



# International Workshop on Chemo-Mechanics of Bituminous Materials

10, 11 & 12 June 2009  
Delft, The Netherlands

The Workshop will be held under the auspices of:  
the ISAP Technical Committee on Constitutive Modeling  
of Asphaltic Materials, Work Group 06,  
and the Delft Healing Consortium,  
Group of Mechanics of Infrastructure Materials  
([www.capa-3d.org](http://www.capa-3d.org))

The Workshop aims at bringing together international experts in the field of chemistry, physics and mechanics of bituminous materials. The main focus of the event is the bridging of these fields and the development of chemo-mechanical insight into the material.

**Wednesday 10 June 2009**

US based research efforts on chemo-mechanics  
of bituminous materials

**Thursday 11 June 2009**

Session 1: Bitumen at the atomistic and  
molecular level

**Friday 12 June 2009**

Session 2: Interaction and structure of  
bituminous phases



Ooms

Avenhorn Groep bv



Rijkswaterstaat  
Ministry of Public Works



DCMat  
Delft Centre for Materials



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Chemo-Mechanics of  
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- Proceedings
- ISAPTC Work Group 06  
([www.isap-tc-conmod.org](http://www.isap-tc-conmod.org))
- ISAPTC Annual Meeting  
10 January 2010, TRB
- 2nd Workshop on  
Chemo-Mechanics
- Special Issue JPE
- Course on Applied  
Asphalt Chemistry

# Consortium on Chemo-Mechanics of Cracking, Ageing and Healing Processes in Bituminous Materials ' Delft Healing Consortium'

<i>Focus</i>	2006	2007	2008	2009	2010	2011
Chemo-mechanics						
chemo-Mechanics						

# Delft Healing Consortium

- Partners

  - Dutch Ministry of Public Works,

  - AB Nynäs Petroleum,

  - Ooms Nederland Holding,

  - Shell Global Solutions International,

  - Delft University of Technology (TU Delft)

- External relations

  - Delft Centre for Advanced Mat. Research (DCMat)

  - USA Federal Highway Administration (FHWA)

  - Western Research Institute (WRI)

# Delft Healing Consortium

Work Schedule	
<b>Phase 1: Chemical quantification of healing and ageing in asphalt</b>	<ul style="list-style-type: none"> <li>- <i>quantification of molecular diffusion kinetics</i></li> <li>- <i>quantification of clustering of molecules (length, weight, polarity etc.)</i></li> <li>- <i>development of chemical healing/ageing evaluation techniques</i></li> </ul>
<b>Phase 2: Mechanical quantification of healing and ageing in asphalt</b>	<ul style="list-style-type: none"> <li>- <i>development of mechanical healing/ageing evaluation techniques</i></li> <li>- <i>quantification of healing/ageing mechanical response</i></li> </ul>
<b>Phase 3: Chemo-Mechanical Healing/Ageing computational model</b>	<ul style="list-style-type: none"> <li>- <i>model development</i></li> <li>- <i>response simulations</i></li> </ul>
<b>Phase 4: Development of guidelines for improved bitumen properties</b>	

Focus	2006	2007	2008	2009	2010	2011
Phase 1		█				
Phase 2				█		
Phase 3		█				
Phase 4					█	