AMR A. OLOUFA, Ph. D., P. E.

Professor & Director of Construction Programs University of Central Florida P.O. Box 162450, Orlando, FL 32816-2450 Phone: (407) 823-3592, FAX: (407) 823-3315, E-mail: aoloufa@mail.ucf.edu

EDUCATION

- Ph.D. in Civil Engineering, University of California, Berkeley.
- M.S. in Civil Engineering, Columbia University, New York.
- B.S. in Civil Engineering, Cairo University, Egypt.

TEACHING

University of Central Florida

CCE 4003:	Introduction to Construction Engineering
CCE 4004:	Construction Methods
CCE 4034:	Construction Estimating and Scheduling
CCE 4402:	Construction Equipment and Productivity
CCE 4810:	Construction Engineering Design

EGN 1006: Introduction to Engineering Profession

Penn State University

AE 597C:	Computer Tools for Project Management
AE 597G:	Computer Graphics In Engineering Applications
AE 475:	Building Construction I
AE 476:	Building Construction II
AE 372:	Introduction to Building Construction

University of Hawaii

- CE 601 : Computer Graphics In Engineering
- CE 602 : Project Scheduling and Reporting
- CE 674 : Advanced Construction Estimating
- CE 472 : Construction Management
- CE 491 : Computer Scheduling of Construction Operations
- CE 270 : Applied Mechanics I
- CE 113 : Introduction To Computers and Design

University of California, Berkeley

CE 167 : Engineering Economics

Cairo University

CE 3:	Design of Reinforced Concrete Structures I	
CE 4:	Design of Reinforced Concrete Structures	Π

RESEARCH AREAS

Construction Automation.	Solid Modeling In Construction and Design.
Geographic Information Systems (GIS).	Object-Oriented and Relational Databases.
Simulation of Construction Operations.	Global Positioning (GPS) System Applications.
Design Structure Matrix in Design (DSM)	Sensor Applications in Transportation Engineering

UNIVERSITY EXPERIENCE

2006 – Present	Professor & Director of Construction Programs. University of Central Florida,
	Dept. of Civil & Environmental Engineering, Orlando, FL.

- 2004 2006 Professor & Associate Chair. University of Central Florida, Dept. of Civil & Environmental Engineering, Orlando, FL.
- 1998 2004 Associate Professor & Director of Construction Engineering. University of Central Florida, Dept. of Civil & Environmental Engineering, Orlando, FL.
- 1992 1998 Assistant Professor of Architectural Engineering. Penn State University, Department of Architectural Engineering, University Park, PA.
- 1989 1992 Assistant Professor of Civil Engineering. University of Hawaii, Department of Civil & Environmental Engineering, Honolulu, HI.

PUBLICATIONS

Refereed Journal Publications

- 1. Oloufa, A. A. 1990. *Object Oriented Simulation of Earthmoving Operations*. Mechatronic Systems Journal . Vol. 1: pp 175 182.
- 2. Oloufa, A. A. 1991. *Triangulation Applications in Volume Calculation*. ASCE Journal of Computing. January. Vol. 5, No. 1: pp 103 121.
- Oloufa, A. A., C.S. Papacostas and R. Espino. 1992. Construction Applications Of Relational Databases In Three Dimensional GIS. ASCE Journal of Computing. January. Vol. 6: pp 72-84.
- 4. Oloufa, A. A., C.S. Papacostas and H. Hamada. 1992. *Relating Structural Failures to Subsurface Conditions Using GIS*. Building and Environment Journal. April. Vol. 27, No. 2: pp 257 266.

- 5. Oloufa, A. A. and K.C. Crandall. 1992. *Feedback Mechanisms For Operational Simulation*. ASCE Journal of Computing. April. pp 161-177.
- 6. Oloufa, A. A. 1993. *Modeling Operational Activities In Object Oriented Simulation*. ASCE Journal of Computing. January. Vol. 7, No. 1: pp 94 106.
- 7. Oloufa, A. A. 1993. *Modeling and Simulation of Construction Operations*. Journal of Automation In Construction. March. Vol. 1 No.4: pp 351 359.
- 8. Oloufa, A. 1994. *Construction Simulation of Buildings with a User-Oriented Approach*. Microcomputers in Civil Engineering. #9.: pp 425-433.
- Oloufa, A. A., A. Eltahan and C.S. Papacostas. 1994. An Integrated GIS for Construction Site Investigation. ASCE Journal of Construction Engineering and Management, March. Vol. 120:1. pp 211-222.
- El-Kadi, A., Oloufa, A., Eltahan, A. and Malik, H. 1994. Use of a Geographic Information System In Site-Specific Groundwater Modeling. Ground Water Journal, July. Vol. 32. No. 4. pp 617-625.
- 11. Oloufa, A., and M. Ikeda. 1995. An Automated Environment for Soils-Dependent Applications. Journal of Automation in Construction. Vol. 4 #2, June. pp. 139-146.
- 12. Carpenter, C. and A. Oloufa. 1995. *Post Occupancy Evaluation of Buildings and Development of Facility Performance Criteria*. ASCE Journal of Arch. Eng. Vol. 1 No. 2. pp 77-81.
- Oloufa, A., A. El-Kadi, A. Eltahan, and H. Malik. 1995. An Analytical Groundwater Modeling Approach for Natural Resources Utilizing GIS. Civil Engineering Systems. Vol. 12. pp 49-65.
- 14. Thomas, H. R. and A. A. Oloufa. 1995. Labor Productivity, Disruptions, and the Ripple *Effect*. Cost Engineering, No. 81-94.. Dec. 1995.
- 15. Li, C., Oloufa, A. and Thomas, H. R. 1996. A GIS-based System for Pavement Compaction. Journal of Automation in Construction. Vol. 5. pp. 51-59. (Invited Paper) May 1996.
- Thomas, H. R., Oloufa, A. A., and Hanna, A. 1996. A What to do Guide for Schedule Acceleration and Compression. National Electrical Contractors Association NECA 1996. (Publication) 40 pages
- 17. Korka, J., A. Oloufa and H. Thomas. Sept. 1997. Requirements for Computerized Maintenance Management Systems for Buildings. ASCE Journal of Architectural Engineering. Vol. 3:3, pp. 118-124.
- 18. Oloufa A. A., Masaaki Ikeda, and Tang-Hung Nguyen, *Resource-Based Simulation Libraries* for Construction, Journal of Automation in Construction, 1998, U.S.A
- 19. Do, W. S., A. Oloufa and H. Thomas. 1999. *Evaluation of GPS devices for a Quality Control System for Compaction Operations*. Transportation Research Record # 1675 pp. 67-74.
- Nguyen, H. & A. A. Oloufa: Topology Applications for Design and Construction of Buildings. ASCE Journal of Computing in Civil Engineering. October 2001, Vol. 15, No. 4, pages 268-274.
- 21. Nguyen, H. & A. A. Oloufa: *Spatial Information: Classification and Applications*. Computer-Aided Civil and Infrastructure Engineering. 2002, Vol. 17, pages 246-255.

- 22. Oloufa, A. A. "A GPS-based System Architecture for the Quality Control of Asphalt Compaction". IEEE Robotics and Automation Magazine. March 2002. Vol. 9, No.1, pages 29-35.
- 23. Oloufa, A. A., Ikeda, M., and Oda, H.: Situational Awareness of Equipment using GPS, wireless, and web technologies. Automation in Construction 12 (2003). Pages 737-748.
- 24. Oloufa, A., Hosni, Y., Fayez, M., and Axelsson, P.: Using DSM for Modeling Information Flow in Construction Design Projects. Civil Engineering & Environmental Systems. Volume 21, Number 2, June 2004. Pages: 105 125.
- 25. Oloufa, A., Mahgoub, H. and Ali, H.: *Infrared Thermography for Asphalt Crack Imaging & Automated Detection*. Transportation Research Record. 2004. Pages: 126-133.
- 26. Serag, E., Oloufa, A., and Linda Malone: *Reconciliation of Owner & Contractor Views In Heavy Construction*. Journal of Professional Issues in Engineering Education and Practice: Legal Section, ASCE January 2008.
- 27. Serag, E., Oloufa, A., and Essam Radwan: *Labor Productivity Trends in a Changed Environment*. Journal of Construction Engineering & Management, ASCE (under review)
 - **28.** Serag, E., Oloufa, A., Malone, L. and Essam Radwan: *Quantification of Change Orders Using Verifiable Site Data.* Journal of Construction Engineering and Management, ASCE.
- **29.** Serag, E., Oloufa, A., and Essam Radwan: *Productivity Loss Trends In Utility Construction*. Journal of Construction Engineering and Management, ASCE. Accepted for publication. 2008.
- 30. Bowie, J., Moslehy, F. A., and Oloufa, A, *Development of a Low-Cost Weigh-in-Motion System*, Journal of Management & Engineering Integration (JMEI), Vol. 1, 2008.

31. Serag, E, Oloufa, A., Malone, L. and Radwan, E., *A Model for Quantifying the Impact of Change Orders on Project Cost for US Roadwork Construction*, Journal of Construction Engineering and Management, ASCE. September 2010.

32. Persaud, V., Oloufa, A. A., and Abdel Aty, M. M., *Dynamic Speed Monitoring on Sharp Curves Utilizing a Wireless Solar Powered Dynamic Speed Monitoring System*. ITE Journal, Institute of Transportation Engineers, March 2012.

Refereed Proceedings

- 1. Oloufa, A. A.: "A Framework for the Operational Simulation of Construction Projects", Technical Report #13, University of California in Berkeley, Mar. 1988.
- 2. Oloufa, A. A., Papacostas C. S. and Espino, R.: "GIS Applications in Geotechnical Engineering", Proceedings of the 8th National Conference on Microcomputers in Civil Engineering, Oct. 1990, Orlando, FL.
- 3. Oloufa, A. A.: "Intuitive Simulation Modeling Using Object Oriented Constructs". Proceedings of the 8th International Symposium on Automation and Robotics In Construction (ISARC), Stuttgart, Germany, June 1991.
- 4. Oloufa, A. A. and Eltahan, A. : "A GIS For Geotechnical Data Management". Proceedings of the CIB World Building Congress, Montreal 1992.

- 5. Oloufa, A. A.: "*Visual Simulation Programming For Construction Operations*". Proceedings of the 9th International Symposium on Automation and Robotics In Construction (ISARC), Tokyo, Japan, June 1992.
- 6. Oloufa, A. A., Riggs, H. R. and Hamada, H. S.: "CE 113: A Freshman Course In The Integration of Computers and Design", Proceedings of the ASEE-PSU, Oct. 1992, Los Angeles, CA.
- 7. Oloufa, A. A. and C. Carpenter. 1994. *A Framework for Post Occupancy Evaluation of Buildings*. 10th International Symp. of Cybernetics. Baden Baden, Germany. Invited paper
- 8. Smith, G., A. Oloufa, and J. Kranz: March 1999. "*Electrical Contractor Safety Management Evaluation*". 2nd International Conference on Implementation of Safety and Health on Construction Sites, Hawaii.
- 9. Oloufa, A.: January 2001. "Real-Time Tracking for Compaction of Superpave Mixes. First International Structural Engineering & Construction Conference". Honolulu, HI.
- Fayez, M., Axelsson, P., Oloufa, A., and Hosni, Y., "DSM Versus CPM: Issues for Planning Design & Construction Activities", *ASCE Construction Congress*, Honolulu, HI, March 10-14 2003.
- Mohamed Fayez, Pär Axelsson, Amr Oloufa, and Yasser Hosni. *Information Intensive* Projects: Planning and optimizing using the Design Structure Matrix (DSM). IERC2003, IIE Annual Research Conference, May 2003, Portland, Oregon, May 18 - 20, 2003.
- 12. Moslehy, F.A. and Oloufa, A. "*Laser-Based Vibration Technique for Weight Measurement of Commercial Vehicles*," Proc. of the IMAC XXII Conference on Structural Dynamics, Dearborn, MI, paper #142, January 2004.
- 13. Tarek A. Monem, Amr A. Oloufa, and Hesham Mahgoub . Asphalt Crack Detection Using Thermography. Inframation. October 2005. Las Vegas, NV. 14 pages.
- Moslehy, F.A., Oloufa, A. and Abdel-Gawad, S., "An Innovative Mobile Weigh-in-Motion System for Heavy Vehicles," Proc. of the 12th Annual IEMS Conference, Cocoa Beach, FL, March 2006.
- 15. Moslehy, F.A., Oloufa, A. and Bowie, J., "An Elegant Design of Weigh-in-Motion Test Apparatus," Proc. of the 13th Annual IEMS Conference, Cocoa Beach, FL, March 2007.
- 16. Serag, E., and Oloufa, A. A Model of Productivity Loss Using Multiple Regression. Presented and Published in Construction Research Council Conference, May 6-8th 2007.
- 17. Serag, E., and Oloufa, A. Change Order Impact on Project Cost. Presented and published in American Society for Engineering Education Conference, June 23-27th 2007.
- Mahgoub, H., Oloufa, A., and Spahi, S.: Commercial Vehicles Remotely Operated Compliance Stations (ROCSTM) in Florida. Transportation Research Board meeting. Washington D.C., January 2008.
- 19. Persaud, Vasu, Oloufa, A. and Abdel-Aty, M.: Dynamic Speed Monitoring on Sharp Curves utilizing Green Technologies, Transportation Research Board, October 2009.
- 20. Huang, H., Abdel-Aty, M., Al-Ahad, E., Oloufa, A., Chen, Y, and Morrow, R.: *Fog- and Smoke-Related Crashes in Florida: Identifying Crash Characteristics, Spatial Distribution, and Injury Severity*, Transportation Research Board, October 2009.

- 21. Hassan H., Abdel-Aty M. and Oloufa A. (2011) The Effect of Warning Messages And Variable Speeds In Different Visibility Conditions, Preprint No. TRB 11-0354, 89th Annual Meeting of the Transportation Research Board, January 2011.
- 22. Abdel-Aty M., Oloufa A., Hassan H., Ahmed M. and Siddiqui K. (2010) Portable Visibility Warning System for the Safety of Highways, 17th ITS World Congress, October 25-29, Pusan, Korea.

Proceedings Refereed By Abstract

- 1. Oloufa, A. A.: "*Intelligent Automation of Simulation Modeling*", Proceedings of the 22nd Annual Pittsburgh Conference on Modeling and Simulation, Pittsburgh, May 1991.
- 2. Oloufa, A. A.: "Design And Implementation of An Introductory Graduate Course In Graphics". Proceedings of the ASEE, June 1991 Annual Conference, New Orleans, LA.
- 3. Oloufa, A. A.: "*Teaching Computer Graphics Courses In Construction Engineering Education*", Proceedings of the ASEE, Annual Conference, Toledo, OH, June 1992.
- 4. Oloufa, A. A. and Eltahan, A. : "*Geotechnical Data Management : A GIS -Based Approach*". Proceedings of the Eighth National Conference on Computing In Civil Engineering, Dallas, TX, June 1992.
- 5. Oloufa, A. A.: "*Modeling of Building Construction Activities Using Forms*". Proceedings of the 10th International Symposium on Automation and Robotics In Construction (ISARC), Houston, TX, May 1993.
- 6. Oloufa, A. A.: "*Bringing the Real World to the Classroom with Multimedia*", Proceedings of the ASEE, Annual Conference, Toledo, Canada, June 1994.
- Oloufa, Amr A. and Ikeda, M.: 1994. *The Fujita Integrated Environment for Automation*, Proceedings of 11th International Symposium on Automation and Robotics in Construction, Bristol, England. May. pp. 539-546
- 8. Oloufa, A. and M. Ikeda. 1995. *Object-Oriented Simulation of Shield Tunneling*. International Conference in Computing in Civil & Building Engineering, ICCCBE, July, Berlin. pp. 1315 1319.
- 9. Li, C., R. Thomas and A. Oloufa. 1995. *Development of an Automated Real Time Tracking System for Pavement Compaction*. International Symposium for Automation and Robotics in Construction, ISARC .Warsaw, Poland. pp. 49 54.
- 10. M. Ikeda, A. Oloufa, and S. Sekihara, June, 1996. *An Object Oriented Environment for the Construction Planning of High Rise Buildings*. International Symposium for Automation and Robotics in Construction, ISARC 96, June 1996.
- 11. Oloufa, A. and M. Ikeda. June 1997. Library-Based Simulation modeling in Construction. *Proceedings of the ASCE Computing Conference*. pp. 198-205.
- 12. Nguyen, H. and A. Oloufa. June 1997. Construction Planning of high Rise Buildings with an Object Oriented Solid Geometry Model. *Proceedings of the ASCE Computing Conference*. pp. 426-432.

- 13. Do, W. and A. Oloufa. August 1997. A GPS System for Tracking Pavement Compaction, *Proceedings of the ICCCBE Conference*, Seoul, Korea. pp. 989-994.
- 14. Nguyen, H. and A. Oloufa. August 1997. OOSE: A Proposed Object Oriented Solid Geometric Model for AEC, *Proceedings of the ICCCBE Conference*, Seoul, Korea. pp. 615-620.
- 15. Oloufa, A., W. Do and R. Thomas, Oct. 1997. Automated Monitoring Compaction Using GPS, *Proceedings of the ASCE Annual Convention and Construction Congress*. pp. 1004-1011.
- 16. Do, W., A. Oloufa and H. Thomas. Evaluation of GPS devices for a Quality Control System for Compaction Operations. *Proceedings of the Transportation Research Board (TRB) Conference*, January 1999.
- 17. A. Oloufa, Do, W., and H. Thomas. An Automated System for Quality Control of Compaction Operations: Receiver Test & Algorithms. Sep. 1999. *International Symposium for Automation and Robotics in Construction (ISARC)*, Spain. pp. 67-71.
- 18. Nguyen, H. and A. Oloufa. March 1999. An Automated Building Design System with Topological Information. *Construction Congress 2000*.
- 19. Nguyen, H. and A. Oloufa. September 2000. Topology Applications for Design and Construction of Buildings. *Seventeenth Annual Symposium on Automation and Robotics in Construction. (ISARC).*
- 20. A. A. Oloufa, February 2001. A Crash Reporting System on Palmpilots. *International Conference on Industry, Engineering, and Management Systems (IEMS 2001)*. Cocoa Beach, FL.
- 21. A. A. Oloufa, and Radwan, A. E. September 2001. Server-Based Collision Avoidance using DGPS. 8th World Congress on Intelligent Transportation Systems. Sydney, Australia.
- 22. Mohamed Fayez, Pär Axelsson, Amr Oloufa, and Yasser Hosni. On the Optimization of Information Intensive Projects: Case of Construction Design. *Fourth MIT-DSM conference*, Cambridge, Massachusetts, October 7-8, 2002.
- 23. F.A. Moslehy, A.A. Oloufa. February 2004. Laser-based Vibration Technique for Weight Measurement of Commercial Vehicles. Society for Experimental Mechanics. Detroit. MI.
- 24. A. A. Oloufa, August 2003. Virtual Commercial Vehicle Inspection Stations. *National Rural ITS Conference 2003 (NRITS)*, Palm Harbor, FL.
- 25. A. A. Oloufa, December 2003. Virtual Weigh Stations: Issues & Technologies. *Florida* Department of Transportation ITS Annual Meeting. Deerfield Beach, FL.
- 26. A. A. Oloufa, February 2004. Virtual Commercial Vehicle Inspection Stations. *First International Conference on Virtual & Remote Weigh Stations*, Orlando, FL.
- 27. ABdel-Aty, Huang, Oloufa and Ekram, A Roadway Safety Analysis of a Fog Related Crashes and Development of a Visibility Warning System, 2nd International Road Federation Middle East Regional Congress, Nov. 29- Dec. 1, 2010, Abu Dhabi.
- 28. Amir Zavichi¹, Kaveh Madani, Petros Xanthopoulos and Amr A. Oloufa **TSP-BASED MODEL FOR ON-SITE MATERIAL HANDLING OPERATIONS WITH TOWER CRANES,** May. 2013. *International Symposium for Automation and Robotics in Construction (ISARC)*

FUNDED RESEARCH PROJECTS

Application of Triangulation and GIS In Construction Aug. 1990 - May 1991 University Research Council \$4,950 (Co-P.I.)

Application of GIS to Geotechnical Engineering August 1990 - May 1992 Dames and Moore \$23,500 (P.I.)

Applications of Vector Processing In Volume Calculations of Earthmoving Operations. August 1990 - May 1992 IBM (Hardware Grant) \$85,000 (Co-P.I.)

A DBMS for Oahu's Groundwater System, A Pilot Study Aug. 1991- May 1992 Water Resources Research Center \$27,000 (Co-P.I.)

The Establishment of a Region Wide Database Using GIS. Office of Technology Transfer and Economic Development \$12,500 (P.I.) (Not executed due to move to Penn State)

Automation of Bridge Inspection and Reporting. University Research Council \$6,000 (P.I.) (Not executed due to move to Penn State)

An Automated Environment for Soils & Terrain - Dependent Applications Aug. 1993 - June 1994 Fujita Corporation \$15,000 (P.I.)

Discrete Event Simulation of Shield Tunneling Operations June 1994 - Aug. 1995 Fujita Corporation \$30,000 (P.I.) A GIS for Planning and Construction March 1993 - March 1994 Penn State Office of Physical Plant \$6,000 (P.I.) (Hardware Grant)

A Framework for Post-Occupancy Evaluation. March 1993 - May 1995 Consortium for the Advancement of Building Sciences \$25,000 (P.I.)

Impact of Overmanning on Productivity March 1994 - Oct. 1995 National Electrical Contractors Association \$70,000 (Co-P.I.)

A Multimedia Project for Fiber Reinforced Concrete Feb. 1995 - Nov. 1995 Mitchell Fiber \$7,000 (Co-P.I.)

Evaluation of Real-Time Density Measurement for Compactors June 1996 - July 1996 Rexworks Corp. \$7,500 (Co-P.I.)

A Pilot Project for Object-Oriented Representation of Buildings Oct. 1995 - March 1996 Fujita Corp. \$30,000 (P.I.)

Constructibility Analysis of Buildings Using Solid Modeling Sept. 1996 - May 1997 Fujita Corp. \$4,000 (P.I.)

Development of a Real Time Tracking System and Density Meter Based on Vibratory Responses February 1997 - November 1997 Ingersoll Rand and Ben Franklin Partnership \$72,000 (Co P.I.)

Development of a Real-Time Tracking System. Phase 2

August 1997 - May 1998 Ingersoll-Rand and Ben Franklin Partnership \$106,000 (Co P.I.)

Development of Guideline for Presenting Loss of Productivity Claims January 1998 - December 1998 National Electrical Contractors Association \$39,500 (Co P.I.)

Application of DGPS for Collision Avoidance in a Wireless Environment. November 1999 – August 2000. Center for Advanced Transportation System Simulation (CATSS) \$50,000. (P.I.)

A Palm-Held Reporting System January 2000 - September 2000 Florida Department of Transportation \$50,000 (P.I.)

Positioning Equipment for Transportation and Construction Engineering Research. January 2000. (Equipment Grant) University of Central Florida. \$30,000 (P.I.)

Transit Tracking System.

May 2001 – July 2002. Center for Advanced Transportation System Simulation (CATSS) \$55,000. (P.I.)

Tracking of Lymmo Vehicles December 2001 – May 2002 I-4 Corridor Technology Grant \$135,000 (P.I.)

Optimization of Transportation Projects using Design Structure Matrix (DSM) and Simulation. May 2002 – July 2003. Center for Advanced Transportation System Simulation (CATSS) \$65,000. (Co-P.I.)

GPS-Aided Asphalt Condition Rating using Infrared Thermography. November 2002 – May 2004. Florida DOT \$89,000. (P.I.) Moisture monitoring of soil using GPRS. March 2003 – March 2004. Center for Advanced Transportation System Simulation (CATSS) \$45,000 (Co-P.I.)

Non-Intrusive Weight Measurement of Commercial Vehicles March 2003 – March 2004. Center for Advanced Transportation System Simulation (CATSS) \$46,000 (Co-P.I.)

Passenger Demand Infrastructure System July 1, 2003 – October 1, 2004. Florida DOT. \$ 250,000 (P.I.)

Virtual Commercial Vehicle Inspection Stations February 2003 – July 2005. Florida DOT. \$300,000 (P.I.)

Mobile Non-invasive Weigh-in-Motion System April 2005 – April 2007 Florida DOT \$225,000 (P.I.)

WIM and DMS to Enhance WIM Commercial Truck Weight Enforcement October 2006 – November 2008. Center for Advanced Transportation System Simulation (CATSS) \$148,000 (P.I.)

Development and Validation of Concept of Operations for the Use of UAVS to Assist Emergency Operations in special rules airspace. October 2006 – November 2008 \$182,000 (P.I.)

Developing an Early Detection System for Reduced Visibility from Fog/Smoke and Means to Effectively and Timely Warn Drivers. June 20, 2008 – June 30, 2010 \$250,000 (Co P.I.)

Technology Deployment for a O-D Study. Feb 25, 2010 — Aug 31, 2011 \$150,000 (P.I.)

Automated Data Collection for Origin/Destination Studies of Freight Movement May 15, 2012 — June 15, 2014 \$150,000 (P.I.) Automated Data Collection for Origin/Destination Studies of Freight Movement May 1, 2012 — Jan. 1, 2014 (UTC Program) \$100,000 (P.I.)

GRADUATE THESIS SUPERVISION

Sami Spahi Topic:	Ph.D., I.E. 5/	/08	Co-Advisor
Vasu Persaud Topic: Rural Intersect	M.S. – CE 8 ion System.	8/07	Advisor
Engy Serag	Ph.D. – CE	5/07	Advisor
Topic: <i>A Model for los</i>	ss of productiv	vity in Construction Claims.	
Tarek A. Monem	MS - CE	4/05	Advisor
Topic: Infrared Therm	hography & G	PS for Crack Detection.	
Par Axelsson	MS - IE	4/03	Co-Advisor
Topic:DSM Applicatio	ons in Building	g Design and Construction.	
Tang-Hung Nguyen	Ph.DAE	4/99	Advisor
Topic:Automated Ded	fuction of Top	ology in Building Design an	ad Construction.
Won Do	M.S CE	8/97	Advisor
Topic: An improved a	lgorithm for a	utomated compaction with H	Positioning.
Julie Anderson	M.S AE	8/96	Advisor
Topic: A Design-Build	l guide for eng	gineers and Architects.	
Joe Kranz	M.S AE	12/96	Advisor
Topic: A Self Enforcer	nent Safety Gi	uideline for Contractors.	
John Moskowitz	M.S AE	12/95	Co-Advisor
Topic: A System for F.	RP concrete d	Jesign.	
John Korka	M.S CE	6/95	Advisor
Topic: Computerized I	Maintenance 1	Management Systems for Bu	ildings
Cheng-Che Li	M.S CE	4/95	Advisor

Topic: An algorithm for automated compaction of soil.

Cindy CarpenterM.S. - AE5/95Co-AdvisorTopic: A Framework for Post Occupancy Evaluation of Buildings.

Reynaldo Espino	1989	Civil Engineering	Co-Advisor
Topic: GIS in Civil Engineering.			

Ahmed A. Eltahan1991 Civil EngineeringAdvisorTopic: GIS in Geotechnical Engineering

Currently supervising 3 Ph.D. students.

SOFTWARE PROGRAMS

- 1. S3: Simulation of Shield Tunneling Systems: A software package for the simulation of shield tunneling projects. User gives simulation parameters and watches animated representation of the construction progress. Users can edit a multitude of variables.
- 2. FIESTA: Fujita Integrated Environment for Soils and Terrain Dependent Applications: This Software integrates a database of soils information with a geographic information system for educational uses, it illustrates to students concepts of relational data base designs, GIS, visual programming and software integration methods.
- 3. S3 (EXTEND) A simulation library developed by implementing a new concept developed by A. Oloufa for the simulation of construction projects. Currently being tested by Fujita, a Japanese construction company.
- 4. FOCUS: A solid modeling based software system for the visualization of building construction projects.
- 5. CTS-Raster: A raster-based system for the quality control of asphalt pavement.
- 6. CTS-Vector: A raster-based system for the quality control of asphalt pavement utilizing realtime positioning of construction equipment.
- 7. ColDet & ColDetSrv: Software for vehicle tracking and detection. PC-based software utilizing GPS and wireless communications.
- 8. PCRS: Palmpilot Crash Reporting System. Handheld software for crash reporting.
- 9. TripTrak: Data storage and decoding program for wireless communications.
- 10. TripTrakListen: Data storage and decoding program for wireless communications.
- 11. Bus Tracking Website: Data-driven Website for School Bus Tracking.
- 12. Trigger matrix for Construction Design Projects.
- 13. CVROCS Suite for Commercial Vehicle Applications.

REPORTS TO SPONSOR

- 1. Application of Triangulation and GIS In Construction. May 1991.
- 2. A GIS-based database for Dames & Moore Projects. May 1992.
- 3. A DBMS for Oahu's Groundwater System. May 1992.
- 4. Fujita Integrated Environment for Soils and Terrain-Dependant Applications. Fujita Corporation, Japan, December 1993
- 5. Simulation of Shield Tunneling, Progress Report 1, Fujita Corporation. Aug., 1994
- 6. Simulation of Shield Tunneling, Progress Report 2, Fujita Corporation. Sept., 1994
- 7. Simulation of Shield Tunneling, Progress Report 3, Fujita Corporation. Dec., 1994
- 8. A What-to-do-Guide for Schedule Acceleration and Compression, National Electric Contractors Association, Feb., 1995
- 9. Simulation of Shield Tunneling, Progress Report 4, Fujita Corporation. Mar., 1995
- 10. Concept File for Schedule Acceleration: , National Electric Contractors Association, NECA. April, 1995
- 11. The Quantification of the Impacts on Labor Efficiency in Projects with Overmanning, National Electrical Contractors Association, November, 1995.
- 12. Primer for Schedule Acceleration. National Electrical Contractors Association, Dec. 1995
- 13. Construction Simulation of Shield Tunneling Projects Using *MODSIM II* Program Code, 1/96.
- 14. Labor In Efficiencies Caused by Schedule Acceleration, Final Report, NECA, March 1996.
- 15. A Pilot Project for Object-Oriented Modeling of Buildings Report 1., Dec. 1995.
- 16. A Pilot Project for Object-Oriented Modeling of Buildings Report 1., June 1996.
- 17. Measurements of Trash Compaction Density Using Compactor Self-Vibration Levels. Report, Aug. 1996.
- 18. A Modular System for the Simulation of Shield Tunnels. Report 1. December 1996.
- 19. Constructibility Study using Solid Modeling. Report 1. October 1996.
- 20. MPD-MCDS: An Integrated System for the Design and Manufacturing Using the Bridgeways System. Part 1, to Bridgeway International, May, 1997.
- 21. MPD-MCDS: An Integrated System for the Design and Manufacturing Using the Bridgeways System. Part 2, to Bridgeway International, August, 1997.
- 22. Development of a Real-Time Tracking System and Density Meter Based on Compactor Vibratory Responses, Phase 1, Final Report, September, 1997
- 23. Application of DGPS for Collision Avoidance in a Wireless Environment. Phase II. March 2000.
- 24. A Palm-Held Reporting System. Phase 1. March 2000.
- 25. A Palm-Held Reporting System. Phase II. June 2000.

- 26. Application of DGPS for Collision Avoidance in a Wireless Environment. Final Report. February 2001.
- 27. A Palm-Held Reporting System. Final Report. October 2000.
- 28. Transit Tracking using GPS and Wireless technology. Progress Report. April 2002.
- 29. GPS-Aided Asphalt Condition Rating using Infrared Thermography. Progress Report. December 2002.
- 30. Infrared Thermography for Asphalt Crack Detection. Progress Report 1. January 2003.
- 31. Infrared Thermography for Asphalt Crack Detection. Progress Report 2. May 2003.
- 32. Infrared Thermography for Asphalt Crack Detection. Progress Report 3. Sep. 2003.
- 33. Virtual Commercial Vehicle Stations. Progress Report 1. Sep. 2003.
- 34. Virtual Commercial Vehicle Stations. Progress Report 2. Dec. 2003.
- 35. Virtual Commercial Vehicle Stations. Progress Report 6. Dec. 2006.
- 36. Virtual Commercial Vehicle Stations. Final Report.
- 37. Rural Intersection System Final Report.
- 38. Non-Intrusive weight system Progress report.

Professional Registration

P.E. in California. License #43329.

SERVICE

University of Central Florida

University

- 1. Senate.
- 2. Senate Personnel Committee.
- 3. Sick Leave pool Committee.

College:

1. Promotion & Tenure Committee (2008)

Department

- 1. Curriculum Committee.
- 2. Structures Search Committee (2002)
- 3. Structures Search Committee (2003)
- 4. Infrastructure Search Committee (2008)
- 5. Instructor Search Committee (2009)

Penn State University

Department

- 1- Tuition Surcharge Committee 1992 1994
- 2- Curriculum Committee, 1992 present
- 3- Faculty-in-charge of Macintosh Lab, 1992 -1994
- 4- AE MEng. Committee 1995

College

- 1. Computer Science 201 Course Modification Committee, 1992 –1993
- 2. ECSEL Faculty Advisory Committee, 1992 –1994
- 3. ECSEL Computer Lab Committee 1993 –1995

University of Hawaii

Department

- 1- Chairman, Computer Committee (Fall 1989 Fall 1992)
- 2- Member, Curriculum Committee (Fall 1989 Fall 1992)
- 3- Member, Graduate Program Committee (Fall 1989 Spring 1990)

University

- 1. Member, ITAC (Fall 1990 Fall 1992). Information Technology Advisory Committee (appointed by the University President).
- 2. Senator, Faculty Senate (Fall 1990 Fall 1992). Elected as one of two representatives for the College of Engineering.
- 3. Chairman, CAPP (Fall 1991 Fall 1992). Faculty Senate Committee on Academic Planning and Policy.
- 4. Member, CAPP (Fall 1990 Spring 1990). Faculty Senate Committee on Academic Planning and Policy.

<u>Refereed Journal Reviewer</u>

American Society of Civil Engineers:

- a. Journal of Construction Engineering & Management
- b. Journal of Computing in Civil Engineering
- c. Journal of Architectural Engineering
- d. Journal of Transportation Engineering
- e. Journal of Management in Engineering

Journal of Automation in Construction.

Journal of Microcomputers in Civil Engineering.

National & International

- 1. National Science Foundation Japan Proposal Review Panel. 2006.
- 2. National Science Foundation Japan Panel to select students for a fellowship in Japan. 1995
- 3. National Research Council of Canada Reviewer of proposals for GIS 1993 1994.
- 4. American Society of Civil Engineers. Construction Research Council (CRC). Past-Past Chair and Chair of the Awards Program. 1999
- 5. American Society of Engineering Education. Chair, Vice-Chair, and currently Treasurer of the Construction Division.
- 6. University of Alberta, Canada. Department of Civil Engineering. Invited as an external member of a Ph.D. thesis. 2000.
- 7. Indiana University- Purdue University at Indianapolis. Chair of Construction Technology Program Review Committee. 2001
- 8. Concordia University, Canada. Department of Civil Engineering. Invited as an external member of a Ph.D. thesis. 2002
- 9. International Conference Committee, International Association for Automation in Construction, Taiwan, 2001.
- 10. International Conference Committee, Second International Conference on Construction Hong Kong, 2003.
- 11. International Editorial Board: Journal of Automation in Construction 2008.