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## Education

Ph.D., Department of Civil Engineering, University of California, Davis; December 1985.  
Dissertation: Bounding Surface Elastoplasticity-Viscoplasticity for Clays.

M.Sc., Department of Civil Engineering University of California, Berkeley; June 1979.

B.Sc. (with high honors), Department of Civil Engineering University of California, Davis,  
June 1978.

## Employment Experience

*Visiting Scholar (on sabbatical leave from the University of Delaware)*

Department of Civil Engineering, Royal Military College of Canada, Kingston,  
Ontario (August 2004 to August 2005).

*Associate Professor (tenured)*

Department of Civil & Environmental Engineering, University of Delaware  
(September 1996 to present).

*Assistant Professor*

Department of Civil & Environmental Engineering, University of Delaware  
(January 1990 to September 1996).

*Member of Technical Staff*

Sandia National Laboratory, Livermore, CA, Solid Mechanics Division (August  
1987 to November 1989).

*Visiting Assistant Professor*

Department of Civil Engineering and Engineering Mechanics, University of  
Arizona (August 1986 to July 1987).

*Associate Instructor*

Department of Civil Engineering, University of California, Davis (1986).

*Research Assistant*

Department of Civil Engineering, University of California, Davis (January 1983 to December 1985).

*Assistant Research Engineer*

Engineering Computer Corporation, Sacramento, CA (June 1981 to April 1983).

*Senior Engineer II*

Engineering Decision Analysis Company, Inc., Palo Alto, CA (July 1979 to September 1980).

*Engineering Assistant*

Department of the Army, U. S. Army Corps of Engineers, Sacramento District, Sacramento, CA (June to September 1978).

## **Consulting Activity**

*Lawrence Livermore National Laboratory*

Modeling high-pressure response of clayey sands (January 1985 to September 1986).

*ESSO Resources Canada, LTD*

Numerical analysis of foundation clays underlying a sand island in the Beaufort Sea (June 1986 to June 1987).

*U.S. Army Research Office*

Development of a Finite Element Formulation of the Bidomain Equations of Cardiac Electro-Physiology in a Geometrically Realistic Heart Model for Simulation in the Origin2000 Environment (March to December 1998).

*U.S. Army Research Office*

Development of an Efficient Parallelized Algorithm for the Finite Element Simulation of the Equations of Electro-Physiology in a Shared Memory Environment (May 1999 to May 2000).

## Professional Affiliation

### *Affiliated Member*

Center for Composite Materials, University of Delaware (May 2000 to present).

## Editorship

- *Member of Editorial Board*, Geosynthetics International (September 2006 to August 2010).
- *Associate Editor*, Journal of Engineering Mechanics, ASCE (October 2001 to September 2003).

## Honors

- Life member, Tau Beta Pi National Engineering Honor Society.
- Listed in *Who's Who Among Rising Young Americans*, 1991 and 1992.
- Listed in *American Men and Women of Science*, 1995-96.
- Listed in *Marquis Who's Who in Science and Engineering*, 1996-97.
- Listed in *Who's Who Among America's Teachers*, 1998 (nomination submitted by former undergraduate student).
- Listed in *Marquis Who's Who in the World*, 17th edition, 1999-2000.

## Research Interests

- Computational geomechanics.
- Development and implementation of constitutive models for cohesive soils.
- Development of robust constitutive models for polymeric reinforcement.

## Miscellaneous

- Co-authored the computer program "INTERP – a FORTRAN callable free format data interpretation subroutine system" (Copyright 1982).
- State of California Engineer-In-Training Certificate No. 43764 (1978).
- Speak, read and write in the Russian language.

## Publications

### Book: authored

Kaliakin, V. N., *Approximate Solution Techniques, Numerical Modeling and Finite Element Methods*, New York: Marcel Dekker, Inc. (2002) (ISBN 0-8247-0679-X), 674 pages.

### Book: co-authored

DeNatale, J. S., and Kaliakin, V. N., *An Instructional Supplement for Mechanics of Materials*, GINN Press (1988) (ISBN 0-536-57258-5), 125 pages.

### Books: co-edited

1. "Measuring and Modeling Time Dependent Soil Behavior," *ASCE Geotechnical Special Technical Publication* **61**, T. C. Sheahan and V. N. Kaliakin, editors, New York: ASCE (1996), 275 pages.
2. "Constitutive Modeling of Geomaterials: Selected Contributions from Frank L. DiMaggio Symposium," H. I. Ling, A. Anandarajah, M. T. Manzari, V. N. Kaliakin, and A. Smyth, editors, Florida: Boca Raton: CRC Press (2003), 213 pages.
3. "Soils Constitutive Models. Evaluation, Selection, and Calibration," *ASCE Geotechnical Special Technical Publication* **128**, J. A. Yamamuro and V. N. Kaliakin, editors, New York: ASCE (2005), 512 pages.
4. "Geosynthetics and Geosynthetic-Engineered Soil Structures," Contributions from the Symposium Honoring Prof. Robert M. Koerner, H. I. Ling, V. N. Kaliakin and D. Leshchinsky editors, Columbia University (2005), 303 pages.

### Special Journal Issues: co-edited

"Constitutive Modeling of Geomaterials," Special Issue of the *ASCE Journal of Engineering Mechanics*, A. R. Anandarajah, M. T. Manzari and V. N. Kaliakin, editors, **130**(6), (2004).

### Edited Proceedings

1. Kaliakin, V. N., Kirby, J. T., Yamamuro, J., Bhattacharya, B., and Shenton, H. W. editors, EM2004, The 17<sup>th</sup> Engineering Mechanics Conference, Newark, DE (2004). Published on CD-ROM.
2. Yamamuro, J. A. and Kaliakin, V. N., "Calibration of Constitutive Models," *ASCE Geotechnical Special Technical Publication* **139**, Proceedings of the Geo-Frontiers 2005 Congress. New York: ASCE (2005), 512 pp. Published on CD-ROM.

3. DeGroot, D.J., Vipulanandan, C., Yamamuro, J.A., Kaliakin, V.N., Lade, P.V., Zeghal, M., El Shamy, U., Lu, N., Song, C.R. (Eds.), *Advances in Measurement and Modeling of Soil Behavior, Geotechnical Special Publication 173*, Proceedings of Sessions of Geo-Denver, Denver, CO, USA. New York: ASCE (2007). Published on CD-ROM.

### Chapters in Edited Books

1. Kaliakin, V. N. and Dechasakulsom, M., "Modeling the Time-Dependent Behavior of Geosynthetically Reinforced Soil Structures with Cohesive Backfill," (**invited paper**) Chapter 4 in *Reinforced Soil Engineering: Advances in Research and Practice*, edited by H. I. Ling, D. Leshchinsky, and Tatsuoka, F., New York: Marcel Dekker, Inc., 69-83 (2003).
2. Ling, H. I., Yue, D. and Kaliakin, V. N., "Geosynthetic-reinforced containment dike constructed over soft foundation: numerical analysis," Chapter 16 in *Reinforced Soil Engineering: Advances in Research and Practice*, edited by H. I. Ling, D. Leshchinsky, and Tatsuoka, F., New York: Marcel Dekker, Inc., 283-295 (2003).
3. Kaliakin, V. N., "Parameter Estimation for Time-Dependent Bounding Surface Models for Cohesive Soils," *ASCE Geotechnical Special Technical Publication 139*, Proceedings of the Geo-Frontiers 2005 Congress. New York: ASCE, 237-256 (2005),
4. Kaliakin, V. N. and Bathurst, R. J., "Review and Assessment of Numerical Models to Simulate Relaxation of Geosynthetics," in *Geosynthetics and Geosynthetic-Engineered Soil Structures, Contributions from the Symposium Honoring Prof. Robert M. Koerner*, edited by H. I. Ling, V. N. Kaliakin and D. Leshchinsky, Columbia University, 203-249 (2005).

### Refereed Papers Published in Archival Journals

1. Shen, C. K., Sohn, J., Mish, K., Kaliakin, V. N., and Herrmann, L. R., "Centrifuge Consolidation Study for Purposes of Plasticity Theory Validation," *Consolidation of Soils: Testing and Evaluation, ASTM STP 892*, edited by R. N. Yong and F. C. Townsend, *American Society for Testing and Materials*, 593-609 (1986).
2. Herrmann, L. R., Kaliakin, V. N., Shen, C. K., Mish, K. D., and Zhu, Z-Y., "Numerical Implementation of a Plasticity Model for Cohesive Soils," *Journal of Engineering Mechanics, ASCE*, **113**(4): 500-519 (1987).
3. Kaliakin, V. N., and Perano, K. J., "INTERP - A Fortran Callable Data Interpretation Subroutine System," *Advances in Engineering Software*, **10**(3): 136-142 (1988).

4. Kaliakin, V. N. and Dafalias, Y. F., "Simplifications to the Bounding Surface Model for Cohesive Soils," *International Journal for Numerical and Analytical Methods in Geomechanics*, **13**(1): 91-100 (1989).
5. Kaliakin, V. N., Muraleetharan, K. K., Dafalias, Y. F., Herrmann, L. R., and Shinde, S. B., "Foundation-Response Predictions Below Caisson-Retained Island," *Journal of Geotechnical Engineering, ASCE*, **116**(9): 1291-1308 (1990).
6. Kaliakin, V. N. and Dafalias, Y. F., "Theoretical Aspects of the Elastoplastic-Viscoplastic Bounding Surface Model for Cohesive Soils," *Soils and Foundations, Japanese Society of Soil Mechanics and Foundation Engineering*, **30**(3): 11-24 (1990).
7. Kaliakin, V. N. and Dafalias, Y. F., "Verification of the Elastoplastic-Viscoplastic Bounding Surface Model for Cohesive Soils," *Soils and Foundations, Japanese Society of Soil Mechanics and Foundation Engineering*, **30**(3): 25-36 (1990).
8. Kaliakin, V. N., "A Simple Coordinate Determination Scheme for Two-Dimensional Mesh Generation," *Computers and Structures*, **43**(3): 505-516 (1992).
9. Simáček, P., Kaliakin, V. N. and Pipes, R. B., "Pathologies Associated with the Numerical Analysis of Hyper-Anisotropic Materials," *International Journal for Numerical Methods in Engineering*, **36**: 3487-3508 (1993).
10. Kaliakin, V. N., "Numerical Implementation and Solution Strategies for a Thermo-Elastoplastic-Viscoplastic Model For Cohesive Soils," *Computing Systems in Engineering*, **5**(2): 203-214 (1994).
11. Leshchinsky, D., Kaliakin, V. N., Bose, P. and Collin, J., "Failure Mechanism in Geogrid-Reinforced Segmental Walls: Experimental Implications," *Soils and Foundations, Japanese Society of Soil Mechanics and Foundation Engineering*, **34**(4): 33-41 (1994).
12. Kaliakin, V. N. and Li, J., "Insight Into Deficiencies Associated with Commonly Used Zero-Thickness Interface Elements," *Computers and Geotechnics*, **17**(2): 225-252 (1995).
13. Min, Y., Leshchinsky, D., Ling, H. I., and Kaliakin, V. N., "Effects of Sustained and Repeated Tensile Loads on Geogrid Embedded in Sand," *ASTM Geotechnical Testing Journal*, **18**(2): 204-225 (1995).
14. Simáček, P. and Kaliakin, V. N., "Notes on the Behavior of Transversely Loaded Inextensible Plates," *International Journal of Solids and Structures*, **33**(6): 795-810 (1996).

15. Kaliakin, V. N., Chajes, M. J. and Januszka, T. F., "Analysis of Concrete Beams Reinforced with Externally Bonded Woven Composite Fabrics," *Composites : Part B*, **27B**: 235-244 (1996).
16. Cui, L., Cheng, A. H-D., Kaliakin, V. N., Abousleiman, Y., and Roegiers, J.-C., "Finite Element Analysis of Anisotropic Poroelasticity: A Generalized Mandel's Problem and an Inclined Borehole Problem," *International Journal for Numerical and Analytical Methods in Geomechanics*, **20**: 381-401 (1996).
17. Cui, L., Kaliakin, V. N., Abousleiman, Y. and Cheng, A. H-D., "Finite Element Formulation and Application of Poroelastic Generalized Plane Strain Problems," *International Journal for Rock Mechanics and Mining Sciences & Geomechanics Abstracts*, **6**: 953-962 (1997).
18. Leshchinsky, D., Dechasakulsom, M., Kaliakin, V. and Ling, H., "Creep and Stress Relaxation of Geogrids," *Geosynthetics International*, **4**(5): 463-479 (1997).
19. Shuler, S. F., Advani, S. G. and Kaliakin, V. N., "Transient Analysis and Measurement of Anisotropic Heat Conduction in Transversely Isotropic Composite Materials," *Journal of Composite Materials*, **33**(7): 594-613 (1999).
20. Kaliakin, V. N., Dechasakulsom, M. and Leshchinsky, D., "Investigation of the Isochrone Concept for Predicting Relaxation of Geogrids," *Geosynthetics International*, **7**(2): 79-99 (2000).
21. Huang, H. X., Chajes, M. J., Mertz, D. R., Shenton III, H. W., and Kaliakin, V. N., "Behavior of Open Steel Grid Decks for Bridges," *Journal of Constructional Steel Research*, **58** (5-8): 819-842 (2002).
22. Ling, H. I., Yue, D., Kaliakin, V. N. and Themelis, N. J., "An Anisotropic Elasto-Plastic Bounding Surface Model for Cohesive Soils," *Journal of Engineering Mechanics, ASCE*, **128**(7): 748-758 (2002).
23. Kaliakin, V. N. and Dechasakulsom, M., "Development of a General Time-Dependent Model for Geogrids," *Geosynthetics International*, **9**(4): 319-344 (2002).
24. Qubain, B. S., Kaliakin, V. N. and Martin, J. P., "A Hyperbolic Constitutive Model for Sand Behaviour with a Variable Bulk Modulus," *ASCE Journal of Geotechnical Engineering*, **129**(2): 158-162 (2003).
25. Ling, H. I., Liu, H., Kaliakin, V. N. and Leshchinsky, D., "Analyzing Dynamic Behavior of Geosynthetic-Reinforced Soil Retaining Walls," *Journal of Engineering Mechanics*, **130**(8): 911-920 (2004).

26. Huang, H., Chajes, M. J., Mertz, D. R., Shenton, H. W., and Kaliakin, V. N., "Strength Behavior of Filled Steel Grid Decks for Bridges," *Bridge Structures*, **3**(2): 105 - 118 (2007).
27. Huang, H., Kaliakin, V. N., Chajes, M. J., Mertz, D. R., and Shenton, H. W., and "Application of Orthotropic Plate Theory to Filled Steel Grid Decks For Bridges," *ASCE Journal of Bridge Engineering*, **12**(6): 807-810 (2007).
28. Kaliakin, V. N. and Li, J. "A Kinematically Consistent Quadratic Zero-Thickness Interface Element," *International Journal for Numerical Methods in Engineering* (submitted).
29. Kaliakin, V. N. and Dechasakulsom, M., "Numerical Study of Reinforced Wall with Cohesive Backfill," *Computers and Geotechnics*, (submitted).
30. Kaliakin, V. N. and Bathurst, R. J., "Issues in the Numerical Modeling of Geosynthetic Reinforcement," *Geotextiles and Geomembranes*, (submitted).
31. Bathurst, R. J. and Kaliakin, V. N., "Hyperbolic Models for Load-Strain-Time Simulation of Polyolefin Geosynthetics," *Geosynthetics International* (submitted).

## Contributions to Edited Books

1. Yue, D., Ling, H. I., Kaliakin, V. N. and Themelis, N. J., "Formulation and Calibration of an Anisotropic Bounding Surface Model for Clay," *Constitutive Modeling of Geomaterials: Selected Contributions from Frank L. DiMaggio Symposium*, edited by H. I. Ling, A. Anandarajah, M. T. Manzari, V. N. Kaliakin, and A. Smyth, Florida: Boca Raton: CRC Press, 137-144 (2003).
2. Kaliakin, V. N., "Parameter Estimation for Time-Dependent Bounding Surface Models for Cohesive Soils," in *Soils Constitutive Models. Evaluation, Selection, and Calibration*, *ASCE Geotechnical Special Technical Publication* **128**, J. A. Yamamuro and V. N. Kaliakin, editors, New York, ASCE, 237-256 (2005).
3. Kaliakin, V. N., "An Assessment of the Macroscopic Quantification of Anisotropy in Cohesive Soils," (**invited paper**) in *Geomechanics Testing, Modeling and Simulation*, Proceedings of the First Japan-U.S. Workshop on Testing, Modeling and Simulation (Boston, MA), *ASCE Geotechnical Special Technical Publication* **143**, edited by J. A. Yamamuro and J. Koseki, ASCE, 370-393 (2005).
4. Kaliakin, V. N., "Towards an Improved Anisotropic, Time-Dependent Model for Cohesive Soils," (**invited paper**) in *Geomechanics II: Testing, Modeling, and Simulation*, Proceedings of the Second Japan-U.S. Workshop on Testing, Modeling, and Simulation in Geomechanics (Kyoto, Japan), *ASCE Geotechnical Special*



*Technical Publication 156*, edited by P. V. Lade and T. Nakai, ASCE, 219-242 (2006).

### **Book Reviews, Discussions and Errata Published in Archival Journals**

1. *Automatic Mesh Generation; Application to Finite Element Methods*, by P. L. George, J. Wiley and Sons, 1992. Review appeared in *Journal of Engineering Mechanics, ASCE*, **119**(3), 643-644 (1993).
2. Kaliakin, V. N., Discussion to “Generalized Creep and Stress Relaxation Model for Clays,” *Journal of Geotechnical Engineering, ASCE*, **120**(4): 770-772 (1994).
3. Ling, H. I., Yue, D., Kaliakin, V. N. and Themelis, N. J., Errata for “An Anisotropic Elasto-Plastic Bounding Surface Model for Cohesive Soils,” *Journal of Engineering Mechanics, ASCE*, **129**(2): 249 (2003).

### **Refereed Conference Papers in Print**

1. Kaliakin, V. N., “Hypermedia and its Application to Geotechnical Databases,” *Proceedings of the ASCE Geotechnical Congress*, 88-98 (1991).
2. Kaliakin, V. N., “Parameter Estimation for Elastoplastic-Viscoplastic Bounding Surface Model for Cohesive Soils,” appearing in *Material Parameter Estimation for Modern Constitutive Equations* (AMD-Vol. 168), edited by L. A. Bertram, S. B. Brown and A. D. Freed, ASME Press: 171-182 (1993).
3. Chajes, M. J., Kaliakin, V. N., Holsinger, S. D. and Meyer, A. J., “Experimental Testing of Composite Wood Beams for Use in Timber Bridges,” *Fourth International Bridge Engineering Conference*, TRB, National Research Council, Washington, DC, **2**: 371-380 (1995).

### **Non-Refereed Papers Appearing in Conference Proceedings**

1. Dafalias, Y. F., Kaliakin, V. N., and Arulanandan, K., “Soil Elastoviscoplasticity: A Macroscopic Answer and a Microscopic Challenge,” *Proceedings of the Society of Engineering Science, Inc.* (1984).
2. Poran, C. J., Kaliakin, V. N., Herrmann, L. R., Romstad, K. M., Lee, D.-F., and Shen, C. K., “Prediction of Trial Embankment Behavior, Hertfordshire County Councils – Stansford Abbotts,” *Proceedings of the Prediction Symposium on a Reinforced Embankment on Soft Ground*, edited by R. H. Bassett and K. C. Yeo, King’s College, Strand, London, U. K. (1986).

3. Herrmann, L. R., Shen, C. K., Mish, K. D., and Kaliakin, V. N., "Calibration and Verification of the Bounding Surface Plasticity Model for Cohesive Soils," *Proceedings of the ASCE Engineering Mechanics Specialty Conference*, SUNY, Buffalo, N. Y. (1987).
4. Kaliakin, V. N., "An Elastoplastic-Viscoplastic Bounding Surface Model for Isotropic Cohesive Soils," *International Conference on Rheology and Soil Mechanics*, edited by M. J. Keedwell, Elsevier Applied Science pub., 147-163, Coventry, U. K. (1988).
5. Kaliakin, V. N., and Perano, K. J., "INTERP - A Subroutine System for Lexical Analysis," *Proceedings of the 8th Biennial CUBE Symposium*, Albuquerque, New Mexico, 29-30 (1988).
6. Kaliakin, V. N., "DIMPL - A Tool for Processing Numeric Data," *Proceedings of the 8th Biennial CUBE Symposium*, Albuquerque, New Mexico, 75 (1988).
7. Arulanandan, K., Muraleetharan, K. K., Dafalias, Y. F., Shinde, S. B., Kaliakin, V. N., and Herrmann, L. R., "Pore pressures and lateral stresses using in situ properties," *Proceedings of the XII International Conference on Soil Mechanics and Foundation Engineering*, Rio de Janeiro, Brazil, 161-164 (1989).
8. Kaliakin, V. N., and Dafalias, Y. F., "The Elastoplastic-Viscoplastic Bounding Surface Model for Cohesive Soils: Recent Developments," *Constitutive Laws for Engineering Materials*, 279-282, ASME Press (1991).
9. Kaliakin, V. N., "Application of the Elastoplastic-Viscoplastic Bounding Surface Model to Cyclic Loading," *Proceedings of the Second International Conference on Geotechnical Earthquake Engineering and Soil Dynamics*, St. Louis, MO., 1: 69-76 (1991).
10. Kaliakin, V. N., Closure to: "Application of the Elastoplastic-Viscoplastic Bounding Surface Model to Cyclic Loading," *Proceedings of the Second International Conference on Geotechnical Earthquake Engineering and Soil Dynamics*, 3, St. Louis, MO. (1991).
11. Kaliakin, V. N., "Generalized Isoparametric Coordinate Determination Scheme for Finite Element Mesh Generation," *Proceedings of the 9th ASCE Engineering Mechanics Conference*, 928-931, College Station, TX. (1992).
12. Kaliakin, V. N. and Xi, F., "Modeling of Interfaces in Finite Element Analyses of Geosynthetically Reinforced Walls", *Earth Reinforcement Practice, Proceedings of the International Symposium on Earth Reinforcement Practice*, Ochiai et al. editors, Balkema pub., 351-356, Fukuoka, Kyushu, Japan (1992).

13. Chajes, M. J., Karbhari, V. M., Mertz, D. M., Kaliakin, V. N., Faqiri, A. and Chaudri, M., "Rehabilitation of Cracked Adjacent Concrete Box Beam Bridges," *Proceedings of the NSF Symposium on Practical Solutions for Bridge Strengthening and Rehabilitation*, 265-274, Des Moines, Iowa (1993).
14. Kaliakin, V. N., "Towards a Robust Methodology for Thermal-Mechanical Analysis of Porous Media", *Joint Meeting of ASCE-ASME-SES*, 83, Charlottesville, VA (1993).
15. Kaliakin, V. N., "Advances in the Numerical Simulation of Thermo-Mechanical Behavior of Cohesive Soils," *Second U. S. National Congress on Computational Mechanics*, 95, Washington, D. C. (1993).
16. Li, J. and Kaliakin, V. N., "Application of Improved Zero Thickness Interface Element to Geosynthetically Reinforced Soil Structures", *Proceedings of the Eighth International Conference of the Association for Computer Methods and Advances in Geomechanics*, H. J. Siriwardane and M. M. Zaman, eds., Morgantown, West Virginia, II: 1367-1370 (1994).
17. Cui, L., Abousleiman, Y., Cheng, A. H-D., Kaliakin, V. and Roegiers, J.-C., "Finite Element Analysis of Anisotropic Poroelastic Problems", *Proceedings of the Eighth International Conference of the Association for Computer Methods and Advances in Geomechanics*, H. J. Siriwardane and M. M. Zaman, eds., Morgantown, West Virginia, II: 1567-1572 (1994).
18. Finch, W. W., Chajes, M. J., Mertz, D. R., Kaliakin, V. N. and Faqiri, A., "Development of a Bridge Rehabilitation Procedure Using Advanced Composite Materials," *Proceedings of the ASCE Third Materials Conference*, 1140-1147, San Diego, CA (1994).
19. Chajes, M. J., Mertz, D. R., Kaliakin, V. N., Holsinger, S. D. and Meyer, A. J., "Development of a Concrete-Wood-CFRP Composite Beam", *Proceedings of the ASCE Structures Congress XIII*, 1659-1662, Boston, MA (1995).
20. Kaliakin, V. N. and Simáček, P., "Computational Issues Associated with Hyper-Anisotropic Media," *Engineering Mechanics, Proceedings of the 10th Conference*, edited by S. Sture, ASCE pub., 249-252. Boulder, CO (1995).
21. Leshchinsky, D., Min, Y. L., Ling, H. I. and Kaliakin, V., "Sustained and Repeated Tensile Loads: Effects on Geogrid Embedded in Sand," *Proceedings of the U.S.-Taiwan Geotechnical Engineering Collaboration Workshop*, 210-221, Taipei, Taiwan (1995).
22. Chajes, M.J., Kaliakin, V.N., and Meyer, A.J., "Behavior of Engineered Wood-CFRP Beams," *Proceedings of the First International Conference on Composites in Infrastructure*, 870-877, Tuscon, AZ (1996).

23. Kaliakin, V. N., Cui, L. and Cheng, A. H-D., "Generalized Plane Strain Finite Element Analysis : Geomechanical Applications," *Engineering Mechanics, Proceedings of the 11th Conference*, edited by Y. K. Lin and T. C. Su, ASCE pub., 289-292. Ft. Lauderdale, FL (1996).
24. Kaliakin, V. N., "Formulation and Implementation of Improved Zero-Thickness Interface Elements," *Engineering Mechanics, Proceedings of the 11th Conference*, edited by Y. K. Lin and T. C. Su, ASCE pub., 285-288. Ft. Lauderdale, FL (1996).
25. Kaliakin, V. N., "Microscopic Aspects of Thermo-Mechanical Behavior of Cohesive Soils and Their Macroscopic Representation," *Mechanics of Deformation and Flow of Particulate Materials*, edited by C. S. Chang, A. Misra, R. Y. Liang and M. Babic, ASCE pub. (1997). Abstract of paper appeared in Proceedings of the Joint ASME/ASCE/SES Summer Meeting (McNU '97), Evanston, IL.
26. Sheahan, T. C. and Kaliakin, V. N., "Integrating Micromechanics in Modeling Relaxation Behavior of Cohesive Soils," *Poromechanics, A Tribute to Maurice A. Biot*, Proceedings of the Biot Conference on Poromechanics, Thimus, et al. eds., Université catholique de Louvain, Louvain-la-Neuve, Belgium, Balkema pub., 147-152 (1998).
27. Kaliakin, V. N. and Mandrekar, K., "Numerical Implications Associated with the Inextensibility Constraint in Composite Materials," *Proceedings of the 13<sup>th</sup> ASCE Engineering Mechanics Conference* (CD-ROM), edited by N. Jones and R. Ghanem, Baltimore, MD (1999).
28. Sheahan, T. C. and Kaliakin, V. N., "Microstructural Considerations and Validity of the Correspondence Principle for Cohesive Soils," *Proceedings of the 13<sup>th</sup> ASCE Engineering Mechanics Conference* (CD-ROM), edited by N. Jones and R. Ghanem, Baltimore, MD (1999).
29. Fuchs, C. and Kaliakin, V. N., "Investigation of Infinite Elements for Use in Simulating Footing Settlements," *Proceedings of the 14<sup>th</sup> ASCE Engineering Mechanics Conference* (CD-ROM), edited by J. Tassoulas, Austin, TX (2000).
30. Fuchs, C. and Kaliakin, V. N., "Footing Settlement Simulations: Modeling Considerations," *Proceedings of the 14<sup>th</sup> ASCE Engineering Mechanics Conference* (CD-ROM), edited by J. Tassoulas, Austin, TX (2000).
31. Qubain. B. S., Kaliakin, V. N., and Matrin, J. P., "Interaction of Adjacent Strip and Spread Footings on Sand," *Proceedings of the 14<sup>th</sup> ASCE Engineering Mechanics Conference* (CD-ROM), edited by J. Tassoulas, Austin, TX (2000).

32. Pamuk, A., Leshchinsky, D., Kaliakin, V. N., and Ling, H. I., "Pullout Resistance of Geogrid Embedded in Cohesive Soil Subjected to Sustained and Repeated Tensile Loads," *Proceedings of the 15<sup>th</sup> ICSMFE*, Istanbul, **2**: 1617-1620, Turkey (2001).
33. Pamuk, A., Leshchinsky, D., Kaliakin, V. N., and Ling, H. I., "Laboratory Testing of Long-Term Performance of Clay-Geogrid Interaction," *Proceedings of IS Kyushu 2001*, Fukuoka, Japan (2001).
34. Thakali, S., Allen, H. E., and Kaliakin, V., "Shrinking Core Model for the Sorption of Trace Metals on Goethite," presented at The Society of Environmental Toxicology and Chemistry (SETAC) 22nd Annual Meeting, Baltimore, MD (2001).
35. Kaliakin, V. N. and Dechasakulsom, M., "Detailed Modeling of Facing for Reinforced Soil Walls," *Proceedings of the 15th ASCE Engineering Mechanics Conference* (CD-ROM), edited by A. Smyth, Columbia University, New York (2002).
36. Yue, D., Ling, H. I., Kaliakin, V. N., and Themelis, N. J., "Anisotropy of Clays Based on Bounding Surface Model," *Proceedings of the 15th ASCE Engineering Mechanics Conference* (CD-ROM), edited by A. Smyth, Columbia University, New York (2002).
37. Dechasakulsom, M. and Kaliakin, V. N., "Numerical Study of Time Dependent Behavior of Reinforced Soil Walls," *Geosynthetics: State of the Art, Recent Developments*, edited by Ph. Delmas, J. P. Gourc and H. Girard, *Proceedings of the Seventh International Conference on Geosynthetics*, Nice, France, **4**: 1419-1422 (2002).
38. Kaliakin, V. N. and Pan, Z. "Assessment of 3-D Predictive Capabilities of Bounding Surface Model for Cohesive Soils," *Proceedings of the 14th U. S. National Congress on Theoretical and Applied Mechanics*, edited by R. Batra, Blacksburg, VA (2002).
39. Qubain, B. S., Kaliakin, V. N., and Martin, J. P., "Treating Foundation Settlements as Boundary Value Problems," *Proceedings of the Transportation Research Board Annual Meeting* (2003).
40. Ling, H. I., Kaliakin, V. N., and Yue, D., "Application of Advanced Constitutive Model for Geosynthetic-Reinforced Containment Dike Constructed Over Soft Foundation," (**invited paper**), *Second International Conference on Advances in Soft Soil Engineering and Technology*, Putra Jaya, Malaysia (2003).
41. Kaliakin, V. N., "Accounting for Micromechanical Aspects of Anisotropy and Time-Dependence in Cohesive Soils," (**invited paper**), *Plasticity '03: The Tenth International Symposium on Plasticity and Its Current Applications*, Québec City, Québec (2003).

42. Yue, D., Ling, H. I., and Kaliakin, V. N., “Simulating Time-Dependent Behavior of Clay Using an Anisotropic Elastoplastic-Viscoplastic Bounding Surface Model,” *Proceedings of the 16th ASCE Engineering Mechanics Conference (CD-ROM)*, University of Washington, Seattle (2003).
43. Ling, H. I., Yue, D., and Kaliakin, V. N., “Anisotropic Bounding Surface Model for Clay,” *Proceedings of the International Workshop on Prediction and Simulation Methods in Geomechanics (IWS – Athens 2003)*, (CD-ROM), Athens, Hellas (2003).
44. Bathurst, R. J. and Kaliakin, V. N., “Review of Numerical Models for Geosynthetics in Reinforcement Applications” (**invited issue paper**), *Proceedings of the 11th International Conference of the International Association for Computer Methods and Advances in Geomechanics*, Torino, Italy, **4**: 407-416 (2005).
45. Kaliakin, V. N., “Numerical Implementation and Integration of Bounding Surface Models for Cohesive Soils,” *Poromechanics III, Biot Centennial (1905-2005)*, edited by Y. N. Abousleiman, A. H-D. Cheng and F-J. Ulm, London: Balkema, 371-376 (2005).
46. Kaliakin, V. N. and Pan, Z. “Issues in Simulating the Anisotropic, Time Dependent Behavior of Cohesive Soils,” *Proceedings of McMat Mechanics and Materials Conference*, edited by G. Z. Voyiadjis and R. J. Dorgan, (CD-ROM), Baton Rouge, LA (2005).
47. Kaliakin, V. N., “Assessment of Predictive Capabilities of Bounding Surface Model for Cohesive Soils under Complex Stress Paths,” *Proceedings of McMat Mechanics and Materials Conference*, edited by G. Z. Voyiadjis and R. J. Dorgan, (CD-ROM), Baton Rouge, LA, 6 pp. (2005).
48. Kaliakin, V. N. and Bathurst, R. J., “Mathematical Modeling of Polymeric Soil Reinforcement: Current Practice and Future Trends,” *Proceedings of McMat Mechanics and Materials Conference*, edited by G. Z. Voyiadjis and R. J. Dorgan, (CD-ROM), Baton Rouge, LA (2005).
49. Kaliakin, V. N., “Generalized Bounding Surface Framework for Modeling the Anisotropic, Time Dependent Behavior of Cohesive Soils,” *Proceedings of the 15th U.S. National Congress on Theoretical and Applied Mechanics*, (CD-ROM), Boulder, CO (2006).
50. Kaliakin, V. N., “Issues Associated With Mathematical Modeling of Hyper-Anisotropic Composite Materials,” *Proceedings of the 15th U.S. National Congress on Theoretical and Applied Mechanics*, (CD-ROM), Boulder, CO (2006).
51. Kaliakin, V. N., “Accounting for Micromechanical Aspects in Simulating the Time-Dependent, Anisotropic Behavior of Cohesive Soils,” (**invited paper**), *Plasticity*

- 2006: *The Twelfth International Symposium on Plasticity and Its Current Applications*, (CD-ROM), Halifax, Nova Scotia (2006).
52. Kaliakin, V. N. and P. Jiang, "Assessment of Mixed Elements with Discontinuous Pressure Approximations as Applied To Cohesive Soils," *Proceedings of the 18th ASCE Engineering Mechanics Conference*, edited by M. R. Hajj, (CD-ROM), Virginia Tech, Blacksburg (2007).
  53. Kaliakin, V. N., "Assessment of Model Predictive Capabilities for True Triaxial Shearing of Clay," *Development of Urban Areas and Geotechnical Engineering, Proceedings of the International Geotechnical Conference*, edited by V. M. Ulitsky, St. Petersburg, Russia, 397-402 (2008).
  54. Khabbazian, M., Kaliakin, V. N., and Meehan, C. L., "3D Numerical Analyses of Geosynthetic Encased Stone Columns," *Proceedings of the International Foundations Congress and Equipment Expo '09 (IFCEE09)*, Contemporary Topics in Ground Modification, Problem Soils, and Geo-Support, Geotechnical Special Publication No. **187**, Orlando, FL, March 15-19, 2009, ASCE, Reston, VA, 201-208 (2009).
  55. Kaliakin, V. N. and P. Jiang, "Investigation of Mixed Elements with Continuous Pressure Approximations as Applied to Problems in Geomechanics," *Poromechanics IV*, Proceedings of the Fourth Biot Conference on Poromechanics, edited by H. I. Ling, A. Smyth and R. Betti, Columbia University, New York, 1041-1046 (2009).
  56. Jiang, P. and V. N. Kaliakin, "Investigation of Non-Conforming Elements for Geomechanical Applications," *Poromechanics IV*, Proceedings of the Fourth Biot Conference on Poromechanics, edited by H. I. Ling, A. Smyth and R. Betti, Columbia University, New York, 1047-1052 (2009).
  57. Khabbazian, M, Meehan, C. L., and Kaliakin, V. N., "Numerical Study of Effect of Encasement on Stone Column Performance," *accepted for the proceedings of Geo-Florida 2010*, ASCE (2010).

## Research Reports

1. Imbsen, R. A., et al., "SEISAB-I, SEIsmic Analysis of Bridges User Manual," Engineering Computer Corporation (1982).
2. Imbsen, R. A., Kaliakin, V. N., and Lea, J., "SEISAB-I, SEIsmic Analysis of Bridges Example Problems (manual)," Engineering Computer Corporation (1982).
3. Herrmann, L. R., Kaliakin, V. N. and Dafalias, Y. F., "Computer Implementation of the Bounding Surface Plasticity Model for Cohesive Soils," Final Report to the Civil

- Engineering Laboratory, Naval Construction Battalion Center, Port Hueneme, CA. (1983).
4. Herrmann, L. R., Kaliakin, V. N., and Shen, C. K., "Improved Numerical Implementation of the Bounding Surface Plasticity Model for Cohesive Soils," Final Report to the Civil Engineering Laboratory, Naval Construction Battalion Center, Port Hueneme, CA. (1985).
  5. Shen, C. K., Zhu, Z. Y., Herrmann, L. R., and Kaliakin, V. N., "Validation of Bounding Surface Plasticity Theory using Preliminary Geotechnical Centrifuge Experiments," Final Report to the Civil Engineering Laboratory, Naval Construction Battalion Center, Port Hueneme, CA. (1986).
  6. Kaliakin, V. N., Dafalias, Y. F., and Cheney, J. A. "Extension of the Bounding Surface Soil Plasticity Model to Account for High Pressures," Final Report to the Earth Sciences Division, Lawrence Livermore National Laboratory (1986).
  7. Kaliakin, V. N., and Herrmann, L. R., "Guidelines for Implementing the Elastoplastic-Viscoplastic Bounding Surface Model for Isotropic Cohesive Soils," Department of Civil Engineering Report, University of California, Davis (1987).
  8. Herrmann, L. R., and Kaliakin, V. N., "User's Manual for SAC-2, A Two-Dimensional Nonlinear, Time Dependent, Soil Analysis Code Using the Bounding Surface Elastoplasticity-Viscoplasticity Model," Volumes I and II, Department of Civil Engineering Report, University of California, Davis (1987).
  9. Kaliakin, V. N., and Herrmann, L. R., "Numerical Implementation of the Elastoplastic-Viscoplastic Bounding Surface Model for Isotropic Cohesive Soils – The EVALVP Computer Program, Version 1.1," Department of Civil Engineering Report, University of California, Davis (1987).
  10. Kaliakin, V. N., and Dafalias, Y. F., "Details Regarding the Elastoplastic-Viscoplastic Bounding Surface Model for Isotropic Cohesive Soils," Department of Civil Engineering Report, University of California, Davis (1987).
  11. Perano, K. J., and Kaliakin, V. N. "INTERP – A Fortran Callable Free Format Data Interpretation Subroutine System," *Sandia National Laboratory SAND 87-8244*, (1989).
  12. Kaliakin, V. N., and Dafalias, Y. F. "Details Regarding the Elastoplastic-Viscoplastic Bounding Surface Model for Isotropic Cohesive Soils," Civil Engineering Report No. 91-1, University of Delaware, Newark, DE (1991).
  13. Kaliakin, V. N., "CALBR8, A Simple Computer Program for Assessing the Idiosyncrasies of Various Constitutive Models Used to Characterize Soils," Civil Engineering Report No. 92-1, University of Delaware, Newark, DE (1992).



14. Kaliakin, V. N. and Xi, F., "Finite Element Analysis of Geosynthetically Reinforced Walls: A Parametric Study," Civil Engineering Report No. 92-3, University of Delaware, Newark, DE (1992).
15. Cui, L., Cheng, A. H-D., Abousleiman, Y. and Kaliakin, V., "3-D Finite Element Analysis of Nonlinear Poroelasticity: Preliminary Results," Rock Mechanics Consortium Report RMC-93-01, University of Oklahoma (1993).
16. Li, J. and Kaliakin, V. N., "Numerical Simulation of Interfaces in Geomaterials: Development of New Zero-Thickness Interface Elements," Civil Engineering Report No. 93-6, University of Delaware, Newark, DE (1993).
17. Kaliakin, V. N. and Li, J., "Numerical Study of Interface Elements: Applications to Earth Structures," Civil Engineering Report No. 93-7, University of Delaware, Newark, DE (1993).
18. Kaliakin, V. N., "APES2D, analysis program for earth structures in two dimensions, Version 0.95," Civil Engineering Report No. 93-8, University of Delaware, Newark, DE (1993).
19. Cui, L., Abousleiman, Y., Cheng, A. H-D. and Kaliakin, V. "Three-Dimensional Poroelastic Finite Element Analysis of Inclined Borehole," The University of Oklahoma School of Petroleum and Geological Engineering, Report RMC-93-20, 1993.
20. Min, Y., Leshchinsky, D., Kaliakin, V. N., and Ling, H. I., "A Study of Pullout Behavior for Embedded Geogrid Subjected to Sustained and Repeated Loads," Research Report, Delaware Transportation Institute, University of Delaware (1994).
21. Chajes, M. J., Kaliakin, V. N., Holsinger, S. D. and Meyer, A. J. "Design of Timber Bridges Using Composite Wood Beams," Civil Engineering Report No. 94-4, University of Delaware (1994).
22. Chajes, M. J., Mertz, D. R., Kaliakin, V. N., Karbhari, V. M., Faqiri, A. W., and Finch, W. W., "Using Fiber Reinforced Plastics to Rehabilitate Concrete Bridges," Research Report, Delaware Transportation Institute, University of Delaware (1995).
23. Kaliakin, V. N., "APES, Analysis Program for Earth Structures in Two and Three Dimensions, Version 2.0", Civil Engineering Report No. 95-1, University of Delaware (1995).
24. Ward, A.P., Chajes, M.J., and Kaliakin, V.N., "Seismic Screening and Retrofitting of Delaware's Bridges," Delaware Transportation Institute Report, University of Delaware (1995).

25. Pamuk, A., Leshchinsky, D., Ling, H. I. and Kaliakin, V. N., "Interaction Behavior of Geogrids Embedded in Clay Subjected to Static and Repeated Loads," Delaware Transportation Institute Report, University of Delaware (1997).
26. Kaliakin, V. N. and Dechasakulsom, M. (2001), "Time-Dependent Behavior of Geosynthetic Reinforcement – A Review of Experimental Work," *Report No. 01-1*, Department of Civil and Environmental Engineering, University of Delaware. Available at [http://www.ce.udel.edu/faculty/kaliakin/CEE\\_Report\\_01-1.pdf](http://www.ce.udel.edu/faculty/kaliakin/CEE_Report_01-1.pdf)
27. Kaliakin, V. N. and Dechasakulsom, M. (2001), "Time-Dependent Behavior of Geosynthetic Reinforcement – A Review of Mathematical Models," *Report No. 01-2*, Department of Civil and Environmental Engineering, University of Delaware. Available at [http://www.ce.udel.edu/faculty/kaliakin/CEE\\_Report\\_01-2.pdf](http://www.ce.udel.edu/faculty/kaliakin/CEE_Report_01-2.pdf)
28. Khabbazian, M., Kaliakin, V. N., and Meehan, C. L., "Geosynthetic Supported Base Reinforcement over Deep Foundations: A Numerical Parametric Study of Geosynthetic-Encased Stone Columns," report submitted to the *Geosynthetic Institute* (GSI), October 2008.
29. Kaliakin, V. N. and P. Jiang, "Development and Assessment of Mixed Elements," *Report*, Department of Civil and Environmental Engineering, University of Delaware, Newark, DE (2009).
30. Jiang, P. and V. N. Kaliakin, "An Assessment of Mixed Finite Elements with Discontinuous Pressure Approximations: Application to Problems in Structural Mechanics," *Report*, Department of Civil and Environmental Engineering, University of Delaware, Newark, DE (2009).
31. Kaliakin, V. N. and P. Jiang, "An Assessment of Mixed Finite Elements with Discontinuous Pressure Approximations: Application to Problems in Geotechnical Engineering," *Report*, Department of Civil and Environmental Engineering, University of Delaware, Newark, DE (2009).
32. Jiang, P. and V. N. Kaliakin, "An Assessment of Mixed "Taylor-Hood" Finite Elements with Continuous Pressure Approximations: Application to Generalized Biot Formulation for Porous Geomaterials," *Report*, Department of Civil and Environmental Engineering, University of Delaware, Newark, DE (2009).
33. Kaliakin, V. N. and P. Jiang, "An Assessment of Mixed Finite "Bubble Mode" Elements with Continuous Pressure Approximations: Application to Generalized Biot Formulation for Porous Geomaterials," *Report*, Department of Civil and Environmental Engineering, University of Delaware, Newark, DE (2009).
34. Jiang, P. and V. N. Kaliakin, "An Assessment of Mixed Finite Elements with Continuous Pressure Approximations, Equal-Order Interpolation and Hybrid Reduced Integration: Application to Generalized Biot Formulation for Porous Geomaterials,"

*Report*, Department of Civil and Environmental Engineering, University of Delaware, Newark, DE (2009).

## **Presentations**

### **Invited**

“Practical Application of a Constitutive Model for Cohesive Soils,” Department of Civil Engineering, New Jersey Institute of Technology, Newark, NJ, May 1990.

“Some Numerical Simulations of Earth Structures,” Department of Ocean Engineering, University of Rhode Island, Kingston, RI, October 1992.

“Modeling the Time Dependent Behavior of Cohesive Soils: An Overview” and “Modeling Interfaces in Geologic Media: An Overview,” *TRB Committee A2K05 – Modelling Techniques in Geomechanics*, January 1994.

“Composite Soil Structures: What Makes Them Safe?” University of Delaware Research Foundation Meeting, Newark, DE, January 1994.

“The Bounding Surface Model for Cohesive Soils and its Application to Marine Soils,” *Marine Sediment Geoacoustical and Geotechnical Constitutive Modeling Workshop*, University of Rhode Island, Kingston, RI, November 1995.

“An Overview of Foundation Engineering” and “Overview of Bounding Surface Model for Clay with Applications,” Department of Urban and Civil Engineering, Ibaraki University, Hitachi, Japan, April 1996.

“The Elastoplastic-Viscoplastic Bounding Surface Model for Clay: An Overview,” Department of Civil Engineering, Fukuoka University, Fukuoka, Japan, April 1996.

“Discussion of the Elastoplastic-Viscoplastic Bounding Surface Model for Clay: Application to Marine Soils,” Department of Civil Engineering, Yamaguchi University, Ube, Japan, 1996.

“Constitutive Models in Deformation and Settlement Analysis,” and “Rehabilitation of the Civil Infrastructure Using Advanced Composite Materials: Research at the University of Delaware,” Department of Urban and Civil Engineering, Ibaraki University, Hitachi, Japan, October 1997.

“Remarks on the Modeling of Time-Dependent Behavior of Geosynthetics,” *IGS Workshop*, University of Tokyo, Japan, October 1997.

“Numerical Simulation of Reinforced Wall with Cohesive Backfill and Polymeric Inclusions,” *McMaster University*, Hamilton, Canada, April 2002.

“Modeling the Time-Dependent Behavior of Clays in a Coupled Elastoplastic-Viscoplastic Framework,” *Mini-Geomechanics Symposium*, University of Delaware, March 2003.

“Numerical Simulation of Reinforced Wall with Cohesive Backfill and Polymeric Inclusions,” *Johns Hopkins University*, Baltimore, MD, April 2003.

“An Assessment of the Macroscopic Quantification of Anisotropy in Cohesive Soils,” *First Japan-U.S. Workshop on Testing, Modeling and Simulation in Geomechanics*, Dedham MA, June 2003.

“The Bounding Surface Model for Cohesive Soils and its Application to Selected Boundary Value Problems,” Department of Civil and Environmental Engineering, *University of Cincinnati*, May 2004.

“The Bounding Surface Model for Cohesive Soils and its Application to Two Boundary Value Problems,” *Geo-Engineering Centre*, Queens University, Kingston, Ontario, November 2004.

“Reinforced Soil Walls with Low Quality Backfill: Numerical Simulation and Implications on Design,” *Louisiana State University*, February 2005.

“Reinforced Soil Walls with Low Quality Backfill: Material Characteristics, Numerical Simulation and Implications on Design,” George Washington University, April 2005.

“Nonlinear Modeling of Geotechnical Problems: Bridging the Chasm Between Theory and Practice,” *Workshop on Nonlinear Modeling of Geotechnical Problems: From Theory to Practice*, Johns Hopkins University, Baltimore, MD, November 2005.

“Accounting for Micromechanical Aspects in Simulating the Time-Dependent, Anisotropic Behavior of Cohesive Soils,” (**keynote lecture**), *Plasticity 2006: The Twelfth International Symposium on Plasticity and Its Current Applications*, Halifax, Nova Scotia, July 2006.

“Computational Geomechanics Applied to Two Boundary Value Problems Involving Cohesive Soils,” *University of Texas at San Antonio*, November 2008.

## At Conferences

“An Elastoplastic-Viscoplastic Bounding Surface Model for Isotropic Cohesive Soils,” *International Conference on Rheology and Soil Mechanics*, Coventry, U. K. (1988).

- “INTERP - A Subroutine System for Lexical Analysis,” *8th Biennial CUBE Symposium*, Albuquerque, New Mexico (1988).
- “DIMPL - A Tool for Processing Numeric Data,” *8th Biennial CUBE Symposium*, Albuquerque, New Mexico (1988).
- “Hypermedia and its Application to Geotechnical Databases,” *ASCE Geotechnical Congress*, Boulder, CO (1991).
- “Generalized Isoparametric Coordinate Determination Scheme for Finite Element Mesh Generation,” *9th ASCE Engineering Mechanics Specialty Conference*, College Station, TX (1992).
- “Towards a Robust Methodology for Thermal-Mechanical Analysis of Porous Media,” *Joint Meeting of ASCE–ASME–SES*, Charlottesville, VA (1993).
- “Advances in the Numerical Simulation of Thermo-Mechanical Behavior of Cohesive Soils,” *Second U. S. National Congress on Computational Mechanics*, Washington, DC (1993).
- “Parameter Estimation for Elastoplastic-Viscoplastic Bounding Surface Model for Cohesive Soils,” *ASME Winter Annual Meeting*, New Orleans, LA. (1993).
- “Application of Improved Zero Thickness Interface Element to Geosynthetically Reinforced Soil Structures,” *Eighth International Conference of the Association for Computer Methods and Advances in Geomechanics*, Morgantown, West Virginia (1994).
- “Computational Issues Associated with Hyper-Anisotropic Media,” *10th ASCE Engineering Mechanics Specialty Conference*, Boulder, CO (1995).
- “Formulation and Implementation of Improved Zero-Thickness Interface Elements,” *11th ASCE Engineering Mechanics Specialty Conference*, Ft. Lauderdale, FL (1996).
- “Generalized Plane Strain Finite Element Analysis : Geomechanical Applications,” *11th ASCE Engineering Mechanics Specialty Conference*, Ft. Lauderdale, FL (1996).
- “Microscopic Aspects of Thermo-Mechanical Behavior of Cohesive Soils and Their Macroscopic Representation,” *Joint ASME/ASCE/SES Summer Meeting*, Northwestern University, Evanston, Illinois (1997).
- “Microstructural Considerations and Validity of the Correspondence Principle for Cohesive Soils,” *13<sup>th</sup> ASCE Engineering Mechanics Conference*, The Johns Hopkins University, Baltimore, MD (1999).

- “Investigation of Infinite Elements for Use in Simulating Footing Settlements,” *14<sup>th</sup> ASCE Engineering Mechanics Conference*, University of Texas, Austin (2000).
- “Footing Settlement Simulations: Modeling Considerations,” *14<sup>th</sup> ASCE Engineering Mechanics Conference*, University of Texas, Austin (2000).
- “Interaction of Adjacent Strip and Spread Footings on Sand,” *14<sup>th</sup> ASCE Engineering Mechanics Conference*, University of Texas, Austin (2000).
- “Detailed Modeling of Facing for Reinforced Soil Walls,” *15<sup>th</sup> ASCE Engineering Mechanics Conference*, Columbia University, New York (2002).
- “Assessment of 3-D Predictive Capabilities of Bounding Surface Model for Cohesive Soils,” *14<sup>th</sup> U. S. National Congress on Theoretical and Applied Mechanics*, Blacksburg, VA (2002).
- “Accounting for Micromechanical Aspects of Anisotropy and Time-Dependence in Cohesive Soils,” *Plasticity '03: The Tenth International Symposium on Plasticity and Its Current Applications*, Québec City, Québec (2003).
- “Simulating Time-Dependent Behavior of Clay Using an Anisotropic Elastoplastic-Viscoplastic Bounding Surface Model,” *16<sup>th</sup> ASCE Engineering Mechanics Conference*, University of Washington, Seattle (2003).
- “Numerical Implementation and Integration of Bounding Surface Models for Cohesive Soils,” *Third Biot Conference on Poromechanics*, Norman, Oklahoma, (2005).
- “Issues in Simulating the Anisotropic, Time Dependent Behavior of Cohesive Soils,” *McMat Mechanics and Materials Conference*, Baton Rouge, LA (2005).
- “Assessment of Predictive Capabilities of Bounding Surface Model for Cohesive Soils under Complex Stress Paths,” *McMat Mechanics and Materials Conference*, Baton Rouge, LA, (2005).
- “Mathematical Modeling of Polymeric Soil Reinforcement: Current Practice and Future Trends,” *McMat Mechanics and Materials Conference*, Baton Rouge, LA (2005).
- “Generalized Bounding Surface Framework for Modeling the Anisotropic, Time Dependent Behavior of Cohesive Soils,” *15<sup>th</sup> U.S. National Congress on Theoretical and Applied Mechanics*, Boulder, CO (2006).
- “Issues Associated With Mathematical Modeling of Hyper-Anisotropic Composite Materials,” *15<sup>th</sup> U.S. National Congress on Theoretical and Applied Mechanics*, Boulder, CO (2006).

“Assessment of Mixed Elements with Discontinuous Pressure Approximations as Applied To Cohesive Soils,” *Proceedings of the 18th ASCE Engineering Mechanics Conference*, Virginia Tech, Blacksburg (2007).

Kaliakin, V. N., “Assessment of Model Predictive Capabilities for True Triaxial Shearing of Clay,” *Development of Urban Areas and Geotechnical Engineering, Proceedings of the International Geotechnical Conference*, St. Petersburg, Russia, (2008).

### **Short Course**

“Time Dependent Bounding Surface Model for Isotropic Cohesive Soils,” Short Course, *Second International Conference on Constitutive Laws for Engineering Materials*, Tucson, AZ (1987).

## **Professional Activities**

### **Membership in Professional Societies**

- American Academy of Mechanics (AAM).
- American Society of Civil Engineers (ASCE).
- Engineering Mechanics Institute (ASCE).
- Geo-Institute (ASCE).
- International Association for Computational Mechanics (IACM).
- International Society of Soil Mechanics and Geotechnical Engineering.

### **Membership in Professional Committees**

*Member*, American Society of Civil Engineers Soil Properties and Modeling Committee (1996 to present).

*Member*, American Society of Civil Engineers Committee on Aerospace Structures and Materials (1993 to 1998).

*Member & Chairman*, American Society of Civil Engineers Committee on Inelastic Behavior (1992 to 1997; 1999 to 2006; Chairman 2001 to 2002; Vice-Chairman 2000 and 2003).

*Member*, American Society of Civil Engineers Poromechanics (2002 to present).

*Member*, Transportation Research Board Committee on Modelling Techniques in Geomechanics (TRB A2K05) (1993 to 2003; recording secretary 1994, 1995).

### **Professional Involvement**

*Session Co-Organizer*: “Characterization of Geomaterials,” at 11<sup>th</sup> ASCE Engineering Mechanics Conference, Ft. Lauderdale, FL (1996).

*Session Co-Organizer:* “Measuring and Modeling Time-Dependent Cohesive Soil Behavior,” ASCE Annual Convention, Washington, DC (1996).

*Session Co-Organizer:* “Modeling and Applications of Soil Plasticity,” Joint ASME/ASCE/SES Summer Meeting, Evanston, IL (1997).

*External Honors Examiner* (in Structural Mechanics), Swarthmore College (1998).

*Session Co-Organizer:* Five-Session Symposium on Experimental, Analytical and Computational Characterization of the Mechanical Behavior of Geomaterials, 14<sup>th</sup> ASCE Engineering Mechanics Conference, Austin, TX (2000).

*Session Co-Organizer:* Four-Session Frank L. DiMaggio Symposium on Constitutive Modeling of Geomaterials, 15<sup>th</sup> ASCE Engineering Mechanics Conference, New York, NY (2002).

*Session Co-Organizer:* Two-Session Symposium on Computational Inelasticity, 15<sup>th</sup> ASCE Engineering Mechanics Conference, New York, NY (2002).

*Session Co-Organizer:* Three-Session Symposium on Inelastic Behavior of Saturated and Partially Saturated Porous Media, 16<sup>th</sup> ASCE Engineering Mechanics Conference, Seattle, WA (2003).

*Session Co-Organizer:* Two-Session Tribute to Kirk Valanis, 16<sup>th</sup> ASCE Engineering Mechanics Conference, Seattle, WA (2003).

*Member of Organizing Committee,* 17<sup>th</sup> ASCE Engineering Mechanics Conference, Newark, DE (2004).

*Session Organizer:* Two-Session Symposium on Simulation of Geomaterials, 17<sup>th</sup> ASCE Engineering Mechanics Conference, Newark, DE (2004).

*Session Co-Organizer:* Calibration of Constitutive Models, Geo-Frontiers 2005 Congress, Austin, TX (2005).

*Session Co-Organizer:* Three-Session Symposium on Constitutive Modeling of Geomaterials, McMat Mechanics and Materials Conference, Baton Rouge, LA (2005).

*Co-Organizer:* Symposium Honoring Professor Yannis F. Dafalias on the Occasion of His 60<sup>th</sup> Birthday, McMat Mechanics and Materials Conference, Baton Rouge, LA (2005).

*Co-Organizer:* Symposium on Geosynthetics and Geosynthetic-Engineered Structures Honoring Professor Robert M. Koerner, McMat Mechanics and Materials Conference, Baton Rouge, LA (2005).

*Co-Organizer:* Symposium Honoring Professor Leonard R. Herrmann on the Occasion of His 70<sup>th</sup> Birthday, 15<sup>th</sup> U.S. National Congress on Theoretical and Applied Mechanics, Boulder, CO (2006).

*Session Co-Organizer:* “Constitutive Modeling of Frictional Materials,” 15<sup>th</sup> U.S. National Congress on Theoretical and Applied Mechanics, Boulder, CO (2006).

*Co-Organizer:* Mini-Symposium titled “Testing, Modeling and Simulation Mini-Symposium,” *Geo-Denver Conference*, Denver, CO (2007).

*Session Co-Organizer:* Modeling of Geomaterials, 18<sup>th</sup> ASCE Engineering Mechanics Conference, Blacksburg, VA (2007).



*Session Co-Organizer:* Second Frank L. DiMaggio Symposium, Symposium on Constitutive Modeling, The Fourth Biot Conference on Poromechanics, New York, NY (2009).

*Proposal Panel Reviewer,* National Science Foundation – Division of Civil and Mechanical Systems, Geomechanics Program (1997, 2000, 2001, 2005).

*Member of the International Advisory Committee,* International Workshop on Constitutive Modeling, Hong Kong, (2007).

*Member of the International Scientific Committee,* The Fourth Biot Conference on Poromechanics, New York, NY (2009).

## **Journal Reviewer**

- ASCE Journals:
  - Journal of Engineering Mechanics
  - Journal of Geotechnical & Geoenvironmental Engineering
  - Journal of the Structural Division
- Composites – Part A: Applied Science and Manufacturing
- Composites – Part B: Engineering
- Composites Science and Technology
- **Computers and Geotechnics**
- Computer Methods in Applied Mechanics and Engineering
- Engineering Geology
- **Geomechanics and Engineering**
- Geotextiles and Geomembranes
- **Geosynthetics International**
- Geotechnical Testing Journal, ASTM
- International Journal for Numerical and Analytical Methods in Geomechanics
- International Journal of Plasticity
- International Journal of Solids and Structures
- Journal of Thermoplastic Composite Materials
- **Journal of Sandwich Structures & Materials**

## **Textbook Reviewer**

- In-depth reviewer of Structural Modeling and Analysis, by C. L. Dym, Cambridge University Press (1997).
- Potential Textbooks Reviewed for
  - **Cambridge University Press**
  - Marcel Dekker

- McGraw-Hill Book Company
- Prentice Hall

### **Courses Attended for Professional Development**

- “Nonlinear Finite Element Analysis,” Palo Alto, CA.; T. J. R. Hughes and T. Belytschko instructors (1991).
- “Teaching Mechanics and Finite Element Analysis,” MIT, Boston, MA; K. J. Bathe, organizer (1997).
- “Workshop on Reform of Undergraduate Mechanics Education,” Penn State University, State College, PA (1998).
- Summer Faculty Institute 2008, University of Delaware (2008).

## Instructional Activities

### Courses Taught

#### University of California Davis

- Statics (undergraduate)

#### University of Arizona

- Statics (undergraduate)
- Introduction to the Finite Element Method (undergraduate)
- Theory of Plates and Shells (graduate)

#### University of Delaware

- Statics (undergraduate)
- Strength of Materials (undergraduate)
- Advanced Strength of Materials (graduate)
  
- Soil Dynamics (graduate) ††
- Advanced Topics in Geomechanics (graduate) †
- Inelastic Behavior of Geomaterials (graduate) †
- Computational Geomechanics (graduate) †
  
- Civil Engineering Analysis (undergraduate)
- Computer Methods in Structural Engineering (undergraduate) ††
- Introduction to the Finite Element Method (undergrad./grad.) †
- Intermediate Topics in Finite Element Analyses (graduate) †
- Advanced Topics in Finite Element Analyses (graduate) †

† new course developed while at University of Delaware.

†† new course co-developed while at University of Delaware.

### Acknowledged Teaching Effort

- Provost's Teaching Improvement Award, University of Arizona (1987).
- Nominated for College Outstanding Teaching Award (2001).

## **Doctoral Students Supervised**

Mr. Montri Dechasakulsom, “Modeling Time-Dependent Behavior of Geogrids and its Application to Geosynthetically Reinforced Walls” (December 2000).

Mr. Ping Jiang (started Ph.D. studies in Fall of 2004).

Mr. Pongpipat Anantanasakul (started in Winter 2005; co-advised at Oregon State University by Professor J. A. Yamamuro).

Mr. Majid Khabbazian (started Ph.D. studies in Fall of 2007).

## **Masters Students Supervised**

Mr. Fan Xi, “Finite Element Analysis of Geosynthetically Reinforced Walls : A Parametric Study,” May 1992.

Mr. Jian Chao Li, “Numerical Simulation of Interfaces in Geomaterials: Development of a New Zero-Thickness Element,” May 1993.

Mr. Sudhir M. Rao, “Issues Associated with a Time Dependent Thermo-Mechanical Constitutive Model for Cohesive Soils,” December 1994.

Mr. Scott D. Holsinger, “Development, Testing and Evaluation of Concrete-Engineered Wood-FRP Composite T-Beams,” May 1995 (M. J. Chajes and V. N. Kaliakin co-advisors).

Ms. Amy Ward, “Seismic Screening and Retrofitting of Delaware’s Bridges,” August 1995 (M. J. Chajes and V. N. Kaliakin co-advisors).

Ms. Wei Li, “Composite Soil Structures: Methodology for Dynamic Analysis,” May 1996.

Mr. Kiran Manderkar, “Solution Strategies for Transversely Loaded Inextensible Plates,” May 1997.

Ms. Dana Heffernan, “Investigation of the Relation Between Creep and Stress Relaxation in Geogrids,” August 1998.

Mr. Christian H. Fuchs, “Influence of Adjacent Strip Footings on Associated Deformations in Granular Soils,” December 1999.

Mr. Zhijun Pan, “Further Assessment of Predictive Capabilities of Bounding Surface Models for Cohesive Soils,” July 2004.

Ms. Yueru Chen (co-advised by Professor Chris Meehan).

### **Membership in Doctoral Dissertation Committees Within Department**

Mr. Lizheng Cui, "Theory of Poroelasticity with Application to Rock Mechanics," December 1995.

Mr. Paul Gilbert, "Disintegration of Clay During Hydraulic Transportation Through a Dredge Pipe," December 1996.

Mr. Paston Sidauruk, "Parameter Determination for Multi-Layered Aquifer and Groundwater Contaminant Transport," December 1996.

Mr. William W. Finch, Jr., "Rehabilitation of Concrete Structures Using Advanced Composite Materials," December 1997.

Mr. David W. Dinehart, "The Dynamic Behavior of Wood-Framed Shear Walls with Passive Energy Dissipation Devices," December 1998.

Mr. Yongke Mu, "Response of Poroelastic Seabed to Acoustic and Water Waves," May 1998.

Mr. Haoxiong Huang, "Analysis and Testing of Bridge Grid Decks," May 2001.

Mr. William M. Edberg, "Behavior of Orthotropic Fiber Reinforced Polymer Bridge Decks on Traditional Girders," May 2001.

Mr. Xiaofeng Hu, "Structural Damage Identification Based on Static Dead Load Strain Measurements," December 2002.

Mr. Suresh Kumar Gutta, "Modeling Large Three Dimensional Stress Reversals in Cross-Anisotropic Sands," December 2003.

Mr. Yigang Liu, "The Stress-Strain Behavior of Kaolinite Clay in Triaxial Compression and Extension Tests at Elevated Pressures," December 2004.

Mr. Qiang Lu, "Influence of Random Defects on Mechanical Behavior of Carbon Nanotubes through Atomistic Simulation," December 2005.

### **Membership in External Doctoral Dissertation Committees**

- Mr. Mohammad M. Toufigh. "Behavior of Unsaturated Soil and its Influence on Soil-Soil Interaction at an Interface," Department of Civil Engineering and Engineering Mechanics, University of Arizona, 1987.
- Mr. Brendan J. O'Toole. "Modelling the Effects of Heterogeneity in Curved Composite Beams," Department of Mechanical Engineering, University of Delaware, December 1992.
- Mr. Philip H. Larson, Jr. "The Use of Piezoelectric Materials in Creating Adaptive Shell Structures," Department of Mechanical Engineering, University of Delaware, May 1994.
- Mr. Pavel Simáček. "Numerical Modeling of Sheet Forming Process," Department of Mechanical Engineering, University of Delaware, May 1994.
- Mr. Stephen F. Shuler. "Rheology and Forming of Long Fiber Reinforced Thermoplastic Composite Materials," Department of Mechanical Engineering, University of Delaware, December 1995.
- Mr. James F. Newill. "Composite Sandwich Structures Incorporating Piezoelectric Materials," Department of Mechanical Engineering, University of Delaware, December 1995.
- Mr. Kesavan P. K. Potty. "Use of Composite and Sandwich Materials in Complex Shell Structures," Department of Mechanical Engineering, University of Delaware, May 1996.
- Mr. Steven J. Timmins. "The Decomposition Approach and its Application to Sensitivity Performance," Department of Mechanical Engineering, University of Delaware, May 1997.
- Mr. Eyassu Woldeesenbet. "High Strain Rate Properties of Composites," Department of Mechanical Engineering, University of Delaware, December 1997.
- Mr. Xiaoping Ruan. "Analysis and Modeling of Electromechanical Behavior of Piezoceramic Composites," Department of Mechanical Engineering, University of Delaware, December 1998.
- Mr. Bashar S. Qubain. "Stress-Deformation Behavior of Footing Foundations," Department of Civil Engineering, Drexel University, June 1999.
- Mr. Zhouhua Li. "Dynamic Thermomechanical Behavior of Polymers and Polymeric Matrix Composites," Department of Mechanical Engineering, University of Delaware, May 2000.

- Mr. Carl D. Liggio, Jr. “Experimental Study and Modeling of Instability and Time Effects on Granular Materials,” Department of Civil Engineering, The Johns Hopkins University, October 2000.
- Mr. Santosh Prabhu. “Three-Dimensional and K-Dominance Effects in Isotropic and Anisotropic Cracked Solids,” Department of Mechanical Engineering, University of Delaware, December 2000.
- Mr. Edward M. Grace, Jr. “Coupled Numerical Modeling of a West Antarctic Ice-Sheet/Ice-Stream/Ice-Shelf Drainage,” Department of Geography, University of Delaware, May 2001.
- Mr. Dongyi Yue, “An Anisotropic Time-Dependent Bounding Surface Model for Clays and its Application to a Containment Dike Constructed over Soft Foundation,” Doctor of Engineering Science, Fu Foundation School of Engineering and Applied Science, Columbia University, May 2001.
- Ms. Priya Thamburaj, “Structural-Acoustic Studies of Sandwich Structures used in Global Transport Aircraft,” Department of Mechanical Engineering, University of Delaware, December 2001.
- Mr. Eric C. Preissner, “Analysis of Cylindrical Composite Shells,” Department of Mechanical Engineering, University of Delaware, May 2002.
- Ms. Zhaohui Chen, “On the Analysis and Optimization of a Pressurized Mid-Plane Asymmetric Sandwich Non-Circular Cylindrical Shell,” Department of Mechanical Engineering, University of Delaware, December 2002.
- Mr. Alper Tasdemirci, “Experimental and Modeling Studies of Stress Wave Propagation in Multilayer Composite Materials,” Department of Mechanical Engineering, University of Delaware, December 2005.
- Ms. Fuping Zhou, “Creeping Flow Behavior of Dense Granular Materials under High Confinement Pressure,” Department of Mechanical Engineering, University of Delaware, May 2006.
- Mr. Dan Cojocaru, “On Numerical Modeling of Cyclically Loaded Structures,” Department of Mechanical Engineering, University of Delaware, May 2008.

### **Membership in External Master Thesis Committees**

- Mr. Bryan A. Cheeseman. “On the Prediction of Strength of Stretch Formed Thermoplastic Composite Beams with Notches,” Department of Mechanical Engineering, University of Delaware, December 1994.

- Mr. Edward M. Grace, Jr. "Climatic Mass Balance in a Finite Element Glacier Model,"  
Department of Geography, University of Delaware, May 1995.
- Mr. Francesco Roselli. "Interlaminar Strength of Thermoplastic Composite Rings  
Manufactured Using the Laser Assisted On-Line Consolidation Process,"  
Department of Mechanical Engineering, University of Delaware, December 1995.
- Mr. Thomas G. Ribble. "Stresses in the Developing Proximal Fumur," Department of  
Mechanical Engineering, University of Delaware, December 1996.
- Mr. Rishikesh B. Bhalerao. "Numerical and Experimental Characterization of Cellulose,"  
Department of Mechanical Engineering, University of Delaware, August 1998.
- Mr. Dhiren Modi. "Numerical Issues in Mold Filling Simulations for Composites  
Processing," Department of Mechanical Engineering, University of Delaware,  
December 2003.
- Mr. Ben Haines, School of Civil and Construction Engineering, Oregon State University,  
December 2008.



## Sponsored Research

- “Mechanisms Controlling the Performance of Composite Walls: Preliminary Study,” *Tensar Earth Technologies, Inc.*, Co-PI; \$44,840 (September 1991 to August 1992).
- “Thermal-Mechanical Analysis of Cohesive Soils: A Robust Methodology,” *National Science Foundation*, PI; \$58,055 (July 1991 to December 1993).
- “Uses of Fiber-Reinforced Plastics in Structures and for Rehabilitation of Concrete Box Girders,” *Delaware Department of Transportation*, Co-PI; \$22,687 (July 1992 to June 1994).
- “Analysis of Flat Slab Bridges,” *Delaware Department of Transportation*, Co-PI; \$22,353 (July 1992 to June 1994).
- “Behavior of Embedded Geosynthetic Subjected to Dynamic Loads,” *FHWA / Delaware Department of Transportation*, Co-PI; \$70,000 (September 1992 to July 1994).
- “Composite Soil Structures: Methodology for Dynamic Analysis,” University of Delaware Research Foundation, PI; \$21,000 (January 1993 to June 1994).
- “Seismic Retrofit Strategies for Delaware’s Bridges,” *Delaware Department of Transportation*, Co-PI; \$24,785 (July 1993 to June 1995).
- “Experimental Load Rating of Posted Bridges,” *Delaware Department of Transportation*, Co-PI; \$37,474 (July 1995 to June 1997).
- “Long-Term Performance of Geosynthetically Reinforced Walls: Implications of Creep and Stress Relaxation on Design,” *National Science Foundation*, Co-PI; \$128,110 (September 1995 to August 1997).
- “Pullout Performance of Geosynthetic Embedded in Clay: Design Implication,” *FHWA / Delaware Department of Transportation*, Co-PI; \$65,578 (September 1995 to August 1997).
- Design of Composite Grid-Reinforced Highway Bridge Decks-Phase I, *IKG Industries and Delaware Research Partnership*, Co-investigator; \$175,000 (December 1996 to December 1997).
- “Seismic Permanent Displacement of Geosynthetic-Reinforced Soil Structures,” *National Science Foundation* (travel grant), Co-PI; \$18,495 (May 1997 to April 1999).
- Design of Composite Grid-Reinforced Highway Bridge Decks-Phase II, *IKG Industries and Delaware Research Partnership*, Co-investigator; \$200,000 (August 1998 to July 1999).
- “Clays Undergoing Very Large Strains,” *National Science Foundation*, co-PI; \$299,651 (September 2003 to August 2006).
- “Scrap Tire Research,” *Delaware Department of Transportation*, co-PI; \$50,700 (07/01/2005 to 06/30/2007).
- “Geosynthetic Supported Base Reinforcement over Deep Foundations: A Numerical Parametric Study,” *Geosynthetic Institute*, co-PI; \$10,000 (10/15/2007 to 10/14/2008).
- “Long-Term Performance Monitoring of a Recycled Tire Embankment in Wilmington, Delaware,” *Delaware Department of Transportation*, PI; \$89,499, (07/01/2008 to 06/30/2009).

## Service

### Membership in University Committees

Ad-Hoc Sub-Committee of the Large-Scale Computing Advisory Committee to Investigate High-Performance Computing Purchase, *Member* (1994 to 1995).  
Committee on Information Resource Planning and Management (CIRPM), *Member*, (1993 to 2001).  
Faculty Senator (1997 to 1999).  
Large-Scale Computing Advisory Committee, *Member* (1992 to 1997).  
University Competitive Fellowships, *Evaluator* (March 2001).  
University Graduate Studies Committee, *Member* (1999 to 2001).  
University Student and Faculty Honors Committee, *Member* (2001 to 2003).  
Faculty Senate Library Committee, *Member* (2005 to 2009), *Interim Chair* (2007).

### Membership in College Committees

College Computing Committee, *Member* (2000).  
College Elections Committee, *Chairman* (1998).  
Computing Infrastructure Committee, *Member* (1996 to 1997).  
Computer Classroom Committee (eCALC), *Member* (2000 to 2004).  
eCALC Search Committee, *Member* (2002).  
Solid Mechanics Faculty Search Committee, Department of Mechanical Engineering, *Member* (2000 to 2001).

### Membership in Departmental Committees

ABET Implementation Committee, *Member* (1998 to 2000).  
Ad-Hoc Web Committee, *Chairman* (2007 to 2009).  
Computation Committee, *Chairman* (1993 to 2001).  
Geotechnical Faculty Search Committee, *Member* (1996/1997), (1998/1999), (2005/2006).  
Graduate Committee, *Member* (1992 to 1996), *Chairman* (2001 to 2004).  
Structural Mechanics Faculty Search Committee, *Member* (2003/2004).  
Undergraduate Recruitment and Scholarship Committee, *Member* (1996 to 1998).