

Wallied Orabi, Ph.D., Associate Professor
Moss School of Construction, Infrastructure and Sustainability
Curriculum Vitae

EDUCATION

<u>Degree</u>	<u>Institution</u>	<u>Field</u>	<u>Dates</u>
Ph.D.	University of Illinois at Urbana-Champaign	Civil Engineering	August 2010
M.Sc.	American University in Cairo	Construction Engineering	February 2004
Diploma	American University in Cairo	Construction Engineering	June 2002
B.Sc.	Cairo University	Civil Engineering	July 1996

FULL-TIME ACADEMIC EXPERIENCE

<u>Institution</u>	<u>Rank</u>	<u>Field</u>	<u>Dates</u>
Florida International University	Associate Professor	Construction Management	August 2017 - Present
Florida International University	Assistant Professor	Construction Management	August 2010 – August 2017
University of Illinois at Urbana-Champaign	Graduate Research Assistant	Civil Engineering	August 2005 – August 2010
University of Illinois at Urbana-Champaign	Sargent and Lundy Pre-Doctoral Fellow	Civil Engineering	August 2004 – August 2005
American University in Cairo	Teaching Assistant	Interdisciplinary Engineering	September 2001 – May 2002

NON-ACADEMIC EXPERIENCE

<u>Place of Employment</u>	<u>Title</u>	<u>Dates</u>
Arab Contractors, Egypt	Senior Project Controls Engineer	2003 – 2004
Archirodon Construction Co., Egypt	Contract Administrator	2003
Arab Contractors, Egypt	Project Control Engineer	2002 – 2003
Arab Contractors, Egypt	Project Control Engineer and Contract Administrator	1997 – 2002
Ferrometalco (DSD Egypt), Egypt	Estimator	1996 – 1997

PUBLICATIONS IN DISCIPLINE

Papers in Professional Journals

1. Inyim, P., Zhu, Y., and Orabi, W. (2016). "Analysis of Time, Cost, and Environmental Impact Relationships at the Building-Material Level," *Journal of Management in Engineering*, 10.1061/(ASCE)ME.1943-5479.0000430 , 04016005.
2. El-Anwar, O., Ye, J., and Orabi, W. (2015). "Innovative Linear Formulation for Transportation Reconstruction Planning," *Journal of Computing in Civil Engineering*, 10.1061/(ASCE)CP.1943-5487.0000504, 04015048.
3. El-Anwar, O., Ye, J., and Orabi, W. (2015). "Efficient Optimization of Post-Disaster Reconstruction of Transportation Networks," *Journal of Computing in Civil Engineering*, 10.1061/(ASCE)CP.1943-5487.0000503, 04015047.
4. Orabi, W., and El-Rayes, K. (2012). "Optimizing the Rehabilitation Efforts of Aging Transportation Networks," *Journal of Construction Engineering and Management*, ASCE, 138(4), 529-539.
5. Orabi, W., El-Rayes, K., Senouci, A., and Al-Derham, H. (2010). "Optimizing Resource Utilization during the Recovery of Civil Infrastructure Systems," *Journal of Management in Engineering*, ASCE, 26(4), 237-246.
6. Orabi, W., El-Rayes, K., Senouci, A., and Al-Derham, H. (2009). "Optimizing Post-Disaster Reconstruction Planning for Damaged Transportation Networks," *Journal of Construction Engineering and Management*, ASCE, 135(10), 1039-1048. **Winner of the 2009 Best Paper Award from the ASCE Journal of Construction Engineering and Management.**

Conference Proceedings

7. Limsawasd, C., Orabi, W., and Athigakunagorn, N. (2016). "Optimizing Highway Rehabilitation Decisions to Minimize Fuel Consumption in Transportation Networks." *Proceedings of the 2016 Construction Research Congress*, San Juan, Puerto Rico.
8. Sheykhi, R., and Orabi, W. (2016). "A Framework for Investigating the Impact of Planners' Risk Attitude on Optimal Project Completion Outcomes." *Proceedings of the 2016 Construction Research Congress*, San Juan, Puerto Rico.
9. Ibrahim, M., and Orabi, W. (2016). "Impact of Incentive/Disincentive Levels on Time/Cost Trade-Off in Pavement Rehabilitation Projects." *Proceedings of the 2016 Construction Research Congress*, San Juan, Puerto Rico.
10. Jia, J., Ibrahim, M., Hadi, M., Orabi, W., Ali, M., and Xiao, Y. (2016). "Estimation of the Total Cost of Bridge Construction for use in Accelerated Bridge Construction Selection Decisions." *Proc., Transportation Research Board 95th Annual Meeting*.
11. Limsawasd, C., Orabi, W., and Pumpichet, S. (2015). "Estimating Fuel Consumption from Highway Rehabilitation Program Implementation on Transportation Networks." *Proceedings of the 2015 ASCE International Workshop on Computing in Civil Engineering*, Austin, TX.
12. Limsawasd, C., and Orabi, W. (2015). "Optimizing Environmental Sustainability and Public Benefits of Transportation Network Programs." *Proceedings of the 5th International/ 11th Construction Specialty Conference*, Vancouver, British Columbia, Canada.
13. Sheykhi, R., and Orabi, W. (2014). "Evaluating the Effect of Resource Utilization Decisions on Energy Consumption in Construction Projects." *Proceedings of the 2014 Construction Research Congress*, Atlanta, GA.
14. Orabi, W., Sheykhi, R., and El-Anwar, O. (2013). "Using probabilistic crew production rate to simulate schedule-related risks in construction projects." *Proceedings of the 4th International/ 10th Construction Specialty Conference*, Montréal, Québec, Canada.
15. El-Anwar, O., Ye, J., and Orabi, W. (2013). "Efficient Analysis and Optimization of Reconstruction Plans for Damaged Transportation Networks Following Disasters." *Proceedings of the 2013 ASCE International Workshop on Computing in Civil Engineering*, Los Angeles, CA. **Ranked among top three papers in the Intelligent Transportation track and invited for presentation in a general session with no parallel sessions.**
16. Orabi, W., Zhu, Y., and Ozcan-Deniz, G. (2012). "Minimizing Greenhouse Gas Emissions from Construction Activities and Processes." *Proceedings of the 2012 Construction Research Congress*, West Lafayette, IN.

17. Zhu, Y. and Orabi, W. (2012). "Application of systems modeling and particle swarm optimization to the analysis of time, cost and carbon emissions for building design and construction planning." *Proceedings of the 1st International Conference on Building Sustainability Assessment*, Porto, Portugal.
18. Orabi, W. (2011). "A Web-Based Resource Management System for Damaged Transportation Networks." *Proceedings of the 2011 ASCE International Workshop on Computing in Civil Engineering*, Miami, FL.
19. Orabi, W. and El-Rayes, K. (2011). "Maximizing Rehabilitation Benefits of Aging Transportation Networks." *Proceedings of the 3rd International/ 9th Construction Specialty Conference*, Ottawa, Ontario, Canada.
20. Orabi, W., El-Rayes, K., Senouci, A., and Al-Derham, H. (2009). "Planning Post-Disaster Reconstruction Efforts of Damaged Transportation Networks." *Proceedings of the 2009 Construction Research Congress*, Seattle, WA.

Chapters in Books

21. Ezeldin, A. S., and Orabi, W. (2006). "Risk Identification and Response Methods: Views of Large Scale Contractors Working in Developing Countries." *Advances in Engineering Structures, Mechanics & Construction, Solid Mechanics and its Applications*, Springer Netherlands, 781-792.

PRESENTED PAPERS, LECTURES, EXHIBITIONS, AND PERFORMANCES

- "Optimizing Environmental Sustainability and Public Benefits of Transportation Network Programs." The 5th International/ 11th Construction Specialty Conference, Vancouver, British Columbia, Canada, June 2015.
- "Using probabilistic crew production rate to simulate schedule-related risks in construction projects." The 4th International/ 10th Construction Specialty Conference, Montréal, Québec, Canada, May 2013.
- "Minimizing Greenhouse Gas Emissions from Construction Activities and Processes," The 2012 Construction Research Congress: Construction Challenges in a Flat World, West Lafayette, IN, May 2012.
- "A Web-Based Resource Management System for Damaged Transportation Networks," The 2011 ASCE International Workshop on Computing in Civil Engineering, Miami, FL, June 2011.
- "Maximizing Rehabilitation Benefits of Aging Transportation Networks," The 3rd International/ 9th Construction Specialty Conference, Ottawa, Ontario, Canada, June 2011.
- "Planning Post-Disaster Reconstruction Efforts of Damaged Transportation Networks," The 2009 Construction Research Congress: Building a Sustainable Future, Seattle, WA, April 2009.

WORKS IN PROGRESS

Other completed papers

- Limsawasd, C. and Orabi, W. "Modeling the impact of pavement-vehicle interaction on estimated vehicle fuel consumption at the network level." To be submitted soon to the ASCE Journal of Management in Engineering.
- Limsawasd, C., Orabi, W., and Athigakunagorn, N. "Evaluating the impact of highway rehabilitation decisions on transportation network energy consumption." To be submitted soon to the ASCE Journal of Construction Engineering and Management.
- Limsawasd, C., Orabi, W., and Athigakunagorn, N. "Optimizing highway rehabilitation decisions to maximize environmental sustainability in transportation networks." To be submitted soon to the ASCE Journal of Computing in Civil Engineering.
- Ibrahim, M., and Orabi, W., "Impact of Incentive/Disincentive Values on the Time/Cost Trade-off for Pavement Rehabilitation Projects." To be submitted soon to the ASCE Journal of Construction Engineering and Management.
- Sheykhi, R., and Orabi, W. "Risk-Based Optimization of Resource Utilization in Construction Portfolios under Short-Term Uncertainties." To be submitted soon to the ASCE Journal of Computing in Civil Engineering.

Research in Progress

- Ibrahim, M., and Orabi, W., "Time/Cost Trade-off for Pavement Rehabilitation Projects under the A+B Bidding Method."

- Ibrahim, M., and Orabi, W., “Optimizing Selection of Alternative Contracting Methods for Pavement Rehabilitation Projects.”
- Sheykhi, R., and Orabi, W. “Maximizing Profitability in Portfolio of Construction Projects considering Risk Utility of Contractors.”

Grant Proposals

- “Effectiveness of Stationary Police Vehicles with Blue Lights in Freeway Work Zones,” Florida Department of Transportation (FDOT), Role: Co-PI, PI: Dr. Albert Gan, submitted on January 2017.
- “Estimating total cost of bridge construction using ABC and conventional methods of construction,” Accelerated Bridge Construction University Transportation Center (ABC-UTC) – Second Round of Funding, Transportation Research Board, Role: Co-PI, PI: Dr. Mohammed Hadi, submitted on January 20, 2016.
- “EXP: Enhancing Trainees' Construction Safety Situation Awareness through Visual Perception Analysis,” National Science Foundation, Amount: \$328,925, Role: Co-PI, PI: Dr. Nipesh Pradhananga, submitted on December 18, 2015.
- “CHS: Small: Towards Data Intensive Eye-Tracking Experiments via a Data of Interest (DOI) Approach,” National Science Foundation, Amount: \$449,100, Role: Co-PI, PI: Dr. Radu Jianu, submitted on November 18, 2015.
- “Alternative Contracting Research,” Florida Department of Transportation, Amount: \$80,609.84, Role: PI, submitted on December 17, 2014.
- “Automated Identification and Quantification of Flexible and Rigid Pavement Distresses,” Florida Department of Transportation, Amount: \$179,054, Role: Co-PI, PI: Dr. Ali Mostafavi, submitted on December 15, 2014.
- “Community Resilience Center of Excellence Program,” National Institute of Standards and Technology, Amount: \$20,000,000, Role: Lead PI at FIU, Director at LeHigh University: Dr. Richard Sause, submitted on September 12, 2014.
- “Estimating total cost of bridge construction using ABC and conventional methods of construction,” Accelerated Bridge Construction University Transportation Center (ABC-UTC) – First Round of Funding, Transportation Research Board, Amount: \$131,289, Role: Co-PI, PI: Dr. Mohammed Hadi, submitted on March 16, 2014.
- Summary Proposal: “Integrating Building Information Modeling (BIM) in Bidding,” ELECTRI International, Amount: \$44,654, Role: PI, submitted on November 8, 2013.
- Summary Proposal: “Optimizing Electrical Design to Maximize Building LEED Ratings,” ELECTRI International, Amount: \$44,241, Role: PI, submitted on November 8, 2013.
- “Zone-Related Environmental and Economic Analysis for using Substitute Aggregates,” NCHRP IDEA Program, Transportation Research Board, Amount: \$149,998.33, Role: PI, submitted on March 1, 2013.
- “Coastal SEES (Track 1), Collaborative: Integrating Spatial, Temporal and Environmental Analysis for Built Environment Adaptation in Coastal Regions and Hot and Humid Climate Zones,” National Science Foundation, Amount: \$514,775, Role: Co-PI, PI: Dr. Yimin Zhu, submitted on January 17, 2013.
- “Capacity Building for Energy Smart Buildings in Pakistan through Research, Education, Training and Demonstration,” Pakistan-US Science and Technology Cooperation Program 2012, Amount: \$258,699, Role: Co-PI, PIs: Dr. Rizwan Farooqui and Yimin Zhu, submitted on November 30, 2012.
- Summary Proposal: “Optimizing Electrical Design to Maximize Building LEED Ratings,” ELECTRI International, Amount: \$45,241, Role: PI, submitted on November 17, 2012.
- Letter of Intent: “Incorporating sustainability in the evaluation of construction bids,” NPRP Program, Qatar National Research Fund, Amount: \$0, Role: PI, submitted on November 6, 2012.
- “Flexible and Rapid Decision Making Related to Public-Private Partnerships (P3) Funding Models in Transportation,” Florida Department of Transportation, Amount: \$158,362.89, Role: PI, submitted on April 13, 2012.
- “Towards a Systematic Framework and Optimization Decision Support Tool for the Future of Sustainable Cities,” Faculty Research Support Program, Florida International University, Amount: \$29,999.88, Role: Co-PI, PI: Dr. Jin Xia, submitted on March 1, 2012.

- “Analyzing the Impact of Building Types on Energy Consumption and Greenhouse Gas Emissions,” Faculty Research Support Program, Florida International University, Amount: \$29,831.87, Role: PI, submitted on February 28, 2012.
- “Impact of Location on the Environmental and Economic Sustainability in using Substitute Aggregates in Roadway Construction,” National Science Foundation, Amount: \$324,582, Role: PI, submitted on February 15, 2012.
- “Use of High Intensity Reflective Sheeting in-lieu of External Lighting of Overhead Roadway Signs,” Florida Department of Transportation, Amount: \$149,686, Role: PI, submitted on February 9, 2012.
- “Solar Decathlon China 2013,” Solar Decathlon China, Amount: \$100,000, Role: Co-PI, PI: Dr. Yimin Zhu, submitted on November 30, 2011.
- “Environmental and Economic Impacts of using Recycled Materials and Industrial By-Products in Roadway Construction,” National Science Foundation, Amount: \$327,555, Role: PI, submitted on October 3, 2011.

FUNDED RESEARCH

- Gan, A., Orabi, W. (Co-PI), Alluri, P. and Wu, W., “Effectiveness of Stationary Police Vehicles with Blue Lights in Freeway Work Zones”, Florida Department of Transportation, 03/01/2017 – 04/30/2018, \$313,478.
- Hadi, M., Orabi, W. (Co-PI), and Mostafavi, A., “Estimating total cost of bridge construction using ABC and conventional methods of construction”, ABC-UTC, 01/01/2016 – 12/31/2016, continuation into second year funding.
- Hadi, M., Orabi, W. (Co-PI), and Mostafavi, A., “Estimating total cost of bridge construction using ABC and conventional methods of construction”, ABC-UTC, 06/01/2014 – 12/31/2015, \$131,289.
- Orabi, W. (PI), Zhu, Y. (Former PI), “Stochastic Time, Cost and Environmental Impact Optimization of Construction Processes”, NSF CMMI-1000136, 07/01/2010 – 06/30/2015, \$307,855.
- Zhu, Y., Lin, C-X, Orabi, W. (Co-PI), Ahmad, I., Pala, N., Spiegelhalter, T, and Vassigh, S. “Solar Decathlon China 2013”, Solar Decathlon China, 2013, \$100,000.

PROFESSIONAL HONORS, PRIZES, FELLOWSHIPS

- 2009 Best Paper Award from the ASCE Journal of Construction Engineering and Management
- Paper ranked among top three in the Intelligent Transportation track of the 2013 ASCE International Workshop on Computing in Civil Engineering
- Citation in Who’s Who of Emerging Leaders, 1st Edition, 2007
- Citation in Who’s Who in Science and Engineering, 8th Edition, 2005 - 2006

University

- Appointed to “Dissertation Advisor Status” within the Graduate Faculty

UNIVERSITY SERVICE

School

- Coordinator, Construction Seminar Series
- Participated in the redesign and maintenance of school website

College

- Tenure and Promotion Committee, August 2017 – Present
- Curriculum Committee, August 2017 – Present
- Transition Committee, August 2017 – Present
- Budget Committee, January 2017 – August 2017
- Awards Committee, August 2015 – April 2016

- Faculty Council on Governance, August 2012 – April 2013
- Information Technology Committee, August 2011 – April 2017
- Library Committee, August 2010 – April 2017

University

- **Faculty Judge** for the Scholarly Forum held during the Graduate School Appreciation Week, years 2014-2017

OFFICES HELD IN PROFESSIONAL SOCIETIES

- **Member**, American Society of Civil Engineers (ASCE)
- **Member**, ASCE Construction Institute
- **Member**, ASCE Construction Research Council (CRC)
- **Member**, Education Sub-Committee, ASCE Technical Council on Computing in Civil Engineering (TCCIT)
- **Member**, Data Sensing and Analysis (DSA) Sub-Committee, ASCE Technical Council on Computing in Civil Engineering (TCCIT)
- **Member**, Visualization, Information Modeling, and Simulation (VIMS) Sub-Committee, ASCE Technical Council on Computing in Civil Engineering (TCCIT)

OTHER PROFESSIONAL ACTIVITIES AND PUBLIC SERVICE

- **Accreditation Visiting Team Member**, American Council on Construction Education (ACCE), 2017 to present.
- **Reviewer**, Journal of Energy and Buildings, Elsevier, 2017 to present.
- **Reviewer**, Journal of Computing in Civil Engineering, ASCE, 2012 to present.
- **Reviewer**, Journal of Automation in Construction, Elsevier, 2012 to present.
- **Reviewer**, Journal of Management in Engineering, ASCE, 2011 to present.
- **Reviewer**, Journal of Construction Engineering and Management, ASCE, 2007 to present.
- **Reviewer**, Journal of Construction Management and Economics, UK, 2005 to present.
- **Reviewer**, Construction Research Congress, 2012 to present.
- **Reviewer**, The Sixth International Conference on Construction in the 21st Century (CITC-VI), Kuala Lumpur, Malaysia, July 5-7, 2011.
- **Member of Technical Committee**, 2011 ASCE Workshop on Computing in Civil Engineering, Miami, FL, June 19-22, 2011.
- **Reviewer**, The 3rd International/ 9th Construction Specialty Conference, Ottawa, Ontario, Canada, June 14-17, 2011.
- **Reviewer**, Construction Management and Economics 25th Anniversary Conference, Reading, UK, July 16-18, 2007.