



University of Washington presents  
**Professor Zhanping You, Ph.D.**



Dr. Zhanping You is a University Distinguished Professor in the area of pavements and materials in the Department of Civil, Environmental, and Geospatial Engineering at Michigan Technological University. Dr. You has earned a PhD in Civil Engineering from the University of Illinois at Urbana - Champaign in 2003. Dr. You served as Director of the Center of Excellence for Transportation Materials, which is in partnership between Michigan Department of Transportation and Michigan Technological University for a few years. Dr. You published over 400 peer reviewed articles. Dr. You has been involved in professional services for many professional organizations such as ASCE (Chair of Mechanics of Pavements Committee and Chair of Bituminous Materials Committee). In 2004 and 2005, Dr. You was a recipient of the U.S. Department of Transportation's Dwight David Eisenhower Transportation Faculty Fellowship. Dr. You was elected fellows of ASCE and EMI. Dr. You was recently appointed to serve in the Michigan Scrap Tire Advisory Committee.

## UW CIVIL ENGINEERING SEMINAR

# Recycling Waste Materials for Pavement Construction

**Tuesday, February 27**

**11:00 am - 12:00 pm Pacific Time**

**MORE HALL Rm 110**

Road construction and maintenance represent resource-intensive activities that significantly deplete natural resources. In the pursuit of sustainability, the integration of recycled waste materials has gained prominence as a viable solution. This presentation offers a succinct overview of the core elements involved in recycling waste materials, specifically tire rubber, glass, plastic, and recycled asphalt, for promoting sustainable pavement construction.

Utilizing recycled waste materials in pavement construction not only addresses pressing environmental concerns but also fosters cost-efficiency and enhances overall performance. Waste tire rubber, following appropriate processing and incorporation into asphalt binder, yields rubberized asphalt, which bolsters pavement durability, skid resistance, and noise reduction. Glass, when carefully crushed to specific gradations, can serve as a partial substitute for traditional aggregates, thereby diminishing the demand for natural resources while imparting desirable reflective and skid-resistant properties. The inclusion of plastic waste, primarily in the form of modified plastics, plays a pivotal role in augmenting pavement materials' durability and moisture resistance. Moreover, recycled asphalt presents a sustainable alternative to conventional aggregates, thereby reducing the need for virgin materials and conserving valuable natural resources.

This presentation underscores the burgeoning significance of recycling waste materials as a sustainable approach to road construction and maintenance. It further emphasizes ongoing research into the carbon footprint of various construction scenarios in Michigan, aiming to evaluate the viability of such eco-friendly road solutions. The collaboration between research and practice is instrumental in advancing the implementation of these environmentally friendly pavement innovations.

