

Registration

The registration costs include a copy of the proceedings, lunches, refreshments at breaks, and banquet dinner for the full registrants. Student registration and one-day registration do not include the banquet dinner.

Contacts

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Abstracts Submission Guide

Submit a single page abstract, font should be New Times Roman 12 pt. Single line spacing, 300-word maximum. Please include: Title, Authors' Names, Affiliations, and Abstract Text. Also indicate: oral or poster presentation.

Venue

City of Tempe is located in the southeast of the metropolitan Phoenix in Maricopa County, Arizona. Tempe was recently designated as number 2 among The 50 Best Places to live in the U.S. by the Money Magazine. Among the criteria for this recognition, its economic opportunities, quality of life, and diversity are noted. Home to Arizona State University, Tempe is known for its active arts and culture scene, relative affordability and myriad employment opportunities in education, finance, health care and tech.

Tempe is a 10 minute ride by the Valley Metro Light Rail to the Phoenix Sky Harbor international airport, and 15 minutes to downtown Phoenix. To the downtown Tempe, the free Orbit Bus will shuttle you from a number of local destinations and hotels. Once you're downtown, the Tempe Streetcar will carry you everywhere from the Tempe Town Lake to the city's many live music venues, and restaurants.



Arizona State University

The School of Sustainable Engineering and the Built Environment at Arizona State University (ASU) is the event's host. ASU is currently the nation's largest public research university impacting our community, region, and world at a scale that has more than 137,000 master learners across five campuses. Arizona State University, ranked No. 1 "Most Innovative School" in the nation by U.S. News & World Report for eight years in succession, has forged the model for a New American University by operating on the principles that learning is a personal and original journey for each student; that they thrive on experience and that the process of discovery cannot be bound by traditional academic disciplines.

The Ira A. Fulton Schools of Engineering within ASU has an interdisciplinary structure consisting of 7 schools with program offerings on 2 campuses and online, fostering cross-campus and global partnerships. The academic programs, enrollments and graduates include a total of 25 undergraduate degree programs; 50+ graduate programs; approximately 27,000 students (~9,000 online, ~18,000 on-campus); and more than 5,100 graduates across all degree levels in during the 2020-2021 academic year. Further info at: <https://faculty.engineering.asu.edu/frc2023>



Call for Abstracts

Arizona State University
School of Sustainable Engineering
and the Built Environment



4th FRC International ACI–fib–RILEM Joint Workshop

<https://faculty.engineering.asu.edu/frc2023>

**Fiber Reinforced Concrete:
From Design to Structural Applications**

First announcement

Tempe, Arizona USA
September 18-20, 2023



Proposed Partner Organizations

Aim and scope

After more than fifty years of research dedicated to the unique material properties, the last two decades have focused on introducing Fiber Reinforced Concrete (FRC) to several building codes as a structural material; this has allowed an increasing use among practitioners in tunnel linings, elevated slabs, precast elements and other structures. The new prospects for use of FRC include primary reinforcement or hybrid form with rebars, FRP, or welded mesh. Additionally, when sustainability, serviceability, maximum allowable crack width, member size reduction, and stiffness are of concern, tailoring the FRC with enhanced mechanical properties has demonstrated to be a suitable solution for new or strengthening existing structures, thus extending the service life of structures.

The design focus area was first addressed in 2004 (Bergamo, Italy), and then held nearly once every four years with the second workshop in 2014, (Montreal, Canada), and 2018 in (Desenzano, Italy). The aim is to provide the State-of-the-Art on the recent worldwide developments in structural applications of FRC.

Presentations of case studies will focus both on structural design and on the description of applications such as beams, columns, ductility based design, elevated floors, tunnel linings, foundations, industrial slabs, precast elements, bridges and other applications. Special attention will be also devoted to the development of structural codes as well as to durability of FRC structures by considering the significant reduction of crack opening provided by fiber reinforcement.

This workshop will attempt to bring various sectors of research community and industry together to promote a cross-fertilization of ideas, new concepts, and structural applications.

Call for papers: Important dates

Abstract submission: by January 30th, 2023

Abstract acceptance: by February 28st, 2023

Paper submission: by May 1st, 2023

Papers reviewed and returned to authors,

Notification of acceptance: July 1st, 2023

Final papers submitted for final review: by August 1st, 2023

Main topics

Design specifications for structural applications:

- *fib* Model Code
- International Recommendations, Codes and Standards
- Serviceability Based Design

Structural applications:

- Buildings and environmental structures
- Bridges, industrial slabs, Precast Applications
- Seismic Applications

Special structures, Hybrid Designs, TRC, UHPC, and FRP

- TRC, UHPC, TRCM, FRP applications,
- Alternative energy power generation, wind, tidal, wave
- Nuclear containment buildings, Harbor construction

Durability and life cycle assessment

- Limit states, crack width based design
- Durability based Serviceability Based Design
- Global Warming Potential, LCCA, and sustainability

Retrofitting and strengthening of existing structures

- Textiles, TRCM, FRP application, Hybrid Designs
- Shear, and flexural, provisions for FRC, TRC, FRP, and HPFRC

Foundation and underground applications:

- Tunnel linings, Environmental structures

Other design considerations

- Nonstructural element design
- Design for fire resistance

Publications

Papers will be peer reviewed. Proceedings will be published through the collaboration with by ACI in the form of SP publications in CD format and also as *fib* bulletin in print. Accepted papers will be covered by main indexed databases (Scopus and others)

Organizing Committees

Conference Chairmen

Prof. Bruno Massicotte (Polytechnique Montreal, Canada)

Prof. Giovanni Plizzari (University of Brescia, Italy)

Prof. Barzin Mobasher (Arizona State University, USA)

Local Organizing Committee

Prof. Barzin Mobasher (Arizona State University, USA)

Workshop format

The two- and half-day workshop will be probably divided into five main sessions. The formal presentations will be mixed with time for discussion among participants and speakers.

Preliminary Program

Sunday, September 17, 2023

18:00 Welcoming party

Monday, September 18, 2023

08:00 Opening Ceremony

SESSION I:

8:30-11:30 (coffee break 10.15)

12:00-1:00 Lunch

SESSION II:

13:30-17:30 (coffee break at 16.30)

Tuesday, September 19, 2023

SESSION III:

9:00-12:30 (coffee break 10.30)

12:00-1:00 Lunch

SESSION IV:

13:30-17:30 (coffee break at 16.30)

18:30 Banquet Dinner

Wednesday Sept 20, 2023

SESSION IV:

9:00-12:30:

Conclusions and Closing Ceremony