

# ***CURRICULUM VITAE***

## **STEIN STURE**

Vice Chancellor for Research Emeritus

Huber and Helen Croft Endowed Professor of Engineering and Applied Science Emeritus  
Department of Civil, Environmental, and Architectural Engineering

Laboratory for Atmospheric and Space Physics  
University of Colorado, Boulder, Colorado 80309-0600  
Telephone: 720-456-9240  
Stein.Sture@colorado.edu  
<http://www.colorado.edu/ceae/stein-sture>

### **PERSONAL INFORMATION**

Born, November 12, 1947, Oslo, Norway  
Married to Karen J. Marley; son, Brian  
Citizenship: U.S.A.

### **HOME ADDRESS**

1077 Diamond Court  
Boulder, Colorado 80303-3244  
C: 720-456-9240

### **PROFESSIONAL EXPERIENCE AND APPOINTMENTS**

1. Vice Chair, CU Boulder Retired Faculty Assoc., April 2025 -
1. Vice Chancellor for Research, University of Colorado Boulder, July, 2010 – Sept. 2015.
2. Interim Provost and Executive Vice Chancellor for Academic Affairs, University of Colorado at Boulder, May, 2009 – July, 2010.
3. Vice Chancellor for Research and Dean of the Graduate School, University of Colorado at Boulder, August, 2007 – May, 2009.
4. Huber and Helen Croft Endowed Professor, Department of Civil, Environmental, and Architectural Engineering, University of Colorado at Boulder, July 2006 – Sept. 2016.
5. Interim Vice Chancellor for Research and Dean of the Graduate School, University of Colorado, Boulder, October, 2005 - July, 2007.
6. Associate Dean for Research, College of Engineering and Applied Science, University of Colorado at Boulder, August, 2002 - October, 2005.

7. Professor, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder, August, 1988 – September, 2016.
8. Chair, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder, January, 1993 - June, 1998.
9. Associate Chair, Department of Civil, Environmental, and Architectural Engineering, September, 1991 - December, 1992.
10. Interim Chair, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder, August, 1990 - August, 1991.
11. Associate Director, Center for Space Construction, NASA - University of Colorado, October, 1988 – September, 1997.
12. Associate Professor, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, August 1982 - July 1988.
13. Faculty Affiliate, Department of Civil Engineering, Colorado State University, 1987-1998; 2000 - 2015.
14. Visiting Professor, Jenkin Fellow (1985 – present), Senior Academic Visitor, Department of Engineering Science, University of Oxford, 1985 - 1986.
15. Visiting Professor, Norwegian Institute of Technology, University of Trondheim, Norway, 1985.
16. Research Fellow, Norwegian Geotechnical Institute, Oslo, Norway, 1985.
17. Assistant Professor, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder, January 1980 - August 1982.
18. Assistant Professor, Department of Civil Engineering, Virginia Polytechnic Institute and State University, August 1976 - December 1979.
19. Visiting Scientist, Space Sciences Laboratory, NASA, Marshall Space Flight Center, July 1978 -September 1978, June 1979 - August 1979.
20. Research Assistant, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, August 1971 - August 1976.
21. Commissioned Officer, Norwegian Army Corps of Engineers, July 1967 - July 1968.

## **EDUCATION**

Ph.D. in Civil Engineering, University of Colorado, Boulder, August 1976.

M.S. in Civil Engineering, University of Colorado, Boulder, August 1973.

B.S. in Civil Engineering, University of Colorado, Boulder, August 1971.

Engineering Mechanics, Schous Institute of Technology - Univ. Oslo, Norway, May 1970.

## **CONSULTATIONS**

1. Atkinson, Noland & Associates, Consulting Engineers, Boulder, Colorado, 1975-1995.
2. DeLong Engineers, New York City, New York, 1977.
3. Marshall Space Flight Center, National Aeronautical and Space Administration, Huntsville, Alabama, 1978.
4. Universities Space Research Association, Columbia, Maryland, 1977-1982.
5. Boeing Commercial Airplanes Division, Renton, Washington, 1977-1978.
6. D'Appolonia Consulting Engineers, Inc., Denver, Colorado, 1980-1981.
7. Solar Energy Research Institute, Golden, Colorado, 1980-1981.
8. Committee to Stimulate Competitive Research in the State of West Virginia, West Virginia University, Morgantown, West Virginia, 1982.
9. United Nations Development Program. Behavior of Concrete under High Triaxial Stresses. Central Water Commission, Government of India, July 1983-1988, 1991-1992.
10. Woodward-Clyde Consultants, Denver, Colorado, 1983.
11. Structural Behavior Engineering Laboratories, Inc., Phoenix, Arizona, 1983-1986.
12. Martin-Marietta Corp., Denver, Colorado, 1984-1985, 1991.
13. In-Situ, Inc., Denver, Colorado, 1984-1985.
14. Veritec a/s, Høvik and Oslo, Norway, 1985-1986.
15. Norwegian Geotechnical Institute, Oslo, Norway, 1987.
16. EXXON Production Research (EPR) Co., Houston, Texas, 1987-1989.
17. Shell Oil Co., Shell Development Co., Houston, Texas, 1989-1995.

18. Martin-Marietta, Aerospace, Denver, Colorado, 1991-1992.
19. Norwegian Defense Construction Service, Oslo, Norway, 1992-1995.
20. Stapleton Redevelopment Foundation, Denver, Colorado, 1993.
21. University of Puerto Rico, Mayaguez, 1991-1994.
22. Federal Aviation Administration, Denver, Colorado, 1998-2002.
23. PLAXIS (Finite element computer program for soil and rock analysis), B.V., Delft, The Netherlands, 1996 - 2012.
24. Lockheed-Martin Company, Houston, Texas, 1998-2001.
25. Structural Reliability Technology, Inc., Boulder, Colorado, 1999.
26. Redstone Arsenal, U.S. Army Missile Command and Reagan Test Site, Kwajalein, Eniwetok, Marshall Islands, 1990 – 2002.
27. Wright Water Engineers, Inc., Denver, Colorado, 1999-2000, 2005.
28. Michael W. West & Associates, Inc., 2000.
29. John Wiley & Sons, Ltd., Interscience, Blackwell Publishers, UK, 2000 – 2012.
30. NSA Engineering, Inc., Golden, Colorado, 2001-2003.
31. Kumar and Associates, Inc., Denver, Colorado, 2004-2006.
32. U.S. Army Redstone Arsenal, Ronald Reagan Ballistic Missile Defense Test Site, Kwajalein Atoll and Wake Island, 2005 - 2013.
33. Factor & Lake, Ltd., Chicago, Illinois, 2006-2007.
34. History Channel, cable television, 2009 – 2011.
35. GreenTech Renewables, LLC, 2008 – 2009.
36. University of Nebraska System, Lincoln, 2010.
37. University of Minnesota, Twin Cities, 2017.
38. New York University, 2018 = 2019.

## **PROFESSIONAL SERVICE, NATIONAL/INTERNATIONAL**

1. Member, NASA Human Exploration and Operations Research Advisory Committee, 2012 – 2021.
2. Chair, External Advisory Committee, University of Minnesota, CECE, College of Engineering and Natural Science, 2017.
3. National Academies (NAS/NAE/NAM) Decadal Survey on Materials Research, 2017.
4. Engineering Mechanics Institute, ASCE, Nomination Committee (Chair), 2014 – present
5. Doctoral committee, Dr. Yared Worku Bekele, Norwegian University of Science and Technology, Trondheim, May, 2016.
6. American Society of Civil Engineers, Innovation Forum, 2014 – present
7. American Society of Civil Engineers, Convention Advisory Council, 2014 - 2017
8. Executive Committee, Alliance for the Arts in Research Universities, University of Michigan et al., 2012 – 2015.
9. Fulbright. Association, 2012-2024.
10. Director, Member of the Board of Direction, American Society of Society of Civil Engineers, ASCE District 16 (2003-2006).
11. Member Board of Trustees, American University of Iraq, Suleimani, 2010 – 2018.
12. Member, Task Committee on the Annual Conference (TCAC), American Society of Civil Engineers, 2012-2013.
13. Member, External Doctoral Dissertation Committee, Dr. Fang Su, Chalmers University of Technology, Gothenburg, Sweden, September, 2012.
14. Scientific Committee, Eighth International Conference on Fracture Mechanics of Concrete and Concrete Structures, Toledo, Spain, March 10-14, 2013.
15. Mars Exploration Science Program, JPL-NASA, 2009 – present.
16. Chair, Review Team, University of Nebraska, Nebraska Research Initiative, July, 2010.
17. Board Member, Innovation Center of the Rockies, 2011 – 2015.
18. Technical Region Board of Governors, ASCE, Rep. Engineering Mechanics Institute, 2007 – 2011.
19. Governor, Engineering Mechanics Institute, ASCE, 2007 - 2011.

20. Steering Committee, ASCE, State-of-the-Art in Geotechnical Practice Congress, San Francisco, June, 2012.
21. Mini-Symposium Organizer, 8<sup>th</sup> World Congress of Computational Mechanics, WCCM08, 5<sup>th</sup> European Congress on Computational Methods in Applied Science and Engineering, Venice, July, 2008.
22. Board, Alliance for Sustainable Energy, operator of the National Renewable Energy Laboratory, DOE, Golden, Colorado, Sept. 2008 – 2015.
23. International Scientific Committee, 7<sup>th</sup> International Conference on Fracture Mechanics, Seoul, South Korea, 2010.
24. Scientific Committee, 9<sup>th</sup> U.S. National Congress for Computational Mechanics, San Francisco, California, July, 2007.
25. Symposium organizer, Mechanics in Engineering Geology, International Geological Congress, Oslo, Norway, August, 2008.
26. Symposium Co-Chair, World Congress of Computational Mechanics VIII, Italy, June 2008.
27. Member, Geo-Engineering Earthquake Reconnaissance (GEER) Association, 2006 – present.
28. Chair, ASCE Region 7 Formation Team (2005-2006).
29. Scientific Committee, 3rd Maurice A. Biot International Conference on Poromechanics, and Centennial Celebration (1905-2005).
30. Scientific/Technical Committee, ASCE 10th Biennial Aerospace Division International Conference, Earth & Space 2006, March, 2006.
31. NASA, Jet Propulsion, Mars Exploration Planning Research Group, 2006 – 2016.
32. International Scientific Committee, 6th International Conference on Fracture Mechanics of Concrete and Concrete Structures, Catania, Italy, June 17-22, 2007.
33. ASCE Paper Awards Committee, 2005 – 2008.
34. Policy Review Committee, American Society of Civil Engineers, 2003 -2006 (Chair, 2005-2006).
35. Co-Chair, Organizing Committee, Geo-Denver 2007 Congress, ASCE and Geo-Institute, Denver, Colorado, February 18-21, 2007.
36. District 16 Representative, American Society of Civil Engineers (2002-2003).
37. Technical Publications Committee, Geo-Institute, 2003 – 2007.
38. External Examining Committee, Ph.D., Norwegian University of Science and Technology, Trondheim, Dr. Vikas Kumar, Sept., 2007.

39. Co-Chair, Organizing Committee, 15th U.S. National Congress of Theoretical and Applied Mechanics, University of Colorado at Boulder, June 25-30, 2006.
40. Board of Governors, Geo-Institute of ASCE, 2004-2006.
41. Codes and Standards Committee, ASCE, 2002 – 2006.
42. U.S. National Committee on Theoretical and Applied Mechanics (NAS/NAE/NRC), ASCE Representative, 1997 -2005.
43. Scientific Program Committee, 8th U.S. National Congress on Computational Mechanics, Austin, Texas, 2004-2005.
44. Scientific Program Committee, 7th U.S. National Congress on Computational Mechanics, Albuquerque, New Mexico, 2002-2003.
45. ASCE, Engineering Mechanics Institute Formation Committee (2006-2007).
46. Advisory Board, ASCE Engineering Mechanics Division, 2001-2006 (Chair, 2003-2005).
47. Executive Committee, Engineering Mechanics Division, ASCE, 1997-2002 (Secretary, 1998-1999. Vice-Chair, 1999-2000, Chair 2000-2001, Past Chair 2001-2002).
48. Organizing and Advisory Committee, First Japan-USA Workshop on Testing, Modeling and Simulation in Geomechanics (Boston, Massachusetts), 2002-2003.
49. Advisory Group, International Workshop on Geotechnical X-Ray CT (Kumamoto, Japan), 2002-2003.
50. NASA/JPL, Mars Exploration Program Analysis Group (MEPAG), 2005 – 2018.
51. Local Organizing Committee, 5th International Association for Fracture Mechanics of Concrete and Concrete Structures (Vail, Colorado), 2002-2005.
52. Organizer (with B. Jeremic), Symposium on Computational Geotechnics, 5th World Congress on Computational Mechanics, Vienna, Austria, July, 2002.
53. National Steering Committee, 15th ASCE Engineering Mechanics Conference, Columbia University, 2002; 14th ASCE Engineering Mechanics Conference, University of Texas, Austin, 2000.
54. Technical Activities Committee (TAC), American Society of Civil Engineers, 2001, 2004.
55. NSF Site Visit Team, Network for Earthquake Engineering Simulation (NEES), 2002.
56. Committee on Continuing Education, American Society of Civil Engineers, 2002 - 2005.
57. The Alfred Noble Prize committee (ASCE/IEEE/ASME/AIME), 2001-2002.
58. Organizing Committee, ASCE National Convention, Houston, 2001.
59. NASA – Jet Propulsion Laboratory, Mars Exploration Program Analysis Group, 2000 - 2015.

60. Co-Chair, Organizing Committee, 5th U.S. National Congress on Computational Mechanics, Boulder, Colorado, 1999.
61. Co-Chair, Organizing Committee, ASCE-GeoInstitute, “Geo-Denver 2000“, Denver, Colorado, March 2000.
62. National Steering Committee, 13th ASCE Engineering Mechanics Conference, (Johns Hopkins University), 1999.
63. Advisory Committee, 10th International Conference on Computer Methods and Advances in Geomechanics, Tucson, Arizona, January, 2001.
64. Organizing Committee, International Workshop on the Physics and Mechanics of Soil Liquefaction, The Johns Hopkins University, Baltimore, Maryland, 1998.
65. National Steering Committee, 12th ASCE Engineering Mechanics Conference, (University of California, San Diego), 1998.
66. National Steering Committee, 11th ASCE Engineering Mechanics Conference, (Florida Atlantic University, Ft. Lauderdale, Florida), 1996.
67. External Reviewer, Program Review, Duke University, Department of Civil and Environmental Engineering, 1998.
68. Member, Fulbright Association, 1996 – present.
69. Chair, Organizing Committee, ASCE 10th Engineering Mechanics Conference, Boulder, Colorado, 1995.
70. External Reviewer of Program, University of Oklahoma, School of Civil Engineering and Environmental Science, 1996.
71. ASCE Professional Activities Committee, Committee on Sections & District Councils, 1991-1996; Chair, 1995.
72. Advisory Committee, Society of Experimental Mechanics, International Conference on Nondestructive Testing of Concrete in the Infrastructure, 1993.
73. Chair, External Examining Committee, Ph.D., Norwegian University of Science and Technology, Trondheim, Dr. Hans Peter Jostad, August, 1993.
74. Co-Chair, Organizing Committee, ASCE, “Space’92“, Third Int. Conference on Engineering, Construction, and Operations in Space, Denver, Colorado, 1992.
75. Chair, Organizing Committee, ASCE Geotechnical Engineering Congress, Boulder, Colorado, 1991.
76. Chair, USA Manuscript Review Committee, U.S. National Society of the International Society for Soil Mechanics and Foundation Engineering., U.S. paper contributions to XIVth Int. Conference on Geotechnical Engineering, Hamburg, Germany, 1997.
77. Chair, Programs Committee, Engineering Mechanics Division, ASCE, 1991-1997.



78. Advisory Committee, University of Puerto Rico, 1990-1994.
79. Computational Mechanics Committee, Engineering Mechanics Division, Engineering Mechanics Institute, ASCE, 1987-1995, 1997 - 2008. Chair, 1988-1989.
80. Properties of Materials Committee, Engineering Mechanics Division, ASCE, 1983, 1991, 1992-2000, 2001 - 2007. Chair, 1989-1991.
81. Inelastic Behavior Committee, Engineering Mechanics Division; Modeling Inelasticity and Multiscale Behavior, Engineering Mechanics Institute, ASCE, 1996 – 2005.
82. Session organizer, International Conference on Micromechanics of Quasi-brittle Materials, 1990.
83. Session organizer, Symposium on Advances and Trends in Computational Structural Mechanics and Fluid Dynamics, Washington, DC, 1988.
84. Committee on Computer Applications and Numerical Methods, Geotechnical Engineering Division, ASCE and Geo-Institute, 1984-1992, 1993-1999.
85. Chair and organizer, Mini-symposium, 12th U.S. National Congress of Theoretical and Applied Mechanics, Seattle, Washington, 1994.
86. Co-Chair, Conference on Nondestructive Evaluation of Civil Structures and Materials, Boulder, Colorado, 1992.
87. Organizing Committee, International Conference on Fracture Mechanics of Concrete Structures, Breckenridge, Colorado, 1992.
88. Advisory Board, Third International Conference on Constitutive Laws for Engineering Materials: Theory and Practice, Tucson, Arizona, 1990-1991.
89. Steering Committee, ASCE, Materials Engineering Congress, Denver, Colorado, 1990.
90. Organizing Committee, Conference on Nondestructive Evaluation of Civil Structures and Materials, 1990.
91. Session organizer, 9th ASCE Engineering Mechanics Conference (Texas A&M Univ.), 1992.
92. Session organizer, 8th ASCE Engineering Mechanics Conference (Ohio State Univ.), 1991.
93. Session organizer, ASME/ASCE Joint Mechanics Conference (University of California, San Diego), 1989.
94. Organizing Committee, IUTAM, Symposium on Elastic Waves and Ultrasonic Nondestructive Evaluation, 1988-1989.
95. Session organizer, 7th ASCE Engineering Mechanics Conference (Virginia Tech.), 1988.
96. Session organizer, 6th ASCE Engineering Mechanics Conference (SUNY, Buffalo), 1987.

97. Advisory Board, International Conference on Fracture of Concrete and Rock, 1987.
98. Affiliate Member (Honorary), ASTM, Committee D-18, 1979-1989.
99. Session organizer, ASME/ASCE Joint Mechanics Conference (Univ. of New Mexico), 1985.
100. Session chairman, RILEM Symposium on Concrete under Multiaxial Conditions, Toulouse, France, 1984.
101. Session organizer, 5th ASCE Engineering Mechanics Conference (Univ. of Wyoming), 1984.
102. Session organizer, 4th ASCE Engineering Mechanics Conference (Purdue Univ.), 1983.
103. Session organizer, Int. Conference on Constitutive Laws for Engineering Materials, Tucson, Arizona, 1983.
104. Session chairman, Fourth Int. Conference on Numerical Methods in Geomechanics, Edmonton, Canada, 1982.
105. Secretary, International Committee for Numerical Methods in Geomechanics, 1976-1978.
106. Organizer, Workshops on Behavior of Concrete Dams and Mass Concrete under Multiaxial States of Stress, Central Board of Irrigation and Power, Central Water Commission, New Delhi, India, 1981-1987.

## EDITORIAL BOARDS

1. Editor (in-Chief), Journal of Engineering Mechanics, ASCE, 1994-2003. Acting Editor, 2004.
2. Hon. Editor Emeritus, John Wiley & Sons, 2012 - present.
3. Editor, International Journal for Numerical and Analytical Methods in Geomechanics, (incorporating Mechanics of Cohesive-Frictional Materials), John Wiley & Sons, 2000 - 2013.
4. Editorial Board, Journal of Applied Mathematics, ISRN, 2010 – 2013.
5. Editorial Board, ASTM Journal for Testing and Evaluation, 2006 - present.
6. Editorial Board, International Journal for Computational Civil and Structural Engineering, Begell House, Ltd., 2000 - 2005.
7. Associate Editor, Editorial Advisory Board, Journal of Aerospace Engineering, ASCE, 1998 - 2012.
8. Member, Editorial Advisory Board, Journal Mechanics of Cohesive-Frictional Materials (Journal on Experiments, Modeling and Computation of Materials and Structures), John Wiley & Sons, 1996-2000.
9. Section Editor, Encyclopedia of Physical Science & Technology, Section on Mechanical, Industrial, Civil, and Marine Engineering (Academic Press), 1998-2001.
10. Associate Editor, Journal of Engineering Mechanics, ASCE, 1989-1991.
11. Member, Editorial Advisory Board, International Journal for Numerical and Analytical Methods in Geomechanics, John Wiley & Sons, 1977-1988.
12. Member, Editorial Board, Geotechnical Testing Journal, ASTM, 1985-1993.
13. Member, Editorial Board, Journal of Geotechnical Engineering, ASCE, 1986-1994.
14. Editor, ASCE Engineering Mechanics Division, Proceedings 10th Engineering Mechanics Conference, 1995.
15. Co-Editor, ASCE, Nondestructive Testing of Concrete Elements and Structures, Structures Special Publication, 1992.
16. Co-Editor, ASCE Aerospace Engineering Division, Proceedings 3rd International Conference on Engineering, Construction and Operations in Space, 1992.

## **PROFESSIONAL SERVICE, COLORADO**

1. Board member, Alliance for Sustainable Energy, M&O, DOE National Renewable Energy Laboratory, Golden, Colorado, 2008 – 2009, 2010 – 2015.
2. Search committee, Director, Alliance for Sustainable Energy, DOE National Renewable Energy Laboratory, May – September, 2015.
3. Board member, secretary, vice chair, CO-LABS, Coalition of Federal Laboratories in Colorado, 2006 – 2018.
4. Board Member, Colorado Higher Education Competitive Research Authority, 2007 – 2009. Vice Chair, 2010 – 2016.
5. Board member, Innovation Center of the Rockies, 2011 – 2015.
6. Board member, Boulder Innovation Council, 2009 – 2011.
7. President, Colorado Section, American Society of Civil Engineers (ASCE), 1990-1991 (Vice President, 1989-1990; Secretary, 1987-1989).
8. Member, Executive Board, Colorado Renewable Energy Collaboratory, 2007- 2009, 2010 – 2015.
9. Chair, Constitution & Bylaws Committee, ASCE Colorado Section, 1992 -2002.
10. Task Leader, Engineering and Applied Science, State of Colorado's Superconducting Super Collider (SSC) proposal-project to U.S. Department of Energy, 1984-1988.
11. Program Chairman, Geotechnical Division, ASCE, Colorado Section, 1984-1985 (Secretary and Treasurer, 1982-1984).
12. Member, Organizing Committee, ASCE, Colorado Section, Symposium on Engineering in Clay Shale, Denver, Colorado, 1984.
13. Member, Organizing Committee, ASCE-Strategic Highway Research Program, Specialty Conference, Denver, Colorado, 1990-1991.
14. Task Leader, Stapleton International Airport Redevelopment Foundation, City and County of Denver, Committee on Removal and Recycling of Concrete Runways, Taxiways, Parking Aprons and Structures, 1993-1995.
15. Member, American Concrete Institute, Colorado, Awards Committee, 1990-1991.
16. Member, Organizing Committee, ASCE, Colorado Section, Symposium on Moisture Sensitive Soils, 1988.

## UNIVERSITY SERVICE

1. Chair, International Partnership Review Committee, 2018 – 2020.
2. Office of Strategic Relations, 2018 – 2020.
3. Vice Chancellor for Research, 2010 – 2015.
4. Interim Provost and Executive Vice Chancellor for Academic Affairs, 2009 – 2010.
5. Vice Chancellor for Research and Dean of the Graduate School, 2007 - 2009.
6. Interim Vice Chancellor for Research and Dean of the Graduate School, 2005 – 2007.
7. Chancellors Executive Committee, University of Colorado at Boulder, 2005 -2006, 2007 - 2015.
8. Member, College of Music, Advisory Board, 2017 – 2023..
9. Research Review Board, 2012 – 2016.
10. Chancellor's Cabinet, 2005 – 2015.
11. Vice Chancellors' review committee, 2005 - 2006, 2007 – 2015.
12. Vice Chancellor for Academic Affairs Committee, 1990 – 1992, 1996 – 1998, 2005 – 2006, 2007 – 2009.
13. Search Committee, Compliance Director, CU-Boulder, 2006.
14. Standing Committee on Research Misconduct, 2006 - 2007.
15. Chair, Search Committee for Assoc. Director, Office of Contracts and Grants, 2006 - 2007.
16. Search Committee, Assistant Dean for Undergraduate Education, College of Engineering and Applied Science, 2006.
17. Deans Council, University of Colorado at Boulder, 2005 -2006, 2007 - 2015.
18. Research Cabinet, University of Colorado, Boulder, 2002 -2015.
19. Chancellor's Federal Relations Advisory Committee, Chair, 2003 - 2015.
20. Graduate Student Tuition and Enrollment Management Task Force, University of Colorado, Boulder, 2003-2004.
21. Chair, Search Committee, Associate Vice Chancellor for Research, University of Colorado, Boulder, 2003-2004.
22. Associate Dean for Research, College of Engineering and Applied Science, University of Colorado, Boulder, 2002 -2005.

23. Chair, Search Committee, Director, Lockheed-Martin Engineering Management Program, University of Colorado, Boulder, 2003 -2004.
24. Academic Affairs Budget Advisory Committee (AABAC), Associate Vice Chancellor of Academic Affairs for Budget and Planning, 2000 -2002.
25. Member-at-Large, Boulder Faculty Assembly, University of Colorado, 2000 -2005.
26. Vice Chair, Boulder Faculty Assembly, 2003 -2005.
27. Boulder Faculty Assembly, Budget and Planning Committee, University of Colorado, 2000 – 2005; Chair 2001-2003.
28. Faculty Council, University of Colorado System, 2001 - 2005.
29. Advisory Board, University of Colorado Technology Transfer Office, 2002 – 2014.
30. Faculty Council Budget Committee, 2001 - 2005.
31. Development Committee, Institute of Arctic and Alpine Research, 2001 - 2004.
32. Search Committee, Dean of College of Engineering & Applied Science, 2001-2002.
33. Implementation Team, Performance Pay Program (Classified Staff), University of Colorado (System), 2001 -2004.
34. The President's 3rd Level Review Committee, University of Colorado System, 2000 - 2001.
35. Chair, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder, 1993 - 1998.
36. Associate Chair, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder, 1991-1992.
37. Interim Chair, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder, 1990-1991.
38. Graduate School, Graduate Student Teaching Excellence Award Committee, 1999 - 2005.
39. Council for Research and Creative Work (Evaluation committee on internal grants and fellowships to faculty), 1998 - 2002 (Chair: 2000 - 2001).
40. Member, University of Colorado 125th Anniversary Celebration Committee, 2000 - 2001.
41. Faculty Affiliate, Department of Civil Engineering, Colorado State University, Ft. Collins, Colorado, 1987-1998; 2000 -present.
42. Faculty Advisor, ASCE Student Chapter, University of Colorado, Boulder, 1981-1996; 1997 - 2005.

43. Chair, Search Committee, College Communications Director, College of Engineering and Applied Science, 1998.
44. Member, Search Committee, College Communications Director, College of Engineering and Applied Science, 1997.
45. Chair, LASP-CASA, Bridge Committee (Bruce Ekstrand Memorial Bridge), 1997-1999.
46. Group Leader, Center for Space Construction (NASA), College of Engineering and Applied Science, 1988-1997.
47. Chair, Committee on College of Engineering and Applied Science's History of the Engineering Center, Design & Construction, 1994.
48. Member, Centennial Celebration Committee, College of Engineering and Applied Science, 1993-1994.
49. External Examiner (Ph.D.), Norwegian Institute of Technology, Trondheim, Norway, 2007, 1999, 1993.
50. Member, Study Abroad Committee, University of Colorado at Boulder, 1988-1991.
51. Coordinator, ABET report preparations and visits, Dept. Civil, Environmental, and Architectural Engineering, 1980-1981; 1986-1987; 1992-1993.
52. Member, Executive Committee and Advisory Committee, Space Grant College, University of Colorado, Boulder, 1991 - 2016.
53. Chair, CEAE Department Faculty Search Committee, 1984 -1985.
54. Chair, College of Engineering and Applied Science, Research Award Committee, 1985.
55. Executive Committee, Department of Civil, Environmental, and Architectural Engineering, 1981-1984; 1988-1990; 2000-2003.
56. Personnel Committee, Department of Civil, Environmental, and Architectural Engineering, 1988 - present.
57. Chair, Internal Review Committee, Program Review, University of Colorado, Boulder, 1989, 1990.
58. Member, Review Committee, Graduate School Dean's Small Grants Committee, University of Colorado, Boulder, 1986 -present.
59. External Examiner (Ph.D.), The University of the Witwatersrand, Johannesburg, South Africa, 1985.
60. Member, Self-Study Committee, Department of Civil, Environmental, and Architectural Engineering, University of Colorado, Boulder, 1981-1982.

61. Faculty Advisor, ASCE Student Chapter, Virginia Polytechnic Institute & State University, Blacksburg, 1977-1979.
62. Supervisor, Instrument Shop, Civil Engineering Department, Virginia Polytechnic Institute & State University, 1976-1979.
63. Member, Civil Engineering Department, Virginia Polytechnic Institute & State University, Committee on Tenure and Promotion, 1977-1978.

## PEER REVIEWED PUBLICATIONS

1. "Mechanical Characterization of Anisotropic Composites," (H.-Y. Ko and S. Sture), *Journal of Composite Materials*, Vol. 8, 1974, pp. 178-190.
2. "Stress Analysis of Strain Softening Materials," (S. Sture and H.-Y. Ko), Proc. Second Int. Conf. Numerical Methods in Geomechanics, Blacksburg, Virginia, Vol. 1, 1976, pp. 580-590.
3. "Multiaxial Testing to Determine Material Behavior for Design of Energy Related Structures," (S. Sture, R.H. Atkinson, and H.-Y. Ko), Proc. 6th AIRAPT Int. High Pressure Conference, University of Colorado, Boulder, Colorado, Vol. 2, G-3, July 1977, pp. 272-281.
4. "Strain Softening of Brittle Geologic Materials," (S. Sture and H.-Y. Ko), Int. Journal for Numerical and Analytical Methods in Geomechanics, Vol. 2, No. 3, 1978, pp. 237-253.
5. "Three-Dimensional Soil-Structure Interaction Analysis of Moving Structures," (C.S. Desai, S. Sture, J.V. Perumpral, and H.V. Phan), Proc. U.S.-Japan Symposium on Interdisciplinary Finite Element Analysis, Cornell University, Ithaca, N.Y., August 1978, pp. 479-494.
6. "A Fluid Cushion Truly Triaxial or Multiaxial Testing Device," (S. Sture and C.S. Desai), ASTM, Geotechnical Testing Journal, Vol. 2, No. 2, March 1979, pp. 20-33.
7. "Three-Dimensional Geometric and Material Nonlinearities: Analysis of Some Problems in Geomechanics," (H.V. Phan, C.S. Desai, S. Sture and J.V. Perumpral), Proc. Third Int. Conference on Numerical Methods in Geomechanics, (ICONMIG), Aachen, West Germany, Vol. 1, April 2-6, 1979, pp. 67-75.
8. "Development of a Constitutive Law for an Artificial Soil," (S. Sture, C.S. Desai, and R. Janardhanam), Proc. Third Int. Conference on Numerical Methods in Geomechanics, (ICONMIG), Aachen, West Germany, Vol. 1, April, 1979, pp. 309-317.



9. "Data Reduction and Applications for Analytical Modeling," (H.-Y. Ko and S. Sture), State of-the-Art Paper, ASTM Symposium on Shear Strength of Soils, Chicago, Illinois, June 1980, ASTM Special Technical Publication 740, pp. 329-386.
10. "Measurement of Swelling, Hydraulic Conductivity, Compressibility, and Shear Strength in a Multistage Triaxial Test," (J.C. Parker, S. Sture and D.F. Amos), Journal Soil Science Society of America, S-228. Vol. 44, No. 6, December 1980, pp. 1133-1138.
11. "The Potential of Soil Dynamics Research in Space," (N.C. Costes and S. Sture), Proc. Int. Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, St. Louis, Missouri, Vol. 3, April-May, 1981, pp. 929-959.
12. "A Procedure for Developing Constitutive Models for Soils," (S. Sture) Proc. Symposium Implementation of Computer Procedures and Stress-Strain Laws in Geotechnical Engineering, Chicago, Illinois, Vol. 2, 1981, pp. 561-574.
13. "Procedure, Selection and Application of Plasticity Models for a Soil," (C.S. Desai, H.V. Phan, and S. Sture), Int. Journal for Numerical and Analytical Methods in Geomechanics, Vol. 5, No. 3, 1981, pp. 295-311.
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## RESEARCH GRANTS AND CONTRACTS

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9. National Aeronautics and Space Administration, Ames Research Center, Research Contract, “Influence of Gravity Independent Parameters on the Constitutive Behavior of Soil,” NASA, OAST/PACE, NAG2-58, \$33,140, with J.K. Mitchell, August 1, 1980, duration 6 months.
10. National Aeronautics and Space Administration, Ames Research Center, Research Contract, “Development of an Experimental Concept of Investigating the Constitutive Behavior of Particulate Materials in the Spacelab/Space Shuttle Zero-G Environment,” NASA, OAST/PACE, NAG2-58, \$42,150, April 1, 1981, duration 12 months.
11. National Science Foundation, Earthquake Hazards Mitigation Research Initiation, “Dynamic Behavior of Saturated Rock Joints,” NSF ENG CEE-8105779, \$48,000, June 1, 1981, duration 15 months.

12. National Science Foundation, Research Grant, "Experimental and Analytical Validation of Constitutive Models for Soils," NSF ENG CEE-8025806, \$176,630, with Hon-Yim Ko, August 1, 1981, duration 27 months.
13. U.S. Bureau of Reclamation, U.S. Department of the Interior, Research Contract, "Dynamic Behavior of Saturated Rock Joints," RFP Solicitation No. 81-VO212, USBR, Denver Federal Center, \$51,000, with Hon-Yim Ko, October 1, 1981, duration 18 months.
14. National Aeronautics and Space Administration, Ames Research Center, Research Contract, continued, "Development of an Experimental Concept of Investigating the Constitutive Behavior of Particulate Materials in the Spacelab/Space Shuttle Zero-G Environment," NASA, PACE, NAG2-58, \$20,000, April 1, 1982, duration 12 months.
15. U.S. Air Force Office of Scientific Research, "Load History Effects on Steel Fiber Reinforced Concrete Properties and Soil-Structure Interaction Studies," AFOSR Grant No. 81-0072, \$107,255, with Hon-Yim Ko and C.C. Feng, June 1, 1982, duration 12 months.
16. U.S. Air Force Office of Scientific Research, "Finite Elements and Localized Failure," AFOSR Grant No. 82-0273, \$194,000, with Kaspar Willam, August 1, 1982, duration 24 months.
17. U.S. Army Corps of Engineers, Waterways Experiment Station, "Development of a Fluid Cushion Cubical Test System and Research Investigation into the Three-Dimensional Response of Soils," DACA39-83-R-0003, A35200, \$383,875, with Hon-Yim Ko, September 1, 1983, duration 25 months.
18. National Aeronautics and Space Administration, Marshall Space Flight Center, "Particle Behavior at Very Low Effective Stress States," MSFC-NASA, \$19,000, November 1, 1983, duration 5 months.
19. U.S. Air Force Office of Scientific Research, "Finite Elements and Localized Failure," AFOSR Grant No. 82-0273, \$126,604, with Kaspar Willam, August 1, 1984, duration 12 months.
20. U.S. Air Force Office of Scientific Research, "Centrifugal and Numerical Modeling of Buried Structures," Renewal of AFOSR-81-0072, with H.-Y. Ko and C.C. Feng, Sept. 1, 1984, \$102,995, duration 12 months.
21. National Aeronautics and Space Administration, Marshall Space Flight Center, "Particle Behavior at Very Low Intergranular Stresses," Renewal MSFC-NAS8-35668, Nov. 1, 1984, \$65,000, duration 9 months.
22. Colorado Commission for Higher Education and CATI, "Superconducting Super Collider (SSC); Civil Engineering Tasks," with James Diekmann and John Nelson, July 1, 1984, \$33,626, duration 12 months.
23. National Aeronautics and Space Administration, Marshall Space Flight Center, "Centrifuge Dynamic Modeling of Experimental Apparatus and Specimen," Renewal MSFC-NASA NAS8 35668, June 1, 1985, \$5,000, duration 3 months.

24. National Science Foundation-International Program, "Field Measurement of Engineering Properties of Soils: Research Visit to Norway," NSF INT-8420354, August 1, 1985, \$13,020, duration 12 months.
25. U.S. Army Corps of Engineers, Waterways Experiment Station, "Research and Development Necessary for Experimental Investigation on Yield Characteristics of Sand under Arbitrary Deviatoric Stress Paths," with Hon-Yim Ko, DACW39-85-C-0080, September 1, 1985, \$114,965, duration 18 months.
26. U.S. Army Corps of Engineers, Waterways Experiment Station and USAF Ballistic Missile Office, "Constitutive Driver for Triaxial Response Behavior of Plain Concrete," with K.J. Willam, H.-Y. Ko and K.H. Gerstle, August 1, 1985, \$84,000, duration 6 months.
27. Royal Norwegian Council for Scientific and Industrial Research, "Research visits to the Norwegian Geotechnical Institute and the Norwegian Institute of Technology," August 1985-March 1986, \$8,000.
28. National Science Foundation, Research Equipment Grants, "Conventional Triaxial Testing of Soils," with Hon-Yim Ko, NSF MSM-8506308, September 1, 1985, \$35,000, duration 12 months.
29. National Aeronautics and Space Administration, Marshall Space Flight Center, "Particle Behavior at Very Low Intergranular Stresses," Renewal MSFC-NAS8-35668, May 1, 1986, \$85,000, duration 9 months.
30. U.S. Army Corps of Engineers, Waterways Experiment Station, "Three-Dimensional Response of Soils," with Hon-Yim Ko, Renewal DACA39-83-C-0012, June 1, 1986, \$136,131, duration 12 months.
31. Colorado Commission for Higher Education and CAT1, "Super Conducting Super Collider (SSC); Civil Engineering Tasks," with James Diekmann, June 1, 1986, \$10,000, duration 7 months.
32. National Science Foundation, "An Evaluation of Masonry Joint Shear Strength in Existing Buildings," with B. Amadei, January 1, 1986, \$111,590, duration 24 months.
33. U.S. Army Corps of Engineers, Waterways Experiment Station, "Effects of Reinforcement on Soft Ground Settlement," with R.L. Schiffman, Dec. 1, 1985, \$50,000, duration 8 months.
34. National Aeronautics and Space Administration, Headquarters, Washington, D.C., "Graduate Student Support: Minority Focus," January 1, 1987, \$36,000, duration 24 months.
35. U.S. Army Corps of Engineers, Waterways Experiment Station, "Constitutive Driver for Triaxial Response Behavior of Plain Concrete," with K.J. Willam, H.-Y. Ko and K.H. Gerstle, renewal DACA39-85-K-0001, \$50,000, Nov. 1, 1986, 12 months.
36. State of Colorado, "Superconducting Super Collider (SSC); Civil Engineering Tasks," with J. Diekmann, A. Touran, J. Silverstein, and B. Amadei, \$32,500, Dec. 1, 1986, duration 13 months.



37. National Aeronautics and Space Administration, Marshall Space Flight Center, "Mechanics of Granular Materials," with H.-Y. Ko September 1, 1987, \$77,000, duration 6 months.
38. U.S. Army Engineer Waterways Experiment Station, Corps of Engineers, Geomechanics Division, "Constitutive Modeling of Nellis DOE Site Baseline Sand with an Elastic-Plastic Model Based on Fuzzy Set Theory," with H.-Y. Ko, renewal DACA 39-83-C-0012, \$50,063, June 1, 1987, duration 12 months.
39. State of Colorado, "Superconducting Super Collider (SSC); Civil Engineering Tasks," with J. Diekmann and B. Amadei, \$21,000, June 26, 1987 to Dec. 31, 1987.
40. EXXON Production Research Company, "True Triaxial and Directional Shear Cell Experiments on Offshore Soils", with H.-Y. Ko), EPR Contract PR-10575, \$ 57,000, September 1, 1987 -December 31, 1988.
41. U.S. Air Force Office of Scientific Research, "Brittle-Ductile Failure Mechanics of Concrete and Mortar," with K.J. Willam and V. Saouma, \$50,500, August 15, 1987 - August 14, 1988.
42. National Science Foundation, "Simulation of Progressive Failure in Solids and Structures," (with K.J. Willam and V. Saouma, \$192,000, May 15, 1988 -October 31, 1989.
43. National Aeronautics and Space Administration, NASA Headquarters, "Center for Space Construction," with G.W. Morgenthaler, C.A. Felippa, K.C. Park, C. Farhat, F. Barnes, R. Su, M. Mikulas, College of Engineering and Applied Science faculty, \$7,262,123, July 1, 1988, 5 years.
44. U.S. Air Force Office of Scientific Research, "Brittle-Ductile Failure of Concrete," with K.J. Willam and V. Saouma, \$138,000, April 15, 1989, 2 years.
45. National Science Foundation. "Project VELACS -Verification of Liquefaction Analysis by Centrifuge Studies," with Hon-Yim Ko, \$155,000, Nov. 15, 1989, 3 years.
46. EXXON Production Research Co., Houston, Texas, "Drag Anchor Experiments in Clay," \$258,000, Nov. 1, 1989 -12/31/1990, with Hon-Yim Ko and Dobroslav Znidarcic.
47. National Science Foundation. "Conference on Nondestructive Evaluation of Civil Structures, and Materials," with B. Suprenant, \$66,617, March 15, 1990 to August 31, 1991.
48. National Aeronautics and Space Administration, NASA Hq., Micro-gravity Science and Applications Division, and Marshall Space Flight center, "Mechanics of Granular Materials Experiment," \$2,850,746 June 1, 1990 to October 31, 1999.
49. Sandia National Laboratories, "Effect of Boundary Conditions on the Strength and Deformability of Natural Fractures in Welded Tuff," with Bernard Amadei, \$95,401, August 1, 1990 to July 31, 1991.

50. U.S. Army Engineer, Waterways Experiment Station, "High Pressure Cubical True Triaxial Experiments on Cohesionless Soils," Contract DACW-39-90-M0065, with H.-Y. Ko, \$9,900, October 1, 1989 to July 31, 1990.
51. National Science Foundation "Conference on Nondestructive Evaluation of Civil Structures and Materials, II," with B. Suprenant, \$68,890, May 15, 1991 to October 31, 1993.
52. National Aeronautics and Space Administration, NASA Hq., Micro-gravity Science and Applications Division, "Mechanics of Granular Materials Experiment," \$97,000, June 1, 1991 to May 31, 1992.
53. National Science Foundation, Earthquake Hazards Mitigation Program, "VELACS -Class A Prediction," with H-Y. Ko and R. Pak, \$20,000, November 15, 1991 -June 14, 1993.
54. University of Lulea, Sweden, "Development of a Multiaxial Cubical Apparatus for Testing Cohesive and Cohesionless Soils," with H.-Y.Ko, \$134,000, September 1, 1991 - January 31, 1993.
55. Sandia National Laboratories, "Effect of Boundary Conditions on the Strength and Deformability of Natural Fractures in Welded Tuff," with B. Amadei, \$80,000, August 1, 1991 -July 31, 1993.
56. University of Trondheim, Norway, and SINTEF, "Development of a Multiaxial Cubical Apparatus," with K.H. Gerstle and H.-Y. Ko, \$157,000, July 1, 1993 -December 31, 1995.
57. National Science Foundation, "VELACS II" (Verification of Earthquake Liquefaction Analysis via Centrifuge Simulation), with H.-Y. Ko, \$85,000, October 1, 1995 - September 30, 1996.
58. Louisiana State University, "Development of a Multiaxial Cubical Apparatus for Testing Cohesive and Cohesionless Soils," \$ 146,000 with H.-Y. Ko, Sept. 30, 1996 -October 31, 1997.
59. National Center for Excellence in High-speed Railway Mechanics, Sweden (CHARMEC), "Experimental Investigation in Conjunction with Constitutive Characterization of Swedish Ballast Material," with Kenneth Runesson, \$ 80,000, duration July 1, 1996 -July 30, 1997.
60. National Aeronautics and Space Administration, Marshall Space Flight Center, Alabama, "Mechanics of Granular Materials", Contract NAS8-38779, \$ 67,000, August 1, 1998 - December 31, 1998.
61. National Center for Excellence in Railway Mechanics, Sweden (CHARMEC), "Constitutive Modeling of Ballast Materials" with Kenneth Runesson, \$ 45,000, duration June 1, 1999 March 31, 2000.
62. National Aeronautics and Space Administration, Marshall Space Flight Center, Alabama, "Mechanics of Granular Materials, MGM III", Contract NAS8-38779, \$ 1,580,432, September 1, 1999 -September 30, 2005.

63. National Aeronautics and Space Administration, Glenn Research Center, “Physics of Regolith Impacts in Microgravity Experiment”, \$ 504,360, 4 years (February 1, 2000 - January 31, 2004), Co-PI, PI: Joshua Colwell, LASP.
64. National Aeronautics and Space Administration, George C. Marshall Space Flight Center, “Mechanics of Granular Materials” (extension), \$ 573,278, Contract NAS8-38779, November 1, 2002 through December 31, 2005.
65. National Science Foundation, “Grant for Administrative and Student Support for 15<sup>th</sup> USNCTAM”, Co-PI with Thomas Geers, \$ 20,000, March – November, 2006.
66. U.S. Air Force Office of Scientific Research, “Grant for Administrative and Student Support for 15<sup>th</sup> USNCTAM”, Co-PI with Thomas Geers, \$ 19,410, March – October, 2006.
67. National Aeronautics and Space Administration, “NASA Lunar Science Institute: Colorado Center for Lunar Dust and Atmospheric Studies”, PI: M. Horanyi, LASP and Physics; Co-PIs, R. Ergun, T. Munsat, S. Robertson, Z. Sternovsky, S. Sture, \$ 4,000,000, July 1, 2009 – June 30, 2011.
68. Department of Defense, Office of Naval Research, MURI program, “Integrated Experimental – Computational Multiscale Immersed Particle-Continuum Approach to Modeling and Simulation of Multiphase Soil Failure Mechanics under Buried Explosive Loading” PI: Rich Regueiro. Co-PIs Ronald Y.S. Pak et al. MURI Team: John McCartney, Stein Sture, Oleg Vasilyev, Kahlid Alshibli (LSU), Shaofan Li (UC Berkeley), Hongbin Lu (UT Dallas), Rebecca Brannon (U. Utah), \$ 7,203,839 5 years: 7/1/2011 – 6/30/2016.
69. National Aeronautics and Space Administration, “Institute for Modeling Plasma, Atmospheres, and Cosmic Dust (IMPACT)”, PI: M. Horanyi, LASP and Physics; Co-Is, A. Abbud-Madrid, D. Baker, J. Blum, D. Brain, A. Collette, K.J. Drake, C. Dreyer, E. Gruen, C.M. Hrenya, S. Kempf, M. Lankton, A. Mocker, T.L. Munsat, S.H. Robertson, D.J. Scheres, A. Stern, Z. Sternovsky, S. Sture, X. Wang, M. Weinstein. NASA SSERVI program, \$ 5,000,000, 2013.
70. National Aeronautics and Space Administration, “MGM Next: Development of a Next Generation International Space Station Granular Materials Research Facility”, S. Dashti, S. Sture, M. Lankton, S.N. Batiste, S. Steg, T. Reese, E. Cervelli, R. Barrett, B. Lamprecht, J. Thiede, \$ 14 million. NRA No. NNN13ZBG001N. Proposal submitted March 31, 2013.

## SELECTED PRESENTATIONS AT CONFERENCES AND INVITED LECTURES

1. "Mechanical Characterization of Composite Materials," Seventh U.S. National Congress of Applied Mechanics, Boulder, Colorado, June 4, 1974.
2. "Laboratory Investigation of Anisotropic Materials," North Carolina State University, Raleigh, North Carolina, February 25, 1976.
3. "Multiaxial Laboratory Testing of Anisotropic Materials," Department of Civil Engineering, University of Toronto, Canada, March 31, 1976.
4. "Strain-softening Behavior in Fractured Rocks and Its Effects on Structural Response," Department of Civil Engineering, University of Toronto, Canada, April 1, 1976.
5. "Three-dimensional Constitutive Behavior of Soils," Virginia Polytechnic Institute and State University, Blacksburg, Virginia, April 20, 1976.
6. "Strain-Softening Behavior of Rocks and Its Effects on Structural Response," ASCE Engineering Mechanics Division Specialty Conference on Mechanics in Engineering, Waterloo, Canada, May 26, 1976.
7. "Stress Analysis of Strain-Softening Materials," Second International Conference on Numerical Methods in Geomechanics, Blacksburg, Virginia, June 22, 1976.
8. "Multiaxial Testing to Determine Material Behavior for Design of Energy Related Structures," Sixth AIRAPT Int. High Pressure Conference, University of Colorado, Boulder, Colorado, July 25, 1977.
9. "Geotechnical Earthquake Engineering," Space Sciences Colloquium, Marshall Space Flight Center, NASA, Huntsville, Alabama, August 9, 1978.
10. "Behavior of Soils at Very Low Effective Stress Levels," Physics and Chemistry in Space Project Review Meeting, NASA-OAST, Goddard Space Flight Center, Greenbelt, Maryland, January 26, 1979.
11. "Development of a Constitutive Law for an Artificial Soils," Third International Conference on Numerical Methods in Geomechanics, Aachen, RWTH, West Germany, April 4, 1979.
12. "Influence of Gravity Independent Parameters on the Constitutive Behavior of Soils," Physics and Chemistry in Space Project Review Meeting, NASA-OAST, Johnson Space Center, Houston, Texas, October 6, 1979.
13. "Data Reduction and Application for Analytical Modeling," State-of-the-Art talk (given by H.-Y. Ko), ASTM Soil Shear Strength Symposium, Chicago, Illinois, June 26, 1980.
14. "Three-Dimensional Laboratory Testing of Soils and Methods for Validating Constitutive Models," Colloquium Norwegian Geotechnical Institute, Oslo, Norway, July 29, 1980.
15. "What Can Be Learnt from Zero-G Experimentation in Geotechnical Engineering?" Seminar, Ames Research Center, NASA, Moffett Field, California, July 15, 1980.
16. "Plasticity Theory in Geomechanics," Department of Mechanical Engineering Seminar Series, University of Colorado, Boulder, Colorado, November 13, 1980.

17. "The Potential of Soil Dynamics Research in Space," Int. Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, St. Louis, Missouri, April 28, 1981.
18. "A Procedure for Developing Constitutive Models for Soils," Symposium on Implementation of Computer Procedures and Stress-Strain Laws in Geotechnical Engineering, Chicago, Illinois, August 4, 1981.
19. "Evaluation of Constitutive Parameters for Geological Materials," Workshop in Geomechanics, Illinois Institute of Technology, Chicago, Illinois, August 5, 1981.
20. "Modeling of Stress-Induced Anisotropy in Soils," with John C. Mould and Hon-Yim Ko, ASCE National Spring Meeting 1982, Las Vegas, Nevada, Session Cyclic Loading of Soils, April 29, 1982.
21. "Nonassociated Plastic Deformations and Dilatancy in Dense Quartz Sand", Dept. Mechanical Engineering, CU-Boulder, February 7, 1983.
22. "The Quick Clay Landslide in Rissa, Norway," U.S. Bureau of Reclamation, Denver, Colorado; 3 presentations, August 4, 1984.
23. "Justification for Space Shuttle Soil Mechanics Experiments," Physics and Chemistry Experiments in Space Project Review Meeting, NASA-PACE, Ames Research Center, Moffett Field, California, August 12, 1982.
24. "Cubical Testing of Materials," Lecture, Norwegian Institute of Technology, Trondheim, Norway, August 23, 1982.
25. "Constitutive Theory," Lecture Norwegian Institute of Technology, Trondheim, Norway, August 24, 1982.
26. "Modeling of Elastic-Plastic Anisotropic Hardening and Rotating Principal Stress Directions in Sand," with John C. Mould and H.-Y. Ko, IUTAM Symposium Delft, September 2, 1982.
27. "Elastic-Plastic Anisotropic Hardening Constitutive Model and Prediction of Behavior for Dry Quartz Sand," International Workshop on Constitutive Behavior of Soils, Grenoble, France, September 7, 1982.
28. "Constitutive Modeling of Soils," Lecture Institute for Soil Mechanics and Foundation Engineering, University of Zagreb, Zagreb, Yugoslavia, September 10, 1982.
29. "Modelling of Stress-Induced Anisotropy in Soils," Invited Lecture 19th Annual Meeting Society of Engineering Science, Inc. (SES), University of Missouri-Rolla, Rolla, Missouri, October 29, 1982.
30. "Experimental Modeling of Deformation Induced Anisotropy in Soils," Lecture Colorado Section ASCE, Geotechnical Division, Denver, April 20, 1983.
31. "The Strength and Stress-Strain Response Behavior of Steel-Fiber Reinforced Concrete under Combined Tension-Compression Loading," Engineering Mechanics Division, ASCE Specialty Conference, Purdue University, West Lafayette, Indiana, May 23, 1983.

32. "Finite Element Modeling of Concrete Failure in Shear," Engineering Mechanics Division, ASCE Specialty Conference, Purdue University, West Lafayette, Indiana, May 25, 1983.
33. "Dynamic Behavior of Rock Joints," with David R. Gillette and Hon-Yim Ko, 24th U.S. Symposium on Rock Mechanics, Texas A&M University, College Station, Texas, June 20, 1983.
34. "Experimental and Analytical Methods in Geotechnical Engineering," Det Norske Veritas, Hovik, Norway, July 11, 1983.
35. "Behaviour of Concrete under Multiaxial States of Stress," Lecture Series, 10 hrs., Central Soil and Materials Research Station and Central Water Commission, New Delhi, India, July 23-July 30, 1983.
36. "Recent Advances in Geotechnical Practice," Central Water Commission, New Delhi, India, August 1, 1983.
37. "Limited Deformation Problems with Static Loading: Laboratory Experimentalist's Response," Workshop on Experimental Research in Soil Engineering, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, August 22, 1983.
38. "Constitutive Properties of Steel Fiber Reinforced Concrete in Multiaxial Compression and Combined Tension and Compression," RILEM-CEB Int. Conf. on Concrete under Multiaxial Conditions, Toulouse, France, May 23, 1984.
39. "Centrifugal and Analytical Modeling of Excavations in Sand," ASCE Engineering Mechanics Division Specialty Conference, University of Wyoming, Laramie, Wyoming, August 1, 1984.
40. "Continuous Fracture Computations and Strain Localization in Cementitious Solids Subjected to Tension and Shear," Int. Congress of Theoretical and Applied Mechanics, Technical University of Denmark, Lyngby, Denmark, August 24, 1984.
41. "Superconducting Super Collider High Energy Physics Facility: Civil Engineering Task," Briefing lecture, Denver, Colorado, Sept. 21, 1984.
42. "Properties of Non-associated Plastic Flow Constitutive Models for Cohesionless particulate Materials", Invited Lecture, Dept. Mechanical Engineering, University of Colorado, Boulder, February, 1984.
43. "Experimental and Analytical Constitutive Modeling of Soils," U.S. Navy Civil Eng. Lab., Fac. Com., Port Hueneme, California, Nov. 5, 1984.
44. "Superconducting Super Collider (SSC) Civil Engineering Activities," U.S. Bureau of Reclamation, Denver, Colorado, Nov. 14, 1984.
45. "Multiaxial High Pressure Soil Experiments," U.S. Army Engineers Waterways Experiment Station, Vicksburg, Mississippi, Geomechanics Division, Dec. 10, 1984.
46. "Science and Conceptual Design Reviews of Mechanics of Granular Materials Experiments," Marshall Space Flight Center, NASA, Alabama, February 12, 1985.

47. "Cubical Triaxial and Directional Shear Testing of Concrete, Rock, and Soil," American Society of Civil Engineers, Annual Convention, Denver, Colorado, April 29, 1985.
48. "Behavior of Concrete under Multiaxial Stress States," Central Soils and Materials Research Station, Ministry of Irrigation, New Delhi, India; Lecture series-4 lectures, May 29 -June 1, 1985.
49. "Triaxial and Directional Shear Experiments on Geological Materials," Indian Geotechnical Society, New Delhi, India, June 3, 1985.
50. "Concrete Behavior under Multiaxial Stress States," Central Water Commission, New Delhi, India, June 4, 1985.
51. "Development and Application of a Directional Shear Cell," XIth Int. Conference on Soil Mechanics and Foundation Engineering, San Francisco, California, August 12, poster-session, 1985.
52. "Composite Fracture Model for Strain-Softening Computations of Concrete," Int. Conf. Fracture Mech. of Concrete, Lausanne, Switzerland, October 2, 1985.
53. "Induced Anisotropy in Soil," Det Norske Veritas-Veritec, Hovik, Norway, November 28, 1985.
54. "Experimental Modeling of Stress Induced Anisotropy in Soils," Norwegian Geotechnical Institute, December 17, 1985.
55. "Directional Shear Cell and Multiaxial Cubical Experiments on Soil," Norwegian Institute of Technology (NTH), Trondheim, Norway, January 15 and 16 (two parts), 1986.
56. Graduate Program and Research in Geotechnical Engineering at the University of Colorado, Boulder, Norwegian Institute of Technology (NTH), Trondheim, Norway, January 23, 1986.
57. "Centrifuge Modeling in Geotechnical Engineering," Norwegian Institute of Technology (NTH), Trondheim, Norway, February 28, 1986.
58. "Truly Triaxial Testing: Combined Compression and Tension," Central Soil and Materials Research Station, Ministry of Irrigation, New Delhi, India, April 29, 1986.
59. "Jenkin Lecture: True Triaxial and Directional Shear Cell Experiments on Cohesionless Soils," University of Oxford, Department of Engineering Science, Oxford, U.K., May 8, 1986.
60. "Directional Shear Cell Experiments on Soil," Cambridge University, University Engineering Department, Cambridge, U.K., May 23, 1986.
61. "True Triaxial Experiments on Soils," The City University, London, U.K., May 27, 1986.
62. "Offshore Gravity Platform Model Experiment," Oxford University, Department of Engineering Science, Oxford, U.K., June 6, 1986,
63. "Induced Anisotropy in Soil," University College Swansea, Department of Civil Engineering, Swansea, Wales, U.K., June 10, 1986.

64. "Fracture Energy Considerations of Post-Critical Experiments on Un-Notched Concrete Specimens," ASCE Structures Congress, New Orleans, La., Sept. 18, 1986.
65. "Micro-gravity Experiments on Granular Materials," Materials Research Society, Fall Meeting, Boston, Mass., Dec. 2, 1986.
66. "Laboratory Experiment on Concrete in Support of Design and Analysis of Concrete Dams," Central Design Office, Department of Irrigation, U.P., Roorkee, India, January 7, 1987.
67. "Workshop on Behaviour of Concrete Dams and Concrete under Multiaxial States of Stress," Central Board of Irrigation and Power, New Delhi, India, January 12-16, 1987.
68. "Mechanics of Granular Materials (MGM) Experiments," (with N.C. Costes), presentation to the Schrieffer Committee NASA Science Review, NASA Marshall Space Flight Center, February 10, 1987.
69. "Directional Shear Cell Experiments on Granular Soil with Rotation of Principal Stress Directions," Northwestern University, Evanston, May 1, 1987.
70. "Hollow Cylinder and Directional Shear Cell Experiments," U.S. Bureau of Reclamation, Denver, Colorado, May 11, 1987.
71. "Fracture-Energy Based Plasticity Model for the Triaxial Response Behavior of Plain Concrete," ASCE Engineering Mechanics Division 6th Specialty Conference, Buffalo, New York, May 20, 1987.
72. "Elasto-Plastic Model for Sand Based on Fuzzy Sets," Symposium on Constitutive Equations for Granular Non-Cohesive Soils, Case Western Reserve University, Cleveland, Ohio, July 23, 1987.
73. "Seismic, Microseismic and Geotechnical Issues Related to Construction and Operation of the Superconducting Super Collider in Colorado," ASCE Colorado Section, Denver, September 10, 1987.
74. "Construction and Operation of the Superconducting Super Collider in Colorado," ASCE Colorado Section, Colorado Springs, October 13, 1987.
75. "High-gravity, One-gravity, and Micro-gravity Experiments in Geomechanics," University of Karlsruhe, W. Germany, February 23, 1988.
76. "The Superconducting Super Collider (SSC) project in the State of Colorado," Professional Engineers Council of Colorado, Greeley, Colorado, March 24, 1988.
77. "Incremental Constitutive Relations for Cohesionless Granular Materials," ASCE Engineering Mechanics Division, Specialty Conference, VPI & SU, Blacksburg, Virginia, May 23, 1988.
78. "Center for Space Construction at the University of Colorado," Loveland -Ft. Collins - CU Boulder Alumni Chapters, June 23, 1988.



79. "Response of Pressure Sensitive Cohesionless Materials to Continuous and Discrete Rotations of Principal Stress Directions," ASCE-ASME Joint Mechanics Conference, La Jolla, California, July 11, 1989.
80. "Characterization of Interfaces in Heterogeneous Cementitious Materials," ASCE-ASME Joint Mechanics Conference, La Jolla, California, July 11, 1989.
81. "Directional and Plane Strain Experiments on Pressure Sensitive Cohesionless Granular Materials," Duke University, Durham, North Carolina, February 22-23, 1990.
82. "Nonclassical Constitutive Experiments on Soils," University of Minnesota, March 2, 1990.
83. "Directional Shear Cell Experiments on Cohesionless Soils," University of Puerto Rico, Mayaguez, Puerto Rico, March 19, 1990.
84. "Nontraditional Experiments on a Cohesionless Granular Material," SECTAM XV, Georgia Tech., Atlanta, Georgia, March 22, 1990.
85. "Directional Shear Cell Experiments on a Cohesionless Soil," AFWL, Albuquerque, New Mexico, April 25, 1990.
86. "Simulation of Progressive Failure in Particle Composites," Int. Conf. Micro-mechanics of Failure in Quasi-Brittle Materials, Albuquerque, New Mexico, June 7, 1990.
87. "Mechanics of Granular Materials," NASA-Johnson Space Center, Astronaut Crew Integration Div., July 24, 1990.
88. "High Pressure Triaxial Experiments on Consolidated Quartz Sand", Shell Development Company, Bellaire, Houston, October 1, 1990.
89. "Localized Deformation and Failure Analysis of Elasto-Plastic Materials," First U.S. National Congress on Computational Mechanics, Chicago, Illinois, July 22, 1991.
90. "Center for Space Construction: Extraterrestrial Engineering on the Lunar Surface," University of Colorado Alumni Association, Boulder, Colorado, April 3, 1991.
91. "Numerical Modeling in Geotechnical Earthquake Engineering," NSF Workshop on Research Needs in Infrastructure -Earthquake Geotechnical Engineering, Sacramento, California, Feb. 5, 1992.
92. "Analysis of Internal Discontinuities in Geo-Materials," Texas A&M University, ASCE 9th Engineering Mechanics Conference, May 25, 1992.
93. "Mechanics of Granular Materials of Very Low Effective Stress Levels," Texas A&M University, ASCE 9th Engineering Mechanics Conference, May 27, 1992.
94. "Characterization of Lunar Regolith Simulant," ASCE Aerospace Division, Regolith Simulant meeting, Denver, Colorado, June 1, 1992.
95. "Experimental Physical and Numerical Modeling of Lunar Regolith and Lunar Regolith Structures," ASCE Space 92, The Third International Conference on Engineering, Construction and Operations in Space, Denver, Colorado, June 2, 1992.

96. "Design and Construction of a Lunar Outpost," NASA-Space Engineering Research Center Symposium, Tucson, Arizona, February 19, 1993.
97. "Directional Shear Cell Experiments on Cohesionless Granular Materials," Department of Civil Engineering and Engineering Mechanics, University of Arizona, Tucson, February 18, 1993.
98. "Mechanics of Granular Materials," Sandia National Laboratories, Albuquerque, New Mexico, February 23, 1993.
99. "Mechanics of Granular Materials," NASA, Marshall Space Flight Center, USML-2 (United States Micro-gravity Laboratory -2) Science Conference, Alabama, May 13, 1993.
100. "Geotechnical and Geoenvironmental Engineering at the University of Colorado at Boulder," University of Trondheim, Norwegian Institute of Technology, NTH, Norway, August 17, 1993.
101. "Verification of Earthquake Liquefaction Analysis: Overview of Numerical Predictions for Model No. 12," Int. VELACS Symposium, University of California, Davis, October 20, 1993.
102. "MGM Experiment," NASA, Marshall Space Flight Center, July 12, 1994.
103. "A Near-Term, Long Duration Lunar Outpost Design," ASCE, Int. Conf. on Engineering and Construction in Space, Albuquerque, NM, February 22, 1994.
104. "Unified States Micro-gravity Laboratory -2: MGM," NASA, Marshall Space Flight Center, December 12, 1994.
105. "Mechanics of Granular Materials," NASA, Marshall Space Flight Center, August 17, 1995.
106. "Current and Future Issues in Civil Engineering Education," Kansas State University, November 9, 1995.
107. "Implicit Integrations in Geo-plasticity", (with B. Jeremic), 10th ASCE Engineering Mechanics Conference, Boulder, Colorado, May, 1995.
108. "Issues on Geomechanics," ASCE, 5th Int. Conf. on Space Eng., Constr. and Operations, Albuquerque, New Mexico, April 26, 1996.
109. "Plasticity in Geotechnical Engineering," PLAXIS Workshop, Boulder, Colorado, July 22-24, 1996.
110. "Flexible Boundary for Discrete Element Simulation of Granular Assemblies," ASCE, 11th Engineering Mechanics Conference, Ft. Lauderdale, Florida, May 27, 1996.
111. "Refined Finite Element Analysis of Geomaterials", (with B. Jeremic), 11th ASCE Engineering Mechanics Conference, Ft. Lauderdale, Florida, May 28, 1996.
112. "Globally Convergent Modification of Implicit Integration Schemes in Soil Elastoplasticity" (with B. Jeremic), Joint ASME/ASCE/SES Mechanics Conference, Northwestern University, Evanston, Illinois, July, 1997.

113. "Experiments and Analysis of Granular Materials Aboard the Space Shuttle," Lecture, Engineering Colloquium Series, Colorado School of Mines, Golden, March 31, 1998.
114. "Mechanics of Granular Materials under Low Effective Stresses and Quasi-static Conditions," Lecture, Dept. Theoretical and Applied Mechanics, Cornell University, April 15, 1998.
115. "Characterization of Lunar and Mars Regolith," Lecture, ASCE, Geo-Data Conference, Denver, Colorado, April 17, 1998.
116. "A Mobility Concept for Martian Exploration," Lecture, ASCE, Space 98, Albuquerque, New Mexico, April 28, 1998.
117. "Microgravity and Low Stress Experiments on Granular Materials aboard the Space Shuttle," Moran Lecture, University of Notre Dame, May 1, 1998.
118. "Multiaxial and Directional Shear Experiments on Geomaterials," Dept. Civil Engineering and Geologic Science, University of Notre Dame, May 2, 1998.
119. "Behavior of Soils/Gravels in Low-G," Lecture, NAS/NAE/NRC, Space Studies Board, Washington, DC, May 27, 1998.
120. "Mechanics of Granular Materials at Low Effective Stresses", 13th U.S. National Congress of Applied Mechanics, Gainesville, Florida, June 22, 1998.
121. "Modeling of Granular Materials", 13th U.S. National Congress of Applied Mechanics, Gainesville, Florida, June 26, 1998.
122. "Large Deformation Constitutive Integration Algorithm", (with B. Jeremic and K. Runesson), 12th ASCE Engineering Mechanics Conference, La Jolla, California, May, 1998.
123. "Coaxiality of Elastic and Plastic Strain Tensors in Large Deformations" (with B. Jeremic), 13th U.S. National Congress of Applied Mechanics, Gainesville, Florida, June 25, 1998.
124. "Mechanics of Granular Materials at Low Effective Stresses", Keynote Lecture, Fourth Microgravity Fluid Physics & Transport Phenomena Conference, Cleveland, Ohio (Org. NASA, Lewis Research Center) August 14, 1998
125. "Constitutive Issues in Soil Liquefaction", Int. Workshop on the Physics and Mechanics of Soil Liquefaction, Baltimore, Maryland, Sept. 10, 1998.
126. "Fracture and Size Effect Characters of Cemented Sand", ONR Workshop on Fracture Scaling, University of Maryland, College Park, June 12, 1999.
127. "Modeling of Continuous Localization of Deformation", (with B. Jeremic), 13th ASCE Engineering Mechanics Conference, The Johns Hopkins University, Baltimore, Maryland, June 15, 1999.
128. "Challenges in Constitutive Modeling in Geomechanics", Keynote (Plenary) Lecture, 13th ASCE Engineering Mechanics Conference, The Johns Hopkins University, Baltimore, Maryland, June 16, 1999.

129. "Computational Aspects of p-Adaptive Finite Element Refinement in Computational Geotechnics", 5th U.S. National Congress on Computational Mechanics, Boulder, Colorado, August 4, 1999.
130. "Combined Tension and Shear Fracture and Slip of Interfaces in Cementitious Composites", 14th Engineering Mechanics Conference, ASCE, Austin, Texas, May 22, 2000.
131. "Computer Analysis of Nonlinear Behavior in Geotechnical Engineering", (R. Brinkgreve and S. Sture), ASCE National Convention, Seattle, October 21, 2000.
132. "Finite Element Analysis, Elasticity, and Plasticity Modeling in Geotechnical Engineering", PLAXIS short course, University of California, Berkeley, January 3-6, 2001.
133. "Shear Band Formation in Plane Strain Experiments on Cohesionless Granular Materials", Colorado School of Mines, Golden, Colorado, February 27, 2001.
134. "Discrete Element Modeling of Three-Dimensional Assemblies of Ellipsoidal Particles", (with L. Gong), Joint ASME/ASCE/SES Mechanics Conference, San Diego, California, June 27, 2001.
135. "A Mixed Least Squares Numerical Technique Applied to Computational Geomechanics", (with M. Tchoukova), 6th U.S. Natl. Congress on Computational Mechanics, Dearborn, Michigan, August 1, 2001.
136. "Mechanics of Granular Materials", Symposium, Laboratory for Atmospheric and Space Physics, NCAR, Boulder, Colorado, August 14, 2001.
137. "Constitutive Modeling in Earthquake Simulation", NSF Int. Workshop on Earthquake Simulation in Geotechnical Engineering, Case Western Reserve University, November 9, 2001.
138. "Microgravity Experiments on Cohesionless Granular Materials at Very Low Stress Levels aboard the Space Shuttle", Purdue University, West Lafayette, March 1, 2002.
139. "Nontraditional Directional Shear Experiments on Granular Materials", Louisiana State University, Baton Rouge, April 17, 2002.
140. "Experiments on Granular Materials at Very Low Stress Levels", Frank J. Germano Distinguished Lecture, Louisiana State University, Baton Rouge, April 17, 2002.
141. "Recent Developments in Computational Modeling in Geomechanics" (Invited Keynote Lecture, with B. Jeremic), 5th World Congress on Computational Mechanics, Vienna, Austria, July 9, 2002.
142. "Cyclic Behavior of Sand at Very Low Effective Stresses", First Japan-USA Workshop on Testing, Modeling and Simulation in Geomechanics, Boston, June 27, 2003.
143. "Mechanical Properties of Particulate Materials at Low Pressures", Sigma Xi Research Lecture, University of Colorado, Boulder, October 7, 2003.

144. "Properties of Sand under Low Effective Stresses", ASCE Earth & Space Conference, League City, Texas, March 7, 2004.
145. "Investigation of Moisture Effects on Tensile Strength in Granular Soils", ASCE Earth & Space Conference, League City, Texas, March 7, 2004.
146. "Lunar Surface Environmental Laboratory", NASA, Glenn Research Center, Cleveland, June 22, 2004.
147. "Mobility on the Surfaces of the Moon and Mars", NASA, Marshall Space Flight Center, November 18, 2004.
148. "Lunar Mobility, Lunar Roving Vehicle, Past, Present and Future -a Historical Review", U.S. Army Engineers, Engineering Research and Development Center, Mobility Laboratory, Vicksburg, Mississippi, December 9, 2004.
149. "Vibratory Methods for Efficient Regolith Excavation and Construction", NASA, Kennedy Space Center, February 3, 2005.
150. "Nontraditional In-Space Experiments in Civil Engineering", Robert Thorn Lecture, College of Engineering, Kansas State University, March 17, 2006.
151. "Computational Geotechnics", PLAXIS short course, Boulder, Colorado, August 22-25, 2006.
152. "Effect of Moisture on the Tensile Strength of Granular Soils", Norwegian Geotechnical Institute, Oslo, December 8, 2006.
153. "A Cyclic Fuzzy-Set Elasto-Plastic Constitutive Model for Granular Soils", University of Oslo and NGI, Norway, December 8, 2006.
154. "Research Taking the Lead: Knowledge Creation through Research and Graduate Education at Universities", Madinah, Kingdom of Saudi Arabia, Knowledge Economic City Conference, June, 2008.
155. World Congress on Computational Mechanics, Venice, Italy, July 3, 2008.
156. 1<sup>st</sup> Int. Symposium on Computational Geomechanics, April 29 – May 1, 2009, St. Juan-les-Pines, Nice, France.
157. Computational Geotechnics, January 18-19, 2010, Catholic University of America, Washington DC.
158. The University at Global Crossroads, IEHE conference, Riyadh, Saudi Arabia, January 28, 2010.
159. "Lunar Regolith Mechanics", Lecture, Keck Institute for Space Studies, xTerramechanics: Integrated Simulation of Planetary Surface Missions 2, California Institute of Technology, Pasadena, CA, August 1, 2011.
160. "A Model for Collaborative Public-Private Research in Renewable Energy; Tearing Down Silos", World Renewable Energy Forum, Denver, Colorado, May 17, 2012.

161. “Characteristics of a Large USA Research University and Its Faculty,” Chalmers University of Technology, Gothenburg, Sweden, September 12, 2012.
162. “Space Science and Aerospace Engineering Research and Education”, Brookings Institution, conference on Colorado’s space economy, Denver, Colorado, February 5, 2013.
163. “Future Earth”, H. John Heinz III Center for Science, Economics and the Environment, Washington DC, September 4, 2013.
164. “Research and Graduate Education, University of Colorado”, University of Cologne, Germany, October 10, 2013.
165. “International Trends in Geotechnical Research”, Norwegian University of Science and Technology, Trondheim, May 20, 2016.
166. “Experiences in Leadership in Engineering Education”, University of New Orleans, September 16, 2016.
167. Research Grand Challenges, Progress and Achievements”, Panel Member, Presentation to NAS/NAE/NAM Frontiers of Materials Research – 2, Golden, Colorado, July 27, 2017.
168. “Formation and History of the Engineering Mechanics Division, ASCE”, EM Conference, San Diego, June 6, 2017.
169. “Megatrends in USA versus European Research Funding, Processes and Organization”, Norwegian Geotechnical Institute, Oslo, August 28, 2017.
170. “An Overview of Analytical and Computational Geomechanics”, College of Engineering & Applied Science, University of Wyoming, Laramie, November 6, 2017.
171. “Starshades”, (w/D.N. Baker, W.W. Cash), COSPAR, Int. Astrophysics Conf., Seoul, S. Korea, August 6, 2024.
172. “Starshades-2”, COSPAR, (w/D.N. Baker, W.W. Cash) Int. Astrophysics Conf., Seoul, S. Korea, August 4, 2025.

## **PARTICIPATION AT SELECTED TECHNICAL AND PROFESSIONAL CONFERENCES**

1. Seventh U.S. National Congress of Applied Mechanics, Boulder, Colorado, June, 1974.
2. International Society for Rock Mechanics, Third International Congress, Denver, Colorado, September, 1974.
3. Sixteenth National Symposium on Rock Mechanics, Minneapolis, Minnesota, September, 1975.
4. American Society of Civil Engineers, Annual National Convention, Denver, Colorado, November, 1975.

5. American Society of Civil Engineers, Engineering Mechanics Division Specialty Conference, "Mechanics in Engineering," Waterloo, Canada, May, 1976.
6. Second International Conference on Numerical Methods in Geomechanics, Blacksburg, Virginia, June, 1976.
7. American Society of Civil Engineers, Geotechnical Engineering Division Specialty Conference on "Rock Engineering for Foundations and Slopes," Boulder, Colorado, August, 1976.
8. Transportation Research Board, Annual Meeting, Washington, D.C., January, 1977.
9. American Society for Testing and Materials, Meeting and Workshop, Philadelphia, Pennsylvania, January, 1977.
10. Workshop on Critical State Soil Mechanics, North Carolina State University, Raleigh, North Carolina, March, 1977.
11. American Geophysical Union, Annual Spring Meeting, Washington, D.C., May, 1977.
12. National Aeronautical and Space Administration, NASA -GSA Site Screening, John F. Kennedy Space Center, May, 1977.
13. Sixth AIRAPT, International High Pressure Conference, University of Colorado, Boulder, Colorado, July, 1977.
14. Transportation Research Board, Annual Meeting, Washington, D.C., January, 1978.
15. American Society of Civil Engineers, Geotechnical Engineering Division Specialty Conference on Soil Dynamics and Geotechnical Earthquake Engineering, Pasadena, California, June, 1978.
16. Space Sciences Colloquium, Marshall Space Flight Center, NASA, Huntsville, Alabama, August, 1978.
17. Transportation Research Board, Annual Meeting, Washington, D.C., January, 1979.
18. Physics and Chemistry in Space Meeting, NASA, Goddard Space Flight Center, Greenbelt, Maryland, January, 1979.
19. Third International Conference on Numerical Methods in Geomechanics, Aachen, West Germany, March, 1979.
20. American Society for Testing and Materials, Annual Meeting and Symposium, Philadelphia, Pennsylvania, June, 1979.
21. Physics and Chemistry in Space Meeting, NASA, Johnson Space Center, Houston, Texas, October, 1979.
22. Workshop and Meeting on High Strength Concrete, NSF and University of Illinois at Chicago Circle, Chicago, Illinois, December, 1979.
23. North American Workshop on Generalized Stress-Strain and Plasticity Theories for Soils, NSF and McGill University, Montreal, Canada, May, 1980.

24. American Society for Testing and Materials, Annual Meeting and Symposium, "Shear Strength of Soils," Chicago, Illinois, June, 1980.
25. American Society of Civil Engineers, Geotechnical Engineering Division, Geotechnical Construction Conference, San Francisco, January, 1981.
26. AIAA/ASME/ASCE/AHS, 22nd Structures, Structural Dynamics, and Materials Conference, Atlanta, Georgia, April, 1981.
27. International Conference on Recent Advances in Geotechnical Earthquake Engineering and Soil Dynamics, St. Louis, Missouri, April, 1981.
28. ASCE/ASME Mechanics Conference, Boulder, Colorado, June, 1981.
29. Twentysecond National Symposium in Rock Mechanics, Cambridge, Massachusetts, June-July, 1981.
30. Symposium on Implementation of Computer Procedures and Stress-Strain Laws in Geotechnical Engineering, Chicago, Illinois, August, 1981.
31. American Society of Civil Engineers, Geotechnical Specialty Conference, Engineering and Construction in Tropical and Residual Soils, Honolulu, Hawaii, January, 1982.
32. American Society of Civil Engineers, National Spring Convention and Geotechnical Conference and Exhibit, Las Vegas, Nevada, April, 1982.
33. Fourth International Conference on Numerical Methods in Geomechanics, Edmonton, Canada, May-June, 1982.
34. American Society for Testing and Materials, Annual Meeting and Symposium, Toronto, Canada, June, 1982.
35. IUTAM Symposium on Deformation and Failure of Granular Materials, Delft, The Netherlands, August-September, 1982.
36. International Workshop on Constitutive Behavior of Soils, Grenoble, France, September 6-8, 1982.
37. Dam Safety Research Coordination Conference, Interagency Committee on Dam Safety Research Subcommittee, Denver, Colorado, October 25-27, 1982.
38. Society of Engineering Science, 19th Annual Meeting, University of Missouri-Rolla, Missouri, October 27-29, 1982.
39. Subseabed Disposal Program, 1982 Annual Workshop, Denver, Colorado, November 2-4, 1982.
40. International Conference on Constitutive Laws for Engineering Materials, Tucson, Arizona, January 10-14, 1983.
41. Symposium on the Interaction of Non-Nuclear Munitions with Structures, U.S. Air Force Academy, Colorado Springs, May 10-13, 1983.



42. American Society of Civil Engineers, Engineering Mechanics Division Specialty Conference, Purdue University, West Lafayette, Indiana, May 23-25, 1983.
43. Twenty-fourth U.S. Symposium on Rock Mechanics, Texas A & M University, College Station, Texas, June 20-23, 1983.
44. Workshop on Experimental Research in Soil Engineering; National Science Foundation, Virginia Polytechnic Institute and State University, Blacksburg, Virginia, August 22-24, 1983.
45. IUTAM William Prager Symposium on Mechanics of Geomaterials: Rocks, Concretes, Soils. Northwestern University, Evanston, Illinois, September 11-15, 1983.
46. ASEE Rocky Mountain Section Annual Meeting, University of Colorado, Boulder, Colorado, April 14, 1984.
47. American Society of Civil Engineers, Colorado Section, Geotechnical Group, Symposium on Engineering in Clay Shale, Denver, Colorado, March 15, 1984.
48. RILEM Symposium Concrete under Multiaxial Conditions, Toulouse, France, May 22-24, 1984.
49. American Society for Testing and Materials, Annual Meeting and Symposium, Denver, Colorado, June 25-27, 1984.
50. Transportation Research Board, National Research Council, Glenwood Canyon Summer Meeting, Glenwood Springs, Colorado, June 28-30, 1984.
51. American Society of Civil Engineers, Engineering Specialty Conference, University of Wyoming, Laramie, Wyoming, August 1-3, 1984.
52. International Congress of Theoretical and Applied Mechanics (XVI-th), Technical University of Denmark, Lyngby, Denmark, August 19-25, 1984.
53. American Society of Mechanical Engineers-Winter Annual Meeting, New Orleans, Louisiana, Dec. 11-14, 1984.
54. Department of Defense Workshop on Research Opportunities, Arizona State University, Tempe, Arizona, January 28, 1985.
55. American Society of Civil Engineers, ARCTIC '85, National Conference on Civil Engineering in the Arctic Offshore, San Francisco, California, March 25-27, 1985.
56. Second Symposium on the Interaction of Non-Nuclear Munitions with Structures, Panama City Beach, Florida, April 15-18, 1985.
57. American Society of Civil Engineers, Annual Spring Convention, Denver, Colorado, April 29-May 1, 1985.

58. 2nd Joint American Society of Civil Engineers/American Society of Mechanical Engineers (ASCE/ASME) Mechanics Conference, Albuquerque, New Mexico, June 23-26, 1985.
59. XI-th International Conference on Soil Mechanics and Foundation Engineering, San Francisco, California, August 11-16, 1985.
60. International Conference on Fracture Mechanics of Concrete (RILEM), Lausanne, Switzerland, October 1-3, 1985.
61. Norwegian Geotechnical Society, Annual Conference (Geoteknikk dagene), Oslo, Norway, November 21-22, 1985.
62. Kursdagene (Course-days), Norwegian Institute of Technology, Trondheim, Norway, January 6-8, 1986.
63. Science and Engineering Research Council (SERC), Seminar on Research on In Situ Testing of Soils, Oxford University, U.K., April, 16, 1986.
64. Science and Engineering Research Council (SERC), Research and Practice in Soil Sampling and Laboratory Testing, Imperial College of Science and Technology, London, U.K., April 17, 1986.
65. American Society of Civil Engineers, Structures Congress '86 New Orleans, La., Sept. 16-18, 1986.
66. Materials Research Society, Fall Meeting, Boston, Mass., Dec. 1-2, 1986.
67. Workshop on Behavior of Concrete Dams and Concrete under Multiaxial States of Stress, Central Board of Irrigation and Power, New Delhi, India, January 12-16, 1987.
68. American Society of Civil Engineers, Annual Spring Meeting, Atlantic City, New Jersey, April 28-30, 1987.
69. American Society of Civil Engineers, Engineering Mechanics Division, Specialty Conference, Buffalo, New York, May 20-22, 1987.
70. International Workshop on Constitutive Equations for Granular Non-Cohesive Soils, Cleveland, Ohio, July 22-24, 1987.
71. The National SSC Symposium, Denver, Colorado, December 3-4, 1987.
72. American Society of Mechanical Engineers, Winter Annual Meeting, Boston, Mass., December 13-18, 1987.
73. International Workshop on Recent Developments on Limit Analysis and Bifurcation Theory in Geomechanics, Karlsruhe, West Germany, February 23-25, 1988.
74. American Society of Civil Engineers, Colorado Section, "Up and Down Soils," Seminar at the University of Colorado, Boulder, March 31, 1988.
75. American Society of Civil Engineers, Annual Spring Convention, Nashville, Tennessee, May 8-10, 1988.

76. American Society of Civil Engineers, Engineering Mechanics Division, Specialty Conference, Blacksburg, Virginia, May 22-25, 1988.
77. American Society of Civil Engineers, Geotechnical Engineering Division Specialty Conference, "Hydraulic Fill Structures '88", Fort Collins, Colorado, August 15-18, 1988.
78. American Society of Civil Engineers, "Space '88 -Engineering, Construction and Operations in Space," Specialty Conference, Albuquerque, N.M., August 29-31, 1988.
79. Symposium on Advances and Trends in Computational Structural Mechanics and Fluid Dynamics, Washington, D.C., October 17-19, 1988.
80. American Society of Civil Engineers, Zone III Management Conference, Denver, Colorado, Feb. 5-7, 1989.
81. American Society of Civil Engineers, Geotechnical Eng., Foundation Congress, Evanston, Illinois, June 25-28, 1989.
82. American Society of Civil Engineers -American Society of Mechanical Engineers Joint Mechanics Conference, San Diego/La Jolla, California, July 9-12, 1989.
83. American Society of Civil Engineers, District 16 Council, Kansas City, Missouri, Sept. 8-9, 1989.
84. American Society of Civil Engineers, Zone III Management Meeting and Advisory Personnel Workshop, Kansas City, Mo., February 5-6, 1990.
85. SECTAM XV, Atlanta, Georgia, March 21-24, 1990.
86. American Society of Civil Engineers, Space '90: Engineering, Construction, and Operations in Space, Albuquerque, N.M., April 22-24, 1990.
87. American Society of Civil Engineers, Structures Congress, and Workshop on Future Research Needs in Civil Engineering and Eng. Mechanics, Baltimore, Md., April 28-May 1, 1990.
88. NATCAM XI, Tucson, Arizona, May 21-22, 1990.
89. Int. Conference on Micromechanics of Failure of Quasi-Brittle Materials, Albuquerque, N.M., June 5-7, 1990.
90. American Society of Civil Engineers, Geotechnical Specialty Conference, Design and Performance of Earth Retaining Structures, Cornell Univ., June 18-20, 1990.
91. American Society of Civil Engineers, Materials Engineering Congress, Denver, Colorado, August 13-14, 1990.
92. American Society of Civil Engineers, National Convention, San Francisco, California, November 2-6, 1990.
93. American Society of Civil Engineers, National Convention Workshop, Newark, New Jersey, March 1-2, 1991.
94. American Society of Civil Engineers, Structural Engineering Congress, Indianapolis, Indiana, April 29-May 1, 1991.

95. American Society of Civil Engineers, Engineering Mechanics Division, Specialty Conference, Columbus, Ohio, May 20-22, 1991.
96. American Society of Civil Engineers, Geotechnical Engineering Division, Geotechnical Congress, Boulder, Colorado, June 10-12, 1991.
97. First U.S. National Congress on Computational Mechanics, Chicago, Illinois, July 22-24, 1991.
98. American Society of Civil Engineers, National Convention, Orlando, Florida, October 20-24, 1991.
99. American Society of Civil Engineers, Structures Congress, San Antonio, Texas, April 13-15, 1992.
100. American Society of Civil Engineers, Engineering Mechanics Conference, Texas A&M University, College Station, Texas, May 25-27, 1992.
101. American Society of Civil Engineers, Space 92 -Engineering, Construction and Operations on Space, Denver, Colorado, May 31 -June 4, 1992.
102. National Science Foundation, Workshop on Research Needs in Infrastructure Earthquake Geotechnical Engineering, Sacramento, California February 4-5, 1992.
103. American Society of Civil Engineers, Geotechnical Engineering Conference, Stability and Performance of Slopes and Embankments II -A 25-Year Perspective, University of California at Berkeley, June 28-July 1, 1992.
104. Charles Peter Wroth Memorial Symposium, Oxford University, St. Catherine College, UK, July 26-30, 1992.
105. American Society of Civil Engineers, Annual Convention, New York, September 13-17, 1992.
106. American Society of Civil Engineers, Zone III Management Conference and Workshop for Student Advisory Personnel, Denver, Colorado, February 5-7, 1993.
107. NASA, Space Engineering Research Center, Symposium, University of Arizona, Tucson, Arizona, February 18-20, 1993.
108. American Society of Civil Engineers, Convention planning workshop, Atlanta, Georgia, March 6-7, 1993.
109. NASA, Marshall Space Flight Center, Alabama, US Micro-gravity Laboratory -2, science meeting, May 12-13, 1993.
110. Society of Engineering Science/American Society of Mechanical Engineers/American Society of Civil Engineers Joint Mechanics Conference, University of Virginia, Charlottesville, Virginia, June 6-9, 1993.
111. Int. Conference, Verification of Numerical Procedures for Earthquake Liquefaction Analysis Procedures, Davis, California, October 17-20, 1993.
112. American Society of Civil Engineers, National Convention, Dallas, Texas, October 24-26, 1993.

113. American Society of Civil Engineers, Space 94, Albuquerque, NM, February, 1994.
114. American Society of Civil Engineers, National Convention, Atlanta, Georgia, October, 1994.
115. American Society of Civil Engineers, 10th Engineering Mechanics Conference, Boulder, CO, May 22-25, 1995.
116. American Society of Civil Engineers, Civil Engineering Education Conference, Denver, CO, June 6-9, 1995.
117. American Society of Civil Engineers, National Convention, San Diego, October 22-26, 1995.
  
118. American Society of Civil Engineers, 11th Engineering Mechanics Conference, Ft. Lauderdale, Florida, May 19-22, 1996.
119. American Society of Civil Engineers, Space 1996, Engineering, Construction and Operations in Space, Albuquerque, New Mexico, June 4-6, 1996.
120. PLAXIS Short Course "Computational Geotechnics"(Lecturer), University of Colorado, Boulder, July 22-24, 1996.
121. American Society of Civil Engineers, National Convention, Washington, DC, November 9-14, 1996.
122. NASA, Jet Propulsion Laboratory, Workshop, Mars Soil and Dust Characterization, Pasadena, February 27, 1997.
123. American Society of Civil Engineers, W/SW Civil Eng. Department Chairs/Heads Conference, Boulder, Colorado, June 12-14, 1997.
124. McNU 97, ASME/ASCE/SES Mechanics Conference, Northwestern University, June 28-July 2, 1997.
125. American Society of Civil Engineers, Geo-Institute Conference, Logan, Utah, July 15-19, 1997.
126. American Society of Civil Engineers, National Convention, Minneapolis, Minnesota, October 5-9, 1997.
127. Colorado Section, ASCE, Geotechnical Engineering Conference: Geo-Data: What Do The Numbers Mean?, Denver, Colorado, April 17, 1998.
128. American Society of Civil Engineers, Space 98: Engineering, Operation and Construction in Space, Albuquerque, New Mexico, April 25-27, 1998.
129. American Society of Civil Engineers, 12th Engineering Mechanics Conference, San Diego/La Jolla, May 17-22, 1998.
130. PLAXIS Short Course "Computational Geotechnics"(Lecturer), M.I.T., Cambridge, Massachusetts, June 8-10, 1998.
131. 13th National Congress of Theoretical and Applied Mechanics, Gainesville, Florida, June 20-25, 1998.

132. Fourth Microgravity Fluid Physics & Transport Phenomena Conference, Cleveland, Ohio, August 12-14, 1998.
133. International Workshop on the Physics and Mechanics of Soil Liquefaction, Baltimore, Maryland, Sept. 10-11, 1998.
134. Office of Naval Research (ONR) Workshop on Fracture Scaling, College Park, Maryland, June 10-12, 1999.
135. 13th ASCE Engineering Mechanics Conference, Johns Hopkins University, Baltimore, Maryland, June 13-16, 1999.
136. 5th U.S. National Congress on Computational Mechanics, Boulder, Colorado, August 4-7, 1999.
137. PLAXIS Short Course “Computational Geotechnics“, (Lecturer), University of Colorado, Boulder, August 9-11, 1999.
138. American Society of Civil Engineers, National Convention, Charlotte, North Carolina, October 15-18, 1999.
139. 14th ASCE Engineering Mechanics Conference, University of Texas at Austin, May 21-23, 2000.
140. “GeoDenver 2000”, ASCE and the Geo-Institute, Denver, Colorado, August 5-8, 2000.
141. The 20th IUTAM Congress, ICTAM 2000 (International Congress of Theoretical and Applied Mechanics), Chicago, Illinois, August 27-September 2, 2000.
142. American Society of Civil Engineers, National Convention, Seattle, Washington, October 19-21, 2000.
143. PLAXIS Short Course “Computational Geotechnics” (Lecturer), University of California, Berkeley, January 3-6, 2001.
144. 2001 Mechanics and Materials Conference, Joint SES/ASCE/ASME Mechanics Conference, San Diego, California, June 25-27, 2001.
145. Sixth U.S. National Congress on Computational Mechanics, Dearborn, Michigan, August 1-3, 2001.
146. PLAXIS Short Course “Computational Geotechnics” (Lecturer), University of Colorado, Boulder, August 6-9, 2001.
147. NSF International Workshop on Earthquake Simulation in Geotechnical Engineering, Case Western Reserve University, Cleveland, Ohio, November 8-10, 2001.
148. American Society of Civil Engineers, National Convention, Houston, Texas, October 10-13, 2001
149. International Space Station Institute (NASA), Colorado Regional Workshop on Utilization Issues, Boulder, Colorado, December 4, 2001.

150. 8th Int. Symposium on Numerical Models in Geomechanics (NUMOG VIII), Rome, Italy, April 10-12, 2002.
151. 15th ASCE Engineering Mechanics Conference, Columbia University, New York, June 2-5, 2002.
152. 14th U.S. National Congress of Theoretical and Applied Mechanics, Virginia Tech, Blacksburg, Virginia, June 23-26, 2002.
153. 5th World Congress on Computational Mechanics, Vienna, Austria, July 7-12, 2002.
154. American Society of Civil Engineers, National Convention, Washington, DC, November, 2002.
155. PLAXIS Short Course “Computational Geotechnics” (Lecturer), University of California, Berkeley, January 6-9, 2003.
156. First Japan-USA Workshop on Testing, Modeling and Simulation in Geomechanics, Boston-Dedham, Massachusetts, June 27-29, 2003.
157. 16th ASCE Engineering Mechanics Conference, University of Washington, Seattle, July 16-19, 2003.
158. 7th US National Congress on Computational Mechanics, Albuquerque, New Mexico, July 27-29, 2003.
159. American Society of Civil Engineers, National Convention, Nashville, Tennessee, November, 2003.
160. PLAXIS Short Course “Computational Geotechnics” (Lecturer), University of Colorado, Boulder, January 5-8, 2004.
161. ASCE, Earth & Space Conference, League City, Texas, March 7-10, 2004.
162. FramCos-5, Fracture of Concrete and Concrete Structures, Vail, Colorado, April 11-15, 2004.
163. Network of Earthquake Engineering Simulation (NEES), Sand Diego, California, May 19-22, 2004.
164. 17th ASCE Engineering Mechanics Conference, University of Delaware, Newark, June 12 -15, 2004.
165. NASA, Glenn Research Center, “Strategic Research to Enable NASA’s Exploration Mission”, Cleveland, Ohio, June 21-23, 2004.
166. NASA, Marshall Space Flight Center, Surface Mobility Systems Conference, November 18, 2004.
167. NASA, Kennedy Space Center, Lunar and Mars Regolith Conference, February 2-3, 2005.
168. ASME/ASCE/SES Joint Mechanics Conference, ”McMAT”, Louisiana State University, Baton Rouge, LA, June 1-3, 2005.

169. ASCE National Convention, Los Angeles, California, October 14-16, 2005.
170. Council of Graduate Schools, national conference, Palm Springs, California, December 3-6, 2005.
171. Universities Research Association, URA Council of Presidents Annual Meeting, Washington DC, January, 2006.
172. ASCE, Earth & Space Conference, League City, Texas, March 5-8, 2006.
173. Association of American Universities, Senior Research Officer Conference, San Diego, Del Mar, March 10-12, 2006.
174. 15th U.S. National Congress of Theoretical and Applied Mechanics, Boulder, Colorado, June 25-30, 2006.
175. PLAXIS Short Course “Computational Geotechnics and 3D Modeling” (Lecturer), University of Colorado, Boulder, August 22-25, 2006.
176. International Graduate Scholarship Conference, Shanghai, China, October 8-10, 2006.
177. ASCE, National Convention, Chicago, Illinois, October 21-24, 2006.
178. Universities Research Association, URA Council of Presidents Annual Meeting, Washington DC, January, 2007.
179. National Association of State and Land-Grant Universities, New York, November 10-13, 2007.
180. Council of Graduate Schools, national conference, Seattle, Washington, December 4-7, 2007.
181. Universities Research Association, URA Council of Presidents Annual Meeting, Washington DC, January, 2008.
182. Association of American Universities, Senior Research Officer Conference, San Diego, La Jolla, March, 2008.
183. Kingdom of Saudi Arabia, Medina, Knowledge-City Conference, SAIGA, NOOR Conference, June, 2008.
184. Engineering Mechanics Institute Conference, University of Minnesota, Minneapolis, session on Contributions to Mechanics by Stein Sture, May 18-21, 2008.
185. World Congress of Computational Mechanics, Venice, Italy, July 2-5, 2008.
186. Meeting the Global Energy and Climate Challenge Conference, University of Colorado, Boulder, August 22-23, 2008.
187. International Graduate Scholarship Conference, Beijing, China, October 17-18, 2008.
188. National Association of State and Land-Grant Universities, Chicago, November, 2008.
189. Council of Graduate Schools, national conference, Washington DC, December, 2008.



190. American Society of Civil Engineers, Conference on Critical Infrastructure, Guiding Principles for the Nations Critical Infrastructure, Lansdowne, Virginia, December 8-9, 2008.
191. ASCE Technical Region Board of Governors, San Francisco, January, 2009.
192. Universities Research Association, URA Council of Presidents Annual Meeting, Washington DC, January, 2009.
193. 1<sup>st</sup> International Symposium on Computational Geomechanics, April 29 – May 1, 2009, Juan-les-Pines, France.
194. ASCE/ASME/SES Joint Mechanics Conference, Virginia Tech, Blacksburg, Virginia, June 25-28, 2009.
195. Association of Public and Land-grant Universities (APLU) Commission on International Programs, Colorado Springs, July 13-14, 2009.
196. Association of Public and Land-grant Universities (APLU) Provosts conference, Council on Academic Affairs, Portsmouth, New Hampshire, July 17-19, 2009.
197. North American Biochar Conference, Boulder, Colorado, August 9-12, 2009.
198. Association American Universities (AAU) Provosts meeting, Laguna Beach, California, October, 2009.
199. PLAXIS Short Course, Catholic University of America, Washington D.C., January 19-19, 2010.
200. International Graduate Studies and Research Congress, Riyadh, Saudi Arabia, January 26-30, 2010.
201. ASCE Technical Region Board of Governors, Washington DC, March 24-25, 2010.
202. Association of Public and Land-grant Universities (APLU), Research University Presidents' Workshop, UT Austin, April 1, 2010.
203. Fourth European Congress of Computational Mechanics, Paris, May 19-20, 2010.
204. ASCE, National Annual Convention, Las Vegas, Nevada, October 20-21, 2010
205. CEREL annual program conference, New Approaches to Energy Solutions, Denver, Colorado, November 3-5, 2010.
206. Universities Research Association, URA Council of Presidents Annual Meeting, Washington DC, January, 2011.
207. Science on FIRE: Facilitating Interdisciplinary Research and Education, Boulder, Colorado, March 28-29, 2011.
208. AAU Senior Research Officers spring conference, Baltimore, Maryland, March 7-10, 2011.
209. SAGE review, Jet Propulsion Laboratory, Pasadena, California, April, 2011.

210. 2<sup>nd</sup> International Exposition and Conference on Higher Education, Riyadh, Kingdom of Saudi Arabia, April 18-23, 2011
211. Engineering Mechanics Conference, EMI 2011, ASCE, Northeastern University, Boston, Massachusetts, June 2-4, 2011.
212. Extraterrestrial Science, xTerramechanics, Integrated Simulation of Planetary Surface Missions 2, Caltech, Jet Space Institute, Pasadena, CA, August 1-3, 2011.
213. AAU-APLU University Presidents – Investors Summit, University Start-Up Conference, Washington DC, January 18, 2012
214. Universities Research Association, URA Annual Meeting, Washington DC, January 24, 2012.
215. Art Practice and Research, Symposium, University of Michigan, Ann Arbor, March 7-9, 2012.
  
216. AAU Senior Research Officers, spring meeting, Stanford University, March 11-13, 2012.
217. ASCE Geo-Institute Congress, Oakland, California, March 25-27, 2012.
218. 3<sup>rd</sup> International Exposition and Conference on Higher Education, Riyadh, Saudi Arabia, April 17-20, 2012.
219. World Renewable Energy Forum, Denver, Colorado, May 14-17, 2012.
220. AAU Senior Research Officers, summer meeting, Washington DC, July 9-10, 2012
221. 2<sup>nd</sup> International Conference on Building Energy and Environment, Boulder, Colorado, August 2-4, 2012.
222. Chalmers University of Technology, Gothenburg, Sweden, Sept. 11-13, 2012.
223. American University of Iraq, Board of Trustees meeting, October 2012.
224. American Geophysical Union, Dec. 2012.
225. AAU Senior Research Officers, annual meeting, Laguna Beach, California, March 10-12, 2013.
226. Alliance for the Arts in Research Universities Research Symposium, Penn. State University, State College, March 13-15, 2013.
227. 12<sup>th</sup> U.S. National Congress on Computational Mechanics, Raleigh, North Carolina, July 22-25, 2013
228. American University of Iraq, Board of Trustees meeting, October, 2013.
229. University of Cologne, Germany, October 9-12, 2013.
230. University of Oslo and the Norwegian Geotechnical Institute, October 14, 2013.
231. American Geophysical Union, Annual Conference, Dec., 2013.

232. URA board of presidents' meeting, Washington DC, January 30, 2014.
233. AAU Senior Research Officers, spring meeting, Laguna Beach, California, March 9-12, 2014.
234. American University of Iraq, Board of Trustees meeting, Istanbul, Turkey, June, 2014.
235. Office of Naval Research MURI project review, Univ. of California, Berkeley, August 13-14, 2014.
236. Central and Southern Plains VPs and VCs Research conference, Norman, Oklahoma, September 7-9, 2014.
237. Alliance for Sustainable Energy, Science and Technology meeting, MIT, Cambridge, Massachusetts, September 2014.
238. American University of Iraq, Board of Trustees meeting, October, 2014.
239. AAU Senior Research Officers, spring meeting, New Orleans, Louisiana, March, 2015.
  
240. American University of Iraq, Board of Trustees meeting, October 2015.
241. American Society of Civil Engineers Convention, October, 2015.
242. American University of Iraq, Board of Trustees meeting, March, 2016.
243. American Geophysical Union, December 2016.
244. Symposium in honor of Prof. Arthur Nozik's 80<sup>th</sup> birthday, solar photovoltaics, March, 2016.
245. American University of Iraq, Board of Trustees meeting, October, 2016.
246. Engineering Mechanics Institute, ASCE, EM Conference, San Diego, California, June 2-4, 2017.
247. American University of Iraq, Board of Trustees meeting, October 2017.
248. American Geophysical Union, AURA meeting, December 2019

## **HONORS, FELLOWSHIPS AND BIOGRAPHICAL CITATIONS**

1. University Teaching-Learning Fellowship, Virginia Polytechnic Institute and State University, 1977.
2. Certificate of Teaching Excellence, 1977-1978, Virginia Polytechnic Institute and State University, 1978.
3. International Travel Award, National Science Foundation, NSF ENG 7901352, 1979.
4. Faculty Achievement and Student Appreciation Award, Department of Civil Engineering, Virginia Polytechnic Institute and State University, 1979.

5. ASCE Award for Outstanding Service, 1979.
6. ASCE Award for Outstanding Service, 1983.
7. Department of Civil, Environmental, and Architectural Engineering Student Faculty Appreciation Award, 1984.
8. Department of Civil, Environmental, and Architectural Engineering Research Development Award, May 1985.
9. Fellowship, the Royal Norwegian Council for Scientific and Industrial Research, 1985.
10. Faculty Fellowship, University of Colorado Council on Research and Creative Work, 1985-86.
11. Foreign Travel Fellowship, University of Colorado Council on Research and Creative Work, 1985-86.
12. Jenkin Fellow, Department of Engineering Science, the University of Oxford, England, 1986.
13. Distinguished Achievement Award, Department of Civil, Environmental, and Architectural Engineering, May, 1987.
14. Who's Who in the West, Marquis (since 1990).
15. Who's Who in Science and Engineering, Marquis (since 1991).
16. Walter L. Huber Civil Engineering Research Prize, ASCE, 1990.
17. ASCE Award for Outstanding Service, 1990, 1991.
18. Who's Who in America (since 1990)
19. College of Engineering and Applied Science Research Award, 1992.
20. Department of Civil, Environmental, and Architectural Engineering Service Award, 1992.
21. Who's Who in American Education, Marquis (since 1991)
22. Who's Who in the World, Marquis (since 1992)
23. Who's Who in Finance and Business, Marquis (since 2005)
24. Who's Who in America (2012)
25. Clarence L. Eckel Faculty Prize, Dept. Civil, Environmental, and Architectural Engineering, 1995.
26. NASA Achievement Award, June, 1997.
27. NASA, Marshall Space Flight Center, Achievement Award, 2000.
28. Richard R. Torrens Award, ASCE, 2000.
29. Fellow, U.S. Association for Computational Mechanics, 2001.

30. Fellow, American Society of Civil Engineers, 2001.
31. Max S. Peters Service Award, College of Engineering and Applied Science, University of Colorado at Boulder, 2002.
32. NASA, Achievement Award, April, 2003.
33. Distinguished Engineering Alumnus Award, College of Engineering and Applied Science, University of Colorado Boulder, April, 2004.
34. University of Colorado Technology Transfer Office, Administrator of the Year Award, 2005.
35. Distinguished Member, American Society of Civil Engineers, 2010.
36. Honorary Diplomat, Geotechnical Engineering (Academy of Geo-Professionals), ASCE, 2011.
37. John Wiley & Sons, London, UK, Hon. Emeritus Editor, 2012.
38. University of Colorado Boulder, Global Citizen of the Year, 2013.
  
39. Fellow, Engineering Mechanics Institute, ASCE, 2013.
40. Maurice A. Biot Medal, Engineering Mechanics Institute, ASCE, 2021.

## **COURSES TAUGHT**

### *Virginia Polytechnic Institute and State University*

#### Fall Quarter 1976

CE 3050 Civil Engineering Materials  
CE 4210 Construction Materials

#### Winter Quarter 1977

CE 3100 Soil Mechanics  
CE 5340 Foundation Structures

#### Spring Quarter 1977

CE 4210 Construction Materials  
CE 4360 Earth Pressures and Foundation Structures

#### Fall Quarter 1977

CE 5350 Advanced Soil Mechanics  
CE 5500 Soil Testing for Engineering Purposes

Winter Quarter 1978  
CE 3100 Soil Mechanics  
CE 4000 Finite Element Applications in CE

Spring Quarter 1978  
CE 3100 Soil Mechanics  
CE 5390 Introduction to Soil Dynamics

Fall Quarter 1978  
CE 4210 Construction Materials  
CE 5350 Advanced Soil Mechanics

Winter Quarter 1979  
CE 3050 Civil Engineering Materials  
CE 5530 Earth-Structure Interaction  
CE 4000 Finite Element Applications in CE

Spring Quarter 1979  
CE 3100 Soil Mechanics  
CE 5940 Civil Engineering Seminar  
CE 5000 Applied Finite Element Methods

Summer Quarter 1979  
CE 3100 Soil Mechanics

Fall Quarter 1979  
CE 5350 Advanced Soil Mechanics  
CE 4510 Testing and Modeling in Geotechnical Eng.

*University of Colorado at Boulder*

Spring Semester 1980  
CE 380 Introduction to Geotechnical Engineering  
CE 583 Foundation Engineering

Fall Semester 1980  
CE 312 Mechanics of Materials  
CE 318 Engineering Material Lab.-Geotechnical

Spring Semester 1981  
CE 551 Matrix Structural Analysis, FEM  
CE 581 Engineering Properties of Soils

Fall Semester 1981

CE 480 Intermediate Soil Engineering  
CE 551 Matrix Structural Analysis, FEM

Spring Semester 1982

CE 480 Intermediate Soil Engineering  
CE 581 Engineering Properties of Soils

Fall Semester 1982

CE 551 Introduction to the Finite Element Method  
(U.S. Bureau of Reclamation)

Spring Semester 1983

CE 581 Engineering Properties of Soils  
CE 581 Engineering Properties of Soils  
(U.S. Bureau of Reclamation)

Fall Semester 1983

CE 380 Geotechnical Engineering I  
CE 551 Introduction to the Finite Element Method

Spring Semester 1984

CE 318 Engineering Matl. Laboratory - Geotechnical Engineering  
CE 381 Geotechnical Engineering II  
CE 581 Engineering Properties of Soils

Fall Semester 1984

CE 381 Geotechnical Engineering II  
CE 580 Soil Mechanics

Spring Semester 1985

CE 381 Geotechnical Engineering I  
CE 581 Engineering Properties of Soils

(1985 and 1986 on leave from the University of Colorado Boulder).

Fall Semester 1986

CE 551 Introduction to the Finite Element Method  
(2 sections)  
CE 580 Soil Mechanics  
Engr 171 Freshman Seminar

Spring Semester 1987

CE 581 Engineering Properties of Soils  
Engr 172 Freshman Seminar

Fall Semester 1987  
CE 551 Introduction to the Finite Element Method  
Engr 171 Freshman Seminar

Spring Semester 1988  
CE 581 Engineering Properties of Soils  
Engr 172 Freshman Seminar

Fall Semester 1988  
CVEN 4511/5511 Introduction to the Finite Element Method

Spring Semester 1989  
CVEN 3728 Engineering Materials Laboratory -Geotechnical  
CVEN 5818 Engineering Properties of Soils

Fall Semester 1989  
CVEN 4511/5511 Introduction to the Finite Element Method  
GEEN 1000 Freshman Seminar

Spring Semester 1990  
CVEN 7718 Engineering Properties of Soils  
GEEN 1000 Freshman Seminar

Fall Semester 1991  
CVEN 4511/5511 Introduction to the Finite Element Method  
GEEN 1000 Freshman Seminar

Spring Semester 1992  
CVEN 3121 Mechanic of Materials  
GEEN 1000 Freshman Seminar

Fall Semester 1992  
CVEN 4511/5511 Introduction to the Finite Element Method  
CVEN 4728/5728 Foundation Engineering

Spring Semester 1993  
CVEN 4039 Senior Seminar (with Leonard Tulin)  
CVEN 7718 Engineering Properties of Soils

Fall Semester 1993  
CVEN 1306/ Introduction of Civil and Environmental  
AREN 1307 Engineering (with J. Heaney)



CVEN 4511/5511 Introduction to the Finite Element Method

Spring Semester 1994

CVEN 4039 Senior Seminar (with Leonard Tulin)

CVEN 7718 Engineering Properties of Soils

Fall Semester 1994

CVEN 4511/5511 Introduction to the Finite Element Method

Spring Semester 1995

CVEN 4039 Senior Seminar

CVEN 7718 Engineering Properties of Soils

Fall Semester 1995

CVEN 4039 Senior Seminar

Spring Semester 1996

CVEN 4039 Senior Seminar

CVEN 7718 Engineering Properties of Soils

Fall Semester 1996

CVEN 4039 Senior Seminar

Spring Semester 1997

CVEN 4039 Senior Seminar

CVEN 7718 Engineering Properties of Soils

Fall Semester 1997

CVEN 4511/5511 Introduction to the Finite Element Method

Spring Semester 1998

CVEN 7718 Engineering Properties of Soils

Fall Semester 1998

CVEN 2121 Analytical Mechanics I (Statics)

CVEN 4511/5511 Introduction to the Finite Element Method

Spring Semester 1999

CVEN 7718 Engineering Properties of Soils

Fall Semester 1999

CVEN 3708 Geotechnical Engineering I

CVEN 4511/5511 Introduction to the Finite Element Method

Spring Semester 2000  
CVEN 7718 Engineering Properties of Soils

Fall Semester 2000  
CVEN 4728/5728 Foundation Engineering  
CVEN 4511/5511 Introduction to the Finite Element Method

Spring Semester 2001  
CVEN 7718 Engineering Properties of Soils

Fall Semester 2001  
CVEN 4728/5728 Foundation Engineering

Spring Semester 2002  
CVEN 3718 Geotechnical Engineering II  
CVEN 7718 Engineering Properties of Soils

Spring Semester 2003  
CVEN 7718 Engineering Properties of Soils  
CVEN 4039 Senior Seminar

Fall Semester 2003  
4728/5728 Foundation Engineering

Spring Semester 2004  
CVEN 7718 Engineering Properties of Soils

Spring Semester 2005  
CVEN 7718 Engineering Properties of Soils

Fall Semester 2005  
CVEN 4728/5728 Foundation Engineering (with David Jubenville)

Spring Semester 2016  
CVEN 4889 Senior Design (with Matthew Morris, Balaji Rajagopalan, Mija Hubler)

#### **GRADUATE STUDENTS DIRECTED AND MENTORED**

1. Pappas, John L. (M.E.) "A Parametric Study of Strain-Softening Behavior in an Overconsolidated Clay," Department of Civil Engineering VPI & SU, March 1978, 206 p.
2. Katris, Dimitrios (M.E.) "Analysis of Laterally Loaded Offshore Structures," Department of Civil Engineering VPI & SU, August 1978, 172 p.
3. Haji-Kazemi, Hassan (M.E.) "Ultimate Pull-out Load Analysis of Straight and Belled Anchor Shafts," Department of Civil Engineering VPI & SU, May 1979, 92 p.
4. MacCrimmon, John D. (M.E.) "The Complete Foundation Investigation," Department of Civil Engineering VPI & SU, August 1979, 152 p.
5. Boles, Walter W. (M.E.) Report: "Biaxial and Multiaxial Experiments on Concrete", August, 1979, 64 p. (Co-Advisor with Prof. W.W. Payne), Department of Civil Engineering VPI & SU.
6. Mahgerefteh, Koshrow (M.E.) "Seepage and Stability Analysis of Earth Dams," Department of Civil Engineering VPI & SU, August 1979, 120 p.
7. Barnhill, Scott A. (M.S.) "Experimental and Analytical Investigations of Shallow Foundation Models," Department of Civil Engineering VPI & SU, December, 1979, 180 p.
8. Mould, John C. (M.S.) "Multiaxial Testing and Analytical Constitutive Characterization of Granular Materials," Department of Civil Engineering VPI & SU, December 1979, 318 p.

9. Abduljawwad, Sahel N. (M.S.) "Analysis of an Offshore Jacket Structure Subjected to Wind and Wave Loading," Department of Civil, Environmental, & Architectural Engineering, CU, May 1981, 201 p.
10. Gould, Mark C. (M.S.) "Development of a High Capacity Dynamic Direct Shear Apparatus and Its Application to Testing Sandstone Rock Joints," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, August 1982, 247 p.
11. Ketcham, Stephen A. (M.S.) "The Effect of Wave Loading on the Foundation Soil of an Offshore Gravity Structure in Norton Sound, Alaska," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, November 1982, 162. p.
12. Scott, Gregg A. (M.S.) "Dynamic Response of Jointed Rock Masses," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, November 1982, 111 p.
13. Gillette, David R. (M.S.) "Undrained Behavior of Rock Joints under Dynamic Loading," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, May 1983, 232 p.
14. Rector, Dean V. (M.S.) "Joint, Contact, and Interface Finite Element," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, May 1983, 89 p.
15. Farrington, Jodi J. (M.S.) "On the Characterization of Rock Joint Roughness," Department of Civil Environmental, & Architectural Engineering, CU, Boulder, June 1983, 207 p.
16. Mould, John C. (Ph.D.), "Induced Anisotropy in Sand and the Evaluation of a Multi-Surface Elasto-Plastic Material Model," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, August 1983. 221 p.
17. Sabban, Sahl A. (M.S.) "Finite Element Method Analysis of Geometrically Nonlinear Problems," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, September 1983, 94 p.
18. Dise, Karl M. (M.S.), "The Effect of Weak Roof and Floor Layers on Coal Pillar Yield Zone Development," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, September 1983.
19. Dean, Andrew R. (M.S.) "Geotechnical Stratigraphy of Leg 86, Site 576A, Deep Sea Drilling Project East of Shatsky Plateau, Northwest Pacific," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, May 1984, 229 p. (with R.L. Schiffman).
20. Jones, Karen A. (M.S.) "Assessing the Safety of, and Hazards Posed by, Small Uninspected Earthen Dams in Colorado," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, June 1984.
21. Ontuna, Ates K. (Ph.D.) "Experimental and Analytical Description of Stress-Induced Anisotropy in Sand," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, April 1985, 308 pp.

22. Budiman, Jeffrey S. (Ph.D.) "Analytical and Experimental Characterization of Stress Induced Anisotropy in a Weak and Soft Soil," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, April 1985, 289 pp.
23. Harris, David W. (Ph.D.) "A Simplified Nonlinear Effective Stress Finite Element Analysis of Embankment Dams Subjected to Dynamic Loading," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, April 1985, 262 pp.
24. Abduljauwad, Sahel N. (Ph.D.) "Soil-Structure Interaction Analysis and Evaluation of Bounding Surface Plasticity Models," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, May 1985, 219 pp.
25. Perkins, Steven W. (M.S.) "High Pressure Multiaxial Testing and Modeling of Compacted Nellis Baseline Soil," Department of Civil Environmental, & Architectural Engineering, CU, Boulder, August 1985, 540 pp.
26. Perriello-Zampelli, Sebastiano (M.S.), "Behavior of Granular Cohesionless Soils at Very Low Effective Stress Levels," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, August 1985, 188 pp.
27. Botts, Michael E. (Ph.D.), "The Effect of Slaking on the Engineering Behavior of Clay Shales," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, October 1985, 388 pp.
28. Carter, Robert Russ (M.S.), "Cone Penetration Testing for Evaluating the Liquefaction Potential of Sands," Department of Civil, Environmental & Architectural Engineering, CU, Boulder, April 1987, 139 pp.
29. Al-Shamrani, Mosleh (M.S.), "Upper Bound and Limit Equilibrium Solutions of Stability Problems for Soils of Non-Uniform Undrained Shear Strength," Department of Civil, Environmental, & Architectural Engineering, CU, December 1987, 89 pp.
30. Alawi, Mohamed M. (Ph.D.), "Experimental and Analytical Modeling of Sand Behavior under Nonconventional Loading," Department of Civil, Environmental & Architectural Engineering, CU, Boulder, May 1988, 215 pp.
31. Kraiem, Sami (M.S.), "Stress-Strain Response of Granular Materials of Very Low Effective Stresses," Department of Civil Environmental & Architectural Engineering, CU, Boulder, December 1988, 248 pp.
32. Schipporeit, Thomas M. (M.S.), "Stress-Strain and Dilatancy Behavior of a Dense Sand at Very Low Effective Stresses," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, December 1988, 230 pp.
33. McFadden, Jerome J., Jr., (M.S.), "Experimental Response of Sand during Principal Stress Rotations," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, December 1988, 255 pp.
34. Astanah, Seyyed M. Farid (M.S.), "Experimental Investigation of Sand Behavior under Non-proportional Loading," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, December 1988, 256 pp.

35. Hutapea, Bigman H. (M.S.), "Finite Element Program for Two-Dimensional Steady State and Transient Flow Problems," Department of Civil Environmental, & Architectural Engineering, CU, Boulder, April 1989, 316 pp.
36. Macari, Emir P. Jose (Ph.D.), "Mechanical Behavior of Granular Materials of Low Confining Stress Levels under the Influence of Micro-gravity Environment," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, July 1989, 182 pp.
37. Weihe, Stefan (M.S.), "Implicit Integration Schemes for Multisurface Field Criteria Subjected to Hardening/Softening Behavior," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, July 1989, 97 pp.
38. Yeh, Wenlin (M.S.), "Base Friction Modeling of Underground Openings and Shallow Depth," Department of Civil, Environmental, & Architectural Engineering, CU, Boulder, July, 1989 (with B. Amadei), 63 pp.
39. Stankowski, Thomas (Ph.D.), "Numerical Simulation of Progressive Failure in Particle Composites," Department of Civil, Environmental, & Architectural Engineering, CU Boulder, November, 1989, 118 pp.
40. Peric, Dunja (Ph.D.), "Localized Deformation and Failure Analysis of Pressure Sensitive Granular Materials," Department of Civil, Environmental, & Architectural Engineering, CU Boulder, July, 1990, 260 pp.
41. Alawaji, Hussain (Ph.D.), "Integration of Constitutive Equations in Soil Plasticity," Department of Civil, Environmental, & Architectural Engineering, CU Boulder, December, 1990, 158 pp.
42. Abifadel, Nassim (Ph.D.), "On the Modeling of Two-Phase Media by the Finite Element Method," Department of Civil, Environmental, & Architectural Engineering, CU Boulder, April 1991, 123 pp.
43. Bush, Lee Ann (M.S.) "Assessment of Homogeneity and Isotropy in Granular Materials," Department of Civil, Environmental, & Architectural Engineering, CU Boulder, July 1991, 126 pp.
44. Al-Shamrani, Mosleh (Ph.D.), "Characterization of Time-Dependent and Anisotropic Behavior of Cohesive Soils," Department of Civil, Environmental, & Architectural Engineering, CU Boulder, October 1991, 283 pp.
45. Perkins, Steven W. (Ph.D), "Modeling of Soil-Structure Interaction in Extra-Terrestrial Constructed Facilities," Department of Civil, Environmental, & Architectural Engineering, CU Boulder, November 1991, 324 pp.
46. Shannon, Delmer Allen (M.S.), "Density Evaluation of Lunar Regolith," Department of Civil, Environmental, & Architectural Engineering, CU Boulder, July 1993, 102 pp.
47. Jeremic, Boris (M.S.), "Implicit Integration Rules in Plasticity", Department of Civil, Environmental, and Architectural Engineering, CU Boulder, August, 1994, 233 pp.

48. Alshibli, Khalid A. (Ph.D.), "Localized Deformations in Granular Materials," Department of Civil, Environmental, & Architectural Engineering, CU Boulder, August 1995, 188 pp.
49. Hutapea, Bigman Marihat (Ph.D.), "Experimental and Analytical Study of Vane Sheer Strength of Clay," Department of Civil, Environmental, & Architectural Engineering, CU Boulder, August 1995, 284 pp.
50. Ebert, Kevin B. (M.S.), "Validation and Verification of the Commercial Finite Element Code PLAXIS for Non-Linear Geomechanics," Department of Civil, Environmental, & Architectural Engineering, CU Boulder, February 1996, 190 pp.
51. Zhang, Runing (Ph.D.), "Discrete Element Modeling of Granular Materials under Biaxial Conditions," Department of Civil, Environmental, & Architectural Engineering, CU Boulder, August, 1996, 232 pp.
52. Kazushige, Nakata (M.S.), "The Validity of the Mononobe-Okabe Methods," M.S. Report, Department of Civil, Environmental, and Arch. Engineering, CU Boulder, May, 1997, 78 pp.
53. Klosky, James Leslie (Ph.D.) "Behavior of Composite Granular Materials and Vibratory Helical Anchors", Department of Civil, Environmental, & Architectural Engineering, May, 1997, 141 pp.
54. Jeremic, Boris (Ph.D.) "Finite Deformation Hyperelasto-Plasticity of Geomaterials," Department of Civil, Environmental, and Architectural Engineering, July, 1997, 155 pp.
55. Tchonkova, Maria (Ph.D.) "A New Mixed Least Squares Method for Solving Problems in Linear Elasticity," Department of Civil, Environmental & Architectural Engineering, March, 1998, 101 pp.
56. AlQasabi, Ahmad Othman (Ph.D.) "Fracture Behavior of Cemented Sand", Department of Civil, Environmental, & Architectural Engineering, May, 1998, 119 pp.
57. Jernigan, Russell Lewis (Ph.D.) "The Physical Modeling of Soils Containing Oversized Particles", Department of Civil, Environmental, & Architectural Engineering, June, 1998, 501 pp.
58. Batiste, Susan Naomia (M.S.) "Mechanics of Granular Materials at Low Confining Stress", Department of Civil, Environmental, and Architectural Engineering, August, 1998, 177 pp.
59. Ge, Yu-Ning (Louis) (M.S.) "Finite Element Analysis for Staged Construction", Department of Civil, Environmental, and Architectural Engineering, University of Colorado at Boulder, December, 2000, 123 pp.

60. Winckler, Christina Julie (M.S.), "Behavior of Saturated Cohesionless Granular Materials at Low Effective Confining Stresses", Report. Department of Civil, Environmental, and Architectural Engineering, University of Colorado at Boulder, May, 2001, 145 pp..
61. Gong, Lijian (Ph.D.), "Discrete Element Modeling of Three-Dimensional Assemblies of Ellipsoidal Particles", Department of Civil, Environmental, and Architectural Engineering, University of Colorado at Boulder, August, 2001, 130 pp.
62. Kim, Tae-Hyung (Ph.D.) "Moisture Effects on Tensile Strength and Cohesion in Sands", Department of Civil, Environmental, and Architectural Engineering, University of Colorado at Boulder, August, 2001, 150 pp.
63. Batiste, Susan Naomia (Ph.D.) "An Investigation of Deformations in Granular Materials Using Computed Tomography", Department of Civil, Environmental, and Architectural Engineering, August, 2001, 210 pp.
64. Høyland, Jørg (M.S.), "Analysis of Collapse Mechanisms Related to the Disaster at the World Trade Center, September 11, 2001", Department of Applied Mechanics, Faculty of Engineering Science and Technology, NTNU -Norwegian University of Science and Technology, (with Prof. Kaspar Willam), August, 2002.
65. Kim, Taehoon (Ph.D.), "Mixed Mode Fracture Behavior of Weakly Cemented Sands", Department of Civil, Environmental, and Architectural Engineering, February, 2003, 170 pp.
66. Wormer, Jeffrey (M.S.), "Three-and Two-Dimensional Nonlinear Finite Element and Limit Equilibrium Analyses of Slope Stability in Heterogeneous Soils", Report, Department of Civil, Environmental, and Architectural Engineering, March, 2003.
67. Atteridge, Briana L. (M.S.), "Form Finding Method for Domes Applied to Three Dimensions", (with Prof. George Hearn), Report, Department of Civil, Environmental, and Architectural Engineering, May, 2003.
68. Blanton, Steven (M.S.), "Finite Element Analysis of Bearing Capacity and Settlement of Strip Footings", (with Prof. Ronald Y.S. Pak), Report, Department of Civil, Environmental, and Architectural Engineering, June, 2003.
69. Ge, Yu-Ning (Louis) (Ph.D.), "Cyclic Constitutive Modeling of Granular Materials", Department of Civil, Environmental, and Architectural Engineering, August, 2003.
70. Eskandari-Ghadi, Morteza (Ph.D.), "Effective Mechanical, Transport and Cross Properties for Distressed Composite Materials", (with Prof. Y. Xi), Department of Civil, Environmental, and Architectural Engineering, University of Colorado at Boulder, December, 2003.
71. Vu, Cuong (M.S.), "Development of a Hyperbolic Model for Structure-Soil Interface Behavior", Department of Civil, Environmental, and Architectural Engineering, University of Colorado at Boulder, December, 2004.
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73. Pacheco, Kristin Kulia (M.S.), “Colorado Residential Foundations”, Department of Civil, Environmental, and Architectural Engineering, University of Colorado at Boulder, October, 63 pp., 2004.
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80. Arslan, Haydar (Ph.D.), “Localization Analysis of Granular Materials in Cosserat Elasto-Plasticity – Formulation and Finite Element Analysis Implementation“, Department of Civil, Environmental, and Architectural Engineering, University of Colorado at Boulder, October, 2006, 216 pp.
81. Yan, Beichuan (Ph.D.), “3D Discrete Element Modeling of Granular Materials and Its Coupling with the Finite Element Method”, (co-advisor with Prof. Richard Regueiro), Department of Civil, Environmental, and Architectural Engineering, University of Colorado at Boulder, July, 2008, 172 pp.
82. Ongsuksun, Bunpot (Ph.D.), “Three-Dimensional Analysis of Displacements Resulting from Tunneling in Soft ground”, Department of Civil, Environmental, and Architectural Engineering, University of Colorado at Boulder, July, 2009, 202 pp.

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### **PROFESSIONAL AND SCIENTIFIC SOCIETIES**

1. American Society of Civil Engineers (ASCE), 1971, (elected Fellow, 2001; elected Distinguished Member, 2010).

2. American Geophysical Union (AGU), 1977.
3. International Society for Soil Mechanics and Geotechnical Engineering (ISSMGE), 1979.
4. Sigma Xi, the Scientific Research Society, 1981.
5. American Association for the Advancement of Science (AAAS), 1981.
6. British Geotechnical Society (BGS), 1982 - 2012.
7. Norwegian Geotechnical Society (NGS), 1982.
8. Planetary Society, 1980.
9. American Society for Engineering Education (ASEE), 1984.
10. American Academy of Mechanics (AAM), 1991 - 2012.
11. Fulbright Association, 1992 -
12. U.S. Association for Computational Mechanics (USACM) 1992, (elected Fellow, 2001)
13. Society of Engineering Science (SES), 1994 - 2012.
14. American Society of Mechanical Engineers (ASME), 1999 - 2012.
15. Consortium of Universities for Research in Earthquake Engineering (CUREE), 2001.
16. Network of Earthquake Engineering Simulation, Inc., (NEES), 2002.
17. Geo-Engineering Earthquake Reconnaissance (GEER) Association, 2006.
18. The Academy of GeoProfessionals, elected Honorary Diplomate, Geotechnical Engineering, 2010.
19. Engineering Mechanics Institute of ASCE, 2007, elected Fellow, 2013.