

First RILEM International Conference on Concrete and Digital Fabrication

The First RILEM International Conference on Concrete and Digital Fabrication was held in Eindhoven, The Netherlands, from June 13-15, 2023. The conference brought together researchers, practitioners, and industry leaders from around the world to discuss the latest advancements in concrete and digital fabrication technologies.



First RILEM International Conference on Concrete and Digital Fabrication – Digital Concrete 2024 (RILEM Bookseries Book 19)

★★★★★ 5 out of 5

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Print length : 362 pages



The conference covered a wide range of topics, including:

- * 3D printing of concrete
- * Additive manufacturing of concrete
- * Digital fabrication of concrete structures
- * Concrete materials for digital fabrication
- * Design and optimization of concrete structures for digital fabrication
- * Applications of digital fabrication in the construction industry

The conference was a great success, with over 200 attendees from 30 countries. The conference proceedings have been published in a special issue of the journal Cement and Concrete Composites.

3D Printing of Concrete

3D printing is a digital fabrication technology that uses a computer-controlled machine to build a three-dimensional object by depositing material layer by layer. 3D printing has been used to create a wide variety of objects, including buildings, bridges, and even human organs.

Concrete is a versatile material that is well-suited for 3D printing. Concrete is strong, durable, and fire-resistant. It can also be shaped into complex shapes, making it ideal for use in digital fabrication.

3D printing of concrete has the potential to revolutionize the construction industry. 3D printing can be used to create concrete structures that are more efficient, sustainable, and cost-effective than traditional construction methods.

Additive Manufacturing of Concrete

Additive manufacturing is a digital fabrication technology that uses a computer-controlled machine to build a three-dimensional object by adding material layer by layer. Additive manufacturing is similar to 3D printing, but it can be used to create objects with more complex shapes.

Additive manufacturing of concrete has the potential to create concrete structures that are stronger, lighter, and more durable than traditional construction methods. Additive manufacturing can also be used to create

concrete structures with complex shapes, making it ideal for use in architectural applications.

Digital Fabrication of Concrete Structures

Digital fabrication is a digital fabrication technology that uses a computer-controlled machine to create a three-dimensional object from a digital model. Digital fabrication can be used to create a wide variety of objects, including concrete structures.

Digital fabrication of concrete structures has the potential to revolutionize the construction industry. Digital fabrication can be used to create concrete structures that are more efficient, sustainable, and cost-effective than traditional construction methods. Digital fabrication can also be used to create concrete structures with complex shapes, making it ideal for use in architectural applications.

Concrete Materials for Digital Fabrication

The development of new concrete materials is essential for the advancement of digital fabrication technologies. New concrete materials must be able to meet the unique requirements of digital fabrication, such as printability, durability, and strength.

Researchers are developing new concrete materials that are specifically designed for digital fabrication. These new materials have the potential to improve the performance and efficiency of digital fabrication technologies.

Design and Optimization of Concrete Structures for Digital Fabrication

The design and optimization of concrete structures for digital fabrication is essential for the successful implementation of digital fabrication technologies in the construction industry. Concrete structures must be designed to meet the specific requirements of digital fabrication, such as printability, durability, and strength.

Researchers are developing new design and optimization methods for concrete structures that are specifically designed for digital fabrication. These new methods have the potential to improve the performance and efficiency of digital fabrication technologies.

Applications of Digital Fabrication in the Construction Industry

Digital fabrication has the potential to revolutionize the construction industry. Digital fabrication can be used to create concrete structures that are more efficient, sustainable, and cost-effective than traditional construction methods. Digital fabrication can also be used to create concrete structures with complex shapes, making it ideal for use in architectural applications.

Researchers are developing new applications for digital fabrication in the construction industry. These new applications have the potential to improve the performance and efficiency of the construction industry.

The First RILEM International Conference on Concrete and Digital Fabrication was a great success. The conference brought together researchers, practitioners, and industry leaders from around the world to discuss the latest advancements in concrete and digital fabrication technologies. The conference proceedings have been published in a special issue of the journal Cement and Concrete Composites.

The conference demonstrated the great potential of digital fabrication technologies for the construction industry. Digital fabrication has the potential to revolutionize the way we design, build, and maintain concrete structures.



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