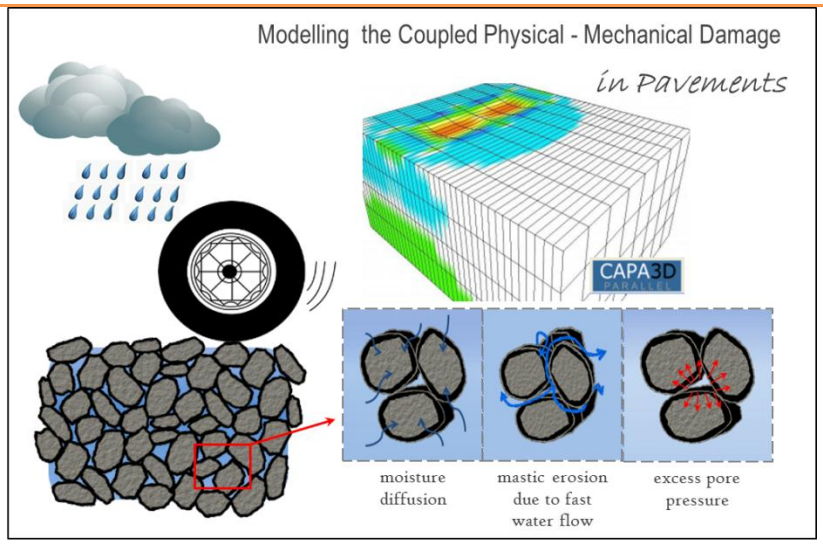
Project title:	**Coupled Physical-Mechanical Moisture Induced Damage in Asphaltic Materials**
Project number:	InfraQuest-Give project number (yyyy-number), e.g.: 2012-34
Start date:	1 december 2010 **End date:** 30 november 2014
Project team:	Aikaterini Varveri (TU Delft), Tom Scarpas (TU Delft)
Embedding in IQ-programme:	Insert here how the project relates to the IQ-masterplans and/or other porjects (leave open in case you don't know)
Type of Project:	Fundamental/Conceptual
Graphical abstract:	
Research questions:	• Improved understanding of the moisture effect on the material characteristics of the asphaltic components; • Development of an algorithm to simulate mastic erosion due to fast water flow in the macro pores of the mix due to pumping action; • Experimental determination of the parameters controlling moisture induced damage in asphalt mixtures; • Perform parametric micromechanical finite element analyses to determine the dominant material parameters controlling moisture induced damage in asphalt mixtures; • Development of a fundamental based moisture damage evaluation method; • Development of a finite element tool that enables the overall prediction of the material response under combined environmental-mechanical loading.
Conclusions:	The project will lead to the development of a computational tool for the fundamental analysis of combined mechanical and moisture induce damage of asphaltic mixes and therefore produce guidelines for the optimum material choice and testing requirements for the components of asphaltic mixes to minimise their susceptibility for moisture damage.
Other results	As an additional outcome of the project we'll have developed a new adhesion testing device for the determination of the mechanical characteristics of the aggregate-mastic bond.
Dissemination:	The research will lead to a PhD-thesis, publications in peer reviewed scientific journals, conference presentations, professional publications and organization of dedicated international workshops under the auspices of ISAP.