

## **FIBER REINFORCED ASPHALT CONCRETE: PERFORMANCE TESTS AND PAVEMENT DESIGN CONSIDERATION**

**K.E. Kaloush & B. S. Underwood**

Arizona State University, USA

**W. A. Zeiada**

University of Sharjah, UAE

**J. Stempihar**

Arizona Department of Transportation, USA

### *ABSTRACT*

This paper highlights findings from several research studies on Fiber Reinforced Asphalt Concrete (FRAC) mixtures. The fibers are a blend of polypropylene and aramid fibers. The reinforcing strength contribution of fibers was evident in several mechanical tests. Flexural and fracture tests also indicated that the FRAC mixture is better able to resist the development and propagation of cracks when compared to the control mixture. The stiffness properties also showed that the FRAC mixture will provide better rutting and fatigue cracking resistance. Recommendations on the use of FRAC mixture moduli and/or structural layer coefficients in pavement design analysis are also discussed.