Title	Former Dean, College of Engineering Professor, Department of Civil Engineering The University of Texas at Arlington
Present Address	College of Engineering The University of Texas at Arlington P.O Box 19019 Arlington, TX 76019-0019 Phone: 817-272-5725 Email: <u>bardet@uta.edu</u> Webpage: www.uta.edu/engineering

# Education

- Ph.D., 1984, California Institute of Technology, Pasadena
- M.S., 1979, California Institute of Technology, Pasadena
- Engineer, 1978, Ecole Centrale, Lyon, France

# **Employment history**

Dean, College of Engineering, University of Texas at Arlington (UTA)
Professor, Civil Engineering, University of Texas at Arlington (UTA)
Director, Center on Megacities, University of Southern California (USC)
Director, Environmental Engineering Program, Sonny Astani Department of Civil and Environmental Engineering, USC
Professor and Chair, Sonny Astani Department of Civil and Environmental Engineering, USC
Professor, Sonny Astani Department of Civil and Environmental Engineering, USC
Associate Professor, Sonny Astani Department of Civil and Environmental Engineering, USC
Assistant Professor, Sonny Astani Department of Civil and Environmental Engineering, USC
Part-time lecturer, Department of Civil Engineering, California Institute of Technology, Pasadena
Engineering intern, Laboratoire des Ponts et Chaussées, Lyon, France

# Honors and awards

2013	Protégé, Texas Academy of Medicine Engineering Science and Technology (TAMEST)
2012–	Tau Beta Pi Member
2010–	American Academy of Environmental Engineers and Scientists
2009–	Foreign Member of the Russian Academy of Natural Sciences
2002	Lillian M. Gilbreth Lectureship of the US National Academy of Engineering
2001	Frontiers of Engineering of the US National Academy of Engineering
1987–1994	Presidential Young Investigator of the National Science Foundation
1979–1983	Graduate Research Assistantship, California Institute of Technology
1978–1979	Scholarship of the French Ministry of Foreign Affairs

# **Core Competencies in Higher Education**

- Planning and strategic thinking
- Industry and research collaboration
- Community partnerships
- Fundraising
- Recruiting
- Marketing and communications
- Faculty mentoring and coaching



Jean-Pierre Bardet is the former Dean of Engineering at the University of Texas at Arlington (UTA) and a Professor in the Civil Engineering Department at UTA. Before joining UTA, he was Professor and Chair of the Sonny Astani Department of Civil and Environmental Engineering at the Viterbi School of Engineering of the University of Southern California (USC), and the Director of the USC Center on Megacities.

Originally educated in France, Bardet received his M.S. and Ph.D. from the California Institute of Technology. His research interests include engineering education, civil infrastructure systems, geomechanics; geotechnical engineering; earthquake engineering; and horseracing tracks. He has authored and co-authored more than 150 technical publications and serves on the editorial board of several professional journals.

Jean-Pierre Bardet is a former recipient of the presidential young investigator award of the National Science Foundation (NSF). He contributed to the construction of the system integration of the George E. Brown, Jr. Network for Earthquake Engineering Simulation, one of the largest projects ever sponsored by NSF in earthquake engineering. The National Academy of Engineering (NAE) recognized Bardet for his post-earthquake surveys in California, Japan, Turkey, Taiwan, and India; he was invited to the NAE Frontiers of Engineering, and was awarded the NAE Gilbreth Lectureship.

Jean-Pierre Bardet served as Dean of the College of Engineering at the University of Texas at Arlington (UTA) in 2012-2013. During times of budgetary challenges for academic institutions in Texas, the college of engineering under his leadership reached all-time high enrollment with 4600 students, and record number research expenditures. With Strategic Focus Associates, Dean Bardet initiated a collaborative strategic plan in partnerships with chambers of commerce and industries, and with AlpineLink implemented this plan using a balanced scorecard aligned with the UT System productivity framework. He reorganized the dean's office

in research, graduate and undergraduate affairs, recruitment and outreach, finances, communication, online education, and corporation and major giving, and delegated responsibilities to four associate and assistant deans, three directors, and two development officers. He facilitated the success of faculty and students by capitalizing on the unique strengths of the college of engineering located in the fourth largest and rapidly growing urban area in the United States.

Dean Bardet actively engaged the College's Board of Advisors in advising, promoting and sponsoring the College of Engineering. The Board's membership was expanded to include recognized leaders in health technologies, energy, advanced manufacturing, and entrepreneurship. The Board's president-elect was even recognized for his contribution to innovation by President Obama.

In 2012, Dean Bardet launched a clustered faculty hire about health technologies, which attracted more than 1000 applicants including a large number of women and underrepresented minorities. He started a faculty mentoring initiative resulting in three NSF CAREER Awards in 2013. He expanded the facilities for distance education from 5 to 17 studios, offering more than 150 courses annually. Under his leadership, the College launched an undergraduate program in bioengineering and a MS program in construction management, developed an undergraduate program in chemical engineering, and successfully ABET accredited all eight undergraduate programs. Dean Bardet held dean's forums attended by hundreds of students, faculty and staff and encouraged feedbacks for improving the College. Student awards reached record numbers and included prestigious awards such as the first two Goldwater Scholars in the University's history.

Dean Bardet strengthened and developed partnerships with high schools, community colleges and four-year institutions in order to promote affordable high-quality engineering education. Within two years, the College initiated a record number of international exchange collaborations with universities in China, Colombia, Greece, India, Indonesia, and Taiwan. Dean Bardet initiated aggressive email campaigns aimed at recruiting PhD students and MS students. Committed to promoting diversity in engineering, Dean Bardet co-chaired the Society of Hispanic Professional Engineers (SHPE) Deans' Summit at the SHPE national conference in 2012, and co-sponsored a STEM Award luncheon with Lockheed Martin.

Dean Bardet promoted collaboration with other UTA schools and colleges, including interdisciplinary research initiatives, faculty dual-careers, sharing of laboratory facilities, joint programs in engineering management, construction management, and STEM education. The College partnered with the UTA Research Institute (UTARI) to create an innovation ecosystem allowing students to become entrepreneurs and turn basic academic research into commercial applications. The College also built strategic partnerships with chambers of commerce to ensure it was responsive to the needs of local communities and industries. 2012 and 2013 were the best years ever for fund raising in the College's history, thanks to three one-million-dollar gifts matched by UTA natural gas revenues.

Dean Bardet served on the UT System Task Force on Engineering Education in Texas, which examined future demands for engineers in Texas and identified strategies for the Texas Legislature to support these demands. In January 2013, Dean Bardet met with Texas congressmen and discussed the effects of sequestration and funding for STEM education. For Commencement speaker, he invited congressman Joe Barton, one of the very few engineers in the US Congress.

Before joining UTA in 2012, Bardet served as Department Chair of the USC Sonny Astani Department of Civil and Environmental Engineering. While higher-education was struck with budgetary cuts, the Sonny Astani department under Bardet's leadership garnered major successes; it received a \$17 million naming gift from Sonny Astani, updated its educational programs, doubled its student enrollment, attained the best US-NWR ranking ever in its history, and secured the addition of 10 new faculty members. As Department Chair,

Bardet has been involved in engineering education with the California Engineering Education Council, the American Society of Civil Engineers (ASCE), and the ASCE Department Heads Executive Council, and has promoted innovation and creativity in engineering curricula, and STEM education among high-school students.

In 2009, Bardet started the USC Center on Megacities, an organized research unit built upon the interdisciplinary expertise from several USC schools. As the director of the USC center on megacities, he led a blue ribbon panel for the City of Los Angeles looking at its water infrastructure. His panel recommendations, which attracted attention of TV and radio media, resulted in Los Angeles changing its City Ordinance on water conservation for 4 million people in Los Angeles.

# Main Achievements of UTA College of Engineering during Bardet's deanship (2012-2013)

- 2012 Strategic plan with Strategic Focus Associates
- 2012 Reorganization of dean's office
- 2012 Email campaign for PhD and MS student recruitments
- 2012 ABET accreditation of all eight undergraduate programs
- 2012 New undergraduate program in bioengineering
- 2012 Congressman Joe Barton as a Commencement speaker.
- 2012 Co-chair of SHPE Deans' Summit at the SHPE national conference in Fort Worth, TX, and cosponsor of STEM Award luncheon with Lockheed Martin
- 2012 First edition of UTA Engineer magazine
- 2012-13 Balanced scorecard with AlpineLink
- 2012-13 Dean's Forum attended by hundreds of students, faculty and staff
- 2012-13 Highest enrollment in engineering, 4600 students
- 2012-13 Highest research expenditures in the college
- 2012-13 Clustered faculty hire about health technologies and energy with more than 1000 applicants for 7 faculty positions.
- 2012-13 Faculty mentoring resulting in three NSF CAREER awards in 2012
- 2012-13 Two Goldwater Scholars, first ones in UTA's history
- 2012-13 Distance education studios expanded from 5 to 17, 150 online courses each year, and about 600 hours of online courses per week.
- 2012-13 New construction management graduate program, and development of undergraduate program in chemical engineering
- 2012-13 Educational partnerships with high schools (Arlington ISD), community colleges (Collin College, Tarrant County, and Waco) and four-year institutions (U of Dallas) in order to promote affordable high-quality engineering education
- 2012-13 International exchange collaborations with foreign universities, including Beijing University of Posts and Telegraphs (BUPT); Research Center Demokritos, Greece; GITAM University, India; Pontificia Universidad Javeriana (PUJ), Colombia; Universitas Indonesia, Indonesia; Harbin Technical University; National Central University, Taiwan; National Cheng-Kung University, Taiwan; and National Chung Cheng University, Taiwan; and National Taiwan University.
- 2012-13 Partnership with the UTA Research Institute (UTARI) for creating an innovation ecosystem, entrepreneurship initiative, and research commercialization
- 2012-13 Best year ever for fund raising in the College's history.
- 2012-13 College's Board of Advisors expanded to respond to College's directions in health technologies, energy, advanced manufacturing, and entrepreneurship. Incoming president recognized for his contribution to innovation by President Obama.
- 2012-13 UT System Task Force on Engineering Education for Texas in the 21st Century.
- 2012-13 Partnerships with Chambers of Commerce: The college built relations with local Chambers of Commerce, including Arlington, Fort Worth, Irving, and regional Dallas
- 2013 Meetings with federal legislators: Met in Washington, D.C., in January 2013 with Texas representatives and senator staffers and discussed the effects of sequestration and importance of funding for education in STEM fields.

# Main Achievements of USC Sonny Astani Department during Bardet's chairmanship (2006-2011)

- 2007 \$17 million gift from Sonny Astani for naming Department of Civil and Environmental Engineering
- 2007 Megacity research theme for a civil and environmental engineering department in Los Angeles 2006–2011 Doubling of student enrollment
- 2006–2011 Revision of all educational programs of Department, including BS, MS and PhD programs.
- 2006–2011 Five new endowed chairs for Department, including three early career chairs.
- 2009 ABET accreditation of B.S. programs in civil engineering and environmental engineering
- 2009 Creation of USC Center on Megacities, a multidisciplinary research center
- 2010 Best USNWR ranking in civil engineering (22) in Department's 100-year history
- 2010 Ten new tenured/tenure track faculty positions for Department over 4 years
- 2011 Two new Masters programs on Sustainable Infrastructure Systems (Water/Waste and Transportation)

# **Professional memberships**

- 1982 Member, American Society of Civil Engineers (ASCE)
- 1982 Member, United States National Society of the International Society for Soil Foundation Engineering (USNS)
- 1990 Member, Earthquake Engineering Research Institute (EERI)
- 1990 Member, American Academy of Mechanics
- 2006 Member, American Society of Engineering Education (ASEE)
- 2010 Member, American Railway Engineering and Maintenance-of-way Association (AREMA)

# Journal Editorial Board

- 1996–2011 Editorial Board Member, ASCE Journal of Engineering Mechanics
- 1998–2005 Editorial Board Member, ASCE Journal of Geotechnical and Geo-environmental Engineering
- 2000–2011 Editorial Board Member, International Journal of Numerical and Analytical Methods in Geomechanics
- 2000–2003 Editorial Board Member, Electronic Journal of Geotechnical Engineering
- 2006– Editorial Board Member, Public Works, Management and Policy
- 2010- Editorial Board Member, International Scholarly Research Network (ISRN), Civil Engineering

# **Professional Services**

- 1995–1997 Vice-President of International Association of Powders and Grains
- 1995–1997 US Representative of European ALERT program in Geomechanics
- 2005–2006 Committee of National Academy of Engineering on Geological and Geotechnical Engineering in the New Millennium: Opportunities for Research and Technological Innovation
- 2006&2008 Board of Directors, Consortium of University Research in Earthquake Engineering (CUREE)
- 2006–2010 Board of Directors, Pacific Earthquake Engineering Research Center (PEER), UC Berkeley
- 2007–2011 Board of Directors, USC Keston Institute for public finance and infrastructure policy
- 2007–2011 Board of Directors, USC Energy Institute
- 2008–2010 ASCE Body of Knowledge Fulfillment Committee
- 2008–2010 ASCE Civil Engineering Department Head Executive Committee
- 2008–2010 California Engineering Education Council, Sacramento, California
- 2009 Reviewer of Plan for King Saud University College of Engineering, Saudi Arabia
- 2009–2011 ASCE Infrastructure and Research Policy Committee
- 2009–2011 Executive Committee, USC Center for Sustainable Cities
- 2009–2011 Board of Directors, Global Heath Institute, USC Keck School of Medicine
- 2009–2010 Chair, Blue Ribbon Committee of City of Los Angeles on Water Pipe Breaks During 2009
- 2012 Chair of Deans Summit, Fort Worth, Texas
- 2012–2013 University of Texas System Task Force on engineering Education

# Invited Professorships

1990&1996 Invited professor, University Joseph Fourier, Grenoble, France

- 1999 Invited professor, University Paris 6, France
- 1998 Invited professor, Ecole Normale Superieure, Cachan, France
- 1995 Invited professor, University of Canterbury, New Zealand
- 1995 Invited professor, National Technical University, Athens, Greece

#### **Consulting Experience**

Agbabian Associates; Dames and Moore; Earth Technology Corporation; Lindval and Richter, Associates; Earth Mechanics Incorporated; Hushmand and Associates; Environmental Services Incorporated; URS; Los Angeles Department of Water and Power.

#### **Professional interests**

- Engineering education and higher education
- Civil Infrastructure Systems
- Geotechnical Engineering and Geotechnical Earthquake Engineering
- Computational Geomechanics and Granular Mechanics
- Field and Laboratory Investigations
- Information Technology, Geostatistics and Geographic Information Systems
- Synthetic Horseracing Surfaces

#### PUBLICATIONS

#### Speeches

- 1. Bardet, J. P., 2012, 2012 State of the College of Engineering Address, UT Arlington College of Engineering, <a href="http://www.uta.edu/engineering/news-events/news-archives/2012/state-of-college.php">http://www.uta.edu/engineering/news-events/news-archives/2012/state-of-college.php</a>
- Bardet, J. P., 2013, 2013 State of the College of Engineering Address, UT Arlington College of Engineering, <a href="http://www.uta.edu/engineering/news-events/news-archives/2013/01-dean-bardet-delivers-state-of-the-college-address.php">http://www.uta.edu/engineering/news-events/news-archives/2013/01-dean-bardet-delivers-state-of-the-college-address.php</a>
- 3. **Bardet, J. P.,** 2012, SHPE STEM Award luncheon, Fort Worth, TX, http://www.uta.edu/engineering/news-events/news-archives/2012/120712shpeoverview.php
- 4. **Bardet, J. P.,** 2012, Engineering Deans Summit, Fort Worth, TX, <u>http://www.uta.edu/engineering/news-events/SHPE%20Deans%20Summit.php</u>
- 5. **Bardet, J. P.,** 2011 Commencement keynote speech, December 2011. UT Arlington. http://www.uta.edu/commencement/photos-videos/index.php

#### Media coverage

- 1. New engineering dean to start in January, The Shorthorn, June 22, 2011, http://www.theshorthorn.com/news/campus/new-engineering-dean-to-start-in-january/article\_0e97739bd3a3-5b57-9853-c62e10628d7f.html
- 2. UT Arlington's College of Engineering has new dean with impressive record, June 22, 2011, Dallas Morning News, <u>http://www.dallasnews.com/business/columnists/robert-miller/20110622-ut-arlingtons-college-of-engineering-has-new-dean-with-impressive-record.ece</u>
- 3. UT Arlington Names Distinguished Civil Engineer as New College of Engineering Dean, June 23, 2011, Istockanalysist.com, <u>http://www.istockanalyst.com/business/news/5251269/ut-arlington-names-</u> distinguished-civil-engineer-as-new-college-of-engineering-dean
- 4. New Engineering dean: UTA to be elite, not elitist, The Shorthorn, January 24, 2012, http://www.theshorthorn.com/news/campus/new-engineering-dean-uta-to-be-elite-notelitist/article\_35fc2b2b-32ee-5393-a991-2dd9a2bba8b9.html

- 5. UT Arlington engineering dean and student trade places for a day, The Shorthorn, February 23, 2012, <u>http://www.theshorthorn.com/news/campus/ut-arlington-engineering-dean-and-student-trade-places-for-</u> a/article\_09a5aa30-5528-5019-bdd6-0567bce8eed2.html
- 6. Unmanned Aircraft Systems Consortium Convened at Chamber Today, February 27, 2012, Newsletter of Arlington Chamber of Commerce, <u>http://myemail.constantcontact.com/News-from-the-Arlington-Chamber-of-Commerce.html?soid=1106679983733&aid=Ryhrca1Bbek</u>
- 7. Dean Jean-Pierre Bardet shares plans for College of Engineering's future with students, The Shorthorn, May 3, 2012, <u>http://www.theshorthorn.com/news/campus/dean-jean-pierre-bardet-shares-plans-for-</u> <u>college-of-engineering/article\_b994db26-4641-58ca-88c8-5a45edd6f78c.html</u>
- College signs off on software engineering joint program with Beijing University of Posts and Telecommunications, The Shorthorn, May 3, 2012, <u>http://www.theshorthorn.com/news/campus/college-signs-off-</u> on-software-engineering-joint-program-with-beijing/article\_fb933fb2-942b-5bbc-b0b2-244895b1f3c1.html
- 9. UTA: Investing in transformative research, Forth Worth Business Press, May 4, 2012, http://www.uta.edu/engineering//news-events/news-archives/2012/pdf/transformative-research.pdf
- 10. Beijing University of Posts and Telecommunications provides full-tuition scholarships in fall program, The Shorthorn, June 26, 2012, <u>http://www.theshorthorn.com/news/campus/beijing-university-of-posts-and-telecommunications-provides-full-tuition-scholarships/article\_01cb83fd-3679-5c81-819d-2085a0206941.html</u>
- 11. Pressure temporarily lifted at Engineering Welcome Bash, The Shorthorn, September 5, 2012, http://www.theshorthorn.com/news/campus/pressure-temporarily-lifted-at-engineering-welcomebash/article\_2cbf9038-f798-11e1-a0cc-001a4bcf6878.html
- 12. College, McLennan Community College Ink MOU for Transfers, September 27, 2012, http://www.uta.edu/engineering/news-events/news-archives/2012/MCC\_agreement.php
- 13. Why Texas' growth still draws high achievers, M. Schnurman, October 20, 2012, The Dallas Morning News, <u>http://www.dallasnews.com/business/columnists/mitchell-schnurman/20121020-mitchell-schnurman-why-texas-growth-still-draws-high-achievers.ece</u>
- 14. UTA, University of Dallas Sign Letter of Intent for Engineering Degree, October 25, 2012, http://www.uta.edu/engineering/news-events/news-archives/2012/UTA-UD-signing.php
- 15. University of Dallas students to receive UTA electrical engineering option, The Shorthorn, November 5, 2012, <u>http://www.theshorthorn.com/news/campus/university-of-dallas-students-to-receive-uta-electrical-engineering-option/article\_3973e206-2796-11e2-b50a-0019bb30f31a.html</u>
- 16. Dean Bardet Hosts SHPE Deans' Summit, November 18, 2012, <u>https://www.uta.edu/engineering/news-events/news-archives/2012/120712shpeoverview.php</u>
- 17. Task force to study engineering education and workforce demands, November 27, 2012, http://www.utsystem.edu/news/2012/11/27/task-force-study-engineering-education-and-workforcedemands
- 18. UTA considers starting urban water institute, December 2, 2012, Star Telegram, <u>http://www.star-telegram.com/2012/12/01/4453173/uta-considers-starting-urban-water.html</u>
- 19. Dean Bardet Urges Legislators to Continue Funding, March 20, 2013, http://www.uta.edu/engineering/news-events/news-archives/2013/03-bardet-dc-trip.php
- 20. Engineering dean engages audience, requests action, The ShortHorn, April 10, 2013, <u>http://www.theshorthorn.com/news/campus/engineering-dean-engages-audience-requests-</u> action/article 1449fb2a-a228-11e2-b290-001a4bcf6878.html
- 21. Engineering College promotes multidisciplinary collaboration with new hires, The Shorthorn, April 17, 2013, <u>http://www.theshorthorn.com/news/engineering-college-promotes-multidisciplinary-collaboration-with-new-hires/article\_ea67cb58-a712-11e2-9b65-001a4bcf6878.html</u>

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- 2. Dean's Student Forum April 13, 2013, http://www.youtube.com/watch?v=GEqrFOzakMU
- 3. Envisioning the future, March 22, 2012, <u>http://www.youtube.com/watch?v=-aJSc6hYQ1c</u>
- 4. 2013 Student Awards Banquet, April 19, 2013, <u>http://www.youtube.com/watch?v=\_SEdxXelaAo</u>
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# Books

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- 2. Youd, L., J. P. Bardet and J. Bray, eds, 2000, "The 1999 Kocaeli, Turkey, Earthquake," Earthquake Spectra, Earthquake Engineering Research Institute, p. 462.
- Jain, S., W. Lettis, C.V.R. Murty, and J. P. Bardet, eds., 2002, "The Bhuj, India, Earthquake of January 26, 2001," Earthquake Spectra 18, Supplement A (July 2002), Earthquake Engineering Research Institute.
- 4. Bardet, J. P., C. E. Synolakis, H. L. Davies, F. Imamura, and E. A. Okal, eds., 2003, "Landslide Tsunamis," *Pure and Applied Geophysics*, Vol. 160, No. 10-11, p. 428.
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- Zhou, X., Y. Tanaka and J. P. Bardet, 2007, "Seismic Risk Management of Lifelines," *Proceedings of the Fifth China-Japan-US Trilateral Symposium on Lifeline earthquake Engineering*, Beijing University of technology, China; Kobe University, Japan; and University of Southern California, USA, p. 480.

# Chapters in books

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- 2. Bardet, J. P., 1999, "Incremental behavior of granular media," *Mechanics of Granular Materials*, M. Oda and K. Iwashita, eds., A. A. Balkema, Rotterdam, the Netherlands, pp. 160-170.

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- 2. Bardet, J. P., and G. Gunawan, 1986, "Basic Soil Testing," *Microsoftware for Engineers*, Vol. 2, No. 4, pp. 255 -260.
- 3. Bardet, J. P., 1986, "A Bounding Surface Plasticity Model for Sands," *Journal of Engineering Mechanics, ASCE,* Vol. 112, No. 11, pp. 1198 -1217.
- Bardet, J. P., 1989, "Finite Element Analysis of Rockburst as Surface Instability," Computers and Geotechnics, Vol. 8, No. 3, pp. 177 -193.

- 5. Bardet, J. P., and M. M. Kapuskar, 1989, "A Simplex Analysis of Slope Stability," *Computers and Geotechnics,* Vol. 8, No. 4, pp. 329 348.
- 6. Bardet, J. P., 1990, "Finite Element Analysis of Surface Instability in Hypo-Elastic Solids," *Computer Methods in Applied Mechanics and Engineering*, Vol. 78, pp. 273 296.
- Bardet, J. P., 1990, "Lode Dependencies for Isotropic Pressure Sensitive Elastoplastic Materials," Journal of Applied Mechanics, ASME, Vol. 57, pp. 498 - 506.
- 8. Bardet, J. P., 1990, "A Hypoplastic Model for Sand," *Journal of Engineering Mechanics, ASCE,* Vol. 116, No. 9, pp. 1973 -1998.
- Bardet, J. P., 1990, "Finite Element Analysis of Plane Strain Bifurcation within Compressible Solids," Computers and Structures, Vol. 36, No. 6, pp. 993 -1007.
- 10. **Bardet, J. P.,** 1990, "Damage Induced By Liquefaction in the Marina District of San Francisco after the 1989 Loma Prieta Earthquake," *Nature,* Vol. 346, August, p. 799.
- 11. Bardet, J. P., and J. Proubet, 1991, "An Adaptative Relaxation Technique for the Statics of Granular Materials," *Computers and Structures*, Vol. 39, No. 3/4, pp. 221 229.
- 12. **Bardet, J. P., and W. Choucair,** 1991, "Linearization Techniques for Integration of Rate-Type Constitutive Equations," *International Journal for Numerical and Analytical Methods in Geomechanics,* Vol. 15, pp. 1 - 19.
- Bardet, J. P., 1991, "Analytical Solutions for the Plane Strain Bifurcation of Compressible Solids," Journal of Applied Mechanics, ASME, Vol. 58, No. 3, pp. 651 - 657.
- 14. Bardet, J. P., and W. Choucair, 1991, "A Benchmark Algorithm for Elastoplasticity with Multiple Yield Surfaces," *Soil Dynamics and Earthquake Engineering*, Vol. 10, No. 7, pp. 341 347.
- 15. Bardet, J. P., 1991, "A Comprehensive Review of Strain Localization in Elastoplastic Soils," *Computers and Geotechnics*, Vol. 10, No. 3, pp. 163 -188.
- 16. Bardet, J. P., 1991, "Orientation of Shear Bands in Frictional Soils," *Journal of Engineering Mechanics, ASCE,* Vol. 117, No. 7, pp. 1466 -1484.
- 17. Bardet, J. P, 1992, "A Viscoelastic Model for the Dynamic Response of Saturated Poroelastic Materials," *Journal of Applied Mechanics, ASME,* Vol. 59, No. 1, pp. 128 135.
- 18. **Bardet, J. P., and J. Proubet,** 1991, "A Numerical Investigation of the Structure of Persistent Shear Bands in Granular Media," *Géotechnique,* Vol. 41, No. 4, pp. 599 613.
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- 20. Bardet, J. P., and H. Sayed, 1993, "Velocity and Attenuation of Compression Waves in Nearly Saturated Soils," *Soil Dynamics and Earthquake Engineering*, Vol. 12, No. 7, pp. 391 402.
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- Bardet, J. P., M. Kapuskar, G. R. Martin, and J. Proubet, 1992, "Site Response of the Marina District of San Francisco during the Loma Prieta Earthquake," USGS Professional Paper 1551-F, The Loma Prieta, California, Earthquake of October 17, 1989- Marina District, pp. 85-140.
- 23. **Bardet, J. P., and J. Proubet,** 1992, "Numerical Simulation of Shear Bands in Idealized Granular Materials," *Solid State Phenomena, in Non Linear Phenomena in Materials Science,* Vols. 23 & 24, pp. 473 -482.
- 24. Bardet, J. P., and J. Proubet, 1992, "The Structure of Persistent Shear Bands," *Applied Mechanics Reviews, ASME,* Vol. 45, No. 3 (2), p. 5.

- 25. **Bardet, J. P.,** 1994, "Observations on the Effects of Particle Rotations on the Failure of Idealized Granular Materials," *Mechanics of Materials,* Vol. 18, pp. 159 182.
- 26. Bardet, J. P., 1994, "The Damping of Saturated Poroelastic Soils during Steady State Vibrations," *Applied Mathematics and Computation*, Vol. 67, pp. 3 31.
- 27. Bardet, J. P., 1994, "A Micromechanical Investigation of Incremental Constitutive Equations for Granular Materials," *International Journal of Plasticity*, Vol. 10, No. 8, pp. 879 - 908.
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- 9. Bardet, J. P., N. Mace, and T. Tobita, 1999, "Liquefaction-induced ground deformation and failure," *Report, Civil Engineering Department, University of Southern California, Los Angeles.*
- 10. Bardet, J. P., J. Hu, T. Tobita, and N. Mace, 1999, "Database of case histories on liquefactioninduced ground deformation," *Report, Civil Engineering Department, University of Southern California, Los Angeles.*
- 11. Bardet, J. P., J. Hu, J. Swift, and T. Tobita, 2002, "Liquefaction Ground Deformation Database," *Report to PEER Program of Applied Earthquake Engineering Research on Lifelines, Report, Civil Engineering Department, University of Southern California, Los Angeles.*
- 12. Zand, A. G. and J.P. Bardet, 2004, "Protégé plug-in extensions for NEES metadata model," *Report, Civil Engineering Department, University of Southern California, Los Angeles.*
- 13. Bardet, J.P., F. Liu, and N. Mokkaram, 2004, "A Metadata Model for the George E. Brown, Jr., Networks for Earthquake Engineering Simulation," *Report, Civil Engineering Department, University of Southern California, Los Angeles.*
- 14. Bardet, J.P., F. Liu, and N. Mokkaram, 2004, "Illustration of the NEES Metadata Model Using the miniMOST Experiment," *Report, Civil Engineering Department, University of Southern California, Los Angeles.*
- 15. Bardet, J.P., F. Liu, N. Mokkaram, S. J. Brandenberg, B. L. Kutter, and D. W. Wilson, 2004, "Application of the NEES Metadata Model to Centrifuge Modeling," *Report, Civil Engineering Department, University of Southern California, Los Angeles.*
- Bardet, J. P., D. Ballantyne, G. E. C. Bell, A. Donnellan, S. Foster, T. S. Fu, J. List, R. G. Little, T. D. O'Rourke, and M. C. Palmer, 2010, "Expert review of water system pipeline breaks in the City of Los Angeles during Summer 2009," *Report to the Steering Committee on Water Pipeline Breaks of the City of Los Angeles*, April 6, Center on Megacities, University of Southern California, p.167

#### **Research grants**

- Application of Bounding Surface Plasticity to Sand Behavior *Funding Agency:* National Science Foundation (Research Initiation Grant) *Amount:* \$53,730; *Period:* June 1984 - December 1987.
- Experimental Investigation of a New Type of Plasticity Theory *Funding Agency*: University of Southern California (Faculty Research and Innovation Fund) *Amount*: \$15,000; *Period*: January 1985 - December 1985.
- Finite Element Analysis of Strain Softening and Strain Localization in soils *Funding Agency*: University of Southern California (Faculty Research and Innovation Fund) *Amount*: \$14,200; *Period*: July 1985 - June 1986.
- Constitutive modeling, Finite Element and Bifurcation Theory *Funding Agency*: National Science Foundation (Presidential Young Investigator) *Amount*: \$25,000; *Period*: January 1987 - December 1994.
- Critical Behavior of Transport and Mechanical Properties in Disordered Solids and Particulate Dispersion. Co-PI with C. Campbell, J. Goddard, and M. Sahimi Funding agency: National Science Foundation Amount: \$240,000; Period: April 1987-April 1989.
- Prediction of Pore Pressure Generation in Soil Foundations Using Data From Molikpaq I-65. Funding agency: National Science Foundation Amount: \$75,000; Period: March 1988 - October 1989.
- 7. The Whittier Narrows, California, Earthquake of October 1, 1987. Study of the Performance of Six Earthdams. Co-PI with A. Abdel-Ghaffar

Funding agency: National Science Foundation Amount: \$85,000; Period: March 1988 - March 1990.

- Finite Element Solution of Contact and Sliding Interface Problems for Analysis of Stability of Landfills. *Funding agency*: The Earth Technology Corporation and National Science Foundation *Amount*: \$20,000; *Period*: March 1988 - March 1989.
- Development of Networking and Computing Architecture for Computational Geomechanics (Research Equipment Grant).
  Funding agency: Digital Equipment Corporation and National Science Foundation Amount: \$55,000; Period: March 1988 - March 1989.
- Collection of Data and Analysis of the Liquefaction Sand Boils in the Marina District of San Francisco during the Loma Prieta Earthquake of October 17, 1989. *Funding agency*: National Science Foundation (SGER) *Amount*: \$7,500; *Period*: October 1989 - September 1990.
- An Assessment of Liquefaction Analyses Based on the Observations Made in the Marina District of San Francisco during the 1989 Loma Prieta Earthquake. *Funding agency*: National Science Foundation *Amount*: \$81,300; *Period*: February 1990 - February 1991.
- Development and Implementation of Improved Seismic Design and Retrofit Procedures for Bridge Abutments. Co-PI with G. R. Martin *Funding agency*: Caltrans and National Science Foundation (PYI industrial funds) *Amount*:: \$122,167 + \$37,500; *Period*: October 1990 - September 1991.
- Building-Foundation-Soil Interaction: a Study of Non-Linear Soil-Pile-Structure Interaction in Soft Soils during Strong Earthquakes. Co-PI with G. Martin *Funding agency*: CUREe-Kajima *Amount*: \$64,981, *Period*: March 1991-February 1992.
- Class A Prediction for the Velacs Project *Funding agency*: National Science Foundation *Amount*: \$15,000; *Period*: January 1992-December 1992.
- A Micromechanical Investigation of Material Instability in Particulate Media Funding agency: Air Force Office of Scientific Research (AFOSR) Amount: \$188,000; Period: April 1993-March 1996.
- Surveying and In-Situ Measurement of the Ground Displacement and Failure in the Van Norman Facilities after the 1994 Northridge Earthquake *Funding agency*: National Science Foundation (SGER) *Amount*: \$16,500; *Period*: January 1994-December 1994.
- Creation of Electronic Bulletin Board System for the Northridge Earthquake Funding agency: National Science Foundation Amount: \$43,800; Period: January 1994 - December 1995.
- Analysis of Ground Displacement and Failure in the Van Norman Facilities after the 1994 Northridge Earthquake Funding agency: National Science Foundation Amount: \$60,000; Period: July 1994 - June 1995.
- Examination of Numerical Procedures in the Velacs Project Funding agency: National Science Foundation Amount: \$38,400; Period: August 1994 - July 1995.
- 20. Extension of Research on Granular Instability To Higher-Order Continuum Theories *Funding agency*: Air Force Office of Scientific Research (ASSERT, AFOSR) *Amount*: \$101,000; *Period*: June 1995 - April 1997.
- US-Japan Exchanges for the South Hyogo Prefecture Earthquake Funding agency: National Science Foundation Amount: \$20,000; Period: February 1995 - January 1996.
- 22. US-Japan Workshop on the Geotechnical Features of the Great Hanshin Earthquake Disaster of January 17, 1995.

*Funding agency*: National Science Foundation and Air Force Office of Scientific Research *Amount*: \$28,000; *Period*: November 1995 - October 1996.

- 23. Investigation of Strain Localization in Geomaterials. *Funding agency*: National Science Foundation *Amount*: \$163,000; *Period*: May 1996 - April 1998.
- 24. Instructional laboratory equipment grant *Funding agency*: USC Powell grant *Amount*: \$18,600; *Period*: April 1996.
- International Travel Grant for Geotechnical and Engineering Seismology Participation at the Second US-Japan Workshop for Cooperative Research on Mitigation of Urban Earthquake Disasters. *Funding agency*: National Science Foundation *Amount*: \$9,000; *Period*: February 1997 - January 1998.
- Investigation of liquefaction-induced lateral ground deformation during earthquakes *Funding agency*: PG&E-PEER *Amount*: \$90,000; *Period*: June 1997 - January 1999.
- Creation of a website for RosRine Funding agency: National Science Foundation Amount: \$15,000; Period: June 1997 - May 1998.
- Strong motion vertical array in LA area *Funding agency*: US Geological Survey *Amount*: \$40,000; *Period*: February 1998 - February 1999.
- Planning meeting for creation of a Geotechnical Data Management Center Funding agency: National Science Foundation Amount: \$18,000; Period: February 1998 - February 1999.
- Earthquake-Resistant Design and Remediation of Lifelines and Deep Foundations subjected to Liquefaction *Funding agency*: National Science Foundation *Amount*: \$40,000; *Period*: February 1998 - February 1999.
- Earthquake-Resistant Design and Remediation of Lifelines and Deep Foundations subjected to Liquefaction (phase 2) *Funding agency*: National Science Foundation *Amount*: \$166,356; *Period*: May 1999 - May 2002.
- Database of case histories of liquefaction-induced deformation during earthquakes Funding agency: PG&E-CUREe Amount: \$60,000; Period: July 1998 - August 1999.
- Development of a virtual geotechnical data center *Funding agency*:California Division of Mines and Geology, California Department of Transportation *Amount*: \$220,000; *Period*: April 2000 - May 2003.
- Geotechnical earthquake reconnaissance of the 1999 Izmit, Turkey earthquake Funding agency:National Science Foundation Amount: \$25,000; Period: September 1999 - August 2000.
- 35. Geotechnical earthquake reconnaissance of the 1999 Chichi, Taiwan earthquake *Funding agency*:National Science Foundation *Amount*: \$5,000; *Period*: November 1999 October 2000.
- Geotechnical earthquake reconnaissance of the 1999 Duzce, Turkey earthquake Funding agency:National Science Foundation Amount: \$25,000; Period: November 1999 - October 2000.
- NEESgrid, A distributed virtual laboratory for advanced earthquake experimentation and simulation (scoping study) *Funding agency*:National Science Foundation *Amount*: \$300,000; *Period*: October 2000 - March 2001.
- 38. NEESgrid, A distributed virtual laboratory for advanced earthquake experimentation and simulation (System integration)

Funding agency:National Science Foundation Amount: \$10,000,000; Period: July 2001 - October 2004.

- Geotechnical earthquake reconnaissance of the 2001 Bhuj, India, earthquake Funding agency:National Science Foundation Amount: \$20,000; Period: February 2001 – January 2002.
- US-Japan workshop on earthquake resistant design of lifeline facilities and countermeasures against liquefaction. *Funding agency*:National Science Foundation *Amount*: \$25,000; *Period*: December 2002 – November 2003.
- ITR solutions for exchange and utilization of geotechnical information *Funding agency*:National Science Foundation *Amount*: \$472,500; *Period*: September 2002 – August 2005.
- Collection and Processing of satellite data after the 2003 Tokachi-oki (Hokkaido) Japan Earthquake for determination of permanent ground deformation *Funding agency*:National Science Foundation *Amount*: \$30,400; *Period*: November 2003 – October 2005.
- Workshop on Megacities Funding agency: Viterbi School of Engineering; Co-PIs D. Zhang and A. Rose Amount: \$10,000; Period: 2008-2009.
- Workshop on Megacities Funding agency: USC Zumberge Innovation Funds; Co-PIs D. Zhang and A. Rose Amount: \$10,000; Period: 2008-2009.
- 45. Workshop on Megacities Funding agency: MWH Amount: \$15,000; Period: 2008-2009.
- Risks and Recoveries from Extreme Disruptions in Freight Transportation Systems in a Megacity: Case Study for the Greater Los Angeles Area *Funding Agency:* METRANS, Co-PIs J. Moore and P. Ioannou Amount: \$90,000; Period: 2009-2010.
- The Inner City Civil and Environmental Engineering Academy For Secondary Teachers and Students Funding Agency: NSF; Co-PI: G. Ragusa Amount: \$100,000; Period: 2009-2010.
- Enhancing the economy and seismic performance of a high-speed rail system Funding Agency: PEER Amount: \$103,000; Period: 2009-2010

# Conference/Workshop Organized

- 1. 1997: "North America Japan Workshop on the Geotechnical Aspects of the Kobe, Loma Prieta, and Northridge Earthquakes," co-organizer. I. M. Idriss, Sponsor: NSF, Kobe, Japan.
- 2. 1999: Workshop for creation of a Geotechnical Data Management Center, Sponsor: NSF, Los Angeles, CA.
- 1999: 7th US-Japan Workshop on Earthquake Resistant Design of Lifeline Facilities and Countermeasures Against Liquefaction, Sponsor: NSF, co-organizers: M. Hamada, and T. D. O'Rourke, Seattle, WA.
- 4. 2001: Workshop on Landslide Tsunamis, Sponsor: NSF, co-organizers: C. Synolakis, University of Southern California,
- 2003: 8th US-Japan Workshop on Earthquake Resistant Design of Lifeline Facilities and Countermeasures Against Liquefaction, Sponsor: NSF, co-organizers: M. Hamada, and T. D. O'Rourke, Tokyo, Japan.

- 6. 2007: Fifth China-Japan-US Trilateral Symposium on Lifeline earthquake Engineering, Co-organizers: Zhou, X., and Y. Tanaka.
- 7. 2008: Workshop on Megacities: Sponsors, USC and MWH, co-organizers: D. Zhang, and J. Baker, November, Los Angeles, CA.
- 8. 2009: 21<sup>st</sup> Century Infrastructure Workshop: Sponsors USC, TreePeople and MWH, co-organizers: Don Smith, Simon Bluestone, Andy Lipkis and Mark Pisano.
- 9. 2009: Water Resources Workshop, October, Sponsors USC and Veolia.