

CURRICULUM VITA ABDOL R. CHINI

EDUCATION:

Ph.D. in Structural Engineering, University of Maryland, College Park, Maryland.
M.S. in Structural Engineering, The George Washington University, Wash., DC.
B.S. in Civil Engineering, University of Tehran, Tehran, Iran.

ACADEMIC EXPERIENCE:

January 2017- Present: **Associate Dean**, College of Design, Construction and Planning University of Florida, Gainesville, FL. Serve as the administrative officer of the College with regard to all aspects of its undergraduate programs, including recruitment, admissions, curriculum, advising, records management, and graduation. Responsible for maintaining accurate records of space utilization within College facilities and work with the Dean and other College units to ensure that there are adequate and appropriate facilities for all College functions.

July 2011- January 2017: **Holland Professor**, Rinker School of Construction Management University of Florida, Gainesville, FL. Taught graduate courses in construction estimating, cost analysis, value engineering, and preconstruction services. Obtained research grants and performed research in deconstruction and materials reuse, energy efficient buildings, and manufactured construction.

March 2003- June 2011: **Rinker Professor and Director**, Rinker School of Building Construction, University of Florida, Gainesville, FL. Was responsible for the strategic planning and all day-to- day operational aspects of the School. Taught a graduate course in construction estimating. Obtained research grants and performed research in deconstruction and materials reuse, sustainable construction, and concrete properties.

August 1994- March 2003: **Associate Professor (tenured)**, Rinker School of Building Construction, University of Florida, Gainesville, FL. Taught undergraduate courses in Construction Mechanic Steel Design, Concrete and Masonry Design, Timber and Formwork Design, Construction Estimating, Construction Planning and Control and graduate courses in Comprehensive Estimating, Value Engineering, Advanced Construction Planning and Control, Natural Hazards Mitigation, and Temporary Structures. Obtained research grants and performed research in the implementation of sustainability principles into the production of concrete and deconstruction and materials reuse.

August 1990- July 1994: **Associate Professor (1993)/Assistant Professor**, Department of Technology, University of Maryland Eastern Shore, Princess Anne, Maryland.

Courses Taught: Statics, Steel/Wood Design, Concrete/Formwork Design, Soils in Construction, Quantity Surveying, Construction Estimating, Computer Applications in Construction, Construction Planning and Scheduling, and Construction Management.

Curriculum Developed: Revised curriculum requirements for the Construction Management

program at UMES to bring the program in full compliance with the ACCE Standards and Criteria for Baccalaureate Program. Established three new courses: Computer Applications in Construction, Construction Planning and Scheduling, and Soils in Construction.

1986-87: **Post-Doctoral Fellow**, Department of Civil Engineering, University of Maryland, College Park, Maryland. Co-investigated two research projects: "Structural and Soil Provisions for Approaches to Bridges," and "Experimental Study of Piles in Integral Abutment Bridges."

1984-1986: **Lecturer**, Department of Civil Engineering, University of Maryland, College Park, Maryland. Co-investigated in research project "Expandable Self-Erecting Clear-Span Enclosures for Terrestrial and Extra Terrestrial Applications," and taught sophomore mechanics of materials course and junior courses in structural analysis and design several times.

PROFESSIONAL EXPERIENCE:

July 1989- August 1990: **Quality Control Manager**, Lott Constructors, Inc., McLean, Virginia. Responsible for the establishment, implementation and direction of the quality control program for various construction projects. This included preparation and writing of the quality control plan, the direction of QC personnel at the project site, monitoring of off-site QC activities, review and approval of shop drawings and other submittals, and review of the activity network and analysis to ensure adequate planning and management of the work.

Dec. 1987- July 1989: **Project Manager**, Construction Environment, Inc., Alexandria, Virginia. Provided overall management and technical supervision of quality assurance/quality control activities for a \$27 million Brigade Activities Center construction project at the U.S. Naval Academy, Annapolis, Maryland.

Feb. 1983- May 1984: **Project Engineer**, Mega Engineering, Silver Spring, Maryland. Provided project design support, management, and field inspection of prototype solar energy facilities.

August 1976- March 1981: **Project Manager**. Larisa Construction Company, Tehran, Iran. Promoted from project engineer to project manager for a multi million dollar construction project for the Iranian Armed Forces which included ten four-story buildings, aircraft shelters, aircraft taxiways, roads and landscaping.

KEYNOTE SPEECH

"Educating Engineers for Sustainable Development," Engineering Education in 2025 conference, Tehran, Iran, May 12-13, 2009.

"Strategies to Reduce Waste Impact of the Construction Industry," CRIOCM 2011, Chongqing, China, September 23-25, 2011.

“A Framework to Explore Energy Saving Measures During Construction Phase,” 7th International Conference on Management Science and Engineering Management, Philadelphia, PA, November 2013.

“Construction Materials Stewardship,” International Sustainable Built Environment, Doha, Qatar, January 28-30, 2014.

“Engineering Ethics and Sustainable Development,” First International Conference on Engineering Education, Shiraz, Iran, 10-12 November 2015.

PUBLICATIONS:

a. Books, Edited

C. Kibert, A. Chini, S. Rumpf-Monadizadeh, and W. Masters, “Introduction to Manufactured Construction,” TRAMCON, University of Florida, August 2017, 71pp.

C. Kibert, A. Chini, S. Rumpf-Monadizadeh, and M. Razkenari, “Basics of Manufactured Construction,” TRAMCON, University of Florida, August 2017, 79pp.

C. Kibert, A. Chini, S. Rumpf-Monadizadeh, M. Razkenari, A. Fenner, H. Hakim, and Y. Garg, “Advanced Topics in Manufactured Construction,” TRAMCON, University of Florida, August 2017, 105pp.

S. Rumpf-Monadizadeh, M. Razkenari, A. Fenner, C. Kibert, and A. Chini, “Future Topics in Manufactured Construction, TRAMCON, University of Florida, August 2017, 57pp.

A. Chini, “Deconstruction and Materials Reuse, an International Overview,” International Council for Research and Innovation in Building Construction (CIB), Publication 300, March 2005, 415 pp.

C. Kibert and A. Chini, "Overview of Deconstruction in Selected Countries," International Council for Research and Innovation in Building Construction (CIB), Publication 252, August 2000, 239 pp.

A. Chini, “Who Provides Inspection,” American Society of Civil Engineers, 1999, 61 pp.

b. Books, Contributor of Chapter

A. Chini and R. Buck, “Barriers for Deconstruction and Reuse/Recycling of Construction Materials in U.S.A,” in “Barriers for Deconstruction and Reuse/Recycling of Construction Materials,” S. Nakajima and M. Russell, Editors, International Council for Research and Innovation in Building Construction (CIB), Publication 397, March 2014, pp 115-129.

A. Chini and N. Goyal, “Construction Waste Reduction in United States of America,” in

“Construction Waste Reduction around the World,” G. Hobbs Editor, International Council for Research and Innovation in Building Construction (CIB), Publication 364, October 2011, pp 129-145.

A. Chini, “Construction Materials Stewardship in USA,” in Construction Materials Stewardship, the Status Quo in Selected Countries,” J. Storey Editor, International Council for Research and Innovation in Building Construction (CIB), Publication 318, November 2008, pp 92-101.

A. Chini, “Deconstruction and Materials Reuse,” in “Deconstruction and Materials Reuse, an International Overview,” A. Chini Editor, International Council for Research and Innovation in Building Construction (CIB), Publication 300, March 2005, pp 10-21.

A. Chini and S.F. Bruening, “Deconstruction and Materials Reuse in the United States,” A. Chini Editor, International Council for Research and Innovation in Building Construction (CIB), Publication 300, March 2005, pp 10-21.

C. Kibert and A. Chini "Deconstruction as an Essential Component of Sustainable Construction," in "Overview of Deconstruction in Selected Countries," C. Kibert and A. Chini Editors, International Council for Research and Innovation in Building Construction (CIB), Publication 252, August 2000, pp 6-16.

C. Kibert, A. Chini, and J. Linguall, "Implementing Deconstruction in the United States," in "Overview of Deconstruction in Selected Countries," C. Kibert and A. Chini Editors, International Council for Research and Innovation in Building Construction (CIB), Publication 252, August 2000, pp 183-239.

A. Chini, "Quality Assurance/Quality Control in the Construction Project," in "Who Provides Inspection," A. Chini Editor, American Society of Civil Engineers, 1999, pp 3-10.

c. Proceedings, Edited

A. Chini, “Deconstruction and Materials Reuse,” Proceedings of the 11th Rinker International Conference, CIB Publication 287, May 2003, 450 pp.

A. Chini, and F. Schultmann, “Design for Deconstruction,” CIB Publication 278, April 2002, 300 pp.

A. Chini, “Deconstruction and Materials Reuse: Technology, Economic and Policy,” CIB Publication 266, April 2001, 166 pp.

d. Research Reports

A. Chini and C. Kibert, “Curriculum for TRaining for Manufactured CONstruction (TRAMCON),” US Department of Labor, May 2017.

R.E. Minchin and A. Chini, "Alternative Contracting Research," Final Report, Florida Department of Transportation, BDV31-997-40, September 2016.

A. Chini, J. Burgett and P. Oppenheim, "Retrofits for 30% Energy Efficiency for Residential Homes in the Hot-Humid Climate Zone," Final Report, National Energy Renewable Laboratory, BEEHA, October 2011.

A. Chini and E. Villavicencio, "Detection of Microcracks in Concrete Cured at Elevated temperature," Final Report, Florida Department of Transportation, BD 545-50, May 2006.

A. Chini and A. Parham, "Adiabatic Temperature Rise of Mass Concrete in Florida," Final Report, Florida Department of Transportation, BD 529, February 2005.

L. Muszynski, A. Chini, and E. Andary, "Evaluating Non-Destructive Testing Techniques to Detect Voids in Bonded Post-Tensioned Ducts," Final Report, Florida Department of Transportation, BC 354-49, June 2003, 124 pp.

A. Chini, L. Muszynski, and J. Hicks, "Determination of Acceptance Permeability Characteristics for Performance-Related Specifications of Portland Cement Concrete," draft Final Report, Florida Department of Transportation, BC 354-41, May 2003, 153 pp.

A. Chini, Larry Muszynski, L. Acquaye, and S. Tarkhan, "Determination of the Maximum Internal Temperature in Mass Concrete to Avoid Durability Problems and DEF," Final Report, Florida Department of Transportation, BC 354-29, November 2002, 172 pp.

S. Kuo, A. Chini, A.R. Monteiro, "Use of Recycled Concrete Made with Florida Limestone Aggregate for Base Courses in Flexible Pavement," Final Report, Florida Department of Transportation, BB 889, August 2001, 212 pp.

A. Chini, L. Muszynski, G. Wilder, J. Kleffman, and T. Pavlides, "Use of Stabilizer Agents in Mixer Drum Wash Water," Final Report, Florida Department of Transportation, BB 889, August 2000, 150 pp.

A. Chini, L. Muszynski, and B. Ellis, "Recycling Process Water in Ready-Mixed Concrete Operations," Final Report, Florida Department of Transportation, BB 258, February 1999, 162 pp.

A. Chini, S. Kuo, J. Duxbury, W. Mbwambo, and F.R. Monteiro, "Guidelines and Specifications for the Use of Reclaimed Aggregates in Pavement," Final Report, Florida Department of Transportation, BA 509, August 1998, 243 pp.

A. Chini and Kavita Gupta, "A Cost Comparison Study between Steel and Wood Residential Framing Systems," Shimberg Center for Affordable Housing, Technical Note Series No. 95-2, Gainesville, FL, December 1995, 15 pp.

A. M. Amde, M. S. Aggour and A. Chini, "Structural and Soil Provisions for Approaches to Bridges- Phase II" Final Report FHWA/MD-89/13, Maryland Department of Transportation, MD, December 1989, 348 pp.

A. M. Amde, M. S. Aggour and A. Chini, "Structural and Soil Provisions for Approaches to Bridges- Phase I" Interim Report, FHWA/MD-89/04, Maryland Department of Transportation, MD, July 1987, 96 pp.

e. Refereed Papers

R. Zeng and A. Chini, "Innovative Design for Sustainability: Integrating Embodied Impacts and Costs During Early Design Phase," accepted for publication in the Engineering, Construction and Architectural Management

L. Ptschelinzew, E. Minchin, Jr., A. Chini, and Y. Zheng, "Relationship Management Strategies for Identifying Party Discord and Misperceptions," accepted for publication in the Journal of Legal Affairs and Dispute Resolution in Engineering and Construction

Lan Yao*, A. Chini, and R. Zeng* (2018), "Integrating cost-benefits analysis and life cycle assessment of green roofs: a case study in Florida," Human and Ecological Risk Assessment, an International Journal, published online November 2018:

<https://doi.org/10.1080/10807039.2018.1514251>

Y. Zheng, E. Minchin, Jr., A. Chini, and L. Ptschelinzew, "Performance of Seven Highway Construction Contracting Methods Analyzed by Project Size," the Frontiers of Engineering Management, published online June 2018: [DOI:10.15302/J-FEM-2018040](https://doi.org/10.15302/J-FEM-2018040)

A. Chini, L. Ptschelinzew, E. Minchin, Jr., Y. Zheng, and D. Shah, "Industry attitudes toward alternative contracting for highway construction in Florida," the ASCE Journal of Management in Engineering, Volume 34, Issue 2, March 2018.

R. Zeng and A. Chini, "A review of research on embodied energy of buildings using bibliometric analysis," Journal of Energy and Buildings Volume 155, Pages 172-184, November 2017.

<https://doi.org/10.1016/j.enbuild.2017.09.025>

V. Mahajan, R. Srinivasan, A. Chini, and R. Ries, "Space-level plug-load densities of educational buildings on university campuses," the ASCE Journal of Energy Engineering, Volume 143 issue 2- April 2017.

Zeng, R., Chini, A., Srinivasan, R., and Jiang, P., "Energy efficiency of smart windows made of photonic crystal," the International Journal of Construction Management, 17(2), 100–112, 2017.

S. Shrivastava and A. Chini, "Contractor's Energy Information System (CEIS): An Energy Savings Tool for Building Construction", ASCE Journal of Management in Engineering, 32(3), 2016. DOI: [dx.doi.org/10.1061/\(ASCE\)ME.1943-5479.0000412](https://doi.org/10.1061/(ASCE)ME.1943-5479.0000412).

M. Mirhadi Fard, C. Kibert, and A. Chini, "Decision Making for Sustainable Location of a Cement Plant in the State of Florida," the International Journal of Sustainable Engineering, published online 10 July 2015, DOI: [10.1080/19397038.2015.1050971](https://doi.org/10.1080/19397038.2015.1050971)

J. Burgett and A. Chini, "Using Building and Occupant Characteristics to Predict Residual Miscellaneous Electrical Loads: A Comparison between an Asset Label and an Operational Model Specifying Residential Retrofit," the Journal of Building Performance Simulation, published online 2 February 2015, DOI: [10.1080/19401493.2014.999122](https://doi.org/10.1080/19401493.2014.999122)

Z. Zeng, E. Nasri, A. Chini, R. Ries, and Jiuping Xu, "A Multiple Objective Decision Making Model for Energy Generation Portfolio under Fuzzy Uncertainty: Case Study of Large Scale Investor-owned Utilities in Florida," the Renewable Energy Journal, published online 17 October 2014, 75 (2015) 224-242.

J. Burgett, A. Chini, and P. Oppenheim, "Specifying Residential Retrofit Packages for 30% Reductions in Energy Consumption in Hot-Humid Climate Zones", the Springer Energy Efficiency Journal, published online 16 January 2013.

J. Burgett and A. Chini, "Effective Energy Efficiency Measures for Existing Residential Homes in the Florida Market," the International Journal of Construction and Research, 9 (1), January 2013.

S. Shrivastava and A. Chini, "Using Building Information Modeling to Assess the Embodied Energy of a Building," the International Journal of Construction Management, Vol. 12, No.1, January 2012.

H. Yuan, A. Chini, Y. Lu and L. Shen, "A dynamic model for assessing the effects of management strategies on the reduction of construction and demolition waste," Elsevier International Journal of Waste Management, Vol. 32, No. 3, March 2012.

E. Nasri, G. Pegles, D. Mostofinejad, and A. Chini, "International Transfer of CAD/CAM Construction Technologies: Case Study of a German-Iranian Partnership," The International Journal of Construction Management, Vol. 10, No. 2, summer 2010.

A. Chini and Ehsan Nasri, "Sustainable Development, Engineering Education and Iranian Academe: Strategies and Related Issues," Journal of Faculty of Engineering, University of Tehran, Vol. 43, Special issue on Conf. on Eng. Education in 2025, March 2010, pp 191- 198.

A. Chini and Lucy Acquaye, "Effect of Elevated Curing Temperature on the Strength and Durability of Concrete," RILEM Materials and Structures, Vol. 38, August-September 2005, pp 673-679.

- A. Chini and S. Bruening, "Deconstruction and Materials Reuse in the United States," International e-Journal of Construction, Special Issue article in: *The Future of Sustainable Construction – 2003*. Published: 14th May, 2003.
- S. Van Dessel, A. Chini, and A. Messac, "Feasibility of Rigidified Inflatable Structures for Housing," ASCE Journal of Architectural Engineering, Vol 9, No. 1, March 2003, pp 1-10.
- A. Chini and H. Valdez, "ISO 9000 and the US Construction Industry," ASCE Journal of Engineering Management, Vol 19, No. 2, April 2003, pp 69-77.
- H. Valdez and A. Chini, "ISO 14000 Standards in the US," Journal of Environmental Practice, Vol. 4, No. 4, December 2002, pp 210-219.
- A. Chini, L. Muszynski, and A. Pavlides, "Use of Stabilizer Agents in Mixer Drum Wash Water," RILEM Concrete Science and Engineering, Vol. 4, June 2002, pp 121-128.
- A. Chini and Steven Gulas, "Impact and Wind Resistance of Alternative Wall Systems," The American Professional Constructor, Vo. 26, No. 1, April 2002, pp 2-8.
- L. Muszynski, A. Chini, and J. Cleffman, "Reuse of Wash Water in production of Fresh Concrete Through the use of Chemical Stabilizing Systems," Concrete, February 2002, pp16-19.
- A. Chini, L. Muszynski, M. Bergin, and B. Ellis, "Re-use of Waste Generated at Concrete Plants in Production of Fresh Concrete," Magazine of Concrete Research, Vol. 53, No. 5, October 2001, pp 201-212.
- A. Chini, Shiou-San Kuo, J. Armaghani, and James Duxbury, "Use of Recycled Concrete Aggregate in Pavement Construction," ASCE Journal of Transportation Engineering, Vol. 127, No. 6, November/December 2001, pp 486-492.
- A. Chini and L. Acquaye, "Properties of Lumber Recycled from Residential Buildings," Journal of Environmental Practice, Vol. 3, No. 4, Dec. 2001, 247-256.
- A. Chini and K. Gupta, "Comparison Study between Wood and Steel Residential Framing in Florida," ASC Journal of Construction Education, Vol. 1, No.4, Fall 1997, pp 234-247.
- A. Chini and G. Genauer, "Excavation Support Systems for Construction Operations," ASC Journal of Construction Education, Vol. 1, No.4, fall 1997, pp 248-259.
- A. Chini, K. Fauvell, and R. Coble, "A Survey of What Construction Companies are Looking for from Recent Construction Education Graduates," The American Professional Constructor, Vol. 21, No.2, June 1997, pp 28-33.
- A. M. Amde, A. Chini, and M. Mafi, "Model Study of H-Piles to Combined Loading," the International Journal of Geotechnical and Geological Engineering, Vol. 15, No. 4, December 1997,

pp 343-355.

A. Chini, A. M. Amde and M.S. Aggur, "Drainage and Backfill Provisions for Approaches to Bridges," *Transportation Research Record*, No.1425, October 1993, pp 45-53.

A. Chini and A. M. Amde, "Effect of Prestressing on Elastica Arches," *Journal of Engineering Mechanics*, ASCE, Vol. 114, No. 10, October 1988, pp 1791-1800.

A. Chini and A. M. Amde, "Critical Load and Postbuckling of Arch Frameworks," *Journal of Engineering Mechanics*, ASCE, Vol. 114, No. 9, September 1988, pp 1435-1453.

A. Chini and A. M. Amde, "Buckling Test of Prestressed Arches in Centrifuge," *Journal of Engineering Mechanics*, ASCE, Vol. 114, No. 6, June 1988, pp 1063-1075.

f. Refereed Proceedings (full paper review)

R. Zeng and A. Chini, "Integrating embodied impacts and cost during early design phase of buildings: a case study. Accepted for presentation and publication in the *Construction Research Congress 2020: Construction Research and Innovation to Transform Society*.

Ishan Sathe and A. Chini, "Evaluating the Feasibility of using Corn Ash and Wood Ash in Concrete in Florida," accepted for presentation and publication in the ASC 2020 Annual Meeting, Liverpool, UK

R. Gonzalez and A. Chini, "Using the Circular Economy to Manage Construction Waste," accepted for presentation and publication in the ASC 2020 Annual Meeting, Liverpool, UK

D. Kim, R. Srinivasan and A. Chini, "Review of Urban-scale Assessments of Environmental Impacts of Buildings," *Proceedings of the 16th International Conference on Computing in Civil and Building Engineering*, Okasa, Japan, July 6-8, 2016.

A. Chini and Z. Wu, "Promoting Design of Buildings with Low Carbon Footprint Using Environmental Product Declarations," *Proceedings of the CIB World Building Congress*, Tampere, Finland, May 30 - June 3, 2016.

M. Russell, A. Chini, C. Kibert, and J. Neng, "Conceptual framework for CIB W115-Construction Materials Stewardship," *Proceedings of the CIB World Building Congress*, Tampere, Finland, May 30 - June 3, 2016.

A. Chini, A. Terouhid, and M. Mirhadi-Fard, "Engineering Ethics and Sustainable Development," *Proceedings of the First International Conference on Engineering Education*, Shiraz, Iran, 10-12 November 2015.

A. Chini, M. Mirhadi-Fard, and A. Terouhid, "Energy Engineering, An Emerging Discipline," Proceedings of the First International Conference on Engineering Education, Shiraz, Iran, 10 - 12 November 2015.

M. Zoghi, A. Chini, V. Luo, W. Wu, B. Hyatt, "Curricular Innovation to Integrate Sustainability for Global Grand Challenges," Proceedings of the Engineering Leaders for Grand Challenges, Doha, Qatar, November 9-11, 2014.

P. Daeimojdehi and A. Chini, "Decommissioning Energy of Buildings – A Case Study," Proceedings of the iiSBE Net Zero Built Environment Symposium, Gainesville, FL, March 2014.

J. Burgett and A. Chini, "Energy Modeling as part of a comprehensive residential NZE strategy," Proceedings of the iiSBE Net Zero Built Environment Symposium, Gainesville, FL, March 2014.

S. Shrivastava and A. Chini, "IT application to support energy conservation in construction procurement," Proceedings of the 19th Annual Convention & National Seminar on Significance of Information Technology in Construction Industry, New Delhi, India, February 2014.

A. Chini and S. Shrivastava, "A Framework to Explore Energy Saving Measures During Construction Phase," Proceedings of the 7th International Conference on Management Science and Engineering Management, Philadelphia, PA, November 2013.

A. Chini and W.Y.J. Eramela, "Construction and Demolition Waste Management in Hong Kong," Sustainable Building 2013, Singapore, September 2013.

J. Burgett and A. Chini, "Reducing Residential Miscellaneous Electrical Loads with a Whole-House Switch", Proceedings of the ASC 49th Annual Meeting, San Luis Obispo, CA, April 2013.

S. Shrivastava and A. Chini, "Exploring Energy Efficient Procurement Options in Building Construction," Proceedings of the CRIOCM2012 International Symposium on "Advancement of Construction Management and Real Estate," Shenzhen, China, November 17-18, 2012.

A. Chini and N. Goyal, "Maximizing Reuse and Recycling of Construction Materials," Proceedings of the ASC 48th Annual Meeting, Birmingham, UK, April 11-14, 2012.

S. Shrivastava and A. Chini, "Estimating Energy Consumption during Construction of Buildings: a Contractor's Perspective," Proceedings of the World Sustainable Building Conference, 18 - 21 October, 2011, Helsinki, Finland.

H.P. Yuan, Jane J.L. Hao, and A. Chini, "Minimizing on-site Construction Waste through Prefabrication in Hong Kong," Proceedings of the International Conference on Solid Waste 2011, May 2-6, 2011, Hong Kong.

M. Hameed and A. Chini, "Impact of Transportation on Cost and Energy for Recycled Concrete Aggregate," Proceedings of the ASC 46th Annual Meeting, Boston, MA, April 7-10, 2010, pp 187-194.

A. Chini and S. Shrivastava, "Environmental assessment of buildings using Building Information modeling," Proceedings of the 3rd Smart and Sustainable Built Environment Conference, Delft, The Netherlands, June 15-19, 2009.

S. Shrivastava and A. Chini, "Construction and C&D Waste in India," Proceedings of the 3rd Construction Materials Stewardship Conference, Twente, the Netherlands June 12-14, 2009.

T. Saleh and A. Chini, "Building Green via Design for Deconstruction and Adaptive Reuse," Proceedings of the 3rd Construction Materials Stewardship Conference, Twente, the Netherlands June 12-14, 2009.

A. Chini, "Building Green with Concrete," Proceedings of the 5th International Conference on Construction in the 21st Century, Istanbul, Turkey, May 20-22, 2009.

A. Chini and E. Nasri, "Educating Engineers for Sustainable Development," Proceedings of the Engineering Education in 2025 conference, Tehran, Iran, May 12-13, 2009.

A. Chini, "Barriers to Deconstruction and Materials Reuse," Proceedings of the World Sustainable Building Conference 2008, Melbourne, Australia, 21st - 25th September 2008.

L. Acquaye, A. Chini, and M. Danso, "Green Options for High Temperature Cured Concrete through the use of Fly Ash and Blast Furnace Slag," Proceedings of the 33rd Conference on our World in Concrete and Structures, Singapore, 25 - 27 August 2008.

A. Chini and A. Parham, "Adiabatic Temperature Rise of Mass Concrete in Florida," Proceedings of the Recent Advances in Concrete Technology conference, Washington, DC, September 17-20, 2007.

A. Chini and E. Villavicencio, "Detection of Microcracks in Concrete Cured at Elevated Temperature," Proceedings of the Recent Advances in Concrete Technology conference, Washington, DC, September 17-20, 2007

A. Chini, "General Issues of Construction Materials Recycling in the United States," Proceedings of the Sustainable Building 2007 conference, Lisbon, Portugal, September 12-14, 2007.

A. Chini and S. Bruening, "Enhancing Construction Materials Recyclability," Proceedings of the Third International Conference on Construction in the 21st Century, Athens, Greece, September 15-17, 2005.

A. Chini and L. Acquaye, "Strength and Durability of Mass Concrete Subjected to Elevated Curing Temperature," Proceedings of the 4th International Conference on Concrete under Severe Conditions, Seoul, Korea, June 27-30, 2004.

A. Chini and H. Nguyen, "Optimizing Deconstruction of Lightwood Framed Construction," Proceedings of the 11th Rinker International Conference on Deconstruction and Materials Reuse, Gainesville, FL, May 7-10, 2003.

A. Chini and L. Muszynski, "Acceptance Permeability Characteristics for Performance Related Specifications for Concrete," Proceedings of the International Conference on Performance of Const. Materials, Cairo, Egypt, February 18-20, 2003.

A. Chini and N. Treible, "Analysis of Visual Grading and Comparison of Strength Properties of Salvaged Lumber to Virgin Lumber," Proceedings of the Sustainable Building 2002, Oslo, Norway, September 23-25, 2002.

A. Chini and S. Van Dessel, "Rigidified Pneumatic Composites: use of space technology to build the next generation of American Homes," proceedings of the 3rd International Conference on Composites in Infrastructure, San Francisco, CA, June 10-12, 2002.

A. Chini and S. Balachandran, "Designing for Disassembly and Future Reuse," Proceedings of the CIB Task Group 39 on Deconstruction, Karlsruhe, Germany, April 9, 2002.

A. Chini and H. Valdez, "Survey of US Construction Companies on the use of ISO 9000 Quality Standards," Proceedings of the ASCE Civil Engineering Conference & Exposition, Houston, TX, October 10-13, 2001.

S. Van Dessel and A. Chini, "Rigidified Pneumatic Composites: environmental performance of structural skins made from fiber reinforced polymers," Proceedings of the 2001 ACSA Technology Conference, Austin, TX, July 13-16, 2001.

H. Valdez and Abdol Chini, "ISO 14000 Standards and the US Construction Industry," Proceedings of the National Association of Environmental Professionals, Washington, DC, June 24-28, 2001.

C. Kibert, A. Chini, and J. Languell, "Deconstruction as an Essential Component of Sustainable Construction," Proceedings of the CIB World Building Congress, Wellington, New Zealand, April 2-6, 2001.

A. Chini and Lucy Acquaye, "Grading and Mechanical Properties of Salvaged Lumber," Proceedings of the Task Group 39-Deconstruction Meeting, Wellington, NZ, April 6, 2001.

A. Chini and Sophia Tarkhan, "Effect of Elevated Temperatures on Strength and Durability of Mass Concrete," Proceedings of the 3rd International Conference on Concrete under Severe Conditions, Vancouver, Canada, June 18-20, 2001.

A. Chini, L. Muszynski, M. Bergin, and A. Pavlides, "The Effect of Stabilized Wash Water on Early Strength Gain and Thermal Properties of Concrete," Proceedings of the Sustainable 2000 International Conference, Maastricht, the Netherlands, October 22-25, 2000.

A. Chini and A. Romero Monteiro, "Guidelines for the Use of Recycled Aggregates as a Base Course in Flexible Pavement," Proceedings of the *Shaping the Sustainable Millennium - Collaborative Approaches* Conference, Brisbane, Australia, July 5-7, 2000.

Steven Van Dessel and A. Chini, "Rigidified Pneumatic Composites," Proceedings of the ACSA Technology Conference, Cambridge, Massachusetts, July 14-17, 2000.

A. Chini and Lucy Acquaye, "Determining Engineering Properties of Salvaged Lumber," Proceedings of the NAEP 25th Annual Conference, Portland, Main, June 25-29, 2000.

A. Chini, L. Muszynski, and G. Wilder, "Reuse of Wash Water in Production of Fresh Concrete through the use of Chemical Stabilizing Systems," Proceedings of the RILEM/CIB/ISO International Symposium, Helsinki, Finland, May 22-24, 2000, pp 142-148.

A. Chini, "Quality and Construction Inspection," Proceedings of the ASCE Construction Congress VI, Orlando, FL, Feb. 20-22, 2000, pp 1233-1243.

A. Chini, L. Muszynski, M. Bergin, and B. Ellis, "Use of Recycled Wastewater at Ready-Mixed Concrete Plants," Proceedings of the TRB 79th Annual Meeting, Washington, DC, January 9-13, 2000.

A. Chini, L. Muszynski, M. Bergin, and B. Ellis, "Recycling Wash Water in Ready-Mixed Concrete Operation," Proceedings of the ASCE 5th Materials Engineering Congress, Cincinnati, Ohio, May 10-12, 1999, pp 381-389.

L. Muszynski and A. Chini, "High Volume Fly Ash Cement," Proceedings of the ASCE 5th Materials Engineering Congress, Cincinnati, Ohio, May 10-12, 1999, pp 390-396.

S. S. Kuo, A. Chini and J. Armaghani, "Testing and Evaluation of Recycled Concrete Aggregate as Mixture and Base Material," Proceedings of the ASCE 5th Materials Engineering Congress, Cincinnati, Ohio, May 10-12, 1999, pp 704-711.

A. Chini, B. Brown, and E. Drummond, "Causes of the Construction Skilled Labor Shortage and Proposed Solution," Proceedings of the ASC 34 Annual Meeting, San Luis Obispo, CA, April 7-10, 1999, pp 187-196.

A. Chini and Filipe Romero Monteiro, "Use of Recycled Aggregate as a Base Course," Proceedings of the ASC 34 Annual Meeting, San Luis Obispo, CA, April 7-10, 1999, pp 307-317.

A. Chini, Shiou-San Kuo, J. Armaghani, and James Duxbury, "Performance Test of Recycled Concrete Aggregate in a Circular Accelerated Test Track," Transportation Research Board 78 Annual Meeting, January 10-14, 1999, Washington, DC.

C. J. Kibert, A. Chini, and L. Muszynski, "Environmental Issues of Composite Building Materials,"

Proc. of the 2nd Intern. Conf. on Composites in Infrastructure, Tucson, AZ, Jan. 1998, pp 438-445.

A. Chini and C.J. Kibert, "Advanced Composites in Civil Engineering and Construction Curricula," Proc. of the 2nd Intern. Conf. on Composites in Infrastructure, Tucson, AZ, Jan. 1998, pp 593-604.

F.T. Uhlik and A. Chini, "Revitalizing a Graduate Construction Program," Proceedings of the ASC 1998 Annual Meeting, Portland, Main, April 1998, pp 103-118.

A. Chini and T. Brodley, "Aerated Autoclaved Concrete," Proceedings of the ASCE 5th Construction Congress, Minneapolis, MN, October 1997, pp 903-912.

A. Chini and G. Genauer, "Technical Guidance Available to Designers of Temporary Structures," Proceedings of the ASCE Structures Congress, Portland, OR, April 1997.

A. Chini, T. Sergenian, and J. Armaghani, "Use of Recycled Aggregates for Pavement," Proceedings of the 4th Materials Engineering Conference, Washington, DC, Nov. 1996, pp 154-162.

A. Chini and Gabe Genauer, "Excavation Support Systems for Construction Operations," Proceedings of the 32nd Annual ASC Conference, College Station, TX, April 18-20, 1996, pp 127-135.

A. Chini and Kavita Gupta, "A Cost Comparison Study between Steel and Wood Residential Framing Systems," Proceedings of the 32nd Annual ASC Conference, College Station, TX, April 18-20, 1996, pp 117-126.

A. Chini, "The Importance of Education and Training of Fiber Composites for Construction," Proceedings of the First International Conference on Composites in Infrastructures, January 15-17, 1996, pp 332-340.

A. Chini, "Survey of Design Courses Offered by ASC Member Schools," Proceedings of the 31st Annual ASC Conference, April 6-8, 1995, Tempe, Arizona, pp 15-22.

A. Chini, "Educating Construction Inspectors," Proceedings of the 29th Annual Conference of the Associated Schools of Construction, April 15-17, 1993, Estes Park, Colorado, pp 137-144.

I. Ahmad, A. Chini and L. L. Copeland, "Entrepreneurial Development Institute," Proceedings of the 28th Annual Conference of Associated Schools of Construction, April 8-10, 1992, Auburn, Alabama, pp 65-72.

g. Refereed Proceeding (abstract review)

A. Chini, C. Kibert, J. Languell, and L. Acquaye, "Lumber Recycled from Residential Buildings," Proceedings of the *Deconstruction- Closing the Loop* Conference, May 18-20, 2000, Watford, England.

S.A.Chini, Shiou-San Kuo, J. Armaghani, and W. Mbwambo, "Using Recycled Concrete Pavement in the Production of New Concrete," Proceedings of the ASCE Florida Section 1998 Annual Meeting, Gainesville, FL, September 1998.

A. Chini and W. Mbwambo, "Environmentally Friendly Solutions for the Disposal of Concrete Wash Water from Ready Mixed Concrete Operations," Proceedings of the 1996 CIB Beijing International Conference on Construction Modernization and Education, Beijing, China, October 21-24, 1996.

A. Chini, "Undergraduate Teaching of Fiber Composites for Construction," in Construction/Building Education and Research Beyond 2000, Proceedings of CIB W89 Symposium, Orlando, Florida, April 5-7, 1995.

A. Chini, "Soils in Construction," the 1994 ASEE Annual Conference Proceedings, Edmonton, Canada, June 26-29, 1994, pp 372-378.

A. M. Amde, A. Chini, and L. Moumena, " Finite Element Representation of Approach Slabs," Proceedings of the Fifth International Conference on Computing in Civil and Building Engineering, Anaheim, CA, June 7-9, 1993, pp 184-187.

A. M. Amde, M. S. Aggour and A. Chini, "Structural and Soil Provisions for Approaches to Bridges," Proceedings of the Symposium on "Bridge Research in Progress," Sponsored by National Science Foundation, Des Moines, Iowa, September 1988, pp 209-212.

A. Chini and A. M. Amde, "Nonlinear Buckling and Postbuckling Analysis of Structures Using Finite Elements," Proceedings of the 7th Engineering Mechanics Specialty Conference, Eng. Mechanics Division, ASCE, Blacksburg, VA, May 88, pp 246.

A. Chini and A. M. Amde, "Effect of Prestressing on the Buckling of Steep Arches," Proceedings of the 11th Canadian Congress of Applied Mechanics, Edmonton, Canada, June 1987, pp A160-A161.

A.M. Amde and A. Chini, "Centrifuge Testing and Numerical Modeling of Prestressed Domes," Proceedings of the Third International Conference on Computational Methods and Experimental Measurements, Porto Caras, Greece, September 1986, pp 539-548.

A. Chini and A. M. Amde, "Nonlinear Finite Element Analysis of Buckling and Postbuckling Behavior of Prestressed Domes," Proceedings of the Third International Conference on Numerical Methods for Nonlinear Problems, Dubrovnik, Yugoslavia, September 1986, pp 550-563.

h. Non Refereed Publication

F. T. Uhlik and A. Chini, "Revitalizing a Graduate Construction Program," Proceedings of the ASC Southeast Regional Conference, Atlanta, GA, Nov. 1997.

A. Chini and F. T. Uhlik, "Making Waste Concrete Environmentally Friendly," Concrete Today, Associated Builders and Contractors, Spring 1997.

A. Chini and J. H. Baldrige, "Directory of Construction Inspection Certification," a poster presentation at the ASCE Construction Congress, San Diego, CA, Oct. 1995.

A. Chini and William Mergl, "Quality Control/Quality Assurance in Construction Projects," Proceedings of the ASC Region I Conference, April 15-17, 1994, Atlantic City, New Jersey, pp 23-29

RESEARCH GRANTS:

Co-Principal Investigator: "Advanced Technologies for Rapid Manufacturing of Post-Disaster Housing," US Department of Housing and Urban Development, January 1, 2020 – June 30, 2022, \$250,000.

Principal Investigator: "Student Inventors Program," The Greater Cincinnati Foundation, January 1, 2019-December 31, 2019, \$10,000.

Principal Investigator: "3D Metal Printing – An Advancement of Additive Manufacturing Resources at the University of Florida," UF Information Technology Fees, March 2018 – January 1, 2019, \$187,990.

Co-Principal Investigator: "Evaluating Performance of Alternative Contracting Methods for FDOT Construction Projects," Florida Department of Transportation, March 9, 2015- March 31, 2016, \$124,522.

Co-Principal Investigator: "Training and Certification Programs in Manufactured Construction (TRAMCON)," Miami Dade College (Prime Agency: US Department of Labor), October 1, 2014 - September 15, 2017, \$1,028,332.

Co-Principal Investigator: "Energy Efficient Housing Research Partnership," University of Nebraska (Prime Agency: National Renewable Energy Laboratory – DOE), Task order 2, September 1, 2011-February 28, 2012, \$302,820.

Principal Investigator: "Energy Efficient Housing Research Partnership," University of Nebraska (Prime Agency: National Renewable Energy Laboratory – DOE), Task order 1, March 30, 2011-April 28, 2011, \$24,395.

Principal Investigator: "Detection of Microcracks in Concrete Cured at Elevated temperature," Florida Department of Transportation, April 2005-May 2006, \$38,105.

Principal Investigator: "Adiabatic Temperature Rise of Mass Concrete in Florida," Florida Department of Transportation, January 2003-February 2005, \$99,735.

Co- Principal Investigator: "Deconstruction, Recycling, and Environmental Compliance," Department of Defense, October 2002- 2004, \$177,000.

Principal Investigator: "Building Deconstruction and Design for Reuse," US Environmental Protection Agency, September 2002-2003, \$42, 858.

Principal Investigator: "Fort Ord Deconstruction Feasibility Study," Concurrent Technologies Corp, August 2002,-2003, \$40,000.

Principal Investigator: "Badger Army Ammunition Plant Deconstruction Feasibility Study," US Forest Products Laboratory, July 2002-2003, \$67,000.

Principal Investigator: "11th Rinker International Conference on Deconstruction and Materials Reuse," Several Co-Sponsors, July 2002-2003, \$50,000.

Principal Investigator: "Optimizing Building Deconstruction techniques for Army Buildings at Ft. Campbell, KY," ERDC/Construction Engineering Research Laboratory, February 2002- 2003, \$20,000.

Principal Investigator: "Courthouse Houses Deconstruction Project," Perry-Parrish, Inc., September-December 2001, \$30,650.

Principal Investigator: "Gainesville Eco History Trail," National Endowment for Arts, September 2001-2003, \$100,000.

Principal Investigator: "Deconstruction and Building Materials Reuse: Technical Assistance for Southeast US," Environmental Protection Agency, July 2001-2003, \$30,000.

Principal Investigator: 'Charlotte County C&D Materials Network,' Resource Management Group, August 2001 - 2003, \$113,136.

Co-Principal Investigator: 'Ultrasonic Testing to Detect Defects in Bonded Post-Tensioned Ducts,' Florida Department of Transportation, August 2001-2003, \$89,500.

Principal Investigator: "Alachua County Green House," Alachua County Housing Authority, May 2001 - 2002, \$2,400.

Principal Investigator: "Determination of Acceptance Permeability Characteristics for Performance-Related Specifications of Portland Cement Concrete," Florida Department of Transportation, March 2001- 2003, \$147,035.

Principal Investigator: 'Alachua County Deconstruction Project,' Alachua County, February 2001-September 2001, \$9,500.

Principal Investigator: "Determination of the Maximum Internal Temperature in Mass Concrete to Avoid Durability Problems and DEF" Florida Department of Transportation, August 2000 – 2003, \$112,852.

Co - Principal Investigator: "Use of Recycled Concrete Made with Limestone Aggregate as a Base Course in Flexible Pavement," Florida Department of Transportation, August 1999- August 2001, \$100,785.

Principal Investigator: "Use of Stabilizer Agents in Mixer Drum Wash Water," Florida Department of Transportation, August 98 – August 2000, \$97,934.

Principal Investigator: "Recycling Process Water in Ready-Mixed Concrete Operations," funded by the Florida Department of Transportation, August 1997-February 1999, \$90,038.

Principal Investigator: "Use of Reclaimed Aggregates for Pavement," funded by the Florida Department of Transportation, August 96-August 98, \$86,400.

Principal Investigator: "Recycling Waste Water in Ready-Mixed Concrete Operations," funded by the Division of Sponsored Research, University of Florida, February 96-December 96, \$13,290.

Principal Investigator: "Residential Steel Framing," funded by the Shimberg Center for Affordable Housing, September 94-August 95, \$3,300.

Principal Investigator: "Improving Standards and Technical Guidance in the Design of Excavation Support Systems in Construction Operations," funded by the Division of Sponsored Research, Univ. of Florida, August 95-December 95, \$3,187.

Principal Investigator: "Temporary Structures in Construction Operation," funded by Division of Sponsored Research, Univ. of Florida, October 94-July 95, \$2,800.

Principal Investigator: "Soils in Construction," funded by the National Science Foundation, June 93-December 95, \$21,559.

UNIVERSITY GOVERNANCE AND SERVICES:

Associate Dean, College of Design, Construction and Planning (2017- Present)
Chair, College of Design, Construction and Planning FIBER search Committee (2017-18)
Member, College of Design, Construction and Planning Dean Search Committee (2015-16)
Chair, Rinker School of Construction Management Faculty Search Committee (2014-2015)
Chair, School of Architecture, Director Search Committee (2013-2014)
Member, College of Design, Construction and Planning Faculty Council (2013-2016)
Departmental Academic Advisor, Department of Building and Real Estate, The Hong Kong Polytechnic University, Hong Kong, 2006-2012
Director, Rinker School of Building Construction (March 2003 – June 2011)
Member, College of Design, Construction and Planning Administrative Council (2003-2011)
Chair, Department of Interior Design Chair Search Committee (2004-2005)
Director, Powell Center for Construction and Environment (2000-2003)
Member, University Senate (1997-1999)
Member, University-Wide Sabbatical Committee (1999-2000)
Member, College of Architecture Sabbatical Committee (2001-2002)
Member, College of Architecture Curriculum Committee (1994-1996)
Graduate Coordinator, School of Building Construction (1997-1999)
Chair, School of Building Construction, Construction Science Committee (1995-1997)
Chair, School of Building Construction, Faculty Search Committee (1999-2000)
Faculty Advisor, Construction Management Association of America Student Club (1994-7)
Faculty Advisor, USGBC Student Chapter (2000-2003)

REGISTRATION AND CERTIFICATION:

Registered Professional Engineer, Maryland, 1985-present
Certified Trainer, OSHA 500 Safety Course
Master Trainer, National Center for Construction Education and Research
Wind Mitigation Design, Federal Emergency Management System
Approved Examiner for the ACI Concrete Construction Inspector Certification

HONORS:

Member, the Honor Society of Phi Kappa Phi, 1985
Member, the National Civil Engineering Honor Society of Chi Epsilon, 1985
Member, Sigma Lambda Chi, the National Honor Society for Construction, 1992
Who's Who among America's Teachers, 1996, 1998
University of Florida TIP Award, 1998-1999
Nominated for the UF Eleventh Distinguished Alumni Professor Award
Who's Who among Engineers and Scientists, 2000-2001
Holland Professorship, Rinker School of Building Construction, 2000-2006, 2011-2017
Distinguished Alumnus Award, College of Engineering, University of Tehran, 2005
Rinker Professorship, Rinker School of Building Construction, 2006-2011
UF Research Foundation Professorship Award, 2003

UF Research Foundation Professorship Award, 2016
Nominated for the 2015 UF Teacher Scholar Award
Received the College of DCP International Senior faculty award for 2014-2015
Recognized and commended by the CIB Program Committee in 2014 for contributions as the coordinator of W115 Construction Materials Stewardship.
Best Paper Award - Runner Up: 7th International Conference on Management Science and Engineering Management, Philadelphia, PA, November 2013.
Best Paper Award, the Recent Advances in Concrete Technology conference, Washington, DC, September 17-20, 2007.

PROFESSIONAL SOCIETIES:

Member of Board of Trustees of American Council for Construction Education (ACCE), 2006-2014

Chair of the Standards Committee, American Council for Construction Education (ACCE), 2009-present

Member of the Review Committee for the Virginia Tech's Myers-Lawson School of Construction proposal for a PhD degree in Construction, March 2009

Member of Review Committee for the University of Washington's Department of Construction Management Program Review, February 2007

Coordinator of the CIB Working Commission 115 – Construction Materials Stewardship, 2007 - present

Coordinator of the CIB Task Group 39 on Deconstruction, 2000-2005

Chair of the 11th Rinker International Conference on Deconstruction and Materials Reuse, May 9-11, 2003, Gainesville, FL

Chair, ASCE Construction Committee on Inspection, 2000-2003

Vice-Chair, ASCE Construction Committee on Inspection, 1998-2000

Secretary, ASCE Construction Committee on Inspection, 1996-1998

Vice-Chair, ASC Undergraduate Education Committee, 1996-1997

Member, ASC Information Technology Committee, 1994-1999

Member, ASC Graduate Education Committee, 1997-2000

Member, American Society of Civil Engineers (ASCE), 1984-present

Member, Society of American Value Engineers (SAVE), 1995-2000

Member, American Concrete Institute (ACI), 1985-2013

Member, Association for Advancement of Cost Engineering (AACE) International, 2012-2015

Member, Construction Management Association of America (CMAA), 1996-2001

Member, National Association of Environmental Professional (NAEP), 2001-2004

Member of the Steering Committee for the 2002 International Conference on Composites in Infrastructure, June 2002, San Francisco, CA

Member of the Advisory Committee for the 5th Materials Congress, May 1999, Cincinnati, Ohio

Member of the Steering Committee for the 1st and 2nd International Conferences on Composites in Infrastructure, 1996 and 1988

Member of the Scientific Committee for the Sustainable Building 2007 Conference, September 2007, Lisbon, Portugal
Member of the Advisory Committee for the Recent Advances in Concrete Technology Conference, Washington, DC, September 2007
Member of the Advisory Committee for the 3rd International Conference on Construction in the 21st Century, Athens, Greece, September 2005
Member of the Advisory Committee for the 4th International Conference on Construction in the 21st Century, Gold Coast, Australia, July 2007
Member of the Scientific Committee for the 5th International Conference on Construction in the 21st Century, Istanbul, Turkey, May 2009
Member of the Organizing Committee for the 3rd Construction Materials Stewardship Conference, Twente, The Netherlands, June 2009
Member of the Advisory Committee for the 3rd Smart and Sustainable Built Environment Conference, Delft, The Netherlands, June 2009
Member of the Organizing Committee for the Green Design Conference, Sarajevo, Bosnia and Herzegovina, September 2012
Member of the Advisory Committee for the CRIOCM2012 International Symposium on Advancement of Construction Management and Real Estate, Shenzhen, China, Nov. 2012
Member of the Scientific Panel for the Sustainable Building 2013 – Singapore, Sep. 2013

REVIEWER:

Member of the Scientific Advisory Board of the International Journal of Sustainable Construction
Member of Editorial Board, Recycling Journal
ASCE Journal of Transportation Engineering
Construction Management and Economics
Journal of Waste Management