

The 3rd International RILEM Workshop on Concrete Durability and Service Life Planning **ConcreteLife'20**

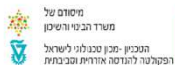
14-16 January 2020, Haifa, Israel

**in conjunction with the EuroTech-
RILEM PhD Winter School
"Concrete Life Cycle: from
Cradle to Grave"**

12-15 January 2020, Haifa, Israel

Organized by:
National Building Research Institute,
Faculty of Civil and
Environmental Engineering,
Technion - Israel Institute of Technology

Sponsored by:
RILEM - International Union of
Laboratories and Experts
in Construction Materials,
Systems and Structures



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National Building Research Institute



**Civil and Environmental
Engineering**

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Dear Colleagues,

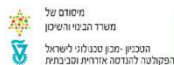
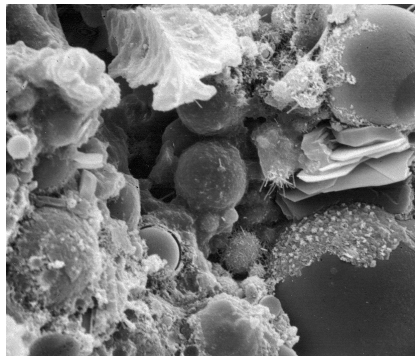
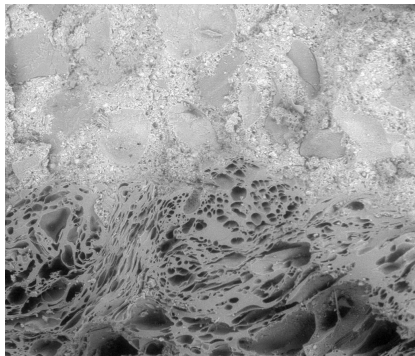
It is our pleasure to invite you to join us for the 3rd International RILEM Workshop on CONCRETE DURABILITY AND SERVICE LIFE PLANNING (ConcreteLife'20). The Workshop will be organized in conjunction with the EuroTech-RILEM PhD School and will include research papers as well as state of the art presentations by renowned experts.

We look forward to your participation and assure you our traditional, warm welcome and uplifting memorable experience.

Konstantin Kovler
Chair of the Local Organizing Committee

RILEM

The workshop and Winter School course are scientifically sponsored by RILEM - the international union of laboratories and experts in construction materials, systems, and structures (www.rilem.net), and the newly established RILEM Technical Committee TC-CEC dealing with controlled expansion of concrete.



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Scope and Focus

The 3rd International RILEM Workshop on Concrete Durability and Service Life Planning will be held at the Technion, Haifa, Israel, on January 14-16, 2020. It was preceded by "ConcreteLife'06", which was co-sponsored by RILEM and Japan Concrete Institute (JCI) and took place in the Dead Sea, Israel, in March 2006, and "ConcreteLife'09", which was organized in the Technion, Haifa, in conjunction with the 63rd Annual RILEM Week (September 2009).

The "ConcreteLife'20" will discuss the future trends in research, development, and practical engineering applications related to durable concrete construction. A focus of the workshop will be the design and construction of concrete structures exposed to different environmental conditions and mechanical loading. Although reinforced concrete structures can be designed and built to be durable in harsh conditions, there are numerous occasions where this potential is not materialized. The annual cost of repairs of concrete and reinforced concrete structures deteriorated due to chloride corrosion only in the Middle East, Japan, North Europe and North America, is estimated to be hundreds of billions of dollars. Therefore, the problem of durable concrete materials and life-cycle evaluation of concrete structures for use under severe environmental conditions and mechanical loading is crucial. The research cooperation in studying the processes of concrete deterioration in different conditions, and the development of advanced high-performance materials, with a focus on utilization of industrial by-products, coal fly ash and granulated slag, is expected to bring scientific and practical benefits for the society.

The themes include concrete curing, cracking in concrete structures, corrosion of steel in concrete, thermal and hygral effects, concrete in cold climate and under high temperatures, recycling and other environmental aspects, alkali-silica reaction, chloride and sulfate attack, marine structures, transport phenomena, durability design, microstructure of concrete and volume changes, life cycle assessment.

The Workshop is expected to highlight the trend in the research community to provide a greater focus on issues of technological significance, based on fundamental scientific concepts, which are of need to the engineering community to solve problems related to concrete durability.



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Venue

The venue chosen for the ConcreteLife'20 Workshop is the city of Haifa – Israel's third largest city and northern capital, which is situated in a broad natural bay between the beautiful Mediterranean Sea and the awe - inspiring Carmel Mountain. Magnificent Bahá'í Gardens, theaters, museums, cinemas, elegant hotels, air-conditioned shopping malls, pearly beaches - Haifa has it all. The city's terraced landscape offers a rich variety of breathtaking panoramas, giving the observer the sensation of being on a heavenly peninsula.

“ConcreteLife'20” will be held at the Technion - Israel Institute of Technology, Haifa, the leading polytechnic university in the country, at the facilities of the Faculty of Civil and Environmental Engineering and the National Building Research Institute – one of the oldest titular members of RILEM.

Local Organizing Committee

Conference Chair: Konstantin Kovler

Professional Committee: Arnon Bentur, Amnon Katz, Avraham Dancygier, Yossi Sikuler, Sabrina Spatari, Semion Zhutovsky

Conference Administrator: Anat Avital

Website: <https://rilem2020.net.technion.ac.il>



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EuroTech – RILEM PhD School

Concrete Life Cycle: From Cradle to Grave

EuroTech – RILEM PhD School

Concrete Life Cycle: From Cradle to Grave

EuroTech

The PhD School is organized jointly by three universities – members of the EuroTech alliance (<http://eurotech-universities.eu/>): the Technion – Israel Institute of Technology, Technical University of Denmark (DTU) and Eindhoven University of Technology (TU/e), in the form of 3-day intensive educational course for doctoral students. The EuroTech Universities alliance is a strategic partnership of leading European universities of science and technology committed to excellence in research and jointly developing solutions to the grand challenges of society.

Scope

The course will address sustainability, testing, design and construction of concrete structures exposed to different loading and environmental (including extreme) conditions. The course contents will span extreme exposure environments, such as the highly concentrated magnesium, sulfate and chloride brines of the hot weather Dead Sea and the chloride salt exposure of infrastructure (e.g. pavements and bridges) in cold climates.



EuroTech – RILEM PhD School

Concrete Life Cycle: From Cradle to Grave

Course Program

The course will cover important topics related to service life of cement-based materials and structures with a focus on advanced experimental and analytical methods. The workload includes 28 hours of preparatory work at home (paper reading and preparation of the presentations before the course) and 28 hours of on-site activities during the course itself. These activities include frontal lectures, lab session, attending a professional tour at a construction site, preparation of a final presentation, plenum presentations and participation in the discussions. Notes will be provided before the course. Guest professors from DTU and TU/e (Prof. O.M. Jensen and Prof. H.J.H. Brouwers) are internationally recognized authorities in the field of sustainable construction materials. The three host teachers are actively involved in teaching and research in this field, representing the staff of The National Building Research Institute – Faculty of Civil and Environmental Engineering, Technion.

Evaluation and Certificates

Two ECTS credits and participation certificates will be issued based on active participation in the entire course and the final evaluation. All doctoral students registered in the course are offered a 3-year free RILEM membership.

Registration & Accommodation

Participants are expected to have a basic knowledge of concrete technology. 2/3 of the participant seats are reserved for PhD-students from the EuroTech universities, however, the course is also open to participants from other universities or practice.



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Danmarks
Tekniske
Universitet



EuroTech Engineer Network
★ ★ ★ Excellence in Science and Technology



Technische Universiteit
Eindhoven
University of Technology

EuroTech – RILEM PhD School

Concrete Life Cycle: From Cradle to Grave

Participants

Participation fee is €100 for PhD-students. Each EuroTech participating university covers accommodation and travel expenses of its participants. The host university (Technion) covers the local costs (facilities, materials, lunch, coffee breaks, professional tour, reception and Gala dinner). The number of the participants and accommodation at the Technion campus is limited, so participants will be approved on a first come, first served basis. The deadline for registration in the PhD School is Monday, 4th November 2019, through the website:

rilem2020.net.technion.ac.il/eurotech-phd-winter-school/,

where further information on available grants and contacts can be found. The registration fee includes entrance to the lectures and associated laboratory activities, a technical tour, handouts, coffee breaks, lunches, welcome reception and gala dinner.



Teachers

K. Kovler, S. Spatari, S. Zhutovsky (Technion)

H.J.H. (Jos) Brouwers (TU/e)

O.M. Jensen (DTU)

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מיסודם של
משרד הבינוי והשיכון

הטכניון - מכון טכנולוגי לישראל
הפקולטה להנדסה אזרחית וסביבתית

המכון הלאומי לחקר הבנייה

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Contact us

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anata@technion.ac.il.

