10th eCAADE
REGIONAL INTERNATIONAL SYMPOSIUM

Higher Technical School of Architecture of the Basque Country
Donostia-San Sebastian (Spain)
May 23th -24th 2024

New Ways in Sustainable Materials Design in Architecture.
10th eCAADE Regional International Symposium

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The 10th eCAADe Regional International Symposium will be held at ETSA AGET – Higher Technical School of Architecture of the University of the Basque Country, Donostia-San Sebastián, Spain on May 23th and 24th, 2024. It suppose a great opportunity to meet many of you in Spain, during two days rich of workshops, discussions, knowledge exchange and collaboration kick-offs regarding innovative approaches in the use of Sustainable Materials in Architecture supported by Computer Aided Design.

Symposium theme

New Ways in Sustainable Materials Design in Architecture

The aim of the 10th eCAADe Regional International Symposium (RIS 2024) organized at ETSA AGET is to promote innovative approaches of Computer-Aided Architectural Design to the scientific, academic, and professional communities in the Spanish region and beyond. The main objective is on the potential of computational design to help improve the use of sustainable materials in Architecture. The symposium will create connections and promote discourse between local expertises, researchers, and professionals in the field of sustainable material application, with the eCAADe and the scientific community, to develop project ideas, research, and educational collaborations.

In addition, the event will serve to promote the creation of an interconnection between architects, designers, researchers and academics in the area of Southwest Europe, for the advancement of computational design, sustainable design, simulation and the use of sustainable materials, whether these are traditional materials such as wood and its new uses and products or other types of materials, more sustainable, recyclable and reusable, which bring a new perspective in architectural design.

The Symposium is made possible by the support, grants and financial assistance of the following institutions and companies:
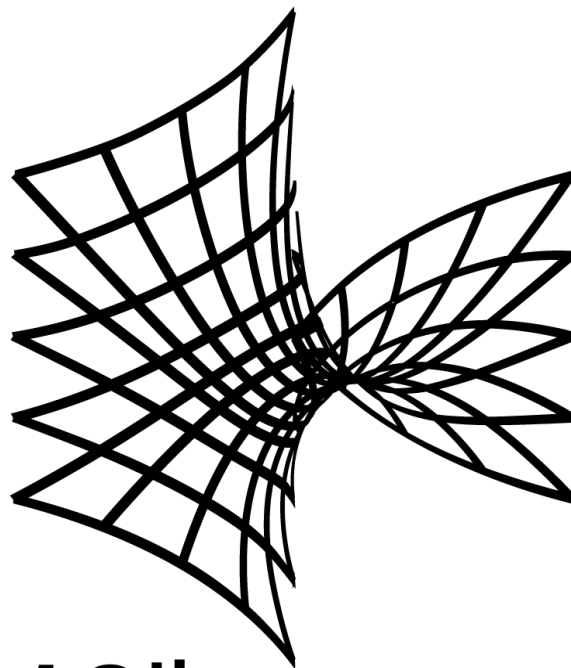
Theme

Traditionally, tectonics results from the sum of material, tools and design. Thus, tools and information have always determined how material has been used in the construction of Architecture.

In recent years, technological innovations are changing the concept, techniques and design tools with which material is treated. We can say that the use of sustainable materials is becoming a high technological concern, in terms of different types of industrial developments and products that focus on improving their mechanical, durability and fire-resistant characteristics. Similarly, instead of considering the use of sustainable materials as a design constraint, architects are taking the opportunity to create functional and aesthetically impressive designs to address environmental concerns.

The theme focuses primarily on digital graphic processes that can specifically enhance the use of sustainable materials in Architecture. Complex Shapes and Stereotomy of structural joints, the application of both new and recycled materials and the use of digitally controlled machining processes also represent an extensive field of research where the implementation of parametric tools and the use of digitally controlled machines contribute to shaping the near future of the way Architecture will be built.

The evolution from "mass production" to "mass customisation" involves the extensive implementation of digital control processes based on parametric tools and the intensive use of digitally controlled machines both during the machining and industrialisation processes and throughout the assembly and construction processes, both in new developments and in refurbishment.

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Topics

You are invited to submit papers regarding the symposium theme. Topics include, though are not limited to:

- 3D printing of sustainable buildings or building elements.
- Advanced materials and geometries in digital manufacturing.
- Biodegradable materials in digital manufacturing.
- Circular economy in digital design and manufacturing.
- Collaborative design and open source.
- Environmental impact of digital fabrication.
- Geometric approaches.
- Nature-driven design. Bio-inspired materials or applications.
- Parametric design applied to design, materials and sustainability.
- Recycling technologies in digital manufacturing.
- Regulations and standards in sustainable digital manufacturing.

Organization

The RIS 2024 will be organized by Higher Technical School of Architecture of the University of the Basque Country, Donostia-San Sebastián, hosted by Fablab Donostia.

The RIS 2024 Organizing Committee is formed by the Symposium Chairs, and the Symposium Team. In addition, the eCAADe Council will provide valuable support.

Symposium Chairs

- Francisco González Quintial, Arch. PhD. francisco.gonzalez@ehu.eus

  Architect. PhD. Lecturer at ETSA-AGET. Fablab Donostia Manager.
  https://orcid.org/0000-0001-6600-6024

  https://www.linkedin.com/in/paco-gonzalez-quintial-23279999/

- Andrés Martín Pastor, Arch. PhD. archiamp@us.es

  Architect. PhD. Lecturer at ETSIE. University of Seville.

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Symposium Team

- Iñigo Rodríguez Vidal, Arch. PhD. inigo.rodriguez@ehu.eus

  Architect. PhD. Lecturer at ETSA-AGET.

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- Jose Miguel Rico Martínez, Arch. PhD. j.rico@ehu.eus

  Architect. PhD. Lecturer at ETSA-AGET.

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Please turn with all the questions to ris2024@ehu.eus specifying in the mail subject line if the issue is academic or non-academic.

Symposium Review Committee (to be announced very soon)

Submissions

Researchers, academics, scholars, and professionals of any countries are invited to contribute to the symposium by presenting their research work. The paper submission is organized in two steps. At first, an abstract is submitted which will undergo a double-blind peer review process.

Call for abstracts

Abstract - 300 words + references (no template needed)

OpenConf submission link is <u>HERE</u>

Call for papers

Paper - 6-8-10 pages including references using the eCAADe template to download from <u>HERE</u>

OpenConf submission link is <u>HERE</u>

Papers publication

The accepted and presented papers will be published online in the CUMINCAD database (<u>https://papers.cumincad.org/</u>) and in the digital proceedings of the symposium. The proceedings will present also contributions by the keynote and invited speakers.

Important Dates

01.11.2023 – 1st call for abstracts.

15.11.2023 – 2nd call for abstracts.

15.12.2023 – Abstracts: submission deadline.

01.02.2024 – Abstracts: Notification of acceptance. Open Registration.

15.03.2024 – Full papers: Submission Deadline.

23.05.2024 / 24.05.2024 – Regional International Symposium (RIS)

Program

May 23th – Symposium & Workshop I

The workshops will take place at Higher Technical School of Architecture of the University of the Basque Country, Donostia-San Sebastián, hosted by Fablab Donostia.
https://www.ehu.eus/en/web/arkitektura-eskola/en-arkitektura

The Lectures will take place at Luis Peña Ganchegi Auditorium.
https://www.ehu.eus/en/web/arkitektura-eskola/en-arkitektura

08:30-08:50 – Registration and welcome

08:50-09:00 – Opening of the Symposium by Symposium Chairs

Francisco González Quintial, Arch. PhD. Lecturer at ETSA-AGET.

Andrés Martín Pastor, Arch. PhD. Lecturer at ETSIE. University of Seville.

9:00-11:30- WORKSHOP I *Modular assembly constraints in g-shells*

11:30-12:00- Coffee break

12:00-13:30- WORKSHOP II. (to be announced soon)

13:30-14:30 - Lunch break

14:30-15:00 - Keynote lecture

Keynote speaker: (to be announced soon)

15:00-16:30 - Papers session 1 Moderator: (to be announced soon)

16:30-18:00 - Papers session 2 Moderator: (to be announced soon)

18:00-19:00-Cocktail. Workshop Result Presentation

20:30 – Dinner

May 24th – Symposium & Workshop II

The workshops will take place at Higher Technical School of Architecture of the University of the Basque Country, Donostia-San Sebastián, hosted by Fablab Donostia.
https://www.ehu.eus/en/web/arkitektura-eskola/en-arkitektura

The Lectures will take place at Luis Peña Ganchegi Auditorium.
https://www.ehu.eus/en/web/arkitektura-eskola/en-arkitektura

9:00-11:30- WORKSHOP III *Developable Surfaces and Lightweight Timber Structures*

11:30-12:00- Coffee break

12:00-13:30- WORKSHOP IV (to be announced soon)

13:30-14:30 - Lunch break

14:30-15:00 - Keynote lecture

Keynote speaker: (to be announced soon)

15:00-16:30 - Papers session 3 Moderator: (to be announced soon)

16:30-18:00 - Papers session 4 Moderator: (to be announced soon)

18:00-19:00-Cocktail. Workshop Result Presentation

Workshop I. Modular assembly constraints in g-shells

We will work with flat collapsible elastic gridshells made out of straight planks to generate a large modular assembly. Workshop will run with Rhinocers 3d Grasshopper.

Enrique Soriano and Pep Tornabell are partners at CODA Computational Design Affairs, and run the MPDA program in parametric design at UPCSchool. Both are PhD candidates at BarcelonaTech.

Tutors: Enrique Soriano, Pep Tornabell   Email: ris2024@ehu.eus

Workshop II: Developable Surfaces and Lightweight Timber Structures

The workshop will focus on the use of the theory of developable surfaces in the design and generation of lightweight timber structures.

It is intended to be an eminently practical workshop, where attendees will be able to understand the application of certain geometric principles and participate in the assembly of a structure/pavilion using digital fabrication systems.

Tutors: Francisco Gonzalez-Quintial, Andrés Martin-Pastor.
 Email: ris2024@ehu.eus

Only one registration/fee is necessary to attend the workshops and to present a paper. The organizers will get direct information of the registrations.

PAPER PRESENTATION REGISTRATION

Every accepted paper will be presented at RIS 2024. For every presentation, one presenter must register paying the fee. Accepted papers which will not have finalized the registration and will be not presented, will be not published in CuminCAD – Cumulative Index of Computer-Aided Architectural Design: http://papers.cumincad.org/ and in the symposium publication.

REGISTRATION WILL BE OPEN ON FEBRUARY 1ST

Early registration fees are applicable before 20th of April, 2024. Then, **Normal registration fees** will be applied. After 20th of May, 2024, only **On-site registrations** will be possible.

(*) The reduced fee only applicable to participants currently employed or enrolled at institutions in European countries based on the GDP: Albania, Belarus, Bosnia and Herzegovina, Bulgaria, Czech Republic, Croatia, Estonia, Greece, Hungary, Latvia, Lithuania, Malta, Moldova, Montenegro, North Macedonia, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Turkey, Ukraine.

(**) This fee applies to BSc, MSc. Registrants must provide a copy of their student ID card when registering.

(***) This fee applies to PhD. Registrants must provide a copy of their student ID card when registering.

VAT 21% is included in all the fees.

Workshop & Symposium registration fee covers:

- Participation in the Workshops
- Attendance to the Lectures
- Certificate of attendance
- Workshops coffee breaks, Lunchs and final cocktails.
- Publication of one accepted paper
- Electronic copy of the proceedings and digital program of the symposium

DINNER REGISTRATION

A separate registration is required for the Symposium dinner (24th May afternoon) at a local restaurant (to be announced soon) for everyone who want to participate. The expected cost is between 35 and 45 EUR.

The confirmation must be sent not later than 10.05.2024.