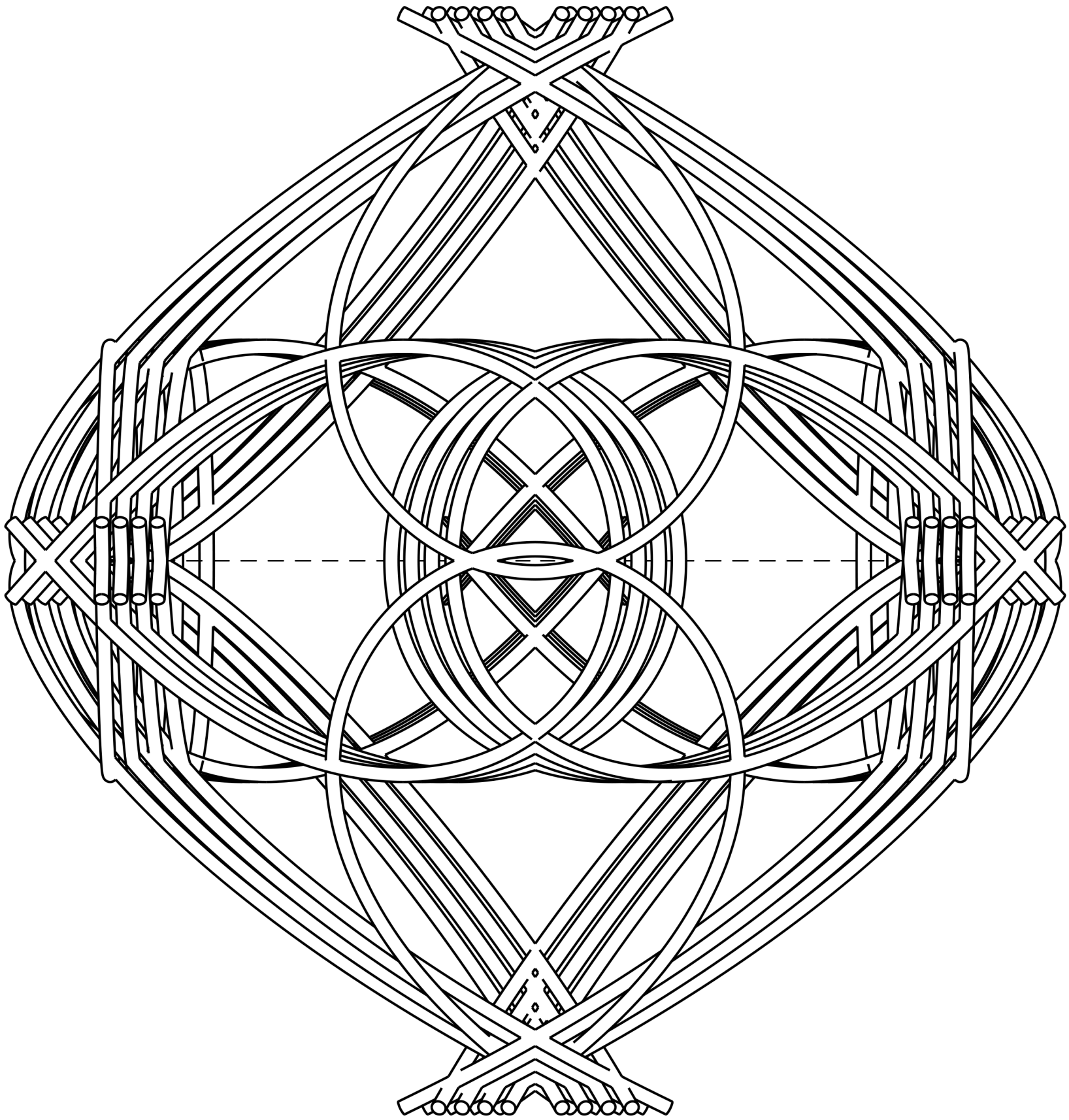

COLLINEATION

GROUNDS

Opening on May 26, 2021

Aalto University, Undergraduate Center
Otakaari 1 / F door

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Collineation Grounds

Crystal Flowers in Halls of Mirrors 2021

After successful student exhibitions of the transdisciplinary course Crystal Flowers in Halls of Mirrors: Mathematics meets Art and Architecture in Heureka Science Centre 2017 and Espoo Cultural Centre 2019, Aalto Math&Arts Minor exhibition returns to Otaniemi Campus in spring 2021. During the course, students from diverse disciplines and various stages of their studies have been working together in the realm of mathematics and arts searching interesting structures and concepts to be scrutinized and developed into tangible objects. This work was guided in collaboration with an interdisciplinary team of teachers via lectures, workshops and tutoring sessions.

The theme of the 2021 course highlighted the fundamental role of projective geometry in the development of modern mathematics and interaction with applied fields. Its original growth out of the efforts of architects and painters to present spatial objects on flat surfaces to an exciting branch of mathematics manifests itself in genuine interconnections, that can be developed across metric geometry and further towards other disciplines. From a beautiful and intricate system of consistent propositions about points, lines and planes, a collection of unexpected results follows, stretching our imagination and strengthening the link between mathematics and visual perception. Hand in hand with projective configurations, the exhibition space provides a frame to implement and share ideas and visions about low dimensional geometry and topology, that have been studied in the context of Aalto Math&Arts.

Teachers, Aalto University:
Kirsi Peltonen (Responsible Teacher, SCI Mathematics)
Taneli Luotoniemi (ARTS Artistic Research)
Laura Isoniemi (ARTS Design, Art Education)
Günther Filz (ARTS/ENG Architecture)
Pauliina Skyttä (Campus Architect, ACRE)
Markus Holste (Curator & Exhibition Architect, ARTS)
Marco Rodriguez (Curator & Exhibition Architect, ARTS)
Luiza Sevele (Curator & Exhibition Architect, ARTS)

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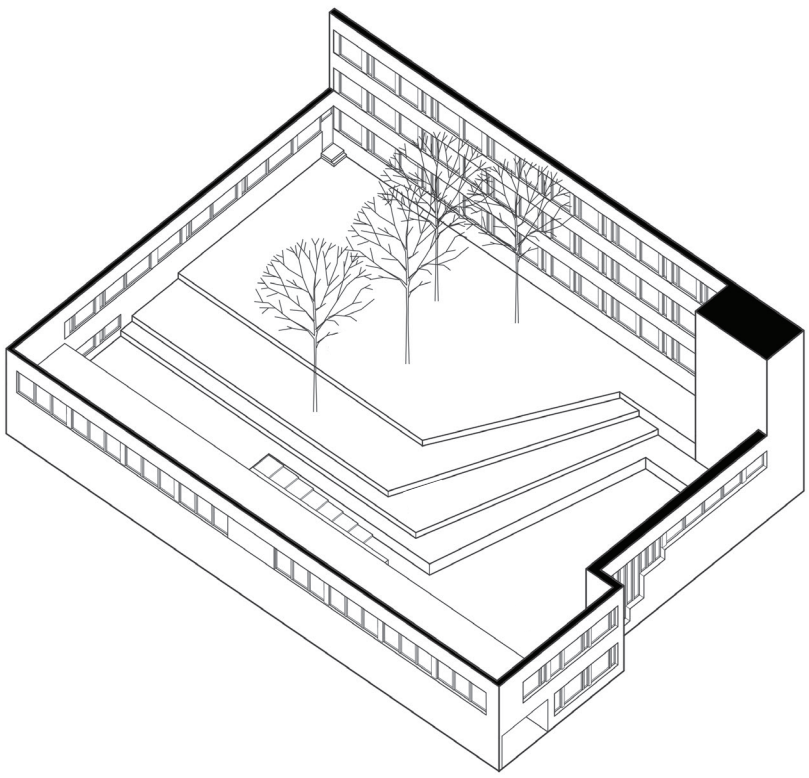
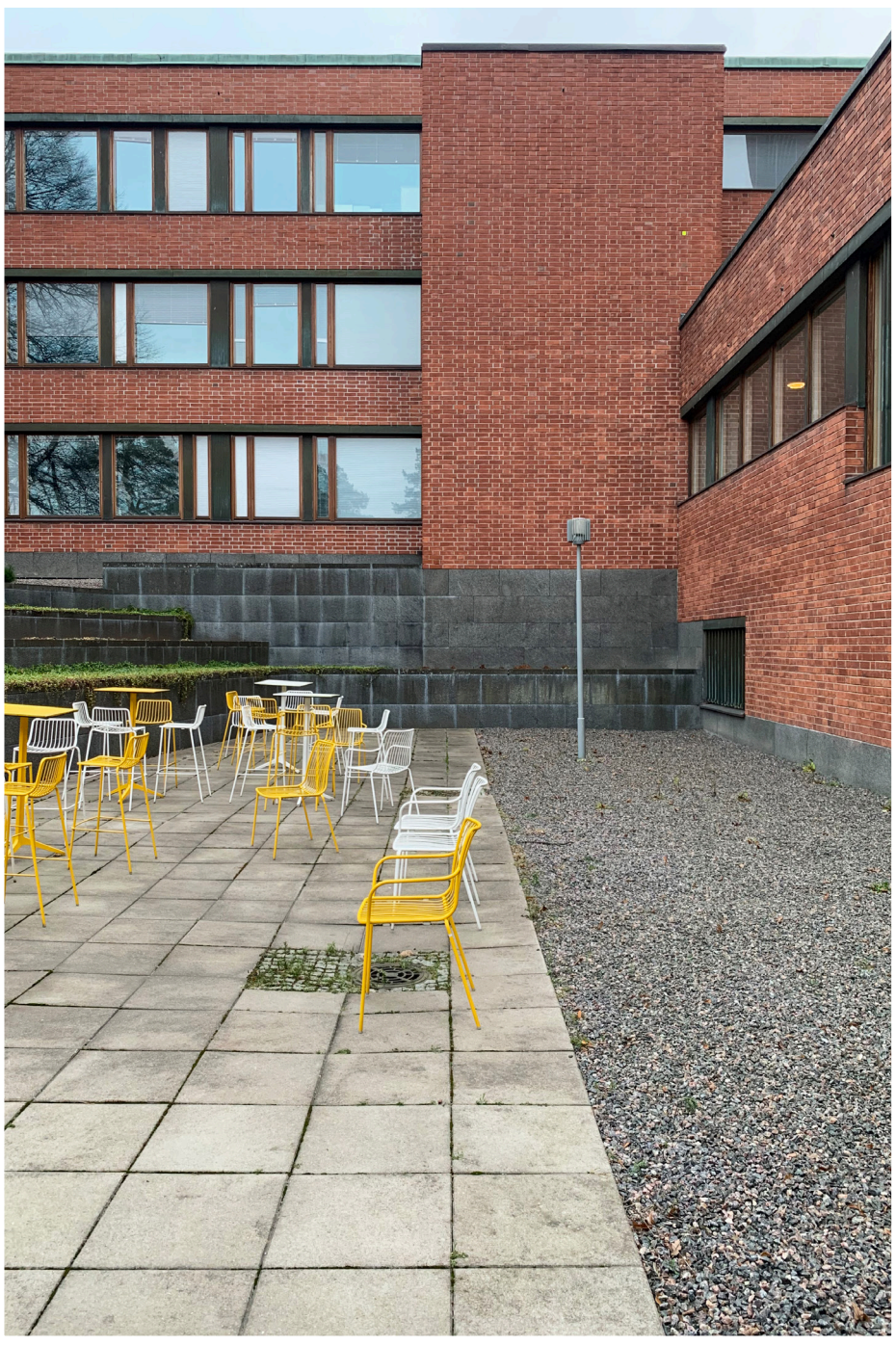
Exhibition Venue

Aalto University,
Undergraduate Center

The sheltered courtyard next to the main lobby of the Undergraduate Centre and its dark-red brick, black granite and copper clad façade provides a solid frame for the exhibition. In the spirit of Alvar Aalto, the student works enliven the premises from several perspectives through surrounding windows.





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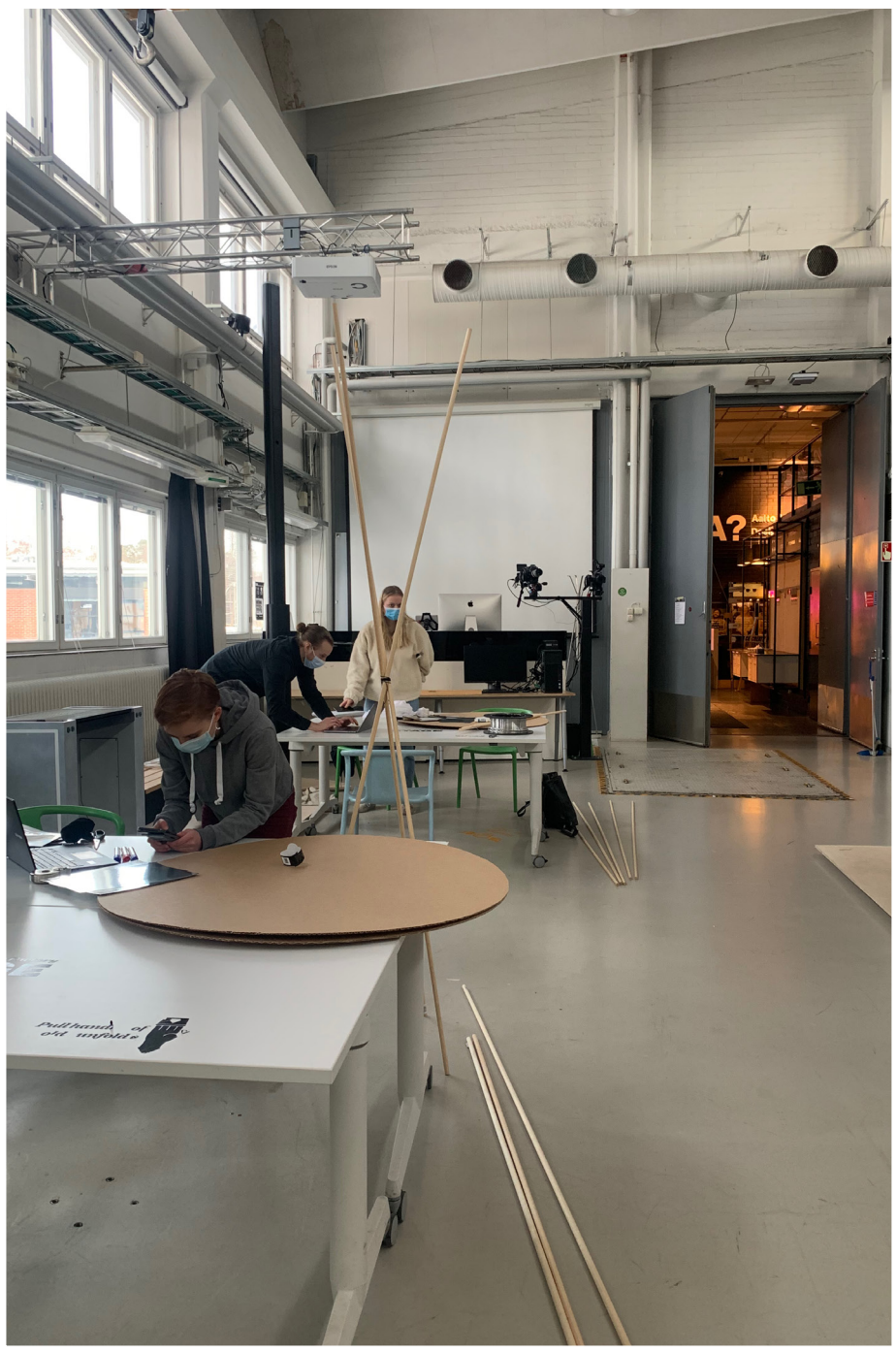
Design Workshop

Aalto University, Design Factory

February 2021

During the design workshop ‘Collineation Grounds,’ the students explored possibilities for their artworks, materiality, and scale. Student groups created mock-ups based on previous research, preliminary design, and mathematical concepts from the given materials (cardboard, wooden rods, metal wire, fabric, textile strings, tapes, markers). The workshop enhanced group work and communications, and students were able to practice the scale of the artwork in relation to space.



Students explore different materials and shapes for their artworks

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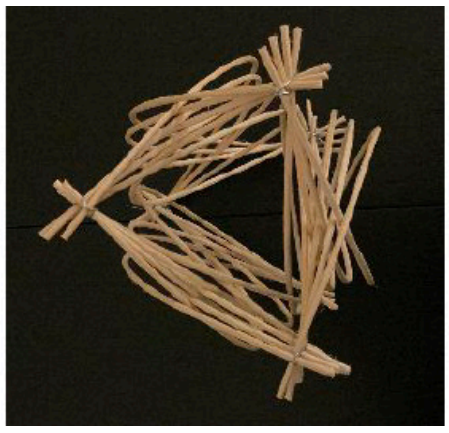
Student Artworks

Building process

April - May 2021

Team ‘Trillium’ in process of weaving together 120 willow sticks. All the 120 willows are interconnected to each other and form 12 modules. The final product is made of only two materials: the willow (Salix schwerinii) as a structural component, and the jute fibre (Corchourus olitorius) used for tightening the willows together.



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Team ‘Lasiradio’ introduces a recent discovery concerning a family of straight paths around the dodecahedron, specifically those that start and end at a vertex but succeed in avoiding every other vertex. The final work consists of a skeletal dodecahedron and a surface delineated by a path. Materials: steel plates, copper wires.

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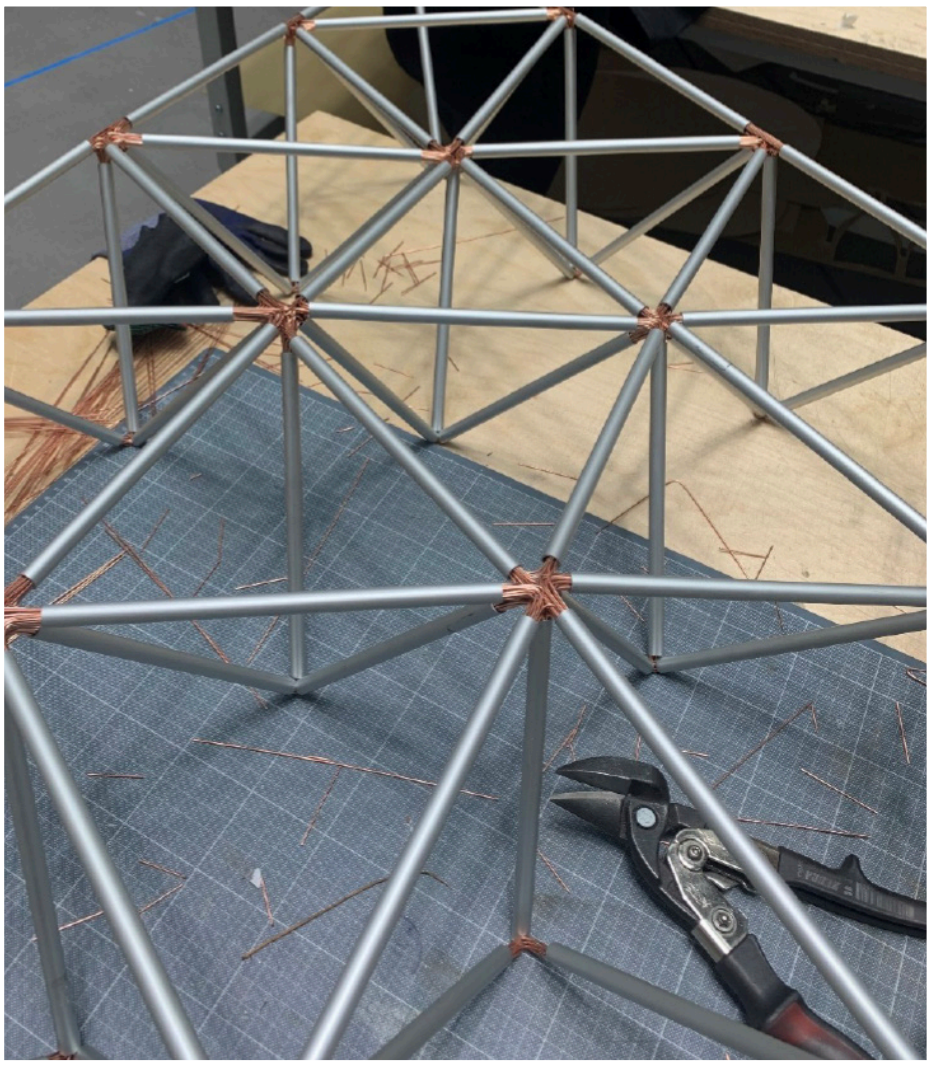

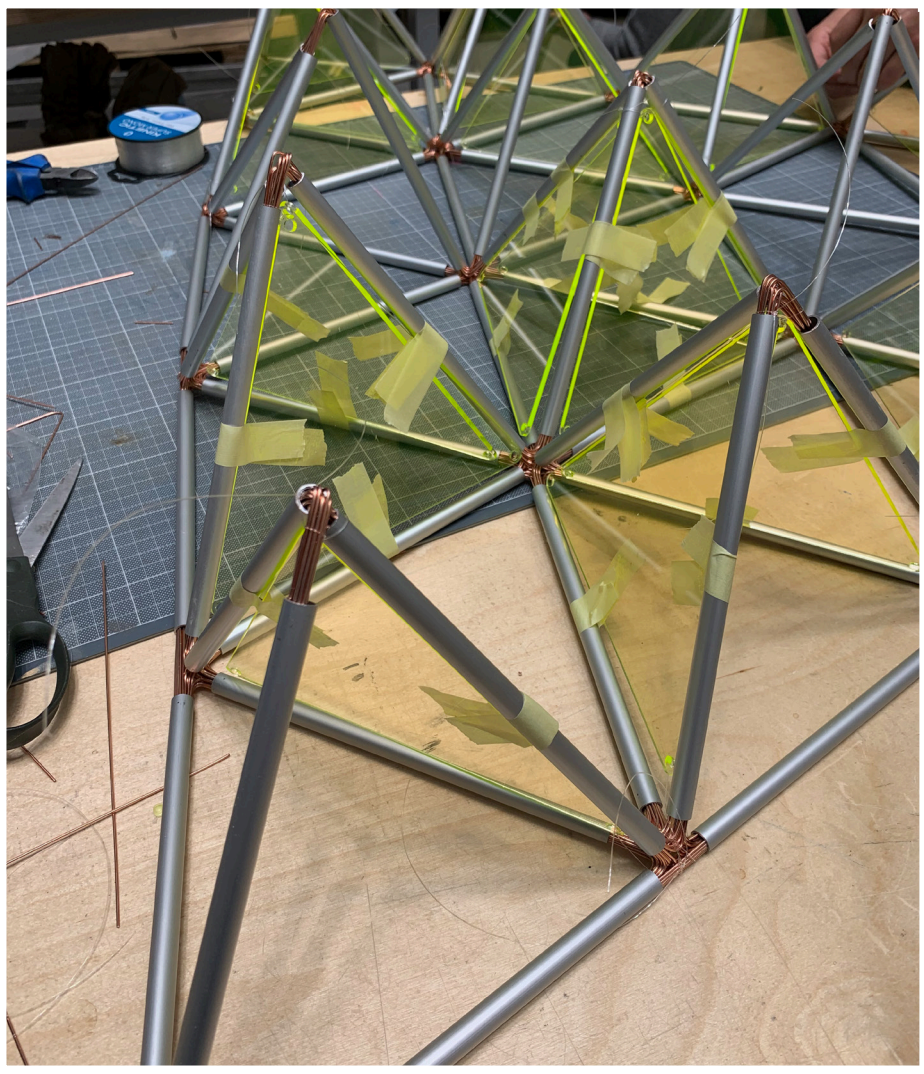

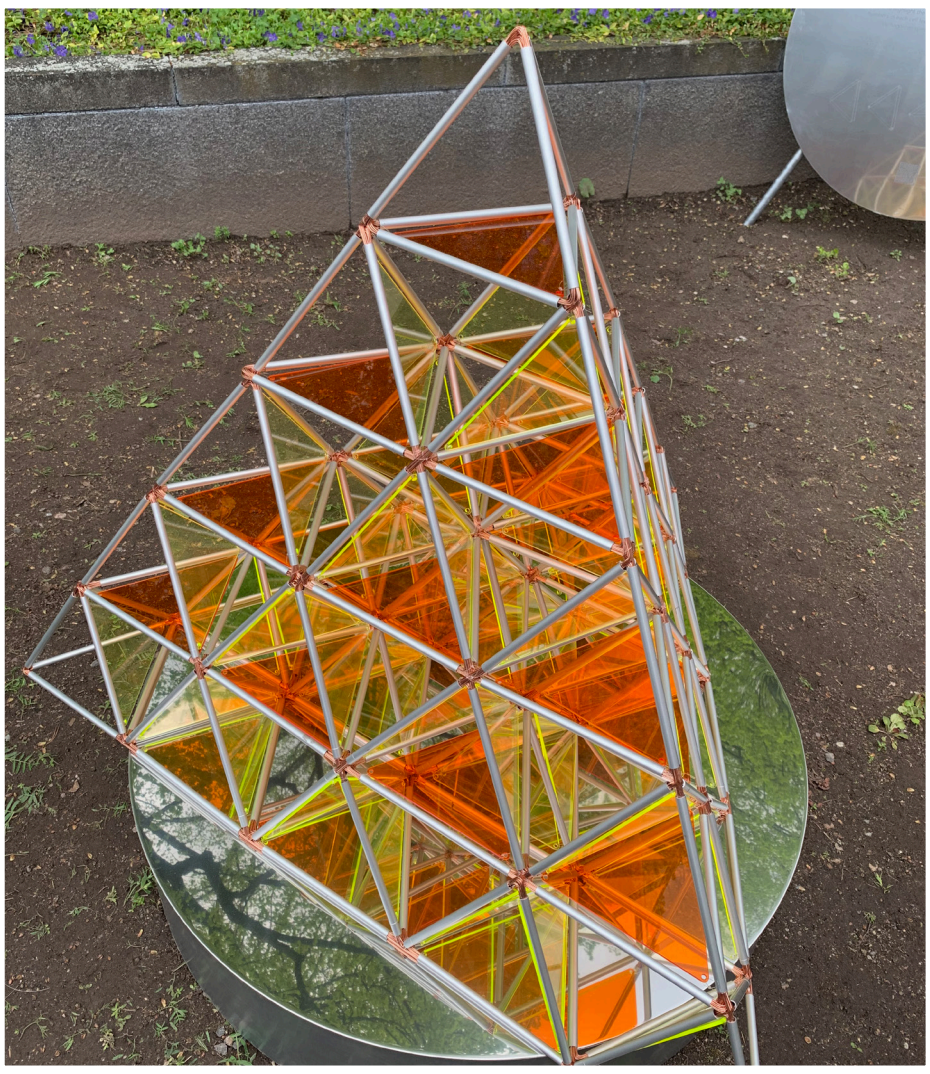

Team ‘Love Triangles’ uses tetrahedron units stacked as larger tetrahedron modules, as they naturally follow the same triangular nature. The displaying of the sequence led to even different geometrical properties inside the configuration that are highlighted with the help of acrylic sheets.

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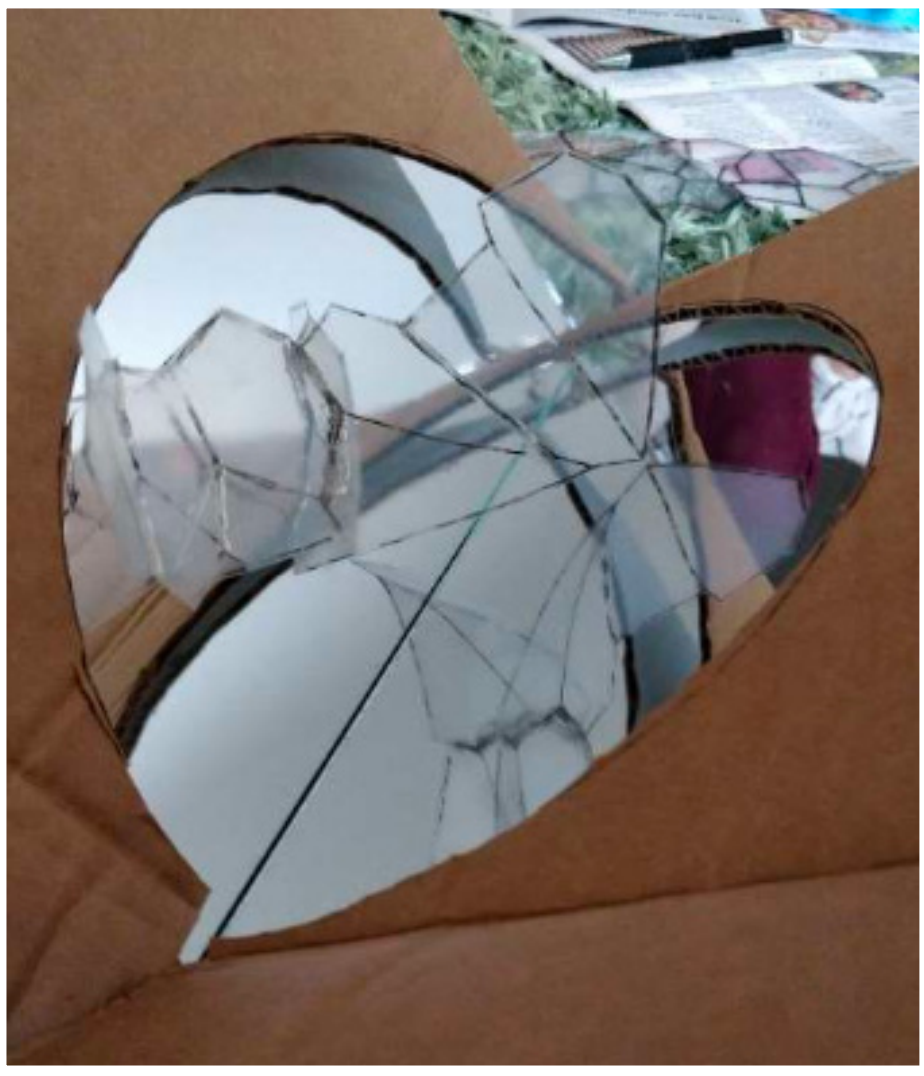

Team ‘The Dragonfly’ focuses on Dragonfly’s wings and the Voronoi pattern there. They create two wing abstractions between two mirrors that cut each other at 90 degrees. The wings are designed of different colored plexiglass.

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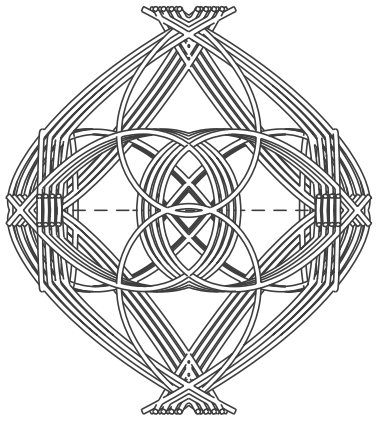
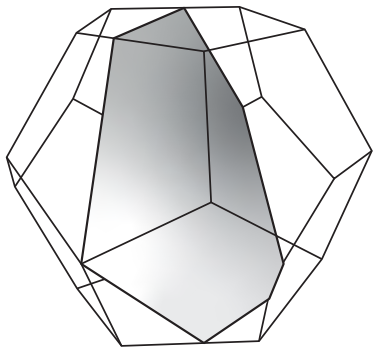


TRILLIUM

Calvin Guillot, ELEC

Faezeh Sadeghi, ARTS



AN UNEXPECTED JOURNEY

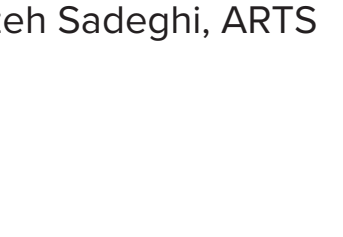
Lumi Alastalo, ARTS

Tom Henriksson, ARTS

Otso Hyvärinen, SCI

Riitta Matikainen, MA

Viljami Virolainen, SCI

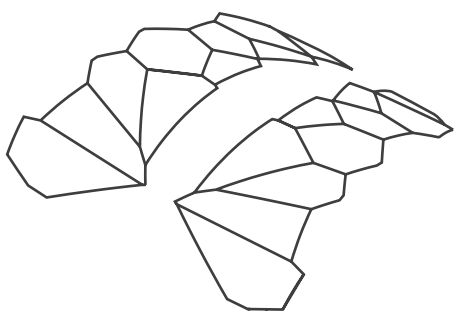


TETRACTYS

Ilkka Mutanen, ARTS

Helena Karling, HY

Emilia Söderström, ENG



DRAGONFLY

Sanni Lares, SCI,

Filippa Sandberg, SCI

Verneri Mäntysaari, ENG

Ekin Ünlü, Architect

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Kalevi Ekman
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Metalworks

Paja & Bureau

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