Sets under Differential Inclusions".

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

67. *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".

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

69. *5th International Workshop Hybrid Systems Computation and Control.* Stanford, CA, March 25, 2002. "Guaranteed overapproximations of unsafe sets for continuous and hybrid systems".

70. *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".

71. *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
2005	$5,400	$381,565	$386,965
2006	$537,999	$991,990	$1,529,989
2007	$703,151	Eur30,000; $30,000	Eur30,000; $733,151
2008	$2,627,500	$0	$2,627,500
2009	$500,558	$658,283	$1,158,841
2010	$3,411,619	$75,000	$3,486,619
2011	$15,133,306	$109,391	$15,242,697
2012	$282,982	$0	$282,982
2013	$169,375	$101,471	$270,846
2014	$0	$78,579	$78,579
2015	$152,332	$0	$152,332
2016	$7,019,998	$0	$7,019,998
2017	$699,580	$0	$699,580
2018	$3,993,219	$0	$3,993,219
2019	$2,287,588	$1,350,000	$3,637,588
Total	$37,524,607	$3,776,279	$41,300,886

Fiscal yr.	State rev.
2015-2016	$713,300
2016-2017	$1,234,895
2017-2018	$1,974,184
2018-2019	$1,870,506
Total	$5,792,885

Grants and donations obtained as a sole faculty PI

1. *California Department of Transportation* FY2019-2020 $2,136,208
   Proposal title: "I-210 Pilot Deployment and Operation (ICM 4)"

2. *Aimsun TSS (Siemens)* FY2019-2020 $116,380
   Donation (support for post doctoral work of Dr. Yashar Zeiynali Farid)

3. *Berkeley Deep Drive*, FY2019-2020 $35,000
   Proposal title: "Towards Trustworthy and Interpretable Control Strategies for Automated Vehicles"

4. *King Abdullah Center for Science and Technology (KACST)* FY 2018-2019 $1,000,000
   Proposal title: "Automated Heavy-Duty-Truck Development for CACC and Self-Driving"

5. *National Institute of Health (NIH)*, SBIR-FasTrak[6] FY2018-2020 $1,558,247
   Proposal title: "SBIR: A comprehensive fall prevention system for memory care: final feasibility and randomized controlled study"

6. *Center for aging and brain health innovation (CABHI)*[6] FY2018-2020 CAN$500,000
   Proposal title: Deployment and Pilot of a Video-based Safety System for Individuals with Alzheimer's Disease and Related Dementias

7. *National Science Foundation (NSF)*[6], FY2018-2020 $750,000
   Proposal title: "STTR Phase II: Development of a safety system for individuals with Alzheimer's disease and related dementias" [submitted as STTR, received as SBIR]

8. *Amazon Web Services*, FY 2018-2019 $100,000
   Proposal title: "Applications of deep-RL for training connected, autonomous vehicles in mixed environments"

9. *Lawrence Berkeley National Laboratory*, FY 2018-2019 $84,972
   Proposal title: "LDRD: Software Development of High Performance Computing for Large Scale Mobility Modeling'

10. *National Institute of Health (NIH)*[6], FY2017-2018 $250,000
    Proposal title: "SBIR Phase I: Real-time video monitoring of falls in memory-care facilities for individuals with Alzheimer's and related dementias"

11. *Signature Fellows Program*, FY 17-19 $150,000
    Proposal Title: "Real-time video monitoring of falls in memory-care facilities for individuals with Alzheimer's and related dementias"

12. *Siemens*, FY 2017-2018 $90,000
    Proposal title: "Traffic Knowledge Extraction from variable, multi resolution data from real deployments"

13. *Berkeley-Taiwan Biomedical Technology Fellow (BTB) program, NARLabs* $15,000
    Proposal title: "Monitoring of Alzheimer patients using video cameras"

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

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

16. *National Science Foundation (NSF)*[6], FY2017-2018 $150,000
    Proposal title: "STTR Phase I: Partially supervised safety monitoring in the home without wearables for individuals with Alzheimer's and related dementias"

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

18. *Lawrence Berkeley National Laboratory*: FY 15-16 $400,000
    Proposal title: "SPSA: ETA Priority Initiative on Transportation / LDRD: Transportation Systems Science"[7]

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

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

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

[6]PI-ship transferred to student George Netscher (full time SafelyYou employee, and CEO), upon receiving funds, per CABHI, NIH and NSF SBIR / STTR guidelines (active PI needs to be employed above 50% time at corresponding non University company).

[7]For administrative reasons, PI-ship transferred to Dr. Anand Gopal per LBNL guidelines.

22. *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."

23. *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."

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

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

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

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

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

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

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

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

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

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

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

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

36. *British Aerospace* (subcontract from DARPA) FY 10-12 $810,122[8]
Proposal title: "Flow-based Information Theory Tracking (FITT)"

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

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

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

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

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

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

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

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

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

45. *Federal Department of Transportation (RITA)*. FY 08-09. $1,000,000
Proposal title: "Mobile Millennium".[9]

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

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

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

49. *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".

50. *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".

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

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

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

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

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

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

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

58. *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. *Berkeley Deep Drive*, FY2019-2020 $50,000
Proposal titles: "Autonomous Driving in Unstructured Stochastic Intersections,"
Co-inestigator: Prof. Trevor Darrell (EECS)

2. *National Science Foundation* FY 19-21 $1,300,000
Proposal Title: "CPS: TTP Option: Medium: Collaborative Research, CIRCLES: Congestion Impact Reduction via CAV-in-the-loop Lagrangian Energy Smoothing" Co-Investigators: Prof. Work (Vanderbilt), Prof. Pappas (UPenn), Prof. Piccoli (Rutgers)

[9]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).

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

4. *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)

5. *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.)

6. *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)

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

8. *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)

9. *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)

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

11. *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)

12. *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).

13. *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)*[10] 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).

[10] 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):

- *Lawrence Berkeley National Laboratory (LBNL):* LBNL provides financial support to PhD, faculty and staff through various funds, including the LDRD program, which has contributed to over $0.5M of my work over the years (2014-2019).
- *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, SB1 for 2017). (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
Fiscal year 2017	$1,974,184 (ITS Berkeley: $1,709,895)	PTA and SB1
Fiscal year 2018	$1,870,506 (ITS Berkeley: $1,709,895)	PTA and SB1

Other 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)