Tire-Pavement Noise 101

WORKSHOP OBJECTIVES:

- To educate noise practitioners on the fundamentals of pavements.
- To educate pavement practitioners on the fundamentals of noise.
- To understand tire-pavement noise and how it fits into the bigger picture.
- To understand the fundamentals of measuring and interpreting noise.
- To examine current practices for designing and constructing quieter pavements.
- To learn of research and policy directions related to tire-pavement noise.

WORKSHOP OUTLINE:

- INTRODUCTION
  - *Welcome*
  - *Review of agenda and housekeeping*
  - *Team and self introductions*
  - *Workshop objectives*
- SETTING THE STAGE
  - *Overview*
  - *International activities*
  - *Domestic policy*
- NOISE FUNDAMENTALS
  - *Basic terminology*
  - *Sound amplitude*
  - *Frequency*
  - *Sound generation and propagation*
  - *Basic sound measurement*
  - *Basic sound analysis*
  - *The listening experience*
- PAVEMENT FUNDAMENTALS
  - *Pavement types*
  - *Pavement specifications*
  - *Pavement construction*
  - *Pavement preservation and rehabilitation*
- TRAFFIC NOISE
  - *Sources*
  - *Contributing factors*
  - *Mitigation techniques*
  - *Quiet pavements pilot program*
- TIRE-PAVEMENT NOISE
  - *Tire basics*
  - *Tire-pavement noise mechanisms*
  - *Pavement factors*
  - *Changes over time*
- MEASUREMENT TECHNIQUES AND MODELING
  - *Measurement fundamentals*
  - *Wayside*
  - *Near field*
  - *In-vehicle noise*
  - *Laboratory drum*
  - *Material properties*
  - *Modeling*
- QUIETER PAVEMENT BETTER PRACTICES
  - *HMA alternatives*
  - *Concrete alternatives*
  - *Selecting viable alternatives*
- CONCLUSION
  - *International activities*
  - *Domestic activities*
  - *Reference library*
  - *Discussion*
  - *Adjourn*

INSTRUCTORS:

Robert J. Bernhard received a B.S. in Mechanical Engineering from Iowa State University in 1973, an M.S. in Mechanical Engineering from the University of Maryland at College Park in 1976, and his Ph.D. in Engineering Mechanics from Iowa State University in 1982. He joined Purdue University in 1982, became the Director of the Ray W. Herrick Laboratories in January 1994, and Co-Director of the Institute for Safe, Quiet, and Durable Highways in 1998.

Robert Otto Rasmussen is an internationally recognized expert in pavement engineering and construction, including the analysis and modeling of pavement smoothness, texture, and noise. He holds a B.S. in Civil Engineering from the University of Arizona, and a M.S.E. and Ph.D. from the University of Texas at Austin. With previous employment by the Arizona Department of Transportation and Western Technologies Laboratories, he currently serves as Vice President and Chief Engineer of The Transtec Group, Inc., a pavement and materials engineering firm headquartered in Austin, Texas. In this role, he has managed nearly $20M of engineering, research, and implementation projects. Dr. Rasmussen is a registered professional engineer in the State of Texas.

Registration Procedure
Please contact Gail Ikeda at 956-8367, 956-8851 (FAX) or gail@eng.hawaii.edu by ***Friday, June 30, 2006.***

Cancellations
Please contact us if you must cancel your registration or if someone will be substituting for you.

Parking
Parking for the East West Center is $4/day. If you would like to receive a parking pass, please contact us by June 30, 2006. Make checks payable to **Research Corporation of the University of Hawaii (RCUH)** and mail to:

Hawaii LTAP
University of Hawaii
Dept of Civil and Environmental Engineering
2540 Dole St, Holmes 383
Honolulu, HI 96822
Attn: Gail Ikeda

***Lunch will be provided courtesy of HAPI**

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July 18, 2006

East-West Center
Jefferson Hall, Asia Room
1777 East-West Road
8:00 a.m. – 4:00 p.m.

Workshop sponsored by the
Hawaii Asphalt Paving Industry
and
Hawaii Local Technical Assistance Program
in cooperation with the
Hawaii State Department of Transportation
University of Hawaii's Department of Civil and Environmental Engineering and the Federal Highway Administration

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