Boris Jeremić

Associate Professor
Department of Civil and Environmental Engineering
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Education

Doctor of Philosophy Degree in Civil Engineering at the University of Colorado at Boulder, Department of Civil, Environmental and Architectural Engineering, July 1997. Thesis title: *"Finite Deformation Hyperelasto–plasticity of Geomaterials"*, thesis Advisor Professor Stein Sture.

Master of Science Degree in Civil Engineering at the University of Colorado at Boulder, Department of Civil, Environmental and Architectural Engineering, May 1994. Thesis title *"Implicit Integration Rules in Elasto–plasticity: Theory and Implementation"*, thesis Advisor Professor Stein Sture.

Diploma Engineer Degree in Civil Engineering at Belgrade University, The Faculty of Civil Engineering, Engineering Mechanics and Theory of Structures Department, Belgrade, Yugoslavia, July 1989. Diploma Thesis: *Dynamic Analysis of Axisymmetric Solids Subjected to Non-Symmetric Loading by the Finite Element Method"*, thesis Advisor Professor Miodrag Sekulović.

Research Interests

Primary research interests are related to the computational modeling and simulations (rational mechanics formulation, computational implementation, practical applications) of static and dynamic inelastic behavior of engineering solids and structures with emphasis on geomechanics. In particular, current work is on:

Computational geomechanics (statics and dynamics) including effects of elasto–plasticity, large deformation, coupling of solids and fluids and probabilistic elastic–plastic behavior,

High performance (sequential and parallel) computer simulations in geomechanics,

Earthquake–Soil–Foundation–Structure interaction.

Models, software systems, simulations and visualization in mechanics,

Teaching Interests

Primary teaching interests are closely related to my research activities, focusing on theoretical and computational aspects of geomechanics on both undergraduate and graduate levels. In particular, recent teaching is related to:

Computational and theoretical geomechanics

Nonlinear finite element methods

Application of the computer technology to solving civil engineering problems

Academic Experience

Associate Professor, University of California, Davis, California, July 2003-pres.

Assistant Professor, University of California, Davis, California, July 1999-June 2003.

Assistant Professor, Clarkson University, Potsdam, New York, August 1997-June 1999.

Graduate Teaching and Research Assistant, University of Colorado at Boulder, August 1992-August 1997

Professional Experience

Consultant NEES @ Colorado, Boulder, Colorado, August – December 2006,

Consultant Baker–Hughes Inc., Houston, Texas, February 2003 – July 2004,

Consulting Civil Engineer Energoprojekt Hidroinžinjering Engineering Company (EHEC), Belgrade, Yugoslavia, August 1991 – July 1992,

Design Civil Engineer, Gasser–Scepan Engineering Bureau, Baar, Switzerland, July – August 1991,

Consulting and Design Civil Engineer, EHEC, Belgrade, Yugoslavia, November 1990 – June 1991,

Consulting and Design Civil Engineer on Bekhme Dam Project site in Iraq, with EHEC, March – October 1990,

Assistant Civil Engineer, EHEC, Belgrade, Yugoslavia, July 1989 – February 1990,

Summer intern, Gasser–Scepan Engineering Bureau, Baar, Switzerland, June – September 1988,

Surveying assistant, Kosovoprojekt Engineering Company, Belgrade, Yugoslavia, September – October 1983,

Teaching Experience

Department of Civil and Environmental Engineering, University of California, Davis, July 1999. – present,

- **"Nonlinear Finite Elements for Elastic–Plastic Problems"** ECI 280A/289D, Spring 2008
- **"C Programming for Civil Engineers"** ECI 19, Winter 2008

- **"Computational Geomechanics: Inelastic Finite Elements for Pressure Sensitive Materials"** ECI 285; Spring 2002, 2004, 2005, 2006, 2007
- **"Theoretical Geomechanics"** ECI 284, Winter 2000, 2001, 2002, 2003, 2004, 2005,
- **"Parallel Computing for Engineers"** ECI 189D, ECI 119B; Spring 2002, 2003
- **"Introduction to C Programming Language for Engineers"** ECI 189D, ECI 119A; Winter 2002, 2003, 2004
- **"Advanced Soil Mechanics"** ECI 281A; Fall 2001, 2002, 2003, 2004, 2006
- **"Finite Elements: Application to Linear and Nonlinear Solid and Structural Mechanics Problems"** ECI 212B; Spring 2001
- **"Mechanics of Materials"** ENG 104; Fall 2000, Summer 2006, Winter 2007
- **"Soil Mechanics"** ECI 171; Spring 2000

Department of Civil and Environmental Engineering, Clarkson University, August 1997. – June 1999,

- **"Multidisciplinary Project: Parallel Computations, Domain Decomposition"**, MP 112-512; Spring 1999
- **"Introduction to the Soil Mechanics"** CE310; Spring 1998, 1999
- **"Multidisciplinary Project: Parallel Computations, MPI Tools"**, MP 112-512; Fall 1998
- **"Introduction to the Finite Element Method"** CE538 ; CE438; ME515; ME436; Fall 1997, 1998
- **"Multidisciplinary Project: Design, Construction and Testing of Concrete Canoe"**, MP104-504; Fall 1998
- **"Multidisciplinary Independent Study: Numerical Computations on Parallel Computers"** CE496; CS498; Spring 1998

Department of Civil, Environmental and Architectural Engineering, University of Colorado at Boulder "**Engineering Geology**", with Prof. Amadei, Spring 1993.; "**Engineering Mechanics**", with Prof. Feng, Fall 1992.; "**Concrete Structures**", with Prof. Saouma, Fall 1992.

Instructor for Computer Information Technology, Energoprojekt–Hidroinžinjering Engineering Company (EHEC), Belgrade, Yugoslavia, 1990-1992. Organizing, preparing and lecturing a week long, 6 hours a day course series on efficient use of personal computers in civil engineering; Developing and leading training sessions for finite element packages RheoStaub, SuperSAP, UDEC, STRESS

Instructor for **Computational Mechanics Program Packages** on Bekhme dam project site, Iraq, with Energoprojekt – Dijla Joint Venture, April–August 1990. Installation of computing center hardware, installation and introduction to the finite element packages SuperSAP and RheoStaub

Research Grants and Contracts

Seismic Design Guidelines of Retaining Walls with/without Sound Wall. June 2008–July 2010, with Professor Lijuan Dawn Cheng (PI), Caltrans, $ 385,244.00

Computational Geomechanics Tools for Soil–Structure Interaction Modeling, V. October 2006–October 2007, $ 64,700.00, NSF–PEER # 2212005 (National Science Foundation, Pacific Earthquake Engineering Research Center),

Computational Simulation of Stochastic Soils. September 2006–August 2009, NSF–CMMI–0600766 $ 269.577.

Texas Advanced Computing Center Resources Award, 50,000 CPU– hours, November 2006. With Professor Sharon Wood (UT).

Amendment to: Design Guidelines for Foundation Rocking of Bridge Piers, July 2006 – December 2007, with Professors Stephen Mahin (PI, UCB) and Bruce Kutter, Caltrans, $ 9,214.

Computational Geomechanics Tools for Soil–Structure Interaction Modeling, IV. February 2006–October 2006, $ 67,000.00, NSF–PEER # 2212005 (National Science Foundation, Pacific Earthquake Engineering Research Center),

Center for Information Technology Research in the Interest of Society (CITRIS) Research Support, $ 10,000, October 2005.

San Diego Supercomputing Center NEES Computational Resources Award, 60,000 CPU– hours, November 2005.

TeraGrid Wide Roaming Access, Computational Resources Award, 30,000 CPU– hours, October 2005.

San Diego Supercomputing Center DAC Award, Datastar Computational Resources, 10,000 CPU– hours, February 2005.

Computational Geomechanics Tools for Soil–Structure Interaction Modeling, III. October 2004–October 2005, $ 67,000.00, NSF–PEER # 2212004 (National Science Foundation, Pacific Earthquake Engineering Research Center),

National Parallel Super–Computer Resources Award, startup award on NERSC (National Energy Research Scientific Computing Center) SP parallel computer Seaborg (at Lawrence Berkeley National Lab), 20,000 SP-equivalent hours and 5,000 Storage Resource Units, October 2004.

Design Guidelines for Foundation Rocking of Bridge Piers, July 2004 – June 2006, with Professors Stephen Mahin (PI, UCB) and Bruce Kutter, Caltrans, $ 370,020.

Collaborative Research: Demonstration of NEES for Studying Soil-Foundation-Structure Interaction. September 2003–August 2005, with Professor Bruce Kutter and Dr. Dan Wilson, NSF–CMS–0324661, $ 308,700.

Computational Geomechanics Tools for Soil–Structure Interaction Modeling, II. October 2003–October 2004, $ 55,000.00, NSF–PEER # 2212003 (National Science Foundation, Pacific Earthquake Engineering Research Center),

U. S. Participation at the High Performance Computing Workshop in Parallel Finite Element Analysis; September 1-5 2003; Manchester University, UK.. August 2003 - June 2004, NSF-CMS-0337811 , $ 62,595.,

Micromechanical Modeling of Asphalt Pavement Material. July 2003 - June 2004, with Professor Niels Jensen (PI), UC Pavement Research Center, Richmond Field Station, $ 50,000.,

Computational Geomechanics Tools for Soil–Structure Interaction Modeling, I. October 2002–October 2003, $ 55,000.00, NSF–PEER # 2212002 (National Science Foundation, Pacific Earthquake Engineering Research Center),

Computational Simulations of Behavior of Pile Foundations In Laterally Spreading Grounds. Approved for funding, Caltrans, April 2002, tentative start date September 2003, (36 months), $158,838.

Earthquake Response of Bridge Abutment Backfills Constructed with Tire Shreds. June 2002–July 2004, The California Integrated Waste Management Board, $177,588,

3D Soil Simulation Models in OpenSees. October 2001–October 2002, $ 55,000.00, NSF–PEER # 2212001 (National Science Foundation, Pacific Earthquake Engineering Research Center),

I-880 Testbed Simulation. October 2001–October 2003, $ 100,000.00, with Professor Sashi Kunnath (PI) NSF–PEER (National Science Foundation, Pacific Earthquake Engineering Research Center),

Simulation of Soil-Foundation-Structure Interaction for Deep Foundations. October 2001–October 2003, $ 120,000.00, with Professor Ross Boulanger (PI) NSF–PEER (National Science Foundation, Pacific Earthquake Engineering Research Center).

Summer Research Grant. Academic Senate, University of California, Davis. April 2001, $ 3,800.00.

A NEES Centrifuge Facility. with Professors Bruce Kutter (PI), Ross Boulanger, Steve Velinsky and Bernd Hamann, University of California, Davis. NSF, October 2000 – October 2004, $ 4,614,294.00.

Development of Geotechnical Capabilities in G3 Finite Element Platform. May 2000–October 2001, $ 90,000.00, NSF–PEER # 2132000–3 (National Science Foundation, Pacific Earthquake Engineering Research Center).

Centrifuge Characterization and Numerical Modeling of the Dynamic Properties of Tire Shreds for use as Bridge Abutment Backfill. September 1999 – May 2000, $ 93,451.00, California Integrated Waste Management Board.

EERI Young Professional Travel Grant . December 1998, $ 1350.00

General Motors Corporation and General Motors Foundation, Student Projects for Engineering Experience and Design (SPEED): Small Scale Parallel Finite Element Computations, Hardware and Software Issues, building of a Beowulf class parallel computer from commodity PC hardware. Numerical computations on parallel computers. December 1997, 5 months $ 2,500.00

Advising and Supervising–Related Activities

Current Students and Collaborators

Post–Doc Dr. Kallol Set, (2007–) Department of Civil and Environmental Engineering, University of California, Davis.

Ph.D. student Ms. Charikleia Prassa, (2008–present) *Design of Dynamic Soil–Structure Interaction Experiments*, co–Advisor with Professor Dawn Cheng, Department of Civil and Environmental Engineering, University of California, Davis.

Ph.D. student Mr. Giorgos Perikleous, (2008–present) *Computational Modeling and Simulations of Dynamic Soil–Structure Interaction,* , Advisor, Department of Civil and Environmental Engineering, University of California, Davis.

Ph.D. student Mr. Nima Tafazzoli, (2007–present) *Topics in Earthquake–Soil–Structure Interaction*, Advisor, Department of Civil and Environmental Engineering, University of California, Davis.

Ph.D. student Mr. You Chen Chao, (2007–present) *Probabilistic Framework for Computational Simulations of Seismic Ground Motions*, Advisor, Department of Civil and Environmental Engineering, University of California, Davis.

Ph.D. student Ms. Alisa Neeman, (2005–present) *Visualization Techniques for Computational Mechanics*, co–Advisor with Professor Alex Pang, UCSC, Department of Computer Sciences, University of California, Santa Cruz.

Ph.D. student Mr. James Putnam, (2002–present) *Seismic Behavior of Bridge Abutments Made of Tire Shreds, Experimental and Numerical Study*, Advisor, Department of Civil and Environmental Engineering, University of California, Davis.

Undergraduate student Mr. Rafael Siero, (2008–present) *Aspects of Computational Modeling in Solid and Structural Mechanics*, Department of Civil and Environmental Engineering, University of California, Davis.

Undergraduate student Ms. Alice Ng, (2008–present) *Aspects of Computational Modeling in Solid and Structural Mechanics*, Department of Civil and Environmental Engineering, University of California, Davis.

Past Graduate and Undergraduate Students and Collaborators

Ph.D. Dr. Mahdi Taiebat, (2004–2008) *Advanced Elastic-Plastic Constitutive and Numerical Modeling in Geomechanics*, co–Advisor with Professor Yannis Dafalias, Department of Civil and Environmental Engineering, University of California, Davis.

Ph.D. Dr. Kallol Set, (2003–2007) *Probabilistic Elasto–Plasticity and Its Application in Finite Element Simulations of Stochastic Elastic–Plastic Boundary Value Problems*, Advisor, Department of Civil and Environmental Engineering, University of California, Davis.

Ph.D. Dr. Guanzhou Jie, (2003–2007) *High Performance Computational Geomechanics and Applications to the Soil–Foundation–Structure Interaction Problems*, Advisor, Department of Civil and Environmental Engineering, University of California, Davis. Currently at Wachovia Corporation, Charlotte, North Carolina (2007-)

Post–Doc Dr. Zhao Cheng, (2006) Department of Civil and Environmental Engineering, University of California, Davis, currently Consulting Engineer, EarthMechanics Inc., Oakland California (2007-).

Ph.D. Dr. Zhao Cheng, (2002–2006) *Computational Inelastic Geomechanics of Dry and Saturated Geomaterials in Small and Large Deformations*, Advisor, Department of Civil and Environmental Engineering, University of California, Davis.

M.S. student Mr. Jose Ugalde, (2005–2008) *Rocking of Foundations and its Implications on Seismic Behavior of Bridges*, co–Advisor with Professor Bruce Kutter, Department of Civil and Environmental Engineering, University of California, Davis.

M.S. Mr. George Hu, (2005–2006) *Seismic Energy Dissipation of Rocking Bridge Foundations*, Advisor, Department of Civil and Environmental Engineering, University of California, Davis.

Undergraduate Student Mr. Ian Tucker, (2003–2007) *Distributed Computational Environments: Hardware and Software Experiments*, Undergraduate Student Researcher, Advisor, Department of Civil and Environmental Engineering, University of California, Davis.

M.S. Mr. Horacio Tapia (2003-2005) *Micromechanical Modeling of Asphalt Concrete*, co–Advisor with Professor Niels Grönbech–Jensen, Department of Applied Sciences, University of California, Davis.

M.S. Mr. Qing Liu, (2003–2005) *Verification and Validation of Fully Coupled, Solid–Fluid Behavior of Soils*, Advisor, Department of Civil and Environmental Engineering, University of California, Davis.

M.S. Mr. Matthias Preisig, (2003–2005) *Nonlinear Finite Element Analysis of Dynamic Soil-Foundation-Structure Interaction*, Advisor, Department of Civil and Environmental Engineering, University of California, Davis.

post-Doc Dr. Ingrid Hotz (2003–2004) *Tensor field visualizations*, Post–Doctoral Associate, collaborator, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis.

M.S. Ms. Ritu Jain, (2003–2004) *Distributed Parallel Simulations Tools in Computational Geomechanics*, Advisor, Department of Civil and Environmental Engineering, University of California, Davis.

M.S. Ms. Jinxiu Liao, (2001–2003) *Domain Reduction Methods in Seismic Modeling of Inelastic Soil–Structure Interaction Problems, Formulation and Implementation*, Advisor, Department of Civil and Environmental Engineering, University of California, Davis.

Post–Doc Dr. Feng Xiong, (2002–2003) *Grid of Modeling and Computational Resources*, visiting Post–Doctoral Researcher from Sichuan University, China, collaborator, Department of Civil and Environmental Engineering, University of California, Davis.

Post–Doc Dr. Zhaohui Yang, (2002-2003), Department of Civil and Environmental Engineering, University of California, Davis, currently Assistant Professor, University of Alaska, Anchorage (2003-).

Ph.D. Dr. Zhaohui Yang, (1998-2002) *Computational Tools for Analysis of Static and Dynamic Soil–Structure Interaction Problems*, Advisor, Department of Civil and Environmental Engineering, University of California, Davis.

M.S. Mr. Vladimir Vukadin, (2002) *Anisotropic Material Models in Computational Geomechanics*, visiting M.S. student from the Institute for mining, geotechnology and environment, Slovenia, co-supervisor, Department of Civil and Environmental Engineering, University of California, Davis.

M.S. Ms. Xiaoyan Wu, (2000-2002) *Fully Coupled, Solid–Fluid Behavior of Soils, Formulation and Implementation*, M.S. Thesis, Advisor, Department of Civil and Environmental Engineering, University of California, Davis.

M.S. Mr. Tiejun Li (2000-2001) *Distributed Parallel Computations in Geomechanics*, M. S. Thesis, Advisor, Department of Civil and Environmental Engineering, University of California, Davis.

M.S. Mr. Jan Frey (2000) *Analysis of tensor field topology for simulated earthquake data*, visiting M.S. student from the department of Computer Science, University of Kaiserslautern, Germany, co-supervisor, Center for Image Processing and Integrated Computing (CIPIC), University of California, Davis.

Under–Grad Mr. Kevin Murakoshi, (2002–2003) *GLOBUS Distributed Computational Environment*, Computer Science Undergraduate Student Researcher, Advisor, Department of Civil and Environmental Engineering, University of California, Davis.

Under–Grad Mr. Wai Ching Sun, (2003–2005) *Performance Based Simulations Tools for Soil–Foundation–Structure Interaction*, Undergraduate Student Researcher, advisor, Department of Civil and Environmental Engineering, University of California, Davis.

Professional Activities

Conference Activities

Scientific Committee Member, Special Interest Conference on Computational Mechanics (SEECCM 2009), Rhodes, Greece on 22-24 June 2009.

Minisymposia organizer and co-chairman, Inaugural International Conference of the Engineering Mechanics Institute (EM08), *Stein Sture Minisymposia on Geomechanics*, Minneapolis, Minnesota May 18-21, 2008, with Professor Kaspar Willam.

Steering Committee Member, Inaugural International Conference of the Engineering Mechanics Institute (EM08), *Stein Sture Minisymposia on Geomechanics*, Minneapolis, Minnesota May 18-21, 2008.

Minisymposia organizer and co-chairman, Eight World Congress on Computational Mechanics: **Computational Geomechanics**, June 30th–July 3rd, 2008, Venice, Italy, with Professors Stein Sture, Fusao Oka, Ronaldo Borja, Claudio Tamagnini and Richard Rigueiro.

Minisymposia organizer and co-chairman, Ninth U.S. National Congress on Computational Mechanics (9USNCCM): **Computational Geotechnics**, July 23-26, 2007, in San Francisco, California, with Professors Stein Sture, Ronaldo Borja and Richard Regueiro,

Minisymposia organizer and co-chairman, Seventh World Congress on Computational Mechanics: **Computational Geomechanics**, July 17-21, 2006, Los Angeles, California, U.S.A., with Professors Stein Sture, Fusao Oka, Ronaldo Borja and Richard Rigueiro.

Member of the Scientific Committee for the First South-East European Conference on Computational Mechanics (SEECCM 06), Kragujevac, Serbia and Montenegro, 28-30 June 2006.

Member of the International Advisory Committee for the Second International Congress on Computational Mechanics and Simulation (ICCMS-06), Guwahati, India, December 2006.

Minisymposia organizer and co-chairman, Eighth U.S. National Congress on Computational Mechanics (8USNCCM): **Computational Geotechnics**, July 24-28, 2005, at Austin, Texas, with Professors Stein Sture, Ronaldo Borja, Claudio Tamagnini and Dr. Richard Regueiro,

Minisymposia organizer and co-chairman, Seventh U.S. National Congress on Computational Mechanics (USNCCM7): **Computational Geotechnics**, July 27-31, 2003, Albuquerque, New Mexico, with Professors Stein Sture, Ronaldo Borja, Claudio Tamagnini and Dr. Richard Regueiro,

Minisymposia organizer and co-chairman (invited), Fifth World Congress on Computational Mechanics: **Computational Geotechnics**, July 7-12, 2002, Vienna, Austria, with Professor Stein Sture,

Minisymposia organizer and co-chairman, ASCE 15th Engineering Mechanics Conference **Computational Plasticity**, June 2-5, 2002, Columbia University, New York City, U.S.A., with Professor Majid Manzari,

Minisymposia organizer and co-chairman, Sixth U.S. National Congress on Computational Mechanics: **Geotechnical Applications**, August 1-4, 2001, Dearborn Michigan, with Professor Stein Sture,

Session organizer and co-chairman, 8th International Symposium on Plasticity: **Soil Plasticity**, July 2000, Whistler Resort, British Columbia, Canada, with Professor Dunja Perić

Minisymposia organizer and co-chairman, Fifth U.S. National Congress on Computational Mechanics: **Geotechnical Applications**, five sessions, August 1999, Boulder Colorado, with Professor Stein Sture,

Short Courses Given

Earthquake–Soil–Structure Interaction. Two week short course on dynamics of soil–structure interaction (SSI) phenomena during earthquakes. Introductory part of the course covered material nonlinear, static and dynamic finite elements. Main focus was on benefits and detriments of SSI and the influence of dynamic matching of the Earthquake–Soil–Structure (ESS) on SSI. Investigated were also energy dissipation mechanisms in SSI systems. Delivered at the University of Belgrade, Serbia. June 2008.

Topics in Contemporary Computational Geomechanics. Four day short course covering: (a) Large deformation Hyperelasto-Plasticity for Geomaterials, (b) Parallel processing in computational geomechanics, (c) Numerical simulations of coupled behavior for Geomaterials undergoing small and large deformations, (d) Probabilistic approach to the theory of elasto–plasticity. Delivered at the University of Kragujevac, Kragujevac, Serbia and Montenegro. Remote participants: students from the Institute of Structural Analysis & Seismic Research, Faculty of Civil Engineering, National Technical University Athens, Greece. June 2005.

Workshops Organized

Community Workshop on Computational Simulation and Visualization Environment for NEES, Co–organizer with Professors Pauline Baker, Philip Liu, Steve Mahin, Kim Mish, Kim Roddis, November 2003, University of Kansas in Lawrence, Kansas,

PEER's Earthquake Engineering Scholars' Course: Public Policy, Organizer, University of California, Davis, November 7-9, 2003,

High Performance Computing Summer School in Parallel Finite Element Analysis, Co–organizer with Professor Ian Smith, Manchester University, Manchester U.K., 1st - 5th September 2003,

PEER's Earthquake Engineering Scholars' Course: Geotechnical Earthquake Engineering, Organizer, University of California, Davis September 28-30, 2001,

Professional Societies Activities

EMI (Engineering Mechanics Institute) Editor of the EMI Newsletter, 2008 – present

USUCGER (United States Universities Council on Geotechnical Engineering Research), Webmaster and email list maintainer (`www.usucger.org`), 1999 – 2003

ASCE (American Society of Civil Engineers), Inelastic Committee member 1999 – 2003

CUREe (Consortium of Universities for Research in Earthquake Engineering), Research Committee member, 1999 – 2003

PEERC (Pacific Earthquake Engineering Research Center), Educational Committee member, 1999 – 2004.

Editorial and Advisory Boards

Member of the Advisory Board, International Journal for Numerical and Analytical Methods in Geomechanics

Member of the Editorial Board, Journal of Serbian Society for Computational Mechanics

Member of the Editorial Board, Scientific Technical Review

Member of the Editorial Board, ASCE Journal of Computing in Civil Engineering

Journal Reviewer

International Journal for Numerical and Analytical Methods in Geomechanics

International Journal for Mechanics of Cohesive-Frictional Materials

International Journal for Numerical Methods in Engineering

International Journal for Computer Methods in Applied Mechanics and Engineering

International Journal for Solids and Structures

International Journal for Computers and Geotechnics

International Journal for Computer–Aided Civil and Infrastructure Engineering

Engineering Computations: International Journal for Computer–Aided Engineering and Software

International Journal of Computers in Physics

International Journal of Engineering with Computers

International Journal for Earthquake Engineering & Structural Dynamics

Transport in Porous Media

Journal of Computing in Civil Engineering

ASCE Journal of Engineering Mechanics

ASCE Journal of Geotechnical and Geoenvironmental Engineering

ASCE Journal of Structural Engineering

ASCE Journal of Cold Regions Engineering

ASCE Journal of Computing in Civil Engineering

ASME Journal of Applied Mechanics

ASME Journal of Computational and Nonlinear Dynamics

Earthquake Spectra

IEEE Transactions on Visualization and Computer Graphics

Physics A: Statistical Mechanics and its Applications

Book Reviewer

John Wiley & Sons, Inc.

Proposal Reviewer

National Science Foundation

* Panel review: April 2001, May 2002.
* Mail review: September 2001, June 2003, February 2004, March 2005, May 2005, May 2006, December 2007.

United States Civilian Research and Development Foundation

* Mail review: May 2001.

The Petroleum Research Fund, American Chemical Society

* Mail review: April 2003.

United States Department of Agriculture

* Mail review: December 2003, May 2005

Professional Society Affiliations

Member, American Society of Civil Engineering (**ASCE**)

Member, U. S. Association for Computational Mechanics (**USACM**)

Member, Serbian Association for Computational Mechanics (**SACM**)

Services to the University

Dissertation and Thesis Committees

Member , Ph.D. committee, Mr. Mahadevan Ilankatharan, October 2008, UCD,

Member , Ph.D. committee, Ms. Yi Bian, October 2008, UCD,

co–Chair , Ph.D. committee, Mr. Mahdi Taiebat, September 2008, UCD,

Member , Ph.D. committee, Mr. Alireza Tabarei, September 2008, UCD,

Member , Ph.D. committee, Mr. Louie Yaw, August 2008, UCD,

Member , Ph.D. committee, Mr. Mili Selimotić, May 2008, UCD,

Chair , Ph.D. committee, Mr. Kallol Sett, September 2007, UCD (graduated under my guidance),

Chair , Ph.D. committee, Mr. Guanzhou Jie, March 2007, UCD (graduated under my guidance),

Chair , Ph.D. committee, Mr. Zhao Chang, November 2006, UCD (graduated under my guidance),

Member , Ph.D. committee, Mr. Sivapalan Gajan, August 2006, UCD

Member , Ph.D. committee, Mr. Mien Yip, November 2005, UCD

member , Ph.D. committee, Mr. Purnendu Narayan Singh, August 2005, UCD

Member , Ph.D. committee, Mr. Shin–Tai Song, August 2005, UCD

Chair , M.S. committee, Mr. Matthias Preisig, April 2005, UCD

Member , M.S. committee, Mr. Martin Walker, February 2005, UCD

Member , M.S. committee, Ms. Raquel Miller, December 2004, UCD

Member , Ph.D. committee, Mr. Stefano Berton, September 2003, UCD

Member , Ph.D. committee, Mr. Sayed Ali Bastani, February 2003, UCD

Member , M.S. committee, Mr. Nicholas Rocco, February 2003, UCD

Chair , Ph.D. committee, Mr. Zhaohui Yang, September 2002, UCD (graduated under my guidance),

Chair , M.S. committee, Ms. Xiaoyan Wu, September 2002, UCD (graduated under my guidance),

Member , M.S. committee, Mr. Segaran Logeswaran, September 2002, UCD

Member , M.S. committee, Mr. David Palmer, June 2002, UCD

Chair , M.S. committee, Mr. Tiejun Li, June 2001, UCD (graduated under my guidance),

Member , M.S. committee, Mr. Sivapalan Gajan, December 2001, UCD

Member , M.S. committee, Mr. Garret Broughton, June 2001, UCD

Member , M.S. committee, Mr. Tim Wehling, January 2001, UCD

Member , M.E. committee, Mr. Curt Taras, December 2000, UCD

Member , M.S. committee, Ms. Berna Sunman, May 2000, UCD

Member , M.S. committee, Mr. Karthik Subramanian, June 2000, UCD

Member , M.S. committee, Mr. Mien Yip, September 2000, UCD

Member , M.S. committee, Mr. Jeff Tomure, July 2000, UCD

Member , Ph.D. committee, Mr. Ariyaputhirar Balakrishnan, November 1999, UCD

Member , Ph.D. committee, Mr. Ian Hazen, November 1998, Clarkson University

Departmental, College and University Committees

Member , Search Committee, Department of Geology, 2007–2008

Chair , Computer committee, UCD, 2007–

Member , Computer committee, UCD, 1999–2002, 2004–2005, 2006–2007

Member , Search Committee, Department of Civil and Environmental Engineering 2004–2005

Member , College Committee on Program Planing and Assessment, UCD, September 2003 – 2004

Member , Graduate program committee, UCD, 2001–2002, 2003–2005

Member , Scholarship and Award committee, UCD, 2000–2001

Faculty Advisor , UCD ASCE chapter, 1999–2004

Member Student Projects for Engineering Experience and Design (SPEED) committee, 1998–1999, (Clarkson University (CU))

Faculty Advisor Clarkson Parallel Computing Team, 1998–1999, (CU)

Faculty Advisor Clarkson Concrete Canoe Team, 1998–1999,

Member Undergraduate committee, 1997–1999 (CU),

Honors, Awards and Honorary Societies

"Invited Speaker" University of Southern California Seminar Series, USC, December 2007.

"Invited Speaker" IX International Conference on Computational Plasticity, Fundamentals and Applications, COMPLAS 2007, September 5-7, 2007, Barcelona, Spain.

"Invited Keynote Speaker" CompDyn2007, Computational Methods in Structural Dynamics and Earthquake Engineering, 13–16 June, 2007, Rethymno, Crete, Greece.

"Invited Speaker" University of Belgrade, Faculty of Civil Engineering Seminar Series, 6 June 2007, Belgrade, Serbia.

"Invited Speaker" Fourth Joint United States-Japan Workshop on Soil-Structure Interaction, March 28-30, 2007, Tsukuba, Japan.

"Invited Plenary Speaker" , First South-East Conference on Computational Mechanics SEECCM 06, Kragujevac, Serbia and Montenegro, 28-30 June 2006.

"Invited Speaker" , Second Japan-U.S. Workshop on Testing, Modeling and Simulation in Geomechanics, Kyoto, Japan, September 8-11, 2005.

"Invited Speaker" University of California at Los Angeles Seminar Series, UCLA, May 2004.

"Distinguished Educator" , ASUCD Excellence in Education Award, (Associated Students of the University of California, Davis), May 2004, Davis, California.

"Invited Speaker" Third Joint United States-Japan Workshop on Soil-Structure Interaction, March 29-30, 2004, Menlo Park, California.

"Invited Speaker" First Japan-U.S. Workshop on Testing, Modeling, and Simulation in Geomechanics, June 27 - 29, 2003, Boston, Massachusetts.

"Invited Speaker" Scientific Computing Seminars Series, National Energy Research Scientific Computing Center, Lawrence Berkeley National Laboratory, August 2002.

"Invited Keynote Lecturer" Fifth World Congress on Computational Mechanics: **Computational Geotechnics**, July 2002, Vienna, Austria.

"Invited Speaker" University of California at San Diego, Structural Engineering Seminar Series, March 2002,

"Invited Speaker" Bay Area Scientific Computing Day 2002, March 2nd, 2002, Sandia National Laboratories, Livermore, California.

"Invited Speaker" International Workshop on Earthquake Simulation in Geotechnical Engineering, November 8–10th, 2001, The George S. Dively Center, Case Western Reserve University, Cleveland, Ohio.

"Who's Who" in Science and Engineering, October 1998.

"Who's Who" in Information Technology, June 1998.

"Chi Epsilon" National Civil Engineering Honor Society, December 1997.

"Awardee, Serbian Academy of Science Fellowship" for research project in Nonlinear Elasto–plastic Material Models, Belgrade, Yugoslavia, January 1992.

"Awardee, Belgrade University Council Award" for the highest grades at the Faculty of Civil Engineering, Belgrade University, Belgrade, Yugoslavia, June 1987.

"Awardee, Professor Nesić Award" for the best results in Technical Mechanics at the Faculty of Civil Engineering, Belgrade University, Belgrade, Yugoslavia, November 1986.

"Awardee, Energoprojekt Engineering Company Scholarship Grant", Belgrade, Yugoslavia, October 1985 - June 1989

"Awardee, Mihajlo Petrović Alas Award" for top results in Mathematics and Physics in Mathematical High School, Belgrade, Yugoslavia, May 1982.

Technical Meetings

2008 Association of Pacific Rim Universities Symposium: Multi–Hazard Around the Pacific Rim, August 21st-22nd, 2008, Davis, California.

Eight World Congress on Computational Mechanics, June 30th – July 4th, 2008, Venice, Italy.

IV GEESD, Fourth Geotechnical Earthquake Engineering and Soil Dynamics Conference, May 19-21st, 2008, Sacramento, California,

EMI, First International Conference of the Engineering Mechanics Institute, May 19-21st, 2008, Minneapolis, Minnesota,

4ICEGE, Fourth International Conference on Earthquake and Geotechnical Engineering, 25-28 June, 2007, Thessaloniki, Greece.

CompDyn2007, Computational Methods in Structural Dynamics and Earthquake Engineering, 13–16 June, 2007, Rethymno, Crete, Greece.

Fourth Joint United States-Japan Natural Resources Workshop on Soil-Structure Interaction, March 28-30, 2007, Tsukuba, Japan.

GeoDenver 2007, Geo Institute Annual Conference, Denver, Colorado, 19–21, 2007.

Workshop on Fast Hybrid Simulations, University of Colorado, Boulder, November 2–3, 2007,

Seventh World Congress on Computational Mechanics, July 17-21, 2006, Los Angeles, California.

First South-East European Conference on Computational Mechanics (SEECCM 06), 28-30 June 2006, Kragujevac, Serbia.

NEES Annual Meeting, June 21-23, 2006, Washington, District of Columbia.

University of California Office of the President Forum on Performance Based Design for Nuclear Energy Systems, June 15-16, 2006, Doubletree Hotel, Berkeley, California.

The NSF – Johns Hopkins Workshop on Modeling and Simulations in Geotechnical Engineering, November 3-4, 2005, The Johns Hopkins University, Baltimore, Maryland.

Caltrans Bridge Conference 2005, October 31st – November 1st 2005, Sacramento, California.

Library-Centric Software Design LCSD'05 Workshop, October 16th, 2005, San Diego, California.

Second Japan-U.S. Workshop on Testing, Modeling and Simulation in Geomechanics, September 8-11, 2005 Kyoto, Japan.

Eighth U.S. National Congress on Computational Mechanics (8USNCCM), July 24-28, 2005, Austin, Texas.

Twenty Fifth Yugoslav Congress on Theoretical and Applied Mechanics, June 1-3, 2005, Novi Sad, Serbia and Montenegro.

13th World Congress on Earthquake Engineering, August 1-7, 2004, Vancouver, British Columbia, Canada.

NEES Annual Meeting, May 20-21, 2004, San Diego, California.

Third Joint United States-Japan Natural Resources Workshop on Soil-Structure Interaction, March 29-30, 2004, Vallombrosa Center, Menlo Park, California.

International Workshop on Uncertainties in Nonlinear Soil Properties and their Impact on Modeling Dynamic Soil Response, March 18-19, 2004, University of California Richmond Field Station, Richmond, California.

National Research Council of the National Academies Workshop, Committee on Geological And Geotechnical Engineering in the New Millennium: Opportunities for Research and Technology Innovation, February 3–6, 2004, Beckman Center, Irvine, California.

High Performance Computing Summer School in Parallel Finite Element Analysis, 1st - 5th September, 2003, Manchester University, Manchester, England.

Short Course on Verification and Validation in Computational Mechanics, by Dr. Willliam Oberkampf, Sandia National Laboratories July 27th, 2003, Albuquerque, New Mexico.

Seventh U.S. National Congress on Computational Mechanics, July 28th - 30th, 2003, Albuquerque, New Mexico.

First Japan-U.S. Workshop on Testing, Modeling, and Simulation in Geomechanics, June 27 - 29, 2003, Boston, Massachusetts.

NEES Annual Meeting, May 21-22, 2003, Park City, Utah.

Pacific Earthquake Engineering Research Center, 2003 Annual Meeting, March 7th and 8th, Palm Springs, California.

Fifth World Congress on Computational Mechanics, WCCM V, July 7-12, 2002, Vienna, Austria.

Bay Area Scientific Computing Day 2002, March 2nd, 2002, Sandia National Laboratories, Livermore, California.

Pacific Earthquake Engineering Research Center, 2002 Annual Meeting, Oakland, California, January 17-18, 2002.

International Workshop on Earthquake Simulation in Geotechnical Engineering, November 8-10th, 2001, The George S. Dively Center, Case Western Reserve University, Cleveland, Ohio.

Sixth U.S. National Congress on Computational Mechanics, August 1-4th, 2001, Dearborn Michigan.

The 2001 Joint Summer Meeting of American Society of Mechanical Engineers (ASME) American Society of Civil Engineers (ASCE) and Society of Engineering Science (SES), San Diego, July 27–29th, 2001.

International Workshop on Deep Mixing Technology for Infrastructure Developments: Current Practice & Research Needs, Oakland, California, July 17th, 2001.

Pacific Earthquake Engineering Research Center, Third Annual Meeting, Oakland, California, January 25–26, 2001.

GeoDenver 2000, Geo Institute Annual Conference, Denver, Colorado, August 5-8, 2000.

Pacific Earthquake Engineering Research Center, Second Annual Meeting, Richmond, California, May 23-24, 2000.

1999 Civil Engineering Conference & Exposition, **ExCEEd** Effective Teaching Seminar (by Richard Felder and Rebecca Brent), Charlotte North Carolina, October 16-17, 1999.

Model Based Simulations Workshop, National Science Foundation, Arlington, Virginia, June 24-25 1999.

Pacific Earthquake Engineering Research Center, First Annual Meeting, Richmond, California, June 16-17, 1999.

13th Engineering Mechanics Specialty Conference, American Society of Civil Engineers, Department of Civil Engineering , The Johns Hopkins University, Baltimore, Maryland, June 13-15, 1999.

51st EERI Annual Meeting, San Diego, California, February 3-6, 1999.

USUCGER Workshop, Newport, Rode Island, 14-17 November 1998.

1998 ASCE Specialty Conference on Geotechnical Earthquake Engineering and Soil Dynamics, University of Washington Seattle, Washington, August 3-6, 1998.

14th International Symposium on Ice, Clarkson University, Potsdam, New York, July 27–31, 1998.

Thirteenth U.S. National Congress of Applied Mechanics, University of Florida, Gainesville, Florida, June 21–26, 1998.

Twelfth Engineering Mechanics Conference, American Society of Civil Engineers, La Jolla, California, May 17–20, 1998.

The 1997 Joint Summer Meeting of American Society of Mechanical Engineers (ASME) American Society of Civil Engineers (ASCE) and Society of Engineering Science (SES), Evanston, Illinois, Northwestern University, June 29–July 2, 1997.

Academic Careers Workshop, Computing Research Association (CRA), Denver, Colorado, June 4–5 1997,

Eleventh Engineering Mechanics Conference, American Society of Civil Engineers, Fort Lauderdale, Florida, May 19–22, 1996.

American Society of Civil Engineers, Colorado Section Geotechnical Group Seminar: "Down and Dirty", Applying Geotechnical Engineering to Construction, Denver, Colorado, April 11. 1996.

National Science Foundation, VELACS extension project meeting, Massachusetts Institute of Technology, Cambridge, Massachusetts, October 30–31, 1995.

Tenth Engineering Mechanics Conference, American Society of Civil Engineers, Boulder, Colorado, May 22–25, 1995.

Publications

All of the publications below are available electronically. Copyrights to the papers are held by the publishers and by Authors. Please treat this material in a way consistent with the "fair use" provisions of appropriate copyright law.

Book Chapters

1. Boris Jeremić and Guanzhou Jie. Parallel Soil–Foundation–Structure Computations. Chapter in Book: *Progress in Computational Dynamics and Earthquake Engineering*, Edited by M. Papadrakakis, D.C. Charmpis, N.D. Lagaros and Y. Tsompanakis, Taylor and Francis Publishers, 2008.

Papers in Refereed Journals

26. Boris Jeremić and Zhao Cheng. Numerical Simulations of Piles in Liquefied Soils. In review, *Soil Dynamics and Earthquake Engineering*, 2008.

25. Hadi Shahiri, Ali Pak, Mahdi Taiebat and Boris Jeremić. Evaluation of Variation of Permeability in Liquefiable Soil under Earthquake Loading. In review, *International Journal for Numerical and Analytical Methods in Geomechanics*, 2008.

24. Boris Jeremić, Guanzhou Jie, Matthias Preisig and Nima Tafazzoli. Soil–Foundation–Structure Interaction in non–Uniform Soils. Accepted for Publication, *Earthquake Engineering and Structural Dynamics*, 2008.

23. Ciang Wang, Matthew R. Allen, David, B. Burr, Enquiqe Lavernia, Boris Jeremić and David P. Fyhrie. Identification of material parameters based on Mohr-Coulomb failure criterion for bisphosphonate treated canine vertebral cancellous bone. In print, *Journal of the Mechanical Behavior of Biomedical Materials*, 2008.

22. Boris Jeremić and Kallol Sett. On Probabilistic Yielding of Materials. *Communications in Numerical Methods in Engineering*, early view # 1133, 2008.

21. Boris Jeremić and Zhao Cheng. On Finite Deformation Hyperelasto–Plasticity of Anisotropic Materials. *Communications in Numerical Methods in Engineering*, early view # 1126, 2008.

20. Boris Jeremić, Zhao Cheng, Mahdi Taiebat and Yannias Dafalias. Numerical Simulation of Fully Saturated Porous Materials. *International Journal for Numerical and Analytical Methods in Geomechanics*, Vol. 32, No. 13, pp 1635-1660, 2008.

19. Kallol Sett, Boris Jeremić and M. Levent Kavvas. The Role of Nonlinear Hardening in Probabilistic Elasto-Plasticity. *International Journal for Numerical and Analytical Methods in Geomechanics.*, Vol 31, No. 7, pp 953-975, 2007.

18. Kallol Sett, Boris Jeremić, and M. Levent Kavvas. Probabilistic Elasto-Plasticity: Solution and Verification in 1D. *Acta Geotechnica*, Vol. 2., No. 3. pp 211-220, October 2007.

17. Boris Jeremić, Kallol Sett and M. Levent Kavvas. Probabilistic Elasto-Plasticity: Formulation in 1D. *Acta Geotechnica*, Vol. 2., No. 3. pp 197-210, October 2007.

16. Boris Jeremić and Zhao Cheng. Significance of Equal Principal Stretches in Computational Hyperelasticity. *Communications in Numerical Methods in Engineering*, Vol. 21, Issue 9, pp 477-486, September 2005.

15. Zhaohui Yang and Boris Jeremić. Study of Soil Layering Effects on Lateral Loading Behavior of Piles *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, Vol. 131, No. 6, June 2005, pp. 762-770.

14. Boris Jeremić, Sashi Kunnath and Feng Xiong. Influence of Soil–Structure interaction on Seismic Response of Bridges. *International Journal for Engineering Structures*, Vol. 26, Issue 3, February 2004, pp. 391-402.

13. Boris Jeremić, Zhaohui Yang and Stein Sture. Numerical Assessment of the Influence of End Conditions on Constitutive Behavior of Geomaterials. *ASCE Journal of Engineering Mechanics*, Volume 130, issue 6, June 2004.

12. Zhaohui Yang and Boris Jeremić. Numerical Study of the Effective Stiffness for Pile Groups. *International Journal for Numerical and Analytical Methods in Geomechanics*, Vol. 27, Issue 15, pp 1255-1276, Dec. 2003.

11. Zhaohui Yang and Boris Jeremić. Numerical analysis of pile behavior under lateral loads in layered elastic-plastic soils. *International Journal for Numerical and Analytical Methods in Geomechanics*, Vol. 26, Issue 14, pp 1385-1406, Dec. 2002.

10. Boris Jeremić, Gerik Scheuermann, Jan Frey, Zhaohui Yang, Bernd Hamman, Kenneth I. Joy and Hans Haggen. Tensor Visualizations in Computational Geomechanics. *International Journal for Numerical and Analytical Methods in Geomechanics incorporating Mechanics of Cohesive–Frictional Materials*, Vol 26. Issue 10, pp 925-944, August 2002.

9. Boris Jeremić and Zhaohui Yang. Template Elastic–Plastic Computations in Geomechanics. *International Journal for Numerical and Analytical Methods in Geomechanics*, Vol. 26, Issue 14, pp 1407-1427, Dec. 2002.

8. Boris Jeremić and Kenneth Runesson and Stein Sture. Finite Deformation Analysis of Geomaterials. *International Journal for Numerical and Analytical Methods in Geomechanics incorporating Mechanics of Cohesive–Frictional Materials*, Vol. 25, No. 8, pp. 809-840, 2001.

7. Boris Jeremić. Line Search Techniques for Elasto–Plastic Finite Element Computations in Geomechanics. *Communications in Numerical Methods in Engineering*, Vol. 17, issue 2, pages 115-125, 2001.

6. Boris Jeremić and Christos Xenophontos. Application of the p-Version of the Finite Element Method to Elasto–plasticity with Localization of Deformation. *Communications in Numerical Methods in Engineering*, Vol. 15, pages 867-876, 1999.

5. Boris Jeremić and Kenneth Runesson and Stein Sture. Object Oriented Approach to Hyperelasticity. *International Journal for Engineering with Computers*, vol. 15(1), pages 2-12, 1999.

4. Boris Jeremić and Kenneth Runesson and Stein Sture. A model for elastic–plastic pressure sensitive materials subjected to large deformations. *International Journal of Solids and Structures*, vol. 36 No. 31/32 pages 4901-4918, 1999.

3. Stein Sture, Nicholas C. Costes, Susan N. Batiste, Mark R. Langton, Khalid A. Al–Shibli, Boris Jeremić, Roy A. Swanson and Melissa Frank. Mechanics of granular materials at low effective stresses. *ASCE Journal of Aerospace Engineering*, vol. 11, No. 3, pages 67-72, 1998.

2. Boris Jeremić and Stein Sture. Tensor data objects in finite element programming. *International Journal for Numerical Methods in Engineering*, Vol. 41, pages 113-126, 1998.

1. Boris Jeremić and Stein Sture. Implicit integrations in elasto–plastic geotechnics. *International Journal of Mechanics of Cohesive-Frictional Materials*, Vol. 2, pages 165-183, 1997.

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36. Mahdi Taiebat, Boris Jeremić, Zhao Cheng and Yannis Dafalias. Numerical Simulation of Seismic Ground Motions Isolation Using Fully Coupled Nonlinear Response in Saturated Sands 4th Fourth Geotechnical Earthquake Engineering and Soil Dynamics Conference, Sacramento, California, May 19-22st, 2008.

35. Kallol Sett and Boris Jeremić. Soil Uncertainty and Seismic Ground Motion. 4th Fourth Geotechnical Earthquake Engineering and Soil Dynamics Conference, Sacramento, California, May 19-22st, 2008.

34. José Ugalde, Bruce Kutter, Boris Jeremić and Sivapalan Gajan. Centrifuge Modelling of Rocking Behaviour of Bridges on Shallow Foundations 4th International Conference on Earthquake Geotechnical Engineering, June 25-28 2007, Thessaloniki Greece.

33. Boris Jeremić, Guanzhou Jie and Matthias Preisig. Influence of Soil-Foundation-Structure Interaction on Seismic Response of Bridges 4th International Conference on Earthquake Geotechnical Engineering, June 25-28 2007, Thessaloniki Greece.

32. Boris Jeremić and Kallol Sett. Seismic Wave Propagation in Stochastic Soils 4th International Conference on Earthquake Geotechnical Engineering, June 25-28 2007, Thessaloniki Greece.

31. Zhao Cheng, Mahdi Taiebat, Boris Jeremić and Yannis Dafalias. Issues in Modeling and Simulation of Soil Liquefaction. 4th International Conference on Earthquake Geotechnical Engineering, June 25-28 2007, Thessaloniki Greece.

30. Boris Jeremić and Kallol Sett. Uncertain Soil Properties and Elastic–Plastic Simulations in Geomechanics. GeoDenver 2007, Geo Institute Annual Conference, Denver, Colorado, February, 2007.

29. Zhao Cheng, Mahdi Taiebat, Boris Jeremić and Yannis Dafalias. Modeling and Simulation of Saturated Geomaterials. GeoDenver 2007, Geo Institute Annual Conference, Denver, Colorado, February, 2007.

28. Guanzhou Jie, Matthias Preisig and Boris Jeremić. Benefits and Detriments of Soil Foundation Structure Interaction GeoDenver 2007, Geo Institute Annual Conference, Denver, Colorado, February, 2007.

27. Boris Jeremić and Kallol Sett. The Influence of Uncertain Material Parameters on Stress–Strain Response. Geotechnica Special Publications (In print), Procedings of the Second Japan-U.S. Workshop on Testing, Modeling and Simulation in Geomechanics, September 8-11, 2005 Kyoto, Japan.

26. Stephen Mahin, Andreas Espinoza, Boris Jeremić and Bruce Kutter. Rocking Behavior of Bridge Piers Allowed to Rock: Implications for Design. Caltrans Bridge Research Conference 2005, October 31st – November 1st 2005, Sacramento, California. (paper # 08-503)

25. Sashi K. Kunnath, Boris Jeremić, Marc O. Eberhard, Armen Der Kiureghian and Keith Porter. Application of the PEER Performance-Based Methodology for Seismic Assessment of the I-880 Viaduct. Caltrans Bridge Research Conference 2005, October 31st – November 1st 2005, Sacramento, California. (paper # 04-503)

24. Alisa Neeman, Boris Jeremić and Alex Pang. Visualizing Tensor Fields in Geomechanics. IEEE Visualization Conference (Vis–05), October 23-28, 2005 Minneapolis-Saint Paul, Minnesota.

23. Boris Jeremić and Matthias Preisig. Seismic Soil–Foundation–Structure Interaction: Numerical Modeling Issues. ASCE Structures Congress 2005, New York, NY, U.S.A., April 20-24, 2005.

22. Zhao Cheng and Boris Jeremić A Return Mapping Algorithm for Isotropic and Anisotropic Large Deformations. Third M.I.T. Conference on Computational Fluid and Solid Mechanics, the Massachusetts Institute of Technology, Cambridge, MA, U.S.A., June 14 - 17, 2005.

21. Ingrid Hotz, Louis Feng, Hans Hagen, Bernd Hamann, Boris Jeremić, and Kenneth Joy. Physically Based Methods for Tensor Field Visualization IEEE Visualization 2004 Conference (Vis04), Austin, Texas, October 10-15 2004.

20. Boris Jeremić, Sashi Kunnath and Leah Larson. Soil–Foundation–Structure Interaction: Effects in Seismic Behavior of Bridges 13th World Conference on Earthquake Engineering, Vancouver, B.C., Canada, August 1-6, 2004.

19. Sharon L. Wood, Thalia Anagnos, Pedro Arduino, Marc O. Eberhard, Gregory L. Fenves. Thomas A. Finholt, Joseph M. Futrelle, Steven K. Grant, Boris Jeremić, Steven L. Kramer, Bruce L. Kutter, Adolfo B. Matamoros, Kurt M. McCmullin, Julio A. Ramirez, Ellen M. Rathje, Mehdi Saiidi, David Sanders, Kenneth Stokoe, and Daniel W. Wilson. Using NEES to Investigate Soil–Foundation–Structure Interaction 13th World Conference on Earthquake Engineering, Vancouver, B.C., Canada, August 1-6, 2004.

18. Daniel W. Wilson, Ross W. Boulanger, Xin Feng, Bernd Hamann, Boris Jeremić, Bruce L. Kutter, Kwan-Liu Ma, Carlos Santamarina, Kenneth S. Sprott, Steven A. Velinsky, Gunther Weber and S. J. Ben Yoo. The Nees Geotechnical Centrifuge at UC Davis 13th World Conference on Earthquake Engineering, Vancouver, B.C., Canada, August 1-6, 2004.

17. Boris Jeremić. A Brief Overview of NEESgrid Simulation Platform OpenSees: Application to the Soil–Foundation–Structure Interaction Problems. Third United States - Japan Natural Resources Workshop on Soil-Structure Interaction, March 29-30, 2004, Vallombrosa Center, Menlo Park, California

16. Boris Jeremić. Position Paper on Nonlinear Soil properties. International Workshop on Uncertainties in Nonlinear Soil Properties and their Impact on Modeling Dynamic Soil Response, PEER Headquarters, UC Berkeley, March 18-19, 2004.

15. Boris Jeremić, James Putnam, Kallol Sett, Dana Humphrey and Stacey Patenaude. Calibration of Elastic-Plastic Material Model for Tire Shreds Geo-Trans 2004, Los Angeles, CA, July.

14. Boris Jeremić, Sashi Kunnath and Zhaohui Yang. Dynamic Soil-Foundation-Structure Interaction: Recent Advances in Simulating Realistic Systems ASCE Engineering Mechanics Conference, Seattle, Washington, USA, July 2003

13. Sashi Kunnath, Boris Jeremić, Anna von Felten and Keith Bauer. Simulation Models for Performance-Based Evaluation of the I-880 Highway Bridge ASCE Structures Congress, Seattle, Washington, USA, May 2003

12. Boris Jeremić and Niels Grønbech-Jensen. Shearing Materials of Spatially Extended Grains, 3rd International Conference on Discrete Element Methods, Santa Fe, New Mexico, USA, September 23-25, 2002

11. Boris Jeremić. Recent Developments in Computer Simulations and Visualization for Geotechnical Earthquake Engineering Problems, 12 pages, in Proceedings of the International Workshop on Earthquake Simulation in Geotechnical Engineering, CD–ROM, November, 2001, The George S. Dively Center, Case Western Reserve University, Cleveland, Ohio.

10. Key Rosebrook, Dan W. Wilson Boris Jeremić and Bruce Kutter. Centrifuge Characterization and Numerical Modeling of the dynamic properties of Tire Shreds for Use as Bridge Abutment Backfill Fourth International Conference On Recent Advances In Geotechnical Earthquake Engineering And Soil Dynamics, March 26-31, 2001 San Diego, CA USA

9. Boris Jeremić. Finite Element Methods for 3D Slope Stability Analysis. *ASCE Geotechnical Special Publications, No. 101, Slope Stability 2000, pages 224-238* August 2000. Editors D. V. Griffiths, Gordon A. Fenton and Timothy R. Martin.

8. Boris Jeremić, Zhaohui Yang and Tiejun Li. Large Scale, 3D Finite Element Analysis of Dynamic Soil-Foundation-Structure Interaction. Proceedings of the 14th ASCE Engineering Mechanics Specialty Conference, Austin, Texas, May 21-24, 2000.

7. Boris Jeremić, Christos Xenophontos and Stein Sture. Modeling of Continuous Localization of Deformation. Proceedings of the 13th ASCE Engineering Mechanics Specialty Conference, The Johns Hopkins University, Baltimore, MD, USA June 13-16, 1999.

6. Boris Jeremić and Jerry A. Yamamuro. Anisotropic Plasticity in Geomechanics. Proceedings of the *Fourth International Conference on Constitutive Laws for Engineering Materials: Experiment, Theory, Computation and Applications* , Rensselaer Polytechnic Institute, Troy, NY, USA July 27 – 30, 1999

5. Roy Swanson, Khalid AL-Shibli, Melissa Frank, Nicholas Costes, Stein Sture, Susan Batiste, Mark Langton, and Boris Jeremić. Mechanics of granular materials in microgravity at low effective stresses. *Proceedings of the Spring Meeting of the American Geophysical Union*, 1998.

4. Boris Jeremić, Kenneth Runesson, and Stein Sture. Large deformation constitutive integration algorithm. In the Proceedings of *the 12th ASCE Engineering Mechanics Conference*, 1029-1032, La Jolla, California, May 1998.

3. Boris Jeremić, Kenneth Runesson, and Stein Sture. Large deformation elastoplastic analysis of geomaterials: From experiments to numerical predictions. In *Ninth International Conference of The Association for Computer Methods and Advances in Geomechanics*, Jian-Xin Yuan, editor, Wuhan, China, 1997.

2. Boris Jeremić and Stein Sture. Refined finite element analysis of geomaterials. In *Proceedings of 11th Engineering Mechanics Conference*, Y. K. Lin and T. C. Su, editors, pages 555–558, Fort Lauderdale, Florida, May 1996. Engineering Mechanics Division of the American Society of Civil Engineers.

1. Boris Jeremić and Stein Sture. Implicit integrations in geoplasticity. In *Proceedings of 10th Conference*, Stein Sture, editor, pages 1099–1102, Boulder, Colorado, May 1995. Engineering Mechanics Division of the American Society of Civil Engineers.

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24. Boris Jeremić and Guanzhou Jie. Plastic Domain Decomposition Method for Parallel Elastic–Plastic Finite Element Computations in Geomechanics Report UCD CompGeoMech 03–2007. (PDF)

23. Boris Jeremić and Guanzhou Jie. Parallel Finite Element Computations for Soil–Foundation—Structure Interaction Problems Report UCD CompGeoMech 02–2007. (PDF)

22. Boris Jeremić, Zhao Cheng and Mahdi Taiebat. Coupled (fluid–porous solid) soil modeling and simulations. Report UCD CompGeoMech 01–2007.

21. Boris Jeremić, Kallol Sett and M. Levent Kavvas. Probabilistic Elasto-Plasticity: Solution and Verification in 1D. Report UCD CompGeoMech 02–2005. (PDF)

20. Boris Jeremić, Kallol Sett and M. Levent Kavvas. Probabilistic Elasto-Plasticity: Formulation in 1D. Report UCD CompGeoMech 01–2005. (PDF)

19. Boris Jeremić. Neobično ponašanje materijala i konstrukcija. Monografija u čast 85. godina rodjena profesora Milana Djurić-a, Gradjevinski Fakultet Univerziteta u Beogradu, 2005. Non–intuitive Behavior of Materials and Structures. Monograph in honour of 85 years since the birth of Professor Milan Djurić, Civil Engineering Faculty, University of Belgrade, 2005, in Serbian.

18. Boris Jeremić. Lecture Notes on Computational Geomechanics (aka Inelastic Finite Elements for Pressure Sensitive Materials) University of California, Davis, continuously adding and updating. 2000–2004. http://sokocalo.engr.ucdavis.edu/~jeremic/CG/LN.pdf

17. Boris Jeremić, James Putnam, Zhaohui Yang, Kallol Sett, Jinxiu Liao, Guanzhou Jie. Final Report: Earthquake Response of Bridge Abutment Backfills Constructed with Tire Shreds. University of California, Davis, April 2004.

16. Boris Jeremić, Qing Liu and Xiaoyan Wu. Theoretical Formulation, Computer Implementation and Verification of Fully Coupled, Solid-Fluid, Dynamic Behavior of Soils University of California, Davis, June 2004.

15. Boris Jeremić and Ritu Jain. The Plastic Domain Decomposition Method in Parallel Computational Geomechanics. University of California, Davis, March 2004.

14. Boris Jeremić, James Putnam, Zhaohui Yang, Kallol Sett, Jinxiu Liao, Guanzhou Jie. Interim Report: Earthquake Response of Bridge Abutment Backfills Constructed with Tire Shreds. University of California, Davis, September 2003.

13. Silvia Mazzoni, Frank McKenna, Michael H. Scott, Gregory L. Fenves and Boris Jeremić. Open System for Earthquake Engineers Simulation: User Manual. Pacific Earthquake Engineering Research Center, University of California, Berkeley, December 2002.
http://peer.berkeley.edu/~silvia/OpenSees/manual/html2/

12. Boris Jeremić. Development of Geotechnical Capabilities in G3, report # PEER – 2132000-3. Pacific Earthquake Engineering Research Center University of California, Berkeley, September 2001.

11. Boris Jeremić, Dan W. Wilson Key Rosebrook and Zhaohui Yang. Centrifuge Characterization and Numerical Modeling of the dynamic properties of Tire Shreds for Use as Bridge Abutment Backfill Center for Geotechnical Modeling Report No. UCD CGM–00/01, May 2000.

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4. Boris Jeremić, Khalid Al–Shibli, Runing Zhang, Roy Swanson, and Stein Sture. Static and dynamic testing of MGM triaxial specimens. Report to NASA Marshall Space Flight Center, Contract: NAS8-38779, University of Colorado at Boulder, February 1994.

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2. Boris Jeremić. Nonlinear Effects in Structures: Report to PAK group, Kragujevac, May 1992, In Serbian.

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60. Boris Jeremić. On Probabilistic Yielding of (Geo–)Materials, Eight World Congress on Computational Mechanics, Venice, Italy, June 30th – July 4th, 2008.(PDF)

59. Boris Jeremić. Soil Uncertainty and Seismic Ground Motion Fourth Geotechnical Earthquake Engineering and Soil Dynamics Conference, Sacramento, California, May 19-22st, 2008.(PDF)

58. Boris Jeremić. On Uncertain Seismic Wave Propagation, First Internatonal Conference of the Engineering Mechanics Institute, University of Minnesota, Minneapolis, Minnesota, May 19-21st, 2008.(PDF)

57. Boris Jeremić. Uncertain Elasto–Plasticity, University of Southern California Seminar Series, December 12th, 2007.(PDF)

56. Boris Jeremić. On Computational Simulations and Predictions, UC Davis Geotechnical Seminar Series, November 1st, 2007.(PDF)

55. Boris Jeremić. Seismic Wave Propagation in Stochastic Soils, 4ICEGE, Fourth International Conference on Earthquake and Geotechnical Engineering, Thessaloniki, Greece 25–28 June, 2007.(PDF)

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52. Boris Jeremić. Numerical Predictions of Soil–Foundation–Structure Interaction. Caltrans Geotechnical Serivices Educational Seminar Series, Sacramento, California, April 5, 2007.(PDF)

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50. Boris Jeremić. Benefits and Detriments of Soil–Foundation–Structure Interaction. GeoDenver 2007, Geo–Institute Annual Conference, Denver, Colorado, February 19-21, 2007.(PDF)

49. Boris Jeremić. Modeling and Simulations of Liquefied Soils. GeoDenver 2007, Geo–Institute Annual Conference, Denver, Colorado, February 19-21, 2007.(PDF)

48. Boris Jeremić. UCD CompGeoMech Contributions to OpenSees: Deliverables. PEER Annual Meeting, San Francisco, California, January 26-27 2007.(PDF)

47. Boris Jeremić. Piles in Liquefied Soils. PEER Annual Meeting, San Francisco, California, January 26-27 2007.(PDF)

46. Boris Jeremić. High Performance Computing for Fast Hybrid Simulations. CU–NEES 2006 FHT Workshop, Boulder, Colorado, Nov. 2-3 2006.(PDF)

45. Boris Jeremić. The Role of Material Variability and Uncertainty in Elastic-Plastic Finite Element Simulations. First South-East European Conference on Computational Mechanics (SEECCM 06), Kragujevac, Serbia, 28-30 June 2006.(PDF)

44. Boris Jeremić. HPC for NEES: Plastic Domain Decomposition Method. NEES Annual Meeting, Washington, District of Columbia, June 21-23, 2006.(PDF)

43. Boris Jeremić. Uncertain Material Parameters and the Stress–Strain Response. Second Japan-U.S. Workshop on Testing, Modeling and Simulation in Geomechanics, Kyoto, Japan, September 8-11, 2005.(PDF)

42. Boris Jeremić. On Uncertainty of Elasto–Plastic Simulations Universitat Politèchnica de Catalunya, Barcelona, Spain, June 2005.(PDF)

41. Boris Jeremić. Topics in Contemporary Computational Geomechanics. A 4 day shourt course. Topics covered included: Large deformation Hyperelasto-Plasticity for Geomaterials, Parallel processing in computational geomechanics, Numerical simulations of coupled behavior for Geomaterials undergoing small and large deformations, Probabilistic approach to the theory of elasto–plasticity. University of Kragujevac, Kragujevac, Serbia and Montenegro, June 2005.

40. Boris Jeremić. Probabilistic Elasto–Plasticity. 25th Yugoslav Congress on Theoretical and Applied Mechanics, Novi Sad, Serbia and Montenegro, June 2005.(PDF)

39. Boris Jeremić. Soil–Foundation–Structure Interaction Simulations: Static and Dynamic Issues. University of California at Los Angeles Seminar Series, UCLA, May 2004.(PDF)

38. Boris Jeremić. A Brief Overview of the NEESgrid Simulation Platform OpenSees: Application to the Soil–Foundation–Structure Interaction Problems. Third Joint United States-Japan Workshop on Soil-Structure Interaction, Menlo Park, California, March 29-30, 2004.(PDF)

37. Boris Jeremić. I-880 Bridge Testbed Simulations: Soil–Foundation–Structure Interaction Issues. PEER Annual Meeting, Palm Springs, California, February 20-21, 2004.(PDF)

36. Boris Jeremić. Enabling Simulation and Information Technologies Solutions Schemes and Challenges for Very large Models. PEER Annual Meeting, Palm Springs, California, February 20-21, 2004.(PDF)

35. Boris Jeremić. Soil–Foundation–Structure Interaction Simulations and OpenSees. OpenSees Users Workshop, Richmond, California, January 2004.(PDF)

34. Boris Jeremić. Интеракција конструкције и тла у току земљотреса: нумеричка анализа. (Structure-soil interaction during earthquakes: numerical analysis) Грађевински Факултет Универзитета у Београду, Децембар, 2003(Civil Engineering Faculty of the University of Belgrade, December 2003).(PDF)

33. Boris Jeremić, COTS (Commodity off the shelf) Clusters. International Workshop on High Performance Computing in Finite Element Analysis, University of Manchester, U.K, 1st - 5th September 2003.(PDF)

32. Boris Jeremić, The Plastic Domain Decomposition Method in Parallel Computational Geomechanics. International Workshop on High Performance Computing in Finite Element Analysis, University of Manchester, U.K. 1st - 5th September 2003.(PDF)

31. Boris Jeremić. Geomechanics Simulations Using OpenSees Platform. OpenSees Users Workshop, August 2003, Richmond, California.

30. Boris Jeremić. Simulation of Local Inelastic Behavior in Large Scale Dynamics Analysis. Seventh U.S. National Congress on Computational Mechanics, July 27-31, 2003, Albuquerque, New Mexico.

29. Boris Jeremić. Soil–Structure–Interaction in Liquefied Grounds and Countermeasures: Lessons from Numerical Studies. 2003 PEER Annual Meeting, Palm Springs, California.

28. Boris Jeremić. Geomechanics Simulations Using OpenSees Platform. OpenSees Users Workshop, August 2002, Richmond, California.

27. Boris Jeremić, Recent Developments in Computational Modeling in Geomechanics, Invited Keynote Presentation. Fifth World Congress on Computational Mechanics, WCCM V, July 2002, Vienna, Austria.

26. Boris Jeremić, Computational Challenges for Seismic Design of Bridges, Invited Presentation. Scientific Computing Seminars Series, National Energy Research Scientific Computing Center, Lawrence Berkeley National Laboratory, August 2002.

25. Boris Jeremić, Earthquake Engineering Simulation Grid, Invited Presentation. Structural Engineering Seminar Series, March 2002, University of California at San Diego, La Jolla, California.

24. Boris Jeremić, Challenges in Numerically Simulating Seismic Behavior of Constructed Facilities, Invited Presentation. Bay Area Scientific Computing Day 2002, March 2002, Sandia National Laboratories, Livermore, California.

23. Boris Jeremić, Recent Developments in Computer Simulations and Visualization for Geotechnical Earthquake Engineering Problems, Invited Presentation. International Workshop on Earthquake Simulation in Geotechnical Engineering, November 2001, The George S. Dively Center, Case Western Reserve University, Cleveland, Ohio.

22. Boris Jeremić. Geotechnical applications with OpenSees OpenSees Users Workshop, August 2001, Richmond, California.

21. Boris Jeremić. Geotechnical Elements and Material Models OpenSees Developers Workshop, August 2001, Richmond, California.

20. Boris Jeremić. Large Deformation Coupled Formulation for Liquefaction Analysis Sixth U.S. National Congress On Computational Mechanics, August, 2001 Dearborn, Michigan.

19. Boris Jeremić. Dynamic Behavior of Pile Group Foundations During Strong Earthquake Events, Invited Presentation. The 2001 Joint Summer Meeting of American Society of Mechanical Engineers (ASME) American Society of Civil Engineers (ASCE) and Society of Engineering Science (SES), San Diego, July, 2001.

18. Boris Jeremić. Finite Element Methods for 3D Slope Stability Analysis. GeoDenver 2000, Geo Institute Annual Conference, Denver, Colorado, August, 2000.

17. Boris Jeremić. Modeling of Continuous Localization of Deformation. 13th ASCE Engineering Mechanics Specialty Conference, The Johns Hopkins University, Baltimore, MD, USA June, 1999.

16. Boris Jeremić. Finite Element Modeling of Failure in Geotechnical Engineering, Invited Presentation. University of California, Davis, California, April 1999.

15. Boris Jeremić. Elasto–Plasticity and the Finite Element Method: Mathematical Formulation. Presented at the Department of Mathematics and Computer Sciences Seminar Series at Clarkson University, Potsdam, New York, September 1998.

14. Boris Jeremić, Kenneth Runesson, and Stein Sture. Large deformation constitutive integration algorithm. Presented at the 12th ASCE Engineering Mechanics Conference, La Jolla, California, May 1998.

13. Boris Jeremić, Kenneth Runesson, and Stein Sture. Coaxiality of elastic and plastic strain tensors in large deformations. Presented at the Thirteen U.S. National Congress of Applied Mechanics, Gainesville, Florida, June, 1998.

12. Boris Jeremić. Finite Element Modeling of Large Deformation Elasto-plastic Problems in Geotechnics, Invited Presentation. University of California, Davis, California, April 1998.

11. Boris Jeremić. Finite Deformation Elasto-plastic Problems in Solid Mechanics of Pressure Sensitive Materials. Presented at the Department of Mechanical and Aeronautical Engineering Seminar Series at Clarkson University, Potsdam, New York, April 1998.

10. Boris Jeremić and Stein Sture. Globally convergent modification of the implicit integration schemes in soil elastoplasticity. The *1997 Joint Summer Meeting of the American Society of Mechanical Engineers, American Society of Civil Engineers and the Society of Engineering Science*, Northwestern University, Evanston, Illinois, July, 1997.

9. Boris Jeremić, Kenneth Runesson, and Stein Sture. Invited Presentation: Elastoplastic analysis of pressure sensitive materials subjected to large deformations. Presented at the *1997 Joint Summer Meeting of the American Society of Mechanical Engineers, American Society of Civil Engineers and the Society of Engineering Science*, Northwestern University, Evanston, Illinois, July, 1997.

8. Boris Jeremić. Consistent Computations in Elasto–Plasticity of Geomaterials, Invited Presentation. University of Minnesota, Minneapolis, Minnesota, April 1997.

7. Boris Jeremić. Consistent Computations in Elasto–Plasticity of Geomaterials, Invited Presentation. Clarkson University, Potsdam, New York, April 1997.

6. Boris Jeremić. Consistent Computations in Elasto–Plasticity of Geomaterials, Invited Presentation. University of Texas, Austin, Texas, March 1997.

5. Boris Jeremić and Stein Sture. Refined solution procedures for finite element analysis in geotechnics. Presented at the CAMM seminar 96/2, Center for Acoustics, Mechanics and Materials, University of Colorado, October 1996.

4. Boris Jeremić. Object oriented numerical computations: Applications in continuum mechanics. Presented at the Geotechnical Engineering seminar series, University of Colorado at Boulder, October 1996.

3. Boris Jeremić and Stein Sture. Refined finite element analysis of geomaterials. Presented at 11th ASCE Engineering Mechanics Conference, Fort Lauderdale, Florida, May 1996.

2. Boris Jeremić, Dunja Perić, Teng-Fung Yang, Stein Sture, Hon-Yim Ko, and Y. Atsushi. The elasto plastic material model: Model description and numerical predictions. Presented at the VELACS extension project meeting at M.I.T. October, 1995.

1. Boris Jeremić and Stein Sture. Implicit integrations in geoplasticity. Presented at 10th ASCE Engineering Mechanics Conference, Boulder, Colorado, May 1995.