

## **Saleh Abu Dabous, Ph.D., P. Eng., CCP**

Department of Civil and Environmental Engineering  
College of Engineering  
University of Sharjah  
P.O. Box 27272, Sharjah  
Phone: 971 6 505 0965  
Email: [sabudabous@sharjah.ac.ae](mailto:sabudabous@sharjah.ac.ae)

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### **SHORT BIOGRAPHY:**

Saleh Abu Dabous is an Assistant Professor at the Department of Civil and Environmental Engineering - University of Sharjah. Saleh's educational background includes a Ph.D. in Building Engineering and Master's in Civil Engineering from Concordia University in Canada and a Bachelor's degree in Civil Engineering from Jordan University of Science and Technology.

Saleh is a licensed Professional Engineer of Ontario/Canada gained seven years of industry experience as an engineer on multi-million dollar mega construction projects. In addition, Saleh has six years of academic experience involved mainly in teaching, scholarly and research, supervision of students, and community service. His primary research interests are in the areas of infrastructure condition assessment and rating, decision support systems, construction management and cost engineering. Saleh is passionate about teaching, research, and working with students and young professionals.

### **PROFESSIONAL AFFILIATIONS:**

- **Licensed Professional Engineer of Ontario/Canada** – License #: 100019802
- **Jordan Engineers Association** – License #: 12805/01
- **AACE International – Certified Cost Professional (CCP)** – License #: 4142

### **EDUCATION:**

#### **Ph. D. in Building Engineering – Construction Management (August 2008)**

*Building, Civil, and Environmental Engineering Department, Concordia University, Montreal, Quebec, Dissertation: "A Decision Support Methodology for Rehabilitation Management of Concrete Bridges"*

#### **Graduate Diploma in Computer Science (May 2003)**

*Concordia University, Montreal, Quebec*

#### **Master in Civil Engineering/ Structures (May 2000)**

*Concordia University, Montreal, Quebec*

Dissertation: "Relaxation of Prestressed Steel Used in Construction of the Confederation Bridge"

#### **B.Sc., Civil Engineering (May 1996)**

*Jordan University of Science and Technology, Irbid, Jordan*

## **ACADEMIC EXPERIENCE:**

### **Assistant Professor (January 2015 - Current)**

Department of *Civil and Environmental Engineering, University of Sharjah*

- Teaching courses at both undergraduate and graduate levels:

Taught Courses:

- Engineering Economics (0401301)
- Professional Practice in Civil Engineering (0401-495)
- Construction Engineering (0405-437)
- Senior Design Project Supervision – Average of Three Groups
- Engineering Project Management (0405-561) – Graduate Course
- Management of Construction Projects (0401-534) – Graduate Course
- Cost Analysis for Construction Projects (0401-533) – Graduate Course

- Involved in Department, College and University committees and services:

- Chair of the Department Outreach Committee
- Member of the curriculum committee
- Member of the Department UAE Ministry Accreditation Committee
- Member of the College Outreach Committee
- Member of ABET Accreditation Committee
- Member of ABET Steering Committee
- Member of College committee that organized the UAE Innovation Week / 2015 and 2016
- Member of the University committee to oversee the University Science Complex project
- Member of the University committee to develop and accredit a new master program in GIS and Remote Sensing
- Member of the organizing committee for Advances in Sustainable Construction Materials & Civil Engineering Systems (ASCMCES-17) Conference

### **Visiting Assistant Professor (September 2010 – December 2011)**

*Civil Engineering Department, American University of Sharjah*

- Conducted research and taught courses in construction engineering and management:

- Civil Engineering Cost Analysis (CVE 267)
- Project Estimating, Planning and Control (CVE 367)
- Construction Management (CVE 463)

- Involved in department committees and college services:

- Member of the organizing committee for the International Conference on Sustainable Systems and the Environment (ISSE 2011). The conference is organized in collaboration with the Centre for Sustainable Development at the University of Cambridge
- ABET Accreditation Committee
- Outreach Committee

**Assistant Professor-Limited Term Appointment (August 2009 – August 2010)**

*Department of Building, Civil and Environmental Engineering, Concordia University*

- Conducted research and taught courses in construction engineering and management:
  - Project Management for Construction (BLDG 478) – Summer 2009
  - Engineering Management Principles and Economics (ENGR 301) – Fall 2009 (Two Sections)
  - Construction Engineering (BCEE 451) – Fall 2009 and Summer 2010
- Involved in department committees and services and supervised senior capstone design projects.

**Part-Time Instructor (January 2006 to August 2009 and May 2012 – August 2014)**

*Department of Building, Civil and Environmental Engineering, Concordia University*

Supervising graduate students and teaching graduate and under-graduate courses

**Courses:**

- Engineering Management Principles and Economics (ENGR 301) – Winter 2006, Summer 2006, Fall 2007, Summer 2012 and Summer 2013
- Project Management (BLDG 6571) – Winter 2009, Fall 2012 and Fall 2013
- Project Management for Construction (BLDG478) - Summer 2009

**OTHER RELEVANT EXPERIENCE:**

**Research and Teaching Assistant / Ph. D Candidate (September 2004 – August 2008)**

Concordia University, Montreal, Quebec

Completed Ph.D. research in the area of infrastructure management and decision support systems

**President of AACEI-Concordia Student Section and Board Member of AACEI-Montreal Section (November 2005 – May 2008)**

Organized events and lectures presented by professionals from industry. Managed the AACEI student scholarship and proctored AACEI certification exams

**INDUSTRY EXPERIENCE:**

**Project Cost Control Engineer (January 2012 – January 2015)**

*Hatch Ltd., Montreal, Quebec*

Projects: Belle Plain Compaction – Mosaic; Alcoa Alliance Program; De Beers-Mountain Province Gahcho Kué Diamond Mine

- Defined project packaging structure and developed project baseline
- Participated in the development of project control procedures based on execution strategies
- Completed scope analysis and control during engineering and procurement cycles
- Managed project trends and forecasts based on: productivity analysis and labour rates; commitments change management; schedule variances
- Led a monthly cost report internal review meeting with the Project Management team and a second monthly meeting with the client

- Issued monthly deliverables to client that include: Detailed and Summary Cost Reports; Project Schedule; Progress and Accruals Report, Incurred Cost Summary and Incurred Cost Profile, Funding Requests and Invoices Registers, Cost and Schedule Variance Report; Safety Statistics
- Completed monthly contingency analysis and evaluation
- Managed project capitalization process
- Managed progress measurement and progress billings for contracts and purchase orders

**Project Control Specialist (May 2008 – August 2009)**

*Hatch Ltd., Montreal, Quebec*

Projects: RMB - Water Treatment Plan / Helguvic – Aluminum Smelter / Esterhazy

- Initiated improvement actions of project controls procedures on major industrial projects
- Provided training to project controllers resulting in timely and consistent month-end reporting on major industrial program.
- Participated with the iPas PC Functional team to develop the company Project Control System and the related project control procedures
- Verified and validated the integration of the Project Control System with SAP system (Resources Data), Primavera (Schedule) and Candy (Cost Estimate)
- Managed an initiative to develop models to implement the earned value methodology
- Participated in the development of the organization global vendor database to optimize procurement cost

**Project Engineer (May 2000 – March 2003)**

*Dekis Trading & Investments Inc., Montreal, Quebec*

- Participated in preparing detailed cost estimates for bidding purposes
- Participated in the development Generic Projects Cost Structure and Cost Account Codes Directory under Standard Work Breakdown Structures for various generic project types
- Developed estimates for project changes and contract variation
- Prepared project cost estimate of resources and other expenses for bidding purposes
- Prepared ‘Budgeted Cost of Work Scheduled’ (or Spent Profile), discuss and agree with the senior management
- Recorded/extracted Committed/Spent Cost to-date for Direct Costs
- Generated monthly cost reports in tabular and graphical formats for each project in Primavera, including but not limited to ‘Earned Value Report’, ‘Plan Spent versus Actual Spent’
- Facilitated and provided information to Accounts Department for accrued invoices at required frequency or predetermined project payment milestones so the invoices can be issued to the clients and maintain Invoice Register
- Performed cost analysis and advised senior management on cost over-runs and issued the monthly reports

## **GRADUATE STUDENTS:**

- Khalifa Musabeh AL Teneiji, Ph. D. Thesis, University of Sharjah (Co-Advisor), Research: Partnership Mechanism between Private and Public Sectors to Finance and Develop Government Housing Projects (Status: Ongoing).
- Tareq Abdulrahim Zadeh, Master Thesis, University of Sharjah, (Main Advisor), Research: Construction Projects Resource Optimization and Time-Cost Trade-off, (Status: Ongoing)
- Ahmed AL-Shaaer, Master Thesis, University of Sharjah, (Main Advisor), Research: Factors Impacting Masonry Labour Productivity in the UAE, (Status: Graduated)
- Abdalla Mahmoud Salim, Master Project, University of Sharjah, Research: Cost Analysis for Green and Sustainable Multi-Villas Project (Status: Graduated)
- Sami Moufti, Master of Science in Building Engineering (Co-Advisor) – Concordia University, Thesis: A Detailed Approach for Detailed Condition Assessment of Concrete Bridges (Status: Graduated)
- Salam Yaghi, Master of Science in Building Engineering (Co-Advisor) – Concordia University, Research: Integrated Remote Sensing Technologies for Condition Assessment of Concrete Bridges (Status: Graduated)

## **RESEARCH GRANTS:**

- **PI for Competitive Grant AED 80,000 (Awarded)**  
“Deployment of Non-Destructive Technologies in Condition Assessment of Concrete Bridge Infrastructure” Proposal submitted for competitive research grant – University of Sharjah
- **PI for Seed Fund – AED 20,000 (Awarded)**  
Decision Support System for Condition Assessment of Transportation Infrastructure in the UAE
- **CO-PI for FRG Grant (Completed):**  
Successful joint proposal with colleagues from the Civil Engineering department at the American University of Sharjah to build an Innovative framework for Bridge Management in the UAE.
- **PI on three grant proposals of a total of AED 240,000 currently under review.**

## **AWARDS:**

- **Honourable Mention in the competition for the 2011 Stephen G. Revay Award, the Canadian Society for Civil Engineering, 2011**
- **Nominated for the best Ph. D. Thesis Competition, 2009**
- **Canadian Transportation Research Forum Student Paper Competition. Second Place in the Ph.D. category, 2006-2007**
- **Concordia University Dean’s Fellowship, 2004-2007**
- **Concordia Partial Tuition Scholarship, 1999**
- **Concordia International Tuition Fee Remission, 1999**

## **LECTURES AND SEMINARS**

- Invited key speaker to Bridge and Road Engineering and Maintenance Conference organized by the International Road Foundation. Title: “Integrated Ground Penetrating Radar (GPR) and Infrared Thermography (IRT) method for bridge deck delamination detection”
- Public seminar to students and faculty in College of Engineering, entitled: “Bridge Deterioration Modeling Using the Markov Chains Stochastic Model”
- Public seminar to students and faculty in College of Engineering, entitled: “Professional Practice and Code of Conduct for Civil Engineers”
- Presentation as part of an event organized by AACE-Montreal, SNC Lavalin Inc., Montreal, Quebec. “Decision Support Model for Bridge Management”
- Hatch Project Control Practices Alignment Workshop, Hatch Ltd., Johannesburg, South Africa. “Project Cost and Time Integrated Control: The Earned Value Methodology”

## **PUBLICATIONS:**

### **JOURNAL PAPERS:**

Al-Ruzouq, R., Hamad, K, Abu Dabous, S., Zeiada, W. and Khalil, M. (2019) “Weighted multi-attribute framework to identify freeway incident hot-spots in a spatio-temporal context”, *Arabian Journal for Science and Engineering* (Accepted).

Salim, A. and Abu Dabous, S. (2018) “Quantitative analysis of sustainable housing energy systems based on Estidama pearl rating system”, *International Journal of Green Energy*, Vol. 15 (14-15), pp. 905-917

Abu Dabous, S. and Al-Khayyat, G. (2018) “A flexible bridge rating method based on Analytical Evidential Reasoning and Monte Carlo Simulation”, *Advances in Civil Engineering*, Volume 2018, Article ID 1290632.

Al-Ruzouq, R., Venkatachalam, S., Abueladas, A. and Abu Dabous, S. “Geomatics for economic archaeological documentation and management”, *Applied Geomatics*, Vol. 10, No. 4, pp. 341-360.

Alsharqawi, M., Zayed, T., and Abu Dabous, S. (2018) “Integrated condition rating and forecasting method for bridge decks using Visual Inspection and Ground Penetrating Radar”, *Automation in Construction*, Vol. 89, pp. 135-145.

Abu Dabous, S., Yaghi, S., Alkass, S., and Moselhi, O. (2017) “Concrete bridge deck condition assessment using IR Thermography and Ground Penetrating Radar technologies”, *Automation in Construction*, Vol. 81, pp. 340-354.

Abu Dabous, S. (2017) “Assessing transition probability of bridge deterioration using Dempster–Shafer theory of evidence”, *Journal of Bridge Structures*, Vol. 12, No. 3-4, pp. 97-106.

Al-Ruzouq, R. and Abu Dabous S. (2017) “Archaeological site information modelling and management based on close range photogrammetry and GIS”, *Conservation & Management of Archaeological Sites*, Vol. 19, No. 3, pp. 156-172.

Abu Dabous, S., Hamad, K., and Al-Ruzouq, R. (2016) “Defect-Based Urgency Index for Bridge Maintenance Ranking and Prioritization”. World Academy of Science, Engineering and Technology, *International Journal of Civil, Environmental, Structural, Construction and Architectural Engineering*, Vol. 10, Issue 5

Yaghi, S. and Abu Dabous, S (2015) “State-of-the Art Practices in Bridge Inspection”. World Academy of Science, Engineering and Technology, International Science Index, *International Journal of Civil, Environmental, Structural, Construction and Architectural Engineering*, Vol. 2, No. 10, pp. 1232-1235

Moufti, S. A., T. Zayed, and S. Abu Dabous (2014) “Defect-Based Condition Assessment of Concrete Bridges Fuzzy Hierarchical Evidential Reasoning Approach”, *Journal of the Transportation Research Board*, Vol. 2431, pp. 88-96.

Yehia, S., Abdelfatah and Abu Dabous, S. (2012) “A Conceptual Framework for a Bridge Management System for UAE”, *Journal of Bridge Structures*, Vol. 8, No. 2, pp. 67-79.

Abu Dabous S. and Alkass S. (2011) “Allocating Budget for Bridge Management: A Decision Support Methodology”, *Canadian Journal of Civil Engineering*, Vol. 38, No. 11, pp. 1227-1237. **AWARD WINNER.**

Abu Dabous S. and Alkass S. (2010). “A multi-attribute ranking method for bridge management,” *Engineering, Construction and Architectural Management*, Vol. 17, No. 3, pp. 282-291.

Abu Dabous S., Alkass S. and Zaki, A. (2008). “A Probabilistic Methodology for Bridge Deck Condition Assessment,” *Journal of Bridge Structures*, Vol. 4, No. 1, pp. 49-56.

Abu Dabous S. and Alkass S. (2008). “Decision Support Method for Multi-Criteria Selection of Bridge Rehabilitation Strategy,” *Construction Management and Economics Journal*, Vol. 26, No. 8, pp. 883-893.

#### **CONFERENCE PAPERS:**

Abuseem, A. and Abu Dabous, S., (2019) “Multicriteria Method to Prioritize Existing Roundabouts for Improvement in the Emirate of Sharjah in the United Arab Emirates”, *Transportation Research Board 98th Annual Meeting*

Abu Dabous, S., (2018) “Fuzzy-based method to account for subjectivity and uncertainty in bridge condition assessments”, CSCE 2018 Annual Conference, Fredericton, Canada.

Alsharqawi, M., Zayed, T. and Abu Dabous, S., (2018) “A Clustering-Based Model for Rating Concrete Bridges Using k-Means Technique”, *CSCE 2018 Annual Conference*, Fredericton, Canada.

Alsharqawi, M., Zayed, T. and Abu Dabous, S., (2018) “Optimizing Rehabilitation Strategies for Bridge Decks under Performance-Based Contracting Setting”, *International Conference on Bridge Maintenance, Safety and Management*, Melbourne, Victoria, Australia.

Alshaaer, A., Abu Dabous, S., Venkatachalam, S. (2018) “A Study on the factors affecting masonry and plaster productivity in UAE construction industry”, *The International Conference on Civil and Infrastructure Engineering*, Ras Al-Khaimah, UAE.

- Abu Dabous, S., Ghenai, C., Shanableh, A., and Al-Khayyat, G., (2017) “Life cycle assessment of major repair and replacement options for bridge deck rehabilitation”, *International Conference on Advances in Sustainable Construction Materials and Civil Engineering Systems*, University of Sharjah, United Arab Emirates
- Alsharqawi, M., Abu Dabous, S., and Zayed, T. (2017) “Performance-based contracting for maintaining transportation assets with emphasis on bridges”, *International Conference on Advances in Sustainable Construction Materials and Civil Engineering Systems*, University of Sharjah, United Arab Emirates
- Alsharqawi, M., Zayed, T. and Abu Dabous, S., (2017) “Common practices in assessing conditions of concrete bridges”, *International Conference on Advances in Sustainable Construction Materials and Civil Engineering Systems*, University of Sharjah, United Arab Emirates
- Venkatachalam, S., Hamad, K., Abu Dabous, S. and Abuzwidah, M., (2017) “An Investigative Study on the Student Performance on Multiple Choice Exams with Multiple Versions in Engineering Economics Course”, *Proceedings of the joint 8th IFEE2017 and 3rd TSDIC2017* Sharjah, United Arab Emirates, April 18 – 20, 2017
- Abu Dabous, S., Zeiada, W. and Kaloush, K., (2017) “Multicriterion Sustainability-Informed Ranking Method for Pavement Management”, *Transportation Research Board 96th Annual Meeting*.
- Abu Dabous, S., Al-Khayyat, G., Llord, D. and Alkheyaili, S. (2016) “A New Bridge Condition Index Considering Potential of Evolution and Extent of Deterioration Process”, *2nd IRF Asia Regional Congress & Exhibition*, Kuala Lumpur, Malaysia.
- Abu Dabous, S., Hamad, K., and Al-Ruzouq, R. (2016) “Defect-Based Urgency Index for Bridge Maintenance Ranking and Prioritization”. *ICCSCCE 2016: 18th International Conference on Civil, Structural and Construction Engineering*, Rome, Italy.
- Yaghi, S. and Abu Dabous, S. (2015). “State-of-the Art Practices in Bridge Inspection.” *ICCBE 2015: 17th International Conference on Civil and Building Engineering*, Dubai, UAE
- Venkatachalam, S and Abu Dabous, S. (2015). “A review of Information Interface Management in Construction Design Process – Importance Challenges and Management Methods”, *The 9th Built Environment Conference*. Durban, South Africa
- Yaghi, S., Abu Dabous, S., Alkass, S., and Moselhi, O. (2014). “A Comparative Study of Remote Sensing Technologies for Bridge Condition Assessment”, *Canadian Society for Civil Engineering Conference*, Halifax, NS, Canada
- Yaghi, S., Abu Dabous, S., Alkass, S., and Moselhi, O. (2014). “Visualization of Inspection Results of Concrete Bridges Using Remote Sensing and ArcGIS”, *14th International Conference on Construction Applications of Virtual Reality in Construction and Islamic Architecture*, Sharjah, UAE, November 2014
- Moufti, S. A., T. Zayed, and S. Abu Dabous. (2014) "Defect Based Condition Assessment of Concrete Bridges: a Fuzzy Hierarchical Evidential Reasoning Approach", *The Annual Meeting of the Transportation Research Board*, 2014, Washington, D.C.

Moufti, S. A., T. Zayed, and S. Abu Dabous. (2013) "Fuzzy defect based condition assessment of concrete bridges", *IFSA World Congress and NAFIPS Annual Meeting (IFSA/NAFIPS), 2013 Joint*, pp. 1489-1494. IEEE, 2013.

Abu Dabous S., Alkass S. (2011) "Bridge Infrastructure Safety Assessment: Mitigating the Risk of Failure", *Canadian Society for Civil Engineering Annual General Meeting & Conference*, Ottawa, Canada.

Yehia S., Abdelfatah A., and Abu Dabous S. (2011) "A Proposed Framework for Bridge Management System in the United Arab Emirates", *International Conference on Sustainable Systems and the Environment*, UAE, 2011.

Abu Dabous S. and Alkass S. (2010) "A Stochastic Method for Condition Rating of Concrete Bridges", *Innovation for Reshaping Construction Practices, Construction Research Congress*, Banff, Alberta, Canada.

Abu Dabous S. and Alkass S. (2009) "A Ranking and Prioritizing Method for Bridge Management", *Global Innovation in Construction Conference*, 2009, Loughborough University, England.

Abu Dabous S., Alkass S. and Zaki A. (2008) "Improving Inspection Practice and Developing a Condition Index for Concrete Bridges", *Canadian Society for Civil Engineering Annual Congress*, Quebec City, Canada

Abu Dabous S. (2007). "A Unified Condition Index for Existing Concrete Bridges in Canada", The Canadian Transportation Research Forum 43rd annual meeting, *Shaking up Canada's Transportation Systems to Meet Future Needs*, New Brunswick, Canada. – **AWARD WINNER**

Abu Dabous S., Alkass S. and Zaki, A. (2007). "A Probabilistic Methodology for Bridge Deck Condition Assessment", *4th New York City Bridge Conference*, New York, USA

Bridge Engineering Association, New York, USA.

Abu Dabous S., Alkass S. and Zaki A. (2007) "Analytical Tool for Choosing Bridge Rehabilitation Strategy", *CME 25: Construction Management and Economics: Past, Present and Future*, University of Reading, Reading, England.

### **REVIEW ACTIVITIES:**

Reviewed research manuscripts for:

- **Infrared Physics and Technology Journal**
- **Journal of Pavement Engineering**
- **TRB Annual Conference**
- **International Journal of Construction Management**
- **Canadian Society for Civil Engineering Annual Conference, 2018**
- **Journal of Professional Issues in Engineering Education and Practice, ASCE**
- **Journal of Bridge Structures**
- **Construction Management and Economics Journal**
- **Engineering, Construction and Architectural Management Journal**
- **The Canadian Society for Civil Engineering 2008 annual conference**
- **Innovation for Reshaping Construction Practices, Construction Research Congress**