

CURRICULUM VITAE

MANOJ CHOPRA, Ph. D., P.E.

Chair of the UCF Faculty Senate and Member of the UCF Board of Trustees

Associate Professor

Department of Civil and Environmental Engineering

University of Central Florida

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PROFESSIONAL REGISTRATION: Florida Number: PE 0051889

EDUCATION:

Ph.D.: State University of New York at Buffalo, February 1992.

Major: Civil Engineering

Dissertation: Linear and Nonlinear Analyses of Axisymmetric Problems in Thermomechanics and Soil Consolidation using FEM and BEM.

M.S.: State University of New York at Buffalo, June 1988.

Major: Civil Engineering

Thesis: A Constitutive Model for Anisotropically Consolidated Clays Under Axisymmetric, Plane strain and General Three-dimensional Loading Conditions.

B.E.: Birla Institute of Technology and Science, Pilani, India, May 1985.

Major: Civil Engineering (with Honors)

EMPLOYMENT HISTORY:

ACADEMIC POSITIONS HELD

April 2005 – Present

Chair, Faculty Senate and Member of the UCF Board of Trustees

University of Central Florida

May 1998 - present

Associate Professor

Department of Civil and Environmental Engineering

Joint Appointment: Mechanical, Materials and Aerospace Department,

University of Central Florida

Duties: Teaching courses and developing a research program in the areas of Geomechanics, Geo-environmental Engineering and Soil-Structure Interaction. Working on several sponsored and unsponsored research projects.

May 1998 – December 2003

Assistant Chair

Department of Civil and Environmental Engineering
University of Central Florida

Duties: Undergraduate advisement, course scheduling and development, FTIC and transfer orientations, Undergraduate Curriculum committee for CEE.

July 1993 - present

Assistant Professor

Department of Civil and Environmental Engineering
University of Central Florida
Orlando, Florida

February, 1992 - February, 1993

Post-Doctoral Research Associate

University at Buffalo Research Foundation,
State University of New York at Buffalo

July, 1988-December, 1991

Graduate Research Assistant

Computational Mechanics Laboratory
Department of Civil Engineering
State University of New York at Buffalo

INDUSTRIAL EXPERIENCE

Feb. 1993 - July 1993

Project Engineer

Automated Analysis Corporation
Ann Arbor, Michigan

1985-1986

Resident Site Engineer

Planners Group - Architects and Engineers
State Bank of India Project, Chandigarh, India

CONSULTING EXPERIENCE

(1) DPC Engineering, Inc.

Orlando, Florida, 1997.

Description: Investigation of cracks in the walls of Flagler County Courthouse in Bunell, Florida.

(2) Bromwell Carrier Company,

Lakeland, Florida, 1995.

Description: Finite element analysis of the seepage through a phosphatic clay dam in South Florida.

(3) BEST Software Corporation,

Getzville, New York, 1994.

Description: Development of the Boundary Element computer program GPBEST. Presentation of GPBEST capabilities at different companies such as Westinghouse, Pratt and Whitney etc.

HONORS AND AWARDS:

2003-2004 ASCE East-Central Branch, Outstanding Teacher of the Year.

2003-2004 Chi Epsilon Excellence in Teaching Award for the Southern District.
Chi Epsilon - Civil Engineering Honors Society

2003 Tau Beta Pi Professor of the Year, CEE

Teaching Incentive Program (TIP) Award
University of Central Florida (2002)

2002 Engineering Faculty of the Year
Florida Engineering Society, FES Annual Meeting, August 2002

2001 Excellence in Environmental Engineering (shared with 4 others)
American Association of Environmental Engineers
Washington, DC.

Gold Quality Dollar Award for Continual Improvement, 2001
NASA – Kennedy Space Center, Florida.

University Excellence in Faculty Advising, 2001
University of Central Florida

Engineer of the Year 2000, Central Florida
2000 National Engineers Week

Teaching Incentive Program (TIP) Award
State of Florida (1996)

Excellence in Faculty Advising, 1998
College of Engineering, University of Central Florida

Engineering Professor of the Year, 1998
Tau Beta Pi - Delta Chapter, College of Engineering, University of Central Florida.

Excellence in Undergraduate Teaching, 1997, University of Central Florida

Undergraduate Teacher of the Year, 1996-97
Department of Civil and Environmental Engineering, University of Central Florida.

Engineering Professor of the Year, 1997 and 1996
Chi Epsilon, National Civil Engineering Honors Society, 1995

RESEARCH ACTIVITIES :

AREAS OF RESEARCH SPECIALIZATION

- Computational Methods : Finite Element and Boundary Element Methods
- Dynamic Soil-Structure Interaction and Poroelasticity and Thermoelasticity
- Pervious Concrete Pavements
- Nonlinear Soil Consolidation and Stress Analysis
- Structural Dynamics and Vibrations of Bridges subjected to Moving Loads
- Permeable Treatment Walls for In Situ Groundwater Remediation
- Stability of Sinkholes
- Soil Properties and Earthwork.

PATENTS

Reactive Material Placement Technique for Groundwater Treatment, Inventors: J. Quinn, Clausen, C., Reinhart, D. and Chopra, M., Patent Number 6207114, March 27, 2001.

EXTERNAL FUNDING ACTIVITIES

SPONSORED RESEARCH

1. Title: "Waste Tires for Pollution Control", Co-PI (with Dr. Martin Wanielista), Seminole County, October 2005, \$200,000. (16-60-8003).
2. Title:" Stormwater Management Academy Research and Testing Laboratory", Co-PI (with Dr. Martin Wanielista), Florida Department of Transportation, August 2004, \$643,000. (16-60-7008)
3. Title:" Performance Assessment of Portland Cement Pervious Pavements", Co-PI (with Dr. Martin Wanielista), Florida Department of Transportation, August 2004, \$92,432. (16-60-7006)
4. Title:" Performance Assessment of Portland Cement Pervious Pavements", Co-PI (with Dr. Martin Wanielista), Rinker Materials Corporation, February 2004, \$50,000. (16-60-8001)
5. Title: "Design and Operational Issues Related to the Co-disposal of Sludges and Biosolids in Class I Landfills – Phase II," Co-Principal Investigator (with D.R. Reinhart and T. Townsend), Florida Center for Solid and Hazardous Waste Management, September 2003 – July 2004, \$70,000. (16-20-7025)
6. Title: "Design and Evaluation of Tall and Absorptive Noise Barrier Walls", Duratek Corporation, April – July 2003, \$ 6358 (TBD).
7. Title: "Site Preparation for a Deep Foundation Test Site at the University of Central Florida", Principal Investigator, Florida Department of Transportation, September 2001 – September 2002, \$71,174. (16-21-735)

8. Title: "Vehicle Collision with Bridge Piers", Principal Investigator (with Sherif El-Tawil), Florida Department of Transportation, September 2002 – September 2003, \$67,462. (16-50-709)
9. Title: "US-Jordan Hazardous Waste Management Collaborative Research-Phase II" Co-Principal Investigator (with D.R. Reinhart), National Science Foundation, April 2002 – December 2003, \$25,900. (16-20-409)
10. Title: "Design and Operational Issues Related to the Co-disposal of Sludges and Biosolids in Class I Landfills," Co-Principal Investigator (with D.R. Reinhart and T. Townsend), Florida Center for Solid and Hazardous Waste Management, September 2001 – May 2003, \$73,530. (16-21-736)
11. Title: "US-Jordan Municipal Solid Waste Management Collaborative Research" Principal Investigator (with D.R. Reinhart), National Science Foundation, September 2000 – December 2001, \$26,000. (16-20-406)
12. Title: "Research Study into Material Performance Testing of Soil Surface Properties using Cyanobacteria Inoculant" Principal Investigator, Engineering Technology Incorporated, August 2000 – June 2002, \$15,000. (16-21-844)
13. Title: "Leachate Collection Systems for the New Millenium," Co-Principal Investigator (with D.R. Reinhart), Florida Center for Solid and Hazardous Waste Management, April 1999 – May 2000, \$14,000. (16-10-740)
14. Title: "The Interaction of Microbial Activity and Zero Valent Iron Permeable Barrier Technology – Year III", Co-Principal Investigator (with A.A. Randall, D.R. Reinhart), Agency: Gulf Coast Hazardous Substance Research Center, 09/01/98 to 08/31/99, \$69,729.
15. Title: "Development of a Graduate Transportation Simulation Curriculum through CATSS", Co-Principal Investigator (with C. Bauer and H. Al-Deek), Agency: CATSS, 03/99-02/2001, \$20,000.
16. Title: "Effect of Asphalt Cement Deficiency on Open Graded Friction Course" Principal Investigator, Agency: Florida Department of Transportation (FDOT), November 1998-April 2000, \$100,000. (16-20-799)
17. Title: "The Interaction of Microbial Activity and Zero Valent Iron Permeable Barrier Technology – Year II", Co-Principal Investigator (with A.A. Randall, D.R. Reinhart), Agency: Gulf Coast Hazardous Substance Research Center, 09/01/98 to 08/31/99, \$69,729. (16-21-831)
18. Title: "Investigation of Shrink and Swell Factors for Soils used in FDOT Construction - Phase II", Principal Investigator, Agency: Florida Department of Transportation (FDOT), November 1997 to February 1999, \$70,000. (16-20-782)
19. Title: "Permeable Reactive Walls: Field Scale Studies", Co-Principal Investigator (with D.R. Reinhart and C. Clausen), Agency: NASA, Kennedy Space Center, 1996-99, \$550,000. (16-20-205)

20. Title: "The Interaction of Microbial Activity and Zero Valent Iron Permeable Barrier Technology – Year I", Co-Principal Investigator (with A.A. Randall, D.R. Reinhart), Agency: Gulf Coast Hazardous Substance Research Center, 09/01/97 to 08/31/98, \$66,659. (16-21-828)
21. Title: "Investigation of Shrink and Swell Factors for Soils used in FDOT Construction – Phase I", Principal Investigator, Agency: Florida Department of Transportation (FDOT), 1996-97, \$66,223. (16-20-782)
22. Title: "Influence of Modeling Parameters on the Dynamic Response of Concrete Bridges", Co-Principal Investigator (with S.K. Kunnath), Agency: Florida Department of Transportation (FDOT), 1996-97, \$39,000.
23. Title: "Detection and Stability Analysis of Sinkholes using a Combined NDE and Analytical Approach, Principal Investigator, Agency: UCF - Department of Sponsored Research (In-House Grants Program), 1996-97, \$7,500.
24. Title: "Effect of Increased Superstructure Flexibility on the Dynamic Response of Concrete Bridges", Co-Principal Investigator (with S.K. Kunnath), Agency: Florida Department of Transportation (FDOT), \$55,000, 1995-96.
25. Title: "Hydrodynamic Modeling of Leachate Recirculating Landfills", Co-Principal Investigator (with D.R. Reinhart), Agency: Gulf Coast Hazardous Substance Research Center, Lamar University, TX, \$64,934, 1995-96.
26. Title: "Active MSW Landfill: Bio-Chemical Reactor II", Co-Principal Investigator (with D.R. Reinhart), Agency: Environmental Protection Agency (EPA) Grant # 50194, \$90,000, 1994-95.
27. Title: "Development of BEM for Dynamic Soil-Structure Interaction", Principal Investigator, Research Initiation Grant, University of Central Florida / EIES Seed Grant, \$10,000, 1993.

SPONSORED RESEARCH (PRIOR TO JOINING UCF)

Title: "Nonlinear Analysis of Composite Structures using Fourier Series and Green's Function Representations", Co-Principal Investigator (with P.K. Banerjee, A.L. Russo, G.F. Dargush, D.P. Henry and S.T. Raveendra), NASA Contract No. NAS3-26491, CALSPAN-UB Research Center, Agency: NASA Lewis Research Center, \$734,000, 1992-93.

GRADUATE THESES COMPLETED

DOCTORAL

1. "Inelastic Dynamic Behavior and Design of Hybrid Coupled Wall Systems", (Co-chair), Mohamed Hassan, Spring 2004.

2. "Modeling of the Interactions between Electrochemical Dissolution and Externally Applied Stress Fields " (Co-Chair), Bruce Butler, Spring 2000.
3. "Non-homogeneous stress behavior using the Boundary Element Method", (Co-Chair), Li Chen, Fall 2000.

MASTERS

1. "Settlement and Flow Characteristics of Municipal Landfills", M.S. Thesis, Riad Touati, Summer 1996
2. "Dynamic Response of Bridges under Moving Loads", M.S. Thesis, Jie Wang, Summer 1996
3. "Influence of Traffic Loads and Boundary Conditions on the Dynamic Response of Prestressed Concrete Bridges", M.S. Thesis, Mark E. Williams, Spring 1997.
4. "Consolidation Settlement of Embankments on Poor Soils using BEM", M.S Thesis, William D. Sartor, Summer 1997.
5. "Laboratory Testing of Florida Soils to Determine Shrink and Swell Factors for Earthwork Calculations", M.S. Thesis, Ravi Mehta, Summer 1997.
6. "Shrinkage and Bulkage Factors of Florida Soils used in Earthwork Calculations", M.S. Thesis, Carlos Negron, Summer 1997.
7. "Modeling and Field Investigation of a Permeable Reactive Wall for Groundwater Cleanup", Stephen Burwinkel, Summer 1998.
8. "Fracture Mechanics for Modeling Pull-Out Tests in Fiber-Reinforced Concrete", Dragana Jankovic, Summer 1998.
9. "Statewide Investigation of Shrinkage and Bulkage Factors of Florida Earthwork", Raja Hatoum, Summer 1998.
10. "Seismic Response of Deep Foundations using Dynamic Poroelastic BEM", Li Chun, Spring 2000
11. "Effect of Asphalt Cement Deficiency on Open-Graded Friction Courses", Rachel Andre, Spring 2000.
12. "Modeling of the Combined Behavior of Zero valent Iron and Methanogenic Archae for the Anaerobic Dechlorination of TCE", Ashish Kulkarni, Fall 2000.
13. "Design and Operational Issues for Improvements in MSW Landfill Leachate Collection System", Makarand Khare, Fall 2000.
14. "Material Performance Testing of Soil Surface Properties using Cyanobacteria Inoculant", Caesar Cabral, Fall 2001.
15. "Variations in Pile Lengths between Geotechnical Design and Actual Installations", Jessica AlKhub, Spring 2003.

16. "Determination of In-situ Unit Weight of Soils using Cone Penetrometer Data and Soil Properties", Charles Braun, Summer 2003.
17. "Stability of Slopes in Class I Landfills with Co-disposal of Sludges and Biosolids", Binoy Koodhathinkal, Summer 2003.
18. "Design of Tall and Absorptive Noise Barrier Walls", Judy Martinez, Summer 2003.
19. "Slope Stability Analysis of Class I Landfills with Co-disposal of Biosolids using Field Test Data", Mrutyunjay M. Vajirkar, Fall 2004.
20. "Attainable Compressive Strength of Pervious Concrete Paving Systems", Ann Marie Mulligan, Summer 2005.
21. "Slope Stability Analysis of Laterite Soil Embankments", Ikiensima Gogo-Abite, Fall 2005.
22. "Adapting the Modified Cam Clay Constitutive Model to the Computational Analysis of Dense Granular Soils", Jose Arvelo, Fall 2005.

PUBLICATIONS

REFEREED JOURNAL PUBLICATIONS

Chen, L., Kassab, A.J., Nicholson, D.W., and Chopra, M.B., "Generalized Boundary Element Method for Solids Exhibiting Nonhomogeneities," *Engineering Analysis*, Vol. 25, No. 6, pp. 407-422, 2001.

Dargush G.F. and Chopra, M.B., "Dynamic Analysis of Circular Foundations on a Poroelastic Soil Stratum using the Boundary Element Method", *Journal of Engineering Mechanics, ASCE*, Vol. 122, No. 7, pp. 623-632, July 1996.

Chopra, M.B. and Dargush G.F., " Boundary Element Analysis of Stresses in an Axisymmetric Soil Mass Undergoing Consolidation", *International Journal of Numerical and Analytical Methods in Geomechanics*, Vol. 19, No. 3, pp. 195-218, 1995, 24 pages.

Chopra, M.B. and Dargush, G.F., "Development of BEM for Thermoplasticity", *Int. J. Solids Structures*, Vol. 31, No. 12/13, pp. 1635-1656, 1994.

Chopra, M.B. and Dargush, G.F., "Thermal Stress Analysis of Axisymmetric Bodies via the Boundary Element Method", *Comp. Meth. in Appl. Mech. Engng.*, Vol. 108, pp 53-71, 1993.

Chopra, M.B. and Dargush, G.F., "Finite Element Analysis of Time-Dependent Large Deformation Problems", *Int. J. Num. Anal. Methods in Geomechanics*, Vol.16, No.2, pp. 101-130, 1992.

Quinn, J.W., Reinhart, D., Chopra, M.B., Clausen, C. and Geiger, C., "Permeable Reactive Barriers: Selecting an Installation Technique", *Environmental Management*, 2001.

REFEREED JOURNAL ARTICLES UNDER REVIEW

Chopra, M. and Arvelo, Jose, "Adapting the Modified Cam Clay Model to the behavior of Dense Sands", J. Geotechnical and Geoenvironmental Engineering, ASCE, submitted for review, Dec. 2005.

Chopra, M., Reinhart, D.R., Vajirkar, M. And Koodhithankal, B, "Slope Stability of MSW landfills with co-disposal of Biosolids", in preparation, Nov 2005.

Chopra, M. and Townsend, F. "Site exploration program at the Deep Foundation Test site at the University of Central Florida", submitted to the Geotechnical Testing Journal, September 2004. (Under Review)

Chopra, M., Butler, B., Kassab A., and Desai, V. "BEM Modeling of Stress-Field and Dissolution of Corroding Specimens", submitted to *Engineering Analysis with Boundary Elements*, Revised 2003. (Under Review).

BOOKS

Boundary Element XX – Advances in Boundary Elements Series, Editors: A. Kassab, C. Brebbia and M. Chopra, Computational Mechanics Publications, U.K., 1998.

BOOK CHAPTERS

Chopra, M. B. "Recent Developments in Poroelasticity using BEM", Book Chapter in *Coupled Problems* (Eds, Aliabadi and Kassab), July 2000.

Chopra, M.B., Dargush, G.F. and Banerjee, P.K., "Finite Deformation Analysis of Soil Penetration Problems", Chapter 5 in *Developments in Soil Mechanics and Foundation Engineering - 4*, (P.K. Banerjee and R. Butterfield, Eds.) Elsevier Applied Science, London, 1990.

REFEREED CONFERENCE PROCEEDINGS PUBLICATIONS AND PRESENTATIONS

1. Chopra, M, Wanielista, M, Offenber, M., Spence J. and Ballock, C., "Pervious Concrete Pavements – Geotechnical and Materials Issues", GMEC Conference, Florida Department of Transportation, Orlando, FL, April 2006.
2. Wanielista, M., Chopra, M., Offenber, M., Spence. J., and Ballock, C., "Performance of Pervious Concrete Pavements", Annual Meeting of the Florida Stormwater Association, June 29-July 1, 2005, Sanibel Island, FL, Refereed, Regional.
3. Chopra, M., Wanielista, M., Offenber, M., Spence. J., and Ballock, C., "Stormwater Management Issues related to Performance of Pervious Concrete Pavements", Stormwater Management for Highways, Transportation Research Board TRB AFB60 Special Symposium, July 11-12, 2005, Bonita Springs, FL, Refereed, National.

4. Chopra, M., "Sinkholes and bearing capacity failures on Mars", Invited paper, Conference on Granular Materials on Lunar and Martian Surface", NASA Kennedy Space Center, February 2 and 3, 2005. (to be published in the Report of the Group to MARS Mission Director).
5. Chopra, M.B. "Outcomes Assessment Tools Identified for the Civil and Environmental Engineering Programs at the University of Central Florida", ASCE National Convention, Nashville, TN, November 14, 2003.
6. Chopra, M.B. "Deep Foundation and Geotechnical Test Site at University of Central Florida", FDOT – GRIP Conference, July 22, 2003.
7. Khare, M., Chopra, M.B. and Reinhart, D.R., "Innovative Landfill Leachate Collection Systems", Environmental Engineering Conference, IIT Chennai, India, October, 2003.
8. Khare, M., Chopra, M.B. and Reinhart, D.R., "Design Issues with MSW Landfill Leachate Collection Systems", Waste Tech 2002.
9. Chopra, M.B., McCreanor, P.T. and Reinhart, D.R., "Hydrodynamic Modeling of Leachate Recirculating Landfills, SECTAM, Orlando, June 2002.
10. Chopra, M.B. and Andre, R. "Asphalt Pavement Deterioration", GMEC Conference, Florida Department of Transportation, Orlando, FL, May 2001.
11. Butler, B, Chopra, M.B. and Kassab, A.J. "Boundary Element Model for Stress Field – Electrochemical Dissolution Interactions", 14th ASCE Engineering Mechanics Conference (EM2000), Austin, May 21-24, 2000.
12. Sfeir, H, Randall, A., Reinhart, D. and Chopra, M. "Biotic Attenuation and Zero-Valent Iron Permeable Barrier Technology", presented at Battelle Conference on Remediation of Chlorinated and Recalcitrant Compounds, Second International Conference, Monterey, CA, May 22-25, 2000.
13. Reinhart, D., M. Chopra, C. Clausen, and J. Quinn, "NASA PRB Installation Using Deep Soil Mixing," RTDF Permeable Reactive Barriers Action Team Meeting, Melbourne, FL, Feb. 16-17, 2000.
14. Chun, L., Chopra, M.B. and Dargush, G.F. "Response of a Pile to Impinging Seismic Waves using a Poroelastic Boundary Element Method ", presented at the 13th ASCE Engineering Mechanics Conference, Baltimore, June 13-16, 1999.
15. Eaglin, R., Miller, R., Batarseh, I. And Chopra, M., "Planning and Evaluation of a New Engineering Freshman Experience Course at the University of Central Florida", presented at the ASEE Southeast Regional Conference, Clemson University, April 12, 1999.
16. Chopra, M.B., S. Burwinkel, D. R. Reinhart, and J. Quinn, "Installation of a Field-Scale permeable Reactive Wall Using Deep Soil Mixing," Proceedings of the 4th

International Symposium on Environmental Geotechnology and Global Sustainable Development, Boston, MA, August 9-13, 1998.

17. D. R. Reinhart, J W. Quinn, C. A. Clausen, M. B. Chopra, C. Geiger, N. Ruiz, S. Burwinkel, "Scale-Up Of Zero-Valent Iron Permeable Treatment Wall Design Parameters." Proceedings of the Water Environment Federation Conference, Orlando, FL, Oct. 5-8, 1998.
18. Chen, L., Kassab, A.J. and Chopra, M.B., "Strain Energy Density Based BEM for Rotor Dynamic Analysis, 12th ASCE Engineering Mechanics Conference Proceedings, La Jolla, CA., May 17-20, 1998.
19. Dargush, G.F. and Chopra, M.B., "Seismic Response of Poroelastic Media via BEM", 12th ASCE Engineering Mechanics Conference Proceedings, La Jolla, CA., May 17-20, 1998.
20. Reinhart D.R., M. B. Chopra, S. Burwinkel, and J. Quinn, "Installation of a Field-Scale permeable Reactive Wall Using Deep Soil Mixing," 4th Annual Florida Remediation Conference, Orlando, FL, Nov. 10-11, 1998.
21. Chopra, M.B., Wang, J., Williams, M.E., Kunnath, S.K. and Shahawy, M., "Dynamic Response of Highway Girder Bridges Subjected to Traffic Loads", Proceedings of the Structural Engineers World Congress in San Francisco, July 1998.
22. Chopra, M.B. and Dargush, G.F., "Dynamic Response of Embedded Strip and Rectangular Foundations using a Poroelastic BEM", Proceedings of the 19th World Conference on the Boundary Element Method (BEM19), Rome, Italy, September 1997.
23. Chopra, M.B. and Dargush, G.F., "Dynamic Response of Embedded Circular Foundations using a Poroelastic BEM", Proceedings of the 9th Conference of the International Association for Computer Methods and Advances in Geomechanics (IACMAG), Wuhan, China, November, 1997.
24. Chopra, M.B., Reinhart, D.R., Touati, R. and Quinn, J.W., "Design of a Field Scale Permeable Reactive Wall for Zero Valent Metal Treatment of Contaminated Groundwater", Proceedings of the 1997 CSCE-ASCE Environmental Engineering Conference, Edmonton, Canada, July 1997.
25. Wang, Jie, Chopra, M.B. and Kunnath, S.K., "Sectional Analysis for Nonlinear System Identification of Concrete Structures" Proceedings of the 11th Engineering Mechanics Conference, ASCE, Fort Lauderdale, Florida, May 1996.
26. Butler, B., Kassab, A.J., Desai, V.H. and Chopra, M.B., "Boundary Element Model for Pitting Corrosion in Passivated Metals", Proceedings of the 11th International Conference on Boundary Element Technology (BETECH96), Hawaii, April 1996.
27. Chopra, M.B. and Dargush, G.F., "Seismic Analysis of Pile-Soil Interaction with a Poroelastic Soil Model using the Boundary Element Method", Special Session on the Performance of Deep Foundations under Seismic Loading, Proceedings of ASCE National Convention, San Diego, October, 1995.

28. Chopra, M.B. and Dargush, G.F., "Dynamic Analysis of Axisymmetric Foundations on a Poroelastic Stratum using BEM", Proceedings of 10th ASCE Engineering Mechanics Conference, Boulder, Colorado, May 1995.
29. Onyemelukwe, U.O., Mirmiran, A.M. and Chopra, M.B., "Application of Boundary Element Method for Structural Damage Assessment", Proceedings of ASCE Structures Congress '95, Boston, Massachusetts, April 1995.
30. Butler, B., Kassab, A., Chopra, M.B. and Desai, V., "Galvanic Corrosion Prediction of Roof Systems at Walt Disney World", Proceedings of BETECH 95, Madison, Wisconsin, August 1995.
31. Butler, B., Chopra, M.B., Desai, V.H. and Kassab, A.J., "A Coupled BEM-Experimental Method for the Detection of Corrosion Activity in Buried Pipelines", Proceedings of the 10th Engineering Mechanics Conference, ASCE, Boulder, Colorado, May 1995.
32. Butler, B., Kassab, A.J., Chopra, M.B. and Desai, V.H. "Galvanic Corrosion Predictions of Roof Systems at Walt Disney World", Proceedings of BEM17, 17th World Conference on the Boundary Element Method, Hawaii, July, 1995.
33. Chopra, M.B. and Dargush, G.F., "Application of BEM to problems of Elastoplasticity and Nonlinear Soil Consolidation", Proceedings of Ninth International Conference on Boundary Element Technology (BETECH94); Orlando, Florida, March, 1994.
34. Chopra, M.B., Dargush, G.F. and Banerjee, P. K., "Development of BEM for Thermoplastic Analyses", Proceedings of the Second U.S. National Congress on Computational Mechanics, Washington, D.C., August, 1993.
35. Dargush, G.F. and Chopra, M.B., "An Advanced BEM for Thermoplastic and Nonlinear Soil Consolidation Analysis", Proceedings of the First U.S. National Congress on Computational Mechanics, Chicago, July, 1991.
36. Chopra, M.B. and Dargush, G.F., "Numerical Solutions to Some Geotechnical Problems with Material and Geometric Nonlinearities", Proceedings of Seventh Annual Joint Meeting of Geotechnical Engineering, Rensselaer Polytechnic Institute, Troy, New York, July, 1990.

OTHER PUBLISHED ABSTRACTS OR PRESENTATIONS AT SCHOLARLY MEETINGS

Chopra, M.B. and Townsend F. "Deep Foundation Test Site at the University of Central Florida", Geotechnical Research in Progress (GRIP) Meeting, Gainesville, Florida, July, 2002.

Chopra, M.B., Negron, C.A. and Morgan, K. "Improved Shrinkage and Bulkage Factors for Borrow Soils used in Florida Earthwork", 1998 Annual Meeting of the Transportation Research Board (TRB), January 1998.

Dargush, G.F. and Chopra, M.B., "An Advanced BEM for Thermoplastic and Nonlinear Soil Consolidation Analysis", The First U.S. National Congress on Computational Mechanics, Chicago, July 1991.

BOOK REVIEWS

Chopra, M.B., "Computer Methods and Advances in Geomechanics - H.J. Siriwardane and M.M. Zaman, Editors", Book Review in the *Int. Journal for Numerical and Analytical Methods in Geomechanics*, Vol. 19 , pp. 453-454, 1995.

OTHER SCHOLARLY ACTIVITIES

- Member, TRB Project Panel E21-06, Corrosion in the Soil Environment – Soil Resistivity Measurements, 1999-00.
- Member, TRB Project Panel 24-11, Specifications for Geofoam as Lightweight Fill, 1997-98.
- Member, TRB Project Panel 24-13, Tensioned Systems in Geotechnical Applications, 1997-98.
- Referee for Journal of Engineering Mechanics, ASCE and Journal of Geotechnical, Geomechanical and Geoenvironmental Engineering, ASCE.
- Referee for Transportation Research Board Journal.
- Referee for International Journal for Numerical and Analytical Methods in Geomechanics.
- Referee for International Journal for Numerical Methods in Engineering.
- Referee for the 9th Conference of the International Association for Computer Methods and Advances in Geomechanics, Wuhan, China.
- Created and maintain a Home Page for the TRB Committee - A2K05 Modeling Methods in Geomechanics, accessible through the main TRB Homepage.
- AWARDS: Received the NASA Certificates of Honor for Contributions to Technical Briefs and for Submission of Patent through NASA.
- Recognized by the UCF Board of Trustees for NASA Research project and AAEE award, January 23, 2003.

TEACHING ACTIVITIES :

UNDERGRADUATE COURSES TAUGHT

Engineering Mechanics - Statics
Honors Statics
Mechanics of Materials
Geotechnical Engineering (with
Laboratory)
Introduction to the Engineering
Profession

GRADUATE COURSES TAUGHT

Geotechnical Engineering II
Boundary Elements in Civil Engineering
Advanced Geotechnical Engineering
Foundation Engineering

EDUCATIONAL ENHANCEMENT ACTIVITIES

- Part of the Development Team for the Quality Enhancement Plan for the University of Central Florida on Informational Fluency 2006.
- Co-Principal Investigator for NSF Action Agenda Proposal for UCF 2K+ Undergraduate Curriculum for the Next Millennium submitted in October 1998.
- Part of a team that developed and implemented the new Freshmen Engineering class EGN 1006 Introduction to the Engineering Profession in the Fall 1998 semester. Taught one of the 16 sections with 20 students. Held breakout sessions and coordinated external speaker presentations.
- Part of the team that developed and implemented the new Freshmen Engineering class EGN1007 Engineering Concepts and Methods in the Spring 1999 semester. Helped with formulation of the syllabus and topics, and the selection of the customized text material for this course.
- Obtained two grants totaling, \$10,000, from the Florida Department of Transportation (FDOT) to purchase new equipment for the Geotechnical Engineering Laboratory. Equipment such as an Automatic Compaction Machine for Proctor Tests, new Sieve Shaker and several modern scales will greatly enhance this laboratory which is used for instruction in all three semesters per year.
- Attended the Industrial Needs Workshop organized by the Gulf Coast Hazardous Substance Research Center in College Station, Texas on February 4-5, 1997 as the UCF - University Contact. Discussed the research and educational needs of the industry with several representatives of Gulf Coast industries.

ASSESSMENT RELATED ACTIVITIES

- Presentation to Chairs and Deans at the Assessment Workshop on Assessment on Civil Engineering Assessment Activities, March 28, 2003. Civil Engineering selected by UCF as the example of "best practice" for entire university system.

- Responsible for the Civil Engineering review by ABET, November 2002.

RECRUITING RELATED ACTIVITIES

- Funded \$2000 by the COE International Travel Committee to travel to India in March 2000 to make presentations at two campuses of Indian Institute of Technology in Mumbai and Delhi for recruitment of quality graduate students.
- Worked in recruiting quality students from local schools on a project with Science Teacher Mr. Cap Jadonath of Menard Evans High School in Orlando to develop bilateral relations where UCF faculty will provide expertise through lectures at the school and educating the students (both at the school and at UCF) and utilize some excellent laboratory equipment that Evans H.S. has obtained through a grant from a multinational company.
- Worked on a proposal with Professor Y. Hosni of Industrial Engineering Department for a joint partnership with local schools (starting with Menard Evans High School) for recruitment of potential engineering students. Particular emphasis on recruitment of minority students in engineering.
- Delivered an Invited Lecture at the Westinghouse Corporation in August 1994 on the development of Boundary Element Methods in Engineering. Encouraged a number of engineers to take the course on BEM.
- Organized a seminar on “Education Needs and Job Search Strategies for Engineers” on the campus of UCF through the local chapter of the Florida Engineering Society (FES) on March 26, 1995. Speakers included prominent consulting engineers and the Chief Engineer of Seminole County. Also assisted in hosting PROJECT CREATE at UCF sponsored by FES for local elementary school children.

PROFESSIONAL SERVICE :

FACULTY ADVISOR

- **Faculty advisor for American Society of Civil Engineers (ASCE)**, Student Chapter at the University of Central Florida, May 1997-present.
- **Faculty advisor for Florida Engineering Society (FES)**, Student Chapter at the University of Central Florida, January 1994-2001.
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- **Faculty advisor for COECS-Deans Student Advisory Council**, University of Central Florida, January 2000-2002.
- **Faculty Advisor for the Student Chapter of Chi Epsilon**, National Honors Society for Civil Engineering, 1995-2000.

- Advisor to the students of ASCE Student Chapter – Steel Bridge and Concrete Canoe Teams, 1997-present.
- Advisor to the students of ASCE in the Geotechnical Engineering Competition at the Southeast Regional Competition of the ASCE held at the University of Florida, Gainesville, Florida, March 1995.
- Advisor to the students of ASCE in the Geotechnical Engineering Competition at the Southeast Regional Competition of the ASCE held at the University of Tennessee, Knoxville, Tennessee, March 1996. The geotechnical group secured Third Place amongst all twenty-two universities.
- Keynote Speaker, Tau Beta Pi Initiation Ceremony, November 16, 2002.

JUDGING

- Judge for the Florida Annual Science Fair, Orlando 1999 and Lakeland 2002 and Jacksonville 2003.
- Judge for the Orlando Science Center, Science Fair, Orlando, Florida, 1999, 2000 2002 and 2003.
- Judge for FJAS Florida Junior Academy of Science, Rollins College, March, 1998.
- Advisor and judge for the bridge competition during the Annual Florida SECME Olympiad Student Competition at the University of Central Florida in 1996 and 1997
- Judge for the NSBE National Convention USTR Competition, 2002.

PROFESSIONAL ASSOCIATION MEMBERSHIPS

- Member, American Society of Civil Engineers (ASCE).
- Fellow, Wessex Institute of Technology, Southampton, UK
- Member, American Society of Engineering Education (ASEE)
- Member, International Society of Soil Mechanics and Foundation Engineering (ISSMFE)
- Member, U.S. Association of Computational Mechanics (USACM)

PROFESSIONAL COMMITTEE MEMBERSHIPS

- Member, ASCE Computational Mechanics Committee, Engineering Mechanics Division, 1995-98.
- Member, ASCE Dynamics Committee, Engineering Mechanics Division, 1995-present.
- Member, TRB Committee on Modeling Techniques in Geomechanics - A2K05, 1997-present.
- Member, TRB Subcommittee on Reliability of Geotechnical Structures - A2K05(2) 1995-2000.
- Regional Correspondent, Newsletter, International Society of Computer Methods and Advances in Geomechanics (IACMAG), 1995-2001.

CONFERENCE ACTIVITIES

- Faculty Mentor for the National Student Steel Bridge Competition at UCF in 2005.
- Conference Organizing Committee, International Deep Foundations Congress, ASCE Geo-Institute, Orlando, 2002.
- Conference Co-Chairman, BETECH2001, Orlando, Florida, September 2001.
- Conference Co-Chairman, BEM20, 20th World Conference on the Boundary Element Method, Orlando, Florida, December 1998.
- Session Chair, 14th Engineering Mechanics Conference, Austin, TX, May 2000.
- Session Chair or Co-Chair, 11th, 12th and 13th Engineering Mechanics Conference, Fort Lauderdale (1996), San Diego (1997) and Baltimore (1999).
- Session Chairman, Session on Acoustics: 9th International Conference on Boundary Element Technology (BETECH 94), Orlando, Florida, March 1994.

UNIVERSITY SERVICE ACTIVITIES

- Chair of the UCF Faculty Senate, May 2005-present
- Member of the UCF Board of Trustees, May 2005-present

Committee Memberships:

Position	Committee	Term
Member	QEP development team	2005-present
Member	President's Advisory Staff	May 2005-present
Member	Alcohol and Tailgating Policy Task Force	2005-present
Member	FCTL Advisory Council	2005-present
Chair	TIP Criteria Committee	2003
Interim Chair	CECS Scholarships and Awards Committee	2003
Member	Fac. Senate – Steering Committee	2003-2004
Member	Faculty Senate – Graduate Council	2002-2004
Member	Subcommittee on Electronic Thesis and Dissertations	2002-2003
Member	CEE Structures Search Committee	2003
Member	UCF – Sabbatical Committee	2002
Member	CECS – Promotion and Tenure Committee	2001 - 2003
Member	CECS – Assessment Committee	2001 - present
Member	CEE – Dept. Graduate Committee	2001 – 2004
Member	CECS – Grade Appeals Committee	2001 - 2003
Member	CEE – Awards Committee	2000 - 2001

University Contact, UCF	Gulf Coast Hazardous Substance Research Center	1996 - present
Chair	Undergraduate Curriculum Committee, CEE Dept	1998 – present
Member	CECS - Scholarships and Awards Committee	1996 - present
Member	CECS - New Building Committee	1998-2001