### Yellowstone and Jackson Hole 2016 ISAP Symposium

**Schedule of Events and Technical Program**

Snow King Resort and Conference Center • July 18-21, 2016 • Jackson, Wyoming

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**Monday, July 18**

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<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tr>
<td>5:00-7:00 p.m.</td>
<td>Registration</td>
<td>Grand View Lodge</td>
</tr>
<tr>
<td></td>
<td><em>(Pick up Symposium Materials)</em></td>
<td></td>
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<tr>
<td>6:30-8:30 p.m.</td>
<td>Welcome Reception</td>
<td>Ballroom</td>
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<tr>
<td></td>
<td><em>(hors d’oeuvres, Cash Bar, Birds of Prey Demonstration, Park Ranger Presentation)</em></td>
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**Tuesday, July 19**

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<tr>
<th>Time</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>7:00-8:00 a.m.</td>
<td>Registration and Continental Breakfast</td>
<td>Grand View Lodge</td>
</tr>
<tr>
<td>8:00-8:45 a.m.</td>
<td>Opening Session</td>
<td>Ballroom</td>
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<td></td>
<td><em>Jean-Pascal Planche, Western Research Institute</em></td>
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**ISAP SYMPOSIUM TECHNICAL SESSIONS – SNOW KING HOTEL**

**SESSION 1: Binder and Mixture Aging Performance**

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<tr>
<th>Time</th>
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<th>Event</th>
<th>Speaker(s)</th>
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<tr>
<td>9:00-9:20 a.m.</td>
<td>Grand</td>
<td>Effect of Aging on Binder Characteristics of Virgin and Recycled Microsurfacing Materials</td>
<td>Garfa Arbia &amp; Alan Carter, École de Technologie Supérieure de Montréal ETS, Canada; Oscar Sanou, Anne Dony &amp; Layella Ziyani, École Spéciale des Travaux Publics, Paris, France; Walid Zaouali &amp; Valérie Charton, Probinord, France</td>
</tr>
<tr>
<td></td>
<td>Teton</td>
<td>A Study on the Properties of Asphalt Aging in Expressway Focusing on Weather Degradation for Long Period</td>
<td>Toshiaki Hirato &amp; Kenji Himeno, Chuo University, Tokyo, Japan; Masato Murayama, Toa Road Corp., Ibaraki, Japan; Shigeki Takahashi, Nippon Expressway Research Institute Company, Tokyo, Japan</td>
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## 2016 ISAP Schedule of Events and Technical Program

**Tuesday, July 19 (continued)**

### SESSION I  Binder and Mixture Aging Performance  (continued)

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<tr>
<th>Time</th>
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<th>Teton Room</th>
<th>Topic</th>
<th>Speakers</th>
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<tbody>
<tr>
<td>9:25-9:45 a.m.</td>
<td>Addressing Asphalt Binder Aging Through the Viscous to Elastic Transition</td>
<td>Statistical Approach to DSR-PAV Test Improvement</td>
<td>dollars at a time</td>
<td>Laurent Porot &amp; Pieter Eduard, Arizona Chemical BV, Almere, The Netherlands</td>
</tr>
<tr>
<td>9:50-10:10 a.m.</td>
<td>On Fundamentals-Based Modeling of Binder Oxidative Hardening in Pavements and its Effects on Mixture Durability</td>
<td>Aging Evaluation of Asphalt Mixture by FTIR/ATR</td>
<td>dollars at a time</td>
<td>Charles J. Glover, Xue Luo, Avery Rose &amp; Robert L. Lytton, Texas A&amp;M University, USA</td>
</tr>
<tr>
<td>10:10-10:30 a.m.</td>
<td>~ Break ~</td>
<td>~ Break ~</td>
<td>~ Break ~</td>
<td>~ Break ~</td>
</tr>
<tr>
<td>10:30-10:50 a.m.</td>
<td>The Influence of Aging on Binder Fatigue and Other Fracture Related Binders Tests</td>
<td>A New Method to Quantify and Evaluate Ageing State of Asphalt from Viscoelastic Measurement</td>
<td>dollars at a time</td>
<td>Hilde Soenen, Nynas NV, University of Antwerp, Antwerpen, Belgium; Xiaohu Lu, Nynas AB, Nynashamn, Sweden; Uwe Muehlich, University of Antwerp, Antwerpen, Belgium; Olli-Ville Laukkanen, Aalto University, Aalto Finland &amp; University of Massachusetts, USA</td>
</tr>
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### 2016 ISAP Schedule of Events and Technical Program

**Tuesday, July 19 (continued)**

**SESSION 2  Binder and Mixture Modeling**

<table>
<thead>
<tr>
<th>Time</th>
<th>Grand Room</th>
<th>Teton Room</th>
<th>Presentation</th>
</tr>
</thead>
</table>
| 10:55-11:15 a.m. | Grand Room | Teton Room | Mesoscopic Numerical Analysis of Reflective Cracking in Asphalt Overlay Based on Multi-Scale Finite Element Method  
Jun Zhang, Hao Chu, Yongtao Su, Zhen Gao & Bin Wang, University of Northeast, Shenyang, China  
Azade Najafghlizade & Vahid Hadadi, Islamic Azad University, Tehran, Iran |
| 11:20-11:40 a.m. | Grand Room | Teton Room | Modification of Physical and Chemical Properties of Mastic Joint by Bentonite-impregnated in Waste Oil and Sulphur  
Andrea Chiarelli, Andrew R. Dawson & A. Garcia, University of Nottingham, UK  
Guangji Xu & Hao Wang, Rutgers, The State University of New Jersey, USA |
| 1:00-1:20 p.m. | Grand Room | Teton Room | Use of Particulate Composite Models and Crumb Rubber Swelling to Estimate Stiffness of Rubberized Asphalt Binders  
Jose R. Medina & B. Shane Underwood, Arizona State University, USA |
| 1:25-1:45 p.m. | Grand Room | Teton Room | Linking Mixture-Level Component Properties with Pavement Damage Performance: A Two-Way Linked Multiscale Model  
Taesun You & Yong-Rak Kim, University of Nebraska, USA  
Yuqing Zhang & Bjorn Birgisson, Aston University, Birmingham, UK; Fan Gu & Robert L. Lytton, Texas A&M University, USA |

### Grand View Lodge

~ Lunch ~
### 2016 ISAP Schedule of Events and Technical Program

**Tuesday, July 19 (continued)**

**SESSION 3  Polymer, CRMA and PPA Modification**

**Grand Room Session Chair 3**

**Teton Room Session Chair 3**

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<thead>
<tr>
<th>Time</th>
<th>Room</th>
<th>Presentation</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>1:50-2:10 p.m.</td>
<td>Grand</td>
<td>Assessing the Applicability of Rheological Parameters to Evaluate Modified Binders</td>
<td>David J. Mensching, National Research Council/Federal Highway Administration, USA; Nelson H. Gibson, Federal Highway Administration, USA; Adrian Andriescu, SES Group &amp; Associates, USA; Geoffrey M. Rowe, Abatech, Inc., Pennsylvania, USA; Jo Sias Daniel, University of New Hampshire, USA</td>
</tr>
<tr>
<td>2:15-2:35 p.m.</td>
<td>Grand</td>
<td>Effects of Polyphosphoric Acid (PPA) of Asphalts</td>
<td>Istiaque Mahmud &amp; Dr. Zahid Hossain, Arkansas State University, USA; Dr. Gaylon Baumgardner, Paragon Technical Services, Inc., Ohio, USA</td>
</tr>
<tr>
<td></td>
<td>Teton</td>
<td>Chemical and Rheological Investigation of High-Cured Crumb Rubber-Modified Asphalt</td>
<td>Naipeng Tang &amp; Weidong Huang, Tongji University, Shanghai, China</td>
</tr>
<tr>
<td>2:40-3:00 p.m.</td>
<td>Grand</td>
<td>Impact of Gilsonite on the Performance of Un-Modified and Polymer-Modified Asphalt Mixtures</td>
<td>Peter E. Sebaaly, Elie Y. Hajj &amp; Murugaiyah Pirateepan, University of Nevada, Reno, USA</td>
</tr>
<tr>
<td></td>
<td>Teton</td>
<td>Weather Aging Resistance of Different Rubber Modified Asphalts</td>
<td>Shifeng Wang, Qiang Wang, Shuo Li &amp; Xiaoyu Wu, Research Institute of Polymer Material, Shanghai Jiao Tong University, Shanghai, China</td>
</tr>
<tr>
<td>3:00-3:20 p.m.</td>
<td></td>
<td>~ Break ~</td>
<td></td>
</tr>
</tbody>
</table>
Tuesday, July 19 (continued)

SESSION 3    Polymer, CRMA and PPA Modification (continued)

3:20-3:40 p.m.    Grand Room    Durability of Polymer Modified Asphalt Shingle  
                   Heather E. Estes, Tanya M. Brown-Giammanco & Ian M. Giammanco, Insurance Institute For Business & Home Safety, South Carolina, USA

Teton Room    Alternative Catalysts to PPA in Polymer Modified Asphalts  
              C.J. DuBois & George Prejean, E. I. du Pont de Nemours & Company, Inc., Texas, USA

SESSION 4    Novel Testing and Modification of Binders and Mixes

Grand Room Session Chair 4
Teton Room Session Chair 4

3:45-4:05 p.m.    Grand Room    Self-Healing of Asphalt Mixtures via Microwave Heating  
                   José Norambuena-Contreras, University of Bio-Bío, Concepción, Chile; José L. Concha, Edificio de Laboratorios, Concepción, Chile

Teton Room    Imaging and Spectroscopic Analysis of Bitumen  
              Ayse N. Koyun & Hinrich Grothe, Vienna University of Technology, Vienna, Austria

4:10-4:30 p.m.    Grand Room    Linear Viscoelastic Properties, Low Temperature and Fatigue Performances of Asphalt Mixture with Recycled Glass  
                   Éric Lachance-Tremblay, Michel Vaillancourt & Daniel Perraton, École de Technologie Supérieure, Montréal, Canada

Teton Room    Durable Fiber Reinforced Asphalt Concrete Friction Courses for Airfield Runways  
              Jeff Stempihar, Shane Underwood & Kamil Kaloush, Arizona State University, USA; Scott Nazar, FORTA Corporation, Pennsylvania, USA

                   Quan Ly & Weidong Huang, Tongji University, Shanghai, China

Tuesday Evening ~ Dinner on Your Own ~
2016 ISAP Schedule of Events and Technical Program

**Wednesday, July 20**

7:00-8:00 a.m. Continental Breakfast  
Grand View Lodge

8:00-8:45 a.m. Plenary Session  
*Dallas Little - Keynote Speaker*  
*Texas A&M University*  
Grand View Lodge

**ISAP SYMPOSIUM TECHNICAL SESSIONS - SNOW KING HOTEL**

**SESSION 5  Extender Oils, Rejuvenators and RAP**

**Grand Room Session Chair 5  
Timberline III Room Session Chair 5**

9:00-9:20 a.m. Grand Room  
Rejuvenation vs. Softening: Reversal of the Impact of Aging on Asphalt Thermo-Rheological and Damage Resistance Properties  
Hassan A. Tabatabaee & Todd L. Kurth, Cargill Industrial Specialties, Minnesota, USA

Timberline III Room  
Performance Evaluation of HMA with High RAP Contents Using Rejuvenators  
Axel Walther, Technische Universität Braunschweig, Braunschweig, Germany

9:25-9:45 a.m. Grand Room  
Field Performance of RAP/RAS Test Sections in Texas  
Fujie Zhou, Sheng Hu & Tom Scullion, Texas A&M Transportation Institute, USA

Timberline III Room  
Effect of Rejuvenator on Performance Properties of HMA Mixtures with RAP and RAS  
Nam Tran, Adam Taylor, Richard Willis & Zhaoxing Xie, National Center for Asphalt Technology, Alabama, USA

9:50-10:10 a.m. Grand Room  
Structural Properties of Asphalt Stabilized Cold Recycled Mixtures  
Charles W. Schwartz, University of Maryland, USA; Benjamin Bowers & Brian Diefenderfer, Virginia Department of Transportation, USA

Timberline III Room  
Development of an Innovative Recycling Method for Porous Asphalt Enabling Improvement of Binder Layer's Durability  
Toshihiro Tanaka, Nippon Expressway Research Institute Co., Tokyo, Japan; Junichi Haga, Kajima Road Co., Tokyo, Japan

10:10-10:30 a.m. ~ Break ~
## 2016 ISAP Schedule of Events and Technical Program

### Wednesday, July 20 (continued)

#### SESSION 5  Extender Oils, Rejuvenators and RAP (continued)

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<th>Location</th>
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<th>Presenters</th>
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</thead>
<tbody>
<tr>
<td>10:30-10:50 a.m.</td>
<td>Grand Room</td>
<td>Performance Characteristics of Vacuum Tower Asphalt Extender in Binders and RAP Mixtures</td>
<td>John A. D’Angelo, D’Angelo Consulting, LLC, USA; Ken Grzybowski, PRI Asphalt, Florida, USA &amp; Al Palmer, Kleen Performance Products, Texas, USA</td>
</tr>
<tr>
<td></td>
<td>Timberline III</td>
<td>Digital Sieving as Tool for Designing High RAP Mixtures</td>
<td>Lily D. Poulikakos, Michele Griffa, Maria Chiara Cavalli &amp; Manfred Partl, Empa Swiss Federal Laboratories for Material Science and Technology, Dübendorf, Switzerland</td>
</tr>
<tr>
<td></td>
<td>Timberline III</td>
<td>Effect of Capsules Containing Sunflower Oil on the Mechanical Behavior of Aged Asphalt Mixture</td>
<td>Rui Micaelo, DEC, FCT, Universidade NOVA de Lisboa, Caparica, Portugal; Tariq Al-Mansouri &amp; Alvaro Garcia, University of Nottingham, UK</td>
</tr>
<tr>
<td>11:20-11:40 a.m.</td>
<td>Grand Room</td>
<td>Investigation of Effect of Bio-based and Re-refined Used Oil Modifiers on Asphalt Binder’s Performance and Properties</td>
<td>Amir Golalipour, Engineering &amp; Software Consultants, Inc., Washington, DC, USA; Hussain Bahia, University of Wisconsin-Madison, USA</td>
</tr>
<tr>
<td></td>
<td>Timberline III</td>
<td>Effectiveness of a Bio-based Additive to Restore Properties of Aged Asphalt Binder</td>
<td>Laurent Porot, Arizona Chemical BV, Almere, The Netherlands; William Grady, Arizona Chemical LLC, Georgia, USA</td>
</tr>
<tr>
<td>11:40-1:00 p.m.</td>
<td>Grand View Lodge</td>
<td>~ Lunch ~</td>
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### SESSION 6  Warm Mix Technologies in Asphalt Pavements

**Grand Room Session Chair 6**  
**Timberline III Room Session Chair 6**

<table>
<thead>
<tr>
<th>Time</th>
<th>Room</th>
<th>Presentation Title</th>
<th>Speakers</th>
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<tbody>
<tr>
<td>1:00-1:20 p.m.</td>
<td>Grand Room</td>
<td>Laboratory Evaluation of Asphalt Mixture Containing Super Absorbent Polymer (SAP)</td>
<td>Chao Wang, Xiaobin Yuan, Han Zhang &amp; Jinxi Zhang, Beijing University of Technology, Beijing, China</td>
</tr>
<tr>
<td></td>
<td>Timberline III Room</td>
<td>Warm Mix Asphalt: The Canadian Experience</td>
<td>Sofiane Benvouzeff, Alan Carter &amp; Daniel Perraton, École de Technologie Supérieure de Montréal, Québec, Canada; François Olard, Eiffage Travaux Publics, Lyon, France</td>
</tr>
<tr>
<td>1:25-1:45 p.m.</td>
<td>Grand Room</td>
<td>Indirect Evidences of Bitumen Chemical Modifications Introduced by Non-Foaming Warm Mix Asphalt Additives</td>
<td>Flavien Geisler, Eiffage Centre d’Etudes et de Recherches, Corbas, France; Philippe Kapsa, École Centrale de Lyon, France; Laurence Lapalu, Total Marketing and Services, Solaize, France</td>
</tr>
<tr>
<td></td>
<td>Timberline III Room</td>
<td>Destabilization of Cationic Bitumen Emulsions for Pavement Materials, Using Microscopical and Rheological Tools</td>
<td>Laure Boucard, Vincent Gaudefroy &amp; Emmanuel Chailleux, LUNAM Université, IFSTTAR, France; Fabienne Farcas, ParisTech Université, IFSTTAR, France; Veronique Schmitt, Bordeaux Université, Pessac, France</td>
</tr>
<tr>
<td>1:50-2:10 p.m.</td>
<td>Grand Room</td>
<td>Modelling Coalescence Process During Breaking of Bitumen Emulsions</td>
<td>Abdullah Khana, Romain Balieu, Per Redelius &amp; Niki Kringos, KTH-Royal Institute of Technology, Stockholm, Sweden</td>
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**SESSION 7  Binder/Mastic and Mixture/Pavement Performance Testing**

**Grand Room Session Chair 7**
**Timberline III Room Session Chair 7**

1:50-2:10 p.m.  Timberline III Room  **Multiple Stress Creep and Recovery Tests of Bituminous Binders and Correlation to Asphalt Concrete Rutting Performance**  
**Xiaohu Lu**, Nynas AB, Nydåshamn, Sweden; **Safwat Said**, VTI, Linköping, Sweden; **Hilde Soenen**, Nynas NV, Antwerp, Belgium; **Serge Heyrman**, University of Antwerp, Antwerp, Belgium

2:15-2:35 p.m.  Grand Room  **Impact of Bitumen Quality on Asphalt Mixes Performances**  
**Frédéric Delfosse**, Ivan, Drouadaine, Stéphane Faucon-Dumont & Sabine Largeaud, Eurovia Research Centre, Mérignac, France; **Bernard Eckmann**, Eurovia, Rueil Malmaison, France; **Jean-Pascal Planche** & **Fred Turner**, Western Research Institute, Laramie, Wyoming, USA

Timberline III Room  **Using Repeated Stress Sweep to Investigate Non-linearity in Asphalt Binders and Mastics by Fourier Transform Analysis**  
**Akshay Gundla** & **Shane Underwood**, School of Sustainable Engineering and Built Environment, Arizona State University, USA

2:40-3:00 p.m.  Grand Room  **Using Mixture-Based Rheology to Evaluate Cracking Performance of Modified Asphalt Pavements**  
**Jo Sias Daniel**, University of New Hampshire, USA; **David J. Mensching** & **Nelson H. Gibson**, Federal Highway Administration, USA; **Geoffrey Rowe**, Abatech, Inc., Pennsylvania, USA

Timberline III Room  **Calculation of Stiffness Change Induced by Self-heating During Cyclic Loading of Bituminous Mixtures Considered as Heterogeneous Medium**  
**Lucas F. de A. L. Babadopulos**, Cédric Sauzéat & Hervé Di Benedetto, Université de Lyon, Cedex, France

3:00-3:20 p.m.  ~ Break ~
2016 ISAP Schedule of Events and Technical Program

Wednesday, July 20 (continued)

SESSION 7  Binder/Mastic and Mixture/Pavement Performance Testing (continued)

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<th>Authors</th>
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<tbody>
<tr>
<td>3:20-3:40 p.m.</td>
<td>Grand Room</td>
<td>Characterization of Asphalt Mixture Recovery Properties Based on Dissipated Energy Approach</td>
<td>Ivan Isailovic, Augusto Cannone Falchetto &amp; Michael P. Wistuba, Technische Universität Braunschweig, Braunschweig, Germany</td>
</tr>
<tr>
<td></td>
<td>Timberline III Room</td>
<td>Comparison of Viscoelastic Continuum Damage and Fracture Energy Testing Approaches for Cracking Performance of Asphalt Mixtures</td>
<td>Jo Sias Daniel, Reyhaneh Rahbar-Rastegar, Saman Salari, Eshan V. Dave, Christopher DeCarlo &amp; Christopher Jacques, University of New Hampshire, USA</td>
</tr>
</tbody>
</table>

SESSION 8  Binder, Mix and Pavement Moisture Sensitivity

<table>
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<th>Time</th>
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<th>Title</th>
<th>Authors</th>
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</thead>
<tbody>
<tr>
<td>3:45-4:05 p.m.</td>
<td>Grand Room</td>
<td>Experimental Investigations of Frost/Thaw Effects on Asphalt Concrete Under Several Conditions: Water, Brine, and Brine with an Additive</td>
<td>Sebastien Liandrat, Caroline Mauduit, Éric Crégut, Valentin Lafon &amp; Sylvain Moreira, Cerema Direction Territoriale Centre-Est, Clermont-Ferrand, France</td>
</tr>
<tr>
<td></td>
<td>Timberline III Room</td>
<td>Laboratory and Field Investigation of Moisture Evaporation in Asphalt Pavement</td>
<td>Lin Cong, Jintang Peng, Zhongyin Guo &amp; Tiantong Zhu, Key Laboratory of Road &amp; Traffic Engineering of Ministry of Education, Tongji University, Shanghai, China</td>
</tr>
<tr>
<td>4:10-4:30 p.m.</td>
<td>Grand Room</td>
<td>Extended Testing Conditions for the Evaluation of Water Sensitivity of HMA Mixes</td>
<td>Geoffrey M. Rowe, Abatech Inc., Pennsylvania, USA; Ajay Ranka, M. Ranka, Doug Zuberer &amp; Jerry A. Thayer, Zydex, North Carolina, USA; Andrew LaCroix, Instrotek, North Carolina, USA; Chris Bacchi, Trimat, North Carolina, USA</td>
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</table>
**Wednesday, July 20 (continued)**

**SESSION 9  Binder, Mix & Pavement Low Temperature Testing/Performance**

Grand Room Session Chair 9  
Timberline III Room Session Chair 9

4:10-4:30 p.m.  
Timberline III Room  
Effect of Stress Singularity on Strength Size  
Effect of Asphalt Mixture at Low Temperature  
Augusto Cannone Falchetto & Michael P. Wistuba,  
Technische Universität Braunschweig, Braunschweig, Germany

4:35-4:55 p.m.  
Grand Room  
Low Temperature Properties of Asphalt Mixtures Treated with Bio Sealants  
Debaroti Ghosh, Jhenyffer Matias De Oliveira & Mateus Aguilar Lima, University of Minnesota, USA; Eddie Johnson & Allan Galistel, Minnesota DOT Office of Materials and Road Research, USA

4:55-5:45 p.m.  
Timberline III Room  
Comparison of Analytical and Approximate Inter-conversion Methods for Thermal Stress Calculation  
Augusto Cannone Falchetto, Di Wang & Michael P. Wistuba, Technische Universität Braunschweig, Braunschweig, Germany; Ki Hoon Moon, Korea Expressway Corporation, Gyeonggi-do, South Korea

5:45-8:00 p.m.  
~ Social Hour & Chuckwagon Dinner ~  
Teton County Fairgrounds

8:00-10:00 p.m.  
~ Rodeo ~  
Teton County Fairgrounds
2016 ISAP Schedule of Events and Technical Program

Thursday, July 21

7:00-8:00 a.m.  Continental Breakfast  Grand View Lodge

ISAP SYMPOSIUM TECHNICAL SESSIONS - SNOW KING HOTEL

SESSION 10  Aggregates and Mixtures with Regard to Compaction and Performance

Grand Room Session Chair 10
Teton Room Session Chair 10

8:00-8:20 a.m.  Grand Room  Relationship Between the Aggregate Structure and Mechanical Properties of GB5® Road Base Mix  Pouget Simon & Olard François, EIFFAGE Infrastructures, Corbas, France; Hammoum Ferhat, IFSTTAR Laboratoire MIT, Cedex, France

Teton Room  Modifying Asphalt Mixture Design to Enhance Field Compaction: A Field Study  Ali Hekmatfar & John E. Haddock, Purdue University, USA; Ayesha Shah & Rebecca McDaniel, North Central Superpave Center, Purdue University, USA; Gerald Huber, Heritage Research Group, Indiana, USA


Teton Room  Effects of Rest and Load Time on Asphalt Mixture Compaction  Mohammad M. Karimi, Nader Tabatabaee, Behnam Jahangiri & Hamid Jahanbakhsh, Sharif University of Technology, Tehran, Iran
Thursday, July 21 (continued)

SESSION 11  Pavement Skid Resistance, Friction and Noise

Grand Room Session Chair 11
Teton Room Session Chair 11

8:50-9:10 a.m. Grand Room  Road Simulator Tests to Study the Effect of Asphalt Mixture Components on the Development of Surface Texture and Noise Characteristics
Doreen Siebert & Helge Mork,
NTNU, Department of Civil & Transport Engineering, Trondheim, Norway

Teton Room  Study on Factors Affecting Pavement Friction Durability
Hao Li & Zhiqiang Zhao,
JSTI Group, Nanjing, China;
Xingping Luo & Yushu Chen,
Guangdong Provincial Freeway Company, Guangzhou, China

9:15-9:35 a.m. Grand Room  Study on an Asphalt Mixture for the Surface Layer of National Highways in Snowy Cold Regions: Development of a High-performance SMA
Shunsuke Tanaka, Ryuji Abe,
Kimio Maruyama & Takashi Kimira, Civil Engineering Research Institute for Cold Region, Sapporo, Japan;
Shuichi Kameyama, Hokkido University of Science, Sapporo, Japan

Teton Room  Demonstration on Fuel Consumption Reduction Performance of Low Rolling Resistance Asphalt Pavement
Atsushi Kawakami, Masaru Terada & Kazuyuki Kubo,
Public Works Research Institute, Ibaraki, Japan;
Tsutomu Ishigaki & Yuu Shirai,
Nippo Corporation, Saitama, Japan

9:40-10:00 a.m. Grand Room  Innovative Gap-Graded Asphalt Mixtures for Long-Lasting Low Noise Road Surfaces
Pouget Simon & Olard François,
EIFFAGE Infrastructures, Corbas, France;
Gourdon Emmanuel,
University Lyon, Vaulx-en-Velin, France
2016 ISAP Schedule of Events and Technical Program

Thursday, July 21  (continued)

SESSION 12  Pavement Performance Testing and Evaluation

Grand Room Session Chair 12
Teton Room Session Chair 12

9:40-10:00 a.m.  Teton Room  Evaluation of Pavement Bearing Capacity at Traffic Speed  
Adam Zofka, Road and Bridge Research Institute, Warsaw, Poland

1:00-10:20 a.m.  ~ Break ~

10:20-10:40 a.m.  Grand Room  Bayesian Performance Model for the Libyan National Road Network Without an Initial Database on Its Condition Based on Expert’s Knowledge  
Abdussalam Heba & Gabriel J. Assaf, Ecole de Technologie Supérieure, Montreal, Canada

10:45-11:05 a.m.  Grand Room  Performance Evaluation of Open-Graded Epoxy Asphalt Concrete with Different Nominal Maximum Aggregate Sizes  
Sang Luo, Zhen-dong Qian & Jing Din, Southeast University, Nanjing, China

Teton Room  Impact of Hydrated Lime on Cracking Performance of Asphalt Mixtures  
Jian Zou, Reynaldo Roque, Bongsuk Park & George Lopp, University of Florida, USA
<table>
<thead>
<tr>
<th>Time</th>
<th>Room</th>
<th>Presentation Title</th>
<th>Presenters</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:10-11:30 a.m.</td>
<td>Grand Room</td>
<td>Performance Control of Asphalt Mixes with a High Rap Content</td>
<td>Frédéric Delfosse, Ivan Drouadaine, Stéphane Faucon-Dumont, Sabine Largeaud &amp; Jacques-Antoine Decamps, Eurovia Research Centre, Mérignac, France</td>
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<td>Teton Room</td>
<td>Effect of Truck Traffic Characterization on Fatigue Cracking Performance of Flexible Pavements</td>
<td>Yared H. Dinegdae, KTH Royal Institute of Technology, Stockholm, Sweden; Björn Birgisson, Aston University, Birmingham, UK</td>
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<td>11:35-11:55 a.m.</td>
<td>Grand Room</td>
<td>Pavement Performance Evaluations Using Connected Vehicles</td>
<td>Raj Bridgelall &amp; Denver D. Tolliver, Upper Great Plains Transportation Institute, North Dakota State University, USA; Md Tahmidur Rahman &amp; Jerome F. Daleiden, Fugro Roadware Inc., Texas, USA</td>
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<td>Teton Room</td>
<td>Performance Evaluation of High-Elastic Asphalt Mixture Containing Deicing Agent Mafilon</td>
<td>Sang Luo, Southeast University, Nanjing, China; Xu Yang, Michigan Technological University, USA</td>
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<td>12:00-12:15 p.m.</td>
<td>~ Closing Remarks ~</td>
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<td>Jean-Pascal Planche, Western Research Institute</td>
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Tuesday, July 19

PETERSEN ASPHALT RESEARCH CONFERENCE TECHNICAL SESSIONS - SNOW KING HOTEL

SESSION 1       Session Chair 1

4:35-4:55 p.m. Teton Heterogeneous Simulation of Self-Heating in Asphalt Mixes
                Room                           Ebrahim Riahi, Fateh Tehrani, Fatima Allou, Laurent Ulmet, Frédéric DuBois & Chrisophe Petit, Université de Limoges, Egletons, France; Joseph Absi, Université de Limoges, Limoges, France;

5:00-5:20 p.m. Teton Rheology and Proper Use of DSR Reference Fluid
                Room                           David A. Anderson, John Casola & Chuck Rohn, Consultants, USA

5:25-5:45 p.m. Teton Hot Mix Asphalt Research for Airport Pavements at Federal Aviation Administration
                Room

Tuesday Evening       ~ Dinner on Your Own ~
2016 PARC Schedule of Events and Technical Program


text:

Wednesday, July 20

7:00-8:00 a.m. Registration and Continental Breakfast Grand View Lodge

8:00-8:45 a.m. Plenary Session
Dallas Little - Keynote Speaker
Texas A&M University
Grand View Lodge

PETERSEN ASPHALT RESEARCH CONFERENCE TECHNICAL SESSIONS - SNOW KING HOTEL

SESSION 2 Session Chair 2

9:00-9:20 a.m. Teton Room Effect of Grind Type on RAS Binder Properties and Activation
J. Richard Willis, Paul Ideker, Kyle Watts & Kevin Hardee, National Center for Asphalt Technology, Auburn, Alabama, USA

9:25-9:45 a.m. Teton Room Influence of Oxidative Aging on Microstructural and Chemical Properties of Asphalt
Jose P. Aguiar-Moya, Alejandra Baldi-Sevilla, Jorge Salazar-Delgado, Rafael Villegas-Villegas & Luis LorÃa-Salazar, University of Costa Rica, San Pedro, Costa Rica

9:50-10:10 a.m. Teton Room Evaluation of Asphalt Mixture Strength on Small and Large Specimens at Low Temperature
Augusto Cannone Falchetto & Ki Hoon Moon, Pavement Engineering Centre, Technische Universität Braunschweig, Braunschweig, Germany

10:10-10:30 a.m. ~ Break ~
Wednesday, July 20 (continued)

**SESSION 3**  Session Chair 3

10:30-10:50 a.m. Teton Room  Case Study: Heavier Vehicles and Modified Asphalt Evaluation in Sweden  
Anders Gudmarsson, Torsten Nordgren & Mats Wendel, Peab Asfalt AB, Swedish Transport Administration

10:55-11:15 a.m. Teton Room  Characterization of Aggregate-Mastic Interface Though Nanoindentation Test: A Feasible Way to Determine Blending Efficiency of RAP?  
Minghui Gong, Zeheng Yao & Jun Yang, Purdue University, West Lafayette, Indiana, USA

11:20-11:40 a.m. Teton Room  Effect of Aging on Embrittlement of Asphalt Binders  
Raj Dongre, Dongre Laboratory Services Inc., Fairfax, Virginia, USA

11:40 a.m.-1:00 p.m. ~ Lunch ~ Grand View Lodge

**SESSION 4**  Session Chair 4

1:00-1:20 p.m. Teton Room  Asphalt Re-Recycling  
Pavel Kriz, Imperial Oil, Sarnia, Canada

1:25-1:45 p.m. Teton Room  Remote Highway Survey and Extraction of Geometrical and Physical Features  
Blas Melissari, b3consultants, Montevideo, Uruguay

1:50-2:10 p.m. Teton Room  Rheological Characterization of Bitumen-Filler Mastics  
Denis Jelagin, Mohammed H. & Larsson P.-L., KTH, Stockholm, Sweden; Lu, X., Nynas Bitumen, Sweden

2:15-2:35 p.m. Teton Room  Variability in $J_{nr}$ Difference Value Obtained in the AASHTO T 332 MSCR Test - Cause and Implications  
Raj Dongre, Dongre Laboratory Services Inc., Fairfax, Virginia, USA

2:40-3:00 p.m. Teton Room  Examination of the Magnitude and Range of the Low Temperature Delta $T_c$ of Paving Asphalt Binders Used in the United States  
Jack Youtcheff & Raj Dongre, Federal Highway Administration, Virginia, USA

3:00-3:20 p.m. ~ Break ~
### 2016 PARC Schedule of Events and Technical Program

**Wednesday, July 20 (continued)**

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<td>3:45-4:05 p.m.</td>
<td>Teton Room</td>
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<td>4:10-4:30 p.m.</td>
<td>Teton Room</td>
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<td>4:35-4:55 p.m.</td>
<td>Teton Room</td>
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<td>5:45-8:00 p.m.</td>
<td>~ Social Hour &amp; Chuckwagon Dinner ~</td>
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<td>8:00-10:00 p.m.</td>
<td>~ Rodeo ~</td>
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