

UW-Madison ARC Research Team

The University of Wisconsin brings together a diverse and experienced team of individuals to conduct research with the Asphalt Research Consortium. The UW effort is centered at the Madison campus, where 16 individuals and a technical communications consulting firm are engaged in ARC related activities. The team at UW-Madison includes two faculty members, four research staff members, six graduate students and four undergraduates. Two additional faculty members at other UW system campuses are also involved in the effort. ARC project leaders are introduced below.

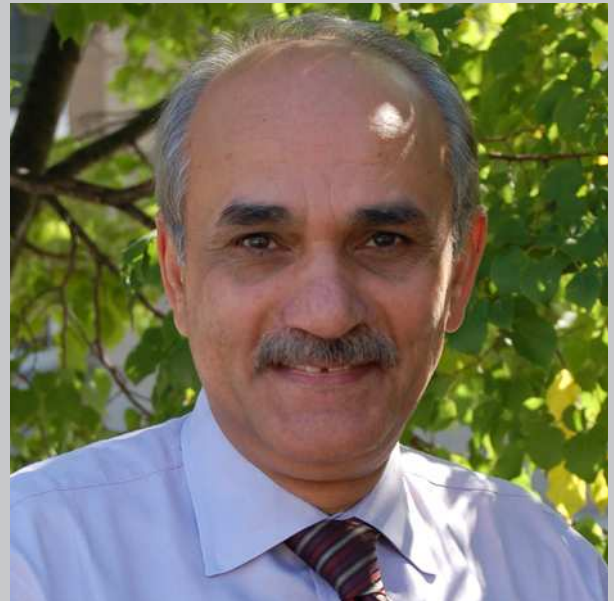


Dr. Dante Fratta

Dr. Fratta provides critical expertise on the interaction and mechanical behaviors of granular materials. With a Ph.D. in geotechnical engineering, he serves on the faculty of both the Civil and Environmental Engineering Department and the

Geological Engineering Program at UW-Madison. In addition to managing research projects with the ARC, Dr. Fratta contributes critical expertise in instrumentation of laboratory and field testing and numerical analysis methods. Dr. Fratta teaches geophysics as applied in Civil Engineering applications.

ARC project focus: Thermal cracking, friction and noise measurements



Dr. Hussain Bahia

Following his internationally recognized contributions on asphalt binder technologies for Superpave, Dr. Bahia emerged as a pioneer and leading expert in studying and evaluation of modified asphalts. Recognizing the limits of traditional asphalts, Dr. Bahia focuses on several aspects of asphalts modified with polymer additives: performance testing and improvement, design-to-application requirements, and reduction of energy consumption through low-temperature compaction and extended pavement life. In his current role as Professor of Civil and Environmental Engineering at UW-Madison, he has taught several graduate courses and was instrumental in the development of the university's asphalt research program.

ARC project focus: Modified asphalts; asphalt design, assessment and validation



Dr. Haifang Wen

Dr. Wen brings invaluable experience to ARC efforts from the private sector. Prior to joining UW, he served as director of research for a Milwaukee-based consulting firm. Drawing from his experience in that role, and as principal investigator for major Wisconsin DOT and federal DOE projects, Dr. Wen oversees application and implementation considerations in the course of conducting fundamental research. He also has a background in constitutive modeling of asphaltic materials, based on viscoelastic continuum damage mechanics. In addition to leading several ARC projects, he is also co-teaching a graduate level course at UW-Madison with Dr. Bahia.

ARC project focus: Asphalt rutting; design validation

Dr. Codrin Daranga

Dr. Daranga's doctorate is in chemistry, with a focus on polymer chemistry and binders. With this unique science background he brings a distinct perspective and body of expertise to this program. Dr. Daranga is very familiar with teaming with engineers: prior to joining the research staff at UW-Madison, he collaborated similarly with civil engineers at the Louisiana Transportation Research Center. Dr. Daranga also specializes in the design of laboratory tests and protocols. He will play a significant role in integrating chemical properties with the physical properties of asphaltic materials.

ARC project focus: Binder modification, adhesion and cohesion



Andrew Hanz

Having just completed his Masters of Science degree at UW-Madison, Mr. Hanz joins the ARC research staff as leader of several projects. Many ARC research tasks are facilitated by Mr. Hanz's experience as Program Manager of the Wisconsin Highway

Research Program, through which he established relationships with Wisconsin DOT, consulting engineering firms, highway contractors and materials suppliers.

ARC project focus: Reduced temperature asphalt mixes



Carl M. Johnson

Mr. Johnson is also a graduate of UW-Madison, and he will be completing his Master of Science in December 2007. His thesis work directly applies to the ARC projects under his supervision. He also brings a broad experience of researching binders and mixtures in

both the lab and field. He has significant expertise in experimentation and numerical analysis of the behavior of asphaltic materials.

ARC project focus: Asphalt healing and fatigue

Affiliate Faculty

UW's participation in the Asphalt Research Consortium includes faculty at two other UW campuses. Dr. Robert Schmitt at UW-Platteville and Dr. Adeed Rahman at UW-Milwaukee both lend their technical insights and expertise to ARC projects on an as-needed basis.

ARC Management at UW-Madison

Dr. Bahia serves as principal investigator for UW-Madison's participation in the Asphalt Research Consortium. Dr. Wen supervises many day-to-day technical and operational activities. Dr. Daranga is responsible for overseeing UW's ARC laboratory facilities. Mr. Hanz handles ARC-related contracting and personnel issues. Technical communications firm CTC & Associates LLC is responsible for ARC-related communication and technology transfer efforts.



UW-Madison's ARC research team and graduate assistants