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Contents

1 Research Interests

Primary research interests are related to modeling, simulation and analysis of static and dynamic, elastic and inelastic, deterministic and probabilistic behavior of engineering solids and structures. Focus is on rational computational mechanics formulation, efficient implementation, verification, validation and development of practical applications. Particular interest is in development and use of methods that reduce epistemic, modeling uncertainty. Further, propagation of aleatory uncertainties, that is, time domain modeling and simulation of behavior of inelastic solids and structures with uncertain material and uncertain loading, is of interest as well. Current work is on development and use of high performance computational systems for realistic modeling and simulation of static and dynamic, elastic and inelastic, deterministic and probabilistic, behavior of earthquakes, soils, structures and their interaction. The Real-ESSI Simulator System (http://real-essi.info), is an example of such a system.

2 Teaching Interests

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

Theoretical and computational, deterministic and probabilistic elastic and inelastic mechanics

Application of models and numerical simulations to solving practical civil engineering problems

3 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.

4 Publications

Most publications below are available electronically (some through links to LaTeX sources and PDFs below). Copyright to material below is held by the publishers and by Authors (Boris Jeremić). Please treat this material in a way consistent with the "fair use" provisions of appropriate copyright law.

Books

2. Boris Jeremić, Zhaohui Yang, Zhao Cheng, Guanzhou Jie, Nima Tafazzoli, Matthias Preisig, Panagiota Tasiopoulou, Federico Pisanò, José Abell, Kohei Watanabe, Yuan Feng, Sumeet Kumar Sinha, Fatemah Behbehani, Han Yang, and Hexiang Wang.
   Nonlinear Finite Elements: Modeling and Simulation of Earthquakes, Soils, Structures and their Interaction. University of California, Davis, CA, USA; and Lawrence Berkeley National Laboratory, Berkeley, CA, USA, 2795 pages; 2019; ISBN: 978-0-692-19875-9;
   WEB LINK to PDF

1. Alain Pecker, James J. Johnson and Boris Jeremić,
   Seismic Soil Structure Interaction for Design and Assessment of Nuclear Installations.
   United Nations, International Atomic Energy Agency. 300 pages, 2020.

Book Chapters

5. John B. Rundle, James R. Holliday, William R, Graves, Paul B. Rundle, Boris Jeremić, Sashi K. Kunnath, Richard Feltstykket, Kevin Mayeda, Donald L. Turcotte, Andrea Donnellan. A Practioner's Guide to Operational Real Time Earthquake Forecasting Chapter in a book: Applied Geology of Northern California, Edited by: Robert Anderson and Horacio Ferriz, 2014.

4. Jeremic, B., Sett, K., Taiebat, M. and Tafazzoli, N.. Computational Geomechanics", in Structural, Geotechnical and Earthquake Engineering, edited by Sashi K. Kunnath, in Encyclopedia of Life Support Systems (EOLSS), Developed under the Auspices of the UNESCO, EOLSS Publishers, Paris, France, 2014. [http://www.eolss.net]

3. Boris Jeremić, Justin Coleman and Andrew Whitaker. Nonlinear Time Domain Soil-Structure Interaction Analysis , Chapter in Standard: ASCE-4, Seismic Analysis of Safety-Related Nuclear Structures and Commentary, 2014.

2. Boris Jeremić. High Fidelity Modeling and Simulation of SFS Interaction: Energy Dissipation by Design, Chapter in Book: Soil-Foundation-Structure Interaction, Edited by R.P. Orense, N. Chouw, and M. Pender, CRC Press, Taylor & Francis Group, pp 125-131, 2010.

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.

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53. Bruno Guidio, Boris Jeremić, Leandro Guidio, Chanseok Jeong, Full-waveform Inversion of SH-Wave Input Motions in a Domain Truncated by Wave-Absorbing Boundary Conditions. In review. *Soil Dynamics and Earthquake Engineering*, 2020.

52. Yuan Feng, Han Yang, Hexiang Wang, and Boris Jeremić, Architecture Aware Plastic Domain Decomposition in Finite Element Simulation. In review, *ASCE Journal of Computing in Civil Engineering*, 2020.

51. Han Yang, Hexiang Wang, and Boris Jeremić, Numerical Modeling and Validation of Earthquake Soil Structure Interaction: A 12-Story Hotel in Ventura, California. In review. *Engineering Structures*, 2020.

50. Hexiang Wang, Fangbo Wang, Han Yang, and Boris Jeremić, Site Response Analysis: Uncertain Motions Propagating through Uncertain Elastoplastic Soil. In review. *Nuclear Engineering and Design*, 2020.

49. Han Yang, Hexiang Wang, and Boris Jeremić, An Energy-Based Analysis Framework for Soil Structure Interaction Systems. In review. *Computers & Structures*, 2020.

48. Yuan Feng, Han Yang, Hexiang Wang, Fangbo Wang and Boris Jeremić SmallTensor: High-Performance Tensor Algebra for Elastoplastic Finite Element Analysis. In review. *International Journal of High Performance Computing Applications* , 2020.

47. Hexiang Wang, Han Yang, Yuan Feng, Fangbo Wang and Boris Jeremić. Modeling and Simulation of Earthquake Soil Structure Interaction Excited by Inclined Seismic Waves. In Review, *Soil Dynamics and Earthquake Engineering*, 2020.

46. Hexiang Wang, Fangbo Wang, Han Yang, Jeff Bayless, Marco Baglio, Norman A. Abrahamson, and Boris Jeremić. Time Domain Intrusive Stochastic Framework for Seismic Risk Analysis. In print, *Earthquake Engineering and Structural Dynamics*, 2020.

45. Han Yang, Hexiang Wang, Yuan Feng and Boris Jeremić. Plastic Energy Dissipation in Pressure-Dependent Materials. *ASCE Journal of Engineering Mechanics*, 146(3), 1-9 2020.

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41. Han Yang, Hexiang Wang, Yuan Feng, Fangbo Wang and Boris Jeremić. Energy Dissipation in Solids due to Material Inelasticity, Viscous Coupling, and Algorithmic Damping. In print, *ASCE Journal of Engineering Mechanics*, 2020.

40. Zhiguang Zhou, Xiaodong Wei, Zheng Lu, and Boris Jeremić. Influence of Soil-Structure Interaction on performance of a super tall building using a new eddy-current tuned mass damper. In Print, The Structural Design of Tall and Special Buildings, 2018.

39. Han Yang, Sumeet Kumar Sinha, Yuan Feng, David B McCallen and Boris Jeremić. Energy Dissipation Analysis of Elastic-Plastic Materials. Computer Methods in Applied Mechanics, 331:309-326, 2018

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36. Kohei Watanabe, Federico Pisanò, Boris Jeremić. A Numerical Investigation on Discretization Effects in Seismic Wave Propagation Analyses. *Engineering with Computers*, http://dx.doi.org/10.1007/s00366-016-0488-4, pp 1-27, 2016.

35. Konstantinos Karapiperis, Kallol Sett, M. Levent Kavvas, Boris Jeremić. Fokker-Planck linearization for non-Gaussian stochastic elastoplastic finite elements. *Computer Methods in Applied Mechanics and Engineering*, No., 307, pp 451-469, 2016.

34. Panagiota Tasiopoulou, Mahdi Taiebat, Nima Tafazzoli, Boris Jeremić. On Validation of Fully Coupled Behavior of Porous Media using Centrifuge Test Results. *Journal of Coupled Systems*, Vol 4, No. 1, pp 37-65, 2015.

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23. Ciang Wang, Matthew R. Allen, David, B. Burr, Enriqe Lavernia, Boris Jeremić and David P. Fyhrie. Identification of material parameters based on Mohr-Coulomb failure criterion for bisphosphonate treated canine vertebral cancellous bone. *Journal of the Mechanical Behavior of Biomedical Materials*, Volume 43, Issue 4, pp. 775 - 780. 2008.

22. Boris Jeremić and Kallol Sett. On Probabilistic Yielding of Materials. *Communications in Numerical Methods in Engineering*, Volume 25, No. 3, pp 291-300, 2009.

21. Boris Jeremić and Zhao Cheng. On Finite Deformation Hyperelasto–Plasticity of Anisotropic Materials. *Communications in Numerical Methods in Engineering*, Volume 25, Issue 4, pp. 391-400, 2009.

20. Boris Jeremić, Zhao Cheng, Mahdi Taiebat and Yannis Dafalias. Numerical Simulation of Fully Saturated Porous Materials. *International Journal for Numerical and Analytical Methods in Geomechanics*, Volume 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*, Volume 2., No. 3. pp 211-220, October 2007.

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15. Zhaohui Yang and Boris Jeremić. Study of Soil Layering Effects on Lateral Loading Behavior of Piles *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, Volume 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*, Volume 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.

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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*, Volume 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*, Volume 26, Issue 14, pp 1407-1427, Dec. 2002.

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7. Boris Jeremić. Line Search Techniques for Elasto–Plastic Finite Element Computations in Geomechanics. *Communications in Numerical Methods in Engineering*, Volume 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*, Volume 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*, Volume 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*, Volume 2, pages 165-183, 1997.

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58. A. Rodgers, N.A. Petersson, A. Pitarka, M. Miah, D. McCallen and B. Jeremić, HPC SIMULATIONS OF BROADBAND NEAR-FAULT GROUND MOTIONS FOR ENGINEERING APPLICATIONS In proceedings of the Eleventh U.S. National Conference on Earthquake Engineering, Integrating Science, Engineering & Policy, Los Angeles, California, USA June 25-29, 2018.

57. Y. Feng, S.K. Sinha, H. Yang, H.Wang, D. McCallen and B. Jeremić, 3D Nonlinear Earthquake Soil Structure Interactions (ESSI) for Nuclear Power Plants (NPP) In proceedings of the Eleventh U.S. National Conference on Earthquake Engineering, Integrating Science, Engineering & Policy, Los Angeles, California, USA June 25-29, 2018.

56. H. Yang, D. McCallen and B. Jeremić, ENERGY DISSIPATION IN EARTHQUAKE SOIL STRUCTURE INTERACTION MODELING AND SIMULATION In proceedings of the Eleventh U.S. National Conference on Earthquake Engineering, Integrating Science, Engineering & Policy, Los Angeles, California, USA June 25-29, 2018.

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54. Yuan Feng, José Abell, Sumeet Kumar Sinha, Han Yang, Fatemah Behbehani, Hexian Wang, Nebojša Orbović, David B McCallen and Boris Jeremić. Verification for the Real ESSI Simulator. In proceedings of Structural Mechanics in Reactor Technology (SMiRT) 24 conference, Busan, South Korea, August 20-25, 2017.

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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)

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102. Boris Jeremić. Real Earthquake Soil Structure Interaction (Real ESSI) Modeling and Simulation. PRENOLIN workshop, Nice France, 15th-17th December, 2014.(PDF)

101. Boris Jeremić. Nonlinear Time Domain Modeling and Simulation of Surface and Embedded NPPs. Department of Energy, Natural Phenomena Hazard Meeting, Germantown, MD, USA, October 21st-22nd 2014.(PDF)

100. Boris Jeremić. High Fidelity Seismic Modeling and Simulation of Nuclear Facilities. Department of Energy, presentation to the Secretary of Energy, Washington D.C., USA, September 15th, 2014.(PDF)

99. Boris Jeremić. Civil and Structural Engineering Gaps in Small Modular Reactor Designs. ASME SMR 2014 Symposium, Washington, D.C. USA, April 15th-17th, 2014.(PDF)

98. Boris Jeremić. PRENOLIN Meeting Presentation. PRENOLIN 3rd Workshop, Nice, France, April 7th-8th, 2014.(PDF)

97. Boris Jeremić. INL SSI Steering Committee Meeting. Idaho Falls, Idaho, USA, January 15th-16th, 2014.(PDF)

96. Boris Jeremić. Earthquake Soil Structure Interaction (ESSI) Modeling and Simulation. Caltrans Seminar Series, Sacramanto, California, USA, December 4th 2013. 2013.(PDF)

95. Boris Jeremić. PRENOLIN Meeting Presentation. PRENOLIN 2nd Workshop, Nice, France, November 4th-5th 2013. 2013.(PDF)

94. Boris Jeremić. ESSI Simulator Program, Current Status. Structural Mechanics in Reactor Technology (SMiRT) 22 Conference, San Francisco, California, U.S.A. August 18th - 23rd, 2013.(PDF)

93. Boris Jeremić. Earthquake Soil Structure Interaction for Nuclear Power Plants, Modeling and Computational Issues. CompDyn2013, 4th International Conference on Computational Mehtods in Structural Dynamics and Earthquake Engineering, Island of Kos, Greece, June 12th – 14th, 2013.(PDF)

92. Boris Jeremić. On Earthquake Soil Structure Interaction Modeling and Simulation. National Technical University of Athens Seminar Series, Athens, Greece, June 12th, 2013.(PDF)

91. Boris Jeremić. Select Aspects of Earthquake Soil Structure Interaction Modeling and Simulation. UCD GGSS Seminar Series, Davis, California, May 23rd. 2013.(PDF)

90. Boris Jeremić. Time Domain Nonlinear Earthquake Soil/Rock Structure Interaction Modeling and Simulation. ASCE-4 Meeting, Sand Diego, California, April 5th. 2013.(PDF)

89. Boris Jeremić. Challenges and Tools for Non-Linear SSI Analysis. Workshop on Analytical Methods for Seismic SSI Analysis PEER, UC Berkeley, Berkeley, California, January 9-10, 2013.(PDF)

88. Boris Jeremić. Nonlinear Soil Modeling for Seismic NPP Applications. Lawrence Berkeley National Laboratory, Nuclear Waste Program Seminar Series, Friday, December 14, 2012.(PDF)

87. Boris Jeremić. Aspects of Deterministic and Probabilistic Modeling and Simulation in Earthquake Engineering. Lawrence Berkeley National Laboratory, Earth Sciences Division Seminar Series, Friday, December 14, 2012.(PDF)

86. Boris Jeremić. The NRC ESSI Simulator. International Experts Meeting on Protection against Extreme Earthquakes and Tsunamis in the Light of the Accident at the Fukushima Daiichi Nuclear Power Plant, IAEA, Vienna, Austria, September 4-7, 2012.(PDF)

85. Boris Jeremić. Modeling and Simulation of Earthquake Soil Structure Interaction for Risk Informed Decision Making in Nuclear Power Industry. Idaho National Laboratory, Idaho Falls, Idaho, July 16-17, 2012.(PDF)

84. Boris Jeremić, Nima Tafazzoli, Nebojša Orbović and Andrei Blahoianu. Amplification of Seismic Input due to 1D, 2D and 3D effects, and their Importance for NPP Structures. 21st Structural Mechanics in Reactor Technology (SMiRT) Conference, New Delhi, India, November 6-11, 2011.(PDF)

83. Boris Jeremić, Nima Tafazzoli, Nebojša Orbović and Andrei Blahoianu. 3D Analysis of the Influence of Varying Rock/Soil Profiles on Seismic NPP Response. 21st Structural Mechanics in Reactor Technology (SMiRT) Conference, New Delhi, India, November 6-11, 2011.(PDF)

82. Boris Jeremić, Annie Kammerer, Nima Tafazzoli and Babak Kamrani. The Nonlinear Time-Domain Modeling of Earthquake Soil Structure Interaction for Nuclear Power Plants: Nonlinear Contact Between Foundation and Rock. 21st Structural Mechanics in Reactor Technology (SMiRT) Conference, New Delhi, India, November 6-11, 2011.(PDF)

81. Boris Jeremić, Annie Kammerer, Nima Tafazzoli and Babak Kamrani. The NRC ESSI Simulator. 21st Structural Mechanics in Reactor Technology (SMiRT) Conference, New Delhi, India, November 6-11, 2011.(PDF)

80. Boris Jeremić, Kallol Sett. Stochastic Elastic-Plastic Finite Element Method for Performance Risk Simulations. 11th International Conference on Applications of Statistics and Probability in Civil Engineering. Zúrich, Switzerland, August 1-4, 2011.(PDF)

79. Boris Jeremić, Panagiota Tasiopoulou, Mahdi Taiebat, Nima Tafazzoli, Mario Martinelli. Verification Procedures for Simulation of Fully Coupled Behavior of Porous Media. 11th US National Congress on Computational Mechanics, (USNCCM11), Minneapolis, Minnesota, U.S.A., July 25-28, 2011.(PDF)

78. Boris Jeremić. High Performance, High Fidelity Modeling and Simulation of Earthquake-Soil-Structure Interaction for Nuclear Power Industry Quake Summit 2011, NEES & MCEER Annual Meeting, Buffalo, NY, June 9-11, 2011.(PDF)

77. Boris Jeremić. Assessment of Seismic Input and Soil Structure Interaction for Deeply Embedded, Large Foundations. Canadian Nuclear Safety Commission (CNSC), Ottawa, Ontario, Canada, March 7th, 2011. (not for public distribution)

76. Boris Jeremić. Stochastic Elastic-Plastic Finite Element Method. Intel Corporation, Structural TCT Lecture Series (webinar), California, Arizona, Oregon (U.S.A); Maleysia; 18 October, 2010.(PDF)

75. Boris Jeremić, Nima Tafazzoli, Babak Kamrani, You-Chao Chao, Chang-Gyun Jeong, Panagiota Tasiopoulou, Kallol Sett, Annie Kammerer, Nebojša Orbović, and Andrei Blahoianu. On Seismic Soil Structure Interaction Simulations for Nuclear Power Plants. OECD – NEA – IAGE – ISSC Workshop on Soil Structure Interaction Knowledge and Effect on the Seismic Assessment of NPPs Structures and Components, Ottawa, Canada, 6-8 October 2010.(PDF)

74. Boris Jeremić. Factors of Safety for 3D vs 2D for Curved Section of the Wolf Creek Dam. Wolf Creek Dam Foundation Remediation Project. Wolf Creek Dam site, Kentucky, 19 – 21 April 2010, (not for public distribution)

73. Boris Jeremić. Simulations in Geomechanics: The Issue of Uncertainty. University of Tennessee, Department of Civil and Environmental Engineering Seminar Series, 26 March 2010.(PDF)

72. Boris Jeremić. Real-Time Monitoring for Soil-Structure Systems Under Uncertainty. Real Time Monitoring Meeting, Dubai, United Arab Emirates, 29 January - 2 February 2010. (not for public distribution)

71. Boris Jeremić. Continuum Modeling of Intact Rock. Workshop on Ground Shock in Faulted Media, McLean, Virginia, 12-15 January 2010. (not for public distribution)

70. Boris Jeremić. High Fidelity Modeling and Simulation of SFS Interaction: Energy Dissipation by Design. International Workshop on Soil-Foundation-Structure Interaction, University of Auckland, New Zealand, 26-27 November 2009.(PDF)

69. Boris Jeremić, Kallol Sett, Lev Kavvas and Suzana Koprivica. Решење еласто-пластичног проблема у простору вероватноћа и примена на практичне проблеме (Solution for the probabilistic elastic–plastic problem and its application to practical problems) UNION University, Belgrade, Serbia, 29th June, 2009.(PDF)

68. Boris Jeremić, and Kallol Sett. Stochastic Elastic-Plastic Finite Element Method, SEECCM2009, 2nd South East European Conference on Computational Mechanics, Island of Rhodes, Greece, 22-24 June, 2009.(PDF)

67. Boris Jeremić, Nima Tafazzoli, Mahdi Taiebat and Guanzhou Jie. Directing Energy Dissipation in Earthquake-Soil-Structure Systems, CompDyn2009, 2nd International Conference on Computational Mehtods in Structural Dynamics and Earthquake Engineering, Island of Rhodes, Greece, 22-24 June, 2009.(PDF)

66. Boris Jeremić. The Case for Probabilistic Elasto–Plasticity, GheoMat: Deformation and Failure of Geometerials, a Multidisciplinary Scientific Workshop, Masseria Salamina, Brindisi, Italy, 14-19 June 2009.(PDF)

65. Boris Jeremić. Verification and Validation in Computational Geomechanics, GheoMat: Deformation and Failure of Geometerials, a Multidisciplinary Scientific Workshop, Masseria Salamina, Brindisi, Italy, 14-19 June 2009.(PDF)

64. Boris Jeremić. High Fidelity, Large Scale Modeling and Simulation, GheoMat: Deformation and Failure of Geometerials, a Multidisciplinary Scientific Workshop, Masseria Salamina, Brindisi, Italy, 14-19 June 2009.(PDF)

63. Boris Jeremić. Fully Coupled, Two Phase Behavior of Geomaterials, GheoMat: Deformation and Failure of Geometerials, a Multidisciplinary Scientific Workshop, Masseria Salamina, Brindisi, Italy, 14-19 June 2009.(PDF)

62. Boris Jeremić. Elastic–Plastic Behavior of Geomaterials: Modeling and Simulation Issues, GheoMat: Deformation and Failure of Geometerials, a Multidisciplinary Scientific Workshop, Masseria Salamina, Brindisi, Italy, 14-19 June 2009.(PDF)

61. Boris Jeremić. Earthquake–Soil–Structure Systems, 2008 Association of Pacific Rim Universities Symposium: Multi–Hazard Around the Pacific Rim, Davis, California, August 21st-22nd, 2008.(PDF)

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)

54. Boris Jeremić. The Plastic Domain Decomposition for Soil Foundation Structure Interaction Computations, CompDyn2007, Computational Methods in Structural Dynamics and Earthquake Engineering, Rethymno, Crete, Greece, 13–16 June, 2007.(PDF)

53. Boris Jeremić. Паралелна рачунарска метода прорачуна интеракције земљотреса, тла и конструкције. (Parallel Computational Method for Simulations of Earthquake, Soil and Structures), University of Belgrade, Faculty of Civil Engineering Seminar Series, Belgrade, Serbia, June 5th 2007.(PDF)

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

51. Boris Jeremić. Benefits and Detriments of Soil Foundation Structure Interaction: Simulation Platform and Examples. 4th US–Japan Workshop on SSI, Tsukuba, Japan, March 28-30 2007.(PDF)

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.