

Sustainable alternative pavement materials and innovative technologies

Our research team investigates sustainable technologies for responsible recycling practices in the pavement industry. Asphalt is one of the most recycled materials in the world. Asphalt industry has a 60-years history of recycling old pavements and post-consumer products from other industries, with varying levels of success. Post-consumer rubber tires, asphalt shingles, slags, polymers, oils, and plastics are common materials recycled in asphalt pavements. However, recycling of these materials may not be the most sustainable solutions if it compromises pavement performance and service-life. This motivates our group to evaluate and further develop innovative technologies such as plastic compatibilizers, recycling agents (“rejuvenators”), bio-binders, reactive polymers, antioxidants, and warm-mix technologies to improve the durability and sustainability of transportation infrastructure. We are looking forward to recruiting undergraduate researchers from FAMU or FSU to conduct hands-on activities range from sample preparation and testing to data analysis and machine learning applications. If interested send your resume to Dr. Michael Elwardany

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