RILEM & road materials activity overview

_Hervé Di Benedetto_

International Union of Laboratories and Experts in Construction Materials, Systems and Structures
Outline

• Rilem organisation

• General information TAC & TCs

• Cluster F : bituminous materials and polymers
Some names

- **RILEM President**: Johan Vyncke (Bel) from 2015 (3yrs)
- **Vice-President**: Ravindra Gettu (In)
- **Secretary General**: Pascale Ducornet (Fr)
- **Editor «Materials & Structures»**: Pietro Lura (CH)
- **Editors «Rilem technical letter»**: Nicolas Roussel (Fr)
- **Robert L'Hermit Medallist 16**: Nobody
- **Gustavo Colonnetti Medalists 16**: Susan BERNAL LOPEZ & Ruben SNELLINGS
RILEM Organization

RILEM Members

General Council

General Secretariat

Bureau

Educational Activities Committee (EAC)

Technical Activities Committee (TAC)

Development Advisory Committee (DAC)

Editorial Board M&S

Cluster A
Material Processing and Characterization

Cluster B
Transport and Deterioration Mechanisms

Cluster C
Structural Performance and Design

Cluster D
Service Life & Environ. Impact Assessment

Cluster E
Masonry and Timber

Cluster F
Bituminous Materials and Polymers

TCs 11
TCs 8
TCs 8
TCs 6
TCs 3
TCs 6

About 1200 experts in TCs & 42 active TCs

Convener
H. Di Benedetto

8 Regions

Region A
Countries

Region B
Countries

Region H
Countries

About 1200 experts in TCs & 42 active TCs

8th RILEM International Conference on Mechanisms of Cracking and Debonding in Pavements (MCD2016)
General information on TAC and TCs

- Tech. Advi. Com. has 2 meetings per year
  - During rilem week (next in Lingby 15\textsuperscript{th} – 24\textsuperscript{th} Aug.)
  - In Paris & elsewhere (spring meeting: in March)
- TAC Chair : Nicolas Roussel (since 2014)
- In 2016, 42 TCs are active (5 years up to 7 years), 6 are without number

- Next Annual Weeks
  - 71rst 2017, CHENNAI, India, 2-7 Sep. → a session “Bituminous binders and mixtures”
Cluster F: Bituminous materials and polymers
Cluster F: Bituminous materials and polymers

• 4 active TCs
  • Testing and characterization of sustainable innovative bituminous materials and systems (SIB 237) (starting 2010 end 2017)
  • Mechanisms of Cracking and Debonding in Asphalt and Composite Pavements (MCD 241) (starting 2011 end 2017)
  • Chemo-Mechanical Characterization of Bituminous Materials (CMB 252) (starting 2013)
  • Recycling of Asphalt Pavement (RAP 264) (starting 2015)

• 2 starting TCs in 2016
  • Crack-Healing of Asphalt Pavement Materials (CHA)
  • Phase and Interphase behaviour of bituminous Materials (PIM)
Testing and characterization of Sustainable Innovative Bituminous materials and systems (SIB 237)

M. Partl (CH), E. Chailleux (F) : starting 2010

• TG 1: Binders (Dariusz Sybilski)
• TG 2: Mixture design and compaction (Hussain Bahia)
• TG 3: Mechanical testing of mixtures (Herve Di Benedetto)
• TG 4: Pavement multilayer system testing (Francesco Canestrari)
• TG 5: Recycling (Paul Marsac)
• TG 6: Cold Recycling (Gabriele Tebaldi)

Closed and Cancelled in 2014
Testing and characterization of Sustainable Innovative Bituminous materials and systems (SIB 237)

M. Partl (CH), E. Chailleux (F): starting 2010

- Many outputs
- Successful ANCONA conference in 2015
- Will end very soon with STAR book

Follow up PIM
Mechanisms of Cracking and Debonding in Asphalt and Composite Pavements (MCD 241)

B. Buttlar (US), A. Chabot (F): starting 2011

- TG1: Cracking in Asphalt Material (Eshan Dave, UN)
- TG2: Interface Debonding Behaviour (Christophe Petit, UL)
- TG3: Advanced Measurement Systems for Crack Characterization (Gabriele Tebaldi, UP)

More information during this conference

→ Will end soon
Chemo-Mechanical Characterization of Bituminous Materials (CMB 252)

N. Kringos (S), L. Poulakakos (CH) : starting 2013

• TG1: Chemo-Mechanical Coupling Identification (James Grenfell, UN)
  • Identifying chemo-mechanically coupled properties of selected bituminous materials (literature study, STAR programed),

• TG2: Chemo-Mechanical Laboratory Characterization (Troy Pauli, WRI and Alexander Schmetz, TU Delft)
  • Round robin tests planned: Quantifying dominant parameters of selected chemical and mechanical properties

• TG3: Environmental Susceptibility Investigation (Bernhard Hofko, TUW)
  • Focused on aging of mixtures
Recycling of Asphalt Pavement (RAP 264)

G. Tebaldi (I), E. V. Dave (USA): starting 2015

- TG 1: Cold Recycling - with foam bitumen and with bituminous emulsion (D. Perraton & A. Carter, ÉTS Montréal)

- TG 2: Hot and Warm Recycling (P. Marsac, IFSTTAR)

- TG 3: Asphalt Binders and Additives for RA (M. Hugener, EMPA)

- TG 4: Life Cycle Assessment (G. Airey & A. Apeagyei, U. of Nottingham)
Phase and Interphase behaviour of bituminous Materials (PIM)

E. Chailleux (Fr), C. Raab (CH): starting 2016 follow up of SIB

- TG1: Binders (L. Porot, A Ch.)
- TG2: Mixtures (C. Sauzéat, U. Lyon/ENTPE)
- TG3: Pavement multilayer system (F. Canestrari, UPM)
H. Baaj (Ca), E. Schlangen (DN): starting 2016

- TG1: Literature Review
- TG2: Laboratory experimentation
- TG3 Numerical Modeling

To be specified during next annual meeting of the Cluster TCs (Montréal 27-30 Sept.)
Two projects for new TC or TG

• Emulsions - Cold Mixtures : A. Graziani (UPM) & A. Carter (ETS)

• Waste – marginal materials for BM: L. Poulakakos & B. Hofko
  • A survey proposed to precise the project

Will be discussed during next annual meeting of the Cluster TCs (Montréal 27-30 Sept.)
General remark

• Good coordination among the TCs on bituminous materials
• Each year well attended common annual meeting
• TCs produce results and documents of great value for the Asphalt community

→ Strength the links among the asphalt and road community and makes it stronger and more visible

→ Next annual meeting of cluster F TCs: Montréal, 27-30 sept
RILEM TCs on Bit. Materials: a long history

1st 1968 Dresden
2nd 1975 Budapest
3rd 1983 Belgrade
4th 1990 Budapest
5th 1997 Lyon
6th 2003 Zürich
7th 2009 Rhodes
8th 2015 Ancona

1968-1979 017-BM Bit. & Bituminous Materials
1980-1986 056-MHM Hydrocarbon Materials (Huet)
1987-1992 097-GCR Applic. of Geotext. to Crack Prevent. in Roads (Rigo)
1987-1992 101-BAT Bit. & Asphalt Testing (Fritz)
1992-1998 152-PBM Perform. of Bit. Mat. (Francken)
1993-2000 157-PRC Syst. to prevent Reflect. Crackg. on Pav. (Francken)
2004-2011 210-CAP Cracking in Asphalt Pav. (Molenaar)
2011-2013 241-MCD Mech. of Crackg. & De-bondg. in Asph. & Compos. Pav. (Buttlar)
2015-2016 RAP Recycling of Asphalt Pavements (Tebaldi)
2016-2018 SIB Follow Up PIM (Chailleux)
2016-2018 CHA Cracking-Healing of Asphalt (Baaj)
2017-2018 MCD Follow Up ?

More to Come... Join!!!
Join us within Rilem TC

With you the successful story will continue
Thank you