

# **Baris Salman, Ph.D.**

## **I. EDUCATION**

- 2010 Ph.D.** Department of Civil and Environmental Engineering,  
**University of Cincinnati**, Cincinnati, OH  
Dissertation Title: “Infrastructure Management and Deterioration Risk  
Assessment of Wastewater Collection Systems”
- 2004 B.Sc.** Department of Civil Engineering,  
**Middle East Technical University**, Ankara, Turkey

## **II. EMPLOYMENT HISTORY**

- 08/2014 – Present Syracuse University**  
**Title: Professor of Practice**  
Department: Civil and Environmental Engineering
- 08/2013 – 07/2014 Middle East Technical University – Northern Cyprus Campus**  
**Title: Assistant Professor**  
Program: Civil Engineering
- 09/2012 – 08/2013 Middle East Technical University – Northern Cyprus Campus**  
**Title: Instructor**  
Program: Civil Engineering
- 10/2010 – 09/2012 Syracuse University**  
**Title: Research Associate**  
Department: Civil and Environmental Engineering
- 07/2004 – 06/2010 University of Cincinnati**  
**Title: Research Assistant**  
Department: Civil and Environmental Engineering
- 08/2005 – 12/2009 University of Cincinnati**  
**Title: Teaching Assistant**  
Department: Civil and Environmental Engineering
- 06/2002 – 08/2002 Ankara Mamak Municipal Building Construction**  
**Title: Intern**

## **III. TEACHING EXPERIENCE**

### **Syracuse University**

- CIE 272: Civil and Environmental Engineering Measurements (2014 Fall)
- CIE 400 / 600: Construction Estimating and Scheduling (2015 Spring, 2016 Spring, 2017 Spring, 2018 Spring)
- CIE 600 / ECS 636: Sustainable Development and Infrastructure Management (2015 Spring, 2016 Spring, 2017 Spring, 2018 Spring)
- CIE 326: Engineering Materials (2015 Spring, 2016 Spring, 2017 Spring, 2017 Fall)
- CIE 273: Introduction to Geomatics and BIM (2015 Fall, 2016 Fall, 2017 Fall, 2018 Fall)
- CIE 443 / 643: Transportation Engineering (2015 Fall, 2016 Fall, 2017 Fall, 2018 Fall)
- CIE 401 / 601: Construction Engineering and Project Management (2018 Fall)

### **Middle East Technical University - Northern Cyprus Campus**

- CVE 353: Principles of Transportation Engineering (2012 Fall, 2013 Fall)

- ECO 280: Engineering Economics (2012 Fall, 2013 Spring, 2013 Fall, 2014 Spring)
- CVE 332: Construction Engineering and Management (2013 Spring, 2014 Spring)
- CVE 434: Construction Planning (2013 Spring, 2014 Spring)
- CVE 241: Materials of Construction (2012 Fall)

**Syracuse University, Syracuse, New York**

**Position: Research Associate**

- Guest lecturer in “Construction Project Management” (Topic: Primavera P6) and “Sustainable Development and Infrastructure Management”.

**University of Cincinnati, Cincinnati, Ohio**

**Position: Teaching Assistant**

- CEE679: Construction Project Management: 2005 – 2009 Autumn Quarters
- CEE680: Construction Planning and Estimating: 2006 – 2009 Winter Quarters
- CEE670: Construction Equipment and Planning: 2006 and 2007 Spring Quarters
- CEE698: Construction Safety and Health: 2008 Spring Quarter
- CEE475: Construction Materials: 2008 Autumn Quarter
- CEE675: Sustainable Infrastructure and Green Construction: 2009 Spring Quarter

**IV. RESEARCH EXPERIENCE**

**Syracuse University, Syracuse, NY, USA (Position: Professor of Practice)**

- Principal Investigator in “Investigating Cement Mortar Mix Design Alternatives to Reduce Shrinkage Cracking in Cement Mortar Lining (CML) Applications”, Raymond International, WLL, Start Date: 10/2018, Total Budget: \$48,201.
- Principal Investigator in “Airport Building Information Modeling (ABIM) Implementation Framework for Smart Airport Life Cycle Management”, Federal Aviation Administration, Graduate Student Research Scholarship for Ph.D. Student, Basak Keskin, Start Date: 9/2018, Total Budget: \$12,000.
- Principal Investigator in “Innovative Techniques for Maintenance, Repair and Reconstruction (MRR) of Asphalt Roadways”, University Transportation Center Region II, Start Date: 06/2015, Completion Date: 8/2017, Total Budget: \$160,000
- Principal Investigator in “A Workshop on Implementation of Asset Management Principles for Local Street Networks”, University Transportation Center Region II, Start Date: 09/2016, Expected Completion Date: 03/2018, Total Budget: \$22,333

**Middle East Technical University - Northern Cyprus Campus**

- Campus Research Fund: “Investigation of Applicability of Stormwater Management Practices in the Town of Guzelyurt”, Start Date: 03/2013, Budget: 6,800 TL.

**Syracuse University, Syracuse, NY, USA (Position: Research Associate)**

- Co-Principal Investigator in “Accelerating the Construction Process of Highway Bridges”, University Transportation Center Region II, Start Date: 12/2011, Completion Date: 07/2013, Budget: \$100,419.
- Actively involved in preparation of research grant titled “TranLIVE - Transportation for Livability by Integrating Vehicles and the Environment” for the U.S. DOT University

Transportation Center – Tier 1 Competition. (Awarded on 01/17/2012; Total Budget of the Project = \$7 Million, Syracuse University’s Budget = \$1.13 Million)

**University of Cincinnati**, Cincinnati, OH, USA

- 08/2009 – 06/2010: Metropolitan Sewer District of Greater Cincinnati (MSDGC): **Infrastructure Asset Management System for Sewers (Research Assistant)**
- 02/2009: Metropolitan Sewer District of Greater Cincinnati (MSDGC): **Workshop on Sewer Asset Management Practices (Research Assistant)**
- 11/2006 – 08/2008: Midwest Regional University Transportation Center (MRUTC) Project: 07 -15: **Use of Trenchless Technologies for a Comprehensive Asset Management of Culverts and Drainage Structures (Research Assistant)**
- 07/2005 – 12/2007: Midwest Regional University Transportation Center (MRUTC) Project: 06-08 **An Asset Management Approach for Drainage Infrastructures and Culverts (Research Assistant)**

## **V. PUBLICATIONS**

### **i. Peer-Reviewed Journal Articles**

1. Chen, X., Salem, O., and **Salman, B.** (in review) “A Lifecycle Benefit/Cost Analysis Framework for Adaptive Traffic Control System Deployments.” *Proceedings of the Institution of Civil Engineers- Transport*.
2. Salem, O., **Salman, B.** and Ghorai, S. (2017) “Accelerating construction of roadway bridges using alternative techniques and procurement methods”, *Transport*, 33(2), 567-579.
3. Chen, X., Salem, O., and **Salman, B.** (2016) “Life-cycle benefit-cost analysis framework for ramp metering deployments.” *Transportation Research Record: Journal of the Transportation Research Board No. 2554*, pp. 69-76.
4. Salem, O., **Salman, B.**, and Najafi, M. (2012) “Culvert asset management practices and deterioration modeling.” *Transportation Research Record: Journal of the Transportation Research Board No. 2285*, pp. 1-7.
5. **Salman, B.**, and Salem, O. (2012) “Risk assessment of wastewater collection lines based on failure models and criticality.” *Journal of Pipeline Systems Engineering and Practice*, 3(3), pp. 68-76.
6. **Salman, B.**, and Salem, O. (2012) “Modeling failure of wastewater collection lines using various section-level regression models.” *Journal of Infrastructure Systems*, 18(2), pp. 146-154.

### **ii. Peer-Reviewed Conference Proceedings**

1. He, S., Salem, O., and **Salman, B.** (accepted) “Life cycle environmental impacts of asphalt roadway maintenance, repair, and rehabilitation alternatives” *98<sup>th</sup> Annual Conference of Transportation Research Board (TRB)*, Washington, D.C
2. Keskin, B., and **Salman, B.** (2018) “Building Information Modeling (BIM) implementation for sustainability analysis: A mega airport project case study.” *7<sup>th</sup> International Building Physics Conference: Healthy, Intelligent and Resilient Buildings and Urban Environments*, Syracuse, NY, USA.

3. Chen, X., Salem, O., and **Salman, B.** (2018) “A life-cycle benefit / cost analysis framework for adaptive traffic control system (ATCS) deployments” *2<sup>nd</sup> Int. Conference on Sustainable Construction and Project Management*, Aswan, Egypt.
4. **Salman, B.**, Salem, O., and He, S. (2018) “Decision support tools for asphalt roadways” *2<sup>nd</sup> Int. Conference on Sustainable Construction and Project Management*, Aswan, Egypt.
5. Ghorai, S., Salem, O., and **Salman, B.** (2018) “Assessing traffic emissions around work zones” *2<sup>nd</sup> Int. Conference on Sustainable Construction and Project Management*, Aswan, Egypt.
6. **Salman, B.**, Salem, O., Garguilo, D. T., and He, S. (2017) “Innovative maintenance, repair, and reconstruction techniques for asphalt roadways: A survey of state departments of transportation.” *96<sup>th</sup> Annual Conference of Transportation Research Board (TRB)*, Washington, D.C.
7. He, S., Salem, O., and **Salman, B.** (2017) “An Asset Management Framework for Ramp Metering Systems (RMS) and Adaptive Traffic Control Systems (ATCS)” *Proc. 9<sup>th</sup> International Structural Engineering and Construction Conference (ISEC-9)*, Valencia, Spain.
8. Wang, X., Deshpande, A. S., Dadi, G. B., **Salman, B.** (2016) “Application of Clonal Selection Algorithm in construction site utilization planning optimization.” *Procedia Engineering, Proc. ICSDEC 2016 – Integrating Data Science, Construction and Sustainability*, Vol. 145, pp. 267-273.
9. Ghorai, S., Salem, O., **Salman, B.** (2016) “Assessment of traffic emission impacts due to rigid pavement repair and rehabilitation activities.” *Eighth International Conference on Maintenance and Rehabilitation of Pavements (MAIREPAV8)*, Singapore.
10. **Salman, B.**, Salem, O. and Garguilo, D. T. (2016) “Innovative rehabilitation techniques for asphalt roadways”. *Eighth International Conference on Maintenance and Rehabilitation of Pavements (MAIREPAV8)*, Singapore.
11. Deshpande, A., and **Salman, B.** (2016) “Think-Pair-Share: Application of an active learning technique in engineering and construction management classes.” *Proc., ASC 52<sup>nd</sup> Annual International Conference*, Provo, Utah.
12. Chen, X., Salem, O., and **Salman, B.** (2016) “Life-cycle benefit/cost analysis framework of ramp metering system deployments.” *Proc. 95<sup>th</sup> Annual Conference of Transportation Research Board*, Washington, D.C.
13. Salem, O., **Salman, B.**, and Ghorai, S. (2015) “Accelerated bridge construction techniques: state of art and state of practice.” *HBRC- ISHMII BTMA2 Bridge Testing, Monitoring & Assessment Conference*, Egypt.
14. Salem, O., Ghorai, S., **Salman, B.**, and Aboutaha, R. (2014) “A decision support framework for accelerated bridge construction.” *Proc. 93<sup>rd</sup> Annual Conference of Transportation Research Board*, Washington, D.C. (presented)
15. Salem, O., **Salman, B.**, and Najafi, M. (2012) “Culvert asset management practices and developing a deterioration model for metal culverts.” *Proc. 91<sup>st</sup> Annual Conference of Transportation Research Board*, Washington, D.C.
16. Salem, O., **Salman, B.**, Najafi, M., and Moawad, A. (2010) “Use of trenchless technologies for a comprehensive asset management of culverts and drainage structures.” *Proc. International Conference on Pipeline Engineering and Construction*, ASCE, Reston, VA.

17. Salem, O., **Salman, B.**, Najafi, M., and Moawad, A. (2010) “Use of trenchless repair and renewal in roadway drainage infrastructure management.” *Proceedings of the 2<sup>nd</sup> International Conference on Transport Infrastructures*, Sao Paulo, Brazil
18. Salem, O., **Salman, B.**, and Najafi, M. (2009) “An asset management approach for roadway drainage infrastructure.” *Proceedings of the 6th International Conference on Maintenance and Rehabilitation of Pavements and Technological Control*, Turin, Italy.
19. Bhattachar, D., Najafi, M., Salem, O., Funkhouser, P., and **Salman, B.** (2007) “Development of an asset management framework for culvert inventory and inspection.” *Proc. ASCE International Conference on Pipeline Engineering and Construction*, ASCE, Reston, VA.

## **VI. AWARDS:**

- |             |   |
|-------------|---|
| 2014        | 2013 Outstanding Reviewer Award – Journal of Infrastructure Systems |
| 2004 – 2010 | University Graduate Scholarship (UGS)                               |
| 2004 – 2010 | University Graduate Assistantship                                   |

## **VII. PROFESSIONAL SERVICE**

### **i. Service to Department**

- Construction Engineering Laboratory Committee Chair
- Graduate Affairs Committee Member

### **ii. Thesis/Dissertation Committees**

- Ph.D.: S. He, S. Ghorai, X. Chen, S. Sotoud, B. Yan, B. Keskin (In progress), M. Bushahri (In progress), M. Almalki (In progress), D. A. Alqahtani (In progress), S. A. Al Tami (In Progress), Tie, Z. (In Progress)
- Master of Science (Thesis): K. Skorokhod, R. Samsami, E. K. Temesgen, B. Gursoy (In progress), R. W. Ashour (In progress)
- Master of Science (Project or Exit Paper): V. Kodedela, K. R. Rampur, K. S. Brar, Q. Cai, Y. Cheng, M. Christiano, A. B. More, C. D. Paladino, M. AlAlam, N. Hijazi, B. Barakat, S. Boutros, S. Bazzoun, R. Alkhoury, R. AlMohtar, B. A. King, Jr., P. Pokiya, Y. Ma, Y. Feng, X. Li, R. V. Chilakalapalli, J. Gao (In progress), K. C. Mahajan (In progress).

### **iii. Technical/Professional Service**

- 2nd Int. Conf. on Sustainable Construction and Project Management, Aswan, Egypt. Conference Partner and Organizer.
- University Transportation Research Center – Region 2, Board of Directors, Syracuse University Representative (4/10/2017 – 6/12/2018).
- TRB Standing Committee on Construction Management (AFH10), Friend (1/2017 – Present)
- TRB Standing Committee on Transportation Asset Management (ABC40), Friend (1/2017 – Present)
- Reviewer, Journal of Management in Engineering, ASCE (10/2013 – Present)
- Reviewer, Journal of Infrastructure Systems, ASCE (08/2011 – Present)
- Reviewer, Journal of Pipeline Systems Engineering and Practice, ASCE (12/2011 – Present)
- Reviewer, Journal of Construction Engineering, Hindawi Publishing Corporation (10/2014 – Present)