

ELIE Y. HAJJ

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Western Regional Superpave Center (WRSC)
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EDUCATION

- Ph.D. Civil Engineering University of Nevada, Reno 2005
- M.S.C.E. Civil Engineering University of Nevada, Reno 2002
- B.S.C.E. Civil Engineering Lebanese University, Lebanon 1999

PRINCIPAL FIELDS OF INTEREST

Pavement materials design and characterization, state-of-the-art laboratory testing for asphalt binders and mixtures, engineered paving materials, mechanistic and mechanistic-empirical analyses, pavement response to heavy loads, large-scale pavement testing, pavement maintenance and rehabilitation, computer applications in civil engineering.

CERTIFICATION

- Engineer Intern, Nevada No. 0T4547

PROFESSIONAL EXPERIENCE

- Assistant Professor, Department of Civil and Environmental Engineering, University of Nevada, Reno (07/11-present)
- Research Assistant Professor, Department of Civil and Environmental Engineering, University of Nevada, Reno (02/06-06/11)
- Nevada Technology Transfer Center, engineer and trainer (02/06-09/11)
- Pavement Services Manager and Lab Supervisor, Terracon Consulting Engineers and Scientists, NV (05/05-01/06)
- Laboratory Manager, Western Regional Superpave Center (WRSC), University of Nevada, Reno (08/04-04/05)
- Teaching Graduate Assistant, University of Nevada, Reno (08/04-05/05)
- Research Graduate Assistant, University of Nevada, Reno (08/01-04/05)
- Field Site Engineer, Campenon Bernard SGE – France, Cairo, Egypt Branch (1999-2000)

PROFESSIONAL MEMBERSHIP

- Transportation Research Board (TRB) Committees
 - AFK00, member (04/15/14-04/14/17)
 - AFK50, Chair (04/15/14-04/14/17)
 - AFK50, member (04/15/12-04/14/14)
 - AFK50, young member (05/18/11-04/14/12)
 - AFK30, member (04/15/10-04/14/16)
 - AFD80, member (04/15/12-04/14/18)
 - AFD80, young member (04/15/06-04/14/12)
- Association of Asphalt Paving Technologists (AAPT), member (04/01/09-present)
- International Society for Asphalt Pavements (ISAP), member (07/10/12-present)
- International Society for Asphalt Pavements (ISAP) Technical Committee Asphalt Pavements & Environment, Work Group (WG) 1 – Hot Recycling of RAP, Chair (2013 - Present)
- Nevada Alliance for Quality Transportation Construction, honorary member (04/01/06-present)

RESEARCH PROJECTS

Proposals Approved for Funding

Hajj, Elie (Principal), Sebaaly, Peter E (Co-Principal). "Microsurfacing, Slurry Seals and Chip Seal Quality Assurance Best Practices Tech Briefs", Sponsored by Nevada DOT, State, \$150,000.

Submission Date: June 25, 2015

Date Approved for Funding: August 13, 2015

Hajj, Elie (Co-Principal), Sebaaly, Peter E (Co-Principal). "NDOT General Agreement", Sponsored by Nevada DOT, State, \$150,000.

Submission Date: June 22, 2015

Date Approved for Funding: August 14, 2015

Hajj, Elie (Co-Principal), Sebaaly, Peter E (Principal). "Development of Mix Design and Structural Design Procedures for Cold In-Place Recycling", Sponsored by Nevada DOT, State, \$150,136.

Submission Date: June 17, 2015

Date Approved for Funding: August 13, 2015

Active Research Projects

Hajj, Elie (Principal). "Evaluation of TechniSoil G5®", Sponsored by TechniSoil Industrial, Private Corporation, \$26,000.

Submission Date: May 15, 2015

Date Awarded: May 20, 2015

End Date: June 19, 2016

Hajj, Elie (Principal). "Laboratory Evaluation of Thin Asphalt Overlays for Pavement Preservation in Nevada", Sponsored by University Transportation Center (SOLARIS), Federal, \$68,378.

Submission Date: January 31, 2014

Date Awarded: November 1, 2014

End Date: October 31, 2015

Hajj, Elie (Principal), Sebaaly, Peter E (Co-Principal). "Enhanced Predictions of Vehicle Fuel Economy and Other Vehicle Operating Costs (DTFH61-14-R-00025)", Sponsored by FHWA, Federal, \$1,548,658.

Submission Date: July 15, 2014

Date Awarded: September 19, 2014

End Date: September 18, 2019

Hajj, Elie (Principal). "Influence of Gilsonite on HMA", Sponsored by American Gilsonite Company, Private Corporation, \$42,800.

Submission Date: September 4, 2013

Date Awarded: September 1, 2014

End Date: July 31, 2015

Hajj, Elie (Co-Principal), Sebaaly, Peter E (Co-Principal). "Pavement Technology (DCPW)", Sponsored by Douglas County, Local, \$90,000.

Submission Date: June 21, 2014

Date Awarded: September 1, 2014

End Date: August 31, 2016

Hajj, Elie (Principal), Sebaaly, Peter E (Co-Principal). "Pavement Technology (Carson City)", Sponsored by Carson City County, Local, \$90,000.

Submission Date: April 29, 2014

Date Awarded: July 1, 2014

End Date: June 30, 2016

Hajj, Elie (Principal - UNR). "NCHRP 09-58: The Effects of Recycling Agents on Asphalt Mixtures with High RAS and RAP Binder Ratios", Sponsored by National Cooperative Highway Research Program (Subcontracted from Texas Transportation Institute), Federal, \$300,000.

Submission Date: October 17, 2013

Date Awarded: May 2, 2014

End Date: October 2, 2017

Hajj, Elie (Principal), Siddharthan, Rajaratnam (Co-Principal). "Mechanistic-Based Pavement Damage and Associated Cost from OS/OW Vehicles in NV", Sponsored by Nevada DOT, State, \$193,411.

Submission Date: June 3, 2013

Date Awarded: January 7, 2014

End Date: September 30, 2016

Hajj, Elie (Co-Principal), Sebaaly, Peter E (Co-Principal). "Pavement Technology (RTC)", Sponsored by Washoe County Regional Transportation Commission, Local, \$150,000.

Submission Date: July 1, 2013

Date Awarded: February 11, 2014

End Date: June 30, 2016

Hajj, Elie (Principal), Siddharthan, Rajaratnam (Co-Principal). "BROAD AGENCY ANNOUNCEMENT, NO. DTFH61-12-R-00055, Pavement Assessment: Topic 2: Analysis Procedures for Evaluating Superheavy Load Movement on Flexible Pavements", Sponsored by FWHA, Federal, \$299,772.

Submission Date: September 27, 2012

Date Awarded: August 19, 2013

End Date: April 18, 2017

Hajj, Elie (Principal), Sanders, David H (Co-Principal). "Development of Specifications for Engineered Cementitious Composites for Use in Bridge Deck Overlays", Sponsored by Nevada DOT, State, \$150,747.

Submission Date: April 20, 2012

Date Awarded: March 12, 2013

End Date: October 31, 2015

Hajj, Elie (Principal - UNR). "01-50: Quantifying the Influence of Geosynthetics on Pavement Performance", Sponsored by National Cooperative Highway Research Program (Subcontracted from Texas Transportation Institute), Other, \$188,375.

Submission Date: December 9, 2010

Date Awarded: September 1, 2011

End Date: September 30, 2015

Completed Research Projects

Hajj, Elie (Principal). "Evaluation of HMA Mixture for Kern County Intersections", Sponsored by Kern County Roads Department, California, Other, \$35,000.

Submission Date: December 17, 2013

Date Awarded: April 29, 2014

End Date: February 28, 2015

Hajj, Elie (Co-Principal), Sebaaly, Peter E (Co-Principal). "Pavement Design and Materials Research", Sponsored by Nevada DOT, State, \$150,000.

Submission Date: June 20, 2013

Date Awarded: August 22, 2013

End Date: June 30, 2015

Hajj, Elie (Co-Principal), Sebaaly, Peter E (Co-Principal). "Pavement Preventive Maintenance", Sponsored by Nevada DOT, State, \$175,000.

Submission Date: June 2011

Date Awarded: December 21, 2011

End Date: June 30, 2014

Hajj, Elie (Co-Principal), Sebaaly, Peter E (Co-Principal). "Pavement Design and Materials Research", Sponsored by Nevada DOT, State, \$150,000.

Submission Date: July 2011

Date Awarded: December 6, 2011

End Date: June 30, 2013

Hajj, Elie (Co-Principal), Sebaaly, Peter E (Co-Principal). "Pavement Technology", Sponsored by Washoe County Regional Transportation Commission, Local, \$150,000.

Submission Date: May 2011

Date Awarded: September 8, 2011

End Date: June 30, 2013

Hajj, Elie (Co-Principal), Sebaaly, Peter E (Principal). "Develop a PWL System for Dense graded HMA Construction, Including Pay Factors", Sponsored by Nevada DOT, State, \$298,984.

Submission Date: February 2009

Date Awarded: July 1, 2010

End Date: December 31, 2014

Hajj, Elie (Co-Principal), Sebaaly, Peter E (Principal). "Pavement Design and Materials Research", Sponsored by Nevada DOT, State, \$150,000.

Submission Date: July 2009

Date Awarded: August 24, 2009

End Date: June 30, 2011

Hajj, Elie (Co-Principal), Sebaaly, Peter E (Principal). "Evaluation of Warm Mix Asphalt Concrete Pavement in South Dakota Conditions", Sponsored by South Dakota DOT, State, \$140,000.

Submission Date: July 3, 2008

Date Awarded: October 15, 2008

End Date: February 28, 2015

Hajj, Elie (Principal), Siddharthan, Raj V. (Co-Principal). "Evaluating the Impact of Lime on Pavement Performance", Sponsored by National Lime Association, Private Industry, \$100,000.

Submission Date: February 2, 2007

Date Awarded: July 1, 2007

End Date: June 30, 2009

Hajj, Elie (Co-Principal), Sebaaly, Peter E (Principal). "Pavement Design and Materials Research", Sponsored by Nevada DOT, State, \$300,000.

Submission Date: June 2007

Date Awarded: July 1, 2007

End Date: June 30, 2009

Hajj, Elie (Co-Principal), Sebaaly, Peter E (Principal). "Use of Reclaimed Asphalt Pavements (RAP) in Airfields HMA Pavements", Sponsored by Airfield Asphalt Pavement Technology Program, FAA, Federal, \$110,000.

Submission Date: October 4, 2006

Date Awarded: January 2, 2007

End Date: February 29, 2008

INDUSTRY EXPERIENCE

City of Reno Phase II Streets Rehabilitation – Reno, Nevada (Terracon Consulting Engineers and Scientists)

Provided pavement evaluation and pavement design for approximately 3,300 feet of residential streets. Involved in the geotechnical engineering study and laboratory testing including recommendations regarding the design and construction of respective pavement sections.

PAIKI Eastern Sierra Rancherias – Bridgeport, Big Pine, and Benton, California (Terracon Consulting Engineers and Scientists)

Provided flexible pavement evaluation and design for improvements to both existing roadways and new roadways. Involved in the geotechnical engineering study and laboratory testing. Design and construction recommendations were according to the Standard Specifications for Construction of Roads and Bridges for Federal Highway Projects, FP-03.

Cashill Boulevard Reconstruction – Reno, Nevada (Terracon Consulting Engineers and Scientists)

Provided oversight and design for complete reconstruction of approximately 7,500 lineal feet of existing roadway. Included pulverization and removal of the existing pavement section, mechanical stabilization of underlying subgrade soils, and replacement of aggregate base and asphalt concrete pavement. Provided field and laboratory testing services related to Cement Amended Recycled Asphalt Base (CARAB) as an alternate form of aggregate base for this project.

Ryland Street Reconstruction – Reno, Nevada (Terracon Consulting Engineers and Scientists)

Provided laboratory testing of Cement Amended Recycled Asphalt Base (CARAB) as an alternate form of aggregate base for this project.

Ames Construction I-580 Freeway – Carson City, Nevada (Terracon Consulting Engineers and Scientists)

Provided laboratory testing and data analysis to resolve freeway base material inconsistencies.

El-Azjar Road Tunnel – Cairo, Egypt (Campenon Bernard SGE)

Worked as a site engineer on this project which consisted of two underground tunnels containing roads, 1.6 miles each, constructed using the Tunnel Boring Machine (TBM). Supervised more than 50 field technicians while working day and night shifts.

PUBLICATIONS

Refereed Journal Papers

1. Alavi, M. Z., Hajj, E. Y., and P. E., Sebaaly. "A Comprehensive Model for Predicting Thermal Cracking Events in Asphalt Pavements," *International Journal of Pavement Engineering*, IJPE Special Issue. *In Press*.
2. Sebaaly, P. E., Hajj, E. Y., Sathanathan, T., and S., "Shivakolunthar. A Comprehensive Evaluation of Moisture Damage of Asphalt Concrete Mixtures," *International Journal of Pavement Engineering*. *In Press*.

3. Alavi, M. Z., Morian, N., **Hajj, E. Y.**, and P. E., Sebaaly. "Influence of Asphalt Binder Oxidative Aging on Critical Thermal Cracking Characteristics of Asphalt Mixtures," *International Journal of Road Materials and Pavement Design*, RMPD. *In Press*.
4. Morian, N., Zhu, C., and **E. Y., Hajj**. "Rheological Indices: Phenomenological Aspects of Asphalt Binder Aging Evaluations," Transportation Research Record: *Journal of the Transportation Research Board*, Transportation Research Board of the National Academies, Washington, D.C. *In Press*.
5. Sanjeevan, S., Piratheepan, M., **Hajj, E. Y.**, and A., Bush. "Cold-in-place Recycling Technique in Nevada: Field Performance Evaluation for a Decade of In-service Period," Transportation Research Record: *Journal of the Transportation Research Board*, Transportation Research Board of the National Academies, Washington, D.C. *In Press*.
6. Sebaaly, P. E., **Hajj, E. Y.**, and M., Piratheepan. "Evaluation of selected warm mix asphalt technologies," *International Journal of Road Materials and Pavement Design*, RMPD, Vol. 16, No. S1, 2015, pp. 475-486. DOI:10.1080/14680629.2015.1030825.
7. Chamoun, Z., Souliman, M., **Hajj, E. Y.**, and P. E., Sebaaly. "Evaluation of Select Warm-Mix Additives with Polymer and Rubber Modified Asphalt Mixtures," *Canadian Journal of Civil Engineering*, 42(6), 2015, pp. 377-388, DOI: 10.1139/cjce-2013-0512.
8. Souliman, M., Piratheepan, M., **Hajj, E. Y.**, Sebaaly, P. E., and W., Sequeira. "Impact of Lime on the Mechanical and Mechanistic Performance of Hot Mixed Asphalt Mixtures." *International Journal of Road Materials and Pavement Design*, RMPD, Vol. 16, Issue No. 2, 2015, pp. 421-444, DOI: 10.1080/14680629.2015.1017520.
9. Alavi, Z., Pouranian, M. R., and **E. Y., Hajj**. "Prediction of Asphalt Pavement Temperature Profile with Finite Control Volume Method," Transportation Research Record: *Journal of the Transportation Research Board*, No. 2456, Transportation Research Board of the National Academies, Washington, D.C., 2014, pp. 96–106, DOI: 10.3141/2456-10, ISSN: 0361-1981.
10. Morian, N., Alavi, Z. M., **Hajj, E. Y.**, and P. E., Sebaaly. "Evolution of Thermo-viscoelastic Properties of Asphalt Mixtures with Oxidative Aging," Accepted for publication in the Transportation Research Record: *Journal of the Transportation Research Board*, No. 2447, Vol. 4, Transportation Research Board of the National Academies, Washington, D.C., 2014, pp. 1–12, DOI: 10.3141/2447-01, ISSN: 0361-1981.
11. Souliman, M., Suwal, R., and **E. Y., Hajj**. "General Guidelines to Highway Agencies to Enhance their Local Pavement Rating Systems: A Case Study of Nevada's Pavement Rating System," *International Journal of Pavement Research and Technology*, IJPRT, Vol. 7, No. 5, 2014, pp. 305-316, ISSN 1997-1400.
12. Souliman, M., **Hajj, E. Y.**, and P. E., Sebaaly. "Impact of Antistrip Additives on the Long-Term Aging Rheological Properties of Asphalt Binders." *Journal of Materials in Civil Engineering*, ASCE, July 16, 2014, DOI: 10.1061/(ASCE)MT.1943-5533.0001111.
13. Mensching, D. J., Daniel, J. S., Bennert, T., Medeiros Jr., M.S., Elwardany, M. D., Mogawer, W., **Hajj, E. Y.**, and M. Z. Alavi. "Low Temperature Properties of Plant-Produced RAP Mixtures in the Northeast." *International Journal of Road Materials and Pavement Design*, RMPD, Vol. 15, Supplement 1, Special Issue: Papers from the 89th AAPT, 2014, pp. 1-27. DOI: 10.1080/14680629.2014.926617.
14. **Hajj, E. Y.**, Souliman, M. I., and E., Cortez. "Influence of Warm-Mix Additive on Mechanistic, Economical, and Environmental Attributes of a Polymer-Modified Asphalt Mixture." *Advances in Civil Engineering Materials*, ASTM, Vol. 3, No. 1, 2014, DOI: 10.1520/ACEM20130099.
15. Ulloa, A., **Hajj, E. Y.**, and P. E., Sebaaly. "Mechanistic-Based Approach to Evaluate Rutting Susceptibility of Hot-Mix Asphalt Mixtures Using Dynamic Triaxial Testing." Transportation Research Record: *Journal of the Transportation Research Board*, No. 2373, Vol. 4, Transportation Research Board of the National Academies, Washington, D.C., 2013, pp. 121–133, DOI: 10.3141/2373-13, ISSN: 0361-1981.
16. Alavi, M. Z., **Hajj, E. Y.**, and N., Morian. "Approach for Quantifying Effect of Binder Oxidative Aging on Viscoelastic Properties of Asphalt Mixtures." Transportation Research Record: *Journal of the Transportation Research Board*, No. 2373, Vol. 4, Transportation Research Board of the National Academies, Washington, D.C., 2013, pp. 109–120, DOI: 10.3141/2373-12, ISSN: 0361-1981.
17. **Hajj, E. Y.**, Souliman, M. I., Alavi, M. Z., and L., Loria. "Influence of BituTech RAP Bioasphalt on Viscoelastic Properties of Reclaimed Asphalt Mixtures." Transportation Research Record: *Journal of the Transportation Research Board*, No. 2371, Vol. 2, Transportation Research Board of the National Academies, Washington, D.C., 2013, pp. 13–22, DOI: 10.3141/2371-02, ISSN: 0361-1981.

18. Morian, N., **Hajj, E. Y.**, and P. E., Sebaaly. "Significance of Mixture Parameters on Binder Aging in Hot-Mix Asphalt Mixtures." Transportation Research Record: *Journal of the Transportation Research Board*, No. 2370, Transportation Research Board of the National Academies, Washington, D.C., 2013, pp. 116–127, DOI: 10.3141/2370-15, ISSN: 0361-1981.
19. **Hajj, E. Y.**, Souliman, M. I., Sebaaly, P. E., and M., Barton. "Influence of Laboratory Mixing Procedures on Volumetric and Mechanical Properties of RAP Mixtures." *Advances in Civil Engineering Materials*, ASTM, Vol. 2, No. 1, September 13, 2013, DOI: 10.1520/ACEM20120049.
20. Ulloa, A., **Hajj, E. Y.**, Siddharthan, R. V., and P. E., Sebaaly. "Equivalent Loading Frequencies for Dynamic Analysis of Asphalt Pavements." *Journal of Materials in Civil Engineering*, ASCE, Vol. 25, No. 9, September 1, 2013, pp. 1162-1170, DOI: 10.1061/(ASCE)MT.1943-5533.0000662.
21. Ahmad, T. A., **Hajj, E. Y.**, Sebaaly, P. E., and N., Majerus. "Influence of Aggregate Source and Warm-Mix Technologies on the Mechanical Properties of Asphalt Mixtures." *Advances in Civil Engineering Materials*, ASTM, Vol. 2, No. 1, August 15, 2013, pp. , DOI: 10.1520/ACEM20130072.
22. **Hajj, E. Y.**, Alavi, M. Z., Morian, N. E., and P. E., Sebaaly. "Effect of Select warm-mix Additives on Thermo-Viscoelastic Properties of Asphalt Mixtures," *International Journal of Road Materials and Pavement Design*, RMPD, Vol. 14, No. S1, 2013, pp. 175-186. DOI:10.1080/14680629.2013.774754.
23. Farrar, M. J., **Hajj, E. Y.**, Planche, J-P, and M. Z., Alavi. "A Method to Estimate the Thermal Stress Build-up in an Asphalt Mixture from a Single Cooling Event," *International Journal of Road Materials and Pavement Design*, RMPD, Vol. 14, No. S1, 2013, pp. 201-211. DOI:10.1080/14680629.2013.774756.
24. **Hajj, E. Y.**, Loria, L. G., Sebaaly, P. E., Cortez, E., and S. Gibson. "Effective Timing for Two Sequential Applications of Slurry Seal on Asphalt Pavement." *Journal of Transportation Engineering*, ASCE, Vol. 139, No. 5, May 2013, pp. 476-484, DOI: 10.1061/(ASCE)TE.1943-5436.0000521.
25. **Hajj, E. Y.**, Sebaaly, P. E., Sathanathan, T., and S. Shivakolunthar. "Impact of Antistrip Additives on Pavement Performance Using Mechanistic-Empirical Pavement Design Guide." *Journal of Materials in Civil Engineering*, ASCE, Vol. 25, No. 3, March 1, 2013, pp. 308-317, DOI: 10.1061/(ASCE)MT.1943-5533.0000582.
26. **Hajj, E. Y.**, Thushanthan, P., Sebaaly, P. E., and R. V., Siddharthan. "Influence of Tire-pavement Stress Distribution, Shape and Braking on Asphalt Pavement Performance Predictions." Transportation Research Record: *Journal of the Transportation Research Board*, No. 2306, Transportation Research Board of the National Academies, Washington, D.C., 2012, pp. 73–85, DOI: 10.3141/2306-09, ISSN: 0361-1981.
27. Alavi, M. Z., **Hajj, E. Y.**, Hanz, A., and H., Bahia. "Evaluating Adhesion Properties and Moisture Damage Susceptibility of Warm Mix Asphalts: Bitumen Bond Strength (BBS) and Dynamic Modulus Ratio (ESR) Tests." Transportation Research Record: *Journal of the Transportation Research Board*, No. 2295, Vol. 3, Transportation Research Board of the National Academies, Washington, D.C., 2012, pp. 44–53, ISSN: 0361-1981.
28. Porras, J., **Hajj, E. Y.**, Sebaaly, P. E., Kass, S., and T., Liske. "Performance Evaluation of Field-Produced Warm-Mix Asphalt Mixtures in Manitoba, Canada." Transportation Research Record: *Journal of the Transportation Research Board*, No. 2294, Vol. 2, Transportation Research Board of the National Academies, Washington, D.C., 2012, pp. 64–73, ISSN: 0361-1981.
29. **Hajj, E. Y.**, Loria, L., and P. E., Sebaaly. "Methodologies for Estimating Effective Performance Grade of Asphalt Binders in Mixtures with High Recycled Asphalt Pavement Content: Case Study." Transportation Research Record: *Journal of the Transportation Research Board*, No. 2294, Vol. 2, Transportation Research Board of the National Academies, Washington, D.C., 2012, pp. 53–63, ISSN: 0361-1981. (Nominated for the K. B. Woods Award).
30. Sebaaly, P. E., **Hajj, E. Y.**, Sathanathan, T., and S. Shivakolunthar. "Impact of Lime and Liquid Additives on Life-Cycle Cost of Asphalt Pavements," Lime: Building on the 100-Year Legacy of ASTM Committee C07 on June 28, 2012 in San Diego, CA; STP 1557, M. Thomson and J. Brisch, Guest Editors, pp. 1–21, DOI:10.1520/STP104321, ASTM International, West Conshohocken, PA 2012.
31. **Hajj, E. Y.**, Sebaaly, P. E., West, R., Morian, N., and L., Loria. "Recommendations for the Characterization of RAP Aggregate Properties Using Traditional Testing and Mixture Volumetrics," *International Journal of Road Materials and Pavement Design*, RMPD, Vol. 13, Supplement 1: AAPT, 2012, pp. 209-233. DOI:10.1080/14680629.2012.657072.
32. Kasozi, A., **Hajj, E. Y.**, Sebaaly, P. E., and J. C., Elkins. "Evaluation of Foamed Warm-Mix Asphalt Incorporating Recycled Asphalt Pavement for Volumetric and Mechanical Properties." *International Journal of Pavement*

- Research and Technology*, IJPRT, Vol. 5, No. 2, 2012, pp. 75-83, ISSN 1997-1400.
33. Sebaaly, P.E., and E. Y., Hajj. "Comparative Life Cycle Cost Analyses of Asphalt Pavements Treated with Anti-stripping Additives," 2011 Conference and Exhibition of the Transportation Association of Canada - Transportation Successes: Let's Build on Them, Transportation Association of Canada, 2011, 19p.
 34. Hajj, E. Y., Loria, L., Sebaaly, P. E., Borroel, C. M., and P. Leiva. "Optimum Time for Application of Slurry Seal to Asphalt Concrete Pavements," Transportation Research Record: *Journal of the Transportation Research Board*, No. 2235, Transportation Research Board of the National Academies, Washington, D.C., 2011, pp. 66-81, ISSN: 0361-1981.
 35. Hajj, E. Y., Sebaaly, P. E., Hitti, E., and C. Borroel. "Performance Evaluation of Terminal Blend Tire Rubber Asphalt Mixtures – Case Studies," *Journal of the Association of Asphalt Paving Technologists*, AAPT, Vol. 80, 2011, pp. 665-696, ISSN: 0270-2932.
 36. Hajj, E. Y., Ullao, A., Sebaaly, P. E., and G. Bazi. "Impact of Rich-Bottom Design in Asphalt Pavements," *International Journal of Pavement Research and Technology*, IJPRT, Vol. 4, No. 6, 2011, pp. 313-323, ISSN 1997-1400.
 37. Morian, N., Hajj, E. Y., Glover, C. J., and P. E. Sebaaly. "Oxidative Aging of Asphalt Binders in Hot-Mix Asphalt Mixtures," Transportation Research Record: *Journal of the Transportation Research Board*, No. 2207, Vol. 1, Transportation Research Board of the National Academies, Washington, D.C., 2011, pp. 107-116, ISSN: 0361-1981.
 38. Loria, L., Hajj, E. Y., Sebaaly, P. E., Barton, M., Kass, S., and T. Liske. "Performance Evaluation of Asphalt Mixtures with High Recycled Asphalt Pavement Content," Transportation Research Record: *Journal of the Transportation Research Board*, No. 2208, Vol. 2, Transportation Research Board of the National Academies, Washington, D.C., 2011, pp. 72-81, ISSN: 0361-1981.
 39. Hajj, E. Y., Tannoury, G., and P. E. Sebaaly. "Evaluation of Rut Resistant Asphalt Mixtures for Intersection," *International Journal of Road Materials and Pavements Design*, RMPD, Vol. 12, Issue 2, 2011, pp. 263-292, doi: 10.1080/14680629.2011.9695246.
 40. Hajj, E. Y., Morian, N., El Tannoury, G., Manoharan, S., and P. E. Sebaaly. "Impact of Lime Application Method on Raveling and Moisture Sensitivity in HMA Mixtures," *International Journal of Pavement Engineering*, IJPE, Vol. 12, Issue 2, 2011, pp. 149-160, ISSN 1029-8436.
 41. Kvasnak, A., West, R., Michael, J., Loria, L., Hajj, E. Y., and N. Tram. "Bulk Specific Gravity of Reclaimed Asphalt Pavement Aggregate: Evaluation the Effect on Voids in Mineral Aggregate," Transportation Research Record: *Journal of the Transportation Research Board*, No. 2180, Vol. 2, TRB, Washington, D.C., 2010, pp. 30-35, ISSN: 0361-1981.
 42. Hajj, E. Y., Ullao, A., Siddharthan, R., and P. E. Sebaaly. "Estimation of Stress Conditions for the Flow Number Simple Performance Test," Transportation Research Record: *Journal of the Transportation Research Board*, No. 2181, Vol. 3, Transportation Research Board of the National Academies, Washington, D.C., 2010, pp. 67-78, ISSN: 0361-1981.
 43. Hajj, E. Y., Ullao, A., Siddharthan, R., and P. E. Sebaaly. "Characteristics of the Loading Pulse for the Flow Number Performance Test," *Journal of the Association of Asphalt Paving Technologists*, AAPT, Vol. 79, 2010, pp. 253-294, ISSN: 0270-2932.
 44. Ma, T., Bahia, H., Mahmoud, E., and E. Y., Hajj. "Estimating Allowable RAP in Asphalt Mixes to Meet Target Low Temperature PG Requirements," *Journal of the Association of Asphalt Paving Technologists*, AAPT, Vol. 79, 2010, pp. 473-496, ISSN: 0270-2932.
 45. Hajj, E. Y., Loria, L., and P. E. Sebaaly. "Performance Evaluation of Asphalt Pavement Preservation Activities," Transportation Research Record: *Journal of the Transportation Research Board*, No. 2150, Transportation Research Board of the National Academies, Washington, D.C., 2010, pp. 36-46, ISSN: 0361-1981.
 46. Hajj, E. Y., Sebaaly, P. E., and P. Kandiah. "Evaluation of the Use of Reclaimed Asphalt Pavement in Airfields HMA Pavements," *Journal of Transportation Engineering*, ASCE, Vol. 136, No. 3, March, 2010, pp. 181-189, DOI: 10.1061/(ASCE)TE.1943-5436.0000090.
 47. Hajj, E. Y., Sebaaly, P. E., and R. Shresta. "Laboratory Evaluation of Mixes Containing Recycled Asphalt Pavement (RAP)," *International Journal of Road Materials and Pavements Design*, RMPD, Vol. 10, Issue 3, 2009, pp. 495-518, ISSN: 1468-0629.
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1. Alavi, M. Z., and **E. Y., Hajj**. "Effect of Cooling Rate on the Thermo-Volumetric, Thermo-Viscoelastic, and Fracture Properties of Asphalt Mixtures." Asphalt Pavements – Volume 1, Proc. of the 12th ISAP Conference on Asphalt Pavements, Raleigh, North Carolina, Jun. 1-5, 2014, pp. 405-416, ISBN (print): 978-1-138-02712-1.
2. Alavi, M. Z., **Hajj, E. Y.**, Morian, N., and P. E., Sebaaly. "Low Temperature Characterization of Asphalt Mixtures by Measuring Visco-Elastic Properties under Thermal Loading." ISCORD 2013: Planning for Sustainable Cold Regions, ASCE, 2013, pp. 404-415, DOI: 10.1061/9780784412978.040, ISBN (print): 978-0-7844-1297-8.
3. Sebaaly, P. E., **Hajj, E. Y.**, Porras, J. D., and J., Corrales. "Laboratory Evaluation of HMA Mixtures for Reflective Cracking Interlayer," Proc. of the European Asphalt Technology Association (EATA) conference, Braunschweig, June 2013.
4. Piratheepan, M., Sebaaly, P. E., and **E. Y., Hajj**. "Mix Design of Cold In-Place Recycling," Proc. of the 2nd Int. ISAP Symposium on Asphalt Pavements and Environment, Fortaleza, Brazil, Oct. 1-3, 2012, p. 12.
5. **Hajj, E. Y.**, Sebaaly, P. E., Morian, N., and M., Piratheepan. "Performance of Hot and Warm Asphalts with Reclaimed Asphalt Pavements in Nevada," Proc. of the 2nd Int. ISAP Symposium on Asphalt Pavements and Environment, Fortaleza, Brazil, Oct. 1-3, 2012, p. 12.
6. Sebaaly, P. E., **E. Y., Hajj**, and E., Hitti. "Performance of Recycled Rubber Modified Binders in Warm Mix Asphalt Mixtures," Proc. of Asphalt Rubber Conf., Munich, Germany, Oct. 23-26, 2012, p. 22.
7. Saadeh, S., Eljairi, O., Kramer, B. and **E. Y., Hajj**. "Development of quality control test procedure for characterizing fracture properties of asphalt mixtures," Proc. of the Four-point Bending conference, Taylor & Francis Group, London, UK, 2012, pp. 223-238.
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10. Loria, L., **Hajj, E. Y.**, and P. E., Sebaaly. "Assessment of Reflective Cracking Models for Asphalt Pavements," ASCE Conf. Proc., Road Pavement and Material Characterization, Modeling, and Maintenance (GSP 213), Proc. of the 2011 GeoHunan International Conference, Hunan, China, Jun. 9-11, 2011.
11. Sebaaly, P. E., and **E. Y., Hajj**. "Performance Characteristics of Liquid and Lime-treated Asphalt Mixtures," Proc. of the 11th Int. Conf. on Asphalt Pavements, Int. Society for Asphalt Pavements, Nagoya, Japan, Aug. 1-6, 2010.
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15. Sebaaly, P. E., and **E. Y., Hajj**. "Designing Asphalt Mixtures to Withstand Slow Loading," Proc. of the 4th Int. Gulf Conf. on Roads: Efficient Transportation and Pavement Systems, Doha, Qatar, Nov. 11-13, 2008.
16. Sebaaly, P. E., and **E. Y., Hajj**. "Evaluation of AASHTO T-283 Moisture Sensitivity Test," Proc. of the Int. ISAP Symposium on Asphalt Pavements and Environment, Zurich, Switzerland, Aug. 18-20, 2008, pp. 473-484.
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20. Sebaaly, P. E., **Hajj, E. Y.**, and D., Weitzel. "A Superpave Volumetric Mix Design for Nevada's Conditions." Proc. of the 10th Int. Conf. on Asphalt Pavements, Int. Society for Asphalt Pavements, Canada, Quebec, Aug. 12-17, 2006.

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1. Siddharthan, R.V., **Hajj, E. Y.**, and N. Rasanayagam. "Response and Performance of Layered Systems under 3D Contact Stress Distribution," Proc. of the 44th Symposium on Engineering Geology and Geotechnical Engineering, Reno, Nevada, March 2012.
2. Morian, N., **Hajj, E. Y.**, Glover, C., and P.E. Sebaaly. "Influence of Aggregate Type on Binder Aging in HMA Mixtures," Proc. of the 44th Symposium on Engineering Geology and Geotechnical Engineering, Reno, Nevada, March 2012.
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4. **Hajj, E. Y.**, P. E., Sebaaly, L., Loria, S., Kass, and T. Liske. "Impact of High RAP Content on the Performance Characteristics of Asphalt Mixtures in Manitoba," Proc. of the Annual Conference of the Transportation Association of Canada, Edmonton, Alberta, Sep. 11-14, 2011, in CD-ROM.
5. Saadeh, S., Eljairi, O., Kramer, B., and **E. Y. Hajj**. "Development of Quality Control Test Procedure for Characterizing Fracture Properties of Asphalt Mixtures." Proc. of the Engineering Mechanics Institute, EMI, Boston, USA, 2011, in CD-ROM, pp. 199-216.
6. Sebaaly, P. E., Thushanthan, P., and **E. Y. Hajj**. "Estimating HMA Pavement Performance Under Non-Standard Stress Distributions." Proc. of the Engineering Mechanics Institute, EMI, Boston, USA, 2011, in CD-ROM, pp. 217-231.

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8. Loria, L., Navas, A., Sebaaly, P., and **E. Hajj**. "Long-Term Performance of Reflective Cracking Mitigation Techniques in the State of Nevada," Proc. of the XV Iberoamerican Conf. of Asphalt, CILA, Portugal, 2009, in CD-ROM, Paper 1043.

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1. **Hajj, E. Y.**, Loria, L., and P. E. Sebaaly. "Wait Before First Slurry Seal Application," Pavement Preservation Journal, FP² Inc., Winter 2013, Vol. 6, Issue No. 4 (<http://tsp2pavement.pavementpreservation.org/2014/01/03/835/>)
2. **Hajj, E. Y.**, Loria, L., and P. E. Sebaaly. "Optimum Time for Slurry Seal Depends on Original Build Date," Pavement Preservation Journal, FP² Inc., Spring 2013, Vol. 6, Issue No. 1 (<http://www.nxtbook.com/naylor/FPPQ/FPPQ0113/index.php?startid=38>).
3. **Hajj, E. Y.**, Loria, L., and P. E. Sebaaly. "Performance Evaluation of Asphalt Pavement Preservation Activities," Texas Pavement Preservation Center, TxDOT, <http://www.utexas.edu/research/tppc/news/TPPCnewsletter18.pdf>, Issue 18, Spring 2010.
4. **Hajj, E. Y.**, and P. E. Sebaaly. "Runaway Talent Show: Reclaimed Asphalt Pavement Has Gained a Sure-Footed Hold on the Airfield Market," Roads & Bridges, Article 10752, <http://www.roadsbridges.com/Runway-talent-show-article10752>, May 2009.

Technical and Research Reports

Published

1. **Hajj, E. Y.**, Sebaaly, P. E., Nabhan, P. (2015). Manual for Designing Flexible Pavements in Nevada Using AASHTOWare Pavement-ME Design. Final Report, Nevada DOT, p. 107.
2. Sebaaly, P. E., **Hajj, E. Y.** (2015). Evaluation of Gilsonite-Modified Asphalt Mixtures. Final Report, American Gilsonite Company, p. 46.
3. **Hajj, E. Y.**, Sibaja, L. M. (2015). Evaluation of the Rutting Resistance of Asphalt Mixtures from Kern County. Final Report, Kern County Roads Department, p. 26.
4. Sebaaly, P. E., **Hajj, E. Y.**, Souliman, M. (2015). Evaluation of Warm Mix Asphalt Concrete Pavement in South Dakota Conditions. Final Report, South Dakota DOT, p. 218.
5. Xu, H., Tian, Z., **Hajj, E. Y.**, Sebaaly, P. E. (2014). Task 1a.-b: Interim Progress Report on Proposed Driving Cycles and Data Sources. Enhanced Prediction of Vehicle Fuel Economy and Other Vehicle Operating Costs, U.S. Department of Transportation, FHWA, p. 43.
6. Piratheepan, M., Sebaaly, P. E., **Hajj, E. Y.**, Selvaratnam, S. (2014). Evaluation of Long-Term Performance of Cold In-Place Recycling Pavements in Nevada. Final Report, Nevada DOT, p. 48.
7. Sebaaly, P. E., Schlierkamp, R., Diaz, C., **Hajj, E. Y.**, Souliman, M. (2014). Develop a PWL System for Dense Graded Hot Mix Asphalt Construction Including Pay Factors. Final Report, Nevada DOT, p. 49.
8. Souliman, M. I., **Hajj, E. Y.**, Sebaaly, P. E., Nabhan, P. (2013). Implementation of Pavement-ME for Nevada's Conditions. Final Interim Report, Nevada DOT, p. 184.
9. Souliman, M., **Hajj, E. Y.**, Sebaaly, P. E. (2012). Effectiveness of Single and Sequential Applications of Slurry Seals on Asphalt Pavements in the Truckee Meadows Region. Final Report, Washoe Regional Transportation Commission, p. 34.
10. **Hajj, E. Y.**, Ulloa, A., Sebaaly, P. E. (2012). Flow Number Experiment: Asphalt Mixtures Critical Temperatures for Rutting Evaluation. Final Report, FHWA Asphalt Mixture and Construction Expert Task Group, p. 45.
11. **Hajj, E. Y.**, Cortez, E. (2012). Evaluation of the CecabaseTM RT Warm-Mix Additive. Final Report, CECA Arkema Group, p. 36.
12. **Hajj, E. Y.**, Sebaaly, P. E., Schlierkamp, R., Cortez, E. (2011). Laboratory Evaluation of HMA Mixes Manufactured with PG64-28NV and PG64-28PM Polymer-Modified Asphalt Binders. Final Report, Washoe Regional Transportation Commission, p. 27.

13. **Hajj, E. Y.**, Sebaaly, P. E., Porras, J. D., Azofeifa, J. P. C. (2011). Reflective Cracking of Flexible Pavements, Phase III: Laboratory Evaluation. Final Report, Nevada DOT, p. 30.
14. Sebaaly, P. E., **Hajj, E. Y.**, Little, D., Shivakolunthar, S., Sathanathan, T., Vasconcelos, K. (2010). Evaluating the Impact of Lime on Pavement Performance. Final Report, National Lime Association, p. 135.
15. **Hajj, E. Y.**, Sebaaly, P. E., Kasozi, A. (2009). Laboratory Evaluation of WMA Mixture on Chism Street in Reno Nevada. Final Report, City of Reno.
16. **Hajj, E. Y.**, Sebaaly, P. E., Borroel, C. (2009). "Pavement Design and Materials Research: 2007-2009 Activities," Final Report, Materials Division, Nevada DOT, p. 111.
17. **Hajj, E. Y.**, Loria, L., Sebaaly, P. E. (2009). Performance Evaluation of NDOT Pavement Maintenance Activities. Final Report, Nevada DOT, p. 76.
18. **Hajj, E. Y.**, Sebaaly, P. E., Kasozi, A. (2009). Evaluation of Warm Mix Asphalt Concrete Pavement in South Dakota Conditions: Summary of Literature Review. Final Report, SD2008-03, South Dakota DOT, Pierre, SD, p. 47.
19. **Hajj, E. Y.**, Sebaaly, P. E., Kandiah, P. (2008). Use of Reclaimed Asphalt Pavement (RAP) in Airfield HMA Pavements. Final Report, Airfield Asphalt Pavement Technology Program, AAPT, p. 127.
20. **Hajj, E. Y.**, Sebaaly, P. E., Loria, L. (2008). Reflective Cracking of Flexible Pavements Phase II: Review of Analysis Models and Evaluation Tests. Final Report, Nevada DOT, p. 87.
21. **Hajj, E. Y.**, Sebaaly, P. E., Loria, L. (2007). Pavement Maintenance Activity Documentation. Final Report, Nevada DOT, p. 32.
22. **Hajj, E. Y.**, Sebaaly, P. E., Loria, L., Morian, N. (2007). Reflective Cracking of Flexible Pavements Phase I: Review of Literature and the Performance of the Various Techniques in Nevada. Final Report, Nevada DOT, p. 166.
23. Sebaaly, P. E., El. Tannoury, G., **Hajj, E. Y.** (2007). Laboratory Evaluation of HMA for Nevada's Intersections – Phase II Study. Final Report, Nevada DOT.
24. **Hajj, E. Y.**, Sebaaly, P. E., Shresta, R. (2007). A Laboratory Evaluation on the Use of Recycled Asphalt Pavements in HMA Mixtures. Final Report, Washoe Regional Transportation Commission, p. 81.
25. **Hajj, E. Y.**, Sebaaly, P. E., Tannoury, G. (2007). Variability of the Moisture Sensitivity of Field HMA Mixes. Final Report, Washoe Regional Transportation Commission, p. 17.
26. Sebaaly, P. E., **Hajj, E. Y.**, Bazi, G., Perez, J. (2005). Pavement Design and Materials Research. Final Report 2003-2005, Nevada DOT, p. 58.
27. Sebaaly, P. E., Wacker, B., **Hajj, E. Y.**, Dunn, M. (2005). Implementation of Superpave Mix Design and Analysis Procedures for the State of Nevada. Final Report No. 1393-7, Vol. 5, Nevada DOT, p. 44.
28. **E. Y. Hajj**. "Hot Mix Asphalt Mixtures for Nevada's Intersections," Ph.D. Dissertation, Department of Civil and Environmental Engineering, University of Nevada, Reno, 2005.
29. **E. Y. Hajj**. "Fatigue Resistance of Nevada's Hot Mix Asphalt Mixtures," Master of Science Thesis, Department of Civil and Environmental Engineering, University of Nevada, Reno, 2003.

Under Technical and/or Editorial Review

1. **Hajj, E. Y.**, Siddharthan, R. V., Elfass, S., Piratheepan, M., and S. Pournoman. "Quantifying the Influence of Geosynthetics on Pavement Performance: Large-Scale Tank Testing on Flexible and Rigid Pavement Layers with Geosynthetics," Draft Final Report, National Cooperative Highway Research Program (NCHRP) Project 01-50, Transportation Research Board of The National Academies, p. 88, Submitted on June 2015.
2. **Hajj, E. Y.**, Sebaaly, P. E., Alavi, M. Z., and N. E., Morian. "Evaluation of Thermal Cracking Resistance of Asphalt Mixtures," Draft Final Report, Contract No. DTFH61-07-H-00009, Federal Highway Administration (FHWA), p. 299, June 2015.
3. Siddharthan, R. V., **Hajj, E. Y.**, Sebaaly, P. E., and R., Nitharsan. "A Dynamic Pavement Analysis Program," Draft Final Report, Contract No. DTFH61-07-H-00009, Federal Highway Administration (FHWA), p. 82, June 2015.
4. Sebaaly, P. E., Piratheepan, M., and **E. Y., Hajj**. "Designing Cold In-Place Recycling (CIR) Using Superpave Gyrotory Compactor," Draft Final Report, Contract No. DTFH61-07-H-00009, Federal Highway Administration (FHWA), p. 68, Submitted May 2015.

5. **Hajj, E. Y.**, Ulloa, A., Sebaaly, P., and R. V., Siddharthan. "Rutting Performance of Asphalt Mixtures under Critical Conditions," Draft Final Report, Contract No. DTFH61-07-H-00009, Federal Highway Administration, p. 253, Submitted on June 2014.
6. Ekedahl, M., and **E. Y., Hajj**. "Asphalt Research Consortium Database," Draft Final Report, Contract No. DTFH61-07-H-00009, Federal Highway Administration (FHWA), p. 87, Submitted on May 2014.
7. **Hajj, E. Y.**, Cortez, E., Sebaaly, P. E., Morian, N. E., and M. I., Souliman. "Study of Pavement Temperature Rates in Hot Mix Asphalt Layers," Contract No. DTFH61-07-H-00009, Federal Highway Administration (FHWA), p. 112, Submitted on September 2013.
8. **Hajj, E. Y.**, Loria, L., Sebaaly, P. E., Morian, N., West, R., Kvasnak, A., and J., Nelson. "Effect of Extraction Methods on the Properties of Aggregates in Reclaimed Asphalt Pavement," Draft Final Report, Contract No. DTFH61-07-H-00009, Federal Highway Administration (FHWA), p. 155, February 2013.

PROFESSIONAL PRESENTATIONS

Professional Meetings

1. Hajj, E. Y. (Presenter & Author), Sebaaly, P. E. (Author Only), Invited Speaker, "Pavement Design and Materials Research Update", Asphalt Institute Summer Meeting, Invited, North Lake Tahoe, Nevada. (August 20, 2015).
2. Hajj, E. Y. (Presenter & Author), Guest Speaker, "Research Updates at UNR – Concrete Pavements and Materials", Sierra Nevada Concrete Association (SNCA), Invited, Reno, Nevada. (October 28, 2014).
3. Hajj, E. (Presenter & Author), Alavi, M. Z. (Author Only), Sebaaly, P. E. (Author Only), Kazemi, S. F. (Author Only), FHWA Asphalt Binder Expert Task Group, Non-Academic, Panel, "Pavement Temperature Profile Prediction Model", Invited, Baton Rouge, Louisiana. (September 17, 2014).
4. Hajj, E. Y. (Presenter & Author), Alavi, M. Z. (Author Only), Morian, N. (Author Only), Sebaaly, P. E. (Author Only), Kazemi, S. F. (Author Only), FHWA Asphalt Mixture and Construction Expert Task Group, Non-Academic, Panel, "Thermal Cracking Analysis Model and Pavement Temperature Profile Prediction Model", Invited, Baton Rouge, Louisiana. (September 18, 2014).
5. Hajj, E. Y. (Presenter & Author), Luncheon Speaker, "Program and Research Update – Western Regional Superpave Center – UNR", American Public Works Association (APWA) Northern Nevada Branch, Invited, Reno, Nevada. (February 20, 2014).
6. Hajj, E. Y. (Presenter & Author), FHWA Asphalt Mixture and Construction Expert Task Group, Academic, Panel, "Determining Thermal Cracking Properties of Asphalt Mixtures Through Thermally Induced Stress and Strain", Invited, Fall River, Massachusetts. (September 20, 2013).
7. Hajj, E. Y. (Presenter & Author), FHWA Asphalt Mixture and Construction Expert Task Group, Academic, Panel, "Prediction of Asphalt Pavement Temperature Profile Using the Finite Control Volume Method (FCVM)", Invited, Fall River, Massachusetts. (September 20, 2013).
8. Hajj, E. Y. (Presenter & Author), FHWA Asphalt Mixture and Construction Expert Task Group, Non-Academic, "Validation of the Mechanistic-Based Approach to Evaluate Critical Conditions of Hot Mix Asphalt Mixtures", Invited, Fall River, Massachusetts. (September 19, 2013).
9. Hajj, E. Y. (Presenter & Author), FHWA Asphalt Mixture and Construction Expert Task Group, Non-Academic, "Determining Thermal Visco-elastic Properties of Asphalt Mixtures Using Uniaxial Thermal Stress and Strain Test (UTSST)", Invited, Minneapolis, Minnesota. (September 26, 2012).
10. Hajj, E. Y. (Presenter & Author), The 2012 Pavement Performance Symposium, Non-Academic, Symposium, "Effect of Aggregate, Binder, and Warm-Mix Additive Interaction on the Durability of Asphalt Mixtures", Invited, Laramie, Wyoming. (July 12, 2012).
11. Hajj, E. Y. (Presenter & Author), FHWA Fundamental Properties and Advanced Models Expert Task Group, Non-Academic, Other, "3D-Move Status: Standalone Deliverable, Workshop, Access, Documentation", Invited, Baton Rouge, Louisiana. (March 23, 2012).
12. Hajj, E. Y. (Presenter & Author), FHWA Fundamental Properties and Advanced Models Expert Task Group, Non-Academic, Other, "ARC Database: Database Structure, Demonstration, Near/Long Term Access", Invited, Baton Rouge, Louisiana. (March 23, 2012).
13. Hajj, E. Y. (Presenter & Author), FHWA Asphalt Mixture and Construction Expert Task Group, Non-Academic, Other,

- "Results and Findings of FN Test Experiment", Invited, Baton Rouge, Louisiana. (March 20, 2012).
14. Hajj, E. Y. (Presenter & Author), Ekedahl, M. V. (Author Only), FHWA Asphalt Binder Expert Task Group, Non-Academic, "ARC Database Status Report and Presentation", Invited, Fall River, Massachusetts. (September 23, 2011).
 15. Hajj, E. Y. (Presenter & Author), FHWA Fundamental Properties and Advanced Models Expert Task Group, Non-Academic, "3D-Move Analysis Software Status", Invited, Fall River, Massachusetts. (September 20, 2011).
 16. Hajj, E. Y. (Presenter & Author), Ekedahl, M. V. (Author Only), FHWA Fundamental Properties and Advanced Models Expert Task Group, Non-Academic, "ARC Database Status Report and Presentation", Invited, Fall River, Massachusetts. (September 20, 2011).
 17. Hajj, E. Y. (Presenter & Author), FHWA Asphalt Mixture and Construction Expert Task Group, Non-Academic, "Equivalent Loading Frequencies to Simulate Asphalt Layer Pavement Responses under Dynamic Traffic Loading", Invited, Phoenix, Arizona. (March 18, 2011).
 18. Hajj, E. Y. (Presenter & Author), FHWA Asphalt Binder Expert Task Group, Non-Academic, "ARC Database: Overview and Updates", Invited, Phoenix, Arizona. (March 16, 2011).
 19. Hajj, E. Y. (Presenter & Author), FHWA Fundamental Properties and Advanced Models Expert Task Group, Non-Academic, "Vehicle-Pavement Interaction: ARC Year 5 Plan Overview", Invited, Phoenix, Arizona. (March 15, 2011).
 20. Hajj, E. Y. (Presenter & Author), Ulloa, A. (Author Only), AFD80 Technical Committee Annual Meeting, Non-Academic, "Loading Frequencies for the Asphalt Layer to Simulate the AC Critical Pavement Responses under Dynamic Loading", Invited, Washington D.C. (January 25, 2011).
 21. Hajj, E. Y. (Presenter & Author), FHWA Warm Mix Asphalt Technical Working Group, Non-Academic, "Impact of WMA Additives on Modified Asphalt Mixtures", Invited, Oklahoma, City, Oklahoma. (October 28, 2010).
 22. Hajj, E. Y. (Presenter & Author), FHWA Recycled Asphalt Pavement Expert Task Group, Non-Academic, "Updates on Laboratory Testing of RAP Mixtures from Manitoba Test Sections", Invited, Oklahoma, City, Oklahoma. (October 27, 2010).
 23. Hajj, E. Y. (Presenter & Author), FHWA Asphalt Mixture and Construction Expert Task Group, Non-Academic, "Updates on ARC Work Element E2d: Thermal Cracking Testing of Asphalt Mixtures", Invited, Wisconsin, Madison. (September 21, 2010).
 24. Hajj, E. Y. (Presenter & Author), FHWA Recycled Asphalt Pavement Expert Task Group, Non-Academic, "Impact of Extraction Techniques on Aggregate Physical Properties", Invited, Auburn, Alabama. (May 19, 2010).
 25. Hajj, E. Y. (Presenter & Author), FHWA Fundamental Properties and Advanced Models Expert Task Group, Non-Academic, "Pavement Response Model to Dynamic Loads", Invited, Irvine, California. (February 26, 2010).
 26. Hajj, E. Y. (Presenter & Author), FHWA Warm Mix Asphalt Technical Working Group, Non-Academic, "Evaluation of the WMA Foaming Technique with 15% RAP", Invited, Seattle, Washington. (December 15, 2009).
 27. Hajj, E. Y. (Presenter & Author), FHWA Recycled Asphalt Pavement Expert Task Group, Non-Academic, "Impact of Extraction Techniques on Aggregate Physical Properties", Invited, Manchester, New Hampshire. (April 22, 2009).
 28. Hajj, E. Y. (Presenter & Author), FHWA Asphalt Mixture and Construction Expert Task Group, Non-Academic, "ARC Updates: Critically Designed Mixtures", Invited, Irvine, California. (February 27, 2009).
 29. Hajj, E. Y. (Presenter & Author), FHWA Fundamental Properties and Advanced Models Expert Task Group, Non-Academic, "ARC Updates: Validation", Invited, Irvine, California. (February 24, 2009).
 30. Hajj, E. Y. (Presenter & Author), AFK30 Technical Committee Annual Meeting, Non-Academic, "Laboratory Evaluation of Nevada's HMA Mixtures Using Tire Rubber Modified Binders", Invited, Washington D.C. (January 16, 2008).

Other Institutions

1. Hajj, E. Y. (Presenter & Author), École National des Travaux Public de l'État (ENTPE), Academic, Seminar, "Approach for Quantifying the Effect of Binder Oxidative Aging on the Viscoelastic Properties of Asphalt Mixtures", Invited, Lyon, France. (April 12, 2013).

Conferences and Workshops

Lectern/Podium Presentations

1. Sebaaly, P. E. (Presenter & Author), Hajj, E. Y. (Author Only), Hitti, E. (Author Only), Rubberized Asphalt Rubber 2015, Non-Academic, Conference, "Performance of Tire Rubber-Modified Asphalt Binder in Warm Mix Asphalt Mixtures", Accepted, Las Vegas. (October 2015).
2. Alavi, M. Z. (Presenter & Author), Hajj, E. (Author Only), 2015 Airfield & Highway Pavement, Non-Academic, Conference, "Evolution of Asphalt Mixtures Viscoelastic Properties due to Continuing Oxidative Aging", Accepted, Miami, Florida. (June 8, 2015).
3. Hajj, E. Y. (Presenter & Author), Performance-Based Cold In-Place Recycling (CIR) for Nevada, Non-Academic, Conference, "Results from Local Testing and Recent Studies Involving CIR. Targeted Performance Goals, Targeted Performance Specifications, Targeted Long Term Performance of CIR", Invited, Reno, Nevada. (March 3, 2015).
4. Hajj, E. Y. (Presenter & Author), Sebaaly, P. E. (Author), ARC deliverables/Products Presentations and Workshops, Non-Academic, Workshop, "ARC Deliverables - University of Nevada", Invited, Washington, D.C. (January 15, 2015).
5. Hajj, E. Y. (Presenter & Author), Pacific Coast Conference on Asphalt Specifications (PCCAS), Non-Academic, Conference, "Cold In-Place Recycling: Mix Design and Properties", Invited, Reno, Nevada. (October 7, 2014).
6. Morian, N. (Presenter & Author), Alavi, M. Zia (Author Only), Hajj, E. (Author Only), Petersen Asphalt Research Conference, Non-Academic, Conference, "Investigation of Aggregate Adhesion and Mixture Characteristics on the Hardening Susceptibility of Asphalt Binders", Accepted, Laramie, Wyoming. (July 15, 2014).
7. Alavi, M. Zia (Presenter & Author), Hajj, E. (Author Only), 12th ISAP conference on Asphalt Pavements, Non-Academic, Conference, "Effect of Cooling Rate on the Thermo-Volumetric, Thermo-Viscoelastic, and Fracture Properties of Asphalt Mixtures", Accepted, Raleigh, North Carolina. (June 2, 2014).
8. Hajj, E. Y. (Presenter & Author), Nevada Transportation Conference, Session 4: Research, Non-Academic, Conference, "Pavements/Materials Research Updates", Invited, Las Vegas, Nevada (April 9, 2014)
9. Ulloa, A. (Presenter & Author), Hajj, E. (Author Only), Sebaaly, P. E. (Author Only), Diaz, C. (Author Only), 93rd Annual Meeting of the Transportation Research Board, Non-Academic, Conference, "Influence of Aggregate Characteristics, Asphalt Binder, and Mixture Properties on Rutting Performance of Hot-Mix Asphalt", Accepted, Washington, D.C. (January 15, 2014).
10. Piratheepan, M. (Presenter & Author), Sanjeevan, S. (Author Only), Hajj, E. (Author Only), Bush, A. (Author Only), 93rd Annual Meeting of the Transportation Research Board, Non-Academic, Conference, "Cold in-place recycling (CIR) technique in Nevada: field performance evaluation for a decade of in-service period", Accepted, Washington, D.C. (January 13, 2014).
11. Hajj, E. Y. (Presenter & Author), Cold Recycle – Engineered Emulsions Local Conference, Non-Academic, Conference, "Research, testing, performance guidelines, long-term performance criteria", Invited, Reno, Nevada. (December 4, 2013).
12. Hajj, E. Y. (Presenter & Author), 22nd Annual Rocky Mountain Asphalt User/Producer Group (RMAU/PG) Meeting, Non-Academic, Conference, "UNR SUPERPAVE Center Update: Exciting New Projects and Research", Invited, Reno, Nevada. (October 16, 2013).
13. Farrar, M. (Presenter & Author), Hajj, E. Y. (Author Only), Planche, J. P. (Author Only), Alavi, Z. (Author Only), 5th European Asphalt Technology Association, Non-Academic, Conference, "A Method to Estimate the Thermal Stress Build-up in an Asphalt Mixture from a Single Cooling Event", Accepted, Braunschweig, Germany. (June 4, 2013).
14. Hajj, E. Y. (Presenter & Author), Alavi, Z. (Author Only), Morian, N. (Author Only), Sebaaly, P. E. (Author Only), 5th European Asphalt Technology Association, Non-Academic, Conference, "Effect of Select warm-mix Additives on Thermo-Viscoelastic Properties of Asphalt Mixtures", Accepted, Braunschweig, Germany (June 4, 2013).
15. Hajj, E. Y. (Presenter & Author), Rocky Mountain Asphalt User/Producer Group (RMAU/PG) and Western Cooperative Test Group (WCTG), Non-Academic, Conference, "Update on RAP and Warm Mix Research", Invited, Phoenix, Arizona. (March 13, 2013).

16. Hajj, E. Y. (Presenter & Author), Utah Asphalt Conference, Non-Academic, Conference, "Performance Evaluation of Surface Treatments", Invited, Salt Lake City, Utah. (March 27, 2013).
17. Hajj, E. Y. (Presenter & Author), Utah Asphalt Conference, Non-Academic, Conference, "When Slurry Seal Becomes A Cost-Effective Surface Treatment", Invited, Salt Lake City, Utah. (March 27, 2013).
18. Hajj, E. Y. (Presenter & Author), Fifty-second annual asphalt conference, Non-Academic, Conference, "Findings in WMA Project", Invited, Pierre, South Dakota. (April 3, 2013).
19. Hajj, E. Y. (Presenter & Author), Fifty-second annual asphalt conference, Non-Academic, Conference, "Warm Asphalt in the Dakotas", Invited, Pierre, South Dakota. (April 3, 2013).
20. Hajj, E. Y. (Presenter & Author), 92nd Annual Meeting of the Transportation Research Board, Academic, Conference, "Comparison between Mechanistic Properties of Laboratory and Field-Produced Warm-Mix Asphalt Mixtures from Manitoba, Canada", Accepted, Washington, D.C. (January 16, 2013).
21. Hajj, E. Y. (Presenter & Author), 92nd Annual Meeting of the Transportation Research Board, Academic, Conference, "Influence of BituTech RAP Bioasphalt on Viscoelastic Properties of Reclaimed Asphalt mixtures", Accepted, Washington, D.C. (January 16, 2013).
22. Hajj, E. Y. (Presenter & Author), 92nd Annual Meeting of the Transportation Research Board, Academic, Conference, "Influence of Cecabase on Mechanistic, Economical, and Environmental Attributes of Polymer-Modified Asphalt Mixture", Accepted, Washington, D.C. (January 16, 2013).
23. Hajj, E. Y. (Presenter & Author), 2012 Arizona Pavements/Materials Conference: "100 Years of Progress...The Journey Continues," Non-Academic, Conference, "Manitoba RAP Binder and Mix Evaluation", Invited, Phoenix, Arizona. (October 31, 2012).
24. Sebaaly, P. E. (Author Only), Hajj, E. (Author Only), Hitti, E. (Presenter & Author), Asphalt Rubber Conference 2012, Non-Academic, Conference, "Performance of Recycled Rubber Modified Binders in Warm Mix Asphalt Mixtures", Accepted, Munich, Germany. (October 25, 2012).
25. Saadeh, S. (Presenter & Author), Eljairi, O. (Author Only), Kramer, B. (Author Only), Hajj, E. Y. (Author Only), Four-point Bending conference, Non-Academic, Conference, "Development of quality control test procedure for characterizing fracture properties of asphalt mixtures", Accepted, Sacramento, California. (October 9, 2012).
26. Piratheepan, M. (Author Only), Sebaaly, P. E. (Author Only), Hajj, E. Y. (Presenter & Author), Second International Symposium on Asphalt Pavements and Environment, Non-Academic, Conference, "Mix Design of Cold In-Place Recycling", Accepted, Fortaleza, Brazil. (October 1, 2012).
27. Hajj, E. Y. (Presenter & Author), Sebaaly, P. E. (Author Only), Morian, N. (Author Only), Piratheepan, M. (Author Only), Second International Symposium on Asphalt Pavements and Environment, Non-Academic, Conference, "Performance of Hot and Warm Asphalts with Reclaimed Asphalt Pavements in Nevada", Accepted, Fortaleza, Brazil. (October 1, 2012).
28. Hajj, E. Y. (Presenter & Author), Workshop on RAP Recycling, Non-Academic, Workshop, "Mechanical Properties of mixtures Containing RAP", Invited, Fortaleza, Brazil. (September 30, 2012).
29. Alavi, M. Z. (Presenter & Author), Morian, N. (Author Only), Hajj, E. Y. (Author Only), Petersen Asphalt Research Conference, Non-Academic, Conference, "Effect of Oxidative Aging on the Relaxation Spectrum of Asphalt Mixtures Obtained from Dynamic Modulus Test", Accepted, Laramie, Wyoming. (July 11, 2012).
30. Morian, N. (Presenter & Author), Hajj, E. Y. (Author Only), Sebaaly, P. E. (Author Only), The 2012 Petersen Asphalt Research Conference, Non-Academic, Conference, "Significance of Mixture Parameters on Binder Aging in HMA Mixtures", Accepted, Laramie, Wyoming. (July 11, 2012).
31. Sebaaly, P. E. (Presenter & Author), Hajj, E. Y. (Author Only), Hitti, E. (Author Only), 5th Eurasphalt and Eurobitume Congress, Non-Academic, Conference, "Mechanistic Properties of Warm Mix Asphalt Mixtures", Accepted, Istanbul, Turkey. (June 14, 2012).
32. Hajj, E. Y. (Presenter & Author), Sebaaly, P. E. (Author Only), West, R. (Author Only), Morian, N. (Author Only), Loria, L. (Author Only), 87th AAPT Annual Meeting and Technical Sessions, Non-Academic, Conference, "Recommendations for the Characterization of RAP Aggregate Properties Using Traditional Testing and Mixture Volumetrics", Accepted, Austin, Texas. (April 4, 2012).
33. Alavi, M. Z. (Presenter & Author), Hajj, E. Y. (Author Only), Hanz, A. (Author Only), Bahia, H. (Author Only), 44th Annual Symposium on Engineering Geology and Geotechnical Engineering, Non-Academic, Seminar, "Influence of Aggregate, Binder, and Warm-Mix Additive Interaction on Moisture Resistance of Asphalt Mixtures", Accepted,

- Reno, Nevada. (March 22, 2012).
34. Ulloa, A. (Presenter & Author), Hajj, E. Y. (Author Only), 44th Annual Symposium on Engineering Geology and Geotechnical Engineering, Non-Academic, Seminar, "Laboratory Evaluation of HMA Mixtures for High Temperature Stability", Accepted, Reno, Nevada. (March 22, 2012).
 35. Siddharthan, R. (Presenter & Author), Hajj, E. Y. (Author Only), Rasanayagam, N. (Author Only), 44th Annual Symposium on Eng. Geology and Geotechnical Eng., Non-Academic, Seminar, "Response and Performance of Layered Systems under 3D Contact Stress Distribution", Accepted, Reno, Nevada. (March 22, 2012).
 36. Hajj, E. Y. (Presenter Only), Pavement Preservation Workshop, Non-Academic, "UNR Report: Slurry and Micro Surfacing Performance", California Chip Seal Association, Invited, Sacramento, California. (February 10, 2012).
 37. Hajj, E. Y. (Presenter & Author), Loria, L. (Author Only), Sebaaly, P. E. (Author Only), Transportation Research Board (TRB) 91st Annual Meeting, Non-Academic, Conference, "Estimating Effective Performance Grade of Asphalt Binders in High-RAP Mixtures Using Different Methodologies: Case Study", Accepted, Washington, D.C. (January 24, 2012).
 38. Alavi, M. Z. (Author Only), Hajj, E. Y. (Author Only), Hanz, A. (Presenter & Author), Bahia, H. (Author Only), Transportation Research Board (TRB) 91st Annual Meeting, Non-Academic, Conference, "Evaluating Adhesion Properties and Moisture Damage Susceptibility of Warm-Mix Asphalts Using Bitumen Bond Strength and Dynamic Modulus Ratio Tests", Accepted, Washington, D.C. (January 24, 2012).
 39. Hajj, E. Y. (Presenter & Author), Thushanthan, P. (Author Only), Sebaaly, P. E. (Author Only), Siddharthan, R. (Author Only), Transportation Research Board (TRB) 91st Annual Meeting, Non-Academic, Conference, "Influence of Tire-Pavement Stress Distribution, Shape, and Braking on Asphalt Pavement Performance Predictions", Accepted, Washington, D.C. (January 24, 2012).
 40. Loria, L. (Author Only), Hajj, E. (Author Only), Sebaaly, P. E. (Presenter & Author), Cortez, E. M. (Author Only), Gibson, S. (Author Only), Transportation Research Board (TRB) 91st Annual Meeting, Non-Academic, Conference, "Effective Timing of Sequential Slurry Seal Applications on Asphalt Pavement Performance", Accepted, Washington, D.C. (January 24, 2012).
 41. Ulloa, A. (Author Only), Hajj, E. (Presenter & Author), Siddharthan, R. (Author Only), Sebaaly, P. E. (Author Only), Transportation Research Board (TRB) 91st Annual Meeting, Non-Academic, Conference, "Establishing Equivalent Loading Frequencies in Static Multilayer Analyses to Simulate Dynamic Responses in Asphalt Layer", Accepted, Washington, D.C. (January 24, 2012).
 42. Hajj, E. Y. (Presenter & Author), Sebaaly, P. E. (Author Only), Pacific Coast Conference on Asphalt Specifications (PCCAS), Non-Academic, Conference, "Updates on Asphalt Research Consortium", Invited, Reno, Nevada. (October 25, 2011)
 43. Hajj, E. Y. (Presenter & Author), Chia, C. (Author Only), Sebaaly, P. E. (Author Only), Kasozi, A. (Author Only), Gibson, S. (Author Only), Second International Conference on Warm-mix Asphalt, Non-Academic, "Properties of Foamed Warm-Mix Asphalt Incorporating Recycled Asphalt Pavement from Two Field Projects – Case Studies", Accepted, Saint Louis, Missouri. (October 12, 2011).
 44. Hajj, E. Y. (Presenter & Author), Sebaaly, P. E. (Author Only), Hitti, E. (Author Only), Borroel, C. (Author Only), 86th AAPT Annual Meeting and Technical Sessions, Non-Academic, "Performance Evaluation of Terminal Blend Tire Rubber HMA and WMA Mixtures – Case Studies", Accepted, Tampa, Florida. (March 29, 2011).
 45. Hajj, E. Y. (Presenter Only), Nevada Transportation Conference, Non-Academic, "WMA Experience in Nevada", Invited, Reno, Nevada. (March 22, 2011).
 46. Morian, N. (Author Only), Hajj, E.Y. (Presenter & Author), Glover, C. (Author Only), Sebaaly, P. E. (Author Only), Transportation Research Board (TRB) 90th Annual Meeting, Non-Academic, "Oxidative Aging of Asphalt Binders in Hot Mix Asphalt Mixtures", Accepted, Washington, D.C. (January 25, 2011).
 47. Hajj, E. Y. (Presenter & Author), Loria, L. (Author Only), Sebaaly, P. E. (Author Only), Borroel, C. (Author Only), Levia, P. (Author Only), Transportation Research Board (TRB) 90th Annual Meeting, Non-Academic, "Optimum Time for Application of Slurry to Asphalt Concrete Pavements", Accepted, Washington, D.C. (January 25, 2011).
 48. Hajj, E. Y. (Presenter & Author), Sebaaly, P. E. (Author Only), Pacific Coast Conference on Asphalt Specifications (PCCAS), Non-Academic, Conference, "Updates on Asphalt Research Consortium", Invited, Reno, Nevada. (November 9, 2010)
 49. Hajj, E. Y. (Presenter Only), Pavement Preservation Workshop, Non-Academic, "Modified Binder Chip Seals", California Chip Seal Association, Invited, Seaside, California. (January 21, 2010).

50. Sebaaly, P. E. (Author Only), Hajj, E. Y. (Presenter & Author), Weitzel, D. (Author Only), 10th International Conference on Asphalt Pavements, "A Superpave Volumetric Mix Design for Nevada's Conditions", Accepted, Quebec City, Quebec. (August 16, 2006).
51. Hajj, E. (Presenter & Author), Sebaaly, P. E. (Author Only), Siddharthan, R. (Author Only), Mechanics and Materials Conference, McMat, "Response of Asphalt Pavement Mixture Under a Slow Moving Truck", Accepted, Baton Rouge, Louisiana (June 2, 2005).

Poster Presentations

52. Siddharthan, R. (Presenter & Author), Tan, X. (Author Only), Hajj, E. (Author Only), 93rd Annual Meeting of the Transportation Research Board, Non-Academic, Conference, "Investigation of Transverse Wheel Wander Using Monte Carlo Simulation", Accepted, Washington, D.C. (January 13, 2014).
53. Alavi, M. Zia (Presenter & Author), Pouranian, M. R. (Author Only), Hajj, E. (Author Only), 93rd Annual Meeting of the Transportation Research Board, Non-Academic, Conference, "Prediction of Asphalt Pavement Temperature Profile Using the Finite Control Volume Method", Accepted, Washington, D.C. (January 13, 2014).
54. Morian, N. (Presenter & Author), Alavi, M. Zia (Author Only), Hajj, E. (Author Only), Sebaaly, P. E. (Author Only), 93rd Annual Meeting of the Transportation Research Board, Non-Academic, Conference, "Evolution of Thermo-Viscoelastic Properties of Asphalt mixtures with Oxidative Aging", Accepted, Washington, D.C. (January 14, 2014).
55. Morian, N. (Author Only), Hajj, E. Y. (Presenter & Author), Sebaaly, P. E. (Author Only), 92nd Annual Meeting of the Transportation Research Board, Academic, Conference, "Significance of Mixture Parameters on Binder Aging in Hot-Mix-Asphalt Mixtures", Accepted, Washington, D.C. (January 15, 2013).
56. Aguiar-Moya, J. P. (Author Only), Loria-Salazar, L. (Presenter & Author), Salazar, J. (Author Only), Villegas, E. (Author Only), Corrales-Azofeifa, J. P. (Author Only), Hajj, E. Y. (Author Only), Transportation Research Board (TRB) 92nd Annual Meeting, Non-Academic, Conference, "Evaluation of Adhesion Properties of Costa Rican Asphalt Mixtures Using Bitumen Bond Strength and Contact-Angle Measurement Tests," Accepted, Washington, D.C. (January 15, 2013).
57. Sebaaly, P. E. (Author Only), Hajj, E. Y. (Author Only), Porras, J. (Presenter & Author), Corrales, J. (Author Only), Transportation Research Board (TRB) 91st Annual Meeting, Non-Academic, Conference, "Laboratory Evaluation of Hot-Mix Asphalt Mixtures for Reflective Cracking Interlayers", Accepted, Washington, D.C. (January 24, 2012).
58. Porras, J. (Presenter & Author), Hajj, E. Y. (Author Only), Sebaaly, P. E. (Author Only), Kass, S. (Author Only), Liske, T. (Author Only), Transportation Research Board (TRB) 91st Annual Meeting, Non-Academic, Conference, "Performance Evaluation of Field-Produced Warm-Mix Asphalt Mixtures in Manitoba", Accepted, Washington, D.C. (January 24, 2012).
59. Cortez, E. M. (Presenter & Author), Hajj, E. Y. (Author Only), Sebaaly, P. E. (Author Only), Alavi, M. Z., Transportation Research Board (TRB) 90th Annual Meeting, Non-Academic, "Investigating Low-Temperature Properties of Cylindrical Superpave Gyrotory-Compacted Asphalt Concrete Specimens using the Thermal Stress-Restrained Specimen Test (TSRST)", Accepted, Washington, D.C. (January 25, 2011).
60. Kasozi, A. (Author Only), Hajj, E. Y. (Presenter & Author), Sebaaly, P. E. (Author Only), Elkins, J., Transportation Research Board (TRB) 90th Annual Meeting, Non-Academic, "Evaluation of Foamed Warm-Mix Asphalt Incorporating Recycled Asphalt Pavement for Volumetric and Mechanical Properties", Accepted, Washington, D.C. (January 25, 2011).
61. Loria, L. (Presenter & Author), Hajj, E. (Author Only), Sebaaly, P. E. (Author Only), Barton, M. (Author Only), Kass, S. (Author Only), Liske, T. (Author Only), Transportation Research Board (TRB) 90th Annual Meeting, Non-Academic, "Performance Evaluation of Asphalt Mixtures with High RAP Content", Accepted, Washington, D.C. (January 25, 2011).
62. Cortez, E. M. (Presenter & Author), Hajj, E. (Author Only), Sebaaly, P. E. (Author Only), Transportation Research Board (TRB) 90th Annual Meeting, Non-Academic, "Pavement Temperature Rates in the Intermountain Region of the United States", Accepted, Washington, D.C. (January 25, 2011).

PROFESSIONAL SERVICE AND OUTREACH

Professional Activities

Professional

- Member of Advisory board for the project "ALLBACK2PAVE: Toward a sustainable 100% recycling of reclaimed asphalt in road pavements", The University of Nottingham, United Kingdom. (2013 - Present).
- Chair, TRB committee, AFK50: Characteristics of Asphalt Paving Mixtures to Meet Structural Requirements. (2014 - Present).
- Chair, TRB subcommittee, AFK50(2): Integration of Bituminous Paving Mixture Characteristics with Pavement Structural Design. (2011 - 2014).
- Secretary, TRB subcommittee, AFK50(2): Integration of Bituminous Paving Mixture Characteristics with Pavement Structural Design. (2009 - 2011).
- Attendee, Meeting, NCHRP Special Meeting on National Training: Challenges and Opportunities. (2013).
- Moderator, Fifth Technical Session, "Performance Evaluation," Association of Asphalt Paving Technologists (AAPT) 82nd Annual Business Meeting and Technical Sessions, Denver, Colorado, April 10, 2013.
- Member, ISAP scientific committee for the 2nd International Symposium on Asphalt Pavements and Environment to be held in Fortaleza, Brazil on October 3-5, 2012.
- Co-editor, ASCE Geotechnical Special Publication (GSP) 223: Road Materials and New Innovations in Pavement Engineering. Proc. of the 2011 GeoHunan International Conference II: "Emerging Technologies for Design, Construction, Rehabilitation, and Inspections of Transportation Infrastructure," ISBN 9780784411742, Hunan, China, Jun. 9-11, 2011.
- Chair, Session T2S13: "Asphalt Binder and Mixture Characterization" at the 2011 GeoHunan International Conference II: "Emerging Technologies for Design, Construction, Rehabilitation, and Inspections of Transportation Infrastructure," Hunan, China, Jun. 9-11, 2011.
- Member, FHWA Asphalt Mixture and Construction Expert Task Group, Flow Number Task Group. (2010 - Present).

Public/Community/Outreach

- Member, Emmon's Award Committee, Association of Asphalt Paving Technologists (AAPT). (2013 - 2014).
- Chair, Emmon's Award Committee, Association of Asphalt Paving Technologists (AAPT). (2015 - Present).
- Organizer, Workshop on *A Step Forward Toward A Better Understanding of the Blending Between Recycled and Virgin Asphalts*, International Society for Asphalt Pavements (ISAP) Working Group 1 (WG1) on "Hot Recycling," Raleigh, North Carolina. (2014).
- Member, planning committee for Nevada Transportation Conference. (2013 - Present).
- Member, planning committee for Utah Asphalt Conference (2013 - Present).
- Member, organizing committee for the one-day workshop on RAP Recycling, International Society for Asphalt Pavements (ISAP), Brazil Fortaleza, September 30, 2012.
- Member, planning committee for the 2nd International Conference on Warm Mix Asphalt (WMA), St. Louis, Missouri, October 11-13, 2011.

Editorial Activities

Editorial review service for the following journals

- Associate Editor, International Journal of Pavement Engineering (IJPE). (2015 - Present)

Technical review service for the following journals

- ASTM Advances in Civil Engineering Materials (ACEM)
- Canadian Journal of Civil Engineering
- Construction and Building Materials
- International Journal for Traffic and Transport Engineering (IJTTE)
- International Journal of Pavement Engineering (IJPE)
- International Journal of Pavement Research and Technology (IJPRT)
- International Journal of Road Materials and Pavement Design (RMPD)
- Journal of Materials in Civil Engineering, ASCE
- Journal of Performance of Constructed Facilities, ASCE
- Journal of Testing and Evaluation (JoTE), ASTM
- Journal of the Association of Asphalt Paving Technologists (AAPT)
- Journal of the Transportation Research Board
- Journal of Transportation Engineering, ASCE
- International Union of Laboratories and Experts in Construction Materials, Systems and Structures (RILEM)

Technical review service for the following granting agencies

- National Science Foundation, NSF:
 - Catalyzing New International Collaboration (CNIC) program.
 - Materials Engineering and Processing (MEP).
 - Structural Materials and Mechanics (SMM) program.
- Ministry of Science and Innovation (MSI), Wellington, New Zealand.
- METRANS Transportation Center, Joint partnership of the University of Southern California (USC) and California State University Long Beach (CSULB).
- Research Grants Council (RGC), Honk Kong.

Administrative Assignments

- Member, Campus Affairs Committee (CAC), Faculty Senate Committee, University of Nevada, Reno. (2014 - 2017).
- Member, CEE Space Committee, Civil and Environmental Engineering Department, University of Nevada, Reno. (2013 - Present).
- Member, CEE Strategic Planning Committee, Civil and Environmental Engineering Department, University of Nevada, Reno. (2013 - Present).
- Member, CEE Undergraduate Committee, Civil and Environmental Engineering Department, University of Nevada, Reno. (2013 - Present).
- Member, Transportation Faculty Search Committee, Civil and Environmental Engineering Department, University of Nevada, Reno. (2012 - 2013).

GRADUATE STUDENT ADVISORY COMMITTEES

Dissertation Committee Chair

In-Process. Student home department: Civil Engineering. January 15, 2014 - Present.

Advised: Dario Batioja

In-Process. Student home department: Civil Engineering. August 15, 2013 - Present.

Advised: Hadi Nabizadeh

Completed. "Comprehensive Methodologies for Analysis of Thermal Cracking in Asphalt Concrete Pavements". Student home department: Civil Engineering. January 15, 2010 - August 15, 2014.

Advised: Mohammad Zia Alavi (Postdoctoral Scholar, UC Davis Pavement Research Center)

Completed, "Development of a Mechanistic-Based Approach to Evaluate Critical Conditions of Hot Mix Asphalt Mixtures". Student home department: Civil Engineering. January 15, 2010 - May 15, 2013.

Advised: Alvaro Ulloa Calderon (Project Engineer, Dynatest Consulting, Inc., California)

Completed, "Designing a System for HMA Containing a High Percentage of Reclaimed Asphalt Pavement (RAP) Material". Student home department: Civil Engineering. May 15, 2008 - May 15, 2011.

Advised: Luis G. Loria Salazar (Director of Transportation Center, LanammeUCR, Costa Rica)

Dissertation Committee Member

In-Process. Student home department: Civil Engineering. January 15, 2014 - Present.

Advised: Seyed Farzan Kazemi

In-Process. Student home department: Civil Engineering. August 15, 2010 - Present.

Advised: Andrew Kasozi

Completed, "Influence of mixture characteristics on the oxidative aging of asphalt binders". Student home department: Civil Engineering. May 15, 2008 - May 15, 2014.

Advised: Nathaniel Morian

Completed, "Modeling the Temporal Priority Reversal Phenomenon at Roundabouts". Student home department: Civil Engineering. December 31, 2013.

Advised: Samuel Ahiamadi

Completed, "Fatigue et propriétés viscoélastiques des bitumes et mastics bitumineux". Student home department: Ecole Nationale des Travaux Publics de L'Etat (ENTPE), Lyon, France. April 12, 2013. (Invited)

Advised: Maël Buannic

Master's Thesis Committee Chair (Plan A)

In-Process. Student home department: Civil Engineering. December 15, 2014 - Present.

Advised: Sara Pournoman

In-Process. Student home department: Civil Engineering. August 15, 2014 - Present.

Advised: Luis Mariano Sibaja Vargas

In-Process. Student home department: Civil Engineering. August 15, 2014 - Present.

Advised: Jhony Habbouche

In-Process. Student home department: Civil Engineering. August 15, 2014 - Present.

Advised: Mohamed Nimeri

In-Process. Student home department: Civil Engineering. August 15, 2013 - Present (Anticipated in 2015).

Advised: Nicholas Weitzel

In-Process. Student home department: Civil Engineering. August 15, 2013 - Present (Anticipated in 2015).

Advised: Peter Nabhan

Completed, "Evaluation of Pavement Rating System for Flexible Pavements in Nevada". Student home department: Civil Engineering. January 15, 2012 – December 15, 2014.

Advised: Roshan Suwal

Completed, "Field Performance of Asphalt Pavements with New Technologies in Northern Nevada". Student home department: Civil Engineering. August 15, 2011 - December 15, 2014.

Advised: Benjamin Michael Faeth

Completed, "Impact of the Variation in Dynamic Vehicle Load on Flexible Pavement Responses". Student home department: Civil Engineering. August 15, 2011 - December 31, 2013.

Advised: Ahsan Uz Zaman

Completed, "Evaluation of WMA Technologies and Recycled Asphalt Pavement on Nevada Aggregates". Student home department: Civil Engineering. August 15, 2011 - December 31, 2013.

Advised: Kevin Morgan

Completed, "Long-Term Performance Evaluation of Cold In-Place Recycling (CIR) Technique in Nevada". Student home department: Civil Engineering. August 15, 2011 - December 31, 2013.

Advised: Sanjeevan Selvaratnam

Completed, "Mechanical Properties of HMA Mixtures in Nevada to be used in the Mechanistic-Empirical Pavement Design Guide". Student home department: Civil Engineering. August 15, 2009 - August 21, 2012.

Advised: Teresa Feaster

Completed, "Mechanistic Properties of Field and Laboratory-Produced Warm Mix Asphalt Mixtures from Manitoba, Canada". Student home department: Civil Engineering. February 15, 2010 - December 31, 2011.

Advised: Juan Diego Porras

Completed, "Designing Cold Mix Asphalt and Cold In-Place Recycling Using Superpave Gyratory Compactor". Student home department: Civil Engineering. August 15, 2008 - December 31, 2011.

Advised: Murugaiyah Piratheepan

Completed, "Development of Pavement Performance Evaluation Subroutines for 3D-Move Analysis Software". Student home department: Civil Engineering. August 15, 2009 - August 15, 2011.

Advised: Vijayathanan Noel Vijayaruban

Completed, "Develop a Laboratory Mixing Procedure for Hot Mix Asphalt Containing RAP Materials". Student home department: Civil Engineering. August 15, 2009 - August 15, 2011.

Advised: Matthew Barton

Completed, "Impact of Contact Stress Distribution and Pattern on Asphalt Pavement Performance Using 3D-Move Analysis Software." Student home department: Civil Engineering. August 2007 - December 2010.

Advised: Thushanthan Palasantharan (Engineer, Rone Eng. Services)

Completed, "Impact of Anti-Strip Additives on Performance of Asphalt Pavements." Student home department: Civil Engineering. January 2007 – May 2010.

Advised: Thileepan Sathanathan (Sr. Geotechnical/Structural Engineer, Houston Offshore Eng., TX)

Completed, "Impact of Anti-strip Additives on Long-term Aging Properties of Asphalt Mixtures." Student home department: Civil Engineering. January 2007 – December 2009.

Advised: Sivakulan Shivakolunthar (Sr. Staff Geotechnical Engineer, URS Corp.)

Completed, "Characteristics of Dynamic Triaxial Testing of Asphalt Mixtures." Student home department: Civil Engineering. August 2007 – December 2009.

Advised: Alvaro Ulloa Calderon

Completed, "Use of Reclaimed Asphalt Pavements (RAP) in Airfields HMA Pavements." Student home department: Civil Engineering. August 2006 – August 2008.

Advised: Kandiah Pratheepan (Engineer, Earth Mechanics Inc.)

Master's Thesis Committee Member (Plan A)

In-Process. Student home department: Civil Engineering. January 15, 2014 - Present.

Advised: Sandeep Pandey

In-Process. Student home department: Civil Engineering. January 15, 2014 - Present.

Advised: Balasekaram Jayaprakas

In-Process. Student home department: Civil Engineering. August 15, 2013 - Present.

Advised: Cheng Zhu

In-Process. Student home department: Civil Engineering. January 15, 2013 - Present.

Advised: Saroj Thapa

In-Process. Student home department: Civil Engineering. August 15, 2012 - Present (Anticipated in 2015).

Advised: Rukesh Maharjan

Completed, "Evaluation of Warm Mix Asphalt Technologies and Recycled Asphalt Pavements in Truckee Meadows, Nevada". Student home department: Civil Engineering. August 15, 2011 - December 31, 2013.

Advised: Cristian Diaz

Completed, "Applying the Design Science Paradigm to Create a Conceptual Data Warehouse Design Methodology". Student home department: Accounting & Information Systems. August 15, 2013.

Advised: Michael V. Ekedahl

Completed, "Numerical Modeling of the Characteristics Seismic Behavior of Retaining Walls". Student home department: Civil Engineering. August 15, 2011 - June 15, 2013.

Advised: Graziella Sebaaly

Completed, "Evaluation of Warm Mix Additives for Use in Modified Asphalt Mixtures". Student home department: Civil Engineering. August 15, 2010 - March 31, 2013.

Advised: Zahi Chamoun

Completed, "Comparative Evaluation of Field and Laboratory-Produced Foamed Asphalt Mixture from Reno, Nevada". Student home department: Civil Engineering. January 15, 2010 - August 17, 2012.

Advised: Christine Chia

Completed, "A New Method of Data Storage". Student home department: Electrical Engineering. August 15, 2010 - April 27, 2012.

Advised: Joelle Z. Sebaaly

Completed, "PWL System for Dense graded Hot Mix Asphalt Construction in Nevada". Student home department: Civil Engineering. August 15, 2009 - August 15, 2011.

Advised: Roger Schlierkamp

Completed, "Evaluation of Warm Mix Asphalt Concrete Mixtures in South Dakota". Student home department: Civil Engineering. August 15, 2009 - August 15, 2011.

Advised: Taha Hussain

Completed, "Evaluation of Warm Mix Additives for Use in Modified Asphalt Mixtures". Student home department: Civil Engineering. August 15, 2008 - August 15, 2011.

Advised: Corina Borroel

Completed, "Pavement Response Model to Dynamic Loads". Student home department: Civil Engineering. January 15, 2008 - August 15, 2011.

Advised: Rasanayagam Nitharsan

Completed, "Properties of Warm Mix Asphalt from two field projects: Reno, NV and Manitoba, Canada." Student home department: Civil Engineering. January 2008 - August 2010.

Advised: Andrew Kasozi

Completed, "Environmental Conditions and Binder Aging Characteristics in the Intermountain Region of the United States." Student home department: Civil Engineering. August 2007 - December 2009.

Advised: Edward Cortez

Completed, "Impact of Lime on the Mechanical Properties of HMA Mixtures in Nevada." Student home department: Civil Engineering. August 2007 – December 2009.

Advised: Wendy Sequeira

Completed, "Techniques to Mitigate Reflective Cracking in HMA Pavements." Student home department: Civil Engineering. January 2006 - May 2008.

Advised: Luis G. Loria Salazar

Completed, "Evaluation of Terminal-Blend Rubber HMA Mixtures." Student home department: Civil Engineering. January 2006 - May 2007.

Advised: Haissam Sebaaly

Completed, "Effect of Geotextile Fabrics on Reflective Cracking of Hot Mix Asphalt Overlays in Washoe County, Nevada." Student home department: Civil Engineering. January 2006 - May 2007.

Advised: Nathan Morian

Completed, "Unbound Materials Resilient Modulus Testing for Truckee Meadows Area." Student home department: Civil Engineering. January 2006 - August 2007.

Advised: Aravinthan Thuraiajah

Completed, "Designing HMA Mixtures for Nevada's Intersections." Student home department: Civil Engineering. January 2006 - December 2007.

Advised: George El Tannoury

Completed, "Laboratory Characterization of Nevada's HMA Mixtures for Mechanistic Empirical Design." Student home department: Civil Engineering. August 2005 - December 2006.

Advised: Ziad Bou Jaoude

TEACHING

Courses Taught

- CEE 375 (Undergraduate): Construction Materials I
- CEE 377 (Undergraduate): Construction Materials
- CEE 427 (Undergraduate): Capstone Design Project – Pavement Section
- CEE 431/631 (Undergraduate/Graduate): Pavement Design and Analysis
- CEE 732 (Graduate): Bituminous Materials and Mixtures
- CEE 733 (Graduate): Advanced Pavement Design
- CEE 734 (Graduate): Pavement Reconstruction, Rehabilitation, and Maintenance
- CEE 735 (Graduate): Pavement Management
- CEE 771 (Graduate): Advanced Topics in Pavement Engineering