BCR2A'09 WORKSHOP

Climate Effects on Pavement Infrastructure

June 29, 2009

Summary –

The workshop will commence with a brief review of overall climatic influences that are imposed upon pavements, their variation, typical values and relevant values for design and performance. The emphasis, thereafter, will be given to the water condition in the unbound base, sub-base and subgrade layers of pavements and how that condition is likely to affect the pavement's performance (and not to temperature effects on asphaltic materials). Ways to incorporate that understanding into pavement design and assessment will be discussed. Some coverage of the likely effects of climate change on pavement performance will also be presented. Information will be drawn from full-scale test and monitored pavement sections. Participants will be provided with some idealized scenarios and asked to apply their prior knowledge and information obtained in the workshop to assess likely effects and remediation / modification strategies.

The workshop draws on the work done to incorporate climatic effects into the AASHTO Mechanistic-Empirical Pavement Design Guide (MEPDG), recently summarized findings from US Long-Term Pavement Performance section assessments and the work of the European COST351 Action that was published at the end of last year in the book "Water in Road Structures". It is likely to be of interest to pavement designers and maintainers and to geotechnical engineers with an interest in better understanding unsaturated soils and seepage in the pavement sub-structure and the relationship between modeling and reality.

Organizers

Andrew Dawson - University Nottingham, UK - Moderator
Claudia Zapata - Arizona State University, USA
# AGENDA

<table>
<thead>
<tr>
<th>Starting Time</th>
<th>Ending Time</th>
<th>Time (min)</th>
<th>Topic</th>
<th>Presenter</th>
<th>Organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00</td>
<td>8:15</td>
<td>15</td>
<td>Introduction to the program, importance of the workshop</td>
<td>Claudia Zapata</td>
<td>Arizona State University</td>
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<tr>
<td>8:15</td>
<td>8:35</td>
<td>20</td>
<td>Observations of pavement and materials performance as water content varies</td>
<td>Siggi Erlingson</td>
<td>Univ Iceland and the Swedish Road &amp; Transport Inst., VTI</td>
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<tr>
<td>8:35</td>
<td>9:05</td>
<td>30</td>
<td>Material characterization as a function of water and its incorporation in pavement modeling / prediction</td>
<td>Charles Schwartz</td>
<td>University of Maryland</td>
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<tr>
<td>9:30</td>
<td>9:45 +</td>
<td>15</td>
<td>Example for attendees to work on</td>
<td>Claudia Zapata / Gregg Larson</td>
<td>Arizona State University / ARA</td>
</tr>
<tr>
<td>9:45</td>
<td>10:15</td>
<td>30</td>
<td>Coffee Break</td>
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<tr>
<td>10:15</td>
<td>10:40</td>
<td>25</td>
<td>Observations and modeling of deterioration of low-volume roads</td>
<td>Andrew Dawson</td>
<td>Univ. of Nottingham</td>
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<tr>
<td>10:40</td>
<td>11:25</td>
<td>45</td>
<td>Sensitivity analysis of climate factors on pavement performance and effects of climate change</td>
<td>Claudia Zapata / Andrew Dawson</td>
<td>Arizona State University / Univ. of Nottingham</td>
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<tr>
<td>11:25</td>
<td>11:35</td>
<td>10</td>
<td>Feedback on Example, with comments on differences due to climate change</td>
<td>Claudia Zapata</td>
<td>Arizona State University</td>
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<tr>
<td>11:35</td>
<td>11:50</td>
<td>15</td>
<td>Remediation/modification strategies</td>
<td>Andrew Dawson</td>
<td>Univ. of Nottingham</td>
</tr>
<tr>
<td>11:50</td>
<td>12:00</td>
<td>10</td>
<td>Conclusions - Climate change, unified assessment, etc..</td>
<td>Claudia Zapata</td>
<td>Arizona State University</td>
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CONTACT INFORMATION

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