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

# 2020

# Annual Report

rilem

# About RILEM

**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** and become a member.

### Membership benefits include

- 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 & Structures* and in RILEM *Technical Letters*

### Individual fees in 2021

| | | | |
|---|---|---|---|
| Young Member | € 25 | Retired Member | € 75 |
| Senior Member | € 375 | | |

### Corporate fees in 2021

| | | | |
|---|---|---|---|
| Institutional Member | € 2 205 | Industrial Member | € 4 050 |
| Associate Member | € 1 165 | | |

Note that special discounts of 40% up to 60% on the membership fees apply depending on your country of residence. Please consult the website **membership.rilem.net** for all details.

# Editorial

by RILEM Presidency

We bring you the Annual Report of what has been a very special year, 2020. The manner of conducting meetings, courses and conferences changed drastically during the year, due to restrictions, fears and precautions that arose from the Covid-19 pandemic. Everything went online; discussions, presentations and classes have been conducted through the internet, not in-person. The "new normal" was adopted by all to keep the interactions going, to maintain progress in research and to continue the dissemination of results. RILEM had to change the way it does business, literally overnight during the RILEM Convention in Portugal programmed from 9-13 March 2020. The organizing team, headed by the calm and composed Eduardo Pereira, had to tone down the in-person participation in the sessions and meetings, and facilitate presentations and interactions with many being in remote locations. The few who could attend in-person were treated to the beautiful sights of the historic city of Guimarães and the exquisite cuisine of Portugal.

The improvised but thorough arrangements in the RILEM Convention, which turned out to be hybrid avant la lettre, however, enabled the RILEM meetings to be held and all the presentations to go on as expected. The excellent support of the RILEM staffers, Judith Hardy and Fanta Sylla, was crucial in ensuring that the internet behaved itself. The highlights of the conference were the lectures of the two Gustavo Colonnetti medallists, Mija H. Hubler and Branko Šavija, and those of several keynote speakers.

The 74th RILEM Week "in" Sheffield, UK, went completely online from 13 August to 4 September 2020. John Provis and his team did an excellent job to make this unique event a great success. The conference presentations were made from different parts of the world, and by a lot of young speakers, who may not have been able to attend if it had not been online. This and other workshops have shown the huge benefits of going online – more young participants, more diversity, lower costs. Along with talks from TC Chairs and many other

*Nicolas Roussel, Ravindra Gettu, Johan Vyncke* © Daniela Ciancio

experts, the conference had a plenary lecture by the 2020 Robert L'Hermite Medallist, Tung Chai (Bill) Ling, of Hunan University (China), for his work on low-embodied-energy construction materials. Yet the desire for person-to-person interaction increased as the pandemic propagated.

The 2020 General Council approved Pedro Castro Borges as the Honorary President for 2021 and Nicolas Roussel as the President-elect of RILEM. Pedro, along with Alejandro Durán-Herrera and Ivan Escalante, will organize the upcoming 75th RILEM Week in Merida (Mexico). There have been some changes in the standing committees of RILEM, with Ippei Maruyama and Daman Panesar joining the Bureau, Sungchul Bae becoming the Regional Convener for East Asia in DAC, and Michael Wistuba and Hassan Baaj being appointed experts in TAC. The EAC changed its composition substantially with Pan Feng, Radhakrishna G Pillai, Marijuana Serdar and Prannoy Suraneni becoming the new members. The services of the outgoing members of the various committees are gratefully appreciated.

The RILEM Technical Committees, about 40, have been active despite the challenges posed by the lockdowns and travel restrictions. There were 7 new TCs formed in 2020, and 4 others completed their missions successfully. As can be expected, RILEM members readily took to the online mode for conducting courses, with 10 such events spanning a range of topics and focus regions.

Pietro Lura presented the annual accounts to the General Council for the first time as Treasurer. The finances have been kept healthy by the growing membership, which surpassed 1700 in 2020, and by the royalties paid by Springer Nature for *Materials and Structures*. France continues to be the country with the most RILEM members while the membership has increased substantially in Asia and North America. Very importantly, we are getting more and more young members, which is a wonderful trend that predicts a bright

future for the association. RILEM established new partnerships with several international entities, in 2020, including Institute of Concrete Technology, UK; European Demolition Association; European Association for Construction Repair, Reinforcement and Protection; and the Association of Structural Concrete, Russia; in addition to renewing other active collaborations.

Both our journals are reaching greater heights, with *Materials and Structures* publishing about 150 papers in 2020 and RILEM Technical Letters completing 4 volumes. M&S had an impact factor of 2.9 and was ranked in the top quartile of Civil Engineering journals, here Anne Griffoin has done a fantastic job to have our publishing branch stronger than ever. RTL has now been listed in the renowned Scopus database, which is a strong recognition of the efforts of the editors and their teams to make this young journal a leader in our field. It is heartening to note that papers from the first 4 volumes of RTL have been downloaded, on average, more than 1000 times each. This asserts the need to disseminate knowledge through free open access, something that RILEM has always endorsed. A citation index for RTL will soon be available.

The RILEM Youth Council (RYC) was formed after its formal approval at the Annual Week meetings. It has about a dozen members representing different regions. The RYC is tasked with attracting, involving and motivating young RILEM members, increasing awareness about RILEM events and courses, and spearheading the showcasing of the achievements of RILEM Youth. We look forward to them promoting RILEM on the internet and social media, as well.

The newly-branded RILEM Online Conferences & Transfer of Knowledge (ROC&TOK) Series with webinars and online events has become a resounding success. Many of the lectures are now on the RILEM YouTube Channel – more than 130, attracting more than 2000 subscribers and 45 000 views. Thanks to Anne Griffoin for managing this, the revamped website and all other publications of RILEM.

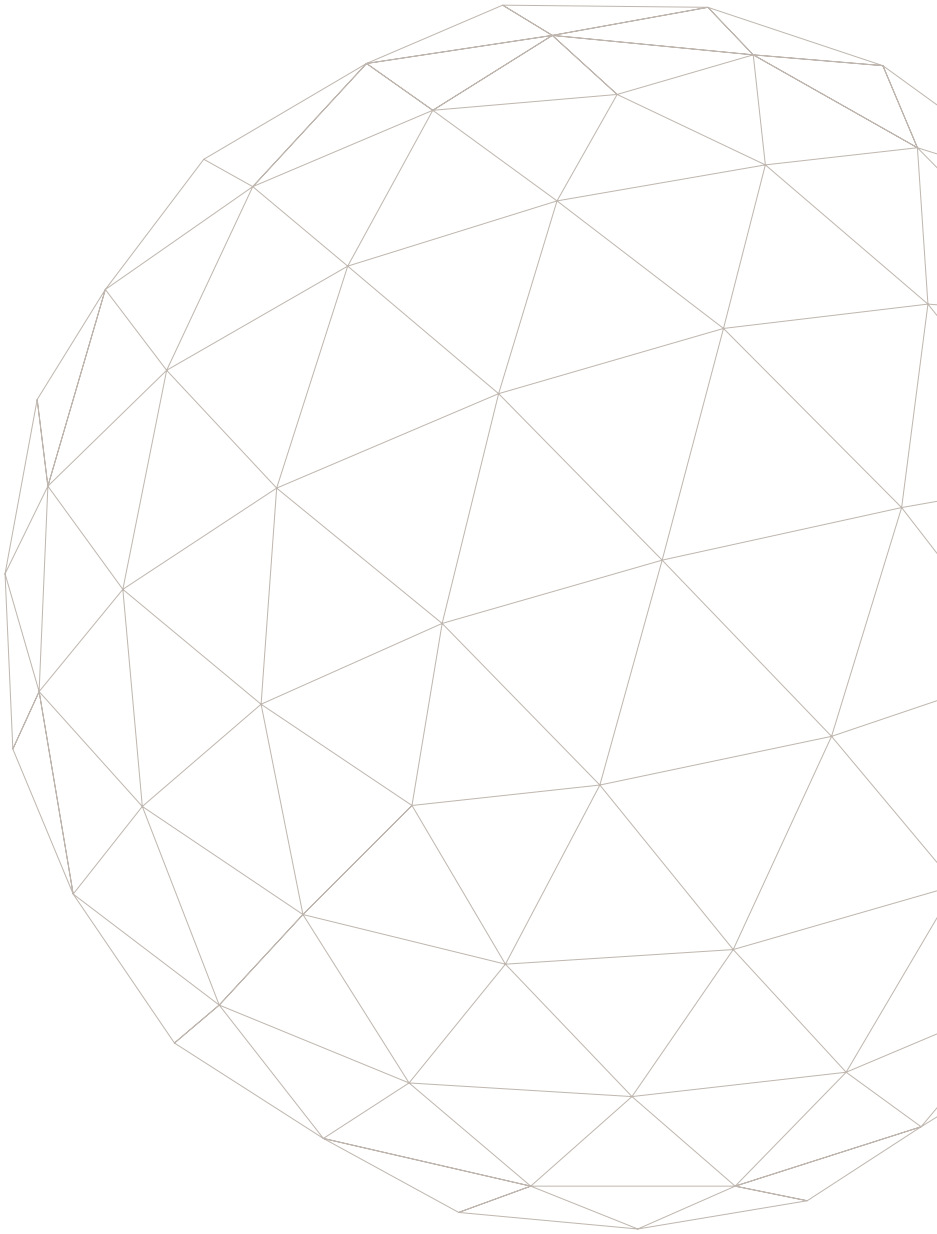
The outreach through the Bits&Bobs newsletters (sent to about 11,000 registered readers) and social media posts has improved the connectivity among RILEM members and the scientific community noticeably. Daniela Ciancio, who manages this, along with the STARs in a Nutshell series, has also been marvellous in linking up with young researchers and the industry. I am sure that she is looking forward to hosting more pizza nights for the young members and interviewing RILEM celebrities, as soon as possible.

The year 2020 has challenged all of us to keep doing what we love most and not give up on social interactions though the circumstances have been disturbing, to put it mildly. The fact that the RILEM Family has been maintained in close (virtual) contact, throughout this ordeal,

is largely due to the efforts of the staff at RILEM, who like each and everyone of the members have been affected in one way or more by this pandemic. We are indebted to Judith, Anne, Fanta and Daniela for their dedication, enthusiasm and patience.

We expect that all RILEM members will continue to keep well in health and spirits, and we look forward to seeing all of you in Merida during the 75th RILEM Week.

**Ravindra, Nicolas and Johan**



# Table of Contents

# 2020 Key Metrics

## Membership

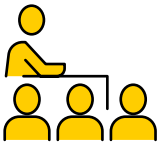
**1,839 members**
(1738 individual and 101 corporate)

**81 countries**

## Activities

**39 Technical Committees**

## Co-sponsorship



**10 courses**

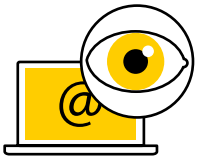
**18 events**

## Publications

**1 State-of-the-Art report**

**7 proceedings**

# Website



**98,678 viewers**
**+27%**

**420,341 pages views**
**+29%**

**Top 3 countries**

United States
India
China

# Social Media

**1,247 followers**
**+35%**

**Top 3 countries**

India
Brazil
Italy

**3,133 followers**
**+87%**

**Top 3 countries**

France
The Netherlands
Switzerland

**1,727 followers**
**+554%**

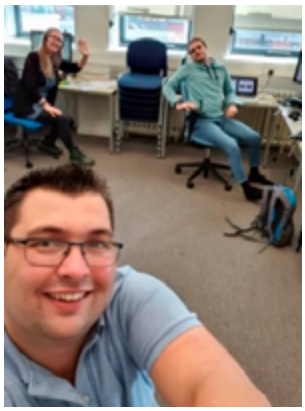
**Top 3 countries**

India
Japan
Italy

**318 followers**
Created in September 2019

# 74th RILEM Annual Week
## and Concrete Science Conference
## Sheffield, UK, 31 August – 4 September 2020

This is not yet another report of one of the many successful RILEM events. This is the report of "THE" RILEM event that has made history for its unique feature: the first fully-online RILEM Annual Week! It was a tough decision to turn the 74th RILEM Annual Week and 40th Cement and Concrete Science Conference from an "in-person" to a "virtual" conference. At the RILEM Bureau meeting "in" Guimaraes in March 2020, the organisers were still contemplating the possibility of not changing anything and proceeding with the in-person gathering as announced earlier (Sept 2019). However, this nasty pandemic took its toll on the world forcing the organisers "to move the conference and all associated committee meetings to an online format".
The conference team, headed by Prof. John Provis, worked relentlessly (i.e., 240 hours/person in the 3 weeks before the kick-off, just to mention a figure) to ensure a smooth event and provide the best possible experience for all participants. This meant scheduling 119 presentations and managing 320 delegates connecting from different parts of the world in time zones that spanned from GMT+12 (New Zealand) to GMT-9 (Oregon, US).



It also meant coordinating around 90 poster flash-presentations (4-min. long) that led to two awards, one given to the best poster in the "cement topics" category and one in the "topics other than cement" category. Congratulations to Natalia Pires Martins, ETH Zurich, and her winning poster titled "CSA cement synthesis from sulfidic mine tailings" and Magdalena Rajczakoska, Luleå Tech. U., and her winning poster titled "Improved self-healing blended mortars".
The event saw over 40 people attending most of the parallel sessions and more than 160 online attendants for the plenaries and keynotes. Delegates attending a session were able to ask questions at the end of each speech. Each presentation was pre-recorded to avoid possible connectivity problems but the presenters were always online during the session. Delegates had the opportunity to continue the chat with the presenters in special virtual reality rooms designed for this purpose, when the session ran out of time for Q&A.

*Some members of the conference team that coordinated and managed all virtual sessions before and during the event.*
©Dan Geddes.

The full-session recordings are available to all delegates. They will be password protected. Individual presentations are also offered on the RILEM YouTube channel, provided that the speaker has given her/his consent to make the video accessible. Amongst these videos, it might be worth mentioning that of the 2020 Robert L'Hermite medallist, Prof. Tung Chai Ling, titled "Development in the active use of CO2 in wastes and cement for sustainable construction products" and that of Prof. Michael Havbro Faber about the recent RILEM initiative GLOBE: "The GLOBE consensus on sustainability in the built environment".

*Shot screen of one of the Mozilla Hubs poster rooms, were all the poster were exposed and the authors available at certain time slots allocated to them to chat with the conference delegates. A real virtual-reality experience!* ©Dan Geddes.

At the conference, the following RILEM TCs, close to terminating their activities or nearly closing, presented their work:

- 256-SPF Spalling of concrete due to fire: Testing and modelling
- 258-AAA Avoiding Alkali Aggregate Reactions in concrete – Performance based concept
- 262-SCI Characteristics of the steel/concrete interface and their effect on initiation of chlorideinduced reinforcement corrosion
- 261-CCF Creep behavior in cracked sections of fiber reinforced concrete
- 264-RAP Asphalt pavement recycling
- 259-ISR Prognosis of deterioration and loss of serviceability in structures affected by alkali-silica reactions

The event was also the opportunity to give visibility to the research outcomes of some PhD young students from emerging economies, awardees of the 2020 RILEM PhD grants.

*Prof. John Provis, chairing the conference chair remotely under work-from-home conditions.* © John Provis.

Looking behind the scenes, did you know that the 3-year old son of Prof. Provis, "co-chaired" a plenary session? And that the conference email account was blocked for a couple of hours by Google by mistake on the day in which the conference kicked off? It is worth to mention the "aplomb" of Prof. Provis presenting at one of the RILEM Standing Committees only a few moments after he was notified about the (still unresolved at that moment) problem. His composure should be taken as example by everyone!

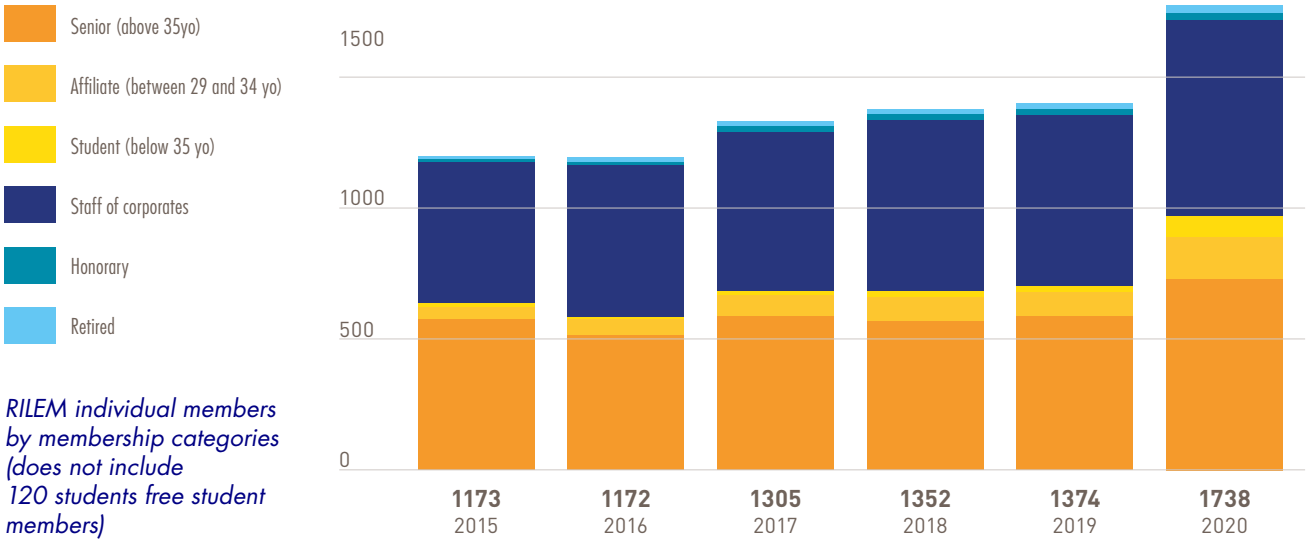
What are the reactions after the event? The general feeling is that a fully-online high-quality conference is possible. The warmth of the face-to-face chats at the coffee breaks was not there but the exchange of ideas and useful discussions with colleagues and peers were still guaranteed. From the organisers' point of view, the feedback is that pre-recorded lectures require a significant amount of work, especially if changes after the first submission are made but it is more than worth it as they ensure a tidy schedule... none of the sessions ran late "in" Sheffield!

The next RILEM Annual Week will be held in Mexico, in-person, we hope! Until then, stay safe and enjoy RILEM!

# RILEM Membership

## RILEM individual members

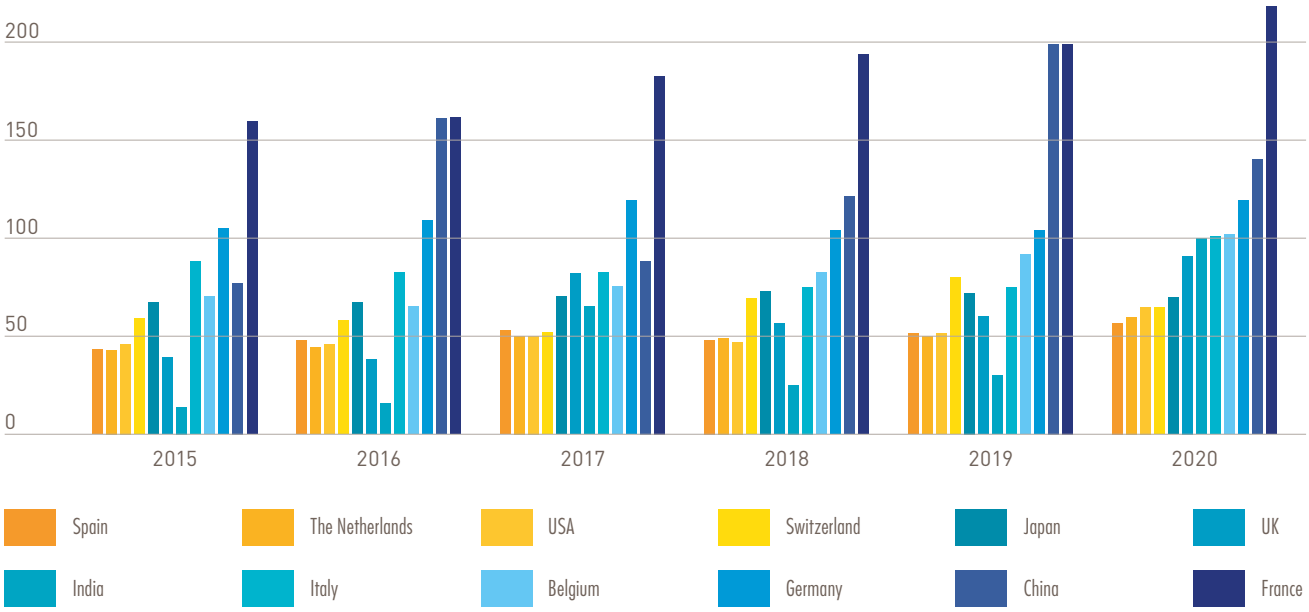
In 2020, the number of individual RILEM members continued to increase, following the trend of the last 5 years, from 1,173 members in 2015 to 1,738 members in 2020; and performing a significant leap forward between 2019 and 2020 of + 364 individual members, thanks in particular to the database cleaning and active response to candidates carried out by the secretariat.
Previous tendencies are confirmed, with the Senior (above 35 years) and Staff of Corporate Members categories representing 80% of the total individual membership total.




*RILEM individual members by membership categories (does not include 120 students free student members)*

## Countries most represented within RILEM members

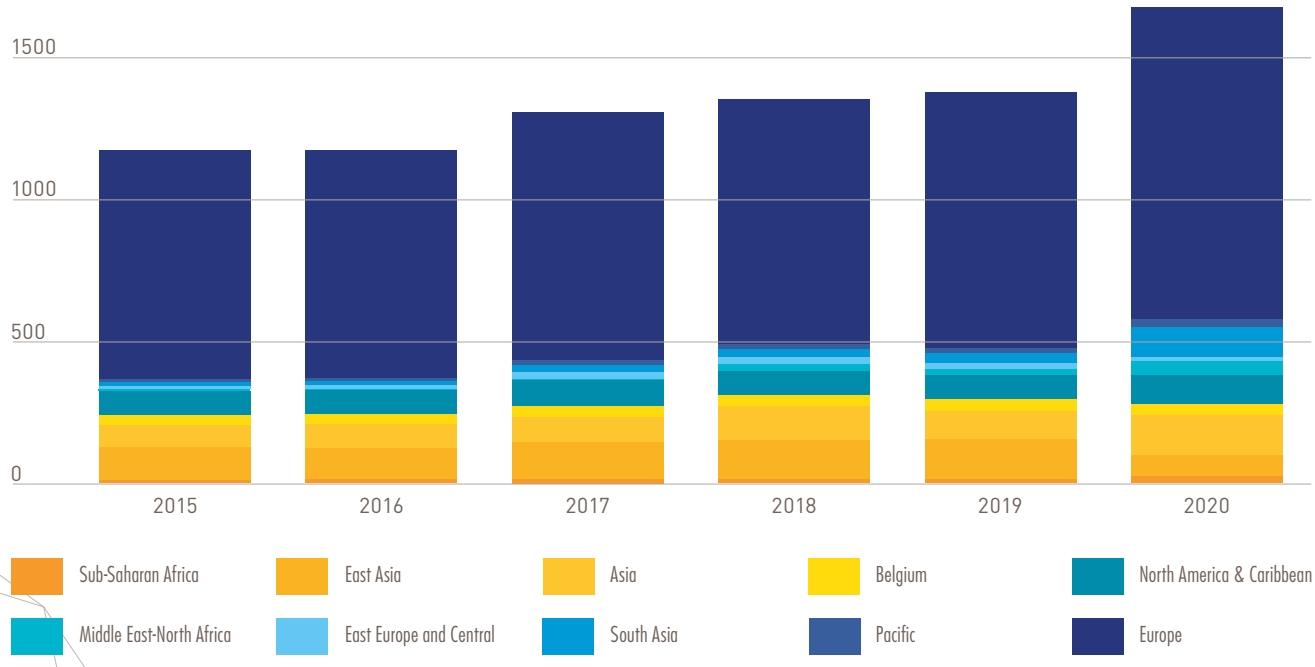
In 2020, France continued to be the country with the highest number of RILEM members (218), followed by the same group of countries as in previous years, showing a large dissemination of RILEM in Europe, but also in China and the United States. It is interesting to note that India has made a significant leap, increasing from 30 members in 2019 to 100 in 2020. This sharp increase can be attributed to the important work of the Regional convener Dr Radhakrishna G. Pillai and a new series of online Webinars launched by RILEM President, Dr Ravindra Gettu, which attracted many Indian researchers and students.




## RILEM members dissemination per region

Amongst the 10 geographical areas that RILEM established some years ago, Europe keeps the highest number of members (1093) and gained almost 200 new members in 2020, followed by China (140) which increased by 40 members - probably as a result of the 2019 Annual Week that had occurred in Nanjing. North America and South Asia have about 100 members each. The impressive growth in South Asia from 2019 to 2020 is due to specific actions, as explained in previous sections.

Most Regions have attracted new members, except for East Europe (-4) and East Asia where the number of members reduced (-66) mainly due to pending data cleaning.



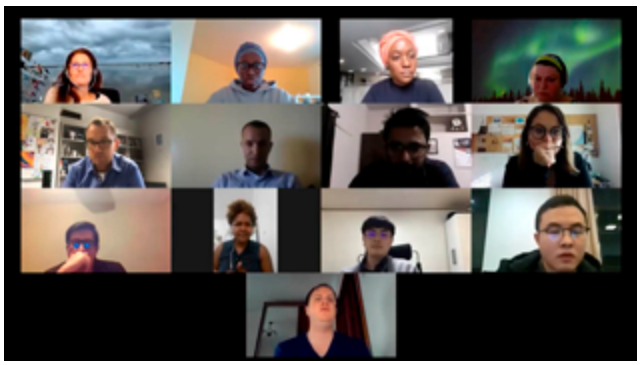
# Attracting and motivating young RILEM members

It is important to underline that following the RILEM Annual Week "in" Sheffield in September, Affiliate and Student memberships were merged into a single Young members category, in order to lower fees for all RILEM members below the age of 35, and to partly prevent the consequences of the COVID-19 impact on young members. Another action that was taken to attract more RILEM young members was the creation of the RILEM Youth Council (RYC). This Sub-committee of DAC is composed of 11 PhD young researchers, 10 nominated by the Regional conveners and one nominated by the DAC Chair. Their mandate lasts for 3 or 4 years. The RYC Chair and Vice-Chair will also attend DAC meetings.

The main tasks of the RYC are related to:

- Attracting, involving, and motivating young RILEM members.
- Encouraging their participation in TAC and EAC activities.
- Increasing their awareness on RILEM events and courses.
- Preparing young members for leadership positions.
- Showcasing / celebrating the achievements of the RILEM Youth.
- Creating networks between emerging researchers to increase visibility of / access to RILEM.

The first online meeting of the RYC took place on the 14th of December 2020.
The RYC aims to create the RILEM Youth Community Forum. This online facility for networking and information will allow emerging researchers to create a community, discuss ideas and obtain useful information from a worldwide group that works in similar fields. The forum also aims at giving young research students a platform to present their work to their peers and also to more senior RILEM members, which is believed to increase the visibility and relevance of their research.



*1st Zoom Meeting of the RYC*
©RILEM

RILEM has always been about making lifelong friends in an international network of researchers, as much as it is about developing and disseminating knowledge on construction material technology. In this spirit, the RILEM Youth Community aims at fully integrating young researchers in all of RILEM's activities.

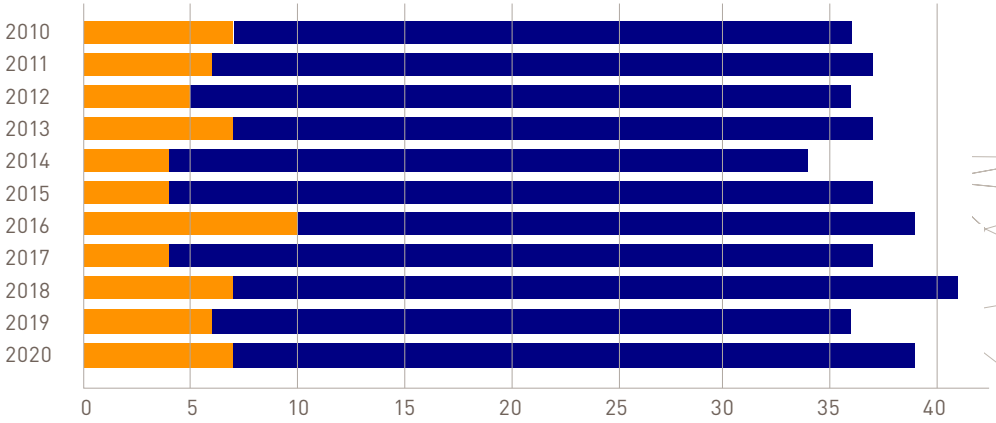
# Technical Committees

Within RILEM, Technical Committees are the heart of the organisation, and the backbone of action. They are highly dynamic and have a limited functioning life of five to seven years. Every year, several Technical Committees are closed after successfully reaching their goals, and new TCs are initiated. During the last decade, the number of active Technical Committees fluctuated around 35, and in 2020 this number reached 39 active committees.

**Technical Committees**

Number of active committees

Number of new committees per year




Every year, four to five new technical committees are created. The full list of active TCs and details about their work can be consulted at **tc.rilem.net**

## The following seven new committees were approved in 2020:

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

**ECS:** ***Assessment of electrochemical methods to study corrosion of steel in concrete,*** chaired by Sylvia Kessler

**Cluster B.** Transport and Deterioration Mechanisms (Convener: Josée Duchesne)

**DOC:** ***Degradation of organic coating materials and its relation to concrete durability,*** chaired by Takafumi Noguchi

**EBD:** ***Test methods to evaluate durability of blended cement pastes against deleterious ions,*** chaired by William Wilson

**Cluster D.** Service Life and Environmental Impact Assessment
(Convener: Alexandra Bertron)

**ARM:** ***Alkali-aggregate reaction mitigation,*** chaired by Esperanza Menendez Mendez

**ASR:** ***Risk assessment of concrete mixture designs with alkali-silica reactive (ASR) aggregates,*** chaired by Jason Ideker

**TES:** ***Thermal energy storage in cementitious composites,*** chaired by Jorge Dolado

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

**FBB:** ***Fingerprinting bituminous binders using physico-chemical analysis,*** chaired by Bernhard Hofko

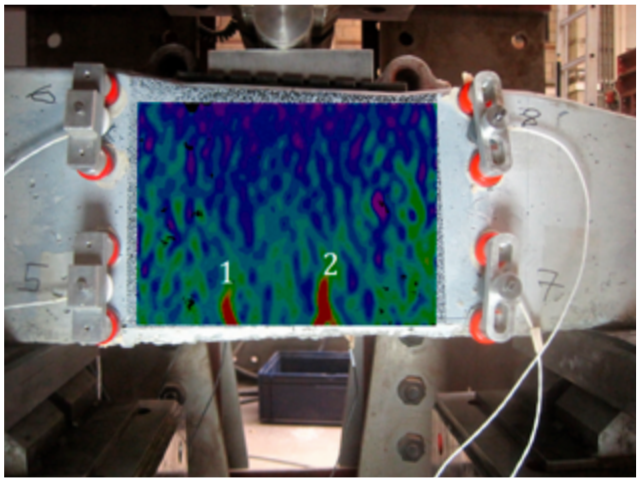
**We closed 4 Technical Committees in 2020 and these TCs have successfully terminated their mission by publishing recommendations and/or STARs:**

**TC 256-SPF** Spalling of concrete due to fire: testing and modelling, chaired by Pierre Pimienta
*STAR to be published in 2021*

**TC 258-AAA** Avoiding alkali aggregate reactions in concrete - Performance based concept, chaired by Børge Johannes Wigum
*Recommendations and STAR to be published in 2021*

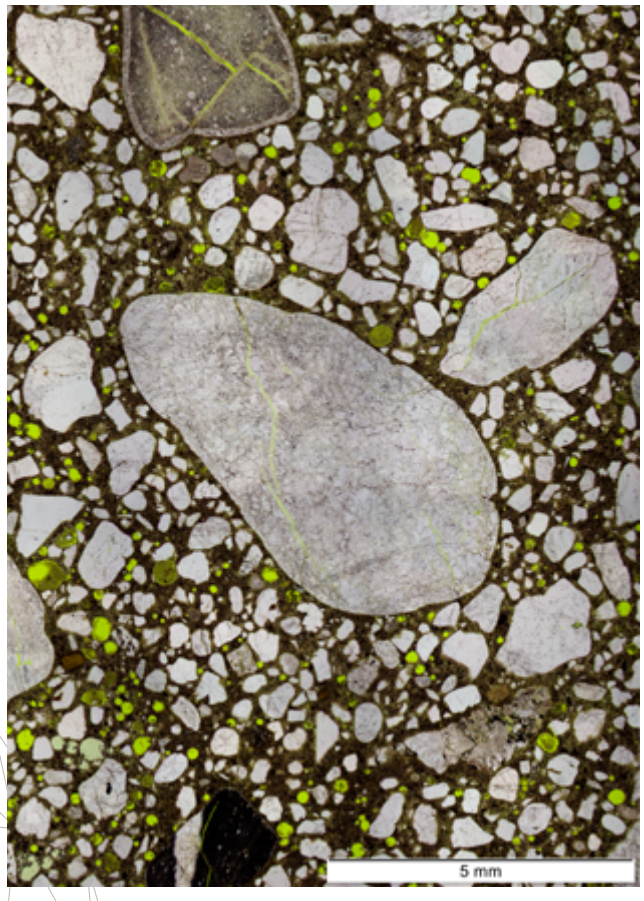
**TC 261-CCF** Creep behavior in Cracked Sections of Fiber Reinforced Concrete, chaired by Pedro Serna Ros
*Recommendation on Test method to determine the flexural creep of Fibre Reinforced Concrete in the cracked state and STAR to be published in 2021*

**TC SHE** Self-healing concrete – Its efficiency and evaluation, chaired by Feng Xing

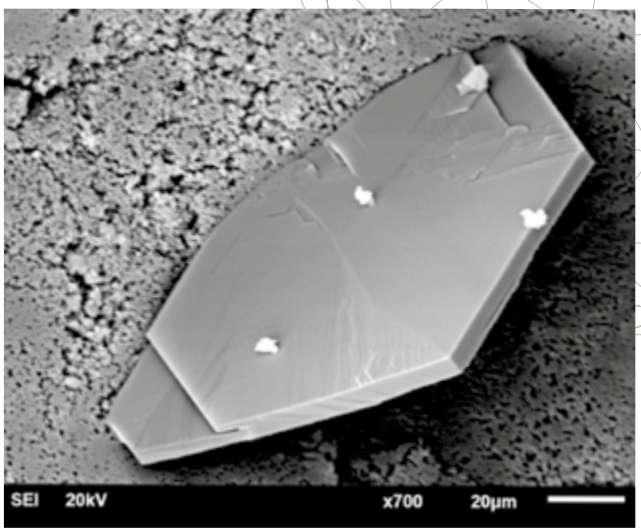



*Mechanical three point testing of railway sleeper with concurrent monitoring with four Acoustic Emission sensors and visualization of cracks by Digital Image Correlation* ©Department of Mechanics of Materials and Structures, Vrije Universiteit Brussel

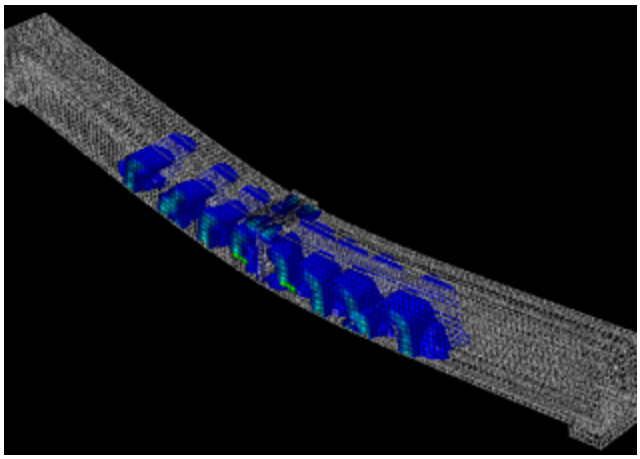
*TC 281-CCC meeting, Guimaraes, Portugal* ©TC 281-CCC



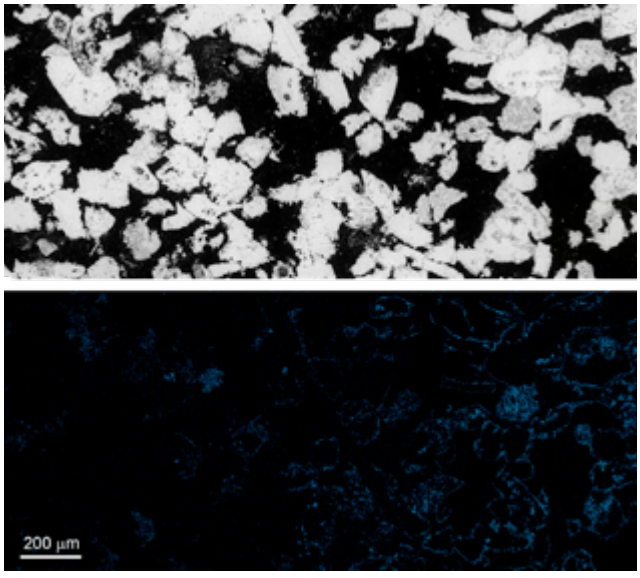

*Micrograph of concrete damaged by alkali-silica reaction* © Matthias Böhm




*Portlandite crystal in lime-based mortar under the Scanning Electron Microscope (SEM)* ©Ledra and Building Materials Laboratories, University of Cyprus



*Numerical analysis of robustness in reinforced concrete beams, Master Thesis by Halit Aslan. Supervisor Prof. J.P Ulfkjær and Prof. Johan Clausen Department of Civil and Architectural Engineering, Aarhus University School of Engineering, January 2020* ©Halit Aslan




*Cross-section of Maastricht limestone contaminated with sodium sulfate in scanning electron microscopy (above), highlighting the pore filling through EDS false-color mapping (below). Photo Davide Gulotta.* © 2020 J. Paul Getty Trust

*Calcined clay* ©TC 282-CCL

*LC3 mortar* ©TC 282-CCL

*Meeting* ©TC 282-CCL

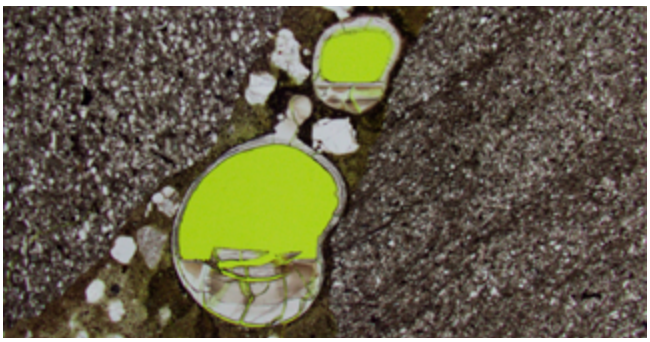
*LC3 cement* ©TC 282-CCL

*Calcined clay plant* ©TC 282-CCL

LC3 Pilot Plant ©TC 282-CCL

Clay quarry ©TC 282-CCL

*Outdoor exposure site for testing alkali-silica reaction in concrete* © VDZ



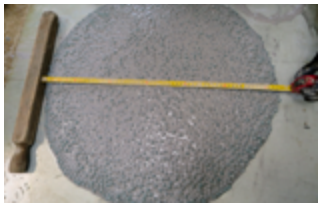
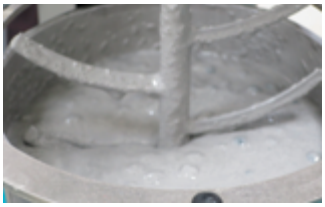
*Micrograph of concrete with air void filled with alkali-silica gel* © VDZ

*Measuring of outdoor exposed concrete cubes for testing alkali-silica reaction VDZ* © Julia Vogel for VDZ

*Concrete cubes in outdoor exposure site for testing alkali-silica reaction* © VDZ







*Workability and rheology of SRM 2497 (NIST): Standard Reference Concrete for Rheological Measurements – RRT* ©TC 266-MRP


*35-50pen bitumen*
©TC 279-WMR


*35-50pen bitumen + 20% RAR*
©TC 279-WMR

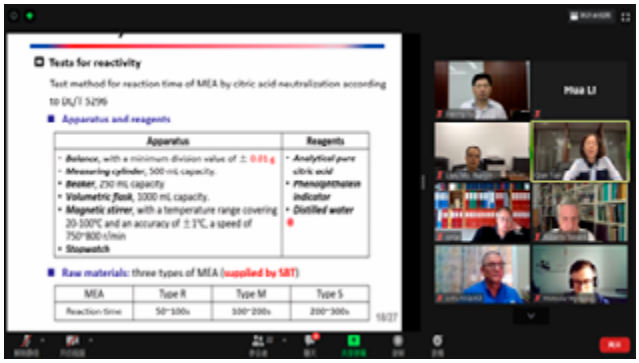

*35-50pen bitumen + 35% RAR*
©TC 279-WMR


*35-50pen bitumen + 50% RAR*
©TC 279-WMR

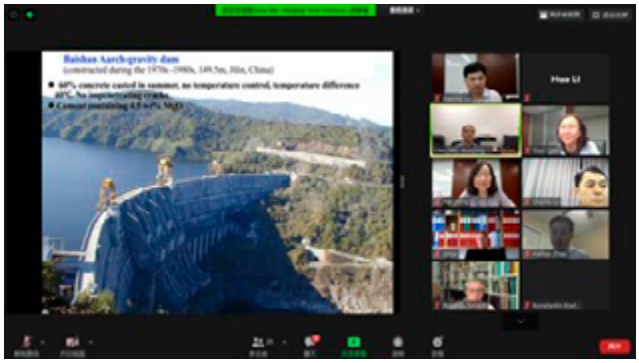
*RCA Drying at Empa* ©TC 279-WMR

*RCA at Concrete Plant close*
©TC 279-WMR

*RCA at Concrete Plant* ©TC 279-WMR



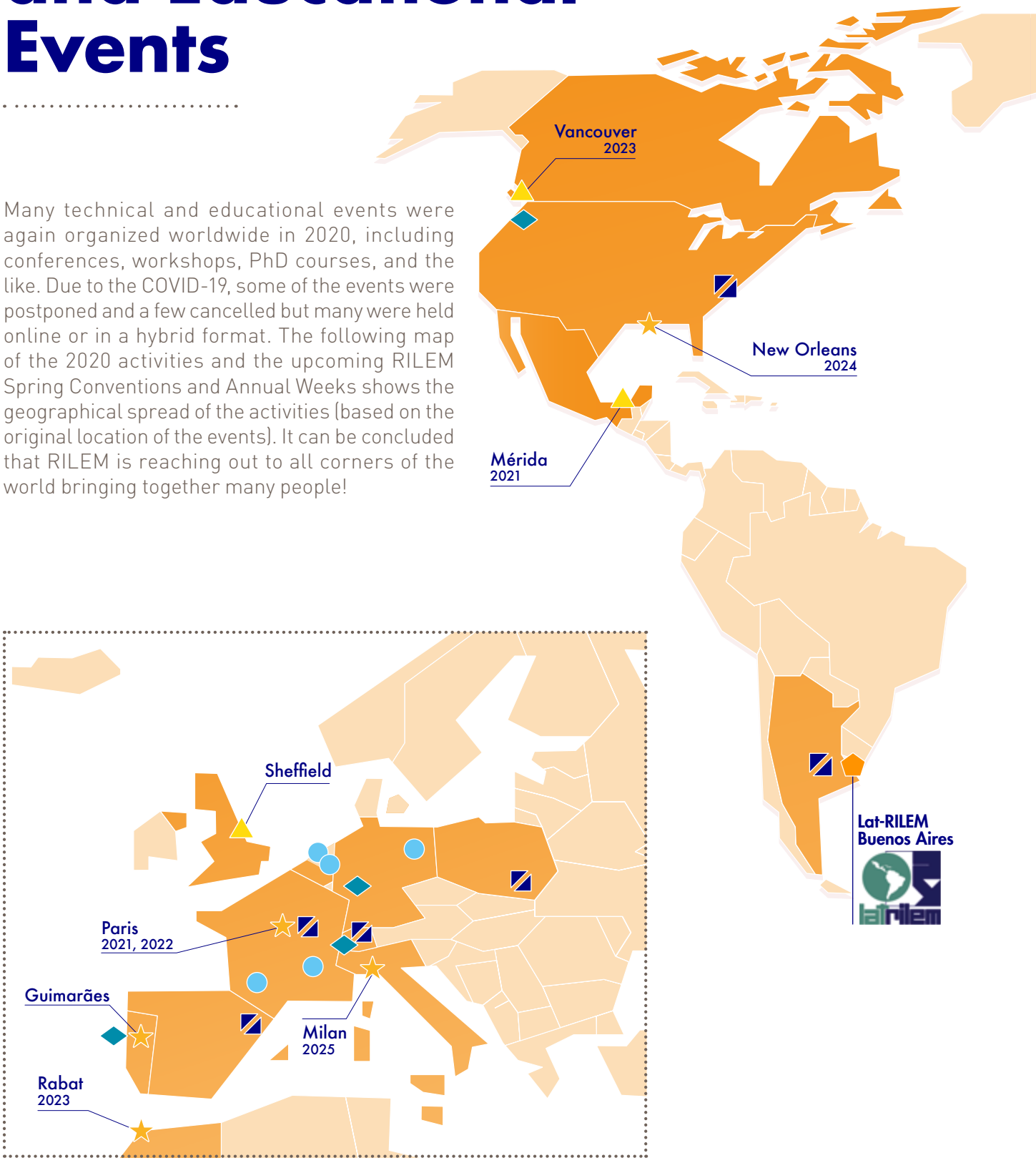

*Qian Tian introduces the proposed round-robin test program in the online meeting* © Hua Li

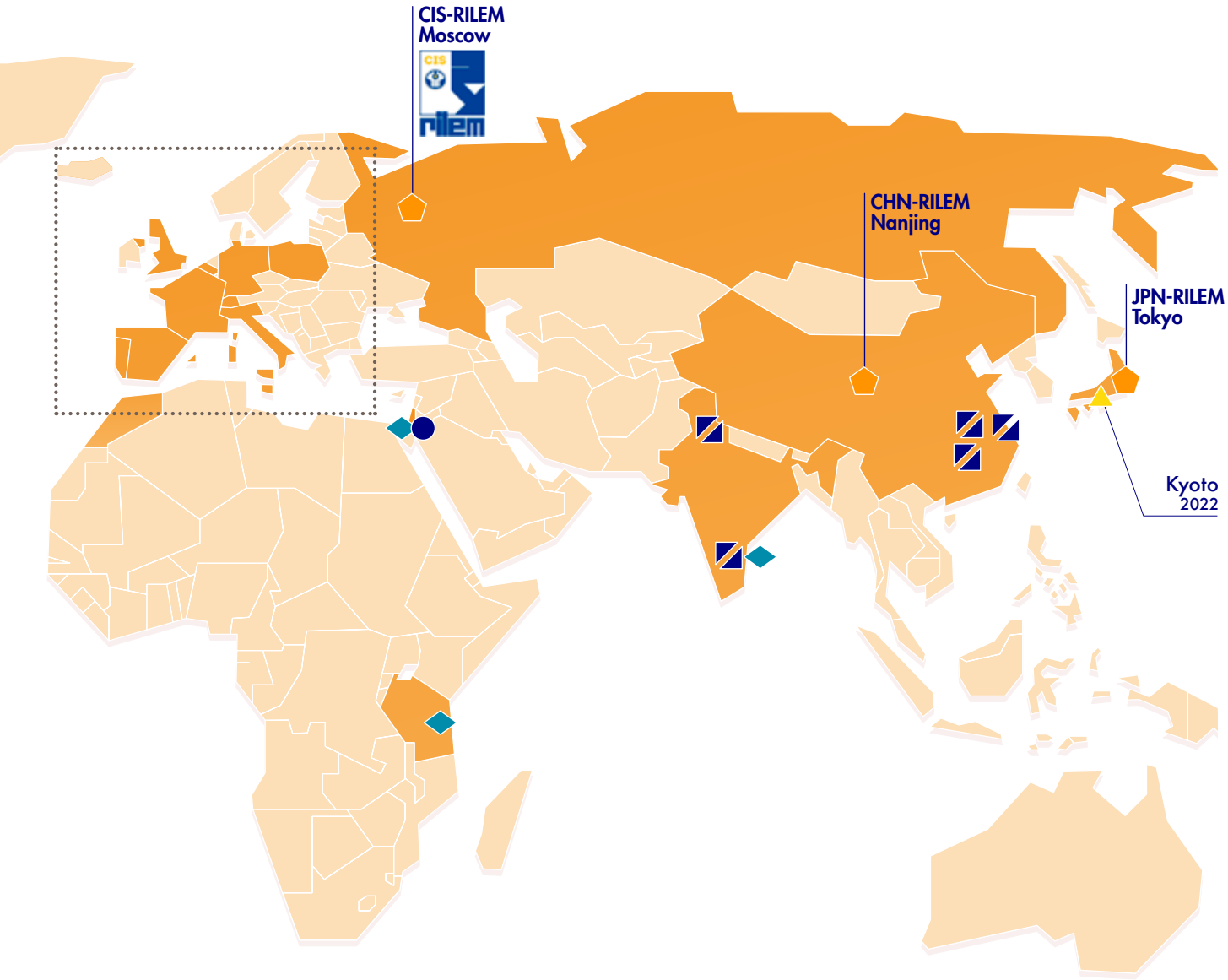



*Liwu Mo gives a presentation on MgO expansive additive and concrete based on the current preparation of the STAR in the online meeting* © Hua Li

# Technical and Educational Events

Many technical and educational events were again organized worldwide in 2020, including conferences, workshops, PhD courses, and the like. Due to the COVID-19, some of the events were postponed and a few cancelled but many were held online or in a hybrid format. The following map of the 2020 activities and the upcoming RILEM Spring Conventions and Annual Weeks shows the geographical spread of the activities (based on the original location of the events). It can be concluded that RILEM is reaching out to all corners of the world bringing together many people!






## RILEM Events 2020

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

2020 has been an eventful year for RILEM Educational Activities Committee (EAC) as for all of us. More than half the committee members reached the end of their mandate and four new members joined: Dr Pan FENG, Southeast University, China ; Prof. Radhakrisna PILLAI, IIT Madras, India; Prof. Marijana SERDAR, University of Zagreb, Croatia ; Dr Prannoy SURANENI, University of Miami, United States. Prof. Mette Geiker's mandate was extended to 2023. We are very happy for the wide geographical representation and diversity of the committee. The committee met twice, first at the 3rd Spring Convention in Guimaraes as a mixed physical and virtual meeting and then entirely on-line in August during the 74th RILEM Annual Week.

The most important action of the EAC this year has been the launch of the ROC&TOK webinar series (RILEM Online Conferences and Transfer of Knowledge) with two successful ZOOM webinars: *Cement and CO2, the reality,* presented by EAC Chair Prof. Karen Scrivener and *Shrinkage Reducing Admixtures - Their Science and Role in Education* by Prof. Jason Weiss, former EAC Member. The webinars which attracted nearly a thousand registrants are posted on the RILEM YouTube Channel. The Webinars will continue to be held on the first Thursday of every month at 2pm UTC except January and August.

The pandemic inevitably resulted in the cancellation and rescheduling of various courses, some turning into MOOCs (Massive Open Online Course) or online courses. A full list of EAC supported courses is below:

| Title | Location | Date | Contact |
|---|---|---|---|
| RILEM Webinar: Shrinkage Reducing Admixtures - Their Science and Role in Education | ONLINE | 03/12/2020 | Prof. Karen Scrivener |
| RILEM Webinar: Cement and CO2, the reality | ONLINE | 05/11/2020 | Prof. Karen Scrivener |
| Computational Methods for Building Physics and Construction Materials | ONLINE | 06/07/2020 | Prof. Eddie Koenders |
| Durability-based design of advanced cement-based materials in aggressive environments: a holistic approach [MOOC] | ONLINE | 11/05/2020 | Prof. Liberato Ferrara |
| Online Workshop on Recent Advances in Science and Technology of Concrete | ONLINE | 02/05/2020 | Prof. Ravindra Gettu |
| Computational Methods for Building Physics and Construction Materials - LITE | Guimaraes, Portugal | 14/03/2020 | Prof. Eddie Koenders |
| Lowering CO2 emissions from cement and concrete through increasing the use of supplementary materials | Guimaraes, Portugal | 09/03/2020 | Prof. Karen Scrivener |
| 6th LC3-Doctoral School | Lausanne, Switzerland | 10/02/2020 | Prof. Karen Scrivener |
| East African Student Seminar on Materials technologies for sustainable construction | Dar es Salaam, Tanzania | 03/02/2020 | Dr Wolfram Schmidt |
| EuroTech RILEM PhD School Concrete Life Cycle: From Cradle to Grave | Haifa, Israel | 12/01/2020 | Prof. Konstantin Kovler |

Perhaps most notable, before the lockdowns took effect, was the two-day seminar on Material technologies for sustainable construction organized by Dr Wolfram Schmidt, former EAC member, at the University of Dar es Salaam and which attracted students from Tanzania, Kenya and Uganda. We thank Wolfram and the German-African Innovation Incentive Award 2018, funded by the German Ministry for Education and Research for supporting the seminar and the mobility for East African students. The seminar also featured the first the RILEM Mishikaki Night sponsored by RILEM, which gave an opportunity for networking between the students and lectures. We were very inspired by the enthusiasm and dedication of the students who attended.

*EuroTech RILEM PhD School Concrete Life Cycle: From Cradle to Grave, January 2020* ©National Building Research Institute, Technion – Israel Institute of Technology


*East African Student Seminar on Materials technologies for sustainable construction, February 2020* © Daniela Ciancio

# Publications

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*

In 2020 important changes took place in the editorial team of *Materials and Structures*, following on from the appointment of Prof. John Provis as Editor-in-Chief in 2019. Dr Sarah Kearney (University of Sheffield) took on the editorial management role during 2020; we thank Dr Mateusz Wyrzykowski for his outstanding contributions in this role over the past years. There were also changes in the Associate Editorial board – so we bid welcome to Dr Bernhard Hofko who has joined the board, and farewell and thank you to Prof. Laura de Lorenzis for her commitment and dedication as she steps out of this role. The editorial team have all worked hard to keep up the high publication standards set in previous years, despite difficult global circumstances. Due to the dedicated service of the Associate Editors, voluntary reviewers, and of the whole editorial team no significant disruption to the publication times was encountered across 2020 despite the impact of COVID-19 pandemic. Articles appear online in their final form on average fifteen days after acceptance, and the average time from submission to first decision is only 21 days. In December 2020, no pending papers are older than nine months.

### Published articles and impact of the journal

After the rapid increase in submissions seen between 2012-2018, the plateau of submission numbers observed in 2019 has continued into this year. Until December 2020 the total number of submissions was approximately 1400, which is similar to the same period in 2019. The number of published papers is expected to remain relatively constant in coming years, although we are obviously seeking 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 organisation and its members. 147 papers have been published in volume 53 (2020) until December 2020. The acceptance rate for papers submitted in 2019 was approximately 8%, which is similar to the rate observed in 2018.
The impact factor (IF) for 2020 is 2.901 (17/63 rank in Construction & Building Technology, 29/134 rank in Civil Engineering). After several years of fluctuation due to the high publication numbers required in 2017-8 to clear a backlog as the journal

moved to a continuous article publication system, the IF appears to have recovered and is showing a slight improvement from 2018 (IF = 2.548). The number of citations appears to be levelling off, with figures showing a slight decrease in 2019 after a record peak in 2018. It is anticipated that this will stabilise in the coming years.

### Platform for dissemination of the RILEM TCs work

As in previous years, *Materials and Structures* served as an important platform for the dissemination of the outcomes of RILEM Technical Committees. In 2020, four RILEM TC reports (two from TC 247-DTA, and one each from TC 260-RSC and TC 281-CCC) were published. We anticipate growth in this area during 2021, 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.

### Outstanding Papers and Best Reviewer awards

As in previous years, the Editorial Board awarded the authors of the most scientifically interesting and most innovative papers with the Outstanding Paper Award for the best papers published in 2020. Another important RILEM Award related to the journal is the Best Reviewer Award, granted annually by the Editorial Board to our best volunteer reviewers in 2020, who guarantee, together with the other reviewers, the high scientific quality of the published articles via a timely and rigorous review process.

## List of Outstanding Papers 2020

- H.S. Wong et al. Microscopy techniques for determining water–cement (w/c) ratio in hardened concrete: a round-robin assessment
- Y. Le Pape et al. Irradiation-Induced Damage in Concrete-Forming Aggregates Revisiting Literature Data through Micromechanics
- X. Shen et al. An analytical inverse analysis to determine equi-biaxial tensile properties of strain-hardening UHPFRC from ring-on-ring test
- B.V. Wilding et al. The ratio of shear to elastic modulus of in-plane loaded masonry
- M. Decker et al. Chloride migration measurement for chloride and sulfide contaminated concrete
- M. Haist et al. Interlaboratory study on rheological properties of cement pastes and reference substances: comparability of measurements performed with different rheometers and measurement geometries
- F. Chen et al. Vibration-induced aggregate segregation in asphalt mixtures
- Zunino F. et al.The impact of calcite impurities in clays containing kaolinite on their reactivity in cement after calcination
- A. Graziani et al.Use of Fine Aggregate Matrix to Analyze the Rheological Behavior of Cold Recycled Materials
- Stefanie von Greve-Dierfeld et al. Understanding the carbonation of concrete with supplementary cementitious materials: a critical review by RILEM TC 281-CCC

## *Materials and Structures* Best Reviewers 2020

- **Steffen Grunewald,** Ghent University, Belgium
- **Nicolas Carino,** USA
- **Anastasios Mpalaskas,** Panepistimio Ioanninon, Greece
- **Alessio Cascardi**, Universita del Salento, Italy
- **Augusto Cannone Falchetto,** University of Alaska Fairbanks, USA
- **Christiane Weise,** Technische Universitat Dresden, Germany
- **Qiang Zeng,** Zhejiang University, China

# *RILEM Technical Letters*

In year 2020, the journal *RILEM Technical Letters* continued to deliver highly novel research findings in the field of construction and building materials and structures. Four volumes have been published since the opening of the journal in March 2016, and the current fifth volume is close to being finished.

## Profile of the journal

The profile of the journal is now well established. One of the strongest inputs to the state of the art offered by *RILEM Technical Letters* is papers authored by international teams of renowned experts reporting on the most relevant and innovative research topics. An excellent example of such work in 2020 is a groundbreaking paper by a team of 12 experts from Africa and Europe focusing on the specific challenges and innovation potentials for cement and concrete technology across the African continent. The editorial team is actively seeking to invite future potential papers of this type. In addition to reporting on new research directions and relevant overviews by acknowledged scientists and international teams, the journal also offers a platform for the young members of RILEM community to disseminate their studies. As in previous years, the two 2020 Gustavo Colonnetti medallists, Mija Hubler and Branko Šavija, shared their work in the journal. In 2020, the young authors from two RILEM events: the Spring Convention and the Annual Week, were also invited to submit their original papers.

As in previous years, the journal also publishes the synthesis articles of RILEM Technical Committees, as in the case of an excellent overview paper by TC 281-CCC.

## Indexing in Scopus

This year we are proud to announce a great milestone in the development of *RILEM Technical Letters*. After a strict review process, the journal was accepted in the widely renowned Scopus database. The current (2020) volume is available in the database since August 2020, and the previous volumes are in the inclusion process and will be included soon. This is yet another proof of the established position of the journal and offers our authors better recognition and visibility. We believe that the ongoing evaluation for inclusion in the Web of Science index will be equally successful.

## Editorial policies and visibility of the journal

We do not rest at this point, but rather we continuously improve the editorial policies of the journal to stay on the top of the trends in the scientific publishing field. This year, in order to improve the recognition of the individual authors and improve scientific collaborations, we implemented in the journal authorship statements according to the CRediT format. In order to deliver a better coverage of different topics to our prospective authors and readers, the editorial board has been strengthened with two new associate editors. In April 2020 Prof. Dr Jean-Paul Balayssac and in August 2020 Prof. Dr Shiho Kawashima joined the editorial board.

These efforts of the editorial team, together with the excellent contributions from our authors and devoted service of the reviewers, yield increasing visibility of the journal in the field. The papers from the first 4 volumes have been downloaded on average over 1000 times each. The high quality and visibility correlates also with the high numbers of citations. The papers published in the last two closed volumes (2018 and 2019) were cited on average 3.6 times each.

We encourage all RILEM members to submit their interesting scientific contributions to the journal, free of charge. Interested authors are welcome to submit the proposed topics to the editor-in-chief, Prof. Alexandra Bertron, or to the members of the editorial board. Please visit the journal at letters.rilem.net.

# Proceedings, STARs & Recommendations

Besides the two journals, RILEM also publishes proceedings, state-of-the-art reports (STAR), and recommendations. 2020 has been a successful year in this respect, with 7 proceedings and 1 STAR.

## Proceedings published in 2020

### Published by RILEM Publications:

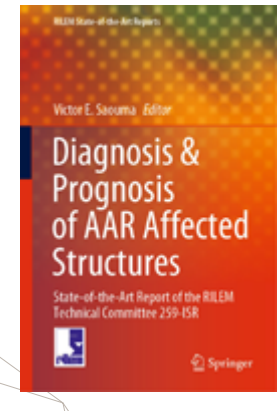
- **PRO 134: 3rd ACF/HNU International Conference on UHPC Materials and Structures, UHPC'2020 - China;** Eds. Caijun Shi & Jiaping Liu

### Published by Springer:

- **External Sulphate Attack – Field Aspects and Lab Tests** – RILEM Final Workshop of TC 251-SRT, Vol. 21: Eds. Esperanza Menéndez Méndez, Veronique Baroghel-Bouny
- **3rd International Conference on the Application of Superabsorbent Polymers (SAP) and Other New Admixtures Towards Smart Concrete;** Eds. William P. Boshoff, Riaan Combrinck, Viktor Mechtcherine, Mateusz Wyrzykowski; Vol. 24
- **Proceedings of the 3rd International Conference on Calcined Clays for Sustainable Concrete;** Ed. Shashank Bishnoi; Vol. 25 Bishnoi
- **Proceedings of ConcreteLife'20 - Concrete Durability and Service Life Planning;** Eds. K. Kovler, S. Zhutovsky, S. Spatari, O.M. Jensen; Vol. 26
- **Proceedings of the Second RILEM International Conference on Concrete and Digital Fabrication;** Eds. Freek P. Bos, Sandra S. Lucas, Rob J.M. Wolfs, Theo A.M. Salet; Vol. 28
- **3rd International Conference on Innovative Technologies for Clean and Sustainable Development (ITCSD 2020);** Eds. Deepankar Kumar Ashish, Jorge de Brito, Sanjay Kumar Sharma; Vol. 29
- **Fibre Reinforced Concrete: Improvements and Innovations - RILEM-fib International Symposium on FRC (BEFIB) in 2020;** Eds P. Serna, A. Llano-Torre, J.R. Martí Vargas, J. Navarro-Gregori; Vol. 30

## STAR published in 2020

- **Diagnosis and Prognosis of Alkali Aggregate Reactions Affected Structures – State of the Art report of the RILEM Technical Committee 259-ISR** Edited by Victor Saouma - Volume 31




*STAR 259-ISR* ©Springer


*Vol. 29* ©Springer


*Vol. 30* ©Springer


*PRO 134* ©RILEM Publications

# RILEM Honours and Awards

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

## Robert L'Hermite Medallist

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

## Gustavo Colonnetti Medallist

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

## RILEM Best Student Poster Award

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

## RILEM PhD Grant award

Implemented in 2018 for the first time, this award is given every year at the RILEM Annual Week to PhD students under the age of 35 and residing in any of the countries where a special discount RILEM membership fee is applicable.

## Extract from the interview with Prof. Tung Chai (Bill) Ling, *Robert L'Hermite Medallist 2020*

*Prof. Tung Chai (Bill) Ling, Hunan University, China - Development in the active use of CO2 in wastes and cement for sustainable construction products* ©TC Ling

**Tell us more about you and RILEM.**
**When did you come across with RILEM for the first time?**

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

**4 times! Perseverance is the key word here!**

*YES! Perseverance is very important. This is the spirit I always apply to my research and publications too.*

**Never give up!**

*Yes, never give up! I know that RILEM has many good candidates for this award and they all are doing amazing research. It is very competitive. For us, as researchers, we have to do our best and never give up... who knows what can happen!*

## Extract from the interview with Dr Mija Hubler, *Gustavo Colonnetti Medallist 2020*

*Mija Hubler, CU Boulder, USA - Modeling long term deformations of concrete: creep, shrinkage, and cracking* ©Mija Hubler

**What about the Colonnetti application. How did it happen?**

*Well, I assume it is a similar story to other medallists. My PhD supervisor, Prof Bazant, suggested "why don't you apply for this award? You could get more involved with RILEM. It could be a good opportunity for you". So, I said "ok, why not...!"*

**Could you please tell us more about how your research is relevant to the industry and how you see the relationship of RILEM and the industrial sector?**

*Regarding my research on concrete creep, there have been some structural engineering firms that have specifically talked to us about incorporating our model in the predictions that they make. ... I feel that industry is really interested in doing a good job, of capturing this phenomenon (cfr. Long term concrete deformation) and as a result industry is eager for new models to be developed. ... I feel like the ideas are reaching industry and that RILEM gives the opportunity to develop and disseminate the information ....*

## Extract from the interview with Dr Branko Šavija, *Gustavo Colonnetti Medallist 2020*

Branko Šavija, TU Delft, Holland - Testing techniques and numerical models for understanding and development of cementitious materials" *©Branko Šavija*

**Has being a member of a RILEM TC helped your career?**

*Definitively! And it makes me think that in the next future I can be a TC chair!*

**... Would you mind sharing your opinion about the relationship between RILEM and the industrial sector?**

*As an engineering consultant I worked for a research institution (cfr. TNO, The Netherlands). Some of my colleagues were actively involved with RILEM. From my personal experience, I think that only senior people from the industry are connected to RILEM while in the academic world also less experienced people, i.e. PhD students, are connected. That said, RILEM has the position to build a bridge between industry and research.*

# 2020 RILEM BEST STUDENT POSTER AWARD

**Ms. Magdalena Rajczakoska**

for her work on *"Improved self-healing blended mortars"*

*"I was surprised and delighted to win RILEM Best Poster Award 2020. Not for a moment did it cross my mind that I had any chance, given the number of participants with high-quality work. I am grateful for this opportunity to show my research and highlight the potential of self-healing cementitious materials. It was a great honor, thank you RILEM!"*

*Magdalena Rajczakowska, Luleå University of Technology, Sweden* © Magdalena Rajczakowska

**Ms. Natalia Pires Martins**

for her work on *"CSA cement synthesis from sulfidic mine tailings"*

*"RILEM2020 was the first opportunity to disseminate the research results of my doctoral studies, so I was extremely delighted to hear that I won the Best Poster Award! The news was happily communicated to my supervisors and colleagues. We very much appreciate the recognition from the scientific committee of the conference and see it as a motivation to keep up with the good work."*

Ms. Natalia Pires Martins, ETH Zurich, Switzerland © Natalia Pires Martins

# IN 2020
# FELLOWS

**Prof. Gabriele TEBALDI, University of Parma, Italy** *has been nominated as RILEM Fellow, in recognition of his work as Associate Editor of* Materials and Structures, *and as Chair and Member of several Technical Committees of RILEM.*

© Gabriele Tebaldi

**Prof. Sofiane AMZIANE, Polytech Clermont-Ferrand, France** *has been nominated as RILEM Fellow, in recognition of his work as the Chair and Member of several Technical Committees of RILEM."*

© Adriano Filipe Da Silva Ferreira Borges

# HONORARY MEMBERS

**Ir. Johan VYNCKE, CSTC – WTCB – BBRI, Belgium** *has been nominated as RILEM Honorary member, especially in recognition of his exemplary leadership in RILEM as President and Chair of the Management Activities Committee, as well as active participation in RILEM technical and standing committees.*

© Johan Vyncke

**Prof. Wolfgang BRAMESHUBER (02/08/1956-16/09/2016), Germany** *has been nominated posthumously as RILEM Honorary member, especially in recognition of his dedication and leadership in RILEM as Honorary President, as well as active participation in RILEM technical and standing committees.*

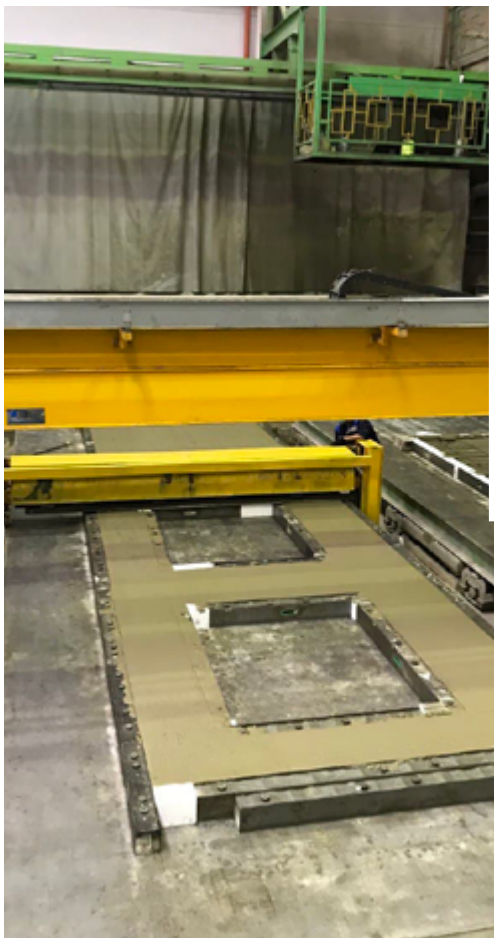
© ©W. Brameshuber

**Prof. Hervé DI BENEDETTO, ENTPE, France** *has been nominated as RILEM Honorary member, especially in recognition, during his leadership and active participation in RILEM technical and standing committees, of his exemplary efforts to promote the advancement of the science and evaluation of bituminous materials.*

© Hervé Di Benedetto

**Prof. Dr VYATCHESLAV R. FALIKMAN, Research Institute of Concrete and Reinforced Concrete (NIIZHB), Russian Federation** *has been nominated as RILEM Honorary member, especially in recognition, during his role as Regional and National Convener, as well as active participation in RILEM technical and standing committees, of his exemplary efforts to promote international collaboration and technology transfer in the area of construction materials.*

© Adriano Filipe Da Silva Ferreira Borges



© CIS-RILEM

# RILEM Worldwide

As part of its activities, the Development Advisory Committee develops new initiatives for continuously improving the promotion of RILEM activities worldwide, in cooperation with TAC and EAC. The conveners of RILEM Regional 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. In this respect, the past year has been a very active one, with many successful activities reported from around the world.

Naturally, the year has turned out very different to what was excepted, especially in view of the cancellation of many planned face-to-face meetings and events. However, at the same time, our colleagues from all over the globe rapidly adapted to online formats for conferences, seminars, and meetings. And in a way, this has made it easier to connect with the RILEM community worldwide, to stay in contact, to cooperate on research projects, and to meet new partners and form new relationships. Concerning planned DAC activities in the various regions, the global pandemic put some events and developments on hold, while other initiatives carried on online, and sometimes more successfully so. Overall, 2020 has been fruitful in terms of increasing RILEM's footprint in the various regions worldwide. Increasing adaptation to the online meeting place is expected to also facilitate RILEM's worldwide activities in the near and distant future.

An overview on some of the worldwide activities is given in the following sections.

## East Europe and Central Asia

In the East European and Central Asian regions, close cooperation has been established with the Eurasian Economic Union (EEU), aiming at building new relationships among colleagues from the various countries of the region. On a national level, active promotion of RILEM in 2019/2020 took place mainly in Russia. One of the main events was a general meeting of the Russian and International Engineering Academies, which took place in Moscow, during which a meeting of RILEM representatives of Azerbaijan, Armenia, Belarus, Georgia, the Kyrghyz Republic, Tajikistan, Uzbekistan, Kazakhstan, Russia, and Slovenia was held. A further initiative of interest to RILEM is a recently founded Young Professionals Group with members from different regions of Russia, with activities including seminars, workshops, and general industry networking.

The main targets for the future include involving more young people in the work of RILEM, the publication of Russian language editions of selected RILEM STARs, the election of several RILEM members as foreign members of the Russian Engineering Academy, and increased cooperation with the governing bodies of the EEU to give RILEM increased visibility in the region.

YPG event © CIS-RILEM

## North America

The main activities for the North American and Caribbean region consisted of establishing and maintaining good collaborations with existing organizations in the field of construction materials. Historically, ACI and RILEM have a strong partnership, which has remained strong also over the last year. As an annual recurring event, RILEM's organization, mission, and details about RILEM TCs were presented during ACI Fall Convention in Cincinnati, late 2019. Initial discussions are also underway to repeat the joint organization of the RILEM and ACI Spring Conventions in the future. Positive developments are also occurring in respect to cooperation with the Cements Division of the American Ceramic Society. Further, an initiative is currently undertaken to incentivize collaborations with other, non-concrete industries, to also increase RILEMs footprint in the asphalt and timber industries.

## China

Ongoing RILEM activities in China are largely related to increasing contribution by national experts in various RILEM TCs, as well as organization of several international events and conferences. Strategic plans for the future include attracting more members through conference and academic contacts, with a specific focus on PhD student membership, as well as increasing the interaction between the Latin American and Chinese RILEM groups.

## Sub-Saharan Africa

RILEMs presence in Sub-Saharan African countries continues to increase, with promotional events organized and attended in many different countries. An East African Seminar with RILEM Pizza night was held in Dar es Salaam, with students attending from Tanzania, Kenya, and Uganda. Similar activities are planned for West African countries and South Africa, including an online seminar related to materials and value chains for sustainable, inclusive, and resilient urbanisation in Africa, supported mostly by presentations given by RILEM members. Another interesting potential for active cooperation is presented by Falconess – the Female Academic Leadership Network for Conscious Engineering and Science towards Sustainable Urbanisation, which consists of mostly female researchers from several African countries and also Germany.

## South Asia

Membership numbers in South Asia have significantly increased over the past year, mainly thanks due a very active RILEM representation in India. In the midst of the worldwide lockdown in May 2020, the first event from the newly established ROC&TOK (RILEM Online Conferences and Transfer of Knowledge) series was held from IIT Madras, India, addressing the topic "Recent Advances in Science and Technology of Concrete". A second ROC&TOK was organized by IIT Madras shortly after, also in May 2020, covering "Resilience of Concrete Construction". The first workshop in May attracted an overwhelming 9,600 registrations – a clear indication that RILEM's online knowledge transfer is the way to go!

## Latin America

The main activities for the Latin-America region in 2020 have focused on the promotion of RILEM in the academic community in Mexico, mainly through events organized


*East African Student Seminar on Materials technologies for sustainable construction, February 2020* © Daniela Ciancio

*East African Student Seminar on Materials technologies for sustainable construction, February 2020* © Wolfram Schmidt

*Impact of a 600 kg Reinforced Concrete (RC) block on a Post-Tensioned (PT) Slab* ©Ali Jahami, Mohammed Sonebi

by the three American Concrete Institute Chapters in Mexico. Unfortunately, several promotional events were cancelled due to the pandemic, with activities planned to resume in 2021. The 75th RILEM Annual Week will be held in combination with the International Conference on Advances in Sustainable Construction Materials and Structures in Merida, Yucatan, Mexico, from August 29th to September 4th of 2021, which will be a major opportunity to increase RILEM's footprint in Latin America.

## Middle East and North Africa

Several contacts were made to promote RILEM membership in the North African and Middle Eastern regions, including associations and universities in Morocco, Lebanon, Turkey, and Algeria. The visibility of RILEM and associated membership numbers in the region are expected to increase further as a result of the RILEM Spring Convention in Rabat, Morocco, in 2022.

## Europe

Europe has traditionally been the region where RILEM has the highest visibility and the highest number of members. In 2020, promotion of RILEM was planned for events in several locations, including Barcelona and Bled in Slovenia. The latter event attracted researchers mainly from the Balkan regions, which is one of the target regions for increased RILEM membership.

The overall European visibility of RILEM was clearly also supported by the RILEM Spring Convention in Guimaraes, an event that will be remembered for its rapid and remarkably successful response to the sudden limitations posed by the pandemic, and the RILEM Week in Sheffield, which in its own right will be remembered as one of the very first international events in our industry, planned and presented fully online.

## East Asia

A new Regional Convener for the region has been nominated at the Annual Week in Sheffield: Sungchul Bae.

4th General Assembly of JPN-RILEM on 25.11.2020 ©JPN-RILEM

# International Partnerships

During the last five years, RILEM has established several strategic partnership agreements with national and international organisations from around the globe. 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. RILEM values its partners and the associated joint workshops and conferences. Some partnerships have also resulted in joint technical activities and joint publications.

In 2020, RILEM established new partnerships with several entities, including:

- Institute of Concrete Technology, UK (ICT)
- European Demolition Association (EDA)
- European Association for Construction Repair, Reinforcement and Protection (ACRP)
- Association of Structural Concrete, Russia (ASC)

and renewed its partnership agreements with:

- Japan Concrete Institute (JCI)
- Korea Concrete Institute (KCI)
- Asociación Latinoamericana de Control de Calidad, Patología y Recuperación de la Construcción (ALCONPAT)

RILEM counts a total of 17 partnerships that were established since 2000.

# Financial statement for the year 2019

From 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, which are mainly connected to its two scientific journals. *Materials and Structures*, the flagship journal of RILEM, is a hybrid international journal published by Springer Nature. *RILEM Technical Letters* is an open access journal launched by RILEM in 2016. For these two journals, part of the publishing and management work is subcontracted to two third parties.

The income for the RILEM Association comes from membership fees, both individual members and corporate members. The income from membership fees (€ 331 864) is about 9% lower in 2019 compared to 2018. However it is practically identical to the average value calculated between 2009 and 2018. For full information, Figure 1 outlines the variation of membership fees versus time from 2009 to 2019.

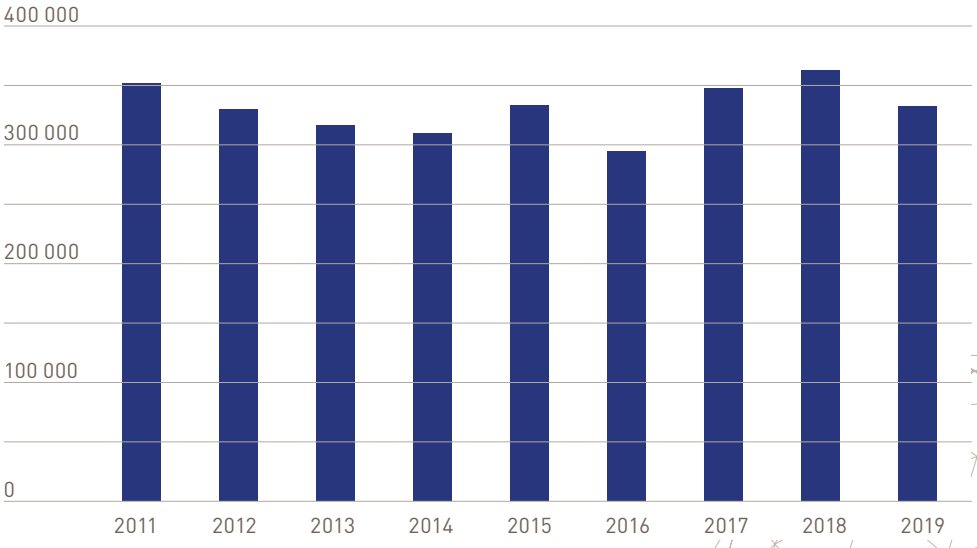
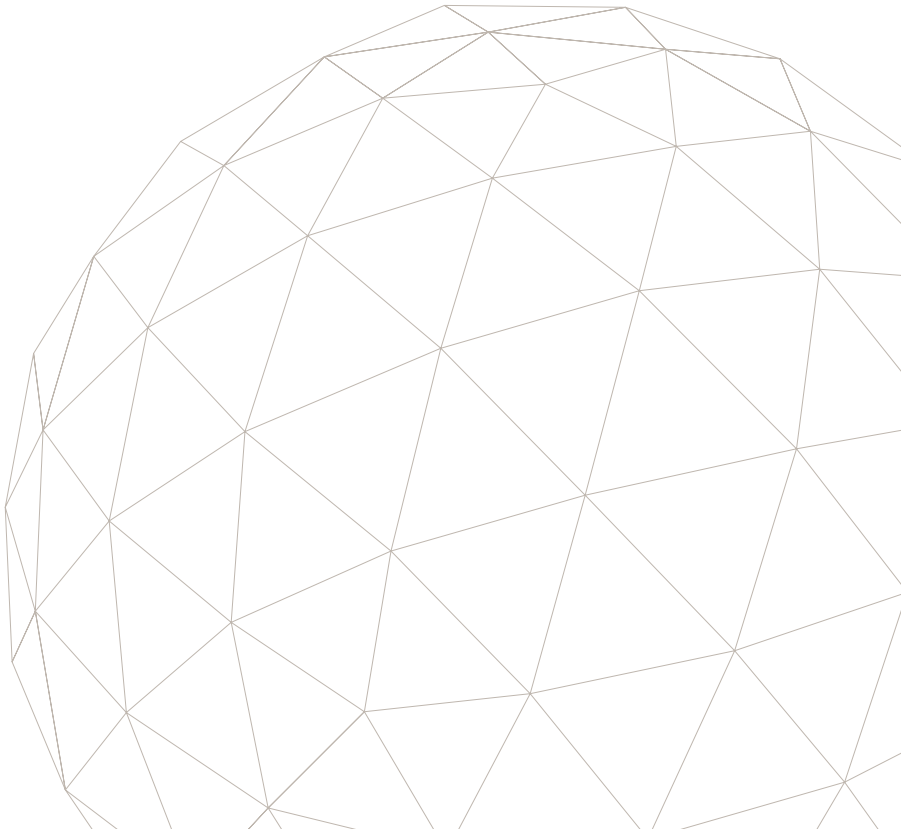



*Figure 1 Membership fees (in €) in the last 11 years*

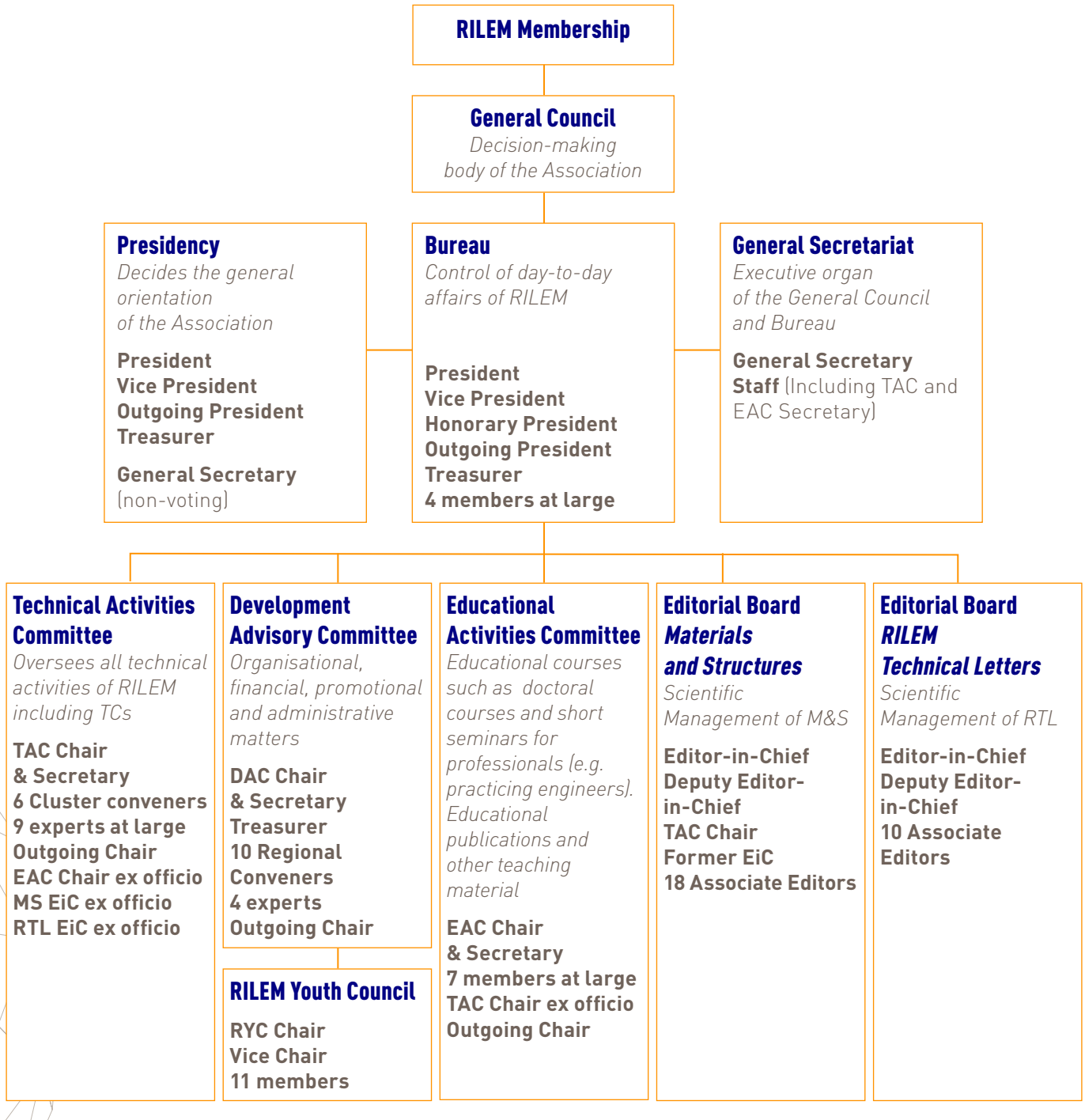
The net income for EURL RILEM Publications comes from royalties paid by Springer Nature on the revenue from the sale of *Materials and Structures*, mainly via consortia agreements. This revenue is reduced by the cost of giving free access to *Materials and Structures* for all RILEM members. The royalties paid by Springer Nature in 2019 decreased to €194 604 from €265 273 in 2018. This decrease is linked to a smaller number of papers published in 2019 in *Materials and Structures* compared to the previous years.

The costs for RILEM Association are the salary and expenses for the General Secretariat and the costs of publication of articles in the journal *RILEM Technical Letters*. Similarly, the association 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*. Several actions to promote young researchers in RILEM have been also sponsored, including awards for best posters at conferences and the main RILEM awards for young researchers, the Colonnetti and L'Hermite medals. Starting in 2019, an external consultant has also been hired to increase the visibility of RILEM among young researchers and within the industry.

For 2019, the financial result of RILEM Association was negative, – €32 195. The financial result of EURL RILEM Publication was also negative, -€20 116 The negative combined result of - €52 311 was added to the equities of both the association and the company, which are currently large enough to compensate for a few years of negative results.



# RILEM Organisation Chart



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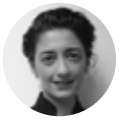

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# Upcoming major events
## for 2021 and beyond

### RILEM Spring Convention 2021- Strategy Workshop, Online/Hybrid

The 4th RILEM Spring Convention, with RILEM Standing Committee and Technical Committee meetings, was held in Paris, France, from 6 to 9 April 2021.
One Symposium was held in parallel of this event on 9 April 2021: Early age and long-term crack width in RC structures. More information at www.crc2021.org/

### RILEM Annual Week 2021

The 75th RILEM Annual Week will be held in conjunction with the International Conference on Advances in Sustainable Construction Materials and Structures on 29 August – 3 September 2021 in Merida, Mexico.

### Future RILEM Events

| | Spring Convention | Annual Week |
|---|---|---|
| **2021/75th** | Paris, France | Merida, Mexico (Pedro Castro Borges) |
| **2022/76th** | Paris, France | Kyoto, Japan (Takafumi Noguchi) |
| **2023/77th** | Rabat, Morocco (Mohammed Sonebi) | Vancouver, Canada (Nemy Banthia) |
| **2024/78th** | New Orleans, USA (ACI) | Call |
| **2025/79th** | Milano, Italy (Liberto Ferrara) | Call |

Calls for Annual Weeks in 2024 and 2025 have been launched. Decisions will be taken in August 2021.

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... you can **log in** with your LinkedIn profile to the RILEM website

... our website is **best viewed** in Chrome or Firefox

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... you need to **update your email** preferences and subscriptions on your profile to receive news from RILEM

... you can **download the RILEM app** on the App store or Google Play. You can update your profile and pay your membership fees directly on the app.

... **you can view all members** (individual, corporate, etc.) **on a map** by clicking on "RILEM worldwide" and then "map"

... **you can search for a RILEM member** in the RILEM directory by first name, last name, company or country

**RILEM would like to thank all contributors** who made this 2020 Annual Report possible.

Secretariat General

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