Réunion Internationale des Laboratoires et Experts des Matériaux, systèmes de construction et ouvrages

The International Union of Laboratories and Experts in Construction Materials, Systems and Structures
Table of Contents

- RILEM History & Goals
- RILEM Organisation
  - Membership
  - Presidents
  - Organizational Chart
- Events: Annual weeks and Spring meetings
- Educational Activities
- Technical committees (TCs)
- Publications
  - Recommendations
  - Reports
  - Proceedings
  - Journals
    - Materials and Structures (M&S)
    - RILEM Technical Letters (RTL)
    - Annual & Technical reports
- Awards and Honors
- RILEM Partnerships
- RILEM Corporate members
- GLOBE
RILEM History & Goals

When did everything start?

1947 Paris
RILEM History & Goals

Who were the founders?

RILEM Founding Members

S. BECHYNE, Czechoslovakia, J.-L. BIENFAIT, The Netherlands, F. CAMPUS, Belgium, G. COLONNETTI, Italy, E. L. Da FONSECA COSTA, Brazil, S. A. DELPECH, Argentina, E. FORSLIND, Sweden, W. GLANVILLE, United Kingdom, G. HANSEN, Denmark, R. L’HERMITE, France, F. LEA, United Kingdom, W. OLSZAK, Poland, M. ROCHA, Portugal, E. TORROJA, Spain, M. ROS, Switzerland, M. P. WHITE, United States

Renew international relations & cooperation between institutions for testing and research on materials and structures

Paris, 17 - 20 June 1947
Laboratoires du Bâtiment et des Travaux Publics de Paris

Robert L’Hermite (1910-1982)
RILEM History & Goals

RILEM goals

• favour and promote cooperation at international scale by general access to advanced knowledge,

• stimulate new directions of research and its applications, promoting excellence in construction,

• promote sustainable and safe construction, and improved performance and cost benefit for society.
RILEM organisation

RILEM Memberships

*RILEM is composed of corporate members and individual members, including scientists and engineers, research and testing laboratories and companies.*

Corporate Members

- **INSTITUTIONAL MEMBERS** are *research and testing organisations* of national renown; universities, international or national standards organisations.
- **INDUSTRIAL MEMBERS** are *large firms or associations* in the materials or construction sectors.
- **ASSOCIATE MEMBERS** are *smaller research, academic or building organisations* or companies.

Individual Members

- **A SENIOR MEMBER** is an experienced scientist or engineer, having reached a position of responsibility and recognised expertise in a public or private organisation or company concerned with testing or research in the field of building materials and structures.

- **A YOUNG MEMBER** (previously Student and Affiliate categories) is an under-graduated student (including PhD students) or a young research scientist or engineer who is at the early stage of his career *under the age of 35*. Each RILEM young member is linked to the International Network of RILEM, through his registration in the Directory of Members. A RILEM young member may register to contribute to the activity of a RILEM TC.
RILEM organisation

Registered Users

- It is free
- It gives access to the electronic version of the Proceedings published by RILEM Publications
- It gives access to the electronic version of the STAR unedited versions
- It gives access to other publications available on the website, i.e. reports, recommendations and compendiums
RILEM organisation

RILEM Subscribing Members

- Same benefits of registered users
- Membership in a RILEM Technical Committee
- Personal access to the documents produced by a RILEM Technical Committee of which you are member
- Access to electronic version of all RILEM Proceedings, published by RILEM Publications and Springer
- Free subscription to the online version of Materials and Structures journal (archives, current volumes) including online access to 5 other SPRINGER journals
- Reduced fees for RILEM events (in general 10%, subject to decision of local organisers)
- 20% discount on all SPRINGER e-books
- Much more…
RILEM organisation

Become a RILEM member!

- Individual fees in 2021
  - Young Member: 25 euros
  - Senior Member: 375 euros
  - Retired Member: 75 euros

- Corporate fees in 2021
  - Institutional Member (with unlimited staff members): 2205 euros
  - Industrial Member (with unlimited staff members): 4050 euros
  - Associate Member (with 3 staff members and one associate contact): 1165 euros

A special discount fee (from 40% to 60%) is applicable for countries according to their GDP per capita.

More information at [https://www.rilem.net/article/membership-32](https://www.rilem.net/article/membership-32)
RILEM organisation

RILEM benefits and values for YOUNG MEMBERS

- access to international forum of experts through seminars and workshops
- access to international expertise and opportunities to acquire and advance leading-edge technology through dedicated committee work
- reduced fees on events and printed publications

Worldwide network

Interact with leading scientists and technologists

Many active technical committees

State of the art activities
RILEM organisation

RILEM Youth Council RYC

- RILEM Tasked with attracting, involving and motivating young RILEM members
- Encourage participation in TAC and EAC activities
- Increasing awareness on RILEM events and courses
- Grooming young RILEM members for RILEM leadership positions
- Showcasing / celebrating the achievements of the RILEM Youth
- Creating networks between emerging researchers to increase visibility of / access to RILEM
RILEM Worldwide

- +2000 members
- ~100 Corporates
- 70 countries

- North America & The Caribbean
- Latin America
- Subsaharan Africa
- Europe
- Middle East & North Africa
- China
- East Asia
- South Asia
- East Europe & Central Asia
- Pacific

11/20/2020 General Presentation
RILEM Worldwide

+2000 members
~100 Corporates
70 countries
RILEM Events

Future RILEM Annual Weeks and Spring Conventions

RILEM Spring Conventions
- 2021 Paris, France – Strategy Workshop, Online/Hybrid
- 2022 Paris, France *75 years celebration*
- 2023 Rabat, Morocco

RILEM Annual Weeks
- 75th RILEM Week 2021, Merida, Mexico, Online/Hybrid
  *75 years celebration*
- 76th RILEM Week 2022, Kyoto, Japan
- 77th RILEM Week 2023, Vancouver, Canada
One of the main purposes of the Educational Activities Committee (EAC) of RILEM is to broaden the education of both PhD students and the professional community through promotion of interesting and informative one-week PhD courses and seminars on subjects of relevance to researchers working in specific areas. RILEM EAC is responsible for RILEM activities in the field of education. These include a number of different tasks, of which the basic and most important one is the courses to which we grant scientific sponsorship. Though RILEM EAC has only existed for a handful of years, our sponsored courses have been enjoyed by more than 2000 participants and about 200 teachers.

Sponsored doctoral courses since 2010.

Participants of doctoral courses benefit from a 3-year free membership in 2020.

Recurring course series
RILEM Educational Activities

RILEM EAC monthly webinar

• New monthly webinar series, *RILEM Online Conferences & Transfer of Knowledge (ROC&TOK)*, designed to give information about how to communicate and teach subjects, related to the activities of RILEM and its technical committees.

• The webinars take place online on the first Thursday of each month, except for January and August, at 2 pm UTC time (GMT+0).

• The webinars will target professors and senior PhDs and be delivered by experts. However, they will be open to all interested, including students and those working in industry.

• Each webinar is scheduled with a 30-min presentation followed by a 30-min Q&A session.

• The webinars are free, i.e. no registration fees are required.
RILEM Technical Committees

Technical Committees (TCs) are the cornerstone of RILEM

TC work typically results in:

• Technical Exchange
• State-of-the-art reports
• Recommendations on test methods
RILEM Technical Committees

39 TCs are active in 6 Clusters 4 Clusters pertaining to concrete

Material Processing and Characterization
Daman PANESAR, Canada

Transport and Deterioration Mechanisms
Josee DUCHESNE, Canada

Structural Performance and Design
Giovanni PLIZZARI, Italy

Service Life and Environmental Impact Assessment
Alexandra BERTRON, France

Masonry, Timber and Cultural Heritage
Enrico SASSONI, Italy

Bituminous Materials and Polymers
Eshan DAVE, USA
Cluster A: Material Processing and Characterization

- 260-RSC: Recommendations for use of superabsorbent polymers in concrete construction
- 266-MRP: Measuring Rheological Properties of Cement-based Materials
- 267-TRM: Tests for reactivity of supplementary cementitious materials
- 275-HDB: Hygrothermal behaviour and Durability of Bio-aggregate based building materials
- 276-DFC: Digital fabrication with cement-based materials
- 282-CCL: Calcined Clays as Supplementary Cementitious Materials
- 284-CEC: Controlled expansion of concrete by adding MgO-based expansive agents taking the combined influence of composition and size of concrete elements into consideration
- 291-AMC: Use of Agro-Based Materials as Cementitious Additions in Concrete and Cement-Based Materials
- ECS: Assessment of electrochemical methods to study corrosion of steel in concrete
Cluster B: Transport and Deterioration Mechanisms

• 262-SCI : Characteristics of the steel/concrete interface and their effect on initiation of chloride-induced reinforcement corrosion
• 281-CCC : Carbonation of concrete with supplementary cementitious materials
• 283-CAM : Chloride transport in alkali-activated materials
• 285-TMS: Test method for concrete durability under combined role of sulphate and chloride ions
• 286-GDP: Test Methods for Gas Diffusion in Porous Media
• DOC : Degradation of organic coating materials and its relation to concrete durability
• EBD : Methods Test methods to evaluate durability of blended cement pastes against deleterious ions to evaluate durability of blended cement pastes against deleterious ions
• FTC : Durability and Service Life of Concrete under the Influence of Freeze-Thaw Cycles combined with Chloride Penetration

Cluster C: Structural Performance and Design

• 269-IAM : Damage Assessment in Consideration of Repair/ Retrofit-Recovery in Concrete and Masonry Structures by Means of Innovative NDT
• 273-RAC : Structural behaviour and innovation of recycled aggregate concrete
• 287-CCS : Early age and long-term crack width analysis in RC Structures
• 288-IEC: Impact and Explosion
• MCC : Mechanical Characterization and Structural design of Textile Reinforced Concrete
• MPA : Mechanical properties of alkali-activated concrete
Cluster D: Service Life and Environmental Impact Assessment

- **270-CIM**: Benchmarking Chloride Ingress Models on Real-life Case Studies: Theory and Practice
- **289-DCM**: Long-term durability of structural concretes in marine exposure conditions
- **ARM**: Alkali-aggregate reaction mitigation
- **ASR**: Risk assessment of concrete mixture designs with alkali-silica reactive (ASR) aggregates
- **CCH**: Stress Corrosion Cracking and Hydrogen Embrittlement of Concrete-Reinforcing Steels
- **TES**: Thermal energy storage in cementitious composites

Cluster E: Masonry, Timber and Cultural Heritage

- **271-ASC**: Accelerated laboratory test for the assessment of the durability of materials with respect to salt crystallization
- **274-TCE**: Testing and characterisation of earth-based building materials and elements
- **277-LHS**: Specifications for testing and evaluation of lime-based repair materials for historic Structures
- **290-IMC**: Durability of Inorganic Matrix Composites used for Strengthening of Masonry Constructions

Cluster F: Bituminous Materials and Polymers

- **264-RAP**: Asphalt Pavement Recycling
- **272-PIM**: Phase and Interphase behaviour of bituminous Materials
- **278-CHA**: Crack-Healing of Asphalt Pavement Materials
- **279-WMR**: Valorisation of Waste and Secondary Materials for Roads
- **280-CBE**: Multiphase characterisation of cold bitumen emulsion materials
- **FBB**: Fingerprinting bituminous binders using physico-chemical analysis
RILEM Publications

Dissemination of information worldwide

- Website
- Reports
- Recommendations
- Proceedings

Technical Activities Committee
TAC Chair: Nele DE BELIE

11/20/2020
You can download all our publications for free on the RILEM website
RILEM Publications

State-of-the-Art reports

- Diagnosis and Prognosis of Alkali Aggregate Reactions Affected Structures - State-of-the-Art Report of the RILEM Technical Committee 259-ISR; Edited by Victor Saouma

- Modelling of Concrete Behaviour at High Temperature - State-of-the-Art Report of the RILEM Technical Committee 227-HPB; Edited by Pierre Pimienta, Alain Milliard

- Reinforcement of existing timber elements and structures - State-of-the-art report of the RILEM Technical Committee 245-RTE; Edited by Jorge Branco, Philipp Dietsch, Thomas Tannert

- Non-destructive in situ strength assessment of concrete - Practical Application of the RILEM TC 249-ISC Recommendations; Edited by Denys Breysse, Jean-Paul Balayssac

- Form pressure generated by fresh concrete - State-of-the-art report of the RILEM Technical Committee 233-FPC; Edited by Peter Billberg, Nicolas Roussel
Recommendations

- Recommendation of RILEM TC 237-SIB on fragmentation test for recycled asphalt, July 2019
- Recommendation of RILEM TC 260-RSC for using superabsorbent polymers (SAP) for improving freeze–thaw resistance of cement-based materials, July 2019
- Recommendation of RILEM TC 249-ISC on non destructive in situ strength assessment of concrete, June 2019
- Recommendation of RILEM TC 252-CMB: relationship between laboratory short-term aging and performance of asphalt binder, June 2019
- Recommendation of RILEM TC 243-SGM: functional requirements for surface repair mortars for historic buildings, February 2019
RILEM Publications

Proceedings

Published by RILEM Publications:

• PRO 133 (online version) CO2STO2019 - International Workshop CO2 Storage in Concrete (2019); Eds. Assia Djerbi, Othman Omikrine-Metalssi, Teddy Fen-Chong

Published by Springer:

• External Sulphate Attack – Field Aspects and Lab Tests - RILEM Final Workshop of TC 251-SRT, Menéndez Méndez, Esperanza, Baroghel-Bouny, Veronique (Eds.) 2020
• Proceedings of the International Conference of Sustainable Production and Use of Cement and Concrete, Martirena Hernandez, Jose Fernando, Alujas-Díaz, Adrian, Amador-Hernandez, Meylin (Eds.) 2020
• Rheology and Processing of Construction Materials - RheoCon2 & SCC9, Mechtcherine, Viktor, Khayat Kamal, Secrieru Egor (Eds.) 2020
• 3rd International Conference on the Application of Superabsorbent Polymers (SAP) and Other New Admixtures Towards Smart Concrete, William P. Boshoff , Riaan Combrinck , Viktor Mechtcherine , Mateusz Wyrzykowski (Eds.) 2020
• Proceedings of the 3rd International Conference on Calcined Clays for Sustainable Concrete, Bishnoi, Shashank (Ed.) 2020
• Proceedings of ConcreteLife’20 - Concrete Durability and Service Life Planning, Kovler, K., Zhutovsky, S., Spatari, S., Jensen, O.M. (Eds.) 2020
• Proceedings of the Second RILEM International Conference on Concrete and Digital Fabrication, Freek P. Bos , Sandra S. Lucas , Rob J.M. Wolfs, Theo A.M. Salet (Eds.) 2020
• 3rd International Conference on Innovative Technologies for Clean and Sustainable Development (ITCSD 2020), Ashish, Deepankar Kumar, de Brito, Jorge, Sharma, Sanjay Kumar (Eds.) 2021
• More here!
Materials and Structures, the flagship publication of the International Union of Laboratories and Experts in Construction Materials, Systems and Structures (RILEM), provides a unique international and interdisciplinary forum for new research findings on the performance of construction materials. A leader in cutting-edge research, the journal is dedicated to the publication of high-quality papers examining the fundamental properties of building materials, their characterization and processing techniques, modelling, standardization of test methods, and the application of research results in building and civil engineering. Materials and Structures also publishes comprehensive reports prepared by RILEM’s technical committees.
RILEM Technical Letters journal was launched in March 2016. With the new scientific peer review journal, RILEM Technical Letters, RILEM seeks to venture into the new era of open access publishing by disseminating contributions breaking new ground in the field of construction materials science.

Scope of the journal and profile of the publications
RILEM Technical Letters publishes reports of major innovative research or strategic research needs in the field of construction and building materials science in the form of short letters available online. The letters are submitted on invitation by the Editorial Board.


In August 2020, RILEM Technical Letters was included in Scopus database.
Regional Groups & National Groups

International Partnerships

RILEM Annual and Technical reports

General Presentation
RILEM Strategic Actions

- **Young people**
- **Link** with industry
- **OA Publication strategy**
- **RILEM website**
- **RILEM promotion** and follow up
RILEM Awards for YOUNG members

RILEM awards the following recognised distinctions annually

✔ Robert L’Hermite Medalist
In 1967 when RILEM celebrated its 20th anniversary, it was decided to create a RILEM Medal which would be granted each year to a research scientist. In 1981, the Medal was renamed the Robert L’Hermite Medal, in honour of the President-Founder of RILEM. Since then, each year, the Robert L’Hermite Medal is awarded to a researcher of less than 40 years, who has made an exceptional scientific contribution to the field of construction materials and structures.

✔ Gustavo Colonnetti Medalist
Starting in 2016, each year, up to two Gustavo Colonnetti Medals are awarded to researchers of less than 35 years, who have made an outstanding scientific contribution to the field of construction materials and structures.

✔ RILEM Best Student Poster Award
Implemented in 2017, the RILEM Best Student Poster Award is to be given at every RILEM Annual Week conference. The award is given at the conference to a student who has a poster and is at the conference to present/explain the work. The selection is made by a jury chosen by the RILEM Honorary President. The awardee receives a diploma/certificate from the TAC Chair at the conference.

✔ RILEM PhD Grant award
Implemented in 2018 for the first time, this award is given every year at the RILEM Annual Week to PhD students under the age of 35 and residing in any of the countries where a special discount RILEM membership fee is applicable.
Tell us more about you and RILEM. When did you come across with RILEM for the first time?

... As for the Robert L'Hermite medal, I got to know about this prestigious award from a retiring staff member, Prof. Christopher Page when I first met him at the University of Birmingham. We had a short chat before he handed his course on concrete technology to me and then he suggested that I could apply for this award. Prof Page was the winner of the Robert L'Hermite medal in 1983. Actually, since then I applied 4 times (2013, 2014, 2017 and 2018) before I received the medal this year.

4 times! Perseverance is the key word here!
YES! Perseverance is very important. This is the spirit I always apply to my research and publications too.

Never give up!
Yes, Never give up! I know that RILEM has many good candidates for this award and they all are doing amazing research. It is very competitive. For us, as researchers, we have to do our best and never give up... who knows what can happen!
What about the Colonnetti application. How did it happen?
Well, I assume it is a similar story to other medallists. My PhD supervisor, Prof Bazant, suggested “why don’t you apply for this award? You could get more involved with RILEM. It could be a good opportunity for you”. So I said “ok, why not...!”

Could you please tell us more about how your research is relevant to the industry and how you see the relationship of RILEM and the industrial sector?
Regarding my research on concrete creep, there have been some structural engineering firms that have specifically talked to us about incorporating our model in the predictions that they make. ... I feel that industry is really interested in doing a good job, of capturing this phenomenon (cfr. Long term concrete deformation) and as a result industry is eager for new models to be developed. ... I feel like the ideas are reaching industry and that RILEM gives the opportunity to develop and disseminate the information ....
Why you didn’t join a TC earlier?
I do not know... somehow I thought that it was for more experienced people but I regret now the fact that I didn’t join earlier. I think joining a TC is a very useful experience for a young researcher

Has being a member of a RILEM TC helped your career?
Definitively! And it makes me think that in the next future I can be a TC chair!

... Would you mind to share your opinion about the relationship between RILEM and the industrial sector?
As an engineering consultant I worked for a research institution (cfr. TNO, The Netherlands). Some of my colleagues were actively involved with RILEM. From my personal experience, I think that only senior people from the industry are connected to RILEM while in the academic world also less experienced people, i.e. PhD students, are connected. That said, RILEM has the position to build a bridge between industry and research.
“It is like for a young player to have had the opportunity to play with Pelé, Maradona or nowadays with Messi”

Robert Torrent, Materials Advanced Services Ltd.
2016 RILEM Honorary Member
“... industry companies and firms are very much project and income driven. RILEM is based on voluntary contributions from self-motivated members. This does not bring any profit to a firm but it does bring prestige, credibility and knowledge. Now... there are firms that appreciate that and there are firms that do not”

Dr. Fragkoulis Kanavaris, ARUP
London, UK
Deputy Chair of RILEM TC 287-CCS:
Early age and long-term crack width analysis in RC Structures
RILEM Partnerships

American Concrete Institute
Always advancing

Japan Concrete Institute

European Association for Construction Repair, reinforcement and Protection

Instituto Brasileiro do Concreto

Joint Committee on Structural Safety

Asociación Latinoamericana de Control de Calidad, Patología y Recuperación de la Construcción Internacional (ALCONPAT-Internacional)

Association of Structural Concrete

International Society for Asphalt Pavements

The Institute of Concrete Technology

Fédération internationale du béton

11/20/2020  General Presentation  40
RILEM Corporate Members
RILEM Corporate Members
RILEM Supports Globe!

The objective of the Global Consensus on Sustainability in the Built Environment – GLOBE - is to direct the attention of the global community, politicians, industry leaders, and societal decision-makers to the critical importance of the built environment for sustainable development at global and local scales. To learn more about the consensus, please visit Globe page.
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11/20/2020 General Presentation 46