

TRANSPORTATION SEMINAR

Warm Mix Asphalt versus Hot Mix Asphalt: A Reflection on Compaction Behavior

Tuesday, February 14, 2017
12:00pm to 1:00pm

Please join us in College Avenue Commons Building room 459 📍

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Pavement is everywhere. According to the Federal Highway Administration, there are 8.5 million lane-miles of road in the United States (US) alone. Assuming that each lane of road is twelve feet wide, that means approximately 19,300 square miles of roadway covers the US. Conservative estimates of parking in the US is 500 million parking spaces, which take up an additional 3,590 square miles, for a total of 22,890 square miles combined. This combination of US roadways and parking spaces is equivalent to approximately 11.1 million football fields (including the end zones) or almost two Marylands. With an estimated 95% of our roadways covered with asphalt materials, converting from Hot Mix Asphalt (HMA) to Warm Mix Asphalt (WMA) provides significant economic and environmental benefits, reducing fuel consumption approximately 25% and emissions approximately 15%. But how could WMA potentially influence construction practices, specifically revolving around compaction temperature and effort? This talk will explore the compaction of WMA and HMA to better understand the potential benefits of WMA.

Dr. Andrew Braham graduated in Civil Engineering from the University of Wisconsin with his B.S. in May 2000 and M.S. in May 2002. From June 2002 through December 2004, Dr. Braham worked with Koch Materials Company as a field engineering and a research engineer. In June 2005, Dr. Braham returned to school to obtain his Doctorate degree from the University of Illinois. He graduated in December 2008. For the next two years, from February 2009 to November 2010, Dr. Braham was a Post-Doctoral Research Fellow at Southeast University in Nanjing, China. In November 2010, Dr. Braham began work in the Civil Engineering Department at the University of Arkansas, where he is currently an associate professor. He has continued to teach and research transportation material behavior, while expanding into sustainability and pavement maintenance and rehabilitation products.

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