

## **CURRICULUM VITAE**

### **POUL V. LADE**

Department of Civil, Environmental and  
Infrastructure Engineering  
George Mason University  
Fairfax, Virginia 22030  
USA  
E-mail: Plade@gmu.edu

3609 Quesada Street NW  
Washington, D.C 20015  
Phone: (202) 244-0959  
Cell: (301) 980-0068  
E-mail: ladepoul@gmail.com

#### **PERSONAL INFORMATION**

Citizenship: United States of America

#### **PRESENT POSITION**

Adjunct, Department of Civil, Environmental and Infrastructure Engineering, George Mason University

#### **EDUCATION**

Ph.D., Engineering, University of California, Berkeley, August 1972

M.S., Civil Engineering, The Technical University of Denmark, Copenhagen, January 1967

#### **PROFESSIONAL APPOINTMENTS**

Adjunct, Department of Civil, Environmental and Infrastructure Engineering, George Mason University

Professor, Department of Civil Engineering, The Catholic University of America,  
2003-2015

Chairman, Department of Civil Engineering, The Catholic University of America,  
2003-2009

Professor, Department of Civil Engineering, Aalborg University, Denmark, 1999-2003

Chairman, Department of Civil Engineering, The Johns Hopkins University, 1997-1999

COWI Guest Professor, Denmark, July-December 1996

Professor of Civil Engineering, The Johns Hopkins University, 1993-1999

Vice Chairman, Department of Civil Engineering, University of California, Los Angeles,  
1983-1985, 1988-1991

Professor of Civil Engineering, University of California, Los Angeles, 1983-1993

Visiting Professor, University of Sydney, N.S.W., Australia, 1985-1986

Professor of Mechanics and Structures, University of California, Los Angeles, 1982-1983

Vice Chairman, Mechanics and Structures Department, University of California,  
Los Angeles, 1978-1982

Associate Professor of Mechanics and Structures, University of California, Los Angeles,  
1978-1982

Visiting Professor, Cambridge University, England, 1979-1980

Assistant Professor of Mechanics and Structures, University of California, Los Angeles,  
1972-1978

Research Engineer, Research Division of the Danish Geotechnical Institute, 1968

## **RESEARCH INTERESTS**

Geomechanics; experimental methods; three-dimensional stress-strain and strength behavior of soils during monotonic loading and large three-dimensional stress reversals; stability, instability and liquefaction of granular materials; time effects in soils; constitutive modeling of frictional materials such as soil, rock, and concrete employing elasticity and work-hardening, isotropic and kinematic plasticity theories; deformation and stability analyses of foundation engineering problems.

## **HONORS AND SPECIAL RECOGNITION RECEIVED**

Research Initiation Grant, National Science Foundation (1973-1975)

Invited to present lectures on “Three-Dimensional Stress-Strain Behavior and Modeling of Soils” at 8 Geotechnical Institutes in West Germany (June 1977 - July 1977)

Invited as Visiting Professor to present lectures on “Three-Dimensional Stress-Strain Behavior and Modeling of Soils,” Ruhr-Universität, Bochum, W. Germany (Jun 1979 - Aug. 1979)

Who's Who in America

Who's Who in Science and Engineering

Member, International Faculty, Danish Research Academy, Aarhus, Denmark (July 1991 - 1996)

Award for Significant Paper on Constitutive Laws, International Association for Computer Methods and Advances in Geomechanics (1994)

COWI Guest Professor at The Technical University of Denmark, Lyngby, and Aalborg University, Denmark (July - December 1996)

Elected Member of the Danish Academy of Technical Sciences (April 2001)

Awarded “Professor Ostenfeld’s Gold Medal for original contributions to engineering science research in behavior and constitutive modeling of soils,” The Technical University of Denmark, Lyngby (April 2001)

Special Service Award, Committee D18 on Soil and Rock, ASTM International (January 2003)

Awarded the “IACMAG Medal for the Excellent Contributions: Regional for contributions to experimental discovery of the behavior of soils and to development of constitutive models for frictional materials,” International Association of Computer Methods and Geomechanics (June 2005)

Poul V. Lade - Curriculum Vitae

Invited to present the 5<sup>th</sup> Zeng Guo-Xi Lecture on “Overview of Constitutive Models for Soils” at the Institute of Geotechnical Engineering, Zhejiang University, Hangzhou, P.R. China, on November 19, 2011.

Best paper award presented by The Institute for Civil Engineers, London, in 2015 for:  
Lade, P.V. and N. Tradts ”The Role of Cementation in the Behavior of Cemented Soils,” *Geotechnical Research* (ICE), 2014, 1(4): 111-132.

**PROFESSIONAL AFFILIATIONS**

Member and U.S. Representative, Technical Committee TC-103 on Numerical Methods in Geomechanics, International Society for Geotechnical Engineering and Foundations, 2010-present

Member, Soil Properties Committee of the Geo Institute, ASCE, 2006-present

Member, Danish Center for Applied Mathematics and Mechanics, (Elected) 1999-present

Member, Danish Geotechnical Society, 1999-present

Member, International Association for Computer Methods and Advances in Geomechanics, 1990-present

Member and U.S. Representative, Technical Committee TC-13 on Mechanics of Granular Materials, International Society for Soil Mechanics and Foundation Engineering, 1986-present

Member and U.S. Representative, Technical Committee TC-29 on Laboratory Stress-Strain Testing of Geomaterials in the Laboratory, International Society for Soil Mechanics and Foundation Engineering, 1994-present

Member and U.S. Representative, Technical Committee TC-34 on Deformation of Earth Materials, 1998-present

Member, American Society for Testing and Materials, 1986-present

Member, British Geotechnical Society, 1984-present

Member, Committee on Properties of Materials, Engineering Mechanics Division, ASCE, 1977-1983

Chairman, Geotechnical Engineering Technical Group - Los Angeles Section of ASCE, 1978-1979

Vice Chairman, Secretary, Treasurer, and Director, Geotechnical Engineering Technical Group - Los Angeles Section of ASCE, 1973-1978

Member, Soil Properties Committee of the Geotechnical Engineering Division, ASCE, 1974-1982

Member, U.S. National Committee of the International Society of Soil Mechanics and Foundation Engineering, 1973-present

Member, American Society of Civil Engineers, 1972-present

Member, Danish Society of Engineers, 1967-present

## **EDITORIAL ACTIVITIES**

- Editor-in-Chief (for the Americas), *Geomechanics and Engineering, An International Journal*, published by Techno-Press, Korea, 2009-2015
- Member, Editorial Board, *Geotechnical Engineering Journal of the SEAGS & AGSSEA*, 2013-2015
- Member, Editorial Board, *Engineering Geology*, published by Elsevier – Chemistry, Earth and Environmental Sciences Department, 2007-2015
- Member, Editorial Board, *International Journal of Geomechanics*, published by CRC Press LLC, 2001-2002, by ASCE's G-I Institute, 2003-2015
- Member, International Editorial Committee, *Soils and Foundations*, published by the Japanese Geotechnical Society, 1998-present
- Member, Editorial Advisory Board, *Mechanics of Cohesive-Frictional Materials*, published by Wiley, 1996-2000  
(journal merged with *Int. J. Num. Analyt. Meth. Geomech.*)
- Member, Editorial Board, *Geotechnical Testing Journal*, published by ASTM, 1988-2015
- Member, Editorial Advisory Board, *International Journal of Numerical and Analytical Methods in Geomechanics*, published by Wiley, 1984-2015
- Member, Editorial Board, *Computers and Geotechnics*, published by Elsevier Applied Science Publishers, Ltd., London, England, 1984-2015
- Member, Publications Committee, *Journal of the Geotechnical Engineering Division*, published by ASCE, 1974-1984

## **Reviewer** for a number of other journals on a continuing basis:

- Journal of Engineering Mechanics, ASCE
- Journal of Geotechnical and Geoenvironmental Division, ASCE
- Geotechnique, The Institution of Civil Engineers, London, England
- Canadian Geotechnical Journal, National Research Council of Canada
- International Journal of Solids and Structures, Pergamon Press
- International Journal of Plasticity, Pergamon Press
- Transport in Porous Media, Kluwer Academic Publishers
- Geophysical Research Letters, American Geophysical Union
- Journal of Engineering Materials Technology, ASME
- Ingenieur-Archiv, Springer Verlag
- International Journal of Plasticity, Pergamon Press
- Mechanics Research Communications, Pergamon Press
- Arabian Journal for Science and Engineering, King Fahd University of Petroleum and Minerals, Dhahran, Saudi Arabia
- International Journal for Soil Dynamics and Earthquake Engineering
- Iranian Journal of Science and Technology
- Mechanics of Materials, Pergamon Press
- Engineering Geology, an International Journal, Elsevier
- Rock Mechanics and Rock Engineering, Springer-Verlag
- Geomechanics and Geoengineering: An International journal
- Mechanics of Time-Dependent Materials
- Journal of Engineering and Computational Mechanics, ICE
- Canadian Journal of Civil Engineering
- Proceedings of ICE – Construction Materials Journal
- Philosophical Magazine Letters

**Other Reviewing Activities**

Book proposal: "Stress-Strain-Strength Behavior of Soils" Wiley May 1990  
Book on "Soil Behavior and Critical State Soil Mechanics" by D.M. Wood, Published  
by Cambridge University Press, Cambridge, England, 1990 (Dec 1986 - Jan 1987)

**Reviewer** for a number of granting agencies on occasional and on continuing basis:

National Science Foundation, U.S.A.  
U.S. Army Corps of Engineers, U.S.A.  
Australian Research Council, Canberra, ACT  
Natural Sciences and Engineering Research Council of Canada  
California Sea Grant College Program, U.S.A.  
Fonds zur Förderung der wissenschaftlichen Forschung (Austrian Science Fund)  
Research Grants Council, Hong Kong  
German-Israeli Foundation for Scientific Research and Development, Israel

**PROFESSIONAL COMMITTEE SERVICE**

Member, Committee to inspect landslide at Gothenburg, Sweden, for the National Academy of Engineering (Dec 1977)

Secretary, Local Arrangement Committee, ASCE Specialty Conference on Earthquake Engineering and Soil Dynamics, Pasadena, CA (Oct 1976 - Jun 1978)

Member, ASCE Building and Safety Task Committee, Los Angeles (Nov 1978 - Jun 1979)

Member, Working Group on Large Deformations with Ductile Behavior - Static Problems, NSF Workshop on Experimental Research in Soil Engineering, VPI & SU, (August 1983)

Member, USRA Science Review Panel for Proposed Conceptual Design of Experiments on Mechanics of Granular Materials to be performed on the NASA Space Shuttle (Jan 1985 - Mar 1985)

Member, Panel on Constitutive Relationships for Soil Behavior, 11th International Conference on Soil Mechanics and Foundations Engineering, San Francisco (August, 1985)

Member, Working Group on Soil and Rock Properties and Constitutive Laws, NSF Workshop on Focus and Direction for NSF Siting and Geotechnical Systems Program, Chicago (August 1986)

Chairman, PACE Science Review Panel for Preliminary Requirements Review of Mechanics of Granular Materials Experiment to be performed on the NASA Space Shuttle (Apr 1987 - May 1987)

Member, Panel on Strain Localization and Interfaces, NSF/CNRS US-France Workshop on Recent Advances in Geomechanical, Geotechnical and Geo-Environmental Engineering, Paris, France (June 1992)

Member, Expert Task Group On Mechanics: Models and Constitutive Equations, Strategic Highway Research Program, National Research Council, Washington, D.C. (Apr 1992)

Member and Coordinator, Panel on Field and Laboratory Testing, U.S.-Canada NSF Workshop on Recent Accomplishments and Future Trends in Geomechanics in the 21st Century (Oct 1992)

Chair, NASA Science Review Panel for Requirements Definition Review of Mechanics of Granular Materials Experiment to be flown on the Space Shuttle, meeting in Albuquerque (March, 1993)

Panel Member, VELACS, University of California, Davis, CA, (October 18-20, 1993).

Chairman of Steering Committee and organizer of an International Workshop on the Physics and Mechanics of Soil Liquefaction, Baltimore, Maryland, September 10-11, 1998.

Chairman, NASA Science Review Panel for Investigation Continuation Review of additional Mechanics of Granular Materials Experiment to be flown on the Space Shuttle, meeting in Huntsville, Alabama (November, 1998).

Member, Advisory Board for the *First U.S.-Japan Workshop on Testing, Modeling, and Simulation*, held in Boston, June 27-29, 2003.

Co-Chair of U.S. delegation, Advisory Board for and Co-Organizer of the *Second U.S.-Japan Workshop on Testing, Modeling, and Simulation*, held in Kyoto, Japan, September 8-10, 2005.

Member, NSF panel on CAREER awards, October 25-26, 2007.

Co-Editor, *Advances in measurement and modeling of soil behavior, Proceedings*, edited by DeGroot, D.J., Vipulanandan, C., Yamamuro, J.A., Kaliakin, V.N., Lade, P.V., Zeghal, M., El Shamy, U., Lu, N., Song, C.R., ASCE Geotechnical Special Publications 173, (2007), papers presented at GeoDenver 2007: New peaks in geotechnics, Denver, CO, February 18-21, 2007.

Member, NSF panel on GOALI: Probabilistic Geomechanical Analysis in the Exploitation of Unconventional Resources, December 15-16, 2009.

Member, NSF panel on IDR Mechanics & Materials, February 18-19, 2010.

Member, NSF panel on Geomechanics II, May 25, 2010.

Member, NSF panel on CAREER FY12, November 3-4, 2011.

Member, NSF panel on Geomechanics, February 20-21, 2014.

Participant, NASA materialsLAB Workshop, Crystal City, VA, April 15-16, 2014.



## CONFERENCE ACTIVITIES

### Reviewer of Conference Papers:

IX Int. Conf. on Soil Mechanics & Foundation Engineering (1976)  
ASCE Geotechnical Engineering Div. Specialty Conf. on Earthquake Engineering and Soil Dynamics (1978)  
18th Int. Congress on Theoretical and Applied Mechanics (Feb 1992)  
Member Publications Committee, ASCE Specialty Conference: Settlement 94 - Vertical and Horizontal Deformations of Foundations and Embankments, handled ten paper reviews for the proceedings.

### Session Chairmanships at:

8th U.S. National Congress on Applied Mechanics, UCLA, (1978)  
4th Int. Conf. on Numerical Methods in Geomechanics, Edmonton, Canada (1982)  
Int. Conf. on Constitutive Laws for Engr. Materials: Theory and Application, Tucson, Arizona (1983)  
5th ASCE-EMD Conf. on Engineering Mechanics in Civil Engineering, Laramie, Wyoming, (1984)  
5th International Conference on Numerical Methods in Geomechanics, Constitutive Laws of Geological Materials and Interfaces, Nagoya, Japan, (April 1985)  
3rd International Symposium in Numerical Models in Geomechanics, First Keynote Lecture, Niagara Falls, Ontario, Canada (May 1989)  
3rd International Symposium on Numerical Models in Geomechanics, Session A: Constitutive Relations, Niagara Falls, Ontario, Canada (May 1989)  
International Conference on Micromechanics of Failure of Quasi-Brittle Materials, Session 4: Micromechanics of Geological Materials, Albuquerque, New Mexico (June 1990)  
Third International Conference on Constitutive Laws for Engineering Materials: Theory and Practice, (IMPL4): Implementation and Evaluation, Tucson, Arizona (Jan 1991)  
Fourth International Symposium on Numerical Models in Geomechanics, (VIII A): Strain Localization, Swansea, Wales (Aug 1992)  
9th Nordic Seminar on Computational Mechanics, The Technical University of Denmark, Lyngby, Denmark (Oct 1996)  
Sixth International Symposium on Numerical Models in Geomechanics - NUMOG VI, Montreal, Quebec, Canada (Jul 1997)  
12th Engineering Mechanics Conference, ASCE, La Jolla, California (May 1998)  
Thirteenth U.S. National Congress of Applied Mechanics, University of Florida, Gainesville, Florida (June 1998)  
13th Engineering Mechanics Conference, ASCE, Johns Hopkins University, Baltimore, Maryland (June 1999)  
3rd Nordic Meeting on Materials and Mechanics, Session 8: Mechanics of Composites, Rebild Bakker Conference Center, Denmark (May 2000)  
13th Nordic Geotechnical Conference, Session A1: Theory and Research, Helsinki, Finland (June 2000)  
10th International Conference on Computer Methods and Advances in Geomechanics, Tucson, Arizona (January 2001)

- Eighth International Symposium on Numerical Models in Geomechanics NUMOG VIII, Rome, Italy (April 2002)
- First International Japan-U.S. Workshop on Testing, Modeling, and Simulation in Geomechanics, Boston, Massachusetts (June 2003)
- Third International Symposium on Deformation Characteristics of Geomaterials, IS Lyon 2003, Lyon, France (September 2003)
- 17<sup>th</sup> ASCE Engineering Mechanics Division Conference, University of Delaware, Newark, Delaware (June 2004)
- Ninth International Symposium on Numerical Models in Geomechanics, NUMOG IX, Ottawa, Canada (August 2004)
- PLASTICITY '05: The 11<sup>th</sup> Symposium on Plasticity and its Current Applications: Dislocations, Plasticity, Damage and Metal Forming: Material Response and Multiscale Modeling, Kauai, Hawaii (January 2005)
- 16<sup>th</sup> International Conference on Soil Mechanics and Geotechnical Engineering, Osaka, Japan, (September 2005)
- Geo-Denver 2007 – New Peaks in Geotechnics, Denver, Colorado (February 2007)
- Tenth International Symposium on Numerical Models in Geomechanics, NUMOG X, Rhodes, Greece (April 2007)
- GeoFlorida 2010 – Advances in Analysis, Modeling & Design, West Palm Beach, Florida, February 20-24, 2010
- Geo-Congress 2012 – State of the Art and Practice in Geotechnical Engineering, Oakland, California, March 25-29, 2012

**Moderator of Panel Discussion** on “Constitutive Models: Tools for Advanced Analysis of Geotechnical Problems” at GeoFlorida 2010 – Advances in Analysis, Modeling & Design, West Palm Beach, Florida, February 20-24, 2010

**CONSULTING ACTIVITIES**

Fugro Inc., Long Beach, CA (Jan 1974 - Apr 1974)

Converse, Davis and Dixon, Pasadena, CA (Dec 1975 - Mar 1976)

U.S. Army Corps of Engineers, Vicksburg, MS (Dec 1975 - May 1976)

U.S. Naval Civil Engineering Laboratory, Port Hueneme, CA (Dec 1976 - Apr 1977)

Engineering Systems International, Paris, France (Dec 1977)

Systems, Science, and Software, La Jolla, CA (Feb 1978 - Apr 1982)

Association of Scientific Advisors, UCLA, CA (Feb 1978 - Jun 1987)

Hardee Barovick Konechy & Braun, Attorneys, Beverly Hills, CA (Mar 1978 - May 1978)

Converse, Ward, Davis Dixon, Anaheim, CA (Feb 1979 - Jun 1979)

Dames & Moore, Westwood, CA (Sep 1980 - Dec 1980)

Higgs, Fletcher & Mack, Lawyers, San Diego, CA (Oct 1980 - Feb 1981)

Lewis, D'Amato, Brisbois & Bisgaard, Lawyers, Los Angeles, CA (Dec 1980 - Jan 1984)

Geotechnical Consultants, Inc., Los Angeles, CA (Feb 1981)

DOWL Engineers, Anchorage, Alaska (Mar 1981 - Oct 1981)

U.S. Naval Civil Engineering Laboratory, Port Hueneme, CA (Sep 1981 - Mar 1982)

Kovacs-Byer and Associates, Inc., Los Angeles, CA (Dec 1981 - Jan 1982)

ANCO Engineers, Culver City, CA (Dec 1981 - May 1984)

Applied Theory, Inc., Los Angeles, CA (Jan 1982 - Oct 1983)

S-Cubed, La Jolla, CA (May 1982 - Apr 1983)

Dames & Moore, Los Angeles, CA (May 1982 Jul 1983)

Lockwood - Singh and Associates, Inc., Culver City, CA (Jun 1982 - May 1988)

DOWL Engineers, Anchorage, Alaska (Nov 1983 - Oct 1984)

California Research and Technology, Chatsworth, CA (Oct 1984 - Mar 1988)

U.S. Army Corps of Engineers, WES, Vicksburg, MS (May 1985 - Aug 1985)

Poul V. Lade - Curriculum Vitae

Exxon Production Research Company, Houston, TX (Aug 1985 - Aug 1986)

Ben C. Gerwick, Inc., San Francisco, CA (Jul 1986 - Aug 1986)

Exxon Production Research Company, Houston, TX (Jun 1987 - Jul 1991)

U.S. Army Corps of Engineers, WES, Vicksburg, MS (Oct 1988 - Sep 1990)

LeRoy Crandall and Associates, Los Angeles, CA (Apr 1989 - June 1993)

Shell Development Company, Houston, TX (Oct 1990)

Measurement Analysis Corporation, Torrance, CA (Feb 1992 - June 1993)

Slosson and Associates, Van Nuys, CA (Mar 1997 - Nov 1997)

Sandia National Laboratories, Albuquerque, NM (Nov 1997 - Nov 1998)

Joint Chalk Research Project, Stavanger, Norway (February 2003-Dec 2004)

## **COURSES TAUGHT**

### **University of California, Los Angeles**

E108	Mechanics of Deformable Solids
E157	Mechanics and Structures Laboratory
E185A	Principles of Soil Mechanics
E185B	Design of Foundations and Earth Structures (From 1982)
E185B	Soil Mechanics - Laboratory Practices (Until 1982)
E185L	Soil Mechanics Laboratory (From 1982)
E199F	Special Studies (individually advised undergraduate student projects)
E285A	Shcar Strength of Soil and Stability of Slopes
E285B	Foundation Engineering
F285D	Earth Pressures and Earth Retaining Structures
E285E	Seminar on Advanced Topics in Soil Mechanics
E285L	Advanced Soil Mechanics Laboratory
F289L	Current Topics in Civil Engineering
E597A	Preparation for M.S. Comprehensive Examination
E597B	Preparation for Ph.D. Preliminary Examination
E597C	Preparation for Ph-D. Oral Qualifying Examination
E598	Research for and Preparation of the Master's Thesis
E599	Research for and Preparation of the Doctoral Dissertation

### **Johns Hopkins University**

560.305 - Soil Mechanics  
560.330 - Foundation Design  
560.485 - Stress-Strain Behavior of Soils  
560.525 - Independent Study in Civil Engineering  
560.746 - Constitutive Modeling of Frictional Materials  
560.748 - Seepage and Slope Stability  
560.835 - Graduate Research in Civil Engineering

### **Aalborg University**

Stress-Strain Behavior of Soils  
Constitutive Modeling of Frictional Materials  
Graduate Research in Civil Engineering

### **The Catholic University of America**

ENGR 201 - Engineering Mechanics I (Statics)  
ENGR 301 – Mechanics of Solids  
CE 366 – Introduction to Soil Mechanics  
CE 367 – Soil Testing for Engineers  
CE 468 - Foundation Engineering  
CE 504 – Stress-Strain Behavior of Soils  
CE 562 – Seepage and Slope Stability  
CE 604 – Constitutive Modeling of Frictional Materials  
CE 615 – Soil Dynamics and Geotechnical Earthquake Engineering

**PH.D. COMMITTEE CHAIRMANSHIPS**

Boonyachut, Sutja: "Experimental Study of the Behavior of Cohesionless Soil During Stress Reversals,"

University of California, Los Angeles (Dec 1976)

Kim, Moon Kyum: "A Study of Constitutive Models for Frictional Materials,"

University of California, Los Angeles (Dec 1984)

Tsai, Jamie I.: "Three-Dimensional Behavior of Remolded Overconsolidated Clay,"

University of California, Los Angeles (Jun 1985)

Kirkgard, Mark M.: "An Experimental Study of the Three-Dimensional Behavior of Natural Normally Consolidated Anisotropic Clay,"

University of California, Los Angeles (Jun 1988)

Mazen, Asaad: "Plastic Flow Behavior of Powder Metallurgy (P/M) Porous Metals,"

University of California, Los Angeles (Jun 1989)

Chamieh, Naji S.: "Experimental Investigation of the Behavior and Stability of Granular Soils at High Pressures,"

University of California, Los Angeles (Dec 1990)

Inel, Sinan: "Kinematic Hardening Model for Sand Behavior During Large Stress Reversals,"

University of California, Los Angeles (Jun 1992)

Yamamuro, Jerry A.: "Instability and Behavior of Granular Materials Under High Pressures,"

University of California, Los Angeles (Mar 1993)

Liu, Chi-Tseng (Ted): "Experimental Study of Creep Behavior of Granular Material,"

University of California, Los Angeles (Jun 1994)

Bopp, Paul Andrew: "The Effect of Initial Relative Density on Instability and Behavior of Granular Materials at High Pressure,"

University of California, Los Angeles (Dec 1994)

Wang, Qiong: "Experimental Study of Necking, Shear Banding, and Failure of Granular Materials Under Three-Dimensional Stress Conditions,"

Johns Hopkins University (May 1999)

deMelo, Lucas T.B.: "Investigation of a Rotational Kinematic Hardening Model for Granular Materials,"

Johns Hopkins University (June 1999)

Liggio, Carl D., Jr.: "Influence of Imposed Volume Changes and Time Effects on Instability of Granular Materials,"

Johns Hopkins University (October 2000)

- Abelev, Andrei V.: “Cross-Anisotropic Behavior of Granular Materials Under Three-Dimensional Loading Conditions,”  
Johns Hopkins University (October 2001)
- Thøgersen, Lotte: “Effects of Experimental Techniques and Osmotic Pressure on the Measured Behaviour of Tertiary Expansive Clay”  
Aalborg University (March 2001)
- Feld, Tove: “Suction Buckets, a New Innovative Foundation Concept, Applied to Offshore Wind Turbines”  
Aalborg University (April 2001)
- Niels Trads: “Experimental Study and Modeling of the Mechanical Behavior of Cross-Anisotropic Sandstone”  
The Catholic University of America (May 2010)
- Hamid Karimpour: “Time Effects and Their Relation to Crushing in Sand”  
The Catholic University of America (January 2012)
- Nina Rodriguez: “Experimental Study of 3D Failure Surface for Cross-Anisotropic Sand Deposits during Stress Rotation”  
The Catholic University of America (May 2012)
- Gene Van Dyck: “Effects of Principal Stress Direction and the Intermediate Principal Stress on the Stress-Strain-Strength Behavior of a Cross-Anisotropic Fine Sand Deposit”  
The Catholic University of America (May 2012)
- Anthony Chuka Konwea: “Experimental Study of the Effect of Grain Size and Grain Size Distribution Curve on Creep and Stress Relaxation in a Beach Sand”  
The Catholic University of America (December 2015)

**PH.D. AND M.S. THESES - EXTERNAL EXAMINER**

- Y. Ozawa: "Elasto-Plastic Finite Element Analysis of Soil Deformation,"  
Ph.D., University of California, Berkeley, (Chairman: J.M. Duncan) 1973.
- K.S. Wong: "Elasto-Plastic Finite Element Analyses of Passive Earth Pressure Tests,"  
Ph.D., University of California, Berkeley, (Chairman: J.M. Duncan) 1977.
- Y.K. Chin: "Elasto-Plastic Finite Element Analysis in Foundation Engineering,"  
M.S., Manchester Univ., England (Chairman: I. Smith) 1980.
- M.B. Szymanski: "A Frictional Theory of Plasticity for Granular Materials,"  
Ph.D., Carleton Univ., Canada (Chairman: A.P.S. Selvadurai) 1980.
- E. Evgin: "Evaluation of an Elasto-Plastic Model,"  
Ph.D., University of Alberta, Canada (Chairman: Z. Eisenstein) 1981.
- A.-M. O. Mohamed: "The Behavior of Anisotropic Clay Under a Complex State of Stress,"  
M. Eng., McGill University, Montreal, Canada, (Chairman: R.N. Yong) 1983.
- C. Anantasech: "Stress - Deformation and Strength of Soft Alluvial Clay,"  
Ph.D., Monash University, Clayton, Victoria, Australia, (Chairman: Ian B. Donald)  
1984
- Y. Shin: "A Stress-Strain Model for Soils and Its Application to Foundation Analysis,"  
Ph.D., University of Sydney, Sydney, N.S.W., Australia (Chairman: John C. Small)  
1986.
- A.S.F. Sayao: "Behavior of Sand Under General Stress Paths in the Hollow Cylinder  
Torsional Device,"  
Ph.D., The University of British Columbia, Vancouver, B.C. (Chairman: Y.P. Vaid)  
1989.
- D. Wijewickreme: "Behavior of Sand Under Simultaneous Increase in Stress Ratio and  
Rotation of Principal Stresses,"  
Ph.D., The University of British Columbia, Vancouver, B.C. (Chairman: Y.P. Vaid)  
1990.
- Jian Chu: "Strain Softening Behaviour of Granular Soils under Strain Path Testing,"  
Ph.D., The University of New South Wales, Australian Defence Force Academy,  
Canberra, ACT, Australia (Chairman: I.K. Lee) 1991.
- Stephen M. Watry: "Shear Strength of Bentonite from the Toe of the Portuguese Bend  
Landslide, Palos Verdes Peninsula, Los Angeles County, California"  
M.S., California State University, Los Angeles (Chairman: P.L. Ehlig) 1992.
- S.Sasitharan: "Collapse Behavior of Very Loose Sand",  
Ph.D., University of Alberta, Edmonton, Alberta, Canada (Advisor: Prof.  
N. Morgenstern) 1993.



- M. Uthayakumar: "Liquefaction of Sands Under Multi-Axial Loading"  
Ph.D., University of British Columbia, Vancouver (Advisor: Prof. Y.P. Vaid) 1995.
- J.T. Huang: "The Effects of Density and Cementation on Cemented Sands"  
Ph.D., University of Sydney, Australia (Advisor: Prof. D.W. Airey) 1995.
- N.P. Kaushik: "Performance of Compacted Ash and Sand Fills Under Load"  
Ph.D., University of Roorkee, India (Advisor: G. Ramasamy) 2002.
- Doru C. Bobei: "Static Liquefaction of Sand with a Small Amount of Fines,"  
Ph.D., The University of New South Wales, Australian Defence Force Academy,  
Canberra, ACT, Australia (Chairman: S.-C. R. Lo) 2004.
- Md. Mizanur Rahman: "Modelling the influence of fines on liquefactions behaviour," Ph.D.,  
The University of New South Wales, Australian Defence Force Academy, Canberra,  
ACT, Australia (Chairman: S.-C. R. Lo) 2009.
- Mehmet Murat Monkul: "Influence of silt size and content on static liquefaction potential of  
sand," Oregon State University, Corvallis, Oregon (Chairman: Jerry A. Yamamuro)  
2010.
- Pongpipat Anantanasakul: "Three Dimensional Experiments and Modeling of Anisotropic  
Clay," Oregon State University, Corvallis, Oregon (Chairman: Jerry A. Yamamuro)  
2010.
- Md. Abdul Lahil Baki: "Cyclic liquefaction behavior of granular materials with fines," The  
University of New South Wales, Australian Defence Force Academy, Canberra, ACT,  
Australia (Chairman: S.-C. R. Lo) 2011.

## **POST-DOCTORAL SCHOLARS AND VISITING PROFESSORS**

### **University of California, Los angeles**

- Ochiai, Hidetoshi (Associate Professor: Nagasaki University, Japan)  
Visiting Scholar (Aug 1981 - Apr 1982)
- Davies, Michael C.R. (Lecturer: University College, Cardiff, Wales)  
Post-Doctoral Scholar (Mar 1982 - Apr 1983)
- Hicher, Pierre Yves (Assistant Professor: Ecole Centrale des Arts et Manufactures, Paris,  
France) Visiting Scholar (Jan 1983 - Nov 1983)
- Hong, Won Pyo (Associate Professor: Chung-Ang University, Seoul, Korea)  
Visiting Scholar (Jun 1985 - Feb 1987)
- Huang, Gang (Wuhan Inst. of Hyd. & Elect. Engr., Peoples Rep. of China)  
Staff Research Associate (Nov 1986 - Sep 1987)

Jeong, Jin Seob (Associate Professor: Won Kwang University, Iri City, Korea)  
Visiting Scholar (Sep 1987 - Aug 1988)

Xu, Riging (Xian Inst. of Highways, People's Rep. of China)  
Staff Research Associate (Sep 1987 - Sep 1988)

Pradel, Daniel (University of Tokyo, Japan)  
Post-Doctoral Scholar (Jan 1988 - Dec 1989)

Prabucki, Marc-Joachim (Ruhr University, Bochum, West Germany)  
Post-Doctoral Scholar (Apr 1989 - Aug 1990)

de Boer, Reint (o. Professor: University of Essen, Germany)  
Visiting Scholar (Oct 1990 - Apr 1991)

Lo, Sik-Cheung Robert (Senior Lecturer: University of New South Wales, Australia)  
Post-Doctoral Scholar (Dec 1990 - Mar 1991)

Liu, Fengyu (Hohai University, Nanjing, People's Rep. of China)  
Staff Research Associate (Jan 1991 - Jun 1992)

Labanieh, Safwan (Associate Professor: University of Joseph Fourier, Grenoble, France)  
Visiting Scholar (Sep 1991 - Aug 1992)

Steensen-Bach, Jens Ole (Research Engineer: Danish Geotechnical Institute, Lyngby,  
Denmark) Post-Doctoral Scholar (Sep 1991 - Sep 1992)

Nam, Jungman (Chung-Ang University, Seoul, Korea)  
Staff Research Associate (Mar 1992 - June 1993)

Yamamuro, Jerry A. (University of California, Los Angeles, CA)  
Post-Doctoral Scholar (Apr 1993 - Jun 1993)

### **Johns Hopkins University**

Yamamuro, Jerry A. (University of California, Los Angeles, CA)  
Post-Doctoral Scholar (Jul 1993 - Jun 1995)

Lo, Sik-Cheung Robert (Senior Lecturer: University of New South Wales, Australia)  
Visiting Professor (Jan 1996 - Apr 1996)

Jeong, Jin Seob (Professor: Won Kwang University, Iksan City, Korea)  
Visiting Professor (Jan 1996 - Jan 1997)

Hartl, Helmut (Technischen Universität Graz, Austria)  
Visiting Exchange Student (Jan 1997 - Jun 1997)

Ibsen, Lars Bo (Department of Civil Engineering, Aalborg University, Denmark)  
Visiting Assistant Professor (Jul 1997 - Jul 1998)

Praastrup, Ulrik (Department of Civil Engineering, Aalborg University, Denmark)  
Visiting Scholar (Oct 1997 - May 1998)

Nam, Jungman (Department of Civil Engineering, Cheju National University, Cheju, Korea)  
Visiting Scholar (August 1998 - July 1999)

**The Catholic University of America**

Ucak, Alper (The Catholic University of America)  
Post-Doctoral Scholar (September 1, 2009 – 2015)

## **RESEARCH FUNDING**

### **University of California, Los angeles**

Research Initiation Grant for Study of the "Influence of the Intermediate Principal Stress on the Stress-Strain, Pore Pressure, and Strength Characteristics of Cohesive Soils,"  
National Science Foundation, 04/73 - 03/75

"The influence of Strain Conditions on Failure in Cohesive Soils,"  
Academic Senate, UCLA, 07/73 - 06/74

"Travel Grant,"  
European Research Office of the Army Corps of Engineers, 09/73

"Membrane Penetration and Pore Pressures in Triaxial Tests,"  
Academic Senate, UCLA, 07/74 - 06/75

"Travel Grant,"  
Academic Senate, UCLA, 11/74

"Post Beak Behavior of Cohesionless Soil,"  
Academic Senate, UCLA, 07/75 - 06/76

"Stress-Strain Behavior of Cohesionless Soil During Unloading and Reloading,"  
National Science Foundation, 10/75 - 09/77

"Influence Zones for Thrust Faulting,"  
Academic Senate, UCLA, 07/76 - 06/77

"Cost of living and Travel Grant,"  
German Academic Exchange Service, West Germany, \$1000, 06/77 - 07/77

"Base Friction Model in Soil Mechanics,"  
Academic Senate, UCLA, 07/77 - 06/78

"Cyclic Loading Effects in Foundation Soils for Offshore Structures,"  
American Petroleum Institute, 03/78 - 07/78

"Influence of Overconsolidation on Behavior of Sand,"  
Academic Senate, UCLA, 07/78 - 06/79

"Behavior and Modeling of Overconsolidated and Anisotropic Normally Consolidated Clay,"  
National Science Foundation, 03/79 - 10/82

"Travel Grant for present paper at 3rd Int. Conf. on Numerical Methods in Geomechanics,  
Aachen, West Germany, "  
Academic Senate, UCLA, 04/79

"Travel Grant for Study Visit to Ruhr Universitat, Bochum,"

Poul V. Lade - Curriculum Vitae

Deutsche Forschungs-Gemeinschaft, West Germany, 07/79 - 08/79

Visiting Professorship in "Bodenmechanik und Bodenphysik,"  
Ruhr-Universität, Bochum, West Germany, 07/79 - 08/79

"Fellowship in Soil Mechanics,"  
Cambridge University, England, 09/79 - 06/80

"Travel Grant to Present Predictions at Workshop on Plasticity Theory at McGill Univ.  
Montreal, Canada," NSF/NSERC, 05/80

"Grant for Travel, Room and Board to Present Lecture at Trondheim, Norway,"  
Norwegian Institute of Technology, Trondheim, Norway, 06/80

"Shear Strength of Superficial Soils,"  
Academic Senate, UCLA, 07/81 - 06/82

"Behavior and Modeling of Natural Anisotropic Normally Consolidated Clay,"  
National Science Foundation, 11/82 - 10/85

"Stress-Path Dependency under Plane Strain Conditions,"  
Academic Senate, UCLA, 07/83 - 06/84

"Effects of Localization on Strength of Cross-Anisotropic Sand,"  
Academic Senate, UCLA, 07/84 - 06/85

"Combined Experimental and Numerical Investigation of Inelastic Behavior of Frictional  
Geologic Materials," Air Force Office of Scientific Research, 07/86 - 07/88 (Co-P.I.:  
R.B. Nelson)

Proportional Unloading of Soils,"  
Academic Senate, UCLA, 07/87 - 06/30/88

"Post-Peak Plastic Yield Surfaces for Soils,"  
Academic Senate, UCLA, 07/88 - 06/30/89

"Contours of Equal Plastic Working During Softening of Soils,"  
Academic Senate, UCLA, 07/89 - 06/90

"Engineering Research Equipment Grant: Upgrade to a Dynamic Soil Testing Apparatus,"  
National Science Foundation, 12/89 - 11/91

"Effect of Particle Crushing on the Behavior of Granular Materials,"  
Academic Senate, UCLA, 07/90 - 06/91

"Experimental Study of Nonassociated Flow and Instability of Frictional Materials,"  
Air Force Office of Scientific Research, 12/90 - 12/92

"Strength of Soil in Extension,"  
Academic Senate, UCLA, 07/91 - 06/92

**Johns Hopkins University**

- “U.S. - Korea Cooperative Research: Soil Behavior in Torsion Shear tests,”  
National Science Foundation, 10/93 - 06/95
- "Kinematic Hardening Model for Sand and Clay,"  
National Science Foundation, 09/93 - 12/95
- "Experimental Study of Factors Controlling Instability of Frictional Materials,"  
Air Force Office of Scientific Research, 11/93 - 10/96
- “New Method of Experimentation and Constitutive Modeling Using Neural Network,”  
National Science Foundation, 06/95 - 05/98
- “Experiments and Modeling of High Strain rate Effects in Sands and Clays,”  
Air Force Office of Scientific Research, 11/97 - 10/98
- “Research Experience for Undergraduates,”  
National Science Foundation, 04/98 - 05/99

**Aalborg University**

- “Shear Banding and Time Effects in Granular Materials,”  
Danish Research Agency, 05/00 - 04/04

**The Catholic University of America**

- “Experimental Investigation of Stress Rotation Effects in Soils,” Small Grant for Exploratory Research (SGER), National Science Foundation, PI: P.V. Lade, 03/04 – 02/07.
- “Research Experience for Undergraduates,”  
National Science Foundation, 03/04 – 02/07.
- “Instability of Geological Materials Under Three-Dimensional Stress Conditions,” American Chemical Society (The Petroleum Research Fund). PI: P.V. Lade, 05/04 – 04/09.
- “Experimental Study of Stress Rotation Effects in Cross-Anisotropic Sand,” National Science Foundation, PI: P.V. Lade, 05/08-04/12.
- “Simulation of Cyclic Response of HY-80 Steel,” General Dynamics Electric Boat Corporation, PI: P.V. Lade, 09/09-07/10.
- “Experimental Determination and Constitutive Modeling of Time Effects in Sand,” National Science Foundation, PI: P.V. Lade, 09/11-08/15.

**COMMITTEE SERVICE AND OTHER ACTIVITIES WITHIN THE UNIVERSITY**

**University of California, Los Angeles**

Undergraduate Programs Committee, Mechanics and Structures Department (1973-1974)

Member, Ph.D. Committee in Soil Mechanics (1973-1993)

Faculty Adviser, ASCE Student Chapter (1974-1977)

Ad Hoc Committee for Selection of TA, RA and Fellowship Recipients (1975)

Member, Merit Increase Committee, Mechanics and Structures Department (1976)

Chairman, Ph.D. Committee in Soil Mechanics (1978-1979)

Member, Search Committee for Faculty Member in Soil Mechanics (1978-1979)

Chairman, Search Committee for Faculty Member in Soil Mechanics (1980-1981)

Member, Departmental Review Committee for Promotion of Faculty Member to Associate Professor (1980-1981)

Elected to the SEAS Legislative Assembly, Two-Year Term, Representing the Mechanics and Structures Department (1980-1982)

Member, Laboratory Development Committee (1980-1982)

Member, Mechanics & Structures Executive Committee (1980-1982)

Member, Ph.D. Committee in Mechanics of Solids (1980-1983)

Member, Search Committee for Faculty Member in Water Resources (1981-1983)

Chairman, Ad Hoc Review Committee for Promotion of Faculty Member from Associate Professor to Full Professor (1982-1983)

Chairman, Ph.D. Committee in Soil Mechanics (1982-1985)

Chairman, Search Committee for Faculty Member in Soil Mechanics (1983-1984)

Chairman, Special Committee for Appointment of Adjunct Professor (1983-1984)

Chairman, Merit Increase Committee, Civil Engineering Department (1986-1987)

Member, Ad Hoc Committee for Merit Increase for Faculty Member to Professor, Step VI (1986-1987)

Chairman, Search Committee for Faculty Member in Geotechnical Engineering (1986-1987)

Poul V. Lade - Curriculum Vitae

Chairman, Undergraduate Admissions Committee, Civil Engineering Department (1986-1987)

Member, Computing Committee, Civil Engineering Department (1986-1987)

Member, Courses and Curricula Committee, Civil Engineering Department (1986-1987)

Undergraduate Advisor, Civil Engineering Department (1986-1987)

Chairman, Ph.D. Committee in Soil Mechanics (1986-1988)

Elected to the SEAS Legislative Assembly, Two-Year Term, Representing the Civil Engineering Department (1986-1988)

Member, Laboratory Equipment Committee, Civil Engineering Department (1986-1989)

Chairman, Merit Increase Committee, Civil Engineering Department (1988-1989)

Chairman, Ph.D. Committee in Geotechnical Engineering (1988-1990)

Graduate Advisor, Civil Engineering Department (1988-1991)

Undergraduate Advisor, Civil Engineering Department (1988-1991)

Chairman, Ad Hoc Committee for Promotion of Faculty Member from Associate Professor to Full Professor (1990)

Member, Merit Increase Committee, Civil Engineering Department (1990-1991)

Member, Ph.D. Committee in Geotechnical Engineering (1990-1993)

Member, Search Committee for Faculty Member in Structures (1991-1992)

Member, Search Committee for Faculty Member in Water Resources (1991-1992)

Member, Two Ad Hoc Committees for Merit Increase for Faculty Members to Professor, Step VI (1991-1992)

Member, Awards Committee, Civil Engineering Department (1992-1993)

Member, Courses and Curriculum Committee, Civil Engineering Department (1992-1993)

Member, Merit Increase Committee, Civil Engineering Department (1992-1993)

Member, Planning Committee, Civil Engineering Department (1992-1993)



**Johns Hopkins University**

Member, M.S. Eisenhower Library Advisory Committee (1993-1999)

Faculty Advisor, ASCE Student Chapter (1993-1996)

Member, Ad Hoc Promotion Committee (1994-1995)

Member, Ad Hoc Promotion Committee (1995-1996)

Member, several Departmental Qualifying Examination Committees and several Graduate Board Oral Examination Committees (1993-1999)

Member, two Ad Hoc Promotion Committees (1996-1997)

Member, Dean's Search Committee, Whiting School of Engineering (1997-1998)

Member, two Ad Hoc Promotion Committees (1997-1998)

Member, Ad Hoc Promotion Committee (1998-1999)

**Aalborg University**

Member, Dean of Engineering's Faculty Advisory Committee (2001-2003)

Chair, Ad Hoc Committee for Promotion of Faculty Member to Full Professor (2000-2001)

Member, Ad Hoc Promotion Committee, The Technical University of Denmark, Lyngby (2001)

**The Catholic University of America**

Member, The Executive Committee of the School of Engineering (2003-2009)

Member, Committee for Advancement and Promotion, The School of Engineering (2003-2006, 2007-2010)

Alternate Member, Committee for Advancement and Promotion, The School of Engineering (2012-2015)

Director, program in Construction Engineering and Management (2003 - 2004)

Chair, Search Committee for a faculty position in Construction Engineering and Management (2003-2004)

Member, Search Committee for faculty positions in Biomedical Engineering (2004)

Co-Organizer, ASCE National Concrete Canoe Competition, held at CUA (June 17-20, 2004)

Poul V. Lade - Curriculum Vitae

Chair, Search Committee for faculty position in Structures (2006-2007)

Chair, Search Committee for faculty position in Environmental Engineering (2007-2008)

Member, Search Committee for faculty position in Mechanical Engineering (2007-2008 and 2008-2009)

Alternate Member, Senate Committee for Advancement and Promotion, The Catholic University of America (2008-2011)

Member, Senate Committee for Advancement and Promotion, The Catholic University of America (2011-2014)

Member, Honorary Degrees Committee, The Catholic University of America (2011-2015)

## PUBLICATIONS IN CHRONOLOGICAL ORDER

### Papers Published in Professional and Scholarly Journals

1. Lade, P.V. and Duncan, J.M., "Cubical Triaxial Tests on Cohesionless Soil," *Journal of the Soil Mechanics and Foundations Division*, ASCE, Vol. 99, No. SM10, Proc. Paper 10057, October 1973, pp. 793-812.
2. Lade, P.V. and Duncan, J.M., "Elastoplastic Stress-Strain Theory for Cohesionless Soil," *Journal of the Geotechnical Engineering Division*, ASCE, Vol. 101, No. GT10, Proc. Paper 11670, October 1975, pp. 1037-1053.
3. Hurlburt, G.H., Crow, S.C. and Lade, P.V., "Experiments in Hydraulic Rock Cutting," *International Journal for Rock Mechanics and Mining Sciences & Geomechanics Abstracts*, Vol. 12, Pergamon Press, 1975, pp. 203-212.
4. Lade, P.V. and Duncan, J.M., "Stress-Path Dependent Behavior of Cohesionless Soil," *Journal of the Geotechnical Engineering Division*, ASCE, Vol. 102, No. GT1, Proc. Paper 11841, January 1976, pp. 51-68.
5. Lade, P.V. and Nejadi-Babadai, H., "Soil Drying by Microwave Oven," *Soil Specimen Preparation for Laboratory Testing*, ASTM STP 599, American Society for Testing and Materials, 1976, pp. 320-340.
6. Lade, P.V. and Hernandez, S.B., "Membrane Penetration Effects in Undrained Tests," *Journal of the Geotechnical Engineering Division*, ASCE, Vol. 103, No. GT2, February 1977, pp. 109-125.
7. Lade, P.V., "Elasto-Plastic Stress-Strain Theory for Cohesionless Soil with Curved Yield Surfaces," *International Journal of Solids and Structures*, Pergamon Press, Vol. 13, November 1977, pp. 1019-1035.
8. Lade, P.V. and Musante, H.M., "Three-Dimensional Behavior of Remolded Clay," *Journal of the Geotechnical Engineering Division*, ASCE, Vol. 104, No. GT2, Proc. Paper 13551, February 1978, pp. 193-209.
9. Lade, P.V., "Prediction of Undrained Behavior of Sand," *Journal of the Geotechnical Engineering Division*, ASCE, Vol. 104, No. GT6, Proceedings Paper 13834, June 1978, pp. 721-735.
10. Lade, P.V., "Cubical Triaxial Apparatus for Soil Testing," *Geotechnical Testing Journal*, GTJODJ, Vol. 1, No. 2, June 1978, pp. 93-101.
11. Lade, P.V., "Predictions of Stress-Strain Behavior for Ottawa Sand" *Limit Equilibrium, Plasticity and Generalized Stress-Strain in Geotechnical Engineering*, R.N. Yong and H.-Y. Ko, Eds., McGill Univ., Montreal, Canada, May 1980, pp. 352-363.

12. Lade, P.V., "Elasto-Plastic Stress-Strain Model for Sand," *Limit Equilibrium, Plasticity and Generalized Stress-Strain in Geotechnical Engineering*, R.N. Yong and H.-Y. Ko, Eds., McGill Univ., Montreal, Canada, May 1980, pp. 628-648.
13. Lade, P.V., "Torsion Shear Apparatus for Soil Testing," *Laboratory Shear Strength of Soil, ASTM STP 740*, R.N. Yong and F.C. Townsend, Eds., American Society for Testing and Materials, 1981, pp. 145-163.
14. Anderson, J.N. and Lade, P.V., "The Expansion Index Test," *Geotechnical Testing Journal*, GTJODJ, Vol. 4, No. 2, June 1981, pp. 58-67.
15. Lade, P.V., "Three-Parameter Failure Criterion for Concrete," *Journal of the Engineering Mechanics Division*, ASCE, Vol. 108, No. EM5, Proc. Paper 17383, October 1982, pp. 850-863.
16. Ochiai, H. and Lade, P.V., "Three-Dimensional Behavior of Sand with Anisotropic Fabric," *Journal of Geotechnical Engineering*, ASCE, Vol. 109, No. GT10, October 1983, pp. 1313-1328.
17. Kim, M.K. and Lade, P.V., "Modeling of Rock Strength in Three Dimensions" *International Journal of Rock Mechanics and Mining Sciences & Geomechanics Abstracts*, Vol. 21, No. 1, 1984, pp. 21-33.
18. Cole, D.A., Jr. and Lade, P.V., "Influence Zones in Alluvium Over Dip-Slip Faults," *Journal of Geotechnical Engineering*, ASCE, Vol. 110, No. GT5, Proc. Paper 18788, May 1984, pp. 599-615.
19. Lade, P.V., Cole, D.A., Jr. and Cummings, D., "Multiple Failure Surfaces Over Dip-Slip Faults," *Journal of Geotechnical Engineering*, ASCE, Vol. 110, No. GT5, Proc. Paper 18789, May 1984, pp. 616-627.
20. Lade, P.V. and Nelson, R.B., "Incrementalization Procedure for Elasto-Plastic Constitutive Law with Multiple, Intersecting Yield Surfaces," *International Journal for Numerical and Analytical Methods in Geomechanics*, Wiley, Vol. 8, No. 4, July-August 1984, pp. 311-323.
21. Hicher, P.-Y., and Lade, P.V., "Rotation of Principal Directions in  $K_0$  - Consolidated Clay," *Journal of Geotechnical Engineering*, ASCE, Vol. 113, No. 7, July 1987, pp. 774-788.
22. Lade, P.V. and Nelson, R.B. "Modelling the Elastic Behavior of Granular Materials," *International Journal for Numerical and Analytical Methods in Geomechanics*, Wiley, Vol. 11, 1987, pp. 521-542.
23. Lade, P.V., Nelson, R.B. and Ito, Y.M. "Nonassociated Flow and Stability of Granular Materials," *Journal of Engineering Mechanics*, ASCE, Vol. 113, No. 9, September 1987, pp. 1302-1328.

24. Degroff, W., Donaghe, R., Lade, P.V., and LaRochelle, P., "Correction of Strength for Membrane Effects in the Triaxial Test", *Geotechnical Testing Journal*, ASTM, Vol. 11, No. 1, March 1988, pp. 78-82.
25. Lade, P.V., "Effects of Voids and Volume Changes on the Behaviour of Frictional Materials", *International Journal for Numerical and Analytical Methods in Geomechanics*, Wiley, Vol. 12, No. 4, July-August 1988, pp. 351-370.
26. Lade, P.V., Updike, R.G., and Cole, D.A. "Cyclic Triaxial Tests of the Bootlegger Formation, Anchorage, Alaska", *U.S. Geological Survey Bulletin 1825*, 1988, pp. 1-51.
27. Lade, P.V., and Wasif, U., "Effects of Height-to-Diameter Ratio in Triaxial Specimens on the Behavior of Cross-Anisotropic Sand", *Advanced Triaxial Testing of Soil and Rock, ASTM STP 977*, R.T. Donaghe, R.C. Chaney, and M.L. Silver, Eds., American Society for Testing and Materials, Philadelphia, 1988, pp. 706-714.
28. Peters, J.F., Lade, P.V., and Bro, A., "Shear Band Formation in Triaxial and Plane Strain Tests", *Advanced Triaxial Testing of Soil and Rock, ASTM STP 977*, R.T. Donaghe, R.C. Chaney, and M.L. Silver, Eds., American Society for Testing and Materials, Philadelphia, 1988, pp. 604-627.
29. Lade, P.V., "Double Hardening Constitutive Model for Soils, Parameter Determination and Prediction for Two Sands", *Constitutive Equations for Granular Non-Cohesive Soils*, A.S. Saada and G.F. Bianchini, Eds., Balkema, 1989, pp. 367-382.
30. Lade, P.V., "Automatic Volume Change and Pressure Measurement Devices for Triaxial Testing of Soils", *Geotechnical Testing Journal, GTJODJ*, Vol. 11, No. 4, Dec. 1988, pp. 263-268.
31. Lade, P.V., Nelson, R.B., and Ito, Y.M., "Instability of Granular Materials with Nonassociated Flow", *Journal of Engineering Mechanics*, ASCE, Vol. 114, No. 12, Dec. 1988, pp. 2173-2191.
32. Kim, M.K., and Lade, P.V., "Single Hardening Constitutive Model for Frictional Materials, I. Plastic Potential Function", *Computers and Geotechnics*, Elsevier, Vol. 5, No. 4, 1988, pp. 307-324.
33. Lade, P.V., and Kim, M.K., "Single Hardening Constitutive Model for Frictional Materials, II. Yield Criterion and Plastic Work Contours", *Computers and Geotechnics*, Elsevier, Vol. 6, No. 1, 1988, pp. 13-29.
34. Lade, P.V., and Kim, M.K., "Single Hardening Constitutive Model for Frictional Materials, III. Comparisons with Experimental Data", *Computers and Geotechnics*, Elsevier, Vol. 6, No. 1, 1988, pp. 31-47.
35. Lade, P.V., "Experimental observations of stability, instability, and shear planes in granular materials", *Ingenieur-Archiv*, Springer-Verlag, Vol. 59, 1989, pp. 114-123.

36. Hong, W.P., and Lade, P.V., "Elasto-Plastic Behavior of  $K_0$  - Consolidated Clay in Torsion Shear Tests", *Soils and Foundations*, Japanese Society of Soil Mechanics and Foundation Engineering, Vol. 29, No. 2, June 1989, pp. 127-140.
37. Lade, P.V., and D.D. Overton, "Cementation Effects in Frictional Materials", *Journal of Geotechnical Engineering*, ASCE, Vol. 115, No. 10, October 1989, pp. 1373-1387.
38. Hong, W.P., and Lade, P.V., "Strain Increment and Stress Directions in Torsion Shear Tests", *Journal of Geotechnical Engineering*, ASCE, Vol. 115, No. 10, October 1989, pp. 1388-1401.
39. Lade, P.V., "Single Hardening Model with Application to NC Clay", *Journal of Geotechnical Engineering*, ASCE, Vol. 116, No. 3, March 1990, pp. 394-414.
40. Lade, P.V., and Pradel, D., "Instability and Plastic Flow of Soils, I: Experimental Observations", *Journal of Engineering Mechanics*, ASCE, Vol. 116, No. 11, November 1990, pp. 2532-2550.
41. Pradel, D., and Lade, P.V., "Instability and Plastic Flow of Soils, II: Analytical Investigation", *Journal of Engineering Mechanics*, ASCE, Vol. 116, No. 11, November 1990, pp. 2551-2566.
42. Kirkgard, M.M., and Lade, P.V., "Anisotropy of Normally Consolidated San Francisco Bay Mud", *Geotechnical Testing Journal*, GTJODJ ASTM, Vol. 14, No. 3, September 1991, pp. 231-246.
43. Lade, P.V., "Static Instability and Liquefaction of Loose Fine Sandy Slopes", *Journal of Geotechnical Engineering*, ASCE, Vol. 118, No.1, January 1992, pp. 51-71.
44. Lade, P.V., and Yamamuro, J.A., "Stability of Granular Materials in Postpeak Softening Regime", *Journal of Engineering Mechanics*, ASCE, Vol. 119, No. 1, January 1993, pp. 128-144.
45. Yamamuro, J.A., and Lade, P.V., "B-Value Measurements for Granular Materials at High Confining Pressures", *Geotechnical Testing Journal*, ASTM, Vol. 16, No. 2, June 1993, pp. 165-171.
46. Kirkgard, M.M., and Lade, P.V., "Anisotropic Three-Dimensional Behavior of a Normally Consolidated Clay" *Canadian Geotechnical Journal*, Vol. 30, No. 4, September 1993, pp. 848-858.
47. Yamamuro, J.A., and Lade, P.V., "Effects of Strain Rate on Instability of Granular Soils," *Geotechnical Testing Journal*, ASTM, Vol. 16, No. 3, September 1993, pp. 304-313.
48. Lade, P.V., Bopp, P.A., and Peters, J.F., "Instability of dilating sand", *Mechanics of Materials*, Elsevier, Vol. 16, 1993, pp. 249-264.

49. Lade, P.V., "Initiation of static instability in the submarine Nerlerk berm", *Canadian Geotechnical Journal*, Vol. 30, No.5, December 1993, pp. 895-904.
50. Lade, P.V., "Creep Effects on Static and Cyclic Instability of Granular Soils", *Journal of Geotechnical Engineering*, ASCE, Vol. 120, No. 2, February, 1994, pp.404-419.
51. Lade, P.V., "Instability and Liquefaction of Granular Materials", *Computers and Geotechnics*, Vol. 16, 1994, pp. 123-151.
52. Lade, P.V., and Kim, M.K., "Single Hardening Constitutive Model for Soil, Rock and Concrete," *International Journal of Solids and Structures*, Elsevier Science Ltd., Vol. 32, No. 14, 1995, pp. 1963-1978.
53. Yamamuro, J.A., and Lade, P.V., "Strain Localization in Extension Tests on Granular Materials," *Journal of Engineering Mechanics*, ASCE, Vol. 121, No. 7, July, 1995, pp. 828-836.
54. Lade, P.V. and Prabucki, M.-J., "Softening and Preshearing Effects in Sand," *Soils and Foundations*, Japanese Geotechnical Society, Vol. 35, No.4, 1995, pp. 93-104.
55. Yamamuro, J.A. and Lade, P.V., "Drained Sand Behavior in Axisymmetric Tests at High Pressures," *Journal of Geotechnical Engineering*, ASCE, Vol. 122, No. 2, 1996, pp.109-119.
56. Lade, P.V. and Yamamuro, J.A., "Undrained Sand Behavior in Axisymmetric Tests at High Pressures," *Journal of Geotechnical Engineering*, ASCE, Vol. 122, No. 2, 1996, pp.120-129.
57. Yamamuro, J.A., Bopp, P.A., and Lade, P.V., "One-Dimensional Compression of Sands at High Pressures," *Journal of Geotechnical Engineering*, ASCE, Vol. 122, No. 2, 1996, pp.147-154.
58. Lade, P.V., Yamamuro, J.A., and Bopp, P.A., "Significance of Particle Crushing in Granular Materials," *Journal of Geotechnical Engineering*, ASCE, Vol. 122, No. 4, 1996, pp.309-316.
59. Lade, P.V., Yamamuro, J.A., and Skyers, B.D., "Effects of Shear Band Formation in Triaxial Extension Tests," *Geotechnical Testing Journal*, GTJODJ, Vol. 19, No. 4, December 1996, pp.398-410.
60. Lade, P.V. and de Boer, R., "The concept of effective stress for soil, concrete, and rock," *Geotechnique*, Vol. 47, No. 1, 1997, pp. 61-78.
61. Yamamuro, J.A. and Lade, P.V., "Instability of Granular Materials at High Pressures," *Soils and Foundations*, Japanese Geotechnical Society, Vol. 37, No. 1, 1997, pp. 41-52.

62. Bopp, P.A., and Lade, P.V., "Effects of Initial Density on Soil Instability at High Pressures," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 123, No. 7, 1997, pp. 671-677.
63. Lade, P.V., Yamamuro, J.A., and Bopp, P.A., "Influence of Time Effects on Instability of Granular Materials," *Computers and Geotechnics*, Elsevier, Vol. 20, Nos. 3 & 4, 1997, pp. 179-193.
64. Bopp, P.A., and Lade, P.V., "Membrane Penetration in Granular Materials at High Pressures," *Geotechnical Testing Journal*, ASTM, GTJODJ, Vol. 20, No. 3, September 1997, pp. 272-278.
65. Lade, P.V., "Modeling the Strengths of Engineering Materials in Three Dimensions," *Mechanics of Cohesive-Frictional Materials*, Wiley, Vol. 2, 1997, pp. 339-356.
66. Lade, P.V., and Inel, S., "Rotational Kinematic Hardening Model for Sand, Part I. Concept of Rotating Yield and Plastic Potential Surfaces," *Computers and Geotechnics*, Elsevier, Vol. 21, No. 3, 1997, pp. 183-216.
67. Inel, S., and Lade, P.V., "Rotational Kinematic Hardening Model for Sand, Part II. Characteristic Work Hardening Law and Predictions," *Computers and Geotechnics*, Elsevier, Vol 21, No. 3, 1997, pp. 217-234.
68. Yamamuro, J.A. and Lade, P.V., "Static Liquefaction of Very Loose Sands," *Canadian Geotechnical Journal*, Vol. 34, No. 6, Dec. 1997, pp. 905-917.
69. Lade, P.V., and Yamamuro, J.A. "Effects of Non-Plastic Fines on Static Liquefaction of Sands," *Canadian Geotechnical Journal*, Vol. 34, No. 6, Dec. 1997, pp. 918-928.
70. Lade, P.V., and Liu, C.T. "Experimental Study of Drained Creep Behavior of Sand," *Journal of Engineering Mechanics*, ASCE, Vol. 124, No. 8, 1998, pp. 912-920.
71. Yamamuro, J.A. and Lade, P.V. "Steady State Concepts and Static Liquefaction of Silty Sands," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 124, No. 9, 1998, pp. 868-877.
72. Lade, P.V., Liggió, Jr., C.D., and Yamamuro, J.A. "Effects of Non-Plastic Fines on Minimum and Maximum Void ratios of Sand," *Geotechnical Testing Journal*, ASTM, GTJODJ, Vol. 21, No. 4, December 1998, pp. 336-347.
73. Yamamuro, J.A. and Lade, P.V. "Experiments and modelling of silty sands susceptible to static liquefaction," *Mechanics of Cohesive-Frictional Materials*, Wiley, Vol. 4, No. 6, November 1999, pp.545-564.
74. Lade P.V. and Kirkgard, M.M. "Effects of Stress Rotation on Cross-Anisotropic Behavior of Natural  $K_0$ -Consolidated Soft Clay," *Soils and Foundations*, Vol. 40, No. 6, December 2000, pp. 93-105.



76. Wang, Q. and Lade, P.V. "Shear Banding in True Triaxial Tests and Its Effect on Failure in Sand," *Journal of Engineering Mechanics*, ASCE, Vol. 127, No. 8, August, 2001, pp. 754-761.
77. Lade, P.V. and Wang, Q. "Analysis of Shear Banding in True Triaxial Tests on Sand," *Journal of Engineering Mechanics*, ASCE, August, Vol. 127, No. 8, 2001, pp. 762-768.
78. Lade, P.V. "Instability, Shear Banding, and Failure of Granular Materials," Proceedings of the IUTAM Symposium on Material Instabilities and the Effects of Microstructure, published in the *International Journal of Solids and Structures*, Vol. 39, Issues 13-14, June-July, 2002, pp. 3337-3357.
79. Lade, P.V., and Jakobsen, K.P. "Incrementalization of a single hardening constitutive model for frictional materials," *International Journal for Numerical and Analytical Methods in Geomechanics*, Vol. 26, 2002, pp. 647-659.
80. Jakobsen, K.P., and Lade, P.V. "Implementation algorithm for a single hardening constitutive model for frictional materials," *International Journal for Numerical and Analytical Methods in Geomechanics*, Vol. 26, 2002, pp. 661-681.
81. Lade, P.V. "Characterization of the Mechanical Behavior of Sea Ice as a Frictional Material," *Journal of Geophysical Research - Solid Earth*, 107(B12), 2377, doi:10.1029/2001JB000497, 2002.
82. Abelev, A.V., and Lade, P.V. "Effects of cross-anisotropy on three-dimensional behavior of sand. Part I: Stress-strain behavior and shear banding," *Journal of Engineering Mechanics*, ASCE, Vol. 129, No. 2, 2003, pp. 160-166.
83. Lade, P.V., and Abelev, A.V. "Effects of cross-anisotropy on three-dimensional behavior of sand. Part II: Volume change behavior and failure," *Journal of Engineering Mechanics*, ASCE, Vol. 129, No. 2, 2003, pp. 167-174.
84. Lade, P.V. "Analysis and Prediction of Shear Banding Under 3D Conditions in Granular Materials," Proceedings of IS-Lyon on Deformation Characteristics of Geomaterials, published as special issue of *Soils and Foundations*, Vol. 43, No. 4, 2003, pp. 161-172.
85. Lo, S.-C.R., Lade, P.V., and Wardani, S.P.R. "An Experimental Study on the Mechanics of Two Weakly Cemented Soils," *Geotechnical Testing Journal*, ASTM, GTJODJ, Vol. 26, No. 3, 2003, pp. 328-341.
86. Abelev, A.V., and Lade, P.V. "Characterization of Failure in Cross-Anisotropic Soils," *Journal of Engineering Mechanics*, ASCE, Vol. 130, No. 5, 2004, pp. 599-606.
87. Augustesen, A., Liingaard, M., and Lade, P.V. "Evaluation of Time Dependent Behavior of Soils," *International Journal of Geomechanics*, ASCE, Vol. 4, No. 3, September 2004, pp. 137-156.

88. Liingaard, M., Augustesen, A., and Lade, P.V. "Characterization of Models for Time Dependent Behavior of Soils," *International Journal of Geomechanics*, ASCE, Vol. 4, No. 3, September 2004, pp. 157-177.
89. Lade, P.V. and Bopp, P.A. "Relative Density Effects on Drained Sand Behavior at High Pressures," *Soils and Foundations*, Vol. 45, No. 1, 2005, pp. 1-13.
90. Bopp, P.A. and Lade, P.V. "Relative Density Effects on Undrained Sand Behavior at High Pressures," *Soils and Foundations*, Vol. 45, No. 1, 2005, pp. 15-26.
91. Lade, P.V. and A.V. Abelev "Characterization of Cross-Anisotropic Soil Deposits from Isotropic Compression Tests," *Soils and Foundations*, Vol. 45, No. 5, 2005, pp. 89-102.
92. Lade, P.V. "Assessment of Test Data for Selection of 3-D Failure Criterion for Sand" *International Journal for Numerical and Analytical Methods in Geomechanics*, Vol. 30, No. 4, 2006, pp. 307-333.
93. Lade, P.V. "Modeling Failure in Cross-Anisotropic Frictional Materials," *International Journal of Solids and Structures*, Vol. 44, No. 16, 2007, pp. 5146-5162.
94. Abelev, A.V., Gutta, S.K., Lade, P.V., and Yamamuro, J.A. "Modeling Cross-Anisotropy in Granular Materials," *Journal of Engineering Mechanics*, ASCE, Vol. 133, No. 8, 2007, pp. 919-932.
95. Lade, P.V. "Failure Criterion for Cross-Anisotropic Soils," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 134, No. 1, 2008, pp. 117-124.
96. Lade, P.V., Nam, J. and Hong, W.P. "Shear Banding and Cross-Anisotropic Behavior Observed in Laboratory Sand Tests with Stress Rotation," *Canadian Geotechnical Journal*, Vol. 45, No. 1, 2008, pp. 74-84.
97. Gdela, Pietruszczak, S., Lade, P.V. and Tsopeles, P. "On Colles' Fracture: An Experimental Study Involving Structural and Material Testing," *Journal of Applied Mechanics*, Vol. 75, May 2008, pp. 031002-1-10.
98. Wood, F.M., Yamamuro, J.A., and Lade, P.V. "Effect of Depositional Method on the Undrained Response of Silty Sand," *Canadian Geotechnical Journal*, Vol. 45, No 11, November 2008, pp. 1525-1537.
99. Yamamuro, J.A., Wood, F.M., and Lade, P.V. "Effect of Depositional Method on the Microstructure of Silty Sand," *Canadian Geotechnical Journal*, Vol. 45, No. 11, November 2008, 1538-1555.
100. Lade, P.V., Nam, J. and Hong, W.P. "Interpretation of strains in torsion shear tests," *Computers and Geotechnics*, Vol. 36, No. 1-2, January/March 2009, pp. 211-225.

101. Lade, P.V., Yamamuro, J.A., and Liggiio, C.D., Jr. "Effects of Fines Content on Void Ratio, Compressibility, and Static Liquefaction of Silty Sand," *Geomechanics and Engineering*, Techno-Press, March 2009, Vol. 1, No. 1, pp. 1-15.
102. Yamamuro, J.A., and Lade, P.V. "Large Stress Reversals in True Triaxial Tests on Cross-Anisotropic Sand," *International Journal for Numerical and Analytical Methods in Geomechanics*, Vol. 33, No. 7, May 2009, pp. 953-965.
103. Lade, P.V., Yamamuro, J.A., and Gutta, S.K. "Rotational Kinematic Hardening Model for 3-D Stress Reversals in Sand," *International Journal for Numerical and Analytical Methods in Geomechanics*, Vol. 33, No. 7, May 2009, pp. 967-991.
104. Gutta, S.K., Yamamuro, J.A., and Lade, P.V. "Predictions of Large Stress Reversals in True Triaxial Tests on Cross-Anisotropic Sand," *International Journal for Numerical and Analytical Methods in Geomechanics*, Vol. 33, No. 8, June 2009, pp. 1013-1037.
105. Lade, P.V., Liggiio, Jr., C.D. and Nam, J. "Strain Rate, Creep and Stress Drop-Creep Experiments on Crushed Coral Sand," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 135, No. 7, July 2009, pp. 941-953.
106. Hashash, Y.M.A., Fu, Q.F., Ghaboussi, J., Lade, P.V., and Saucier, C. "Inverse analysis-based interpretation of sand behavior from triaxial Compression tests subjected to full end restraint," *Canadian Geotechnical Journal*, Vol. 46, No. 7, July 2009, pp. 768-791.
107. Rolston, J.W. and Lade, P.V. "Evaluation of Practical Procedure for Compaction Density and Unit Weight of Rockfill Material," *Geotechnical Testing Journal*, ASTM, Vol. 32, No. 5, September 2009, pp. 410-417.
108. Lade, P.V., Gutta, S.K., and Yamamuro, J.A. "Kinematic Hardening Predictions of Large Stress Reversals in 3D Tests on Loose Sand," *Computers and Geotechnics*, Vol. 36, No. 8, October 2009, pp. 1285-1297.
109. Lade, P.V., Nam, J. and Liggiio, Jr., C.D. "Effects of Particle Crushing in Stress Drop-Relaxation Experiments on Crushed Coral Sand," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 136, No. 3, March 2010, pp. 500-509.
110. Lade, P.V. "Review of 'Geotechnical Laboratory Measurements for Engineers' by J.T. Germaine and A.V. Germaine, John Wiley and Sons, Inc." *Geotechnical Testing Journal*, Vol. 33, No. 3, 2010, pp. 261-262.
111. Lade, P.V. "The Mechanics of Surficial Failure in Soil Slopes." *Engineering Geology*, Vol. 114, 2010, pp. 57-64.
112. Karimpour, H. and Lade, P.V. "Time Effects Relate To Crushing in Sand." *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 136, No. 9, 2010, pp. 1209-1219.

113. Lade, P.V. and Karimpour, H. "Static Fatigue Controls Particle Crushing and Time Effects in Granular Materials." *Soils and Foundations*, Vol. 50, No. 5, 2010, pp. 573-583
114. Lade, P.V. and Yamamuro, J.A. "Evaluation of static liquefaction potential of silty sand slopes." *Canadian Geotechnical Journal*, Vol. 48, No. 2, 2011, pp. 247-264.
115. Monkul, M.M., Yamamuro, J.A., and Lade, P.V. "Failure, Instability, and the Second Work Increment in Loose Silty Sand," *Canadian Geotechnical Journal*, Vol. 48, No. 6, 2011, pp. 943-955.
116. Lade, P.V. and Wang, Q. "Effects of Boundary Conditions on Shear Banding in True Triaxial Tests on Sand," *Geotechnical Engineering Journal of the SEAGS & AGSSEA*, Vol. 42, No. 4, December 2011, pp. 19-25.
117. Yamamuro, J.A., Abrantes, A.E., and Lade, P.V. "Effect of Strain rate on the Stress-Strain Behavior of Sand," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, Vol. 137, No. 12, December 2011, pp. 1169-1178.
118. Anantanasakul, P., Yamamuro, J. A., and Lade, P. V. "Three-Dimensional Drained Behavior of Normally Consolidated Anisotropic Kaolin Clay," *Soils and Foundations*, Vol. 52, No. 1, February 2012, pp. 146-159.
119. Lade, P.V. "Reply to the Discussion by Jefferies, Been and Olivera on 'Evaluation of static liquefaction potential of silty sand slopes,'" *Canadian Geotechnical Journal*, Vol. 49, No. 6, June 2012, pp. 751-752.
120. Lade, P.V. and Wang, Q. "Method for Uniform Strain Extension Tests on Sand," *Geotechnical Testing Journal*, ASTM, Vol. 35, No. 4, July 2012, pp. 607-617.
121. Lade, P.V. and Wang, Q. "Effects of Stiff and Flexible Boundary Conditions in Triaxial Extension Tests on Cross-Anisotropic Sand Behavior," *Geotechnical Testing Journal*, ASTM, Vol. 35, No. 5, September 2012, pp. 715-727.
122. Yamamuro, J.A., Liu, Y., and Lade, P.V. "Performance and Suitability of Radial Drainage Materials in Axisymmetric Testing of Clayey Soils at High Confining Pressures," *Geotechnical Testing Journal*, ASTM, Vol. 35, No. 6, November 2012, pp. 901-910.
123. Rodriguez, N.M., and Lade, P.V. "True Triaxial Tests on Cross-Anisotropic Deposits of Fine Nevada Sand," *International Journal of Geomechanics*, ASCE, November/December 2013, 13(6), pp. 779-793.
124. Rodriguez, N.M., and Lade, P.V. "Effects of Principal Stress Directions and Mean Normal Stress on Failure Criterion for Cross-Anisotropic Sand" *Journal of Engineering Mechanics*, ASCE, Vol. 139, No. 11, November 2013, pp. 1592-1601, DOI: 10.1061/(ASCE)EM1943-7889.0000595.

125. Karimpour, H. and Lade, P.V. "Creep Behavior in Virginia Beach sand," *Canadian Geotechnical Journal*, November 2013, 50(11): 1159-1178, DOI: 10.1139/cgj-2012-0467
126. Rodriguez, N.M. and Lade, P.V. "Non-Coaxiality of Strain Increment and Stress Directions in Cross-Anisotropic Sand," *International Journal of Solids and Structures*, Elsevier, 2013, <http://dx.doi.org/10.1016/j.ijsolstr.2013.12.003>
127. Lade, P.V., Rodriguez, N.M., and Van Dyck, E.J. "Effects of Principal Stress Directions on 3D Failure Conditions in Cross-Anisotropic Sand," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 2014, 140(2):04013001-1-12, DOI: 10.1061/(ASCE)GT.1943-5606.0001005.
128. Trads, N. and Lade, P.V. "Experimental Evidence of Truly Elastic Behavior of Artificial Sandstone Inside the Cementation Yield Surface," *Rock Mechanics and Rock Engineering*, Springer Verlag, 2014, 47(2):335-345, DOI 10.1007/s00603-013-0403-x.
129. Lade, P.V., and Liggió, Carl, Jr. "Stability and Instability of Granular Materials under Imposed Volume Changes: Experiments and Predictions," *International Journal of Geomechanics*, ASCE, 2014, 14(5): 04014020-1-14, ISSN 1532-3641/04014020(14).
130. Lade, P.V., Van Dyck, E. and Rodriguez, N.M. "Shear banding in Torsion Shear Tests on Cross-Anisotropic Deposits of Fine Nevada Sand" *Soils and Foundations*, 2014, 54(6): 1081-1093, DOI information: 10.1016/j.sandf.2014.11.004
131. Lade, P.V. "Estimating Parameters from a Single Test for Three-Dimensional Failure Criterion for Frictional Materials," *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, 2014, 140(8):0401438-1-5, DOI: 10.1061/(ASCE)GT.1943-5606.0001137.
132. Lade, P.V. and Rodriguez, N.M. "Comparison of True Triaxial and Hollow Cylinder Tests on Cross-Anisotropic Sand Specimens," *Geotechnical Testing Journal*, ASTM, 2014, 37(4): 585-596, DOI:10.1520/GTJ20130155.
133. Monkul, M.M, Lade, P.V., Etminan, E., and Senol, A. (2014) "Compressibility as an Indicator of Liquefaction Potential," *Geotechnical Engineering Journal of the SEAGS & AGSSEA*, 45(4): 73-77, December 2014.
134. Lade, P.V. and N. Trads "The Role of Cementation in the Behavior of Cemented Soils," *Geotechnical Research (ICE)*, 2014, 1(4): 111-132.
135. Lade, P.V. and Karimpour, H. "Stress Relaxation in Virginia Beach Sand." *Canadian Geotechnical Journal*, 2015, 52(7): 813-835, doi: 10.1139/cgj-2013-0463.
136. Lade, P.V., Yamamuro, J.A. "Temporary Stability of Steep, Noncemented and Lightly Cemented Soil Slopes," *Canadian Geotechnical Journal*, 2015, 52(9): 1374-1384.

137. Lade, P.V. and Karimpour, H. "Stress drop effects in time dependent behavior of quartz sand," *International Journal and Solids and Structures*, 2016, 87(6): 167–182.
138. Karimpour, H. and Lade, P.V. "Combined creep and stress relaxation effects in quartz sand," *Soils and Foundations*, 2015 (submitted).

**Book:**

Lade, P.V. "Triaxial Testing of Soils", Wiley-Blackwell, Chichester, United Kingdom, 2016.

## Book Chapters

1. Lade, P.V. and Oner, M., "Elasto-Plastic Stress-Strain Model, Parameter Evaluation, and Predictions for Dense Sand," Chapter 3.4 in *Results of The International Workshop on Constitutive Relations for Soils*, Edited by G. Gudehus, F. Darve, and I. Vardoulakis, Grenoble, France, September 1982, Published by Balkema, Rotterdam, 1984, pp. 159-174. (Invited)
2. Lade, P.V., "Failure Criterion for Frictional Materials," Chapter 20 in *Mechanics of Engineering Materials*, Edited by C.S. Desai and R.H. Gallagher, Wiley, 1984, pp. 385-402. (Invited)
3. Lade, P.V., "Three-Dimensional Behavior and Parameter Evaluation of an Elastoplastic Soil Model," Chapter 12 in *Geomechanical Modelling in Engineering Practice*, Edited by R. Dungar and J.A. Studer, Balkema Publishers, Rotterdam, 1986, pp. 297-311.
4. Lade, P.V., "Influence of Creep on Static and Cyclic Instability of Granular Soils," Chapter 21 in *Modern Approaches to Plasticity*, Edited by D. Kolymbas, Elsevier Science Publishers B.V., 1993, pp. 385-409.
5. Lade, P.V., "Rock Strength Criteria: The Theories and the Evidence", in COMPREHENSIVE ROCK ENGINEERING, Principles, Practice & Projects, Editor-in-Chief: J.A. Hudson, Chapter 11 in Vol. 1: *Fundamentals* edited by E.T. Brown, Pergamon Press, Oxford, England, 1993, pp. 255-284.
6. Lade, P.V., "Chapter 2 - Basic Soil Mechanics," Geotechnical and Geoenvironmental Engineering Handbook, Kluwer Academic Publishing, Norwell, MA, U.S.A. (R.K. Rowe, Editor) 1088p. ISBN 0-7923-8613-2, 2001, pp. 7-42.
7. Lade, P.V., "Chapter 3 - Engineering Properties of Soils and Typical Correlations," Geotechnical and Geoenvironmental Engineering Handbook, Kluwer Academic Publishing, Norwell, MA, U.S.A. (R.K. Rowe, Editor) 1088p. ISBN 0-7923-8613-2, 2001, pp. 43-68.
8. Lade, P.V. "Shear Banding in Cross-Anisotropic Sand Specimens," Chapter 5.4 in *Geotechnical Innovations*, Studies in Honour of Professor Pieter A. Vermeer on occasion of his 60<sup>th</sup> Birthday and Proceedings of the Symposium Held at Stuttgart on June 25<sup>th</sup> 2004, edited by R.B.J. Brinkgreve, H. Schad, H.F. Schweiger, and E. Willand, Stuttgart, Germany, published by Verlag Glückauf Essen, pp. 561-574 (Invited contribution).
9. Lade, P.V. "Estimating the parameters for a three-dimensional failure criterion for rocks from a single test," Chapter 15 in *TRUE TRIAXIAL TESTING OF ROCKS*, edited by Marek Kwasniewski, Xiaochun Li & Manabu Takahashi, CRC Press, 2013, pp. 213-222.

**Discussions Published in Professional and Scholarly Journals**

1. Lade, P.V., "Letter to the Editor: 'A General Basis for Yield, Failure and Potential Functions in Plasticity' by C.S. Desai," *International Journal for Numerical and Analytical Methods in Geomechanics*, Vol. 5, No. 4, Oct.-Dec. 1981, pp. 455-456.
2. Lade, P.V., and Davies, M.C.R., "Discussion of 'Anisotropic Deformation-Strength Characteristics of an Assembly of Spherical Particles Under Three Dimensional Stresses' by M. Haruyama," *Soils and Foundations*, The Japanese Society of Soils Mechanics and Foundation Engineering, Vol. 23, No. 1, March 1983, pp. 379-383 (Invited).
3. Lade, P.V., "Discussion of 'Application of Finite Element Method to Pulout Resistance of Buried Anchor' by K. Tagaya, A. Tanaka, and H. Aboshi," *Soils and Foundations*, The Japanese Society of Soils Mechanics and Foundation Engineering, Vol. 24, No. 2, March 1984, pp. 121-123, (Invited).
4. Lade, P.V., "Discussion to 'State-of-the-Art Paper on Torsion Shear Testing' by A.S. Saada, *Advanced Triaxial Testing of Soil and Rock, ASTM STP 977*, R.T. Donaghe, R.C. Chaney, and M.L. Silver, Eds., American Society for Testing and Materials, Philadelphia, 1988, pp. 790-793.
5. Lade, P.V., "Discussion to 'A General Failure Criterion and Stress-Strain Relation for Granular Materials to Metals' by H. Matsuoka", *Soils and Foundations*, JSMFE, Vol. 32, No. 1, March 1992, pp. 225-230. (Invited).
6. Lade, P.V., "Invited Discussion (17.2) to Issue 2 of Practitioner/Academic Forum" Proceedings of the 16<sup>th</sup> International Conference on Soil Mechanics and Geotechnical Engineering, Osaka, Japan (September 2005), Vol. 5, p. 2934.



## Refereed Proceedings

1. Lade, P.V. and Musante, H.M., "Failure Conditions in Sand and Remolded Clay," *Proceedings of the 9th International Conference on Soil Mechanics and Foundation Engineering*, Tokyo, Japan, Vol. I, July 1977, pp. 181-186.
2. Duncan, J.M., Ozawa, Y., Lade, P.V. and Booker, J.R., "An Elasto-Plastic Stress-Strain Relationship for Cohesionless Soil," *Proceedings of Specialty Session 9 on Constitutive Equations of Soils of the Ninth International Conference on Soil Mechanics and Foundation Engineering*, Tokyo, Japan, July 1977 (Invited).
3. Lade, P.V., Jessberger, H.L., Makowski, E., Jordan, P., "Modeling of Deep Shafts in Centrifuge Tests," *Proceedings of the 10th International Conference on Soil Mechanics and Foundation Engineering*, Stockholm, Sweden, Vol. 1, 1981, pp. 683-692.
4. Lade, P.V. "Localization Effects in Triaxial Tests on Sand," *Proceedings of Symposium on Deformation and Failure of Granular Materials*, International Union of Theoretical and Applied Mechanics, P.A. Vermeer and H.J. Luger, Eds., Delft, Holland, August 1982, pp. 461-471 (Invited).
5. Lade, P.V., and Tsai, J., "Effects of Localization in Triaxial Tests on Clay," *Proceedings of the 11th International Conference on Soil Mechanics and Foundation Engineering*, San Francisco, California, Vol. 1, August 1985, pp. 549-552.
6. Lade, P.V., "Instability and Failure of Soils with Nonassociated Flow", *Proceedings of the 12th International Conference on Soil Mechanics and Foundation Engineering*, Rio de Janeiro, Brazil, August 1989, Vol. 1, pp. 727-730.
7. Pradel, D., and Lade, P.V., "Instability of Sand Under Applied Shear Stresses", *Proceedings of the 12th International Conference on Soil Mechanics and Foundation Engineering*, Rio de Janeiro, Brazil, August 1989, Vol. 1, pp. 743-748.
8. Lade, P.V., "Instability Analysis for Tailings Slopes", *Proceedings of the 13th International Conference on Soil Mechanics and Foundation Engineering*, New Delhi, India, January 1994, pp. 1649-1652.
9. Yamamuro, J.A. and Lade, P.V., "Prediction of Instability Conditions for Sand," *Proceedings of the 14th International Conference on Soil Mechanics and Foundation Engineering*, Hamburg, Germany, September 1997, pp. 435-438.
10. Lade, P.V. "Modeling Sea Ice as an Elasto-Plastic Frictional Material," *Proceedings of IUTAM on Scaling Laws in Ice Mechanics and Ice Dynamics*, Fairbanks, Alaska, edited by J.H. Dempsey, H.H. Shen, and L.H. Shapiro, June 2000.
11. Lade, P.V., Yamamuro, J.A., and Bopp, P.A. "Relative Density Effects on Drained and Undrained Strengths of Sand at High Pressures," *Proceedings of the 16<sup>th</sup> International Conference on Soil Mechanics and Geotechnical Engineering*, Osaka, Japan, September 12-16, 2005, Vol. 2, pp. 537-542.

12. Lade, P.V. "Creep, Stress Relaxation and Rate Effects in Sand," *Proceedings of the 17<sup>th</sup> International Conference on Soil Mechanics and Geotechnical Engineering*, Alexandria, Egypt, 5-9 October, 2009.

**Papers Published in Proceedings or Records of Conferences & Symposia**

1. Lade, P.V., "Three-Dimensional Plastic Behavior of Cohesionless Soils," Invited written discussion, *Proceedings of the Symposium on the Role of Plasticity in Soil Mechanics*, Cambridge, England, September 13-15, 1973, pp. 129-135 (Invited).
2. Crow, S.C., Lade, P.V. and Hurlburt, G.H., "The Mechanics of Hydraulic Rock Cutting," *Second International Symposium on Jet Cutting Technology*, April 2-4, 1974, Cambridge, England, pp. B1-1 to B1-14.
3. Lade, P.V., "Torsion Shear Tests on Cohesionless Soil," *Proceedings of the 5th Panamerican Conference on Soil Mechanics and Foundation Engineering*, Buenos Aires, Argentina, Vol. I, 1975, pp. 117-127.
4. Lade, P.V., "Interpretation of Torsion Shear Tests on Sand," *Proceedings of the Second International Conference on Numerical Methods in Geomechanics*, Blacksburg, Virginia, Vol. I, 1976, pp. 381-389.
5. Vagneron, J., Lade, P.V. and Lee, K.L., "Evaluation of Three Stress-Strain Models for Soils," *Proceedings of the Second International Conference on Numerical Methods in Geomechanics*, Blacksburg, Virginia, Vol. III, June 1976, pp. 1329-1351 (Invited).
6. Lade, P.V., "Stress-Strain Theory for Normally Consolidated Clay," *Proceedings of the Third International Conference on Numerical Methods in Geomechanics*, Aachen, West Germany, 1979, IV: 1325-1337.
7. Lade, P.V., Jessberger, H.L., Diekmann, N., "Stress-Strain and Volumetric Behavior of Frozen Soil," *Proceedings of the Second International Symposium on Ground Freezing*, The Norwegian Institute of Technology, Trondheim, Norway, June 1980, pp. 48-64.
8. Lade, P.V., and Nelson, R.B., "Incrementalization Procedure for Elasto-Plastic Constitutive Law with Multiple, Simultaneous Yield Surfaces," *Proceedings of Symposium on Implementation of Computer Procedures and Stress-Strain Laws in Geotechnical Engineering*, C.S. Desai and S.K. Saxena, Eds., Chicago, Illinois, Vol. II, August 1981, pp. 503-518.
9. Lade, P.V. and Boonyachut, S. "Large Stress Reversals in Triaxial Tests on Sand," *Proceedings of the 4th International Conference on Numerical Methods in Geomechanics*, Z. Eisenstein, Ed., Edmonton, Canada, Vol. 1, May 1982, pp. 171-182 (Invited).
10. Lade, P.V., "Three-Dimensional Behavior and Parameter Evaluation for an Elasto-Plastic Soil Model," *Proceedings of the International Symposium on Numerical Models in Geomechanics*, R R. Dungar, G.N. Pande, and J.A. Studer, Eds., Zurich, Switzerland, September 1982, pp. 33-37 (Invited).

11. Ochiai, H., and Lade, P.V., "Three-Dimensional Strength of Sand with Anisotropic Fabric," (in Japanese), *Proceedings of the 18th Japan National Conference on Soil Mechanics and Foundation Engineering*, Kotiyarma, Japan, June 1983, pp. 251-254.
12. Lade, P.V. and Cole, D.A, Jr., "Ground Rupture Zones in Alluvium Over Dip-Slip Faults," *Proceedings of the 21st Annual Symposium on Engineering Geology and Soils Engineering*, University of Idaho, Moscow, Idaho, April 1984, pp. 1-16.
13. Lade, P.V. and Kirkgard, M.M., "B-Value Tests for Soil Specimens with Anisotropic Stress States," *Proceedings of the 5th ASCE-EMD Conference*, Laramie, Wyoming, August 1984, pp. 1304-1307.
14. Lade, P.V., "Behavior and Plasticity Theory for Metals and Frictional Materials," *Proceedings of the 2nd International Conference on Constitutive Laws for Engineering Materials; Theory and Application*, Tucson, Arizona, January 1987, pp. 327-334.
15. Lade, P.V., "Model and Parameters for the Elastic Behavior of Soils", *Proceedings of the 6th International Conference on Numerical Methods in Geomechanics*, G.A. Swoboda, Ed., Innsbruck, Austria, Vol. 1, April 1988, pp. 359-364.
16. Lade, P.V., and Pradel, D., "Comparison of Single and Double Hardening Constitutive Models for Frictional Materials", *Proceedings of the 3rd International Symposium on Numerical Models in Geomechanics*, Niagara Falls, Canada, May 1989, pp. 147-154.
17. Pradel, D., and Lade, P.V., "Plastic Flow and Stability of Granular Materials", *Proceedings of the 3rd International Symposium on Numerical Models in Geomechanics*, Niagara Falls, Canada, May 1989, pp. 9-16.
18. Lade, P.V., "Single Hardening Constitutive Model and Prediction of 3-D Undrained Tests on Clay," *Proceedings of the International Conference on Constitutive Laws for Engineering Materials*, ed. by Fan Jinghong and Sumio Murakami, Chongqing, China, August 1989, Vol. 1, pp. 91-96.
19. Lade, P.V., "Observations of Nonassociated Flow, Stability and Instability in Experiments on Granular Soils", *Proceedings of the XV Southeastern Conference on Theoretical and Applied Mechanics*, ed. by S.V. Hanagud, M.P. Kamat, and C.E. Ueng, Altanta, Georgia, March 1990, pp. 879-886.
20. Lade, P.V., and Mazen, A.A., "Brittle and Ductile Transition at Failure in Frictional Materials (Powder Metals)", *Proceedings of the International Conference on Micromechanics of Failure of Quasi-Brittle Materials*, ed. by S.P. Shah, S.E. Swartz, and M.L. Lang, Albuquerque, New Mexico, June 1990, pp. 198-205.
21. Issa, J.A., Clukey, E.C., and Lade, P.V. "Implementation Algorithm for a New Elasto-Plastic Constitutive Model", *Proceedings of the 3rd International Conference Constitutive Laws for Engineering Materials: Theory and Practice*, Tucson, Arizona, January 1991, pp. 731-734.

22. Lade, P.V., "Nonassociated Flow and Instability of Slopes", *Proceedings of the 7th Conference of the International Association on Computer Methods and Advances in Geomechanics*, Cairns, Queensland, Australia, May 1991, pp. 487-492.
23. Lade, P.V., and Kim, M.K., "Constitutive Model for Frictional Materials with Application to Concrete", *Proceedings of the 7th Conference of the International Association on Computer Methods and Advances in Geomechanics*, Cairns, Queensland, Australia, May 1991, pp. 637-642.
24. Lade, P.V., "Undrained Strength of NC Clay Under 3-D Conditions", *Proceedings of the 1991 Geotechnical Engineering Congress*, ASCE, ed. by F.G. McLean, D.A. Campbell, and D.W. Harris, Boulder, Colorado, June 1991, pp. 1077-1088.
25. Mazen, A.A., and Lade, P.V., "Failure of Porous AISI 1018 P/M Steel Under Different Loading Conditions," *Proceedings of the First International Conference on Failure Analysis: Techniques and Applications*, Montreal, Quebec, Canada, July 1991, pp. 13-19.
26. Mazen, A.A., and Lade, P.V., "Tensile vs. Compressive Deformation of AISI 1018 P/M Steel," *Proceedings of the 5th Cairo University Conference on Mechanical Design and Production*, Cairo, Egypt, December 1991.
27. Lade, P.V., "Instability of Slopes with Nonassociated Flow", *Proceedings of the 9th Engineering Mechanics Conference*, ASCE, Edited by Loren D. Lutes and John M. Niedzwecki, Texas A&M University, College Station, Texas, May 1992, pp. 288-291.
28. Yamamuro, J.A., and Lade, P.V., " The Effective Stress Path for Soil at High Pressure," *Proceedings of the 9th Engineering Mechanics Conference*, ASCE, Edited by Loren D. Lutes and John M. Niedzwecki, Texas A&M University, College Station, Texas, May 1992, pp. 729-732.
29. Lade, P.V., "Instability and Liquefaction of Granular Materials", *Proceedings of the 4th International Symposium on Numerical Models in Geomechanics*, Edited by G.N. Pande and S. Pietruszczak, Swansea, Wales, August 1992, pp. 3-13.
30. Lade, P.V., "Laboratory Testing - Coordinator's Report," *Proceedings of the U.S. - Canada Workshop on Recent Accomplishments and Future Trends in Geomechanics in the 21st Century*, Norman, Oklahoma, October 1992.
31. Ghaboussi, J., Sidarta, D.E., and Lade, P.V., "Neural Network Based Modelling in Geomechanics", *Proceedings of the 8th International of the Association for Computer Methods and Advances in Geomechanics*, Morgantown, West Virginia, May 1994, pp.153-164.
32. Lade, P.V., Yamamuro, J.A., Ghaboussi, J., and Inel, S., "Experimental determination of constitutive behavior of soils", *Proceedings of the 8th International of the Association for Computer Methods and Advances in Geomechanics*, Morgantown, West Virginia, May 1994, pp. 215-222.

33. Lade, P.V., "Instability of sand in the prefailure hardening regime", *Proceedings of the International Symposium on Pre-Failure Deformation Characteristics of Geomaterials*, Sapporo, Japan, September 1994, Vol. 2, 1995, pp. 837-854.
34. Lade, P.V., "Single and Double Hardening Plasticity Models for Frictional Materials - A Comparison," in *Dynamic Plasticity and Structural Behavior*, Proceedings of Plasticity '95: The fifth international symposium on plasticity and its current applications, Sakai, Osaka, Japan, edited by S.Tanimura and A.S. Khan, Gordon and Breach Publishers, 1995, pp.507-510.
35. Lade, P.V., Yamamuro, J.A., and Skyers, B.D., "Effects of strain localization in triaxial extension tests," *Proceedings of the Fifth International Symposium on Numerical Models in Geomechanics - NUMOG V*, Davos, Switzerland, edit by G.N. Pande and S.Pietruszczak, September 1995, pp. 187-192.
36. Lade, P.V., "Three-Dimensional Strength of Porous Materials," published on the occasion of Professor Reint de Boer's 60th birthday, Essen, Germany, December 19, 1995, pp. 255-269.
37. Lade, P.V. "Single Hardening Plasticity Model for Frictional Materials," *Proceedings of the Ninth Nordic Seminar on Computational Mechanics*," The Technical University of Denmark, Lyngby, Denmark, edited by Lars Damkilde, October 1996, pp. 177-180.
38. Lade, P.V., "Rotational Kinematic Hardening Model for Sand," *Proceedings of the 2nd Workshop on Dynamic Loads and Response of Structures and Soil Dynamics*, Aalborg University, Aalborg, Denmark, edited by Lars Pilegaard Hansen, November 1996, p. 89.
39. Lade, P.V. and Inel, S., "Rotational Kinematic Hardening Model for Sand," *Proceedings of the Sixth International Symposium on Numerical Models in Geomechanics - NUMOG VI*, Montreal, Quebec, Canada, edited by G.N. Pande and S.Pietruszczak, July 1997, pp. 9-14.
40. Yamamuro, J.A. and Lade, P.V., "Behavior and Modeling of Static Liquefaction of Silty Sands," *Proceedings of the Sixth International Symposium on Numerical Models in Geomechanics - NUMOG VI*, Montreal, Quebec, Canada, edited by G.N. Pande and S.Pietruszczak, July 1997, pp. 27-32.
41. Lade, P.V. and Ibsen, L.B., "A Study of the Phase Transformation and the Characteristic Lines of Sand Behavior," *International Symposium on Deformation and Progressive Failure in Geomechanics*, IS-Nagoya'97, Japan, Pergamon Press, edited by A. Asaoka, T. Adachi, and F. Oka, October, 1997, pp. 353-358.
42. Ibsen, L.B., and Lade, P.V., "The Role of the Characteristic Line in the Behavior of Sand under Static and Cyclic Loading," *Proceedings of the Fourth International Workshop on Localisation and Bifurcation Theory for Soils and Rock*, Adachi, Oka & Yashima, eds. Gifu, Japan, October 1997, Balkema, Rotterdam, 1998, pp. 221-230.

43. Lade, P.V., "Modeling Yield Surfaces for Granular Materials in Three Dimensions," *Proceedings of the 9th International Conference on Computer Methods and Advances in Geomechanics*, Wuhan, China, Balkema, edited by J.-X. Yuan, November 1997, pp. 181-190.
44. Ibsen, L.B., and Lade, P.V., "The Strength and Deformation Characteristics of Frictional Materials Beneath Vertical Breakwaters Subjected to Wave Loading," *Proceedings of the 2nd PROVERBS Workshop*, Naples, Italy, February 1998.
45. Lade, P.V., "Single Hardening Plasticity Model for Frictional Materials," *Proceedings of the 12th Engineering Mechanics Division Specialty Conference*, ASCE, La Jolla, California, edited by H. Murakami and J. E. Luco, May 1998, pp. 1001-1004. (CD-ROM)
46. Lade, P.V. "Instability of granular materials," *Proceedings of the International Workshop on the Physics and Mechanics of Soil Liquefaction*, Baltimore, Maryland, edited by P.V. Lade and J.A. Yamamuro, 10-11 September 1998, Balkema, Rotterdam 1999, pp. 3-16.
47. Yamamuro, J.A., Covert, K.M. & Lade, P.V. "Static and cyclic liquefaction of silty sands," *Proceedings of the International Workshop on the Physics and Mechanics of Soil Liquefaction*, Baltimore, Maryland, edited by P.V. Lade and J.A. Yamamuro, 10-11 September 1998, Balkema, Rotterdam 1999, pp. 55-65.
48. Praastrup, U., Ibsen, L.B. and Lade, P.V. "Presentation of Stress Points in the Customized Octahedral Plane," *Proceedings of the 13th Engineering Mechanics Division Specialty Conference*, Johns Hopkins University, Baltimore, June 13-16, 1999. (CD-ROM)
49. Saucier, C.L. and Lade, P.V. "Torsion shear tests on solid cylindrical specimens for neural network modeling," *Proceedings of the 13th Engineering Mechanics Division Specialty Conference*, Johns Hopkins University, Baltimore, June 13-16, 1999. (CD-ROM)
50. Abelev, A.V. and Lade, P.V. "Evaluation of models for elastic behavior of granular materials," *Proceedings of the 13th Engineering Mechanics Division Specialty Conference*, Johns Hopkins University, Baltimore, June 13-16, 1999. (CD-ROM)
51. Praastrup, U., Ibsen, L.B. and Lade, P.V. "A generic stress surface introduced in the customized octahedral plane," *Proceedings of the Seventh International Symposium on Numerical Models in Geomechanics - NUMOG VII*, Graz, Austria, edited by G.N. Pande, S.Pietruszczak, and H. Schweiger, September 1999, pp. 71-76.
52. Lade, P.V. and Wang, Q. "Effects of shear banding on three-dimensional failure conditions for soils," *Proceedings of the Seventh International Symposium on Numerical Models in Geomechanics - NUMOG VII*, Graz, Austria, edited by G.N. Pande, S.Pietruszczak, and H. Schweiger, September 1999, pp. 91-96.

53. Ibsen, L.B, and Lade, P.V. "Effects of Nonuniform Stresses and Strains on Measured Characteristic States," *Proceedings of the Second International Symposium on Pre-Failure Deformation Characteristics of Geomaterials, IS Torino*, Torino, Italy, edited by M.Jamiolkowski, R. Lancelotta, and D. Lo Presti, September 1999, pp. 897-904.
54. Lade, P.V. "Effects of shear banding on failure under 3-dimensional conditions," *Proceedings of the 2nd Workshop on Soil-Structure Interaction*, Darmstadt University of Technology, Darmstadt, Germany, edited by R. Katzenbach and U. Arslan, March 2000.
55. Lade, P.V. "Strength of cohesive-frictional materials," *Proceedings of the 3rd Nordic Meeting on Materials and Mechanics*, Rebild Bakker Conference Center, Denmark, edited by R. Pyrz, N. Vejen, and J. Schjødt-Thomsen, May 2000, pp. 153-165.
56. Lade, P.V. "Effects of consolidation stress state on normally consolidated clay," *Proceedings of the XIII Nordiska Geoteknikermötet*, Helsinki, Finland, edited by H. Rathmayer, June 2000, pp. 11-18.
57. Watry, S.M., and Lade, P.V. "Residual Shear Strengths of Bentonites on Palos Verdes Peninsula, California," *Proceedings of Sessions of Geo-Denver 2000, ASCE, Slope Stability 2000*, edited by D.V. Griffiths, T.R. Martin, and G.A. Fenton, August 2000, pp. 323-342.
58. Lade, P.V. and Liu, C.-T. "Modeling creep behavior of granular materials," *Proceedings of the 10th International Conference on Computer Methods and Advances in Geomechanics*, Tucson, Arizona, Balkema, edited by C.S. Desai, T. Kundu, S. Harpalani, D. Contractor, and J. Kemeny, 7-12 January 2001, pp. 277-284.
59. Lade, P.V., and Wang, Q. "Effect of Slenderness Ratio on Shear Banding in True Triaxial Tests on Sand," *Proceedings of NUMOG VIII*, held in Rome, Italy, April 10-12, 2002, pp. 149-154.
60. Liingaard, M., Augustesen, A., and Lade, P.V. "Observed Time Dependent Behavior of Soils," *Proceedings of the 15th ASCE Engineering Mechanics Conference*, Columbia University, New York, NY, June 2-5, 2002 (CD-ROM).
61. Augustesen, A., Liingaard, M, and Lade, P.V. "Examination of Models for Time Dependent Behavior of Soils," *Proceedings of the 15th ASCE Engineering Mechanics Conference*, Columbia University, New York, NY, June 2-5, 2002 (CD-ROM).
62. Lade, P.V. "Evaluation of Kinematic Hardening Concepts for Modeling Large Stress Reversals and Cross-Anisotropy in Soils," *Proceedings of the 5th European Conference on Numerical Methods in Geotechnical Engineering*, Paris, France, September 4-6, 2002, pp. 3-10.
63. Augustesen, A., Liingaard, M. and Lade, P.V. "Time Effects in Soils", *Symposium on Geotechnical Engineering - Research and Practice, 15th European Young Geotechnical Engineers' Conference (XV EYGEC)*, 11-14 September, 2002, Dublin, Ireland.



64. Lade, P.V. "Limitations of Kinematic Hardening for Modeling Soil Behavior," *Proceedings of The First International Japan-U.S. Workshop on Testing, Modeling, and Simulation in Geomechanics*, held in Boston, Massachusetts, June 27-29, 2003. (Proceedings to be published by ASCE as *Geotechnical Special Publication No. 143, Geomechanics: Testing, Modeling, and Simulation*, Edited by J.A. Yamamuro and J. Koseki, 2005).
65. Gutta, S., Yamamuro, J.A. and Lade, P.V., "Predictions of Large Three-dimensional Stress Reversals in Sands," *Proceedings of the 16th Engineering Mechanics Conference, ASCE*, University of Washington, Seattle, Washington, July 16-18, 2003, CD-ROM.
66. Lade, P.V., "Modeling Large Stress Reversals and Stress Rotation in Soils," *Proceedings of the 17<sup>th</sup> ASCE Engineering Mechanics Division Conference*, held at University of Delaware, Newark, Delaware, June 13-16, 2004, CD-ROM.
67. Gutta, S.K., Yamamuro, J.A., and Lade, P.V. "Prediction of Large Three-Dimensional Stress Reversals in Cross-Anisotropic Sand," *Proceedings of the 17<sup>th</sup> ASCE Engineering Mechanics Division Conference*, held at University of Delaware, Newark, Delaware, June 13-16, 2004, CD-ROM.
68. Gutta, S.K., Yamamuro, J.A., and Lade, P.V. "Kinematic Hardening Model Predictions for Sand Behavior under Large Three-Dimensional Stress Reversals," *Proceedings of the Ninth International Symposium on Numerical Models in Geomechanics, NUMOG IX*, Ottawa, Canada, August 25-27, 2004, pp. 57-62.
69. Lade, P.V. "Shear Banding in Sand Under 3D Conditions – Experimental Results, Calculation Procedures, and Predictions," *Proceedings of PLASTICITY '05: The 11<sup>th</sup> Symposium on Plasticity and its Current Applications: Dislocations, Plasticity, Damage and Metal Forming: Material Response and Multiscale Modeling*, held in Kauai, Hawaii, Jan. 4-8, 2005, pp. 583-585.
70. Lade, P.V. "Overview of Constitutive Models for Soils," *ASCE Geotechnical Special Publication No. 128, Soil Constitutive Models: Evaluation, Selection, and Calibration*, Edited by J.A. Yamamuro and V.N. Kaliakin, January 2005, pp. 1-34.
71. Lade, P.V. "Single Hardening Model for Soils: Parameter Determination and Typical Values," *ASCE Geotechnical Special Publication No. 128, Soil Constitutive Models: Evaluation, Selection, and Calibration*, Edited by J.A. Yamamuro and V.N. Kaliakin, January 2005, pp 290-309.
72. Lade, P.V. "Calibration of the Single Hardening Constitutive Model for Clays," *Proceedings of the 11<sup>th</sup> International Conference on Computer Methods and Geomechanics*, held in Turin, Italy, June 19-24, 2005.
73. Lade, P.V. "Laboratory Testing" Report of Technical Committee No. 34 on Prediction of Large Strain Geomechanics, in *Proceedings of the 16<sup>th</sup> International Conference on*

- Soils Mechanics and Geotechnical Engineering, Osaka, Japan, (September 2005), Vol. 5, pp. 3685-3690 (CD-rom).
74. Lade, P.V., Yamamuro, J.A., and Bopp, P.A. "Drained and Undrained Strengths of Sand in Axisymmetric Tests at High Pressures," in *ASCE Geotechnical Special Publication No. 156, Geomechanics II: Proceedings of the Second Japan-U.S. Workshop on Testing, Modeling and Simulation*, Edited by Poul V. Lade and Teruo Nakai, held in Kyoto, Japan, September 8-10, 2005, pp. 87-102.
  75. Yamamuro, J.A., and Lade, P.V. "Mechanics of Instability of Sand at High Pressures," in *ASCE Geotechnical Special Publication No. 156, Geomechanics II: Proceedings of the Second Japan-U.S. Workshop on Testing, Modeling and Simulation*, Edited by Poul V. Lade and Teruo Nakai, held in Kyoto, Japan, September 8-10, 2005, pp. 374-389.
  76. Lade, P.V. "Experimental Study and Analysis of Creep and Stress Relaxation in Granular Materials," *Proceedings of Geo-Denver*, Denver, Colorado, February 2007 (CD-rom).
  77. Lade, P.V. "Factors Affecting Three-Dimensional Failure in Soils" *Proceedings of the Tenth International Symposium on Numerical Models in Geomechanics, NUMOG X*, Rhodes, Greece, April 25-27, 2007, pp. 21-26.
  78. Lade, P.V., Yamamuro, and Liggi, Jr., C.D. "Effects of Fines on Compressibility and Static Liquefaction of Granular Materials," *First International Symposium on Computational Geomechanics (ComGeo I)* held at Juan-les-Pins, Cote d'Azur, France, April 29-May 1, 2009, CD-rom.
  79. Lade, P.V. "Mechanistic Picture of Time Effects in Granular materials," *International Symposium on Prediction and Simulation Methods for Geohazard Mitigation*, held in Kyoto, Japan, May 25-27, 2009, pp. 273-278.
  80. Lade, P.V. and Karimpour, H. "Static Fatigue produces Time effects in Granular Materials," *Proceedings of GeoFlorida 2010: Advances in Modeling & Design*, ASCE, held in West Palm Beach, Florida, February 21-24, 2010, pp. 530-539, CD-rom (also ASCE Geotechnical Special Publication No. 199).
  81. Lade, P.V. and Yamamuro, J.A. "Analysis of Submarine Flow Slides in Fine Silty Sand," *Proceedings of the Second International Symposium on Frontiers in Offshore Geotechnics (ISFOG)*, Perth, Australia, November 8-10, 2010.
  82. Lade, P.V., Van Dyck, E.J. and Rodriguez, N.M. "Experimental Study of Stress Rotation Effects in Cross-Anisotropic Sand" *Proceedings of NSF CMMI Research and Innovation Conference 2011 on Engineering for Sustainability and Prosperity*, Atlanta, GA, January 4-7, 2011.
  83. Lade, P.V. (2011) "Estimating the Three-Dimensional Strengths of Sands and Clays from a Single Test," *Proceedings of the 2<sup>nd</sup> International Symposium on Computational Geomechanics*, Cavtat-Dubrovnik, Croatia, April 27-29, CD-rom.

84. Lade, P.V. "Shear Banding in Cross-Anisotropic Sand Tests with Stress Rotation," In *Advances in Bifurcation and Degradation in Geomaterials, Proceedings of the 9<sup>th</sup> International Workshop on Bifurcation and Degradation in Geomaterials*, held at Porquerolles Island, France, May 23-26, 2011, pp. 285-291, Edited by S. Bonilli, C. Dascalu, and F. Nicot, Published by Springer Science & Business media B.V., DOI 10.1007/978-94-007-1421-2.
85. Yamamuro, J.A., and Lade, P.V. "Static Liquefaction and 'Reverse' Behavior of Silty Sand," *Proceedings of GeoCongress 2012: State of the Art and Practice in Geotechnical Engineering, ASCE*, held in Oakland, California, March 25-29, 2012, CD-rom.
86. Lade, P.V., and Yamamuro, J.A. "Analysis of Submarine Flow Slides in Fine Silty Sand," *Proceedings of GeoCongress 2012: State of the Art and Practice in Geotechnical Engineering, ASCE*, held in Oakland, California, March 25-29, 2012, CD-rom.
87. Lade, P.V., Van Dyck, E.J., and Rodriguez, N.M. "Three-Dimensional Strength of Cross-Anisotropic Sand Deposits," *Proceedings of the 2012 World Congress on Advances in Civil, Environmental, and Materials Research (ACEM'12)*, Edited by Chang-Koon Choi, Seoul, Korea, Aug. 26-29, 2012, pp. 45-56.
88. Lade, P.V. "Three-Dimensional Failure in Geomaterials: Experimentation and Modeling," *Proceedings of the Second International Symposium on Constitutive Modeling of Geomaterials: Advances & New Applications*, Edited by Q. Yang, J.M. Zhang, H. Zheng and Y. Yao, held at Tsinghua University, Beijing, China, October 15 & 16, 2012, pp. 47-58.
89. Lade, P.V. "Time Effects Relate to Particle Crushing in Granular Materials," *Proceedings of the Second International Symposium on Constitutive Modeling of Geomaterials: Advances & New Applications*, Edited by Q. Yang, J.M. Zhang, H. Zheng and Y. Yao, held at Tsinghua University, Beijing, China, October 15 & 16, 2012, pp. 265-269.
90. Lade, P.V., Van Dyck, E.J., and Rodriguez, N.M. "Shear Banding in Torsion Shear Tests on Cross-Anisotropic Deposits of Fine Nevada Sand," Chapter 13 in the *10<sup>th</sup> International Workshop on Bifurcation and Degradation in Geomaterials*, Hong Kong, May 28-30, 2014.
91. Lade, P.V. and Karimpour, H. "Time Effects in Granular Materials: From Micro to Macro Behavior," *IS-Cambridge*, September 1-3, 2014 (8 pages).
92. Monkul, M.M., Etminan, E., Senol, A., and Lade, P.V. "Static Liquefaction and Volumetric Compressibility," *15<sup>th</sup> Turkish Congress on Soil Mechanics and Foundation Engineering*, Ankara, 2014 (in Turkish).

### Published Abstracts

1. Lade, P.V., "Constitutive Properties and Modeling of Cohesionless Soil," *Proceedings of the 11th Annual Meeting of the Society of Engineering Science, Inc.*, Durham, North Carolina, November 1974, pp. 302-303 (Invited).
2. Lade, P.V., "Three-Dimensional Constitutive Modeling of Concrete," *Proceedings of the Workshop on Constitutive Relations for Concrete*, Albuquerque, New Mexico, April 28, 1981 (Contribution No. 14).
3. Lade, P.V., "Failure Criterion for Frictional Materials," *Proceedings of the International Conference on Constitutive Laws for Engineering Materials*, Tucson, Arizona, January 1983, p. 211.
4. Lade, P.V., "Nonassociated Flow and Stability of Soils," *Proceedings of the 6th Engineering Mechanics Specialty Conference*, ASCE, Buffalo New York, May 1987, p. 188.
5. Lade, P.V., and Nelson, R.B., "Stability and Instability of Granular Materials with Nonassociated Flow," *Proceedings of the AFOSR Soil Mechanics Seminar*, Boston, Massachusetts, September 1987, pp. 23-26.
6. Lade, P.V., "Experimental Study of Nonassociated Flow and Instability of Frictional Materials," *Proceedings of the AFOSR Contractors' Meeting, Particulate Mechanics Subarea*, Albuquerque, New Mexico, January 1992, pp. 83-86.
7. Lade, P.V. "Recent Developments in Modeling Liquefaction Due to Earthquake Shaking," *Proceedings of International Workshop on Uncertainties in Nonlinear Soil Properties and Their Impact on Modeling Dynamic Soil Response*, held at University of California, Berkeley, March 18-19, 2004.
8. Lade, P.V. and Karimpour, H. "Time Effects in Granular Materials: Consistent Macro Behavior versus Scattered Micro Behavior," *Proceedings of the 16<sup>th</sup> U.S. National Congress of Theoretical and Applied Mechanics*, State College, Pennsylvania, USA, June 27-July 2, 2010.
9. Lade, P.V., and Karimpour, H. "Time Dependent Grain Crushing Accounts for Time Effects in Granular Materials," *Proceedings of the Engineering Mechanics Institute Conference 2010*, University of Southern California, Los Angeles, California, August 8-11, 2010.
10. Lade, P.V. "Constitutive Model: Tools for Advanced Analysis of Geotechnical Problems," *Geo-Strata*, July/August 2010, pp. 44-48.

## Reports

1. Lade, P.V. (1972), "The Stress-Strain and Strength Characteristics of Cohesionless Soils," Report (and Ph.D.-Thesis) to the National Science Foundation, Geotechnical Engineering, University of California, Berkeley.
2. Crow, S.C., Lade, P.V. and Hurlburt, G.H., "The Mechanics of Hydraulic Rock Cutting," Report No. UCLA-ENG-7384, School of Engineering and Applied Science, Nov. 1973.
3. Hurlburt, G.H., Crow, S.C. and Lade, P.V., "Experiments in Hydraulic Rock Cutting," Report No. UCLA-ENG-7442, School of Engineering and Applied Science, May 1974.
4. Lade, P.V., and Nejadi-Babadai, H., "Characteristics of Soil Drying by Microwave Oven," Report No. UCLA-ENG-7476, School of Engineering and Applied Science, October 1974.
5. Lade, P.V., "Elasto-Plastic Stress-Strain Theory for Cohesionless Soil with Curved Yield Surfaces," Report No. UCLA-ENG-7594, School of Engineering and Applied Science, Nov. 1975.
6. Lade, P.V. and Musante, H.M., "Three-Dimensional Behavior of Normally Consolidated Cohesive Soil," Report No. UCLA-ENG-7626, School of Engineering and Applied Science, April 1976.
7. Lade, P.V. and Lee, K.L., "Engineering Properties of Soils," Report No. UCLA-ENG-7652, School of Engineering and Applied Science, May 1976.
8. Boonyachut, S. and Lade, P.V., "Experimental Study of the Behavior of Cohesionless Soil During Stress Reversals," Report No. UCLA-ENG-7710, School of Engineering and Applied Science, January 1977.
9. Geiger, E. and Lade, P.V., "Experimental Study of the Behavior of Cohesionless Soil During Large Stress Reversals and Reorientation of Principal Stresses," UCLA-ENG-7917, March 1979.
10. Anderson, J. and Lade, P.V., "Evaluation of the Expansion Index Test," UCLA-ENG-7932, May 1979.
11. Lade, P.V., "Three-Dimensional Stress-Strain Behavior and Modeling of Soils," Heft 4, Serie Grundbau, Ruhr-Universitat Bochum, West Germany, August 1979.
12. Duncan, J.M., Lefebvre, G. and Lade, P.V., "The Landslide at Tuve, Near Goteborg, Sweden, On November 30, 1977," Report to Committee on Natural Disasters, National Research Council, National Academy Press, Washington, D.C., 1980.

13. Desai, C.S., Lade, P.V., Siriwardane, H.J. and Sture, S., "Evaluation of Constitutive Parameters for Geological Materials," Report to Workshop Session at Symposium on Implementation of Computer Procedures and Stress-Strain Laws in Geotechnical Engineering, Chicago, Illinois, August 1981.
14. Hegemeier, G.A., Cheverton, K.J., Hageman, L.J. and Lade, P.V., "On the Development of Constitutive Relations for Plain and Reinforced Concrete," Prepared for Nuclear Defense Agency, Washington, D.C., by S-Cubed, La Jolla, California, April 1982.
15. Read, H.E., Ko, H.-Y., Baladi, G.Y., Lade, P.V., Prevost, J.H., Sandler, I.S., Schuster, S.H. and Trulio, J.G., "A Study of the Capabilities of Six Advanced Soil Models to Predict Responses to Complex Strain Paths Typical of Explosively-Induced Ground Motion," Prepared for Nuclear Defense Agency, Washington, D.C., by S-Cubed, La Jolla, California, April 1983.
16. Kim, M.K. and Lade, P.V., "A Study of Constitutive Models for Frictional Materials," UCLA-ENG-8505, January 1985.
17. Tsai, J.I. and Lade, P.V., "Three-Dimensional Behavior of Remolded Overconsolidated Clay," UCLA-ENG-85-19, February 1985.
18. Lade, P.V., Nelson, R.B., and Ito, Y.M., "Experimental Study of Nonassociated Flow and Stability of Granular Materials," California Research and Technology, Inc., Chatsworth, California, September 1985.
19. Lade, P.V., "Advanced Triaxial Testing of Soils," The School of Civil and Mining Engineering, The University of Sydney, N.S.W., Australia, March 1986.
20. Lade, P.V., Nelson, R.B., and Ito, Y.M., "Experimental Study of Instability of Granular Materials with Nonassociated Flow," California Research and Technology, Inc., Chatsworth, California, July 1987.
21. Kirkgard, M.M., and Lade, P.V., "An Experimental Study of the Three-Dimensional Behavior of Natural Normally Consolidated Anisotropic Clay", UCLA-ENG-88-19, August 1988.
22. Nelson, R.B., Lade, P.V., Issa, J., Chamieh, N., and Yamamuro, J., "Micromechanical Behavior of Frictional Geologic Materials", Report to AFOSR under Grant No. 86-0290, November 1988.
23. Prabucki, M.-J., and Lade, P.V., "Triaxial Compression Tests on Santa Monica Beach Sand - I", UCLA-ENG-91-03, August 1990.
24. Prabucki, M.-J., and Lade, P.V., "Triaxial Compression Tests on Santa Monica Beach Sand - II", UCLA-ENG-91-04, August 1990.

25. de Boer, R., and Lade, P.V., "Towards a General Plasticity Theory for Empty and Saturated Porous Solids," *Forschungsberichte aus dem Fachbereich Bauwesen*, Heft 55, Universität Essen, Germany, July 1991.
26. Lade, P.V., Brown, C.B., McTigue, D.F., and Shen, H. "Report of the Science Review Panel (SRP) - Requirements Definition Review (PDR) for Mechanics of Granular Materials (MGM)" Report to NASA, March 1993.
27. Nam, J., and Lade, P.V., "Results of Torsion Shear Tests on Medium Dense Santa Monica Beach Sand", UCLA-ENG-93-24, April 1993.
28. Yamamuro, J.A., and Lade, P.V., "Instability and Behavior of Granular Materials at High Pressures", UCLA-ENG-93-26, April 1993.
29. Lade, P.V., and Yamamuro, J.A., "Experimental Study of Nonassociated Flow and Instability of Frictional Materials", Final Report to AFOSR under Grant No. 91-0117, University of California, Los Angeles, May 1993.
30. Lade, P.V., and de Boer, R., "The concept of effective stress in soil, concrete, and rock", Report No. 94/4, Institut für Mechanik, Universität Essen, Essen, Germany, 1994.
31. Lade, P.V., "Experimental Study of Factors Controlling Instability of Frictional Materials," Final Technical Report to AFOSR under Grant No. F49620-94-1-0032, Department of Civil Engineering, Johns Hopkins University, March 1997.
32. Lade, P.V. "Task 1.1: Critical Evaluation of the JCR V Unified Chalk Model" Report prepared for the Joint Chalk Research Project, presented at the JCR Meeting in Copenhagen, Denmark, December 13-14, 2004 (40 pp.).
33. Lade, P.V. "Single Hardening Model for Frictional Materials: Parameter Determination for Chalk" Report prepared for the Joint Chalk Research Project, presented at the JCR Meeting in Copenhagen, Denmark, December 13-14, 2004 (30 pp.).
34. Lade, P.V. "Critical Review of the Unified Chalk Model" Report prepared for the Joint Chalk Research Project (20 pp.).
35. Lade, P.V. "40 Years of Soil Mechanics" in "40 Jahre Grundbau und Bodenmechanik and der Ruhr-Universität Bochum," Bochum, Germany, 05.07.2012, pp.109-131.

## SHORT COURSES

1. "Critical State Soil Mechanics," Coordinator and Lecturer in UCLA Extension Short Course with C.P. Wroth (Cambridge University) and H. Wahls (N.C. State University), June 1978.
2. "Stress-Strain and Strength Behavior of Soils," continuous lecture series presented once a month at LeRoy Crandall and Associates, Los Angeles, California, April 1989 - February 1990.
3. "Stability of Slopes," continuous lecture series presented once a month at LeRoy Crandall and Associates, Los Angeles, California, March 1990 - July 1990.
4. "Stress-Strain Behavior and Constitutive Modeling of Soils," Short Course presented at the Technical University of Denmark, Lyngby, Denmark, January 10-13, 1990.
5. "Stress-Strain Behavior and Constitutive Modeling of Soils," Short Course presented at Shell Development Company, Houston, Texas, October 5-8, 1990.
6. "Stress-Strain Behavior and Constitutive Modeling of Soils," Short Course presented at Exxon Production Research Company, Houston, Texas, July 18-19, 1991.
7. "Stress-Strain Behavior and Constitutive Modeling of Soils," Short Course presented to Ente Nazionale per l'Energia Elettrica, Milano, Italy, September 12-16, 1991.
8. "Stress-Strain Behavior and Constitutive Modeling of Soils", Short Course presented to Measurement Analysis Corporation, Torrance, California, February 6, 7, and 13, 1992.
9. "Stress-Strain Behavior and Constitutive Modeling of Soils," Two-Day Short Course presented at Chung-Ang University, Seoul, Korea, September 2-3, 1994.
10. "Stress-Strain Behavior and Constitutive Modeling of Soils", Two-Day Short Course presented at Won-Kwang University, Iksan City (first day), and at Chonnam National University, Kwangju City (second day), Korea, July 13-14, 1995.
11. "Stress-Strain Behavior of Soils," Special Ph.D. course in Geotechnical Engineering presented at Aalborg University, Denmark, September 1996.
12. "Constitutive Modeling of Frictional Materials," Special Ph.D. course in Geotechnical Engineering presented at Aalborg University, Denmark, October-November 1996.
13. "Stress-Strain Behavior and Constitutive Modeling of Soils," Two-Day Short Course sponsored by the Danish Geotechnical Society and presented at the Danish Geotechnical Institute, Lyngby, December 3-4, 1996.
14. "Stress-Strain Behavior and Constitutive Modeling of Soils," Two-Day Short Course presented at University of Auckland, New Zealand, April 22-23, 1997.



15. “Stress-Strain Behavior and Constitutive Modeling of Soils,” Two-Day Short Course presented at the Swedish Geotechnical Institute, Linköping, Sweden, May 3-4, 2000.
16. “Stress-Strain Behavior and Constitutive Modeling of Soils,” Two-Day Short Course presented at Maersk Oil and Gas, Copenhagen, Denmark, January 6-7, 2003.
17. “Soil Constitutive Modeling for Engineers: Fundamentals, Evaluations and Calibration” Two-Day Short Course presented for ASCE in San Francisco, CA, January 25-26, 2007.
18. “Soil Constitutive Modeling for Engineers: Fundamentals, Evaluations and Calibration” Two-Day Short Course presented at the Port Authority of New York and New Jersey, in Newark, New Jersey, February 5-6, 2007.
19. “Soil Constitutive Modeling for Engineers: Fundamentals, Evaluations and Calibration” Two-Day Short Course presented for ASCE in Newark, New Jersey, February 8-9, 2007.
20. “Soil Constitutive Modeling for Engineers: Fundamentals, Evaluations and Calibration” Two-Day Short Course presented for ASCE in Atlanta, Georgia, July 26-27, 2007.
21. “Soil Constitutive Modeling for Engineers: Fundamentals, Evaluations and Calibration” Two-Day Short Course presented for ASCE in Las Vegas, Nevada, January 17-18, 2008.
22. “Soil Constitutive Modeling for Engineers: Fundamentals, Evaluations and Calibration” Two-Day Short Course presented for ASCE in Denver, Colorado, May 29-30, 2008.
23. “Soil Constitutive Modeling for Engineers: Fundamentals, Evaluations and Calibration” Two-Day Short Course presented at ExxonMobil Research and Engineering, Annandale, New Jersey, October 16-17, 2008.
24. “Soil Constitutive Modeling for Engineers: Fundamentals, Evaluations and Calibration” Two-Day Short Course presented for ASCE in Cincinnati, Ohio, February 5-6, 2009.
25. “Stress-Strain Behavior and Constitutive Modeling of Frictional Materials,” Seven-Day Course presented at the Institute of Geotechnical Engineering, Southeast University, Nanjing, China, June 3 – 9, 2009.
26. “Short Course on Computational Geotechnics & Soil Models – PLAXIS” Arranged and presented at The Catholic University of America, Washington, D.C., January 19-22, 2010.
27. “Constitutive Models for Geomaterials”, Three-Day Short Course presented at the International Centre for Computational Engineering in Rhodes City, Rhodes, Greece, December 8-10, 2011.

28. “Stress-Strain Behavior and Constitutive Modeling of Frictional Materials,” Seven-Day Course presented at the Department of Civil Engineering, Zhejiang University, Hangzhou, China, July 15-23, 2013.
29. “Stress-Strain Behavior and Constitutive Modeling of Frictional Materials,” Seven-Day Course presented at the Department of Civil Engineering, Polytechnic University of Catalonia, Barcelona, Spain, June 10-18, 2014.

## INVITED KEYNOTE LECTURES

1. "Three-Dimensional Behavior and Parameter Evaluation for an Elasto-Plastic Soil Model," International Symposium on Numerical Models in Geomechanics, Zurich, Switzerland, Sept. 7, 1982 (Keynote Lecture).
2. "Constitutive Model for Frictional Materials with Application to Concrete", presented at 7th Int. Conf. on Computer Methods and Advances in Geomechanics, Cairns, Queensland, Australia, May 6, 1991 (Lead Lecture).
3. "Instability and Liquefaction of Granular Materials", presented at the 4th International Symposium on Numerical Models in Geomechanics, Swansea, Wales, August 25, 1992 (Keynote Lecture).
4. "Experimental Determination of Constitutive Behavior of Soils", presented at the Eighth International Conference on Computer Methods and Advances in Geomechanics, Morgantown, West Virginia, 22-28 May 1994 (Lead Lecture).
5. "Instability of Sand in the Prefailure Hardening Regime", Presented at The International Symposium on Pre-Failure Deformation Characteristics of Geomaterials, Sapporo, Japan, September 13, 1994 (Keynote Lecture).
6. "Effects of strain localization in triaxial extension tests," presented at the Fifth International Symposium on Numerical Models in Geomechanics - NUMOG V, held in Davos, Switzerland, September 6-8, 1995 (Feature Lecture).
7. "Rotational Kinematic Hardening Model for Sand," presented at the 6th International Symposium on Numerical Models in Geomechanics - NUMOG VI, held in Montreal, Canada, July 2-4, 1997 (Feature Lecture).
8. "Instability of Granular Materials," presented at the International Workshop on the Physics and Mechanics of Soil Liquefaction, held in Baltimore, Maryland, September 10-11, 1998 (Keynote Lecture).
9. "Modeling creep behavior of granular materials," presented at the 10th International Conference on Computer Methods and Advances in Geomechanics, held in Tucson, Arizona, January 7-12, 2001 (Lead Lecture).
10. "Effect of Slenderness Ratio on Shear Banding in True Triaxial Tests on Sand," presented at the 8th International Symposium on Numerical Models in Geomechanics - NUMOG VIII, held in Rome, Italy, April 10-12, 2002 (Feature Lecture).
11. Lade, P.V. "Modeling Large Stress Reversals and Stress Rotation in Soils," Presented at *17<sup>th</sup> ASCE Engineering Mechanics Specialty Conference*, held at University of Delaware, June 13-16, 2004. CD Rom (Keynote Lecture).

12. Lade, P.V. "Shear Banding in Sand Under 3D Conditions – Experimental Results, Calculation Procedures, and Predictions," presented at the *11<sup>th</sup> Symposium, Plasticity 2005: Dislocations, Plasticity, Damage and Metal Forming: Material Response and Multiscale Modeling*, held in Kauai, Hawaii, Jan. 4-8, 2005, pp. 583-585 (Invited Keynote Lecture).
13. Lade, P.V. "Overview of Constitutive Models for Soils," presented in the session on *Soil Constitutive Models: Evaluation, Selection, and Calibration* at the *ASCE Geo-Frontiers Conference*, January 24-26, 2005, Austin, Texas, (Invited Keynote Lecture).
14. Lade, P.V. "Factors Affecting Three-Dimensional Failure in Soils," presented at the *10th International Symposium on Numerical Models in Geomechanics - NUMOG X*, held in Rhodes, Greece, April 25-27, 2007 (Invited Feature Lecture).
15. Lade, P.V. "Effects of Fines on Compressibility and Static Liquefaction of Granular Materials," Presented at the *First International Symposium on Computational Geomechanics (ComGeo I)*, held at Juan-les-Pins, Cote d'Azur, France, April 29-May 1, 2009 (Invited Feature lecture).
16. Lade, P.V. "Static fatigue produces time effects in granular materials," Presented at the *2<sup>nd</sup> International Symposium on Computational Geomechanics (ComGeo II)*, held at Cavtat-Dubrovnik, Croatia, April 27-29, 2011 (Invited Feature Lecture).
17. Lade, P.V. "Time Effects in Sand," Presented at *The 18<sup>th</sup> International Symposium on Plasticity & Its Current Applications*, held at Rio Mar Beach Resort & Spa in San Juan, Puerto Rico, January 3-8, 2012 (Invited Keynote Lecture).
18. Lade, P.V. "Three-Dimensional Strength of Cross-Anisotropic Sand Deposits," Presented at *the 2012 World Congress on Advances in Civil, Environmental, and Materials Research (ACEM'12)*, Seoul, Korea, Aug. 26-29, 2012 (Invited Keynote Lecture).
19. Lade, P.V. "Three-Dimensional Failure in Geomaterials: Experimentation and Modeling," Presented at *the Second International Symposium on Constitutive Modeling of Geomaterials: Advances & New Applications*, Tsinghua University, Beijing, China, October 15 & 16, 2012 (Invited Plenary Lecture).
20. Lade, P.V. "Shear Banding in Torsion Shear Tests on Cross-Anisotropic Sand Deposits of Fine Nevada Sand" Presented at the *Third International Symposium on Computational Geomechanics (ComGeo III)*, held at Krakow, Poland, August 21-23, 2013 (Invited Feature Lecture).
21. Lade, P.V., Rodriguez, N.M. and Van Dyck, E.J. "Failure of Cross-Anisotropic Sand under 3D Stress Conditions with Principal Stress Rotation," Presented at the *International Conference on Plasticity 2015*, Montego Bay, Jamaica, January 4-9, 2015 (Invited Keynote Lecture).

## INVITED LECTURES

1. "Three-dimensional Plastic Behavior of Cohesionless Soil," Discussion presented at Symposium of Role of Plasticity in Soil Mechanics, September 13-15, 1973, Cambridge Univ., England.
2. "A Stress-Strain Theory for Cohesionless Soil," presented in the Mechanics & Structures Dept. Seminar Series, UCLA, October 30, 1973.
3. "Soil Characterization - Static Properties," presented in UCLA Extension Course on Earthquake Engineering (Gary Hart in charge), September 1973.
4. "Soil Characterization - Static Properties," presented in UCLA Extension Course on Earthquake Engineering (Gary Hart in charge), September 1974.
5. "Constitutive Properties and Modeling of Cohesionless Soil," presented at the 11th Annual Meeting of the Society of Engineering Science, Inc., Duke Univ., Durham, NC, November 1974.
6. "Soil Characterization - Static Properties," presented in UCLA Extension Course on Earthquake Engineering (Gary Hart in charge), September 1975.
7. "Three-Dimensional Stress-Strain and Strength Behavior of Soils," presented to the Geotechnical Engineering group of the L.A. Section of ASCE, September 24, 1975.
8. "Three-Dimensional Stress-Strain and Strength Behavior of Soils," presented at Converse, Davis, Dixon Associates, Pasadena, Fall 1975.
9. "Soil Characterization - Static Properties," presented in UCLA Extension Course on Earthquake Engineering (Gary Hart in charge), January 1977.
10. "Elasto-Plastic Stress-Strain Theory for Soils with Emphasis on Modeling of Cyclic Loading Conditions by Kinematic Hardening Theory," presented at the Naval Civil Engineering Lab., Port Hueneme, CA, April 4, 1977.
11. "Comparison of Stress-Strain and Strength Behavior of Sand and Remolded Clay," presented at Converse, Davis, Dixon Associates, Pasadena, May 13, 1977.
12. "Constitutive Law for Soils with Curved Yield Surfaces," presented at Calif. Inst. of Technology, March 10, 1977, and Mechanics & Structures Dept. Seminar Series, UCLA, May 19, 1977.
13. "Elasto-Plastic Stress-Strain Theory for Soils with Curved Yield Surfaces," presented at the Engr. Dept., Cambridge Univ., England, June 14, 1977.
14. "Elasto-Plastic Stress-Strain Theory for Cohesionless Soil," presented at Reinisch-Westfalischen Technischen Hochschule, Aachen, Germany, June 23, 1977.

15. "Three-Dimensional Stress-Strain and Strength Behavior of Sand and Remolded Clay," presented at Technische Universitat, Hannover, Germany, June 24, 1977.
16. "Elasto-Plastic Stress-Strain Theory for Soils with Curved Yield Surfaces," presented at Der Grundbauinstitutes der Landesgewerbeanstalt Bayern, Nurnberg, Germany, June 27, 1977.
17. "Three-Dimensional Stress-Strain and Strength Behavior of Sand and Remolded Clay," presented at Technische Universitat, Berlin, Germany, June 28, 1977.
18. "Elasto-Plastic Stress-Strain Theory for Soils with Curved Yield Surfaces," presented at Der Bundesanstalt fur Materialprufung, Berlin, Germany, June 29, 1977.
19. "Three-Dimensional Behavior of Cohesionless Soil During Large Stress Reversals," presented at Der Bundesanstalt fur Materialprufung, Berlin, Germany, June 29, 1977.
20. "Elasto-Plastic Stress-Strain Theory for Soils with Curved Yield Surfaces." presented at Technische Universitat Munchen, Germany, July 1, 1977.
21. "Elasto-Plastic Stress-Strain Theory for Cohesionless Soil with Emphasis on modeling of Stress-Path Dependent Behavior," presented at Universitat Stuttgart, Germany, July 6-8, 1977.
22. "Elasto-Plastic Stress-Strain Theory for Soils with Curved Yield Surfaces," presented at Universitat Stuttgart, Germany, July 6-8, 1977.
23. "Three-Dimensional Behavior of Cohesionless Soil During Large Stress Reversals," presented at Universitat Stuttgart, Germany, July 6-8, 1977.
24. "Three-Dimensional Stress-Strain and Strength Behavior of Sand and Remolded Clay," presented at Universitat Stuttgart, Germany, July 6-8, 1977.
25. "Elasto-Plastic Stress-Strain Theory for Cohesionless Soil with Emphasis on Modeling of Stress-Path Dependent Behavior," presented at Technische Hochschule Darmstadt, Germany, July 25-28, 1977.
26. "Elasto-Plastic Stress-Strain Theory for Soils with Curved Yield Surfaces," presented at Technische Hochschule Darmstadt, Germany, July 25-28, 1977.
27. "Three-Dimensional Behavior of Cohesionless Soil During Large Stress Reversals," presented at Technische Hochschule, Darmstadt, Germany, July 25-28, 1977.
28. "Three-Dimensional Stress-Strain and Strength Behavior of Sand and Remolded Clay," presented at Technische Hochschule DarmstadL, Germany, July 25-28, 1977.
29. "Elasto-Plastic Stress-Strain Theory for Soils with Curved Yield Surfaces," presented at the U.S. Army Corps of Engineers' Waterways Experiment Station, Vicksburg, MA, September 12, 1978.

30. "Landslides '78," presented to the Geotechnical Engineering Group of the L.A. Section of ASCE, September 20, 1978.
31. "Elasto-Plastic Stress-Strain Theory for Soils with Curved Yield Surfaces," presented at Stanford Univ., March 1, 1979.
32. "Stress-Strain Theory for Normally Consolidated Clay," presented at the 3rd Int. Conf. on Numerical Methods in Geomechanics, Aachen, Germany, April 5, 1979.
33. "Behavior of Cohesionless Soil During Large Stress Reversals and Reorientation of Principal Stress Axes," Ruhr-Univ., Bochum, W. Germany, June 21-August 9, 1979.
34. "Elasto-Plastic Stress-Strain Theory for Cohesionless Soil with Emphasis on Modeling of Stress-Path Dependent Behavior," Ruhr-Univ., Bochum, W. Germany, June 21-Aug. 9, 1979.
35. "Elasto-Plastic Stress-Strain Theory for Soils with Curved Yield Surfaces," Ruhr-Univ., Bochum, W. Germany, June 21-August 9, 1979.
36. "Three-Dimensional Behavior of Cohesionless Soil During Large Stress Reversals," Ruhr-Univ., Bochum, W. Germany, June 21-August 9, 1979.
37. "Three-Dimensional Stress-Strain and Strength Behavior of Sand and Remolded Clay," Ruhr-Univ., Bochum, W. Germany, June 21-Aug. 9, 1979.
38. "Influence Zones in Alluvium over Dip-Slip Faults," Engr. Dept., Cambridge Univ., Cambridge, England, February 1, 1980.
39. "Elasto-Plastic Stress-Strain Theory for Soils with Curved Yield Surfaces," King's College, Univ. of London, England, April 17, 1980.
40. "Elasto-Plastic Stress-Strain Theory for Soils with Curved Yield Surfaces," Delft Soil Mechanics Laboratory (LGM) and Delft Institute of Technology, The Netherlands, April 28-29, 1980.
41. "Three-Dimensional Behavior of Cohesionless Soil During Large Stress Reversals and Reorientation of Principal Stress Axes," Delft Soil Mechanics Laboratory (LGM) and Delft Institute of Technology, The Netherlands, April 28-29, 1980.
42. "Elasto-Plastic Stress-Strain Theory for Sand," the Workshop on Plasticity Theories and Generalized Stress-Strain Modelling of Soils, McGill Univ., Montreal, Canada, May 28, 1980.
43. "The Use of Mathematical Models for Predicting the Behavior of Soils," Engr. Dept., Cambridge Univ., England, June 6, 1980.
44. "Three-Dimensional Behavior of Sand and Remolded Clay as Determined in the Cubical Triaxial Apparatus," The Norwegian Inst. of Technology, Trondheim, Norway, June 23, 1980.

45. "Influence Zones in Alluvium Over Dip-Slip Faults," presented in the Mechanics and Structures Dept. Seminar Series, UCLA, November 20, 1980.
46. "Elasto-Plastic Stress-Strain Theory for Soils with Curved Yield Surfaces," presented at Carleton University, Ottawa, Canada, December 12, 1980.
47. "Three-Dimensional Constitutive Relations for Concrete," presented at the AFWL-DNA-NMERI Workshop on Constitutive Relations for Concrete, Albuquerque, NM, April 29, 1981.
48. "Influence Zones in Alluvium Over Dip-Slip Faults," Assoc. of Engr. Geologist, Los Angeles, July 14, 1981.
49. "Incrementalization Procedure for Elasto-Plastic Constitutive Law with Multiple, Simultaneous Yield Surfaces," Symposium on Implementation of Computer Procedures and Stress-Strain Laws in Geotechnical Engr., Chicago, IL, August 4, 1981.
50. "Parameter Determination for Elasto-Plastic Stress-Strain Model," Symposium on Implementation of Computer Procedures and Stress-Strain Laws in Geotechnical Engr., Chicago, IL, August 5, 1981.
51. "Parameter Determination for Hyperbolic Stress-Strain Model," Symposium on Implementation of Computer Procedures and Stress-Strain Laws in Geotechnical Engr., Chicago, IL, August 5, 1981.
52. "Large Stress Reversals in Triaxial Tests on Sand," 4th Int. Conf. on Numerical methods in Geomechanics, Edmonton, Canada, June 3, 1982.
53. "Localization Effects in Triaxial Tests on Sand," IUTAM Symposium on Deformation and Failure of Granular Materials, Delft, Holland, Sept. 2, 1982.
54. "Elasto-Plastic Stress-Strain Model, Parameter Evaluation and Predictions for Dense Sand," International Workshop on Constitutive Behavior of Soils, Grenoble, France, Sept. 7, 1982.
55. "Special Needs in Laboratory Research for Property Determination of Compacted Embankment Soils," presented at the U.S. Army Corps of Engineers' Waterways Experiment Station, Vicksburg, MS, Sept. 28, 1982.
56. "Failure Criterion for Frictional Materials," presented at the Int. Conf. on Constitutive Laws for Engineering Materials: Theory and Application, Tucson, Arizona, Jan. 11, 1983.
57. "Three-Dimensional Constitutive Modeling of Frictional Materials," presented in Finite Element Seminar Series at University of Arizona, Tucson, Arizona, Sept. 16, 1983.



58. "Yielding" and "Formation of Shear Planes" presented at the NSF Workshop on Experimental Research in Soil Engineering, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, August 22, 1983.
59. "Ground Rupture Zones in Alluvium Over Dip-Slip Faults," presented at California Institute of Technology, February 21, 1985.
60. "Three-Dimensional Constitutive Modeling of Frictional Materials," presented at Kyushu University, Fukuoka, Japan, April 8, 1985.
61. "Failure Criterion for Frictional Materials," presented at the Technical Institute of Shimuzu Construction Company, Ltd., Tokyo, Japan, April 11, 1985.
62. "Behavior of Sand, Dilatancy and Nonassociated Flow," presented to the U.S. Army Corps of Engineers, Waterways Experiment Station, Vicksburg, MA, June 1985.
63. "Modeling the Constitutive Behavior of Soils," panel presentation in Session 1A on Constitutive Relationships for Soil Behavior, XIth International Conference on Soil Mechanics and Foundation Engineering, San Francisco, CA, August 15, 1985.
64. "Presentation of Test Results," presented in seminar on Advanced Triaxial Testing of Soils, The University of Sydney, Sydney, N.S.W., Australia, March 4, 1986.
65. "Principles of Triaxial Testing," presented in seminar on Advanced Triaxial Testing of Soils, The University of Sydney, Sydney, N.S.W., Australia, March 4, 1986.
66. "Instrumentation and Measurement," presented in seminar on Advanced Triaxial Testing of Soils, The University of Sydney, Sydney, N.S.W. Australia, March 6, 1986.
67. "Triaxial Equipment," presented in seminar on Advanced Triaxial Testing of Soils, The University of Sydney, Sydney, N.S.W., Australia, March 6, 1986.
68. "Specimen Saturation" presented in seminar on Advanced Triaxial Testing of Soils, The University of Sydney, Sydney, N.S.W., Australia, March 11, 1986.
69. "Testing Stage 1: Consolidation." presented in seminar on Advanced Triaxial Testing of Soils, The University of Sydney, Sydney, N.S.W., Australia, March 11, 1986.
70. "Testing Stage II: Shearing," presented in seminar on Advanced Triaxial Testing of Soils, The University of Sydney, Sydney, N.S.W., Australia, March 13, 1986.
71. "Tests with Three Unequal Stresses," presented in seminar on Advanced Triaxial Testing of Soils, The University of Sydney, Sydney, N.S.W., Australia, March 13, 1986.
72. "Saturation Methods for Triaxial Specimens," presented in Engineering and Computational Mechanics Seminar Series at the University of Arizona, Tucson, Arizona, October 24, 1986.

73. "Instability of Granular Materials with Nonassociated Flow," Seminar in Mechanics of Granular Media presented at University of Southern California, October 15, 1987.
74. "Pros and Cons of the Expansion Index Test" Seminar presented for the Geotechnical Engineering Division of the ASCE San Diego Section, December 15, 1987.
75. "Experimental Observations of Stability, Instability, and Shear Planes in Granular Materials," presented at Workshop on Recent Developments on Limit Analysis and Bifurcation Theory in Geomechanics, Karlsruhe, West Germany, February 23, 1988.
76. "Observations of Nonassociated Flow, Stability and Instability in Experiments on Granular Soils", presented at School of Civil Engineering, Georgia Institute of Technology, Atlanta, Georgia, March 21, 1990.
77. "Three-Dimensional Behavior of Cross-Anisotropic Soils" presented at Symposium on the Geotechnical and Hydrological Properties of San Francisco Bay Mud, Lafayette, California, May 13, 1989.
78. "Nonassociated Flow and Instability of Soil", Geotechnical Engineering Seminar presented at University of California, Davis, May 28, 1987.
79. "Rock Strength Criteria: the Theories and the Evidence", presented at WES, Vicksburg, Mississippi, September 10, 1990.
80. "Behavior and Modeling of Frictional Materials", Seminar presented at University of California, Berkeley, California, June 25, 1991.
81. "Classical versus Advanced Approach to Design in Geotechnical Engineering", presented to the Geotechnical Engineering Society, Milano, Italy, September 11, 1991.
82. "Observations of Nonassociated Flow, Stability and Instability in Experiments on Granular Materials", presented to the Departments of Mathematics and of Civil Engineering, Duke University, Durham, North Carolina, March 25, 1992.
83. "Observations of Nonassociated Flow, Stability and Instability in Experiments on Granular Soils", presented at the Department of AMES, University of California, San Diego, California, May 4, 1992.
84. "Influence of Creep on Static and Cyclic Instability of Granular Soils", presented at the Workshop on Modern Approaches to Plasticity, Horton, Greece, June 12, 1992.
85. "Observations of Nonassociated Flow, Stability and Instability in Experiments on Granular Soils", presented to the Department of Civil Engineering, University of Essen, Germany, August 19, 1992.
86. "Instability and Liquefaction of Granular Materials", presented at The Johns Hopkins University, Baltimore, Maryland, January 8, 1993.

87. "Instability and Liquefaction of Granular Materials", presented at University of Alberta, Edmonton, Alberta, Canada, October 4, 1993.
88. "Observations of Nonassociated Flow, Stability, and Instability in Experiments on Granular Materials", presented at the Institute for Mechanics, University of Essen, Germany, July 15, 1994.
89. "Instability and Liquefaction of Granular Materials", Presented at Yonsei University, Seoul, Korea, September 5, 1994.
90. "Single Hardening Constitutive Model with Applications to Soil, Concrete, and Rock", Presented at Won-Kwang University, Iri City, Korea, September 6, 1994.
91. "Instability and Liquefaction of Granular Materials", Presented at Chun-Nam University, Kwangju City, Korea, September 6, 1994.
92. "The Concept of Effective Stress for Soil, Concrete, and Rock", Presented at the Department of Applied Mechanics and Engineering Science, University of California at San Diego, La Jolla, California, October 10, 1994.
93. "Classical versus Advanced Approach to Design in Geotechnical Engineering," presented to The Korean Geotechnical Society, at Yonsei University, Seoul, Korea, July 12, 1995.
94. "Single and Double Hardening Plasticity Models for Frictional Materials - A Comparison," presented at the fifth international symposium on plasticity and its current applications, Plasticity '95, held in Sakai, Osaka Prefecture, Japan, July 17-21, 1995.
95. "Single Hardening Constitutive Model with Applications to Soil, Concrete, and Rock", presented at Osaka University, Osaka, Japan, July 24, 1995.
96. "Modeling Time Effects and Instability of Granular Materials," presented at the Workshop on Sediment Geoacustical and Geotechnical Constitutive Modeling, held at University of Rhode Island, Narragansett, Rhode Island, November 13-14, 1995.
97. "Instability and Liquefaction of Granular Materials", presented at University of Illinois, Urbana-Champaign, December 4, 1995.
98. "Failure Criterion for Frictional Materials," presented at University of Illinois, Urbana-Champaign, December 5, 1995.
99. "Failure Criterion for Frictional Materials," presented at University of Florida, Gainesville, March 8, 1996.
100. "Experimental Observations and Modeling of Yield Surfaces for Granular Materials," presented at IUTAM Symposium on Mechanics of Granular Porous Materials, held at Cambridge University, England, July 15-17, 1996.

101. "Hvordan en geoteknisk jordmodel anvendes I praksis," (How a geotechnical soil model is used in practice"), presented in program on Livslang Uddannelse (Lifelong Education), Department of Civil Engineering, Aalborg University, Denmark, August 30, 1996.
102. "Influence Zones in Alluvium Over Dip-Slip Faults," presented to the Foundations Group, Department of Civil Engineering, Aalborg University, Denmark, September 20, 1996.
103. "Instability and Liquefaction Granular Soils," presented at Institute of Mechanics, Department of Civil Engineering, University of Stuttgart, Germany, October 2, 1996.
104. Modeling the Strengths of Engineering Materials," presented at Institute of Mechanics, Department of Civil Engineering, University of Essen. Germany, October 4, 1996.
105. "Single Hardening Plasticity Model for Frictional Materials," presented at the 9th Nordic Seminar on Computational Mechanics, held at The Technical University of Denmark, Lyngby, Denmark, October 1996.
106. "Rotational Kinematic Hardening Model for Sand," presented at the 2nd Workshop on Dynamic Loads and Response of Structures and Soil Dynamics, held at Aalborg University, Denmark, November 13-14, 1996.
107. "Observations of Nonassociated Flow, Stability and Instability in Experiments on Granular Soils," presented at Division of Mechanics, Lund Institute of Technology, Lund University, Sweden, November 25, 1996.
108. "Single Hardening Constitutive Model for Soil, Rock, and Concrete," presented at Department of Geotechnical Engineering, The Norwegian University of Science and Technology, Trondheim, Norway, December 12, 1996.
109. "Instability and Liquefaction of Granular Soils," presented at Department of Geotechnical Engineering, The Norwegian University of Science and Technology, Trondheim, Norway, December 13 (morning), 1996.
110. "Instability and Liquefaction of Granular Soils," presented at the Norwegian Geotechnical Institute (NGI), Oslo, Norway, December 13 (afternoon), 1996.
111. "A New Method of Tailings Dam Design," presented at Shepherd Miller, Inc., Fort Collins, Colorado, March 21, 1997.
112. "Ground Rupture Zones in Alluvium Over Dip-Slip Faults," presented at the Workshop on Evaluation of and Mitigation within Coseismic Zones of Surface Deformation, held at University of Southern California, Los Angeles, California, May 13-14, 1997.
113. "The Concept of Effective Stress for Soil, Concrete and Rock," presented at EUROMECH Colloquium 366 on Porous Media - Theory and Experiments, held in Essen, Germany, June 23-26, 1997.

114. "Instability and Liquefaction of Granular Materials," Presented at Clarkson University, Potsdam, New York, July 7, 1997.
115. "Modeling the Strength of Engineering Materials in Three Dimensions," presented at Sandia National Laboratories, Albuquerque, New Mexico, November 3, 1997.
116. "Single Hardening Constitutive Model for Soil, Rock and Concrete," presented at Sandia National Laboratories, Albuquerque, New Mexico, November 3, 1997.
117. "Instability, Shear Banding, and Failure in Granular Materials," presented at the Thirteenth U.S. National Congress of Applied Mechanics, University of Florida, Gainesville, Florida, June 21-26, 1998.
118. "Planer for fremtidig profil i Geoteknik ved Aalborg Universitet," presented at the Meeting of the Danish Geotechnical Society, Aalborg University, Aalborg, Denmark, November 11, 1999.
119. "Effects of Shear Banding on Failure Under 3-Dimensional Conditions," presented at the 2nd Workshop on Soil-Structure Interaction, Technische Universität, Darmstadt, March 17, 2000.
120. "Moderne jordmodeller - hvor står vi i dag - og i morgen?" presented at COWI, Lyngby, Denmark, May 26, 2000.
121. "Modeling Sea Ice as an Elasto-Plastic Frictional Material," presented at the IUTAM on Scaling Laws in Ice Mechanics and Ice Dynamics, Fairbanks, Alaska, June 13-16, 2000.
122. "Effects of Shear Banding on Failure Under 3-Dimensional Conditions," presented at University of Delaware, Newark, Delaware, October 16, 2000.
123. "Hurtige Konsolideringsforsøg," presented at the Meeting of Gamma-Net, Aalborg University, Aalborg, Denmark, November 2, 2000.
124. "Effects of Shear Banding on Failure Under 3-Dimensional Conditions," presented at the School of Civil and Environmental Engineering, Georgia Institute of Technology, Atlanta, Georgia, March 22, 2001.
125. "Instability, Shear Banding, and Failure in Granular Materials," presented at the IUTAM Symposium on Material Instabilities and the Effect of Microstructure, The University of Texas, Austin, May 7-11, 2001.
126. "Modeling the Strength of Materials in Three Dimensions," presented to the Danish Society of Building Statics (Dansk Selskab for Bygningsstatik), at The Technical University of Denmark, Lyngby, September 4, 2001.

127. “Instability, Shear Banding, and Failure in Granular Materials,” presented to the Danish Geotechnical Society, at the Danish Geotechnical Institute, Lyngby, September 20, 2001.
128. “Mechanics of Instability in Granular Materials” presented at University of Delaware, Newark, Delaware, September 24, 2001.
129. “Instability, Shear Banding and Failure in Granular Materials” presented at the WIAS-Workshop on “Granular Materials in Geotechnics”, held at the Weierstrass Institute for Applied Analysis and Stochastics (WIAS), Berlin, Germany, November 23, 2001.
130. “Instability, Shear Banding and Failure in Granular Materials” presented at the Danish Center for Applied Mathematics and Mechanics, The Technical University of Denmark, Lyngby, December 10, 2001.
131. “Effects of Shear Banding on Failure Under 3-Dimensional Conditions,” presented at the Department of Civil and Architectural Engineering, University of Wyoming, Laramie, Wyoming, April 29, 2002.
132. “Effects of Shear Banding on Failure Under 3-Dimensional Conditions,” presented at the Department of Civil and Environmental Engineering, University of South Florida, Tampa, Florida, May 6, 2002.
133. “Modeling Creep Behavior of Granular Materials” presented at Department of Civil and Environmental Engineering, University of Delaware, Newark, Delaware, May 8, 2002.
134. “Effects of Shear Banding on Failure Under 3-Dimensional Conditions,” presented at the Division of Engineering, Colorado School of Mines, Golden, Colorado, May 10, 2002.
135. “Effects of Shear Banding on Failure Under 3-Dimensional Conditions,” presented at the Department of Civil and Architectural Engineering, Drexel University, Philadelphia, Pennsylvania, May 14, 2002.
136. “Effects of Consolidation Stress State on Normally Consolidated Clay” presented at Tulane University, New Orleans, Louisiana, September 9, 2002.
137. “Analysis and Prediction of Shear Bands in 3D Tests on Granular Materials,” presented at Abschlusskolloquium SFB 298 on Deformation und Versagen bei Metallischen und Granularen Strukturen, Technische Universität Darmstadt, held at Lufthansa Training Center, Seeheim, Germany, November 18-19, 2002.
138. “Analysis and Prediction of Shear Bands in 3D Tests on Granular Materials” presented at Department of Civil and Environmental Engineering, Catholic University of America, Washington, D.C., January 24, 2003.

139. "Limitations of Kinematic Hardening for Modeling Soil Behavior" presented at *First U.S.-Japan Workshop on Testing, Modeling, and Simulation*, held in Boston, June 27-29, 2003.
140. "Analysis and Prediction of Shear Banding Under 3D Conditions in Granular Materials," presented at the *Third International Symposium on Deformation Characteristics of Geomaterials, IS Lyon 2003*, held in Lyon, France, 22-24 September, 2003.
141. "Single Hardening Constitutive Model for Soil, Rock and Concrete," presented at Workshop on Chalk Mechanical Behaviour, Stavanger, Norway, February 3-4, 2004.
142. "Prediction of Large Three-Dimensional Stress Reversals in Cross-Anisotropic Sand," presented at the *17<sup>th</sup> ASCE Engineering Mechanics Specialty Conference*, held at University of Delaware, June 13-16, 2004.
143. "Kinematic Hardening Model Predictions for Sand Behavior under Large Three-Dimensional Stress Reversals," presented at the *Ninth International Symposium on Numerical Models in Geomechanics, NUMOG IX*, Ottawa, Canada, August 25-27, 2004.
144. "The Concept of Effective Stress for Soil, Concrete, and Rock" presented at the Department of Civil Engineering, University of Minnesota, Minneapolis, Minnesota, April 16, 2004.
145. "Task 1.1: Critical Evaluation of the JCR V Unified Chalk Model," presented at the Workshop on Chalk Mechanical Behaviour, Copenhagen, Denmark, December 13-14, 2004.
146. "Overview of Constitutive Models for Soils," presented at the Workshop on Chalk Mechanical Behaviour, Copenhagen, Denmark, December 13-14, 2004.
147. "Single Hardening Model for Frictional Materials: Parameter Determination for Chalk," presented at the Workshop on Chalk Mechanical Behaviour, Copenhagen, Denmark, December 13-14, 2004.
148. "Shear Banding in Sand Under 3D Conditions – Experimental Results, Calculation Procedures, and Predictions," presented at the Workshop on Chalk Mechanical Behaviour, Copenhagen, Denmark, December 13-14, 2004.
149. "Experimental Study and Analysis of Creep and Stress Relaxation in Granular Materials," presented at Geo-Denver, Denver, Colorado, February 2007.
150. "Factors Affecting Three-Dimensional Failure in Soils" Presented at the Tenth International Symposium on Numerical Models in Geomechanics, NUMOG X, Rhodes, Greece, April 25-27, 2007.

151. “Factors Affecting Three-Dimensional Failure in Soils” presented at the GeoEngineering Centre, Queen’s University, Kingston, Ontario, September 26, 2007.
152. “Overview of Constitutive Models for Soils,” presented at the Department of Civil Engineering, Queen’s University, Kingston, Ontario, September 26, 2007.
153. “Overview of Constitutive Models for Soils,” presented at the Institute of Geotechnical Engineering, Southeast University, Nanjing, China, October 31, 2007.
154. “Overview of Constitutive Models for Soils,” presented at the College of Architecture and Civil Engineering, Yangzhou University, Yangzhou, China, November 1, 2007.
155. “Analysis and Prediction of Shear Banding Under 3D Conditions in Granular Materials,” presented at Department of Civil and Environmental Engineering, Louisiana State University, Baton Rouge, Louisiana, February 18, 2008.
156. “Assessment of test data for selection of 3-D failure criterion for sand” Haythornthwaite Distinguished Lecture presented at Department of Civil and Environmental Engineering, Temple University, Philadelphia, Pennsylvania, November 7, 2008.
157. “Mechanistic Picture of Time Effects in Granular Materials,” presented at the *International Symposium on Prediction and Simulation Methods for Geohazard Mitigation*, held in Kyoto, Japan, May 25-27, 2009.
158. “Static Fatigue Produces Time Effects in Granular Materials,” Presented at *GeoFlorida 2010: Advances in Modeling & Design, ASCE*, held in West Palm Beach, Florida, February 21-24, 2010.
159. “Time Effects in Granular Materials: Consistent Macro Behavior versus Scattered Micro Behavior,” Presented at the *16<sup>th</sup> U.S. National Congress of Theoretical and Applied Mechanics*, State College, Pennsylvania, USA, June 27-July 2, 2010.
160. “Time Dependent Grain Crushing Accounts for Time Effects in Granular Materials,” Presented at the *Engineering Mechanics Institute Conference 2010*, University of Southern California, Los Angeles, California, August 8-11, 2010.
161. “Effects of Fines on Compressibility and Static Liquefaction of Granular Materials,” Presented at Ecole Centrale de Nantes, Nantes, France, May 19, 2011.
162. “Time Effects Relate to Crushing in Sand,” Presented at Ecole Centrale de Nantes, Nantes, France, May 20, 2011.
163. “Shear Banding in Cross-Anisotropic Sand Tests with Stress Rotation,” Presented at the *9<sup>th</sup> International Workshop on Bifurcation and Degradation in Geomaterials (IWBDG 2011)* held at Porquerolles Island, France, May 23-26, 2011.



164. “Static Liquefaction and ‘Reverse’ Behavior of Silty Sand,” Presented at *GeoCongress 2012: State of the Art and Practice in Geotechnical Engineering, ASCE*, held in Oakland, California, March 25-29, 2012.
165. “Analysis of Submarine Flow Slides in Fine Silty Sand,” Presented at *GeoCongress 2012: State of the Art and Practice in Geotechnical Engineering, ASCE*, held in Oakland, California, March 25-29, 2012.
166. “40 Years of Soil Mechanics,” Presented at Ruhr-University Bochum on the occasion of the *40<sup>th</sup> Anniversary of the Faculty for Foundations, Soil and Rock Mechanics*, July 5, 2012.
167. “Time Effects Relate to Particle Crushing in Granular Materials,” Presented at the *Second International Symposium on Constitutive Modeling of Geomaterials: Advances & New Applications*, held at Tsinghua University, Beijing, China, October 15 & 16, 2012.
168. “Shear Banding in Torsion Shear Tests on Cross-Anisotropic Deposits of Fine Nevada Sand,” Presented at the *10<sup>th</sup> International Workshop on Bifurcation and Degradation of Geomaterials*, The Hong Kong Polytechnic University, Hong Kong, May 28-30, 2014.
169. “Failure of Cross-Anisotropic Sand under 3D Stress Conditions with Principal Stress Rotation,” Presented at the *International Conference on Plasticity 2015*, Montego Bay, Jamaica, January 4-9, 2015.

## **CONTRIBUTIONS TO CONFERENCES, SYMPOSIA, AND WORKSHOPS**

1. "Three-Parameter Failure Criterion for Concrete," Joint ASME/ASCE Mechanics Conf., Boulder, CO, June 24, 1981.
2. "Ground Rupture Zones in Alluvium Over Dip-Slip Faults," presented at the 21st Annual Symposium on Engineering Geology and Soils Engineering, Univ. of Idaho, Moscow, Idaho, April 5, 1984.
3. "Behavior of Sand, Dilatancy and Nonassociated Flow," presented at California Research and Technology, Inc., Chatsworth, California, December 6, 1984.
4. "Effects of Localization in Triaxial Tests on Clay," poster presentation at the XIth International Conference on Soil Mechanics and Foundation Engineering, San Francisco, CA, August 12, 1985.
5. "Importance of Shear Banding in Interpretation of Test Results," poster presentation at Symposium on Advanced Triaxial Testing of Soil and Rock, ASTM, Louisville, Kentucky, June 19, 1986.
6. "Behavior and Plasticity Theory for Metals and Frictional Materials," presented at the 2nd International Conference on Constitutive Laws for Engineering Materials; Theory and Application, Tucson, Arizona, January 5, 1987.
7. "Geotechnical Engineering at UCLA", presented at the United States Universities Council on Geotechnical Engineering Research, Houston Texas, March 3. 1987.
8. "Nonassociated Flow and Stability of Soils", presented at the 6th Specialty Conference of the Engineering Mechanics Division, ASCE, Buffalo, New York, May 21, 1987.
9. "Double Hardening Constitutive Model for Soils, Parameter Determination and Predictions for Two Sands", Presented at the International Workshop on Constitutive Equations for Granular Non-Cohesive Soils, Case Western Reserve University, Cleveland, Ohio, July 24, 1987.
10. "Stability and Instability of Granular Materials with Nonassociated Flow," AFOSR Soil Mechanics Seminar, MIT, Boston, Mass., September 14, 1987.
11. "Model and Parameters for the Elastic Behaviour of Soils", presented at 6th Int. Conf. Numerical methods in Geomechanics, Innsbruck, Austria, April 12, 1988.
12. "Comparison of Single and Double Hardening Constitutive Models for Frictional Materials", presented at the 3rd International Symposium on Numerical Models in Geomechanics, Niagara Falls, Canada, May 91 1989.
13. "Three-Dimensional Behavior of Cross-Anisotropic Soils", presented at 3rd Joint ASCE/ASME Mechanics Conference held at University of California, San Diego, La Jolla, July 11, 1989.

14. "Observations of Nonassociated Flow, Stability and Instability in Experiments on Granular Soils", presented at Minisymposium. on Theoretical, Experimental, and Computational Problems Related to Concrete, Rock, and Soil, given at XV Southeastern Conference on Theoretical and Applied mechanics, Atlanta, Georgia, March 22, 1990.
15. "Observations of Nonassociated Flow, Stability and Instability in Experiments on Granular Soils", presented at Kirtland Air Force, Base, Albuquerque, New Mexico, June 5, 1990.
16. "Brittle and Ductile Transition at Failure in Frictional Materials (Powder Metals)", presented at International Conference on Micromechanics of Failure of Quasi-Brittle Materials, Albuquerque, New Mexico, June 7. 1990.
17. "Nonassociated Flow and Instability of Frictional Materials", presented to Work Group on Discrete Element Modeling/Soil Microstructure, Kirkland Air Force Base, Albuquerque, New Mexico, January 22-23, 1991.
18. "Nonassociated Flow and Instability of Slopes", presented at 7th Int. Conf. on Computer Methods and Advances in Geomechanics, Cairns, Queensland, Australia, may 7, 1991.
19. "Undrained Strength of N.C. Clay Under 3-D Conditions", presented at Geotechnical Engineering Congress 1991, Boulder, Colorado, June 12, 1991.
20. "Experimental Study of Nonassociated Flow and Instability of Frictional Materials", presented at the AFOSR Contractors' Meeting: Particulate Mechanics Subarea, Albuquerque, New Mexico, January 9, 1992.
21. "Experimental Study of Factors Controlling Instability of Frictional Materials," presented at the AFOSR Particulate Mechanics Contractor/Grantee Symposium, Held at Tyndall AFB, Florida, September 22-23, 1995.
22. "Influence of Time Effects on Instability of Granular Materials," presented at the ASME Mechanics and Materials Conference, held at The Johns Hopkins University, June 12-14, 1996.
23. "Modeling the Strength of Materials in Three Dimensions," presented at the ASME Mechanics and Materials Conference, held at The Johns Hopkins University, June 12-14, 1996.
24. "Influence of Time Effects on Instability of Granular Materials," presented at the AFOSR Contractor/Grantee Meeting held at Lansdowne Conference Resort, Lansdowne, Virginia, February 3-5, 1997.
25. "Single Hardening Plasticity Model for Frictional Materials," presented at the 12th Engineering Mechanics Conference, ASCE, La Jolla, California, May 18, 1998.

26. “Friktionsmaterialers opførsel og konstitutive modellering,” presented at the Meeting on Materialeforskning at AAU, Rebild Bakker Conference Center, Denmark, April 5, 2000.
27. “Strength of Cohesive-Frictional Materials,” presented at the 3rd Nordic Meeting on Materials and Mechanics, Rebild Bakker Conference Center, Denmark, May 8-11, 2000.
28. “Effects of consolidation stress state on normally consolidated clay,” presented at the XIII Nordiska Geoteknikermötet, Helsinki, Finland, June 5-7, 2000.
29. “Modeling creep behavior of granular materials,” presented at the 10th International Conference on Computer Methods and Advances in Geomechanics, Tucson, Arizona, 7-12 January 2001.
30. “Effects of Shear Banding on Failure Under 3-Dimensional Conditions,” presented at DCAMM (Danish Center for Applied Mathematics and Mechanics) Symposium, Örenäs Slott, Sweden, 12-14 March, 2001.
31. Lade, P.V. “Calculation Procedures and Effects of Shear Banding in 3D Tests on Granular Materials,” presented at the International Workshop on Bifurcations and Instabilities in Geomechanics, St. John’s University, Collegeville, Minnesota, June 2-5, 2002.