

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

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RILEM History & Goals

When did everything start?





RILEM History & Goals

Who were the founders?



Robert L'Hermite (1910-1982)

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



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 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.



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 unedited versions of the RILEM STARs
- It gives access to other publications available on the website, i.e. reports, recommendations and compendiums



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)
- Reduced fees for RILEM events (in general 10%, subject to decision of local organisers)
- 20% discount on all SPRINGER e-books
- <u>Much more</u>...



Become a RILEM member!

- ➤ Individual fees in 2022
 - Young Member: 25 euros
 - Senior Member: 375 euros
 - Retired Member: 75 euros

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 <u>under the age of 35</u>

➤ Corporate fees in 2022

- 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



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 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

NEW! Instagram Account











RILEM presidents

RILEM Organisation Chart

RILEM Membership

RILEM Events

Future RILEM Annual Weeks and Spring Conventions

RILEM Spring Conventions

- 2022 Paris, France *75 years celebration*
- 2023 Rabat, Morocco

RILEM Annual Weeks

- 2022 76th RILEM Week, Kyoto, Japan
- 2023 77th RILEM Week, Vancouver, Canada
- 2024 78th RILEM Week, Toulouse, France

RILEM Educational Activities

EAC

One of the main purposes of the Educational Activities Committee (EAC) of RILEM is to broaden the of both PhD students and education 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.

RILEM EAC Webinars

- Monthly free 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.
- The webinars target professors and senior PhDs and are delivered by experts. However, they are 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.
- Create your Membership or free Register user account and subscribe to our Newsletter to be kept posted !

CPD credits issued by the Institute of Concrete Technology, UK

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On the first Thursday of each month, at 2pm UTC (GMT+0)

ROC&TOK Webinar series

How to communicate and teach subjects related to the activities of RILEM and its technical committees.

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

Around 40 TCs are active in 6 Clusters 4 Clusters pertaining to cementitious materials

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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 Anya VOLLPRACHT, Germany

Masonry, Timber and Cultural Heritage Arun MENON, India

Bituminous Materials and Polymers Eshan DAVE, USA

RILEM Technical Commitees

Cluster A: Material Processing and Characterization •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 •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 •ADC : Assessment of Additively Manufactured Concrete Materials and Structures •CNC : Carbon-based nanomaterials for multifunctional cementitious matrices •ECS : Assessment of electrochemical methods to study corrosion of steel in concrete new •PCC : Pumping of concrete •PFC : Performance requirements and testing of fresh printable cement-based materials

Cluster B: Transport and Deterioration Mechanisms

- •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
- •292-MCC : Mechanical Characterization and Structural design of Textile Reinforced Concrete
- •294-MPA : Mechanical properties of alkali-activated concrete

Cluster D: Service Life and Environmental Impact Assessment

•289-DCM : Long-term durability of structural concretes in marine exposure conditions

•293-CCH : Stress Corrosion Cracking and Hydrogen Embrittlement of Concrete-Reinforcing Steels

•ARM : Alkali-aggregate reaction mitigation

•ASR : Risk assessment of concrete mixture designs with alkali-silica reactive (ASR) aggregates

•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

•<u>TPT : Tests methods for a reliable characterization of resistance, stiffness and deformation properties of timber joints</u>

Cluster F: Bituminous Materials and Polymers

•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
- •295-FBB : Fingerprinting bituminous binders using physico-chemical analysis
- •FEE : Fume Emissions Evaluation for Asphalt Materials
- •PPB : Physicochemical effects of polymers in bitumen

new

Technical Activities Committee TAC Chair: Enrico SASSONI

Dissemination of information worldwide

- Website
- Reports
- Recommendations
- Proceedings

You can download all our publications for free on the RILEM website

State-of-the-Art reports

- 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
- Round-Robin Test on Creep Behaviour in Cracked Sections of FRC: Experimental Program, Results and Database Analysis - State-of-the-Art Report of the RILEM TC 261-CCF; Edited by Aitor Llano-Torre, Pedro Serna, Pedro

- Testing and characterisation of earth-based building materials and elements State-ofthe-Art Report of the RILEM Technical Committee 274-TCE; Edited by Antonin Fabbri, Jean-Claude Morel
- Digital fabrication with cement-based materials State-of-the-art report of the RILEM Technical Committee 276-DFC; Edited by Nicolas Roussel, Dirk Lowke

Proceedings

Published by RILEM Publications:

• **PRO 134** 3rd ACF/HNU International Conference on UHPC Materials and Structures - UHPC'2020, Edited by Caijun Shi & Jiaping Liu **Published by Springer:**

- 3rd International Conference on Innovative Technologies for Clean and Sustainable Development (ITCSD 2020), Ashish, Deepankar Kumar, de Brito, Jorge, Sharma, Sanjay Kumar (Eds.) 2021
- Fibre Reinforced Concrete: Improvements and Innovations RILEM-fib International Symposium on FRC (BEFIB) 2020, Serna, P., Llano-Torre, A., Martí Vargas, J.R., Navarro-Gregori, J. (Eds.) 2021
- International RILEM Conference on Early-Age and Long-Term Cracking in RC Structures CRC 2021, Kanavaris, Fragkoulis, Benboudjema, Farid, Azenha, Miguel (Eds.) 2021
- 3rd RILEM Spring Convention and Conference (RSCC2020) published in 4 volumes: Volume 1: Strategies for a Resilient Built Environment, Volume 2: New Materials and Structures for Ultra-durability, Volume 3: Service Life Extension of Existing Structures, Volume 4: Shift to a Circular Economy
- Fibre Reinforced Concrete: Improvements and Innovations II X RILEM-fib International Symposium on Fibre Reinforced Concrete (BEFIB) 2021, Serna, P., Llano-Torre, A., Martí Vargas, J.R., Navarro-Gregori, J. (Eds.) 2021
- More <u>here</u>!

Recommendations

- Recommendation of RILEM TC 261-CCF: test method to determine the flexural creep of fibre reinforced concrete in the cracked state, May 2021
- Recommendations of RILEM TC 287-CCS: thermo-chemo-mechanical modelling of massive concrete structures towards cracking risk assessment, June 2021

<u>Materials & Structures</u> (M&S)

RILEM Flagship, created in 1968

50th Anniversary Issue in Open Access

Materials and Structures, the flagship publication of the International Union of Laboratories and Experts in Construction Materials, Systems and Structures (RILEM), provides а 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 examining high-quality papers of 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. Structures Materials and also publishes **RILEM's** comprehensive reports prepared by technical committees.

2.901 (2019) Impact factor

3.293 (2019) Five year impact factor 30 davs Submission to first decision 359,033 (2019) Downloads

150 days Submission to acceptance

<u>RILEM Technical Letters</u> (RTL)

RILEM OPEN ACCESS JOURNAL

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. RILEM

The journal became indexed in the Directory of Open Access Journals (DOAJ) in September 2018.

In August 2020, RILEM Technical Letters was included in Scopus database.

RILEM Annual and Technical reports

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RILEM YouTube channel

www.youtube.com/user/RILEMChannel

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

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.

Extract from the <u>interview</u> with KLAARTJE DE WEERDT, 2021 Robert L'Hermite Medallist

Prof. Klaartje De Weerdt Norwegian University of Science and Technology (NTNU), Norway **Chloride binding – investigations and knowledge gaps**

RIM: When did you join RILEM?

Dr De Weerdt: My first RILEM activity was actually a RILEM PhD course which was organized by Prof. Mette Geiker at DTU, Denmark in 2007... We were a group of about 15 students. Many of the participants are now researchers at various universities, authorities and research institutes. These courses are very important both with regard to sharing state of the art knowledge and network building. RILEM is able to collect the best researchers within a field. From my own experience these are very important networking events both for PhD students and researchers.

Extract from the <u>interview</u> with PRANNOY SURANENI 2021 Colonnetti Medallist

Dr Prannoy Suraneni University of Miami, USA Supplementary Cementitious Materials Reactivity: From Model Systems to Concrete

RIM: I have two last questions for you: 1) where do you see yourself in RILEM in the future and 2) where do you see RILEM in the future?

P. Suraneni: I definitely want to keep contributing to RILEM as long as my years go. The amount of time that you can put into RILEM goes up and down, but ultimately being part of such an organization is very beneficial. You learn so much. I have to be honest: I feel the same about ASTM and ACI. These are the three organizations that are very close to my heart. Sometimes I spend more time here, other times there. But the nice thing is that I get very complimentary information from the three of them and can contribute to them in different ways. I see myself being involved in them for the rest of my career, life maybe is too much...

Extract from the interview with EMILIO MARTÍNEZ-PAÑEDA 2021 Colonnetti Medallist

Dr Emilio Martínez-Pañeda Imperial College London, UK Predicting the lifetime of infrastructure susceptible to hydrogen embrittlement and corrosion damage

RIM: I have one last question for you Emilio: is there anything that you particularly enjoy as a **RILEM** member?

E. Martínez-Pañeda: There are many things about RILEM that I like, of course. But the one that I like most is the people. The community of people that RILEM puts together encompasses leading professionals from both academia and industry, with common interests. You get the chance to meet remarkable people. And this is also very important for our work of course. For example, European projects typically require building consortia across academia and industry. By joining RILEM one can easily build such a network.

RILEM Honorary Members

Prof. Barzin MOBASHER

Arizona State University, USA

Prof. Hans D. BEUSHAUSEN

University of Cape Town, SOUTH AFRICA

Prof. Dr Alexandra Bertron INSA Toulouse, FRANCE Prof. John Provis

University of Sheffield, UK

RILEM celebrity endorsement

Robert Torrent, Materials Advanced Services Ltd. **2016 RILEM Honorary Member** *"It is like for a young player to have had the opportunity to play with Pelé, Maradona or nowadays with Messi"*

RILEM industry endorsement

Dr. Fragkoulis Kanavaris, ARUP London, UK Deputy Chair of RILEM TC 287-CCS: Early age and long-term crack width analysis in RC Structures "... industry companies and firms are very much project and income driven. RILEM is based on voluntary contributions from selfmotivated 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"

RILEM Partnerships

European Association for Construction Repair, reinforcement and Protection

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INSTITUT DE RADIOPROTECTION ET DE SÛRETÉ NUCLÉAIRE

LE GOUVERNEMENT DU GRAND-DUCHÉ DE LUXEMBOURG

Hochschule für Technik, Wirtschaft und Kultur Leipzig (FH) University of Applied Sciences

Produits et Services pour construire dans le respect de l'environnement et du bien-être dans le logement

·般社団法人 建築研究振興協会 JAPAN ASSOCIATION FOR BUILDING RESEARCH PROMOTION

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TECHNISCHE UNIVERSITÄT DARMSTADT

TNO innovation for life

Jniversité

University of Ljubljana

UNIVERSITEIT

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Universidade do Minho

VILNIUS GEDIMINAS

Aalto University

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ALMA MATER STUDIORUM UNIVERSITÀ DI BOLOGNA

RILEM Supports Globe !

objective of the Global The **Consensus on Sustainability in the** Built Environment – GLOBE - is to direct the attention of the global community, politicians, industry leaders, and societal decisionmakers 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.

SUPPORT: globe.rilem.net

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Subscribe to RILEM's social media channels on LinkedIn, Facebook, Twitter and YouTube to stay abreast on what's happening at RILEM!

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