



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

**2023**

ANNUAL  
REPORT



# About RILEM

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**The International Union of Laboratories and Experts in Construction Materials, Systems and Structures** (RILEM, from the name in French – Réunion Internationale des Laboratoires et Experts des Matériaux, systèmes de construction et ouvrages) was founded in June 1947 in Paris, France, with the aim of promoting scientific cooperation and to stimulate new directions for research and applications, thus promoting excellence in construction worldwide.

This mission is achieved through the collaboration of leading experts in construction science and practice, including academics, researchers, industrialists, testing laboratories, and authorities.

## Become a member

If you are interested in joining RILEM, please consult our website [www.rilem.net](http://www.rilem.net) to become a member.

### Membership benefits include

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- ▶ Participation in RILEM Technical Committees
- ▶ Access to the private Web directories restricted to RILEM Members and online version of the RILEM Directory of Members.
- ▶ Personal access after login online to the journal *Materials and Structures*, RILEM Proceedings and Springer/ Nature proceedings
- ▶ Reduced fees for RILEM events
- ▶ 20% discount on all Springer/Nature e-books
- ▶ Opportunity to publish selected articles as free OA paper in *Materials and Structures* and in *RILEM Technical Letters*

### Individual fees in 2024

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Young Member	€ 27	Retired Member	€ 80
Senior Member	€ 395		

### Corporate fees in 2024

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Associate Member	€1,340	Institutional Member	€2,540
Institutional-Plus Member	€4,660	Industrial Member	€4,660

Note that special discounts from 40% up to 90% on the membership fees may apply depending on your country of residence. Please consult the website [membership.rilem.net](http://membership.rilem.net) for all details.

# Editorial

by RILEM President

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In 2023, the RILEM Technical Activities Committee (TAC) approved 5 new TCs, taking the current number of active RILEM Technical Committees (TCs) to 46. RILEM TCs are the heart of the association, and I will never thank enough all TCs' officers and members for their work. TCs' topics cover some of our classic fields of expertise such as concrete durability or bituminous binders but also tackle new areas such as bamboo or data-driven concrete science. RILEM is today more than ever a large, multi-disciplinary, scientific community where engineers, material scientists, chemists, and physicists (and many more professionals!) can find a place to collaborate. It is therefore under the angle of "collaboration", within the association but also between the association and the rest of the world, that I would like to organize this editorial.

The three RILEM TCs on earthen materials, namely [BEC: Bio-stabilised earth-based construction: performance-approach for better resilience](#), [MAE: Mechanical performance and durability assessment of earthen elements and structures](#), and [PEM: Processing of earth-based materials](#), are working in synergy since their recent establishment in 2022. Each TC has more than 100 members, confirming the world-wide interest in this topic these days! The three TCs together are behind the organization of the [Second International RILEM Conference on Earthen Construction \(ICEC2024\)](#), taking place in Edinburgh, UK, in July this year, and also behind one of the 5 pre-conference courses that will be held in Toulouse, France, for the [78<sup>th</sup> RILEM Annual Week](#). To support the research advancement in this topic, RILEM has looked for active collaboration with international partners, like the one that was signed at the beginning of 2024 with the PROTERRA Ibero-American Network (Red Iberoamericana PROTERRA).

RILEM has 2 TCs on the subject of concrete 3D printing: [303-PFC: Performance requirements and testing of fresh printable cement-based materials](#) and [304-ADC: Assessment of Additively Manufactured Concrete Materials and Structures](#), Each TC has more than 200 members from academia and industry, working all together! Each TC is a unique opportunity to join the huge professional network that only RILEM can provide! Established in 2021, these TCs have successfully held the [2022 edition of the RILEM International](#)

*Conference on Digital Fabrication with Concrete*, and they are now organising the 2024 edition, in Munich, Germany, in September. RILEM Technical Letters has dedicated space to this topic by publishing 1 paper every year for the last 3 years: in 2021 *Numerical simulation of multi-layer 3D concrete printing*, in 2022 *Digitally fabricated ribbed concrete floor slabs: a sustainable solution for construction*, and in 2023 *A quality control framework for digital fabrication with concrete*. All these papers are available in Open Access.

Finally, to stress the fact that RILEM is far more than cement and concrete, I would like to acknowledge the work of Cluster F, encompassing 7 TCs working on bituminous materials and polymers. Amongst these TCs, two were established in 2023: *APD: Alternative Paving Materials - Design and Performance* and *APS: Alternative Paving Materials - Sustainability*. The RILEM Cluster F annual meeting is organised every year to allow the international scientific community involved in RILEM to review the progress of scientific and technical work of the RILEM TCs in this Cluster; the meeting is open to experts from the academic world and companies of all sizes. The asphalt community has been very active in RILEM, due to the great work of some current and former RILEM officers, and also to the long-established partnership of RILEM with the *International Society for Asphalt Pavements (ISAP)*. Like other times in the past, this year RILEM will co-sponsor the ISAP conference, with some RILEM presentations scheduled during this event.

Talking about partnership... it is mandatory to mention the recently renewed partnership agreement with the *American Concrete Institute (ACI)*, and the new partnership signed with *NEx, an ACI Center of Excellence for Nonmetallic Building Materials*. I had the pleasure to personally sign this collaboration agreement that will allow RILEM and NEx to use their individual and collective resources and expertise to develop the knowledge needed to use non-metallic materials and products in the built environment effectively.

I hope you will enjoy, as much as I did, this issue of the RILEM Annual Report, that is not just the collection of the 2023 figures (number of members, budget, events, etc...), but a statement of what RILEM

is today, 76 years from its establishment, and what it represents to the scientific community of building materials and structures: a collaborative environment that, despite geographical distances, language barriers, and cultural differences, bring together researchers and scientists from each corner of the world.

Signature of the partnership with NEx, an ACI Center of Excellence for Nonmetallic Building Materials ©NEx



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# 2023 Key Numbers

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## Membership



**2,991 members**  
(2,872 individual  
and 119 corporate)



**90 countries**

## Activities



**46 Technical  
Committees**

## Co-sponsorship & events



**10 courses**



**34 events**



**20 webinars**

## Publications



**4 Recommendations**



**2 State-of-the-Art reports**



**10 Proceedings**

## Website



**158,194 viewers**



**198,647 page views**

## Social media



**Facebook**

@rilemassociation

**1,582 followers**

↗ +7.11%

**Top 3 countries**

- India
- Mexico
- Brazil



**LinkedIn**

RILEM Association

**8,940 followers**

↗ +40.46%

**Top 3 countries followers**

- France
- India
- United Kingdom

**Top 3 countries visitors**

- France
- India
- Spain



**YouTube**

RILEM Association

**3,293 subscribers**

↗ +15.10%

**Top 3 countries**

- India
- USA
- Finland



**X**

@RILEM1947

**903 subscribers**

↗ +17.58%

# 77<sup>th</sup> RILEM Annual Week

and 1<sup>st</sup> Interdisciplinary Symposium on Smart & Sustainable Infrastructures (ISSSI2023), 4-8 September 2023, Vancouver, Canada

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The 77<sup>th</sup> RILEM Annual Week took place in Vancouver, BC, Canada, from 4 to 8 September 2023, jointly with the 1<sup>st</sup> Interdisciplinary Symposium on Smart & Sustainable Infrastructures (ISSSI2023). The organisers of this event, all from SIERA ([Sustainable InfrastructurE ReseArch](#)) Group within the Department of Civil Engineering, The University of British Columbia, worked hard to plan every single detail of this 5-day long event. ISSSI2023 received 417 abstracts from 55 countries. After a rigorous review, these resulted in nearly 250 presentations, with close to 300 delegates from 39 countries. Did you miss the event? This is what happened!

On Monday 4 and Tuesday 5 September, the Standing Committees' meetings took place; in addition, 6 TCs held a meeting (ACP, FEE, 284-CEC, 297-DOC, 305-PCC, 285-TMS) and 3 doctoral courses were offered by EAC.

## TAC

### TAC membership

- ▶ Kei-ichi Imamoto was nominated Cluster C Convener, replacing Giovanni Plizzari after his exceptional contribution to TAC during the last 10 years!
- ▶ Susan Bernal Lopez was nominated TAC Expert, replacing Kei-ichi Imamoto
- ▶ Liberato Ferrara was nominated TAC Expert replacing Sergio Henrique Pialarissi Cavalaro
- ▶ Prannoy Suraneni was nominated TAC Expert, replacing Klaartje De Weerd



All around Prof. Sidney Mindess © ISSSI 2023



## TAC matters

- ▶ Three TCs were closed: 269-IAM, 275-HDB, and 293-CCH. Two TCs were assigned a number: 309-MCP, and 310-TPT
- ▶ Three new TCs were approved
- ▶ Some guidelines will soon be available for TC members to help the management of those TC having a high number of members.

## DAC

### DAC membership

- ▶ Romildo D. Toledo Filho was nominated National Convener for Brazil, replacing Eduardo M.R. Fairbairn
- ▶ Kolluru Subramaniam was nominated Regional Convener for South Asia, replacing Radhakrishna G. Pillai
- ▶ Vyacheslav Sergeyeovich was nominated Regional Convener for East Europe & Central Asia, replacing Vyatcheslav R. Falikman
- ▶ José Norambuena-Contreras was nominated Regional Convener for Latin America, replacing Alejandro Duran-Herrera
- ▶ Ueli Angst was nominated Second National Convener for Europe and Paulina Faria was nominated DAC expert, replacing Hiroyuki Miyauchi
- ▶ Pan Feng was nominated DAC expert, replacing Jiaping Liu

### DAC matters

- ▶ RILEM members keep increasing, with a notable growth in the number of new corporate and staff members.
- ▶ A good number of activities have taken place in most regional groups.
- ▶ New partnership agreements have been proposed; the relationship with ACI and ICT is building up.
- ▶ The RYC initiatives are flourishing and DAC Members proposed a revision of the membership fees, validated at Bureau and voted at the General Council (see details below).



Cheng Yu and Nicolas Roussel © ISSSI 2023



RILEM members at Opening cocktail © ISSSI 2023

## EAC

### EAC membership

- ▶ Janina Prakash Kanjee was nominated EAC member together with José Fernando Martirena-Hernandez

### EAC matters

- ▶ [ROC&TOK webinars series](#) continues to be a successful initiative
- ▶ The platform [EPON](#) was launched in October 2023
- ▶ A new collaborative initiative has started with FICEM Academy
- ▶ Three doctoral courses were offered during the 77<sup>th</sup> Annual Week in Vancouver.

## Bureau

### Bureau membership

- ▶ Eshan V. Dave was elected Bureau member, replacing Esperanza Menendez Mendez
- ▶ Joanitta Nabadda Ndawula was elected Bureau member, replacing Wolfram Schmidt

### Bureau matters

- ▶ The upcoming major RILEM events (Spring Convention and Annual Week) were presented by their respective organisers:
  - [2024 Spring Convention in Milan, Italy](#) - [78<sup>th</sup> Annual Week in Toulouse, France](#) - 2025 Spring Convention in Mendrisio, Switzerland - 79<sup>th</sup> Annual Week in Hanoi, Vietnam.
- ▶ The 2023 RILEM Honorary members and Fellows were announced! Congratulations to these fantastic members!

## General Council

RILEM members have approved the budget and the modification of the membership fees (DAC's proposal) from 2024 onwards:

- ▶ Increase by 5% for individual members and 15% for corporate members.
- ▶ Decrease from 60% reduction to 90% reduction for all RILEM memberships except Corporate Industrial from low-income countries to facilitate their participation in RILEM.



Plenary session © ISSSI 2023

To all the past TAC, DAC, EAC and BUREAU officers, a big THANK YOU!

The official opening of ISSSI2023 was on the morning of Wednesday 6 September. After some welcoming notes by Nemy Banthia, conference Chair, Nicolas Roussel, RILEM President, and Salman Soleimani-Dashtaki, conference Secretary, the session continued with two keynote presentations by:

- ▶ Prof. Surendra Shah, Northwestern University, USA
- ▶ Prof. Gaurav Sant, University of California, USA, 2023 RILEM Robert L'Hermite medallist, whose [presentation](#) is available for free on our YouTube channel!

Five special honoree sessions were organised to celebrate the lifetime research and work of 5 highly distinguished scientists from around the world. The honorees were invited to give a keynote lecture on Thursday 7 September:

- ▶ Prof. Ravindra Gettu, IIT Madras, India, presenting "*Technology implementation as the key impact of research: IIT Madras approach in the past two decades*"
- ▶ Dr Surendra K. Manjrekar, Sunanda Specialty Coatings Pvt. Ltd, India, presenting "*Reduction of the carbon footprint (2.3 million kg of CO<sub>2</sub> annually) by arresting major water loss through ageing masonry dam using novel nano grouting – Indian case*"
- ▶ Prof. Changwen Miao, Southeast University, China, presenting "*Review on recent progress of concrete technology in China*" (Dr Cheng Yu, on behalf of Prof. Miao, presented in Vancouver)
- ▶ Prof. Takafumi Noguchi, University of Tokyo, Japan, presenting "*Great contribution of concrete as white carbon toward carbon neutrality*"
- ▶ Prof. Karen Scrivener, EPFL, Switzerland, presenting "*What has electron microscopy contributed to cement and concrete science?*"

Also this year, for the 77<sup>th</sup> RILEM Annual Week, RILEM awarded the PhD travel grant to some PhD students and early-career researchers under the age of 35 and residing in countries where discounted RILEM fees apply. The awardees were:

2017 Colonnetti Medallists  
who are now TAC Chair  
(Enrico Sassoni) and  
2023 L'Hermite Medallist  
(Gaurav Sant) © ISSSI 2023



- ▶ Karthikeyan Manickam, Indian Institute of Technology Madras, India, with the abstract titled "*Assessment of galvanic corrosion of prestressed strands in re-grouted, post-tensioned concrete systems*"
- ▶ Keerthi V T, Indian Institute of Technology Madras, India, with the abstract "*Electrical/electrochemical modelling and experimentation for the performance assessment of concrete-steel-anode (C-S-A) systems*"

- ▶ Hao Yu, Hunan University, China, with the abstract titled "*Optimizing flue gas CO<sub>2</sub> for accelerating the carbonation curing efficiency of cement*"
- ▶ Ajeesh K, Indian Institute of Technology Palakkad, India, with the abstract titled "*Fatigue testing for the validation of fatigue models for SFR*"
- ▶ Rocio Peralta, Universidad Nacional del Sur, Argentina, with the abstract titled "*Final disposal of molecular sieves in cement mortars*"

Congratulations again to all the awardees!!!

The outcomes of 2 RILEM TCs were presented at this event:

- ▶ 279-WMR: Valorisation of Waste and Secondary Materials for Roads, by TC Chair Lily Poulikakos. Her [presentation](#) is available on YouTube.
- ▶ 281-CCC: Carbonation of concrete with supplementary cementitious materials, by TC Chair Nele De Belie.

The delegates were treated with 3 social gatherings:

- ▶ The conference opening reception, with top-quality international food offered at the conference venue, i.e. the Sheraton Vancouver Wall Center.
- ▶ The RILEM Banquet Dinner, which took place at the Indian restaurant "South Hall Banquet Palace", with original Indian food and Bollywood and traditional entertainment.
- ▶ The Cruise Gala Dinner, where the delegates enjoyed a picturesque sunset while cruising along the Vancouver Harbour and the False Creek.

The [next Annual Week](#), the 78<sup>th</sup>, will take place in the beautiful city of Toulouse, France, in August 2024. The conference organiser, Alexandra Bertron, is promising another fabulous event, with workshops and courses, high-quality technical sessions, and, of course, with exquisite French food and wine.



Parallel session © ISSSI 2023

# RILEM Worldwide

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**A**s part of its activities, the Development Advisory Committee (DAC) develops new initiatives for continuously improving the promotion of RILEM worldwide, in cooperation with the Technical Activities Committee (TAC) and the Educational Activities Committee (EAC). The conveners of RILEM Regional and National Groups are steering these activities in their regions and assist with initiating and organizing events, facilitating the exchange of information, and giving RILEM a general presence in the local and regional research and industry landscapes.

According to the region and the objectives to be achieved, their assignments may consist of:

- ▶ establishing links with scientists, institutes or corporate entities of their region,
- ▶ identifying the needs of their region, which RILEM can meet,
- ▶ identifying and proposing experts in the respective region for participation in RILEM Technical Committees or possibly in RILEM bodies,
- ▶ identifying subjects for the setting up of Technical Committees on specific matters of particular relevance for their region,
- ▶ disseminating information concerning RILEM publications, symposia, courses and RILEM news,
- ▶ if applicable, creating local RILEM websites for keeping up-to-date information, after explicit approval by RILEM Bureau,
- ▶ promoting RILEM at selected regional scientific events by organizing a scientific session and a RILEM exhibition stand,
- ▶ recruiting new members and keeping existing members active,
- ▶ organizing RILEM courses (with the support of EAC), or “RILEM days” (with the support of TAC) or Symposia,
- ▶ supporting regional sections in the RILEM Newsletters (as needed),
- ▶ establishing contacts with international partners of RILEM active in the region and developing new joint activities,
- ▶ identifying existing and new industrial partners that would benefit from getting involved in RILEM TC work, and supporting a more active cooperation between RILEM and industry.

2023 has been a very active year, with many successful activities reported from around the world.

### **In the MIDDLE EAST and NORTH AFRICA region:**

The regional convenor, Prof. Mohammed Sonebi has been very active in 2023. The focal point of activity in this region centred around the "2023 RILEM Spring Convention & 4<sup>th</sup> International Congress on Materials & Structural Stability (CMSS23)" held from 5 - 10 March 2023 at the Faculty of Science, University Mohammed V in Rabat, Morocco ([report](#)).

An insightful [interview](#) with Prof. Mohammed Sonebi, conducted by Dr Ciancio, RILEM implementation manager, was featured on 26 April 2023, shedding light on the "Trends and opportunities of using local sustainable building materials in the Middle East and North Africa region," as published in the RILEM Technical Letter of 2022 (DOI: 10.21809/rilemtechlett.2022.169).

### **In NORTH AMERICA and the CARIBBEAN region:**

The flagship event for this region was the "77<sup>th</sup> RILEM Annual Week and the 1<sup>st</sup> Interdisciplinary Symposium on Smart & Sustainable Infrastructures (ISSSI 2023)", held in Vancouver, Canada ([report](#)).

Due to the continued efforts of the regional convenor Dr Dimitri Feys, substantial advancements have been made by fostering a more robust collaboration with the American Concrete Institute (ACI). RILEM was introduced during the ACI international forum during the ACI Spring 2023 convention in San Francisco and the collaboration culminated in the signing of a new international partnership agreement during the ACI Concrete Convention in Boston in November 2023. The agreement was formalized by RILEM president, Nicolas Roussel, and ACI Executive Vice President, Frederick H. Grubbe.

The focus of this enhanced collaboration encompasses various key areas, including intensifying joint efforts on technical initiatives, disseminating essential documents and recommendations, engaging the younger generation of researchers and engineers, and actively participating in ACI's Centers of Excellence (COE). Dr Nicolas Roussel further advanced this commitment by signing the "Memorandum of Understanding of NEx – An ACI Center of Excellence for Nonmetallic Building Materials" with NEx Executive Director, Jerzy Z. Zemajtis. This agreement signifies a joint effort to leverage individual and collective resources and expertise in developing the knowledge necessary for the effective use of nonmetallic materials and products in the built environment.

With the execution of this MOU, RILEM is officially recognized as an Allied Organization of NEx, solidifying their collaborative efforts in advancing the understanding and application of nonmetallic building materials.

### **In the LATIN AMERICA region:**

Under the stewardship of RILEM's management, Dr Daniela Ciancio, and with the participation of Dr Alejandro Duran-Herrera, discussions

on collaboration opportunities between RILEM and various Latin American associations have been initiated in the past years, resulting in active partnerships.

A co-sponsored Spanish ROC&TOK webinar was organised with FICEM (The Inter-American Cement Federation) on 26 January 2023. In addition, links of the RILEM ROC&TOK videos will soon be shared on the FICEM Academia platform. A second Spanish ROC&TOK webinar was organised in May 2023, and there was the webinar "todo sobre RILEM" organised by Jose Normabuena in Nov 2023. RILEM news in Spanish are shared in the bulletin of AATH (Argentine Association of Concrete Technology) and Alconpat International (Latino-American Association of Quality Control, Pathology, and Construction Recovery).

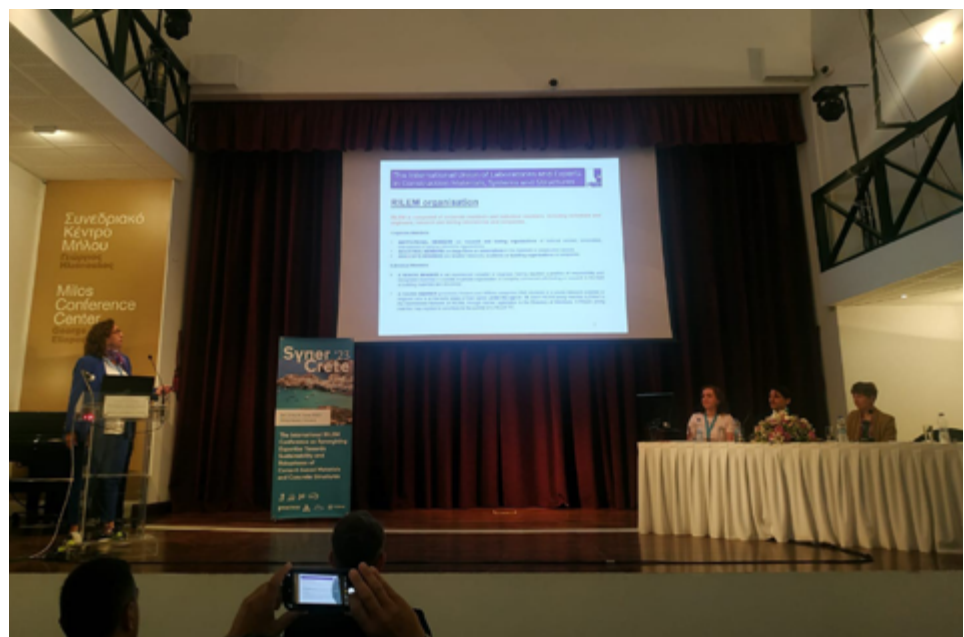
Further, discussions have recently been initiated to reactivate the partnership with IBRACON (Brazilian Concrete Institute).

### In the EUROPE region:

Regional convenor, Prof. Maria Stefanidou, made several contacts and promoted RILEM activities in March 2023, at "The international conference SBE23-Thessaloniki" exploring sustainability in the built environment as the means to achieve the targets for climate change mitigation and adaptation.

Several conferences marked RILEM's presence, including the "5<sup>th</sup> International Conference on Bio-Based Building Materials - ICBBM 2023" in Vienna, Austria, from 20-23 June 2023 ([report](#)).

Another significant event was the "International RILEM Conference on Synergising expertise towards sustainability and robustness of cement-based materials and concrete structures - SynerCrete'23" on Milos Island, Greece, from 14 - 16 June 2023 ([report](#)). This event was an occasion for participants to meet with Prof. Maria Stefanidou and RILEM Vice president, Prof. Nele De Belie.



International RILEM Conference on SynerCrete'23, Milos, Greece, June 2023 © Maria Stefanidou

### In the EAST EUROPE and CENTRAL ASIA region:

Regional convenor, Prof. Dr. Vyatcheslav R. Falikman has been organizing numerous conferences in the region, such as the "Quality Assurance and Economic Efficiency of Concrete Mixtures and Concretes Seminar" in Ryazan, Russia, providing opportunities to spotlight RILEM and RILEM Technical Committees.

### In the SOUTH ASIA region:

Regional convenor, Dr Radhakrishna G. Pillai has organized several key events including the "Young Researchers" Symposium on Technologies for Low-Carbon & Lean Construction (YRS 2023)" on 31 January 2023, the "2<sup>nd</sup> International Workshop on Technologies for Low-Carbon & Lean Construction" from 1 – 2 February 2023, and the RILEM Co-sponsored "International Conference on Condition Assessment, Rehabilitation & Retrofitting of Structures (CARRS)" from 10 - 13 December 2023 at the Indian Institute of Technology Hyderabad, India.

Thanks to Dr Pillai, the South Asia region boasts 225 members and, for the third year running, occupies second place in terms of membership, mainly thanks to the growth of India. ([See more in the membership section](#))



Organizers of the 2<sup>nd</sup> International TLC2 Workshop, January 2023, Chennai, India © R. Pillai



YRS 2023 team, January 2023, Chennai, India © R. Pillai



### In the PACIFIC region:

The "31<sup>st</sup> Biennial National Conference, Concrete 2023" in Perth, September 2023, was an opportunity for regional convenor, Prof. Arnaud Castel, to organize the presentation of RILEM by Prof. Doug Houton and Prof. Tim Wangler. It also provided a platform for hosting the CIA/RILEM Young Members Function (social event) and a Young Members Breakfast Forum. The latter allowed a panel discussion featuring young members from diverse areas such as academia, consultancy, suppliers, and entrepreneurship. A free RILEM membership was awarded to the winner of the best paper award (author younger than 35).

### In the EAST ASIA region:

Regional convenor, Dr Guoqing Geng, co-organized with ACI-Singapore Chapter a RILEM co-sponsored seminar, under the theme 'Concrete Horizons: Advancing Sustainability and Innovation in Concrete Technology'. During the event, which took place on the 27 October 2023, the mission and activities of RILEM were introduced to 180 participants, who are researchers, practitioners and government officers from Singapore and Malaysia.

### In the SUB-SAHARAN AFRICA region:

In 2023, regional convenor Dr Wolfram Schmidt (BAM) with Prof. Abuodha (University of Nairobi), and Dr Joseph Mwit Marangu (Meru University of Science and Technology) actively engaged in the initial discussions for planning the 2026 RILEM Week in Nairobi, Kenya, collaborating closely with the RILEM secretariat.

In addition, funds were raised for delegates from University of Lagos, the new RILEM institutional member Office Congolais de Controle, Botswana Bureau of Standards, Kenya Bureau of Standards and Association Sénégalaise de Normalisation to attend the RILEM Spring Convention in Rabat and the RILEM TC PHC (Performance testing of hydraulic cements).

Dr Wolfram Schmidt also made contact to start planning several events for the upcoming year such as a GLOBE Consensus seminar,



31<sup>st</sup> Biennial National Conference, Concrete 2023, September 2023, Perth, Australia © Arnaud Castel



Best paper award (author younger than 35), 31st Biennial National Conference, Concrete 2023, September 2023, Perth, Australia © Arnaud Castel

including EAC courses, and meeting with young delegates to present RILEM. This event shall be organised between BAM, Germany, and Nigerian University of Lagos, Covenant University and Edo State Government. With the new sub-Saharan African of the RILEM Youth Council Ms. Angela Tetteh Tawiah new educational activities within the RYC African youth community are in preparation.

Regional convenors also work closely with the RILEM Youth Council, helping its members to develop actions and strategies.



Sub-Saharan African delegates who attended the RILEM TC PHC meeting and the RILEM Spring Convention with SSA convenor Wolfram Schmidt and conference chairman Abdeljebbar Diouri ©Abdeljebbar Diouri



Sub-Saharan African delegates who attended the RILEM TC PHC meeting and the RILEM Spring Convention with SSA convenor Wolfram Schmidt and RILEM Vice President Nele De Belie ©Abdeljebbar Diouri



Sub-Saharan African delegates who attended the RILEM TC PHC meeting and the RILEM Spring Convention with SSA convenor Wolfram Schmidt and RILEM Implementation Manager Daniela Ciano © Nele De Belie

# RILEM Youth Council

In 2022, the RILEM Youth Council launched the Peer-to-Peer webinar series. The series was established to showcase exemplary young researchers from all the regional groups of RILEM, foster knowledge sharing, and build a strong network of young researchers globally. The table below is a summary of the webinars hosted in 2023.

Host region	Theme	Event date	Attendees*
Pacific	Carbonation of concrete: Opportunities for Net Zero CO <sub>2</sub> by 2050 and research needs	31 January 2023	165
Latin America	Desarrollo de materiales sustentables para la construcción en América Latina	29 March 2023	47
Middle East and North Africa	Revolutionizing Infrastructure and Materials: A Webinar on Highways, Active Travel, and Natural Fiber-Reinforced Cement Paste	30 May 2023	49
East Asia	From the strength origin of cement hydrate to the mechanical behaviors of advanced concrete incorporating nanomaterials	18 July 2023	53
Europe	Designing alongside nature - Biobased technology applied to research in construction.	26 September 2023	98
North America	Navigating Challenges in the Concrete Industry – Simulating Pumping Processes and Assessing Aggregate Reactivity Potential	28 November 2023	47

\*Indicated as unique views from the Zoom account

The RYC would like to sincerely thank the presenters of the peer-to-peer webinars namely: Indira Vasikova, Dr Jiayi Fu, Dr Iván Ignacio Navarrete Leschot, Felipe Rosas Diaz, Rawane Ramadan, Sammy Khatib, Donghee Son, Zhang Zhe, Tria Amalia Ningsih, Dr Alessia Losini, Dr Tooran Tavangar and Rodolfo Castillo Araiza for sharing their research work with the RILEM Youth Community and thereby contributing to the success of the webinar series.

To supplement the RYC peer-to-peer webinars, the RYC Pacific webinar series was officially launched by Marie Joshua Tapas in 2023. The RYC Pacific webinar runs at least twice a year and each webinar features speakers from various institutions in the Pacific region. The Pacific webinar series aims to bring together young researchers from different universities, to promote RILEM to young researchers in the Pacific region and to provide a platform for young

researchers to communicate their work and build their network. The webinar typically runs for 1.5 hours with 4 speakers giving 15 min presentations each followed by a 20 min session of questions and answers.

The first Pacific webinar was held in April 2023 and was titled “Viability of LC3 in Australia, recent innovations in geopolymers and ultra-high performance concrete”. The webinar featured the speakers Emily Canda (University of Technology Sydney), Shraavan Muthukrishnan (Swinburne University), Sherin Khadeeja Rahman (Deakin University) and Shameer Saleh (University of New South Wales) , Samuel Gomes (University of Technology Sydney), Guangtong Huang (University of South Australia), SM Arifur Rahman (Curtin University) and Carlos Espinal Zapata (Deakin University) whose participation in the webinar is appreciatively acknowledged.

Theme	Event date	Attendees*
Viability of LC3 in Australia, recent innovations in geopolymers and ultra high performance concrete	25 April 2023	165
Properties of Alkali-Activated Calcined Clay and Lithium Slag Binders, Optimizing LC3 Mix Designs, and Smart Concrete for Harvesting Energy	7 December 2023	47

\*Indicated as unique views from the Zoom account

In line with the objective of increasing the participation of the RILEM youth in RILEM activities, the **RILEM Young Scientist Corrosion group** was established by the young members of TC 296-ECS. The group consists of young scientists working in the field of corrosion science in civil engineering and regularly organises free online peer-to-peer and educational events, with the support of RILEM and its community. The group uses this [LinkedIn page](#) to showcase its activities, to promote upcoming events & attract new members to the group.

This year, the RYC has said goodbye to David Orense, Bo Ran, Nonkululeko Radebe and Marie Joshua Tapas. Their pioneering spirits and keen engagement have been vital to the success of the RYC initiatives thus far and are therefore gratefully lauded. In their stead we have welcomed Olga Carcassi, Yi Du, Angela Tawiah and Liam Martin, respectively. We thank the new council members for taking on the commitment to serve the RILEM Youth Community.

## RILEM Youth Council members



**RYC Chair: Joanitta NDAWULA**, University of Cape Town, SOUTH AFRICA.  
ndwjoA001@myuct.ac.za



**RYC Vice-Chair: Surender SINGH**, Indian Institute of Technology Madras (IITM), INDIA (South Asia).  
surender@iitm.ac.in



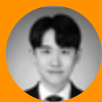
**RYC Secretary: Magda POSANI**, ETH Zurich, SWITZERLAND (Europe).  
magda.posani@gmail.com



**Olga Beatrice CARCASSI**, Natural Materials Lab GSAPP Columbia, USA (North America & Caribbean).  
olgabeatrice.carcassi@polimi.it



**Angela Tetteh TAWIAH**, University of Padua, ITALY (Sub-Saharan Africa).  
angelatawiah57@gmail.com



**Seongmin CHO**, Hanyang University, SOUTH KOREA (East Asia).  
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**Yi DU**, ETH Zurich, SWITZERLAND (China).  
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**Rouba JOUMBLAT**, Beirut Arab University, LEBANON (Middle East and North Africa).  
rouba.joumbat@hotmail.com



**Aleksandr SURKOV**, Research Institute of Concrete and Reinforced Concrete (NIIZHB), RUSSIAN FEDERATION (East Europe & Central Asia).  
aleksandr\_surkov@inbox.ru



**José Vidal González AVIÑA**, Autonomous University of Nuevo Leon, MEXICO (Latin America).  
jose.gonzalezavn@uanl.edu.mx



**Liam MARTIN**, University of Technology Sydney, AUSTRALIA (Pacific).  
liam.martin@uts.edu.au

# RILEM Membership and Fees

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One of the goals of RILEM regional and national convenors, as well as RILEM Youth Council, is to promote RILEM and attract new members. In 2023, as in recent years, RILEM membership has been steadily increasing, reflecting the dynamic development of the association.

## RILEM membership

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

### Corporate Memberships

There are 4 types of Corporate memberships:

- ▶ **Associate Members** are smaller research, academic or building organisations or companies, providing 3 of their staff as RILEM members and one associate contact.
- ▶ **Institutional Members** are research and testing organisations of national renown, universities, international or national standards organisations, providing less than 15 of their staff as RILEM members, aged 35+ years, and unlimited staff as RILEM members under the age of 35.
- ▶ **Institutional-Plus Members** are research and testing organisations of national renown, universities, international or national standards organisations, with an unlimited number of their staff joining RILEM as members.
- ▶ **Industrial Members** are large firms or associations in the materials or construction sectors, with an unlimited number of their staff joining RILEM as members.

Staff members of corporates are welcome to actively participate in RILEM Technical Committees and are provided with full RILEM membership benefits.

### Individual Memberships

- ▶ **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** is a postgraduate student (including PhD

students) or a young research scientist or engineer who is at the early stage of his/her career under the age of 35 during the membership year.

- ▶ **A Retired Member**
- ▶ **An Honorary member** is a member who has been distinguished by RILEM officers, for having rendered exceptional services to the association.
- ▶ **A free membership** is offered to participants of RILEM EAC courses, Spring meetings and Annual weeks. (The graphs and numbers shown in the following sections do not include the current 240 free members.)

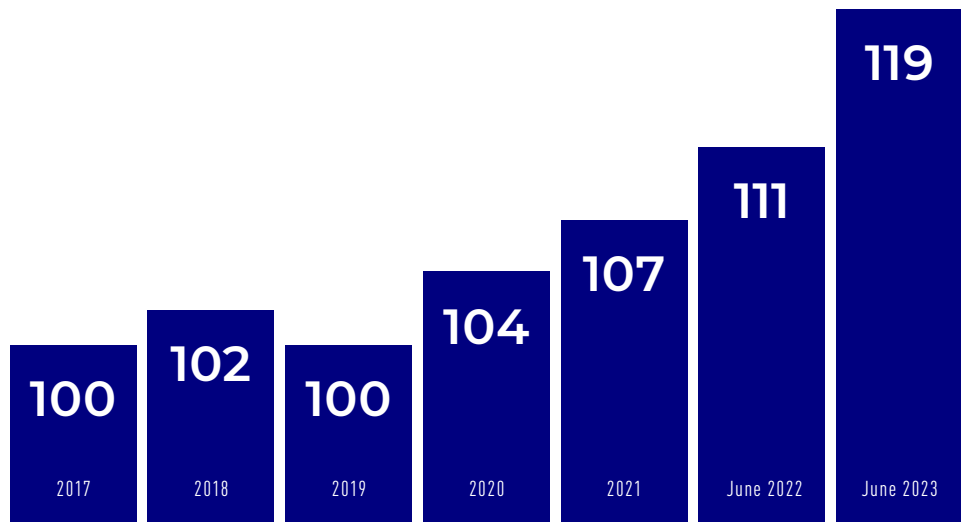
## Evolution of the membership by categories

### Coporate and staff members

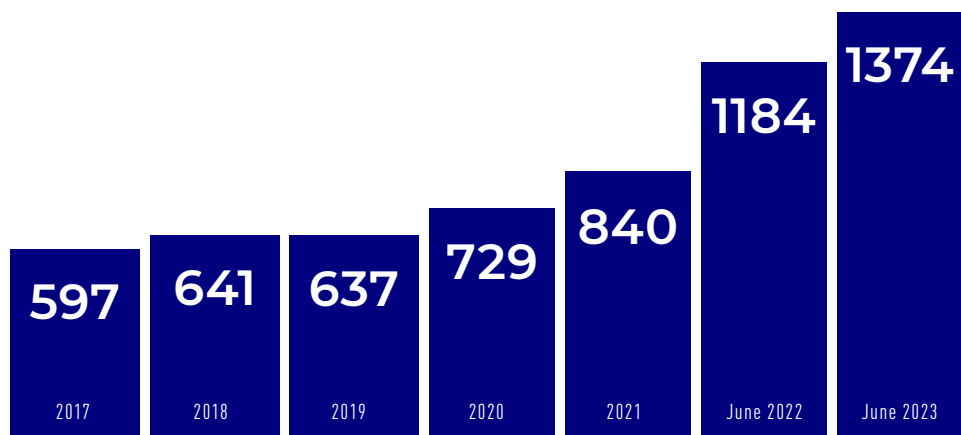
While the growth of corporate members has been gradual in recent years, there has been a notable surge in their staff count, reaching 1,374 by June 2023.

#### RILEM CORPORATE MEMBERS

*\*See Corporate members' list page 53*



#### STAFF OF CORPORATE MEMBERS

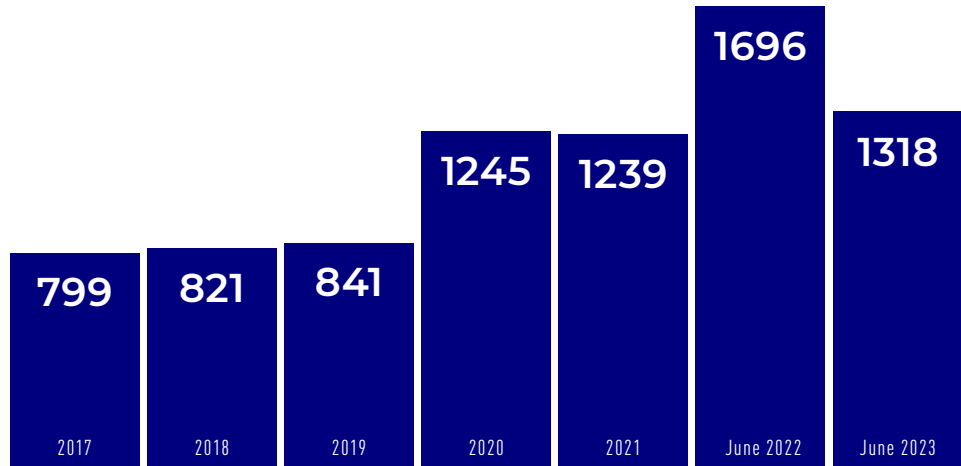


### RILEM individual members

In 2023, a marginal reduction in the overall membership was observed, attributed to database maintenance and stricter implementation of fee payment regulations. The count of individual members decreased compared to the previous year, settling at a commendable 1,318 members and thus maintaining a solid foundation for the association.

#### RILEM INDIVIDUAL MEMBERS

*Numbers include individual members, exclude 180 free members and 1,374 staff members*

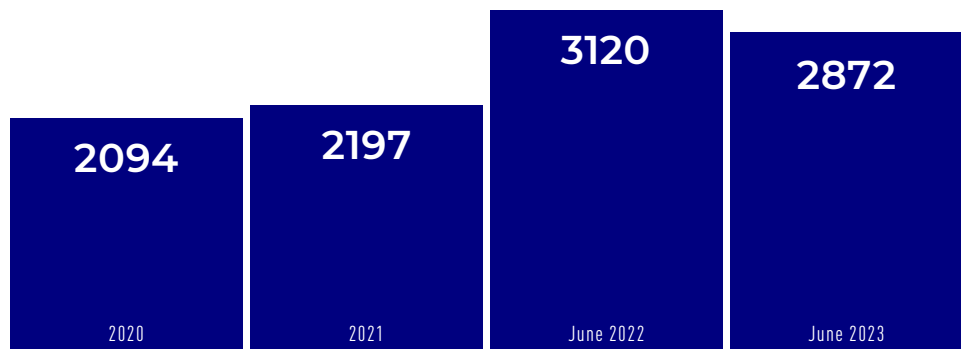


### RILEM individual members

RILEM's 2,872 individual members, staff members and free members collectively embody the potentially active participants within the association. Non-RILEM members following an EAC course, or non-RILEM delegates of a RILEM annual week or Spring meeting are eligible for a three- or one-year free membership, respectively.

#### RILEM INDIVIDUAL, FREE AND STAFF MEMBERS

*Numbers include individual, staff members and free members*



### RILEM individual members' categories

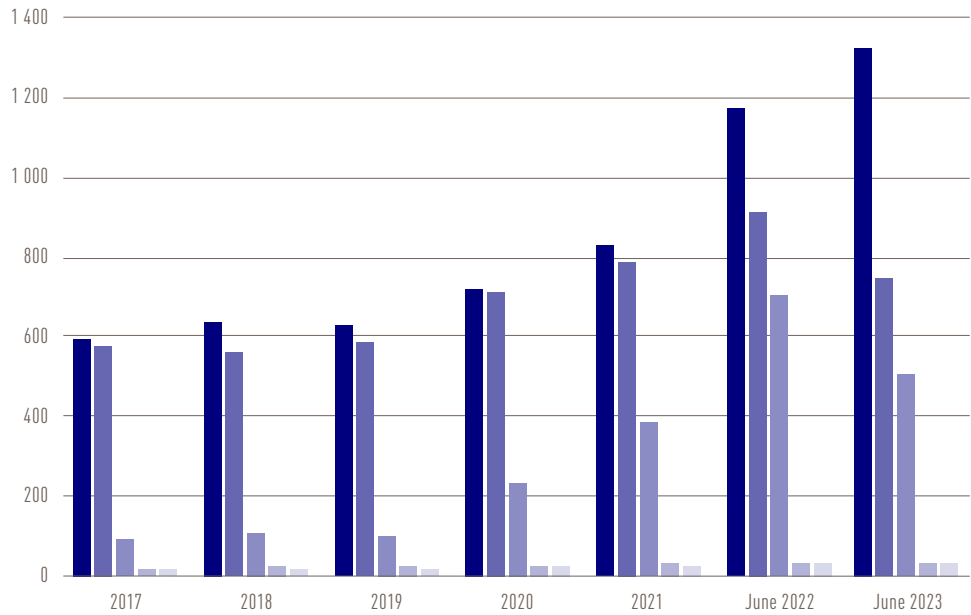
The examination of individual memberships reveals a noteworthy rise in young members (below 35 years of age) over the past four years. This underscores the success of the policy aimed at fostering the integration of young members and their active involvement in RILEM activities, showcasing the positive impact of the RILEM Youth Council's efforts to attract younger participants.



### RILEM MEMBERS BY MEMBERSHIP CATEGORIES

(does not include 240 free members)

- Staff of corporates
- Senior (above 35yo)
- Young
- Honorary
- Retired



### Gender Balance

In the last five years, there has been a gradual shift in the gender balance towards an increasing number of female members. As of 2023, females constitute 30% of the total membership, compared to 21% in 2018. This aligns with the prevailing trend in companies engaged in similar fields, such as civil engineering and construction.

### GENDER BALANCE June 2023



## RILEM members dissemination per region

Among the 10 established geographical areas within RILEM, Europe maintains the highest membership count with 1,713 members. South Asia secures the second position for the third consecutive year, boasting 225 members, primarily fuelled by growth in India (refer to "10 countries most represented within RILEM"). China maintains the third position with 176 members, closely followed by North America with 157 members.

## RILEM members by region

	2017	2018	2019	2020	2021	06/2022	06/2023
Europe	871	862	898	1,093	1,311	1,639	1713
South Asia	27	30	37	116	180	340	225
China	90	122	100	140	160	198	176
North America & Caribbean	91	85	84	100	116	181	157
Latin America	36	37	41	40	77	134	101
East Asia	131	136	140	74	81	103	100
Pacific	16	16	15	26	37	98	91
Sub-Saharan Africa	15	16	16	30	41	83	51
Middle East-North Africa	6	26	23	48	57	77	52
East Europe and Central Asia	22	22	20	16	19	27	26
<b>TOTAL</b>	<b>1,305</b>	<b>1,352</b>	<b>1,374</b>	<b>1,683</b>	<b>2,079</b>	<b>2,880</b>	<b>2,692</b>

-Numbers include individual and staff members. Do not include free members.

-In 2020, it was decided to reorganize the distribution of counties between South Asia and East Asia. This explains the sudden change in numbers in these two regions.

## Countries most represented within RILEM members

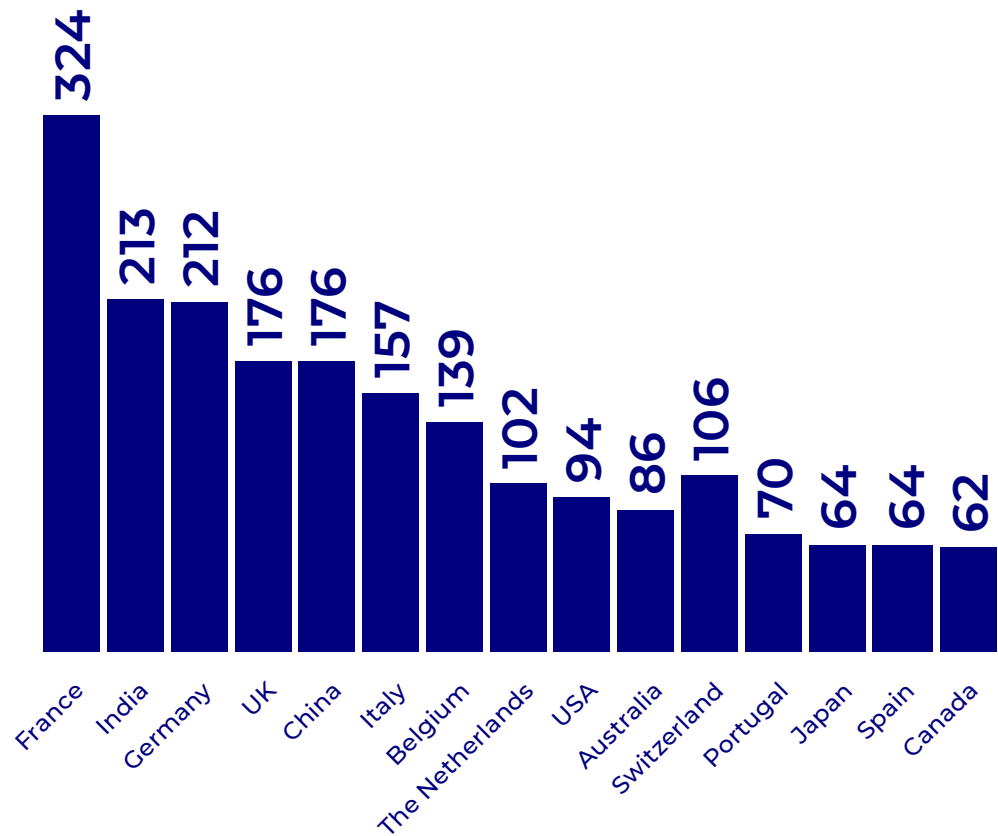
After India surpassed France in 2022, the latest data now positions France back in the top spot, closely followed by India. The overall ranking includes a consistent group of countries from previous years. Notably, Australia remains in the top 10 for the second consecutive year.

## Ten countries most represented within RILEM

	2017	2018	2019	2020	2021	06/ 2022	06/ 2023
France	182	193	199	218	231	291	324
India	23	25	30	100	159	318	213
Germany	119	104	104	119	149	200	212
China	88	121	99	140	158	197	176
UK	52	56	60	91	100	164	176
Italy	82	75	75	101	130	160	157
Belgium	75	82	91	102	114	129	139
The Netherlands	53	49	50	60	73	95	102
USA	50	47	51	65	77	110	94
Australia	13	13	12	20	35	93	86

-Numbers include individual and staff members. Do not include free members.

## COUNTRIES WITH 50 OR MORE INDIVIDUAL AND STAFF MEMBERS



## RILEM membership fees

After careful consideration and thorough evaluation, the 2023 RILEM General Council has voted to adjust the membership fees to better align with the rising costs of the services and benefits provided by RILEM. The membership fees have not been increased for more than a decade and the cost of running the secretariat has quickly increased due to recent years of inflation. Such an adjustment is meant to allow RILEM to continue offering grants, programs, and contribute to enhancing the quality of the services and maintaining the standards expected by the members.

### Effective January 1<sup>st</sup>, 2024, the new membership fees are as follows:

- ▶ Young Membership - previous fee: 25 Euros - new fee: 27 Euros
- ▶ Senior Membership - previous fee: 375 Euros - new fee: 395 Euros
- ▶ Retired Membership - previous fee: 75 Euros - new fee: 80 Euros
- ▶ Associate Membership - previous fee: 1,165 Euros - new fee: 1,340 Euros
- ▶ Institutional Membership - previous fee: 2,205 Euros - new fee: 2,540 Euros
- ▶ Institutional-Plus Membership (new category) - fee: 4,660 Euros
- ▶ Industrial Membership - previous fee: 4,050 Euros - new fee: 4,660 Euros

In addition, in RILEM's ongoing commitment to foster inclusivity and account for the diversity of the members, starting in 2024, the membership fees for low-income countries will be further reduced, increasing the fee discount from 60% to 90%. This move aims to facilitate active participation from members in these regions. This reduction does not apply to our industrial corporate members, who will continue to enjoy a 60% fee reduction.

**The new membership fees in Euros for all regions are the following:**

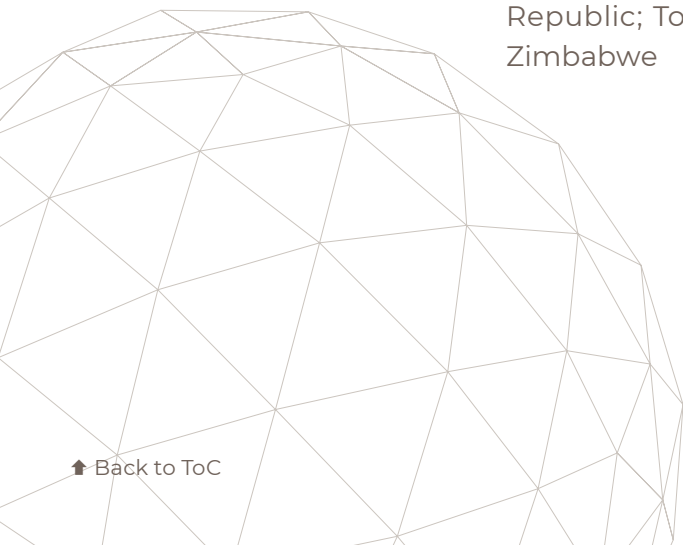
Current tiers	Young	Senior	Retired	Associate	Institutional	Institutional -Plus	Industrial
<b>100%</b>	27	395	80	1340	2540	4660	4660
<b>60%</b>	16	237	48	804	1524	2796	2796
<b>10%</b>	2.7	39.5	8	134	254	466	1864*

\*Industrial members are granted only a 60% discount and not 90%

**Discount by country/region**

A special discounted fee is applicable for countries according to their GDP per capita. Members with 40, 60 or 90% discount will benefit of all services.

- ▶ **A 40% discount is granted to members from the following countries:** Algeria; Albania; Angola; Argentina; Bosnia and Herzegovina; Botswana; Brazil; Bulgaria; Chile; Colombia; Croatia; Dominican Republic; Ecuador; Egypt; Estonia; Hungary; Islamic Republic of Iran; Jordan; Kazakhstan; Latvia; Lebanon; Libya; Lithuania; Macedonia; Malaysia; Mauritius; Mexico; Montenegro; People's Republic of China; Peru; Poland; Republic of Costa Rica; Romania; Russian Federation; Serbia; South Africa; Thailand; Tunisia; Turkey; Ukraine; Uruguay; Venezuela
- ▶ **A 60% discount is granted to Industrial Members and a 90% discount is granted to the other members from the following countries:** Bangladesh; Burkina Faso; Cambodia; Cameroon; Congo; Cuba; Ethiopia; Federal Republic of Nigeria; Georgia; Ghana; Guatemala; India; Indonesia; Iraq; Ivory Coast; Kenya; Lesotho; Malawi; Morocco; Mozambique; Nepal; Pakistan; Paraguay; Philippines; Republic of Moldova; Senegal; Sri Lanka; Syrian Arab Republic; Togo; United Republic of Tanzania; Viet Nam; Yemen, Zimbabwe



# Financial statement of the year 2022

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**F**rom a financial point of view, RILEM consists of two distinct entities. The first one is an association under Swiss law, but established in France, non-profit, without VAT and non-taxable, named RILEM Association. The association manages members and scientific, educational and development activities.

The second is a private company with a single shareholder (i.e., the RILEM Association), for profit, subject to VAT and profit tax, named EURL RILEM Publications. The company manages the publication activities of RILEM, in particular in its two scientific journals. *Materials and Structures*, the flagship journal of RILEM, is a hybrid international journal published by Springer Nature. *RILEM Technical Letters*, launched in 2016, is an open access journal published by RILEM. For these two journals, part of the publishing and management work is subcontracted to two third parties (the University of Sheffield and Empa).

The income for the RILEM Association comes from membership fees, both individual members and corporate members. The net invoiced fees as income from membership fees decreased in 2022 (€373,354), instead of (€391,553 in 2021). The 2022 total income result is €386,510, down slightly by 7,4% on the previous year. Expenditure has also been reduced by 6.31%, resulting in a negative total result of - €62,391 in 2022 instead of - €61,172 in 2021.

The net income for EURL RILEM Publications comes from royalties paid by Springer Nature on the revenue from the sale of *Materials and Structures*, mainly via consortia agreements. This revenue is reduced due to the cost of giving free access to *Materials and Structures* for all RILEM members. The royalties paid by Springer Nature in 2022 increased from €211,150 in 2021 to €289,546 in 2022.

The costs for RILEM Association are primarily the salaries and expenses for running the General Secretariat. Additional costs are due to the outsourced management of the two journals. The Association also pays the Article Processing Costs (APCs) for publishing a limited number of Open Access papers, selected by the Board of Editors, in the journal *Materials and Structures*. Since 2019, an external consultant (the RILEM Implementation Manager, RIM) has been

hired to increase the visibility of RILEM, especially among young researchers and within the industry. Several actions to promote young researchers in RILEM have also been sponsored, including awards for best posters at conferences and the main RILEM awards for young researchers, the Colonnetti and L'Hermite medals. The end of the pandemic in 2022 impacted the results as travel expenses for sponsored students and staff resumed with the reinstatement of travel. For 2022, the financial result of RILEM Association was negative, - €62,391. The financial result of EURL RILEM Publications is this time more positive + €95,074 compared to the positive result in 2021, €11,369. The negative/positive combined result is positive of + €32,683 in 2022 compared to negative one - €50,373 in 2021. This is a much better result than the one expected of - €30,000 presented at the General Council 2022 in Kyoto (Japan).

A negative result is still expected in the upcoming years (-€ 86,000 presented in Vancouver, Canada 2023) as a consequence of the choice made by the RILEM Management of investing in a number of initiatives to give back to the RILEM members a part of the equity.

Consequently, negative results are expected for a couple more years, with a balanced budget to be reached not before 2025. The equities of both the association and the company are currently large enough to compensate for a few years of negative results. The increase of the membership from 2024 will also contribute to balance the finance of RILEM.

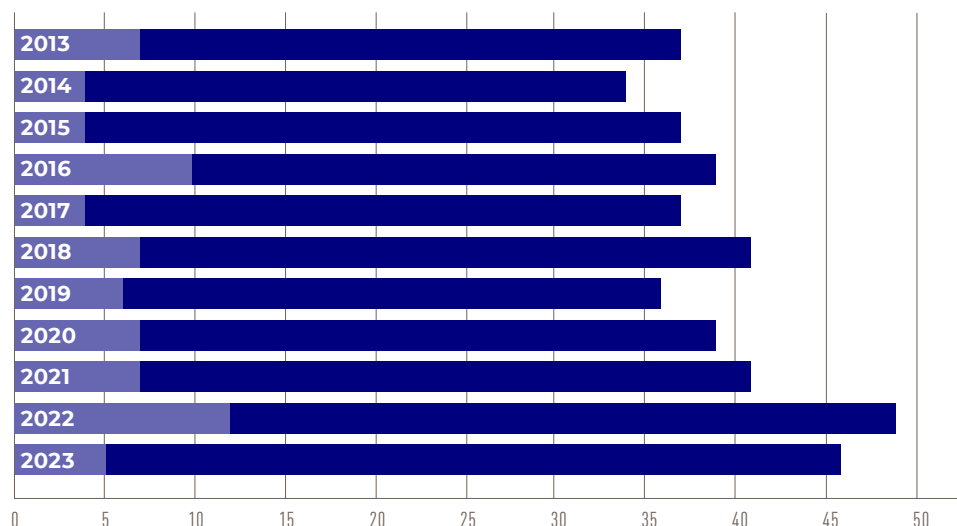


# Technical Committees

In RILEM, the Technical Committees serve as the organization's core and driving force. These committees are highly dynamic and typically have a lifespan of five to seven years. Each year witnesses the successful completion and closure of several committees, followed by the introduction of new ones. Over the past ten years, the count of active Technical Committees varied between 35 and 40 peaking at 49 in 2022. By 2023, the number of active committees reached another high, with 46 in operation.

## TECHNICAL COMMITTEES

- Number of active committees
- Number of new committees per year



Each year, several new technical committees are created. For a comprehensive list of active TCs and information about their work, you can visit [tc.rilem.net](https://tc.rilem.net)

### The following five new committees were approved in 2023:

#### Cluster A. Material Processing and Characterization (Convener: Daman Panesar)

- ▶ [ACP: Active Control of Properties of Fresh and Hardening Cementitious Materials](#) chaired by Prof. Geert De Schutter

#### Cluster B. Transport and Deterioration Mechanisms (Convener: Josee Duchesne)

- ▶ [RCC: Rolled compacted concrete for pavement applications](#) chaired by Dr Christian Paglia

**Cluster E. Masonry, Timber and Cultural Heritage  
(Convener: Arun Menon)**

- ▶ **MCB: Mechanical Characterisation of Bamboo**  
chaired by Prof. Kent Harries

**Cluster F. Bituminous Materials and Polymers  
(Convener: Eshan Dave)**

- ▶ **APD: Alternative Paving Materials - Design and Performance**  
chaired by Dr Augusto Cannone Falchetto
- ▶ **APS: Alternative Paving Materials – Sustainability** chaired  
by Dr Davide Lo Presti

**We closed eight Technical Committees in 2023 and these TCs have successfully terminated their mission by publishing STARs or reports:**

▶ **TC 266-MRP**

STAR published in 2023

Topical collection published in *Materials and Structures*

▶ **TC 269-IAM**

Recommendations to be published in 2024 in *Materials and Structures*

▶ **TC 271-ASC**

Recommendation published in *Materials and Structures*

▶ **TC 275-HDB**

Topical collection to be published in *Materials and Structures*

▶ **TC 278-CHA**

STAR to be published in 2024

▶ **TC 279-WMR**

STAR published in 2023

▶ **TC 293-CCH**

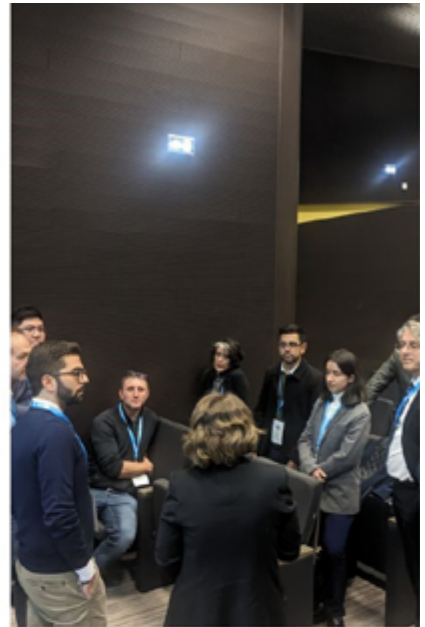
STAR to be published in 2024

▶ **TC FTC**





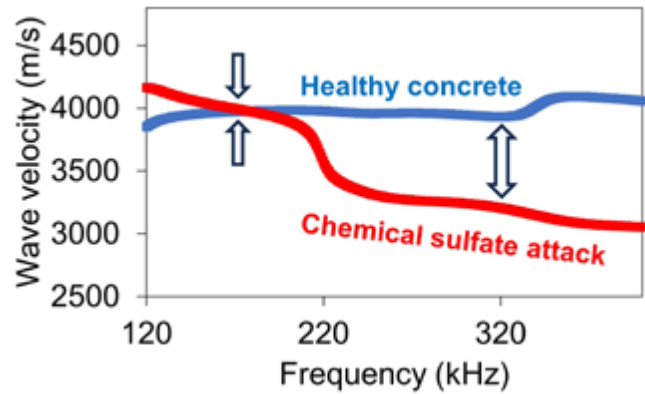
TC 281-CCC at SynerCrete conference in Milos, Greece, June 2023 © TC 281-CCC



Cluster F Annual Meeting in Vaulx-en-Velin, France, November 2023 © Bernhard Hofko



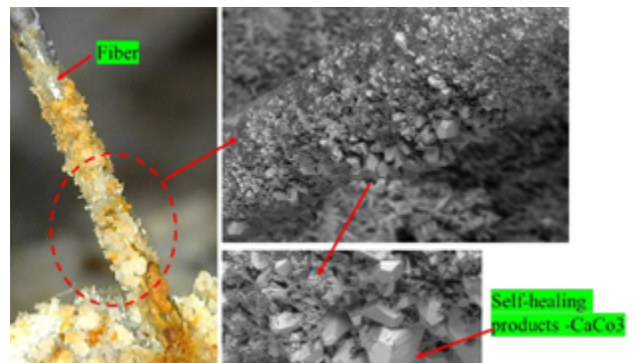
5<sup>th</sup> International Conference on Bio-Based Building Materials - ICBBM 2023 in Wien, Austria, June 2023 © Sofiane Amziane



Air-coupled ultrasonic monitoring of concrete and difference in wave velocity dispersion curve between healthy and chemically attacked concrete, MEMC-Vrije Universiteit Brussel, FWO © TC 269-IAM



3<sup>rd</sup> TC 306-CFR meeting in Lund, Sweden, March 2023 © Pierre Pimienta



Self-healing in Ultra High Performance Concrete © Bin Xi and Prof Liberato Ferrara

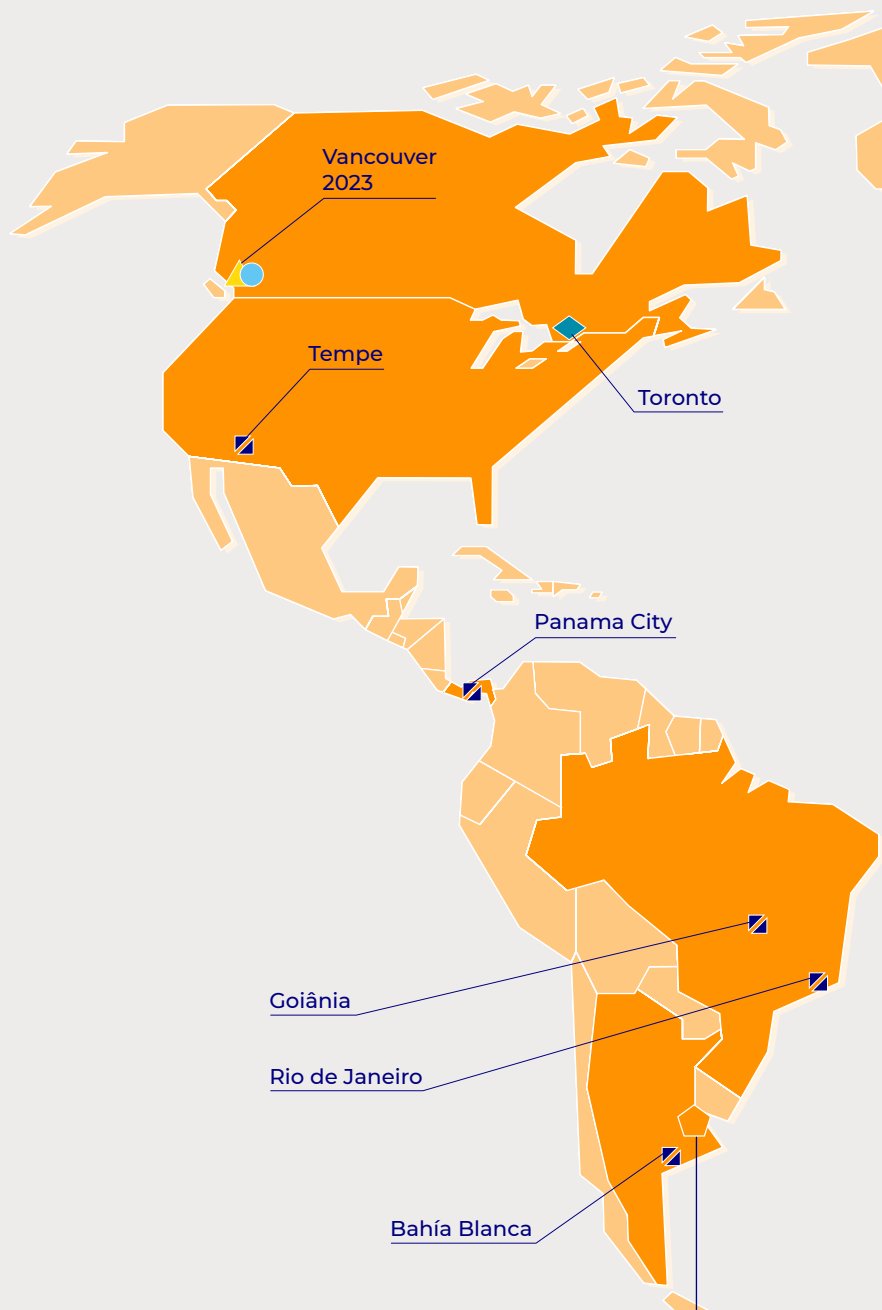
# Technical and Educational Events

**M**any technical and educational events were again organised worldwide in 2023, including conferences, workshops, PhD courses, and the like.

RILEM conferences and co-sponsored events continue to serve as valuable opportunities to introduce RILEM to the research community and extend complimentary memberships to competition winners, including recipients of prestigious awards such as the best paper awards, thereby welcoming eminent researchers into the RILEM community.

On this matter, RILEM welcome active members participating to RILEM events or co-sponsored events to candidate to carry out presentation of RILEM during those events. Interested members can initiate the process by reaching out to the secretariat.

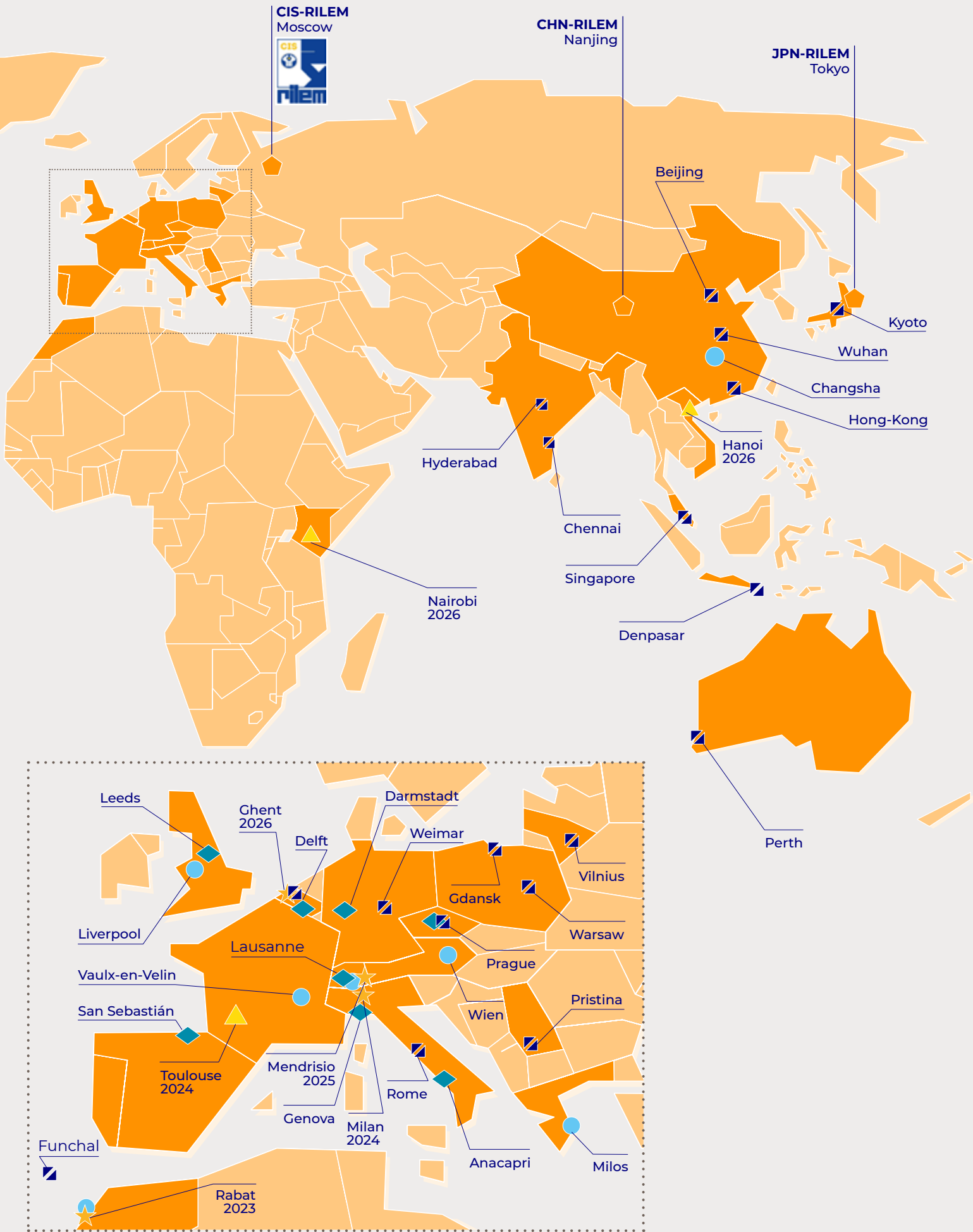
The following map shows the geographical spread of the activities. It can be concluded that RILEM is reaching out to all corners of the world bringing together many people!



## RILEM Events 2023

-  Co-sponsored event
-  Educational activity
-  RILEM event
-  Regional/National Group
-  Spring Convention
-  RILEM Annual Week





# Educational Activities

The main activities of of the EAC this year have been the ROC&TOK webinars and the EAC PhD courses. Since their launch in November 2020, the ROC&TOK webinars have attracted more than 5,500 attendees from 95 different countries covering topics such as carbonation of concrete, cement additives, earth as a construction material, and mineral carbonation. The final webinar was a presentation by Prof. Karen Scrivener on the Myths of low carbon concrete with a record number of attendees. Participants of these webinars can acquire CPD credits from the Institute of Concrete Technology thanks to its partnership with RILEM.

## ROC&TOK Webinars in 2023

DATE	NAME	SPEAKER(S)
02/02/2023	Cement Additives and Concrete Admixtures – An Industrial Perspective	Jeffrey Thomas
02/03/2023	Biogenic attacks on concrete – progress and pending questions for more durable infrastructures	Alexandra Bertron
06/04/2023	Needs North America: Chloride Issues from Tropical to Cold Climates	Burkan Isgor
04/05/2023	Carbonation of concrete with SCMs	Stefanie von Greve-Dierfeld
01/06/2023	Multi-Scale Simulations for Cementitious Materials	Enrico Masoero
06/07/2023	Mineral carbonation – a CO <sub>2</sub> utilization technology for cement and concrete	Ruben Snellings
05/10/2023	Earth as a construction material : progress on the understanding of its behavior and remaining challenges	Antonin Fabbri
02/11/2023	Early age concrete: temperature development, maturity, and thermal stresses	Kyle Riding
14/12/2023	Myths of low-carbon concrete	Karen Scrivener

## Spanish ROC&TOK Webinars in 2023

The EAC launched the Spanish ROC&TOK webinars in 2022 and the series continued in 2023 with the presentations listed in the table below, including a successful webinar collaboration with FICEM in January 2023. RILEM is currently in discussion with its partner FICEM regarding a permanent collaboration for the Spanish webinar series.

DATE	NAME	SPEAKER(S)
26/01/2023	Panorama de la producción de cemento y concreto en América Latina y el Caribe con un enfoque en el objetivo de alcanzar la neutralidad de carbono (organised with FICEM)	Ricardo Pareja Soto Yury Villagran
24/05/2023	Desafíos y posibilidades para una Construcción Circular en el contexto Latinoamericano	Vanderley John Fernando Martirena

## EAC Courses in 2023

The pandemic is behind us and the PhD courses continued to have great success throughout 2023.

The traditional series of PhD courses before the RILEM Annual Week was in hybrid mode for the event in Vancouver, Canada this year.

On-site courses included the course series *Concrete Microscopy Course* in Delft and *LC3 Doctoral School* in Lausanne. We are happy to co-sponsor a new PhD course series “*Multi-scale Cracking of Concrete Materials*” that will be held in Leeds every two years.

DATE	NAME	ATTENDANCE MODE	CITY	COUNTRY	CONTACT NAME
06/02/2023	9 <sup>th</sup> LC3 Doctoral School*	ON-SITE	Lausanne	Switzerland	Karen Scrivener
15/05/2023	Chemistry of Cement and Concrete	ON-SITE	Toronto	Canada	Doug Hooton
06/06/2023	Concrete Microscopy Course (CMC)*	ON-SITE	Delft	The Netherlands	Iris Batterham
20/06/2023	Metamaterials for Heat Flux Manipulation and Energy Efficiency of Buildings	HYBRID	Genova	Italy	Antonio Caggiano
03/07/2023	Computational Methods for Building Physics and Construction Materials*	ONLINE	Darmstadt	Germany	Eddie Koenders
11/07/2023	International Summer School: Additively Manufactured Concrete Structures	ON-SITE	Anacapri	Italy	Freek Bos
04/09/2023	Advanced course on Modeling of Localized Inelastic Deformation	ON-SITE	Prague	Czech Republic	Milan Jirasek
02/10/2023	Multi-scale Modelling Course for Concrete (MMC2)	ON-SITE	San Sebastian	Spain	Iris Batterham
24/10/2023	Multi-scale Cracking of Concrete Materials	ONLINE	Leeds	United Kingdom	Michele W.T. Mak
27/11/2023	Corrosion Science & Corrosion Control for Infrastructure (CSC2I)*	ON-SITE	Delft	The Netherlands	Iris Batterham

\*These courses will give to the participants CPD credits issued by ICT

## RILEM Youth Council in EAC 2023

EAC continues to include RILEM Youth Council members Marie Josha Tapas (Pacific) and Magda Posani (Europe) during the Spring Convention and RILEM Annual Week meetings. Rouba Joumblat (Middle East and North Africa) as well as Aleksandr Surkov (former East Europe and Central Asia representative) attended the EAC meeting in person during the RILEM Spring Convention in Rabat, Morocco. The RILEM Youth Council peer-to-peer webinar series is on-going with 5 webinars in 2023. Marie Josha Tapas launched the Pacific webinar series in April 2023 (initiative approved by EAC in 2022) that attracted over 120 participants. Marie Joshua Tapas hosted a second webinar of the Pacific series on December 7<sup>th</sup>, 2023 that was equally successful.

## Educational Portal Online (EPON)

EAC launched the EPON project in October 2023 and the EPON page is live on the RILEM website.

[Educational Portal Online \(EPON\)](#) can be considered a "shop window", or a web portal for educational resources on RILEM-relevant topics including chemistry, concrete, testing, etc. Links to the various educational resources are provided, which include webinars, talks, courses, etc. This list will include recorded EAC PhD seminars. This portal is aligned with the EAC objectives of broadening the education of PhD students and the professional community through promotion of interesting and informative webinars, talks, courses, and other relevant material.



Organising Committee of SynerCrete conference in Milos, Greece, June 2023 © SynerCrete'23 Organising Committee



Session of SynerCrete conference in Milos, Greece, June 2023 © SynerCrete'23 Organising Committee



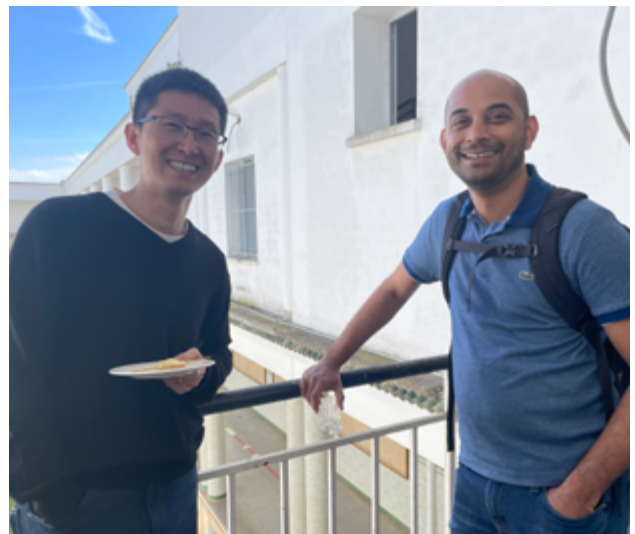
Ravindra Gettu, Slava Falikman, Kostantin Kovler, Lahcen Bahi (Mohammadia School of Engineers, Rabat )at Gala Dinner, RILEM Spring Convention in Rabat, Morocco, March 2023 © Daniela Ciano



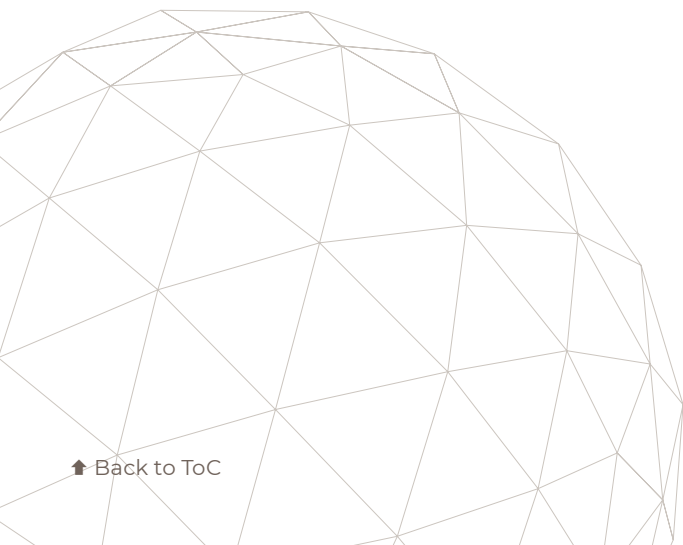
TC 299-TES meeting at SynerCrete conference in Milos, Greece, June 2023 © SynerCrete'23 Organising Committee



Organizing Committee RILEM Spring Convention in Rabat, Morocco, March 2023 © RSC-CMSS23



2023 Colonetti Medallist Guoqing Geng chats with 2023 L'Hermite Medallist Gaurav Sant during the RILEM Spring Convention in Rabat, Morocco, March 2023 © Daniela Ciano





# Publications

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Of utmost importance for RILEM is the dissemination of information. This is facilitated through different channels such as the flagship publication of RILEM, the journal *Materials and Structures*, the Open Access journal *RILEM Technical Letters*, conference proceedings, STAR reports, technical reports, and RILEM Recommendations.

## **Materials and Structures**

*Materials and Structures*, the flagship publication of RILEM, has continued to play a leading role in providing a unique interdisciplinary forum for high-quality cutting-edge research contributing to the understanding of materials and their role in structural applications. Our journal focuses on disseminating the research that are within the RILEM's key themes of Material Processing and Characterization; Transport and Deterioration Mechanisms; Structural Performance and Design; Service Life and Environmental Impact Assessment; Masonry, Timber and Cultural Heritage; and Bituminous Materials and Polymers. The lineup of our editorial board remained constant throughout the year 2023. We would like to extend our formal appreciation to both the previous and current members of the editorial board for their exceptional service and immense support provided to *Materials and Structures* in many diverse fields.

The editorial team has all worked hard to keep up the high publication standards set in previous years, despite facing various difficult global circumstances. Due to the dedicated service of the Associate Editors, more than 460 voluntary reviewers, and the whole editorial team, publication times have been consistent throughout 2023 at approximately six months from first submission to acceptance, and are expected to be further improved towards the end of this year. The average time from submission to the first decision is 40 days.

In terms of usage and reach, the journal has an increasing number of downloads, having more than 425,000 successful full-text article requests to date in 2023. Such usage demonstrates the quality of the journal and also the impact of social media that enables us to gain more attention for the publications in our journal. We would like to thank both Springer and RILEM members for their excellent contributions in promoting our publications through social media.

## Published articles and impact of the journal

Submission numbers observed across 2023 have gradually increased when compared to the past two years. From January to November 2023, the total number of submissions was approximately 1490, which is slightly higher than the corresponding period in 2022. The number of published papers is expected to increase slightly in coming years as we seek and implement strategic opportunities to grow the number of high-quality submissions we receive and publish, aligned with the RILEM vision to use *Materials and Structures* as a venue to highlight the best work of the organization and its members. This year, we are publishing ten issues in volume 56 (2023), with 180 articles as of November 2023. The acceptance rate for papers submitted in 2022 was approximately 11%, a slight decrease from the rate observed in 2021.

The ISI journal impact factor (IF) was 3.8 in 2022, which is a very good value for a journal in the engineering field. In the Scimago journal listings, the journal ranks 46/200 in Building and Construction (77<sup>th</sup> percentile), 92/350 in Civil and Structural Engineering (73<sup>rd</sup> percentile), and 105/391 in Mechanics of Materials (73<sup>rd</sup> percentile). A similar Citescore is observed in 2022 to the past year.

However, as a metric that is maybe more relevant to the RILEM community, the number of uncited documents has significantly decreased. This statistic shows that only very few of the publications in *Materials and Structures* go unnoticed, and it is a very good sign of the development of the journal.

The list of “Most cited” articles in our journal has a good balance between all of the main topics covered within the RILEM scope, and RILEM TC outputs (papers and Recommendations) feature particularly strongly in both the “Most cited” and “Most downloaded” ranking for the journal.

## A platform for dissemination of the RILEM TCs work

As in previous years, *Materials and Structures* has continued to be an important platform for the dissemination of the outcomes of RILEM Technical Committees. In the issues in 2023 so far, 11 RILEM TC reports (1 from TC 243-SGM, 1 from TC 281-CCC, 1 from TC 292-MCC, 3 from TC 277-LHS, 3 from TC 266-MRP, and 2 from TC 282-CCL) have been published, together with 3 RILEM recommendations (one each from TC 271-ASC, TC 281-CCC, and TC 256-SPF). We anticipate further growth in this area during 2023, as there are already a number of excellent TC publications in the pipeline, and we encourage all TC chairs and members to target *Materials and Structures* as a primary venue in which your important work can and should be published. To facilitate the dissemination of TCs’ work, the introduction of Topical Collections within *Materials and Structures*, has worked well in allowing the grouping of the outputs from a TC in one place independent of their publication date. Up to now, we have six topical collections:

- ▶ TC 258-AAA Recommendations for Avoiding Alkali Aggregate Reactions in Concrete – Performance Based Concept,
- ▶ TC 265-TDK Development and assessment of a RILEM Recommendation: Testing methods for determination of the double-K criterion for crack propagation in concrete,
- ▶ TC 281-CCC Carbonation of concrete with supplementary cementitious materials,
- ▶ TC 282-CCL Calcined clays as supplementary cementitious materials,
- ▶ RILEM TC 266-MRP - Round-Robin Rheological Tests on high performance mortar and concrete with adapted rheology (Bethune, France, 2018),
- ▶ TC 267-TRM Development and validation of tests for measuring the reactivity of supplementary cementitious materials.

The Topical Collections have been very successful, and have gained significant interest amongst the RILEM TCs to collectively publish and group their high-quality research in one place.

### Outstanding Papers and Best Reviewer awards

As in previous years, the Editorial Board awarded the authors of the most scientifically interesting and innovative papers with ten Outstanding Paper Awards for the best papers published in 2023. Another important RILEM Award related to the journal is the Best Reviewer Award, granted annually by the Editorial Board to our best volunteer reviewers, who guarantee the high scientific quality of the published articles via a timely and rigorous review process.

## Materials and Structures Best Reviewers 2023

- |  |  |
|--|--|
| ▶ <b>Mike J. McCarthy</b><br>Dundee University, <i>United Kingdom</i>        | ▶ <b>Didier Snoeck</b><br>Université Libre de Bruxelles, <i>Belgium</i>          |
| ▶ <b>Lennart Elfgren</b><br>Luleå University of Technology,<br><i>Sweden</i> | ▶ <b>Qiang Zeng</b><br>Zhejiang University, <i>China</i>                         |
| ▶ <b>Miomir Miljković</b><br>University of Niš, <i>Serbia</i>                | ▶ <b>Stephane Multon</b><br>LMDC, University of Toulouse, <i>France</i>          |
| ▶ <b>Ali Akbarpour</b><br>The University of Oklahoma, <i>USA</i>             | ▶ <b>Ilda Tole</b><br>Luleå University of Technology,<br><i>Sweden</i>           |
| ▶ <b>Augusto Cannone Falchetto</b><br>Aalto University, <i>Finland</i>       | ▶ <b>Inka Mai</b><br>TU Berlin: Technische Universität<br>Berlin, <i>Germany</i> |

## List of the Outstanding Papers 2023

- ▶ **Automatic generation of high-fidelity representative volume elements and computational homogenization for the determination of thermal conductivity in foamed concretes**, Víctor D. Fachinotti, Ignacio Peralta, Sebastián Toro, Bruno A. Storti & Antonio Caggiano
- ▶ **Investigation of unaged and long-term aged bio-based asphalt mixtures containing lignin according to the VECD theory**, Elena Gaudenzi, Lorenzo Paolo Ingrassia, Fabrizio Cardone, Xiaohu Lu & Francesco Canestrari
- ▶ **Impact of hydration stoppage on quantification of the GGBS content in ternary limestone cements using the PONKCS method**, Samuel Adu-Amankwah, Maciej Zajac, Pengkun Hou & Leon Black
- ▶ **Does carbon footprint reduction impair mechanical properties and service life of concrete?**, Kiran Ram, Marijana Serdar, Diana Londono-Zuluaga & Karen Scrivener
- ▶ **Effect of matrix self-healing on the bond-slip behavior of micro steel fibers in ultra-high-performance concrete**, Salam Al-Obaidi, Shan He, Erik Schlangen & Liberato Ferrara
- ▶ **Experimental and numerical evaluation of the compressive and shear behavior of unstabilized rammed earth**, Fernando Ávila, Mario Fagone, Rafael Gallego, Esther Puertas & Giovanna Ranocchiai
- ▶ **A removable use of FRP for the confinement of heritage masonry columns**, Francesco Micelli, Alessio Cascardi & Maria Antonietta Aiello
- ▶ **In situ visualization of water transport in cement mortar with an ultra-low w/b ratio under the coupling conditions of osmotic pressure, confining pressure, and temperature**, Zhiyong Liu, Yuncheng Wang, Meng Wu, Xizhi Xia, Yunsheng Zhang & Jinyang Jiang
- ▶ **Standardisation of low clinker cements containing calcined clay and limestone: a review by RILEM TC-282 CCL**, Fragkoulis Kanavaris, Manuel Vieira, Shashank Bishnoi, Zengfeng Zhao, William Wilson, Arezki Tagnit Hamou, Francois Avet, Arnaud Castel, Franco Zunino, Talakokula Visalakshi, Fernando Martirena, Susan A. Bernal, Maria C. G. Juenger & Kyle Riding
- ▶ **RILEM TC 277-LHS report: How hot are hot-lime-mixed mortars? A review**, S. Pavia, R. Veiga, J. Hughes, G. Pesce, J. Valek, J. I. Alvarez, P. Faria & A. Padovnik



## RILEM Technical Letters

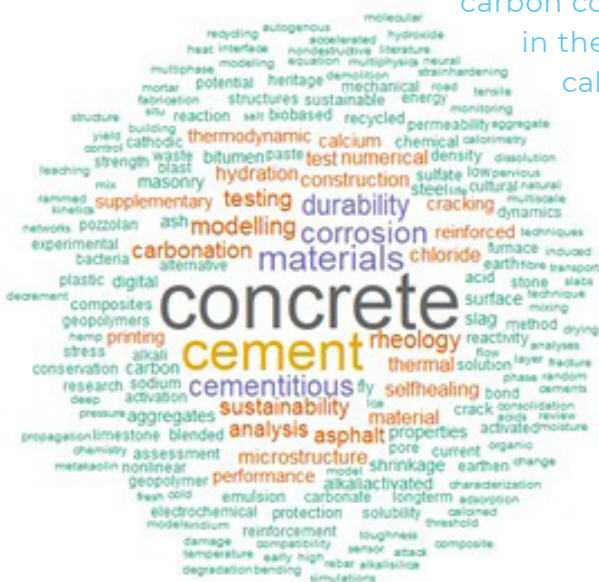
The 8<sup>th</sup> volume of the journal has been opened in 2023. *RILEM Technical Letters* continues to belong to the best quartile (Q1) of journals according to the SCImago Journal Rank indicator in the fields of Engineering, Materials Science and Building and Construction.

With over 2700 citations in total (counting only sources indexed in Scopus), the articles have been cited on average 18 times per article (median 7 citations per article). We are also happy to see a continuous growth in the citations – every year more and more of our papers are cited, in 2023 the journal was cited about 670 times. The most cited articles were devoted to the topics of digital concrete, geopolymers, supplementary cementitious materials, cement chemistry, durability and corrosion. The open access policy and excellent quality of the published articles translate also to a high number of downloads – November 2023 saw a record number of downloads, over 7000 in that month. The most downloaded papers represent the same topics as those most cited.

The journal welcomes different contributions. We continue publishing our flagship articles: high standard short papers providing an overview of the most relevant current or emerging topics or pending research needs authored by renowned experts in the field. In addition to syntheses/highlights from the works of RILEM Technical Committees (TCs), we now invite new contribution from the TCs: the mission statement and research needs by the newly created TCs and synthesis papers by the closing TCs. Also, new line of papers related to prominent RILEM conferences is envisaged: in addition to the awarded papers that can be extended to become the journal papers, we invite topical summaries from the conference chair or scientific committee. As each year, the journal also welcomes the papers from the RILEM Colonnetti medallists: in 2023 we published two papers: from Dr Franco Zunino ([A two-fold strategy towards low-carbon concrete](#)) and Dr Guoqing Geng ([The missing link in the bottom-up theory of mechanical properties of calcium silicate hydrate](#)).

RILEM members are welcome to propose their prospective papers by sending the short abstract to the editor-in-chief, Prof. Alexandra Bertron, or to the members of the editorial board. Upon acceptance of the topic, the authors will be invited to submit their full paper.

Together with the editorial team we are happy to welcome you at [letters.rilem.net](https://letters.rilem.net).



## Proceedings, STARs & Recommendations

Besides the two journals, RILEM also publishes proceedings, state-of-the-art reports (STAR), and recommendations. 2023 has been a successful year in this respect, with ten proceedings, two STARs and four Recommendations.

### Proceedings published by RILEM Publications in 2023

- ▶ PRO 137 - V International Conference on Progress of Recycling in the Built Environment, 10-12 October 2023, Weimar, Germany; Eds. Ines Döring, Yury Villagrán Zaccardi, Anette Müller

### Proceedings published by Springer in 2023

- ▶ Strain Hardening Cementitious Composites - SHCC5; Eds. Minoru Kunieda, Toshiyuki Kanakubo, Tetsushi Kanda, Koichi Kobayashi; Vol. 39
- ▶ Proceedings of the 75<sup>th</sup> RILEM Annual Week 2021 - Advances in Sustainable Construction Materials and Structures; Eds. J. Ivan Escalante-Garcia, Pedro Castro Borges, Alejandro Duran-Herrera; Vol. 40
- ▶ 3<sup>rd</sup> International Conference on Testing and Experimentation in Civil Engineering (TEST&E 2022) - From Current to Smart Technologies; Eds. Carlos Chastre, José Neves, Diogo Ribeiro, Fernando F. S. Pinho, Hugo Biscaia, Maria Graça Neves, Paulina Faria, Rui Micaelo; Vol. 41
- ▶ 6<sup>th</sup> Historic Mortars Conference (HMC2022) - Conservation and Restoration of Historic Mortars and Masonry Structures; Eds. Violeta Bokan Bosiljkov, Andreja Padovnik, Tilen Turk; Vol. 42
- ▶ International RILEM Conference on Synergising Expertise towards Sustainability and Robustness of Cement-based Materials and Concrete Structures, SynerCrete'23 - Volume 1; Eds. Agnieszka Jedrzejewska, Fragkoulis Kanavaris, Miguel Azenha, Farid Benboudjema, Dirk Schlicke; Vol. 43
- ▶ International RILEM Conference on Synergising Expertise towards Sustainability and Robustness of Cement-based Materials and Concrete Structures, SynerCrete'23 - Volume 2; Eds. Agnieszka Jedrzejewska, Fragkoulis Kanavaris, Miguel Azenha, Farid Benboudjema, Dirk Schlicke; Vol. 44
- ▶ 5<sup>th</sup> International Conference on Bio-Based Building Materials (ICBBM 2023); Eds. Sofiane Amziane, Ildiko Merta, Jonathan Page; Vol. 45
- ▶ 13<sup>th</sup> International Conference on Structural Analysis of Historical Constructions (SAHC2023) - Volume 2; Eds. Yohei Endo, Toshikazu Hanazato; Vol.46
- ▶ 13<sup>th</sup> International Conference on Structural Analysis of Historical Constructions (SAHC2023) - Volume 1; Eds. Yohei Endo, Toshikazu Hanazato; Vol.47

### STARs published in 2023

- ▶ Valorisation of Waste and Secondary Materials for Roads - State-of-the-Art Report of the RILEM Technical Committee 279-WMR; Edited by Augusto Cannone Falchetto, Lily Poulikakos, Emiliano Pasquini, Di Wang - Volume 38
- ▶ Measuring Rheological Properties of Cement-based Materials - State-of-the-Art Report of the RILEM Technical Committee 266-MRP; Edited by Mohammed Sonebi, Dimitri Feys - Volume 39

### Recommendation published in 2023

- ▶ Recommendation of RILEM TC 271-ASC: New accelerated test procedure for the assessment of resistance of natural stone and fired-clay brick units against salt crystallization, May 2023
- ▶ Recommendation of RILEM TC 281-CCC: Test method to determine the effect of uniaxial compression load and uniaxial tension load on concrete carbonation depth, July 2023
- ▶ Recommendation of RILEM TC 256-SPF on the method of testing concrete spalling due to fire: material screening test, October 2023
- ▶ Recommendation of RILEM TC 256-SPF on fire spalling assessment during standardised fire resistance tests: complementary guidance and requirements, December 2023



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# RILEM Honours and Awards

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## **RILEM annually awards the following recognised distinctions:**

### ► **Robert L'Hermite Medal:**

The medal is awarded to a researcher under the age of 40, who has made an exceptional scientific contribution to the field of construction materials and structures.

### ► **Gustavo Colonnetti Medal:**

Up to two Gustavo Colonnetti Medals are awarded to researchers under the age of 35, who have made an outstanding scientific contribution to the field of construction materials and structures.

### ► **RILEM PhD Travel Grant:**

Implemented in 2018 for the first time, this merit-based 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 of the RILEM membership fee is applicable.

## **RILEM 2023 Medallists**



### **2023 Robert L'Hermite Medallist**

**Prof. Gaurav Sant**

Dr Gaurav N. Sant is a Full Professor and the Pritzker Endowed Chair in Sustainability at the University of California, Los Angeles (UCLA), where he is Director of UCLA's Institute for Carbon Management. The Robert L'Hermite medal was awarded to Prof. Sant in recognition of his activity aimed at developing new technologies for carbon dioxide management and improving the service life of modern construction materials. In particular, he has played a significant role in development of carbonate-cemented composites and data-driven concrete optimization by application of machine learning. His remarkable research activity, testified by numerous indicators such as highly cited publications and patents, has reached beyond the borders of the academic community, leading to the creation of award-winning companies and industrial consortia. Moreover, he has also been active in communicating research results to legislators, to illustrate pathways for technological carbon management. In 2017, Prof. Sant received one of the Gustavo Colonnetti medals for his previous work on silicate dissolution in cementitious environments. Since then, his research activity has diversified and accelerated, bringing him to the leadership position in CO<sub>2</sub> management that is today acknowledged by the Robert L'Hermite Medal 2023.



Read more about the [interview](#) with Dr Gaurav N. Sant and watch his [presentation](#) on YouTube.



### 2023 G. Colonnetti Medallist

Dr Franco Zunino

His research is mainly aimed at further elucidating the mechanisms of hydration and sulphate balance of blended cements, with the aim of developing innovative solutions for low-carbon, high-performance concrete. Dr Zunino's studies have resulted in numerous publications in collaboration with research groups in different countries. The high impact of his research results, testified by an impressive number of awards and prizes, has recently secured him a prestigious grant, thanks to which he will further pursue the route to "ultra-green concrete", by a combination of blended cements with optimized admixtures. Dr Zunino is also active in science dissemination through instructional videos and seminars, including the RILEM ROC&TOK series, and is involved in a panel of experts from the United Nations Environmental Protection Agency (UNEP).

Read more about the [interview](#) with Dr Franco Zunino and watch his [presentation](#) on YouTube.



### 2023 G. Colonnetti Medallist

Dr Guoqing Geng

Thanks to his international experience, Prof. Geng has developed a unique approach involving highly sophisticated techniques, such as synchrotron facilities, to investigate the morphological, physical and crystallochemical properties of cement-based materials at the nano and micrometer scales. His experimental results have provided a long-awaited validation of computational modelling aimed at defining the structure of C-S-H and C-A-S-H. The high level and high impact of his research activities have granted Prof. Geng important awards and recognitions. Prof. Geng is also active in training young talents and several members of his research group have received awards and achievements. In recognition of his involvement in the scientific community, Prof. Geng has recently been appointed as RILEM regional convener of East Asia.

Read more about the [interview](#) with Dr Guoqing Geng and watch his [presentation](#) on YouTube.

### 2023 PhD Travel Grant Awards

The PhD Travel Grant awards were granted to

- ▶ Karthikeyan Manickam, Indian Institute of Technology Madras, India
- ▶ Keerthi V T, Indian Institute of Technology Madras, India
- ▶ Ajeesh K, Indian Institute of Technology Palakkad, India
- ▶ Rocio Peralta Ring, Universidad Nacional del Sur, Argentina
- ▶ Hao Yu, College of Civil Engineering Hunan University, China

## 2023 Honorary Members



**Prof. Luis Juliàn Lima, Posthumous.** *UNNOBA, Argentina*

Has been awarded as a RILEM Honorary member in recognition of his exemplary leadership as Technical Advisory Committee expert and his dedication as Bureau member. He was equally rewarded as RILEM Fellow in 2015 for his continuous and dedicated effort to research and RILEM.



**Prof. Dr. Ir. Geert De Schutter.** *Ghent University, Belgium*

Has been awarded as a RILEM Honorary member in recognition of his exemplary leadership as Development Advisory Committee Chair and Outgoing Chair along with serving as the Deputy Chair and Chair of Technical Committees and Bureau member, as well as his active participation to several Technical Committees. He was equally awarded as RILEM Fellow in 2015 for his continuous and dedicated effort to research and RILEM, as well as for his active participation to several Technical Committees.

## 2023 Fellows



**Prof. Kefei LI.** *Tsinghua University, China*

This award serves as a tribute to Prof. Kefei LI as a RILEM Fellow! This recognition is a testament for his outstanding dedication as Technical Advisory Committee convener and expert, his role as Development Advisory Committee regional convener, his work as an Associate Editor of *Materials and Structures*, and his position as Technical Committee Chair. We also commend his active participation in several Technical Committees.



**Prof. Michael P. Wistuba.** *Technische Universität Braunschweig, Germany*

This award serves as a tribute to Prof. Michael P. Wistuba as a RILEM Fellow! This recognition is a testament for his outstanding dedication as Technical Advisory Committee convener and expert, as well as his active participation in several Technical Committees. We feel privileged to count him among our outstanding members.



**Prof. José Fernando Martirena Hernandez.** *Universidad Central de las Villas, Cuba*

This award serves as a tribute to Prof. José Fernando Martirena Hernandez as a RILEM Fellow! This recognition is a testament for his outstanding dedication and contributions to RILEM as Chair of Technical Committee, as a committed member of Educational Activities Committee, as well as for his active participation to several Technical Committees.



**Prof. Marco Di Prisco.** *Politenico di Milano, Italy*

This award serves as a tribute to Prof. Marco Di Prisco as a RILEM Fellow! This recognition is a testament for his outstanding dedication and contributions to RILEM as Development advisory committee expert, technical committee chair, as well as for his active participation to several Technical Committees.



**Prof. Giovanni Plizzari.** *University of Brescia, Italy*

This award serves as a tribute to Prof. Giovanni Plizzari as a RILEM Fellow! This recognition is a testament for his outstanding dedication and contributions to RILEM as Technical advisory committee expert and convener, deputy Editor in Chief of *Materials and Structures*, as well as for his active participation to several Technical Committees.



**Dr Dimitri Feys .** *Missouri University of Science and Technology, USA*

This award serves as a tribute to DR Dimitri Feys as a RILEM Fellow! This recognition is a testament for his outstanding dedication and contributions to RILEM as development advisory committee Regional Convener, TC Chair, TC Deputy Chair as well as for his active participation to several Technical Committees.

# International Partnerships

**R**ILEM has established several strategic partnership agreements with national and international organisations. These partnerships are very helpful for the exchange of organisational, technical, and educational information, and they promote an optimal spread of state-of-the-art information concerning construction and building materials all over the world. Several partnerships regularly result in joint technical activities, Webinars or publications. RILEM values its partners and the joint workshops and conferences.

## Four new partnerships were signed in 2023 with:

1. Feb 2023: The European Concrete Societies Network (ECSN)
2. Nov 2023: The Center of Excellence for Nonmetallic Building Materials (NEX), American Concrete Institute. See detail [page 14](#) (RILEM Worldwide / In NORTH AMERICA and the CARIBBEAN region)
3. Nov 2023 : The Canadian Society of Civil Engineering (CSCE)
4. Dec 2023: Swedish group in CIB/IABSE/RILEM (CIR)

Existing partnerships showed active involvement, in particular in Latin America (see detail [page 14](#) (RILEM Worldwide / In Latin America region)) and with the Institute of Concrete Technology (ICT), UK. For several years, participants to RILEM ROC& TOK Webinar related to cement and concrete have been offered CPD credits issued by ICT (CPD – Continues Professional Development). This arrangement is also extended to several RILEM courses in 2024 marked with an \*.

RILEM news are regularly shared with the following partners' Social media, bulletins, magazines or newsletters: NEX, ACI, CIA, ICJ, ALCONPAT, FICEM, AATH, EDA



# Corporate members



Belgian Road Research Centre  
Your partner for sustainable roads





# GLOBE

## The Global Consensus on Sustainability in the Built Environment - Recent news

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The Joint Committee on the GLOBE Consensus (GLOBE) is a committee dedicated to reducing Green House Gas (GHG) emissions from construction. GLOBE has been brought to life by six leading international construction engineering associations, responsible for technical guidelines, standards, innovation, research and education in construction at the international level for more than 50 years. They represent more than 150 nation states and 5000+ experts. Hence, the backbone of GLOBE is comprised by the knowledge represented by the associations with respect to the entire value chain of construction. This includes the expertise of material scientists, structural safety and resilience scientists, consulting engineers, contractors, owners and operators, experts in standards and codes, as well as policymakers. Between November 14 and 15, the Ordinary Meeting of the Joint Committee on the Globe Consensus was held at Bundesanstalt für Materialforschung und -prüfung (BAM) in Berlin, Germany.

It was opened with a public and online symposium on challenges and potentials for sustainable construction in Africa. Presentations were held by Wolfram Schmidt (BAM), Ian Minjire (Melanin Kapital), Patricienne Malengo Ngonga (Office Congolais de Contrôle), Uyanga Gankhuyag (UNDP/ACP-EU), Kolawole Olonade (University of Lagos), Bright Asante (BAM), Pheladi Tlhatlha (BAM), and Alice Titus Bakera (EPFL) focusing on materials specific potentials in Africa in conjunction with social, economic and environmental aspects.

The symposium was followed by two half days workshops focusing on reporting about activities within the last year and planning of future activities, respectively. The workshops were held in hybrid form with around 30 people attending in person, and approximately 20 people attending online.

In the first day's workshop the current GLOBE activities on CO<sub>2</sub> benchmarking were discussed and international activities in China, South Africa, and Senegal were presented along with the

perspectives of the American Concrete Institute (ACI). The second day's workshop started with a comprehensive report about the fib Special Activity Group on Sustainability followed by reports of the associations involved in GLOBE. After this the perspective of GlobalABC was reported and synergies were discussed, before technical presentations were given by Gang Liu (Tonji University) on building stock development, by Uyanga Gankhuyag (UNDP) on the EU-ACP Minerals Development Programme, by Cor Luiten (City of Rotterdam) on the developed Building Value Model, and by Boudewijn Piscaer (SUSTCON) on Game Changing in the Built Environment. After these presentations future activities were discussed.

The planned activities that need to be specified in the near future were framed around the topics coordination and collaboration with other initiatives, strategy development, benchmarking of CO<sub>2</sub> emissions from present practices in construction, construction materials standards, safety formats of structural design codes, guidelines for sustainable production of structural materials, guidelines on sustainable design concepts for buildings, guidelines on sustainable service life integrity management strategies, guidelines on material efficient design verification methods/techniques, sustainability optimised safety format for design and assessment codes, education/training, and dissemination

While in the final Board meeting processes for the election of a new presidency as well as the formal application for GLOBE events were discussed, the members of the two days workshop were given opportunity to visit the laboratories of BAM, led by Andreas Rogge, head of the department "Safety of Structures".



GLOBE, Lecture of Prof. Kolawole Olonade, UNILAG, Nigeria © BAM



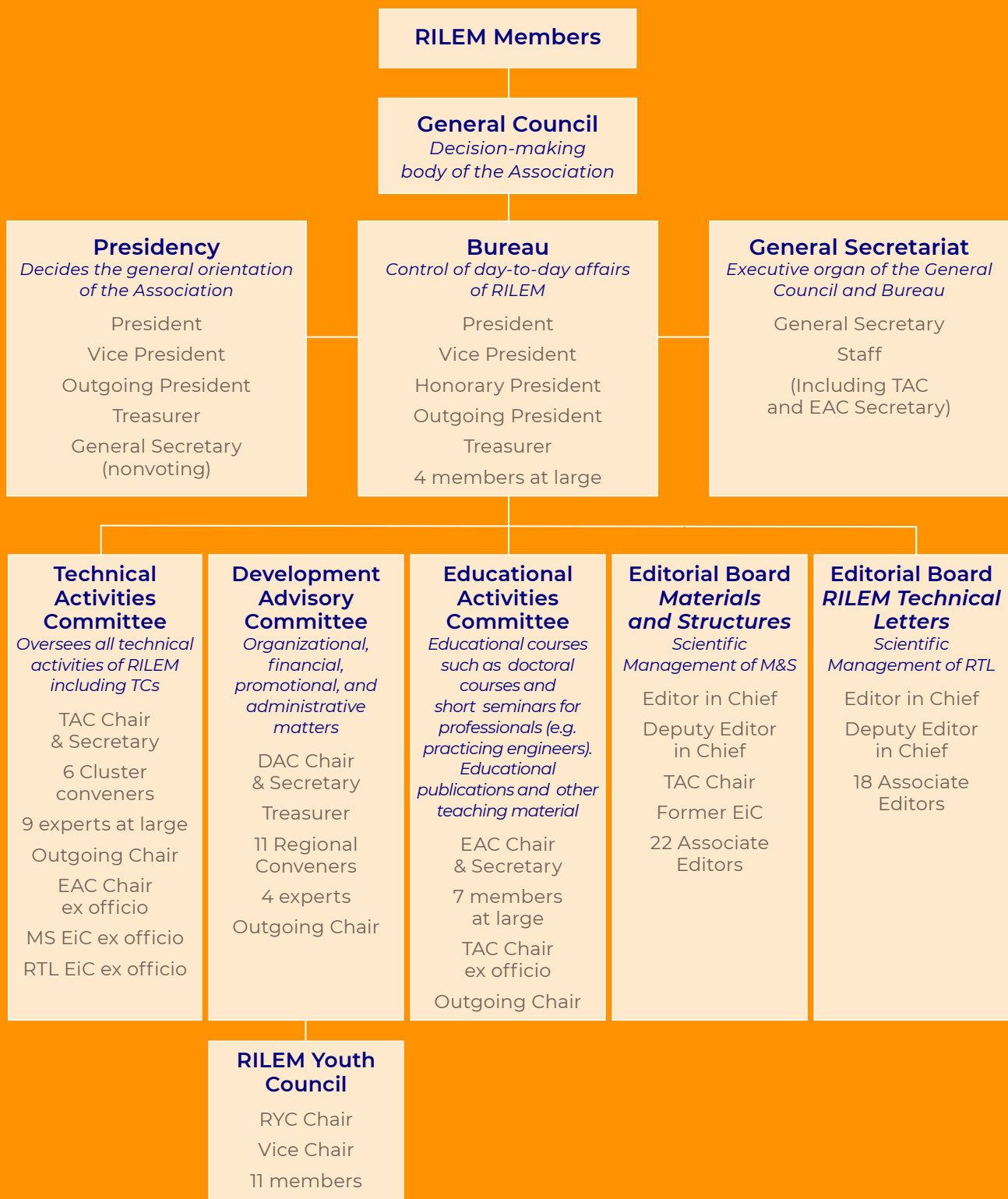
GLOBE Consensus on Sustainability in the Built Environment, Berlin, Germany November 2023 © BAM



GLOBE, Lab tour © BAM



# RILEM Organisation Chart



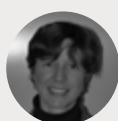
# RILEM Officers and staff

## BUREAU MEMBERS AND STANDING COMMITTEE CHAIRS



### President

Dr Nicolas ROUSSEL, Université Gustave Eiffel, FRANCE



### Vice President

Prof. Nele DE BELIE, Ghent University, BELGIUM



### Outgoing President

Dr Ravindra GETTU, IIT Madras, INDIA



### Honorary President for 2023

Prof. Nemkumar BANTHIA, University of British Columbia, CANADA



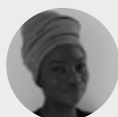
### Treasurer

Dr Sofiane AMZIANE, Polytech' Clermont, FRANCE

### Bureau members



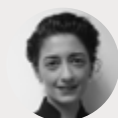
Prof. Eshan DAVE, University of New Hampshire, USA



Ms Joanitta NABADDA NDAWULA, University of Cape Town, SOUTH AFRICA



Prof. Ippei MARUYAMA, Nagoya University, JAPAN



Prof. Daman K. PANESAR, University of Toronto, CANADA

## Technical Activities Committee



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# Upcoming major events

in 2024 and beyond



## **7<sup>th</sup> RILEM Spring Convention & Conference on Advanced Construction Materials and Processes for a Carbon Neutral Society, 7-12 April 2024, Milano, Italy**

The [event](#) will be held at Palazzo Mezzanotte, also known as Palazzo delle Borse ("Stock Exchange Palace").

## **78<sup>th</sup> RILEM Annual Week & RILEM International Conference on Sustainable Materials & Structures: Meeting the major challenges of the 21<sup>st</sup> century - SMS 2024, 25-30 August 2024, Toulouse, France**

The [78<sup>th</sup> RILEM Annual Week](#) will be held in conjunction with the RILEM International Conference on Sustainable Materials & Structures: Meeting the major challenges of the 21<sup>st</sup> century - SMS 2024 on 25-30 August 2024 in Toulouse, France.

### **Future RILEM Events**

YEAR	SPRING CONVENTIONS	ANNUAL WEEKS
2025	<b>Mendrisio, Switzerland</b> <i>Christian Paglia</i>	<b>Hanoi, Vietnam</b> <i>Tuan Nguyen Vanand</i>
2026	<b>Ghent, Belgium</b> <i>Nele De Belie &amp; Geert De Schutter</i>	<b>Nairobi, Kenya</b> <i>Wolfram Schmidt</i>

*RILEM would like to thank all contributors who made this 2023 Annual Report possible.*

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