

BRIDGES AALTO 2022

MATHEMATICS / ART / MUSIC / ARCHITECTURE / CULTURE

# August 1-5, 2022 Aalto University, Finland Program and Conference Information



Federation of Finnish  
Learned Societies

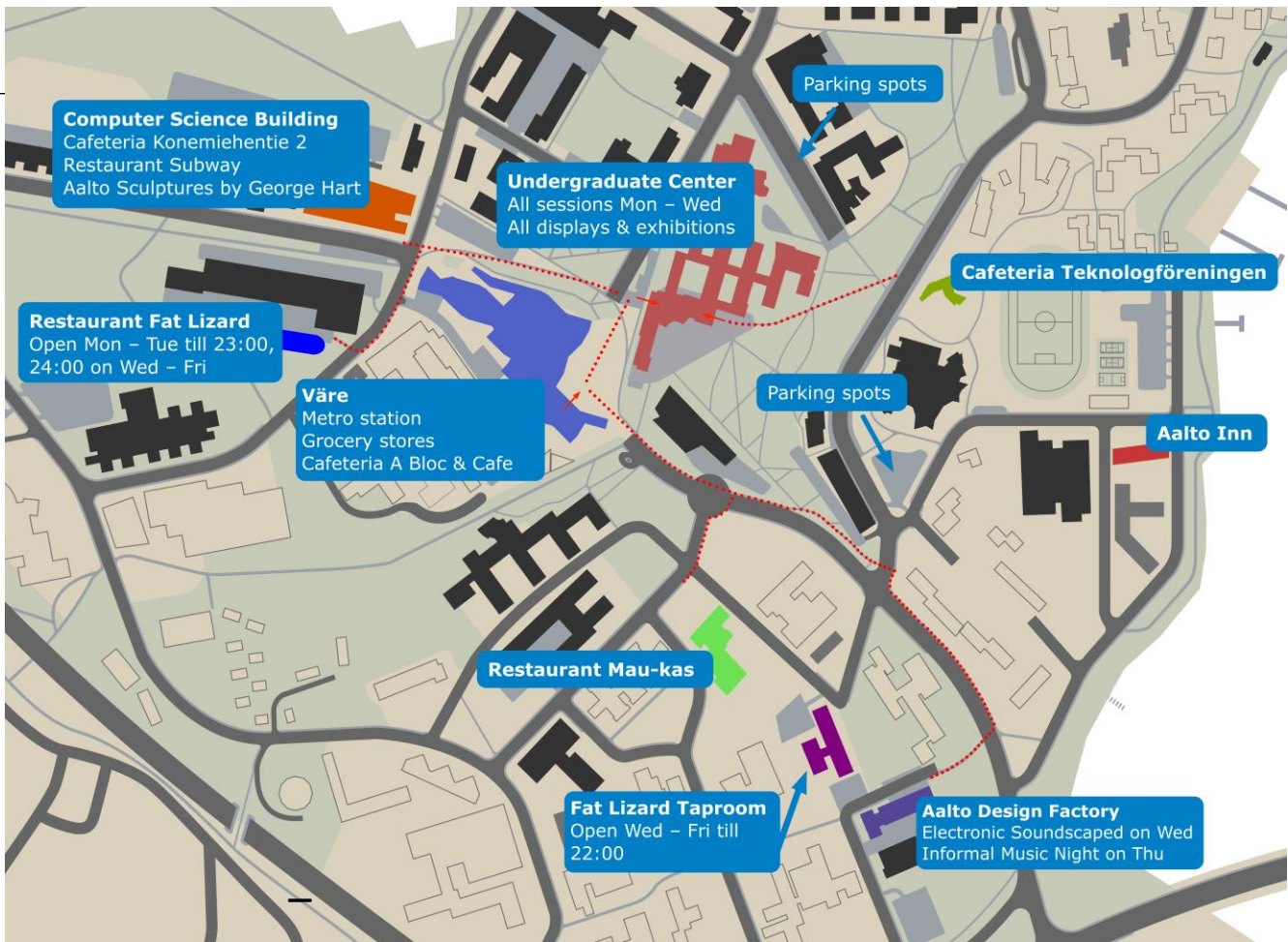


SUOMEN KANSALLISMUSEO  
THE NATIONAL MUSEUM OF FINLAND



Finnish Cultural  
Foundation





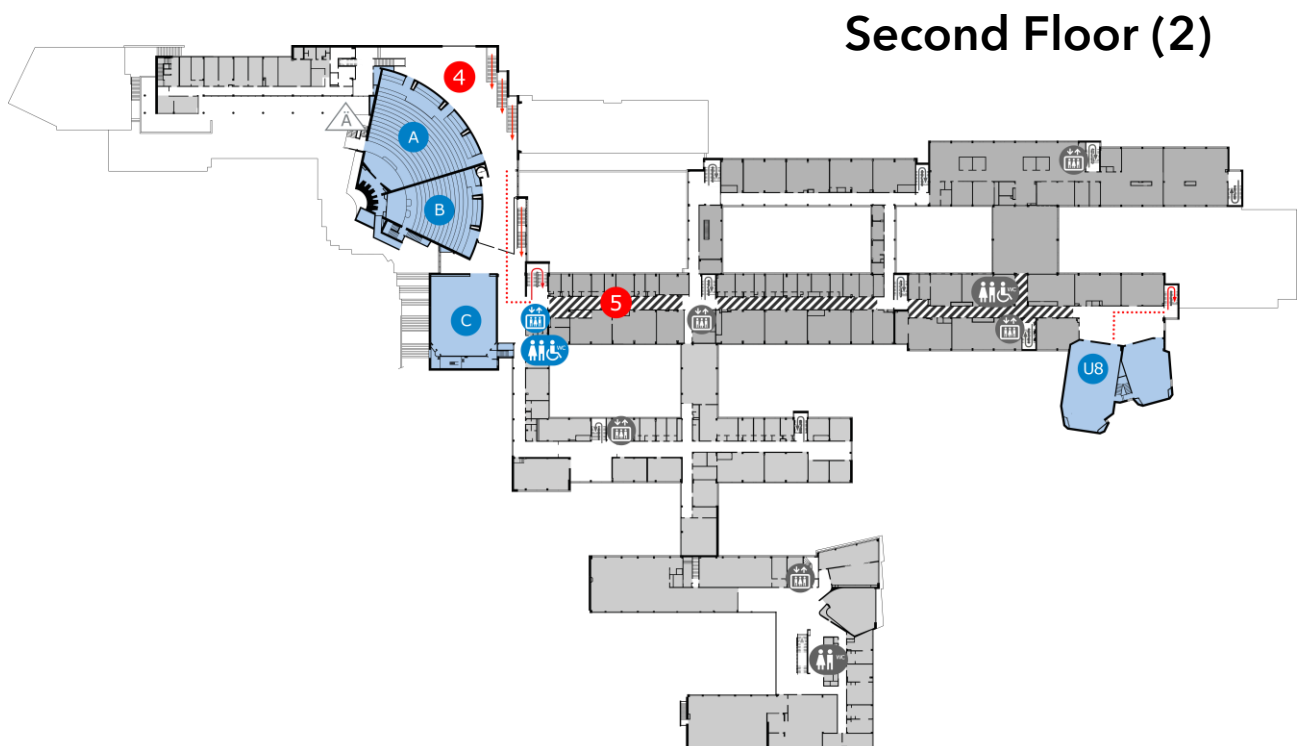
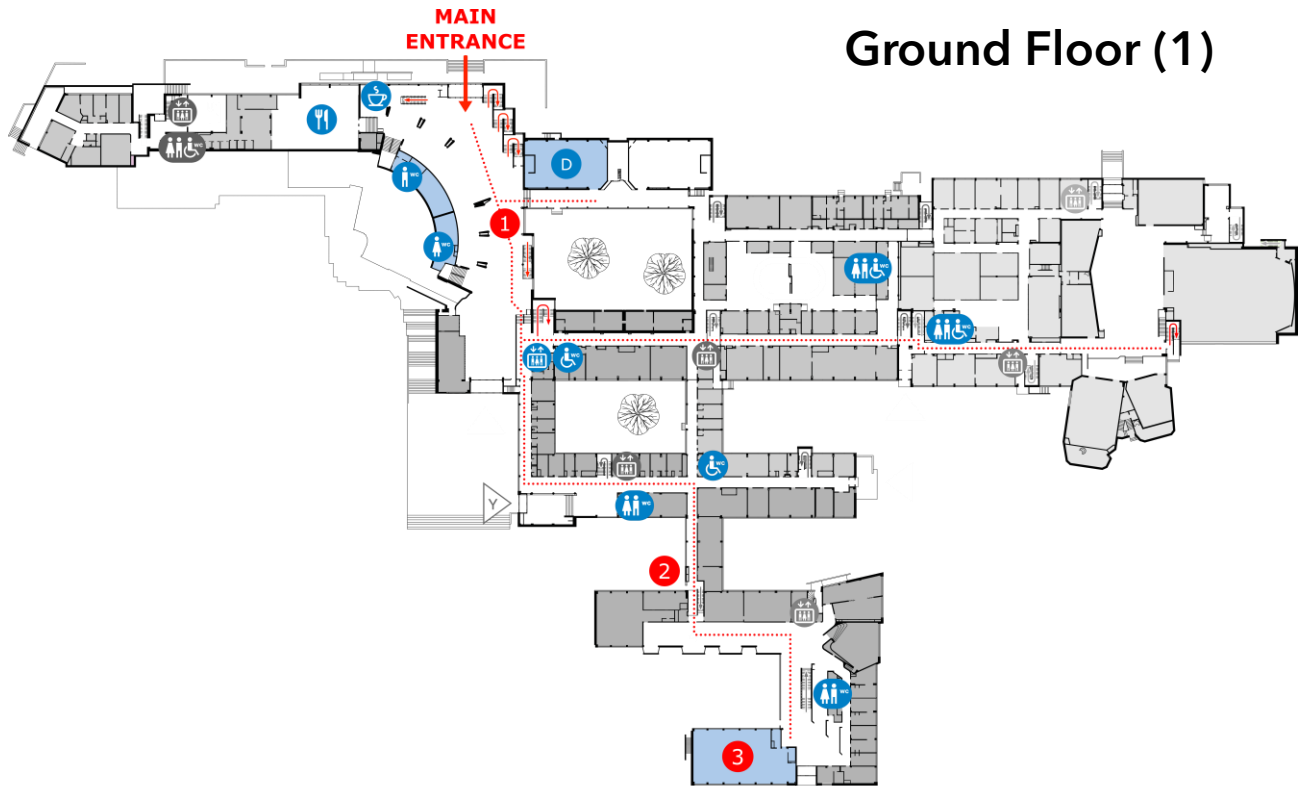
## NOTE TO PARTICIPANTS ARRIVING BY CAR:

You need a permit to park in Otaniemi. Parking permits are issued daily at the reception of the Undergraduate Center. Note that one parking lot can contain spaces with different allowed parking periods, ranging from 4 to 20 hours. Your time of parking, rounded up to the next 30 minutes, must be visible on the dashboard through the windscreen (for example, arriving at 08:12, set meter to 08:30).

**LUNCH COUPONS PROVIDED BY THE CITY OF ESPOO VALID AT A BLOC.  
OTHER LUNCH OPTIONS: FAT LIZARD, MAU-KAS, STUDENT CAFETERIAS.**

## VENUE MAP (UNDERGRADUATE CENTER)

1. Registration & Informal Display Area
2. Doors locked: open by pressing the button next to the door
3. Bridges Exhibition
4. Coffee served here at 10:30 & 15:30 daily
5. Hallways of floor 2 are inaccessible: passage to hall U8 through ground floor



# GENERAL SCHEDULE

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## Sunday, 31 July at Aalto University

9:00 – 18:00: Hand delivery of Exhibition pieces

14:00 – 18:00: Registration

16:00 – 18:00: All talk rooms available for practice loading presentations

## Monday, 1 August at Aalto University

8:30 – 12:00: Registration

9:00 – 9:30: Opening Remarks

9:30 – 10:30: Reza Sarhangi Memorial Lecture: [Daina Taimina: \*What I Learned in 25 Years Crocheting Hyperbolic Planes\*](#)

10:30 – 11:00: Coffee break

11:00 – 12:00: Plenary Lecture: [Rudy Rucker: \*Logic, Chaos, and Writing Science Fiction\*](#)

12:00 – 14:00: Lunch break

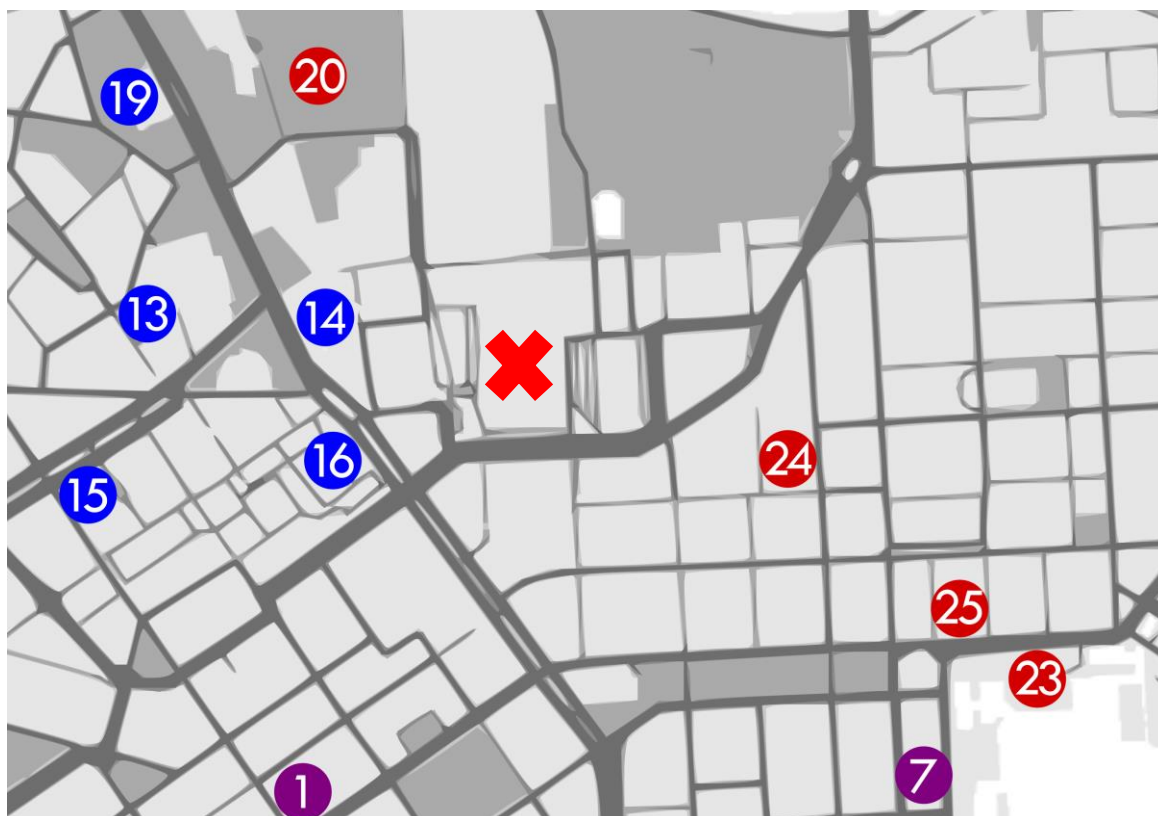
14:00 – 15:30: Regular and Short paper presentations and Workshops

15:30 – 16:00: Coffee break

16:00 – 17:30: Regular and Short paper presentations and Workshops

19:00 – 20:30: Helsinki City Hall Reception (free online registration by July 25<sup>th</sup> required)

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The city hall is marked on the map as **number 25**. The central railway station is marked with a red cross. The city hall is easily reachable from the Töölö Towers by tram line 2, check the precise route from Google Maps or the HSL app.

# GENERAL SCHEDULE

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## Tuesday, 2 August at Aalto University

8:30 – 12:00: Registration

9:15 – 9:30: Announcements

9:30 – 10:30: Plenary Lecture: [Miri Golan](#): [ORIGAMETRIA: Using Origami to Teach Geometry](#)

10:30 – 11:00: Coffee break

11:00 – 12:00: Plenary Lecture: [Paul Jackson](#): [Mirror Symmetry Collages in Folded Paper](#)

12:00 – 14:00: Lunch break

14:00 – 15:30: Regular and Short paper presentations and Workshops

15:30 – 16:00: Coffee break

16:00 – 17:30: Regular and Short paper presentations and Workshops

18:00 – 20:00: Exhibition Reception, **Sponsored by World Scientific**

## Wednesday, 3 August at Aalto University

9:15 – 9:30: Announcements

9:30 – 10:30: Plenary Lecture: [Jessica Wynne](#): [Do Not Erase](#)

10:30 – 11:00: Coffee break

11:00 – 12:00: Plenary Lecture: [Andrew Witt](#): [Formulations: Practices of Architectural Mathematics](#)

12:00 – 14:00: Lunch break

14:00 – 15:30: Regular and Short paper presentations and Workshops

15:30 – 16:00: Coffee break

16:00 – 17:30: Regular and Short paper presentations and Workshops

Evening Event: 19:30 – 20:30: Electronic Soundscapes by Petteri Mäkinen and Tuomas Ahva at Aalto Design Factory, <https://designfactory.aalto.fi/>; Betonimiehenkuja 5, Espoo, sponsored by Fat Lizard

# GENERAL SCHEDULE

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Thursday, 4 August at Helsinki University (AM) and National Finnish Museum (PM)  
PORTHANIA 1, YLIOPISTONKATU 3

9:15 – 9:30: Announcements

9:30 – 10:30: Public Lecture: [Samuli Siltanen: \*The Art of Inverse Problems\*](#)

10:30 – 11:00: Coffee break

11:00 – 12:00: Public Lecture: [Matt Parker: \*Stand-Up Mathematics\*](#)

12:00 – 14:00: Lunch break

13:00 – 17:30: Family Day/ Poetry Reading/ Short Film Festival/ Demoscene Screenings

In the Auditorium:

13:00 – 13:40: Short Film Festival (1st Screening, no Q&A)

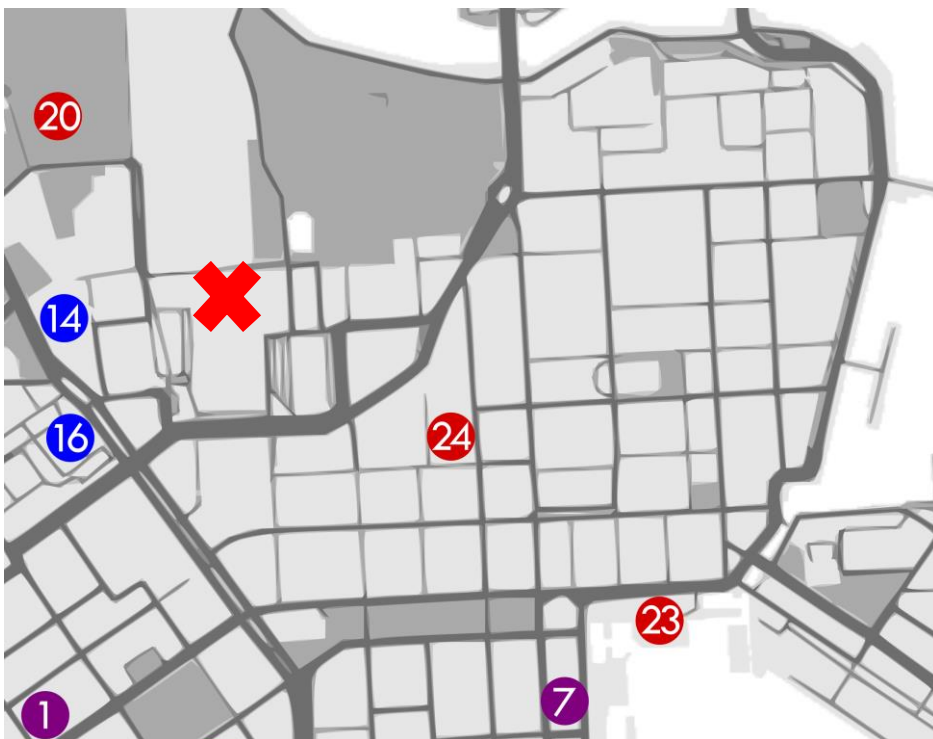
13:50 – 14:40: Demoscene screening

14:50 – 16:20: Poetry Reading

16:30 – 17:30: Short Film Festival (2nd Screening, with Q&A)

14:00 – 17:30: Around the museum: Hands-on workshops

20:00 – 23:00: Informal Music Night, hosted by Doug Norton, at Aalto University Aalto Design Factory Stage, **sponsored by Fat Lizard**



The Porthania building is marked on the map as **number 24**. The central railway station is marked with a red cross.

# GENERAL SCHEDULE

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**Friday, 5 August:** Excursion Day

5.8 10-12 **The Mystery of the Often-Sneezing Octopus** presentation by Markus Rissanen at Myllypuro elementary school

The Mystery of the Often-Sneezing Octopus is a public artwork by artist Markus Rissanen (b. 1973) completed in June 2022. The work was commissioned by the City of Helsinki and it is located at the Myllypuro elementary school. The artwork consists of 2216 custom made rhombic ceramic tiles attached on a 60m<sup>2</sup> wall outside of the school. The work is based on Hex Rosa, a tiling system developed by the artist. The Hex Rosa tiling is a rotationally symmetric pattern which can be constructed for any integer  $n > 1$ . The rotational symmetry of this artwork is based on number 7.

On Friday Aug. 5th at 10-12 artist Markus Rissanen will show the work outside the school, its continuation inside the school and show some additional drawings and sketches relating to the pattern and the geometric ideas behind it.

Location: Yläkivenrinne 4 (close to Yläkivenrinne 6), Myllypuro, Helsinki. Circa 500m to direction South-West from the Myllypuro Metro station. Walk along street Yläkiventie until you see Formula Center Helsinki ahead. Turn left to Yläkivenrinne street and after descending the hill continue right to the parking lot. Look around and you will see the artwork.



# MARKUS RISSANEN: BIOGRAPHY

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Doctor of Fine Arts (2017), The University of the Arts, Helsinki, Finland.  
Born 1973 in Kuopio, Finland.  
Lives and works in Helsinki, Finland.

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00100 Helsinki  
FINLAND

email: markus.rissanen@gmail.com

I have been working mainly as a free professional artist since 2001 after graduating from the department of painting from the Finnish Academy of Fine Arts, Helsinki, Finland. I received my doctorate in 2017 with the thesis *Basic Forms and Nature* from the same academy that is now part of the larger University of the Arts. I have held several solo exhibitions since 2001 many of them in Galleria Heino, Helsinki, Finland.

My works are often connected to science and nature. In my paintings this connection is usually very informal and playful but in addition I also have a more serious interest in science, especially in mathematics and geometry.

As a part of my doctoral thesis I discovered a certain quasiperiodic rhombic tiling system, which was the first known general solution with a positive answer to the question "is there a quasiperiodic tiling with  $n$ -fold rotational symmetry for all  $n$ ?" This positive result with a proof was published as a co-authored peer reviewed article; Jarkko Kari and Markus Rissanen: "Sub Rosa, a System of Quasiperiodic Rhombic Substitution Tilings with  $n$ -Fold Rotational Symmetry", *Discrete & Computational Geometry*, Vol. 55, Issue 4, (June 2016), pp 972-996.

As a part of the development process there evolved several tiling systems. One such 7-fold rotationally symmetric rhombic tiling system is utilized in my newest public artwork commissioned by the city of Helsinki. This large-scale artwork called *The Mystery of the Often-Sneezing Octopus* is located in an elementary school in Myllypuro, Helsinki.

As a part of the Bridges 2022 program I will give a presentation of this artwork in its location in Myllypuronrinne 4, Helsinki at Friday, August 5th at 10:00 – 12:00.

# AFTERNOON SESSIONS: MONDAY, 1<sup>st</sup> OF AUGUST

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Talks marked with \* will be delivered remotely and have an in-person Chair.

There are 6 sessions with remote talks and these are scheduled in A (Aalto Hall).

The last speaker in each in-person session is the Chair.

Click on a title to open the paper for that talk in the online Proceedings.

## 14:00–15:30 Regular Paper Session 1 (B):

14:00: [Nadav Drukker](#): [Cutting and Sewing Riemann Surfaces in Mathematics, Physics and Clay](#)

14:30: Loe Feijs and Marina Toeters: [Single Line Apollonian Gaskets for Fashion](#)

15:00: [Robert Fathauer](#) (Chair): [Crested Cactuses and Mathematical Sculpture](#)

## 14:00–15:30 Regular Paper Session 2 (C):

14:00: Baptiste Demoussel, Caroline Larboulette and Ravi Dattatreya: [A Greedy Algorithm for Generative String Art](#)

14:30: Amy Wendt: [Adjustable Duotone Mosaic Tile Brightness via Bezier Boundaries](#)

15:00: Ana Breda, Paula Carvalho, Andreia Hall (Chair): [Beautiful Geometry: a STEAM Experience in a Professional Development Course for Mathematics Teachers](#)

## 14:00–15:30 Short Paper Session 1 (A):

In-person Chair: Henry Segerman

14:00: \*[Douglas Dunham](#) and Lisa Shier: [A Fish Pattern on a Regular Triply Periodic Polyhedron](#)

14:15: \*[Joshua Holden](#): [Changing Spots: Using Combinatorics to Count Japanese Braiding Patterns](#)

14:30: \*[Sarah Brewer](#), Marlan Zha and Sophia Neno: [Generating Families of Islamic Star Rosette Patterns Based on  \$k\$ -Uniform Tilings](#)

14:45: \*[Andrea Hawksley](#): [The Dodecahedron and Other Poly-fill-hedra](#)

15:00: \*[Ozan Balci](#) and [Sema Alaçam](#): [Exploration of Drip Painting Through Swarm Robotics](#)

15:15: [Henry Segerman](#) (Chair) and Kyle Vandeventer: [Self-Similar Quadrilateral Tilings and Deployable Scissor Grids](#)

## 14:00–15:15 Short Paper Session 2 (D):

14:00: Josep Rey Nadal and Manel Udina Abello: [Deltoidal Kaleidoscopes](#)

14:15: Hou-Hsun Ho and Bih-Yaw Jin: [Orderly Branched Knots Based on Carbon Nanotube Inspired by Grossman's Sculptures](#)

14:30: [Alex Van Bogaert](#): [Halving Processes in a Square](#)

14:45: Jo Niemeyer and Hans Walser: [Trisection of an Angle](#)

15:00: Tatsuki Hayama (Chair), Sota Ozu and Daisuke Tofuku: [Parametric Design of a Ceiling with the Ammann-Beenker Tiling](#)

## 14:00–15:30 Workshop 1 (U8):

Eve Torrence: [Modular Origami Map Coloring Models](#)

## 15:30–16:00 Coffee break

Programme for Monday continues on next page

# AFTERNOON SESSIONS: MONDAY, 1<sup>st</sup> OF AUGUST

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## 16:00–17:30 Regular Paper Session 3 (A):

In-person Chair: Bruce Torrence

16:00: \*Annie Wei and Yongheng Zhang: [Wave, Boy's Surface, and Machine](#)

16:30: \*Chamberlain Fong and [Douglas Dunham](#): [A Sham Schwarz Surface Based on a Squirele](#)

17:00: \*[Carlo H. Séquin](#): [Gosper Sculptures Revisited](#)

## 16:00–17:30 Regular Paper Session 4 (B):

16:00: Henriette–Sophie Lipschütz, Martin Skrodzki, Ulrich Reitebuch and Konrad Polthier: [Linked Knots from the Gyro Operation on the Dodecahedron](#)

16:30: Paul Gaiiunas: [Triply Periodic Links](#)

17:00: [Susan Gerofsky](#) (Chair): [Diagonal Interleaving Poetry: A New Generative Permutational Poetic Form Inspired By Error–Correcting Coding Theory](#)

## 16:00–17:30 Short Paper Session 3 (C):

16:00: [Craig Kaplan](#): [Generative Zellij](#)

16:15: [David Reimann](#): [Artistic Depiction of Numbers Defined by Sets](#)

16:30: Spencer Nicholas Whitehead: [Generalized Pythagorean Lutes](#)

16:45: Santo Leonardo: [Prime Factorization Fractal Tilings](#)

17:00: [Tommi Sottinen](#): [Brownian Bridges on Polygons](#)

17:15: D. Jacob Wildstrom (Chair): [Transition Processes for Frieze Patterns](#)

## 16:00–17:30 Workshop 2 (U8):

Tam Dibley: [Proportional Thinking and the Materiality of Monoprinting](#)

# AFTERNOON SESSIONS: TUESDAY, 2<sup>nd</sup> OF AUGUST

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## 14:00–15:30 Regular Paper Session 5 (A):

In-person Chair: Eve Torrence

14:00: \*Robert Klock and [Robert Bosch](#): [Controlling Textures in TSP Art](#)

14:30: \*Xiaoyun Gong and [Robert Bosch](#): [Collaborative Gomoku Mosaics](#)

15:00: \*[James Mallos](#): [Geoweaving: Fold-Up Baskets from Dessins d'Enfants](#)

## 14:00–15:30 Regular Paper Session 6 (B):

14:00: Rinus Roelofs: [90 Degrees Constructions](#)

14:30: [Karl Schaffer](#): [Juggling Dancers: Passing Props and Partnering Paths](#)

15:00: Martin Skrodzki (Chair) and Ulrich Reitebuch: [Chip-Firing Revisited: A Peek into the Third Dimension](#)

## 14:00–15:30 Short Paper Session 4 (C):

14:00: [Susan Happersett](#): [Paper Hyperbolic Sculptures](#)

14:15: Ion Bica: [Hypercylindrical Art](#)

14:30: Dorota Celińska-Kopczyńska and [Eryk Kopczynski](#): [Portals to Non-Euclidean Geometries](#)

14:45: Gizem Efendioğlu and Sema Alaçam: [Revisiting Ad Quadratum and Ad Triangulum to Generate Hyperbolic Tessellations](#)

15:00: [Colin Kim](#): [Capturing the Complexity of the Julia Set](#)

15:15: [Richard Hammack](#) (Chair): [Closed Surface Envelopes](#)

## 14:00–15:30 Workshop 3 (U8):

[António Araújo](#) and [Lucas Fabian Olivero](#): [How to Draw a Virtual Cubical Perspective Box](#)

## 15:30–16:00 Coffee break

*Programme for Tuesday continues on next page*

# AFTERNOON SESSIONS: TUESDAY, 2<sup>nd</sup> OF AUGUST

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## 16:00–17:30 Regular Paper Session 7 (A):

In-person Chair: David Reimann

16:00: \*[Sarah Glaz](#): [Equations in Poetry](#)

16:30: \*[Phil Webster](#): [Decorating Polar Zonohedra with Islamic Geometric Patterns](#)

17:00: \*[Ekaterina Pavlovic](#): [Algorithmic Approach to Triangular-Twist Tessellations: Adding Spacings as a Creative Method](#)

## 16:00–17:30 Regular Paper Session 8 (B):

16:00: [Jennifer Padilla](#): [Penrose Tiling Arrangements of Traditional Islamic Decagonal Motifs](#)

16:30: [Peter Stampfli](#) and [Theo Schaad](#): [Ptolemy, the Regular Heptagon, and Quasiperiodic Tilings](#)

17:00: [Hanne Kekkonen](#) (Chair): [Exploring Mathematics with Curvagon Tiles](#)

## 16:00–17:15 Short Paper Session 5 (C):

16:00: [Donald Spector](#): [Sonifying Games](#)

16:15: [Jordan Schettler](#) and Emily Henderson: [How to Tune a Stiff Sawtooth](#)

16:30: Lior Bar, Dvir Chakim and Shai Gul: [Exploring Music as a Geometric Object](#)

16:45: Dirk Schlingmann: [Mean Beethoven](#)

17:00: Eva Knoll (Chair), Felicity Wood, Paul Gailiunas, Vinay Kathotia and Andrew Griffin: [A Book Launch in Memory of John Sharp](#)

## 16:00–17:30 Short Paper Session 6 (D):

16:00: [Anduriel Widmark](#): [Polystix Sculpture Design Revisited](#)

16:15: [David Plaxco](#): [Photogenic Knot Projections on  \$n \times n \times n\$  Rubik's Cubes](#)

16:30: Cameron Browne: [Nice Knots](#)

16:45: [Alan McLeay](#): [Ideal Triangulations of Surfaces: A Comic](#)

17:00: [Bruce Torrence](#): [Drill Jigs for Wooden Ball-and-Stick Models](#)

17:15: Felicia Tabing (Chair): [Synthesizing Mathematics, Art, and Synesthesia](#)

## 16:00–17:30 Workshop 4 (U8):

Charlotte Megroureche, Geraldine Jones and Ricardo Nemirovsky: [Looping Hyperbolic Surfaces](#)

# AFTERNOON SESSIONS: WEDNESDAY, 3<sup>rd</sup> OF AUGUST

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## 14:00–15:30 Regular Paper Session 9 (A):

In-person Chair: Susan Goldstine

14:00: \*[Jeffrey Ventrella](#): [Composite Number Polyrythms: Animating and Sonifying the Divisor Plot](#)

14:30: \*[George Hart](#): [Constructing Wooden Polyhedra](#)

## 14:00–15:00 Regular Paper Session 10 (C):

14:00: Pierre Gradiat and Vincent Van Dongen: [A Self-Ruling Monotile for Aperiodic Tiling](#)

14:30: Mario Gutiérrez, Hugo Parlier and Paul Turner: [Quadratis Puzzles](#)

14:30: Jordan Houser (Chair): [Wallpaper Patterns with Voronoi Diagram Motifs](#)

## 14:00–15:30 Short Paper Session 7 (D):

14:00: Emily Dennett: [Randomizing Your Digits: Generatively Knit Mittens](#)

14:15: [Melanie Olde](#): [Creating Auxetic Structures in Three-Dimensional Weaving](#)

14:30: [Benjamin Trube](#): [Abelian Sandpile Quilting Blocks](#)

14:45: [Anton Bakker](#) and [Tom Verhoeff](#): [Algorithms to Construct Designs for Foundation Paper Piecing of Quilt Patchwork Layers](#)

15:00: [Peter Hilgers](#) and Anton Shutov: [Growth Forms of Grid Tilings](#)

15:15: [Jiangmei Wu](#) (Chair): [Grafting Tessellations for Fabric Origami](#)

## 14:00–15:30 Workshop 5 (U8):

[Jen Whiffen](#): [Wild Songs: Finding the Voice of the Land Through Imaginative Mathematical Compositions](#)

## 15:30–16:00 Coffee break

Programme for Tuesday continues on next page

# AFTERNOON SESSIONS: WEDNESDAY, 3<sup>rd</sup> OF AUGUST

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## 16:00–17:30 Regular Paper Session 11 (B):

16:00: Tiina Katriina Kukkonen: [Measures of the Massive Mountain in Aleksis Kivi's Play Kullervo](#)

16:30: [Helena Verrill](#): [Conway Still Life Drawing](#)

17:00: [Douglas Dwyer](#) (Chair): [Spiral Based Point Cloud Representations of Sculptures](#)

## 16:00–17:00 Regular Paper Session 12 (C):

16:00: Nadav Drukker, Elise Paznokas and Dominik Schrimpel: [Knitting Knots and the Framing Anomaly](#)

16:30: Stephen Wassell (Chair) and [Mark Reynolds](#): [Thales' Theorem, Pythagorean Triples, and Geometric Art](#)

## 16:00–17:15 Short Paper Session 8 (D):

16:00: Erna Piila: [Paying Homage to Folk Art Using Platonic Solids](#)

16:15: Paula Rita, [Nuno Bastos](#) and Andreia Hall: [Exploring Symmetry Through Portuguese Tiles in Historical Monuments](#)

16:30: [Kodai Takenaga](#) and [Shizuo Kaji](#): [Alexandrov Puzzle](#)

16:45: [Stephanie Nietto](#) and Vladmir Sicca: [Architecture and Teaching: Two Websites Meet](#)

17:00: Othman Alrawi, Brian Day and [Sabetta Matsumoto](#) (Chair): [Visualizing Virtual Vector Fields](#)

## 16:00–17:30 Short Paper Session 9 (A):

In-person Chair: Doug Norton

16:00: \*Tomoko Taniguchi and [Ryuhei Uehara](#): [Rep-tile Font](#)

16:15: \*[Lucien Grillet](#): [3D Printed Models of Wild Spheres](#)

16:30: \*Rashmi Sunder-Raj: [Approximating Edge-Touching Regular Polygon Patterns Using Chain Maille](#)

16:45: \*Simone Brasili and Dominik Chapman: [Arts and Magic Squares Symmetries](#)

17:00: \*[Kenneth Brecher](#): [The PhoTOP and the Art of the Spiral](#)

17:15: \*[Frank A Farris](#): [Spiral Ruled Surfaces](#)

## 16:00–17:30 Workshop 6 (U8):

Mircea Draghicescu: [Tensegrity Polyhedra Models](#)

## PUBLIC TALKS

AUGUST 4, 2022

BRIDGES AALTO 2022 PUBLIC TALKS

HELSINKI, FINLAND

**WELCOME! ADMISSION IS FREE!**

HELSINKI UNIVERSITY, PORTHANIA, HALL PI

**09:30 – 10:30 am Public Lecture: Samuli Siltanen**

**Title: The Art of Inverse Problems**

*Samuli Siltanen works as Professor of Industrial Mathematics at University of Helsinki, Finland. His mathematical work focuses on inverse problems in imaging, especially medical applications such as X-ray tomography and electrical impedance tomography. He is also an enthusiastic photographer (Instagram: @samuntiede, @monday\_spider) and loves to apply mathematical methods to art. His activities in popular science include the book “Step into the world of mathematics” (Springer 2021) and a YouTube channel (Samun tiedekanava) with over 262 000 views.*



**11.00 – 12.00 noon Public Lecture: Matt Parker**

**Title: Stand-up Mathematics**



*Matt Parker is a stand-up comedian and ex-teacher (he got out after only four years in the classroom). Matt now makes YouTube videos on Numberphile and his own Stand-up Maths channel which have been watched over  $10^8$  times. In 2019 Penguin published Matt's book “Humble Pi: a comedy of maths errors” which became the first #1-best-selling maths book in the UK. Originally from Australia, Matt now lives in England but travels wherever the math takes him.*



# BRIDGES 2022 FAMILY DAY & MATH-ART EXPO

Chair: Kristóf Fenyvesi

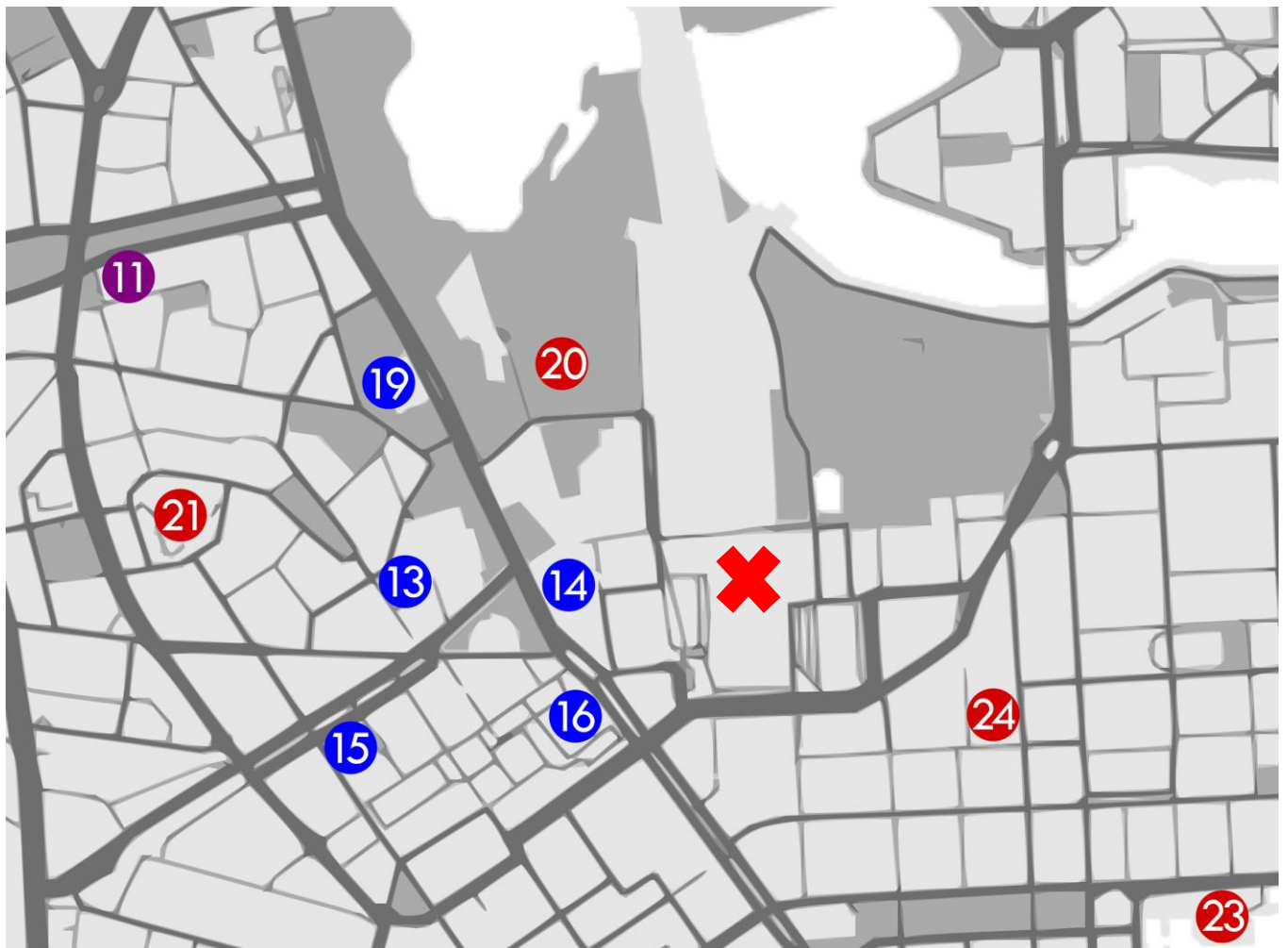
Program Board: Eve Torrence, Carlo H. Sequin, Sujan Shrestha, Kirsi Peltonen, Hanna Korhonen

Time: 4 August 2022, 13:00 - 18:30

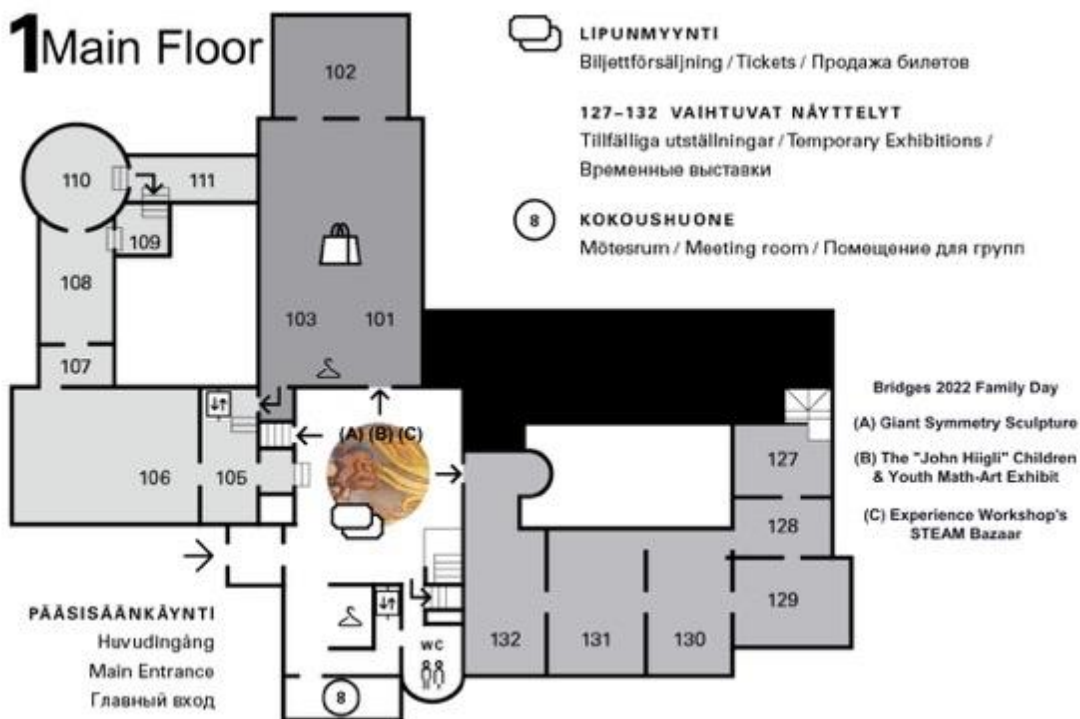
Location: National Museum of Finland (Mannerheimintie 34, 00100 Helsinki)

Free entry to the event and the museum exhibitions on Thu 4.8. to registered Bridges conference participants with the conference badge. Sponsored by Terra Cognita <https://terracognita.fi>

If you have any questions regarding Family Day, don't hesitate to contact the chair at [info@familyday.hu](mailto:info@familyday.hu)



The National Museum of Finland is marked on the map as **number 19**. The central railway station is marked with a red cross.



Venue: MAIN FLOOR

(A) Giant Symmetry Sculpture  
by Dr. David Reimann  
<http://drmathart.com/>

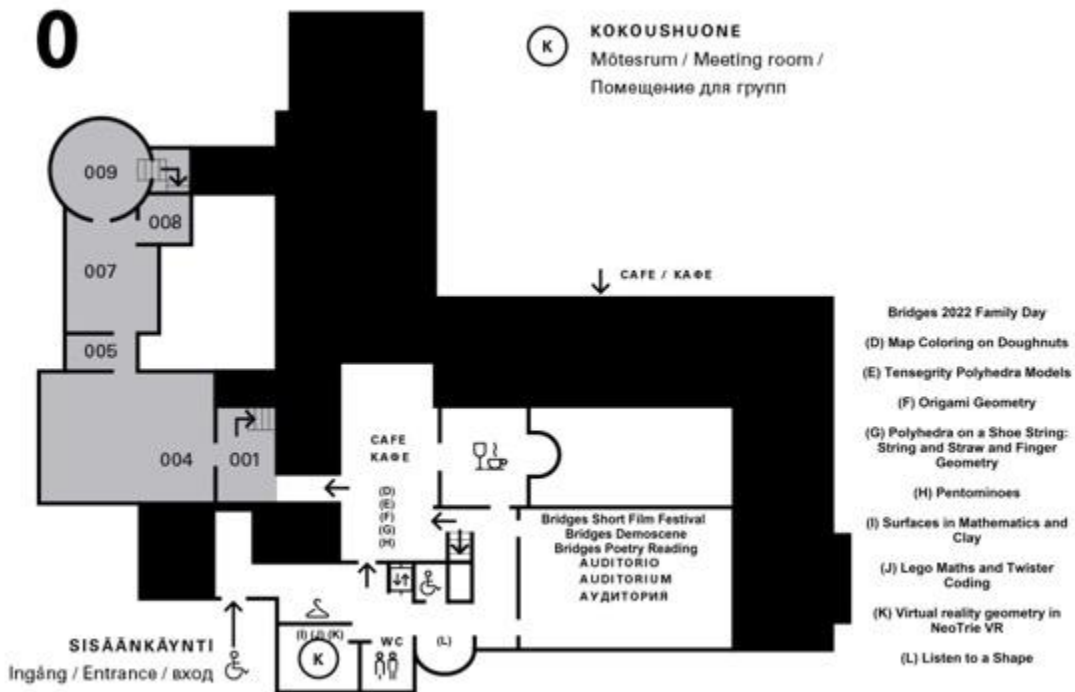
We will build a giant, modular sculpture as a group. Everybody is welcome to join regardless of age.

(B) The "John Hiigli" Children & Youth Math-Art Exhibit with a unique selection from the South African GMMDC MathArt Competition 2022: A Digital Exhibit  
Curated by Carine Steyn, Werner Olivier & Kristof Fenyvesi <http://www.mathart.co.za/>

The Children and Youth Math-Art Exhibits have been organized at Bridges conferences since 2012. This year's digital exhibition will draw attention to works collected in South Africa under the topic of "Mathematics the language of the Sciences." The exhibit will also include children's math-artworks collected in Finland.

(C) Experience Workshop's STEAM Bazaar: Mondrian Blocks, SmartEgg, and More  
by Matias Kaukolinna, Kerry Osborne and Imre Kökényesi  
[www.experienceworkshop.org](http://www.experienceworkshop.org)

Experience Workshop celebrates Mondrian's 150th anniversary by inviting everyone to try the popular mathematical puzzle, Mondrian Blocks, and other math-art games and toolkits from the Finland-based Experience Workshop's STEAM education collection. Mondrian Blocks and SmartEgg producer Imre Kökényesi will be a special guest and game master at the booth.



Venue: 0 Floor

(Auditorium)

Bridges Short Film Festival

13:00 – 13:40: First Screening

16:30 – 17:30: Second Screening

The festival presents an annual reel of juried short films exploring mathematical themes. It will include films, videos, and animations created for educational, corporate, and artistic purposes or fun. Styles will consist of mathematical visualizations, conceptual animations, stories and fairy tales, art based on mathematical rules, and exciting explanations and entertainment. This year's Bridges Short Film Festival jury consisted of Susan Gerofsky, Henry Segerman, and Bianca Violet.

You can find a gallery of this year's short films on <http://gallery.bridgesmathart.org/>

13:50 – 14:40: Bridges Demoscene

14:50 – 16:20: Bridges Poetry Reading

The poetry reading at Bridges 2022 features poetry with strong links to mathematics, a great variety of topics, and a wide range of poetic styles. With great pleasure, we offer you the work of a diverse and exciting group of poets who will participate in this reading either in-person or with prerecorded videos. More poetic delights from the Bridges poets are found at the reading's online component, the Bridges 2022 Poetry Reading website:

[https://www2.math.uconn.edu/~glaz/Mathematical\\_Poetry\\_at\\_Bridges/Bridges\\_2022/The-program-and-the-poets-2022.html](https://www2.math.uconn.edu/~glaz/Mathematical_Poetry_at_Bridges/Bridges_2022/The-program-and-the-poets-2022.html)

**(D) 14.00 – 16.00: Map Coloring on Doughnuts**  
by Eve Torrence

In 1890 Percy Heawood showed that all maps on a torus (doughnut shape) could be colored using at most seven colors so that regions that share a boundary are different colors. We will explore this idea by coloring a map on a torus by hand. Colorful three-dimensional map coloring models from the Bridges Art Exhibition will be on display at this workshop.

**(E) Tensegrity Polyhedra Models**  
by Mircea Draghicescu

We will build tensegrity models, and the participants can take home some of the models they create. Participation requires some manual skills. Suitable for adults and older children.

**(F) Origami Geometry**  
by Veli-Matti Ikävalko, Alvar Nughara, Otso Lammi

<https://www.aalto.fi/en/aalto-university-junior>

The workshop combines the art of paper folding and mathematics with the help of origami. The workshop is for all ages and presented by Aalto University Junior.

**(G) Polyhedra on a Shoe String: String and Straw and Finger Geometry**  
by Karl Schaffer

<http://mathdance.org/>

String figures, the imaginative designs created with simple loops of string, are found among the world's most ancient cultures. We will use loops of rope and string to form polyhedra and other geometric designs. We can make similar entertaining mathematical shapes with fingers and hands. Paper straws held together by pipe cleaners also provide puzzle forms that fold into polyhedral shapes.

**(H) Pentominoes**  
by Odette De Meulemeester

<https://pentomino.classy.be/>

A pentomino is a polygon in the plane made of 5 equal-sized squares connected edge-to-edge. In this workshop, you can make a pentomino swing, solve a pentomino-butterfly, and more.

**(I) Surfaces in Mathematics and Clay**  
by Francesca Silverton

This activity aims to create collaborative artworks of 3D mathematics surfaces using clay surface textures.

**(J) 14.00 – 17.00: Lego Maths and Twister Coding**  
by Khaula Zeeshan

Use a number of LEGOs to make your own LEGO constructions and practice counting to solve equations. We will also use the game Twister to explore coding.

**(K) Virtual reality geometry in NeoTrie VR**  
by José L. Rodríguez

<https://www2.ual.es/neotrie/comunidad/>

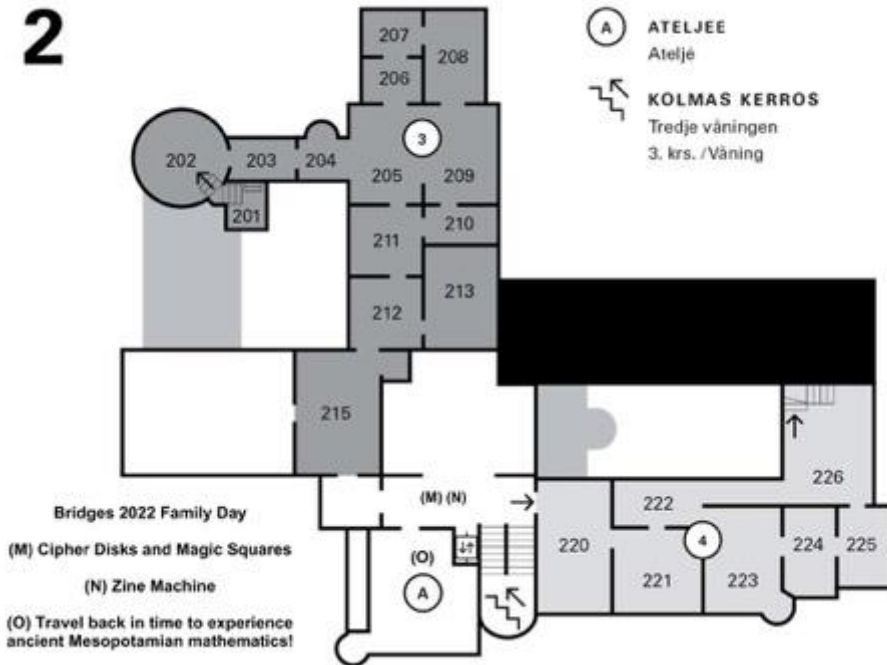
We invite you to play with the virtual reality software NeoTrie VR. In virtual reality, you can try to construct various geometric shapes, such as polyhedra, mosaics, fractals, curves, and more. The workshop will showcase new activities created for the Geometrician's Views Erasmus+ project and the FEDER-UAL "Immersive virtual reality in the math classroom with NeoTrie VR" project.

**(L) Listen to a Shape**  
by Takako Udo

<https://lal-lal.co.jp>

There are a variety of shapes in our three-dimensional world, and many of them are not taught in school or seen in our ordinary life. We invite you to explore new shapes by participating in the following activities: 1. Draw Your Graph! / 2. Lift Your Graph! / 3. Polyhedral Apartment / 4. Listen to a Shape,

# 2



Venue: 2<sup>nd</sup> Floor

**(M) Cipher Disks and Magic Squares**  
by Bronna Butler and Jessica K. Sklar

<https://sites.google.com/view/jessica-k-sklar/mathematical-art/qed-arts-llc>

Craft your versions of Alberti cipher disks and exchange encrypted messages with friends and family. Explore magic squares and the polymath Albrecht Dürer's mathematically-informed engraving, "Melencolia I."

**(N) Zine Machine**  
by Khushbu Kshirsagar

<https://khushbukshirsagar.weebly.com/>

Zine Machine is a paper-based activity comprising a math tinkering kit that uses two-dimensional mechanical movements to enable physical sense-making about mathematical functions. Zines are made by folding paper into the form of a pocket-sized story-telling magazine. Zine Machine facilitates new thinking around math and making, offering an accessible and creative tangible medium of interaction.

**(O) 14.00 – 16.00: Travel back in time to experience ancient Mesopotamian mathematics!**  
by Aino Haavisto

How did Ancient Mesopotamians count? How did they write numbers? What does a 3000-year-old maths exercise look like, and are you ready to tackle it? Come to this workshop and find out!

## MUSEUM PROGRAMS

The National Museum of Finland is a national cultural history museum. As part of the Finnish Heritage Agency, we have the oldest and most comprehensive cultural history collections in Finland, with more than a million archaeological and historical objects. Our goal is to bring interesting perspectives on culture and history to a diverse audience. The program consists of permanent and temporary exhibitions, as well as events, guided tours, and other experiences. The temporary exhibition of the moment is called Exploring the Ancient Near East, exhibiting the heritage of the area that is the birthplace of many mathematical inventions!

Culture and Maths are combined in this event in the National Museum of Finland. There will be guided tours in the exhibition Exploring the Ancient Near East and the architecture of the building that was designed by Eliel Saarinen, Armas Lindgren, and Herman Gesellius. You can also learn how to write cuneiform text in a workshop organized by the Making Home Abroad - project in our Ateljé-space.

### Guided tours:

11.30 Public tour in Finnish: Arkkitehtuurin helmi (60 min)

13.30 Public tour in English: Exploring the Ancient Near East (30 mins)

14.30 Public tour in Finnish: Tutkimusmatkoja muinaiseen Lähi-itään (30min)

15.30 Public tour in English: The Jewel of Architecture (60 mins)

17.00 Guided walking tour in Finnish: Inspiraationa muinainen Lähi-itä (60 min, erillinen pääsymaksu/ special price 20€)

Workshop in the Ateljé: Travel back in time to experience ancient Mesopotamian mathematics!

# Using public transport in Helsinki & nearby

## Introduction

Public transport in the Helsinki metropolitan area is a fast, reliable and safe way of transportation, used by hundreds of thousands of Finns yearly. This document is intended to cover the crucial parts of using the public transport system, and to suggest the most affordable tickets to buy. We hope that this guide encourages you to use our public transport!

## Zones

The tickets operate on a zone basis. The zones surround Helsinki in an onion-style shape. There are four zones, which are:

**Zone A:** Helsinki Centre; most featured museums & galleries lie here, as well as the Porthania building and the National Museum.

**Zone B:** The rest of Helsinki and parts of Espoo & Vantaa lie here. The Aalto University campus is in this zone: so is the Myllypuro art piece. The metro operates only in zones A and B.

**Zone C:** Covers the rest of Espoo and Vantaa. The Helsinki-Vantaa Airport lies in this zone. Also covers the Nuuskio National Park.

**Zone D:** The zone furthest away from Helsinki, covers the nearby towns.

Tickets are bought to cover certain zones, e.g., zones AB, BC or ABC. The ticket must cover both the zone(s) of your starting point as well as your destination: for example, if you leave from your hotel in zone B and your destination is the airport in zone C, you need a BC or ABC ticket to cover your trip. There are no single-zone tickets available, apart from zone D; even if you travel inside, for example, zone A, you'll still need an AB ticket.

The HSL (acronym for the Helsinki Regional Transport) travel planner shows you these zones when you plan your trips. The travel planner can be accessed online at <https://www.hsl.fi/en> or through the mobile app named HSL; both are available in English.

## Tickets

Tickets are sold as both single-trip (80-110 minutes in length) and day-ticket versions. Tickets can be bought using the HSL mobile app or physically from the ticket booths at train & metro stations. Tickets are NOT sold on board of metros or trains; you need a valid ticket before boarding one. Tickets aren't stamped or validated before boarding, except for buses: any ticket you buy is activated at the moment of purchase, unless you've chosen a specific date & time when buying.

Single-trip tickets can be bought from bus drivers when boarding buses.

Not having a valid ticket when boarding or riding a vehicle might cost you 80 € in case of an inspection.

## The most affordable ticket plan

Assuming that you arrive at the airport, you'll probably at least need a single-use ABC ticket in order to get to your hotel. Note that even if your hotel is located in zone B, the trip might pass through zone A: the travel planner shows you which zones your ticket needs to cover. A single-trip ABC ticket costs 4,10 €.

For the rest of the conference week, a 5-day-ticket covering zones AB beginning on Monday morning gives you access to the campus, National Museum and Porthania as well as all optional places to visit in Helsinki (including the ferry to the Suomenlinna fortress). This day ticket costs 24,00 €.

In total, this combination costs you 28,10 €.

## Other ticket plans

Tickets are available through all zones, and day tickets can be bought to last 1-13 days. Planning your trips well beforehand allows you to avoid the relatively expensive single-use tickets. Tickets are also issued by third parties such as GoCity, website: <https://gocity.com/helsinki/en-us> which pair day-tickets up to three days with museum passes, which might be a superior option if you plan to visit museums extensively.



## Arriving to Otaniemi via metro

The Otaniemi metro station has exits on both ends of the platform, so please pay attention that you **leave through exit A** in order to avoid getting lost. If you boarded the metro east of Otaniemi, for example, in Helsinki, **turn left after exiting the metro in Otaniemi**. If you boarded the metro west of Otaniemi, for example, in Tapiola or Matinkylä, **turn right after exiting**.



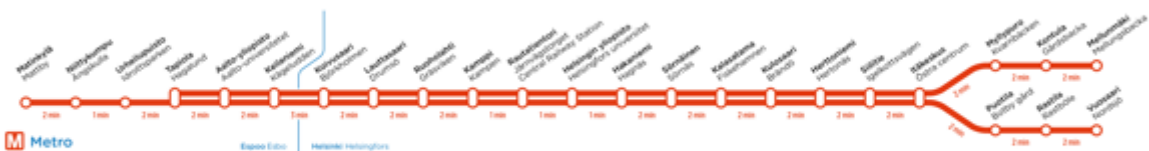
## Guide to Porthania and the National Museum

### Porthania:

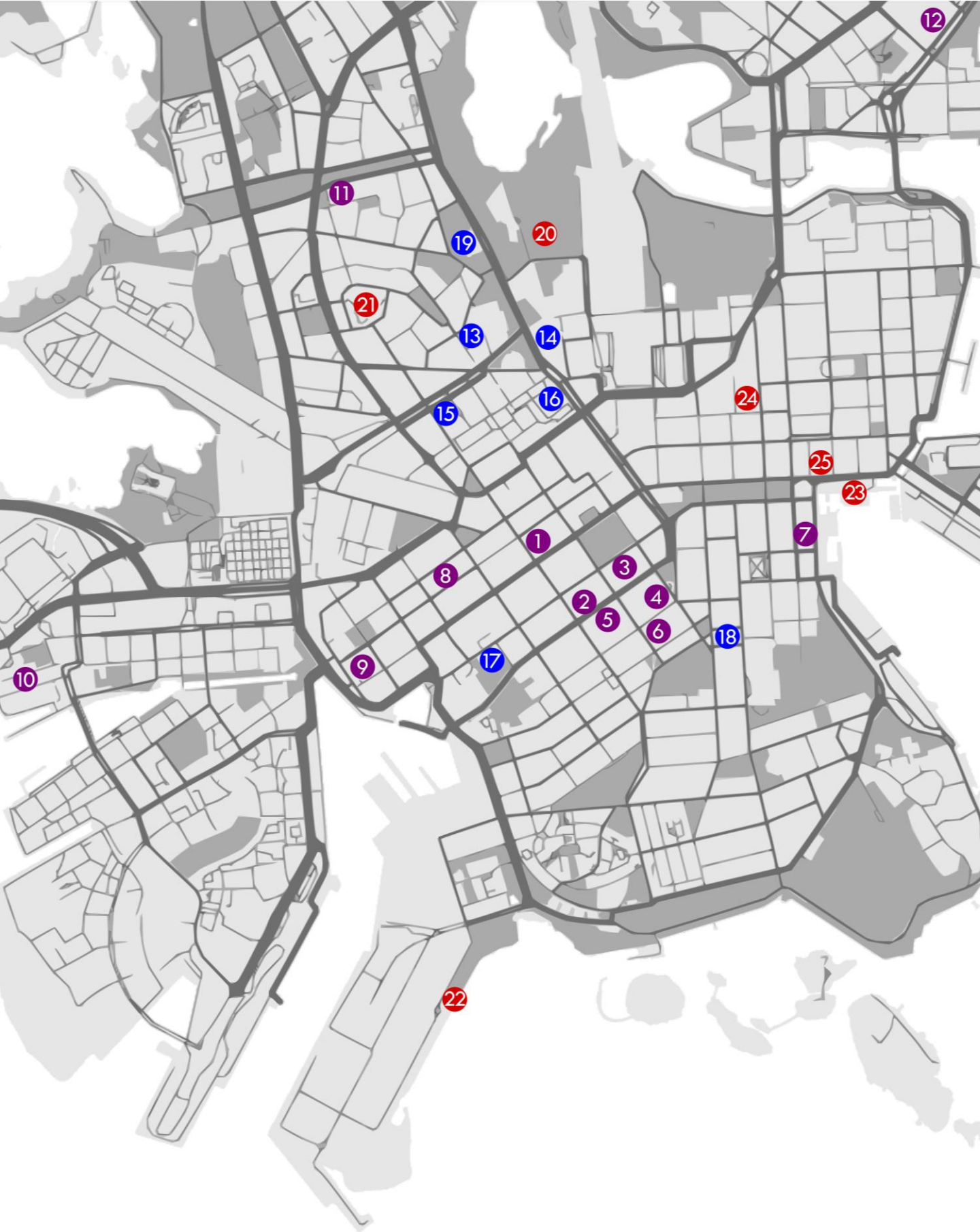
A part of the University of Helsinki campus, this building is mainly used by the Faculty of Law. It is marked on the Helsinki map provided (nr. 24), located at Yliopistonkatu 3. The lecture hall P1 can be found across the main entrance.

### National Museum:

Marked on the Helsinki map as nr. 19, address Mannerheimintie 34. The main entrance is on the first floor, and a wheelchair-accessible entrance on the zero-floor. The auditorium is on the zero-floor, accessible through the stairs across the main entrance.







## HELSINKI SIGHTS MAP

# HELSINKI SIGHTS: GALLERIES

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(Entrance to all galleries is free of charge)

## 1: Anhava:

Closed on 1<sup>st</sup> of August

Open on 2<sup>nd</sup> – 5<sup>th</sup> of August: 11:00 – 17:00

<https://anhava.com/>

Address: Fredrikinkatu 43, Helsinki

## 3: Helsinki Contemporary:

Closed on 1<sup>st</sup>, 2<sup>nd</sup> of August

Open on 3<sup>rd</sup> – 5<sup>th</sup> of August: 12:00 – 18:00

<https://helsinkicontemporary.com/>

Address: Bulevardi 10, Helsinki

## 5: Heino:

Closed on 1<sup>st</sup> of August

Open on 2<sup>nd</sup> – 5<sup>th</sup> of August: 11:00 – 17:00

<https://www.galleriaheino.fi/en.php>

Address: Erottajankatu 9, Helsinki

## 7: Gallery Sculptor:

Closed on 1<sup>st</sup> of August

Open on 2<sup>nd</sup>, 3<sup>rd</sup>, 5<sup>th</sup> of August: 12:00 – 17:00

Open on 4<sup>th</sup> of August: 12:00 – 7:00 p.m.

<https://sculptors.fi/en/gallery/>

Address: Eteläranta 12, Helsinki

## 9: Forum box:

Closed on 1<sup>st</sup> of August

Open on 2<sup>nd</sup> – 5<sup>th</sup> of August: 12:00 – 17:00

<https://forumbox.fi/en/>

Address: Ruoholahdenranta 3 A, Helsinki

## 11: Oksasenkatu 11:

Closed on 1<sup>st</sup>, 2<sup>nd</sup> of August

Open on 3<sup>rd</sup> – 5<sup>th</sup> of August: 12:00 – 17:00

<https://oksasenkatu11.fi/>

Address: Oksasenkatu 11, Helsinki

## 2: Myymälä 2:

Closed on 1<sup>st</sup>, 2<sup>nd</sup> of August

Open on 3<sup>rd</sup> – 5<sup>th</sup> of August: 12:00 – 18:00

<http://www.myykala2.com/>

Address: Uudenmaankatu 23 F, Helsinki

## 4: Hippolyte:

Closed on 1<sup>st</sup> of August

Open on 2<sup>nd</sup> – 5<sup>th</sup> of August: 12:00 – 17:00

<https://hippolyte.fi/en/>

Address: Yrjönkatu 8-10, Helsinki

## 6: Sinne:

Closed on 1<sup>st</sup> of August

Open on 2<sup>nd</sup> – 5<sup>th</sup> of August: 11:00 – 17:00

<https://proartibus.fi/en/visit-us/sinne/>

Address: Iso Roobertinkatu 16, Helsinki

## 8: Huuto:

Closed on 1<sup>st</sup> of August

Open on 2<sup>nd</sup> – 5<sup>th</sup> of August: 12:00 – 17:00

<https://www.galleriahuuto.fi/?lang=en>

Address: Kalevankatu 43, Helsinki

## 10: MUU Helsinki Contemporary Art Centre:

Closed on 1<sup>st</sup> of August

Open on 2<sup>nd</sup> – 5<sup>th</sup> of August: 12:00 – 17:00

<https://www.muu.fi/muuspace/>

Address: Tallberginkatu 1 C, Helsinki

## 12: Kuva/Tila:

Closed on 1<sup>st</sup> of August

Open on 2<sup>nd</sup> – 5<sup>th</sup> of August: 11:00 – 18:00

<https://www.uniarts.fi/en/locations/kuva-tila/>

Address: Sörnäisten rantatie 19, Helsinki

# HELSINKI SIGHTS: MUSEUMS

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(Entrance to all museums for under 18-year-olds is free of charge)

**13: Kunsthalle Helsinki:** The exhibition venue hosts various avant-garde and contemporary art exhibitions from Finland and around the world, as well as exhibitions in design and architecture.

Closed on 1<sup>st</sup> of August

Open on 2<sup>nd</sup> and 4<sup>th</sup> – 5<sup>th</sup> of August: 11:00 – 18:00

Open on 3<sup>rd</sup> of August: 11:00 – 20:00

<https://taidehalli.fi/en/>

Address: Nervanderinkatu 3, Helsinki

Adults €14

**14: Kiasma:** Kiasma is one of the leading contemporary art museums in the Nordics, the building being a major architectural landmark itself.

Open on 1<sup>st</sup> – 5<sup>th</sup> of August: 10:00 – 20:30

<https://kiasma.fi/en/>

Address: Mannerheiminaukio 2, Helsinki

Adults €18

Under 18-year-olds: free entry

**15: Helsinki Art Museum:** A museum that looks after a modern and contemporary art collection belonging to the people of Helsinki, holding an exhibition at the Tennis Palace.

Closed on 1<sup>st</sup> of August

Open on 2<sup>nd</sup> of August: 10:00 – 17:30

Open on 3<sup>rd</sup> – 5<sup>th</sup> of August: 11:30 – 19:30

<https://www.hamhelsinki.fi/en/>

Address: Eteläinen Rautatiekatu 8, Helsinki

Adults €12

**16: Amos Rex:** Being the most recent addition to the museum scene, Amos Rex opened in 2018 and quickly reached international popularity. The subterranean museum hosts various exhibitions of contemporary art.

Open on 1<sup>st</sup> of August: 11:00 – 20:00

Closed on 2<sup>nd</sup> of August

Open on 3<sup>rd</sup> – 5<sup>th</sup> of August: 11:00 – 20:00

<https://amosrex.fi/en/>

Address: Mannerheimintie 22-24

Adults €20

**17: Sinebrychoff:**

Closed on 1<sup>st</sup> of August

Open on 2<sup>nd</sup> and 4<sup>th</sup> – 5<sup>th</sup> of August: 11:00 – 18:00

Open on 3<sup>rd</sup> of August: 11:00 – 20:00

<https://sinebrychoffintaidemuseo.fi/en/>

Address: Bulevardi 40, Helsinki

Adults €16

# HELSINKI SIGHTS: MUSEUMS

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(Entrance to all museums for under 18-year-olds is free of charge)

**18: Design Museum Helsinki:**  
Open on 1<sup>st</sup> – 5<sup>th</sup> of August: 11:00 – 18:00  
<https://www.designmuseum.fi/en/>  
Address: Korkeavuorenkatu 23, Helsinki  
Adults €12

**18: Museum of Finnish Architecture:**  
Closed on 1<sup>st</sup> of August  
Open on 2<sup>nd</sup> and 4<sup>th</sup> – 5<sup>th</sup> of August: 11:00 – 18:00  
Open on 3<sup>rd</sup> of August: 11:00 – 20:00  
<https://www.mfa.fi/en/frontpage/#>  
Address: Kasarmikatu 24, Helsinki  
Adults €10

**Didrichsen:**  
Closed on 1<sup>st</sup> of August  
Open on 2<sup>nd</sup> – 5<sup>th</sup> of August: 11:00 – 18:00  
<https://www.didrichsenmuseum.fi/?lang=en>  
Address: Kuusilahdenkuja 1, Helsinki  
Adults €16

**Järvenpää Art Museum:**  
Closed on 1<sup>st</sup> of August  
Open on 2<sup>nd</sup> – 5<sup>th</sup> of August: 10:00 – 17:00  
<https://www.jarvenpaantaidemuseo.fi/en>  
Address: Kirjastokatu 8, Järvenpää  
Adults €9

**EMMA:** Being Finland's largest by exhibition area (5,500m<sup>2</sup>), EMMA is located in Espoo and presents both domestic and international modernism as well as contemporary art and design. The museum is easily accessible through metro.  
Closed on 1<sup>st</sup> of August  
Open on 2<sup>nd</sup> of August: 11:00 – 17:00  
Open on 5<sup>th</sup> of August: 11:00 – 19:00  
<https://emmamuseum.fi/en/>  
Address: Ahertajantie 5, Espoo  
Adults €12

## OTHER SIGHTS IN HELSINKI & NEARBY

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**Suomenlinna:** The sea fortress Suomenlinna is one of the most popular tourism destinations in Finland and a Unesco world heritage site. The fortress, located south of central Helsinki, has been shaped by three historic eras during its 220-year history, being used to defend first Sweden, then Russia and ultimately Finland. Public guided tours are available in English; the fortress and its many museums and restaurants can also be visited independently. The fortress can be easily accessed by public transport (HSL) ferries, leaving from the Market Square.

**Open daily, day and night. Ferries commute from 06:00 to 02:00 in 15- to 60-minute intervals.**

<https://www.suomenlinna.fi/en/>

Ferries depart from Kauppatori, Helsinki.

**Point on departure marked on the map as number 23**

**Oodi:** The Helsinki Central Library Oodi is a living meeting place at Kansalaistori Square, providing a living and functional meeting place open for all. The building is an impressive piece of Finnish architecture, winning the open international architecture competition for the Central Library in 2013.

**Open on 1<sup>st</sup> - 5<sup>th</sup> of August: 8:00 - 21:00**

<https://www.oodihelsinki.fi/en/>

**Address:** Töölölahdenkatu 4, Helsinki

**Marked on the map as number 20**

**Nuukio:** Within easy reach of Helsinki, you can escape into wild natural settings and enjoy typically Finnish scenery, with lovely lakes, green forests and rugged crags at the Nuukio National Park. Pack your backpack for a memorable family picnic or campout. The unique national park can be explored both independently and by taking part in guided tours and excursions and is suitable for all ages. The national park is accessible through public transport (HSL), with buses departing from Espoo Centre.

**Open daily, day and night.**

<https://www.nationalparks.fi/nuuksionp>

**Address of main entrance:** Nuuksiontie 84, Espoo

**Porvoo:** Founded nearly 800 years ago, Porvoo is the second oldest city in Finland, best known for its unique Old Town district, which is one of Finland's most photographed national landscapes, alongside its high-quality restaurants and charming cafés. Make an unforgettable romantic day trip to Porvoo or stay longer to truly experience everything this charming city has to offer. Distance from Helsinki is 55 kilometres (34 miles), and less than an hour with a bus, departing from Helsinki.

**1<sup>st</sup> - 5<sup>th</sup> of August: buses travel mainly from 6:00 to 24:00 in 10- to 60-minute intervals.**

<https://www.visitporvoo.fi/en/>

Buses primarily depart from shopping centre Kamppi, Helsinki

## OTHER SIGHTS IN HELSINKI & NEARBY

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**Fiskars:** The Fiskars village is a quaint and historical ironworks location that has grown into a lively community of designers, artists and craftsmen. In recent years the village has also become home to several microbreweries and fine restaurants. Founded in the 17th century, the Fiskars ironworks is a popular destination for daytrips where visitors can enjoy exhibitions, boutiques and cafés.

Fiskars stands out from more touristy attractions by its high-quality and ambitious products and design. Distance from Helsinki is 87 kilometres (54 miles), and about an hour with bus or train.

**1<sup>st</sup> – 5<sup>th</sup> of August: most shops are open from 11:00 to 18:00**

<https://fiskarsvillage.fi/en/>

**Tammisaari:** The old town of Tammisaari (also known as Ekenäs) in Raseborg, is full of charming wooden houses, small harbours and green parks. The streets have stayed much the same since the 16th century. Tammisaari was traditionally the home of many skilled craftsmen. Today it attracts many visitors in summertime with its guest harbour, terraces, pedestrian street, boutiques, cafés and restaurants. Distance from Helsinki is 92 kilometres (57 miles), and about an hour with bus or train.

<https://www.visitraseborg.com/en/>

**Church of Temppeliaukio:**

**Open on 1<sup>st</sup> – 5<sup>th</sup> of August: 10:00 – 19:00**

<https://temppeliaukionkirkko.fi/en/>

Lutherinkatu 3, Helsinki

**Pentala Archipelago Museum:**

**Closed on 1<sup>st</sup> of August**

**Open on 2<sup>nd</sup> – 5<sup>th</sup> of August: 10:00 – 17:00**

<https://www.espoo.fi/en/pentala-archipelago-museum>

**Ainola (The home of Aino and Jean Sibelius):**

**Closed on 1<sup>st</sup> of August**

**Open on 2<sup>nd</sup> – 5<sup>th</sup> of August: 10:00 – 17:00**

<https://www.ainola.fi/?lang=en>

Ainolankatu 1, Järvenpää

Adults €15

Under 16-year-olds: €4

# SIGHTS IN ESPOO

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## Nature Parks and Reserves

### [Nuuksio National Park](#)

Nuuksio, located in Vihti, Espoo and Kirkkonummi, is one of Finland's most popular National Parks. It covers an area of 53 square kilometers and is a year-round destination with its rich nature featuring lovely lakes and ponds, green forests, swamps, and rugged crags. The unique national park can be explored both independently and by taking part in [guided tours and excursions](#) and is suitable for all ages. The easiest way to get to know Nuuksio National Park, is by hiking on marked trails. Bikes and other equipment such as kayaks can be rented for example from [Natura Viva](#). Nuuksio has fireplaces and [cooking shelters](#), which are perfect places for a break, whether it is time for picnicking or a good barbecue. There are also many amazing accommodation options for overnight stayers, and it is possible to choose from [hotel, cottages, wilderness cabins, igluhuts, nights in the tree tent](#).

*(Free admission)*

*Transportation: Bus / by car*

### [Nuuksio Reindeer Park and White Reindeer Teepee Restaurant](#)

Experience a touch of northern magic in Nuuksio Reindeer Park, which is the southern-most place in Finland where you can see and feed reindeer. Spend a memorable moment with the reindeers and enjoy lunch or a three-course dinner by the campfire at the teepee restaurant 'White Reindeer'.

**Opening hours in August:** Saturdays and Sundays 13-16

**Admission Fee:** Adults 25€ / 10 € child (4-11 years) / 0-3 years free of charge  
/60 € family (2 adults + 2 children)

**Private visits:** contact [info@NuuksioReindeerPark.fi](mailto:info@NuuksioReindeerPark.fi)

### [Laajalahti Nature Reserve](#)

Laajalahti Nature Reserve is one of the best bird wetlands within the Helsinki-Espoo-Vantaa metropolis. The trails and bird watching towers offer the perfect opportunity for a day trip. Visitors can also see Espoo's nature centre at [Villa Elfvik](#) on the north edge of the reserve. For the most part Laajalahti Nature Reserve consists of open water. There are also a broad reedbed and shoreline groves and meadows. It is an important area for the plentiful nesting population in the region and for the thousands of birds which stop there. The aim of the nature reserve is to conserve the shallow sea water bay and its surrounding area. The longest nature trail is 2.9 kilometres long and it runs from Villa Elfvik to the Otaniemi bird-watching tower.

### [Haltia - The Finnish Nature Centre](#)

The Finnish Nature Centre Haltia highlights the best of Finland's natural treasures from across the country. It is situated in Espoo's Nuuksio National Park. The [exhibitions](#) at Haltia showcase Finnish nature and strengthen the visitors' relationship with nature. The Centre also offers additional facilities such as hiking equipment rental and a gift shop. The restaurant Haltia, where you can enjoy lovely meals, and excellent meeting and sauna facilities, further offer visitors an opportunity to connect with the nature. On its opening day, Haltia was the first public building in Finland built entirely of wood; it is a combination of stunning architectural design and ultramodern ecological solutions. The building's heating and cooling systems are powered sustainably by solar panels and geothermal pumps.

**How to get there:** You can reach the Finnish Nature Centre Haltia, and many other nearby attractions in the Nuuksio National Park, either by car or with bus 245 from Espoo railway station.

# SIGHTS IN ESPOO

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## [Haltia Lake Lodge](#)

At the heart of the Nuuksio National Park, hotel Haltia Lake Lodge is the place to nest up in a nature lodge and enjoy the good life, right next to the Finnish Nature Center Haltia. Take a step back from your busy everyday life and reconnect with nature by the enchanting fjord-like Pitkäjärvi lake. In addition to accommodation, the lodge provides the perfect outdoor experiences to make your stay both inspiring and invigorating. Everything is built on nature conservation, sustainable development, and local sourcing. In February 2022, Haltia Lake Lodge became the first hotel in the Nordic countries to join the Hotels for Trees program. Guests now have the opportunity to offset some of their CO2 emissions through the program by planting trees!

## Museums

### [Gallen-Kallela museum](#)

The beautiful surroundings and unique architecture of the Gallen-Kallela Museum provide a fine setting for a visit. Designed and built by the artist Akseli Gallen-Kallela (1865 – 1931), the castle-like Tarvaspää studio and residence was opened to the public in 1961 as the Gallen-Kallela Museum. The museum's temporary exhibitions present the art and life of the artist and his contemporaries and present-day works of contemporary art. The museum also provides a wide range of other activities and events.

**How to get there:** Using bus 550 from Aalto university (direction Itäkeskus via Leppävaara) you should take exit Laajalahdenristi and then walk for 1.5km to the address Gallen-Kallelantie 27.

### [Exhibition Centre WeeGee](#)

Get excited about culture! The Exhibition Centre WeeGee is a versatile center for museums, exhibitions, and events. The Exhibition Centre WeeGee is located in Tapiola and consists of two museums: EMMA – Espoo Museum of Modern Art and KAMU Espoo City Museum. In addition to exhibitions, the museums offer guided tours, workshops, and various themed events. WeeGee also houses the museum shop and the Cafe Zoceria. The lobby, meeting and restaurant spaces can be rented out for meetings and festive occasions.

[EMMA – Espoo Museum of Modern Art](#) is one of Finland's most significant art museums and the largest by exhibition area with over 5,500m<sup>2</sup>. It presents domestic and international modernism, contemporary art and design and has eight to ten exhibitions a year and a wide and varied range of events.

[KAMU Espoo City Museum](#) displays the history of Espoo from the Stone Age to the present day. The changing exhibitions bring a variety of historical themes under the roof of WeeGee. KAMU also offers workshops, guided tours, lectures and work demonstrations. At KAMU, you can look, touch and try!

### [Pentala Archipelago Museum](#)

The Pentala Archipelago Museum is a perfect destination for a day trip. Located on the island of Pentala, a visit to the Archipelago Museum is a holistic experience that combines sea voyage, history, cultural landscape, and the unique nature of the island. The Pentala Archipelago Museum is located on an old fisherman's farm in the Gulf of Espoo and made up of fifteen different buildings. The oldest of them, Kalastajatorppa, was built in the early 1790s and was inhabited all year round until 1986. The Archipelago Museum introduces you to many aspects of living and working in the archipelago and the nature trail that leads to Pentalanjärvi, and the natural sandy beach of Diksand, showcase the distinctive nature of Espoo's archipelago.

**How to get there:** You can arrive on the island of Pentala with scheduled [archipelago boats](#) from Soukka, Suomenoja, or Suinonsalmi.



# SIGHTS IN ESPOO

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## Other activities

### Cycling on a city bike on the Espoo Waterfront Walkway

The forty-kilometer-long Espoo Waterfront Walkway "Espoon Rantaraitti" invites you to take a ride along hundred different point of interests which vary from historic hotspots to beautiful nature views. In addition to the swimming beaches and boat harbours, there are other interesting places along the path, such as scheduled archipelago boats - for a trip to the islands - and bird-watching towers. During the cycling season, you can use city bikes in Espoo. City bikes are an excellent way to more around in Espoo conveniently. You can find over a hundred [city bike stations](#) in Espoo, with many nearby the Espoo Waterfront Walkway. There are also several charming cafés and restaurants along the seafont, for example [Nokkalan Majakka](#).

### [Laguuni](#)

The Watersport center Laguuni is a floating oasis for various watersports located in Keilaniemi. It offers top-notch conditions for stand-up paddling, SUP polo, wakeboarding, canoeing and flyboarding. The sports can be combined in various ways also for all kinds of groups and levels. Laguuni's restaurant Blägä offers fantastic burgers, fresh salads, and tasty drinks. Courses provide expert guidance for all levels, making learning fast and fun, and equipment can be rented on-site.

**How to get there:** You can use the city bike and cycle alongside the Espoo Waterfront Walkway directly to the Water sport center or take the metro to Keilaniemi metro station and you will be only a short walk away.

## Restaurants near Otaniemi

### [Lucy in the sky](#)

Lucy in the sky is a rooftop restaurant and bar. Lucy serves contemporary bistro food along with a unique view on top of the Accountor Tower, the historical landmark building towering over the area of Keilaniemi in Espoo. Lucy's glass walls provide great views to all directions from diverse urban landscapes to natural parks. The airy space can be rented out for private functions and provides several cabinets and spaces that can be booked for bigger groups as well. All visitors are welcome to pop by for a drink (or five) at the bar or on one of the terraces spreading out on both sides of the building and you won't find a single bad seat in the house.

### [Restaurant PLATS](#)

PLATS is a restaurant where you can enjoy delicious Nordic cuisine while adoring the coastal archipelago. It is also a place where Nordic art and design meet world-class gastronomy. They offer holistic experiences that consist of quality, creativity, and innovation. You can enjoy the creations of high-quality kitchen while mesmerized by unique art and a classically beautiful interior. In the restaurant PLATS you will enjoy your stay on the spacious and sunny summer terrace or inside the large atmospheric hall illuminated by windows.

### [Fat Lizard](#)

The Fat Lizard Restaurant in Espoo has visually stunning, handmade, and abundant food. To top that they have a large and almost daily changing selection of Fat Lizard and other local craft breweries' beers. Restaurant Fat Lizard is situated very close to the Aalto University metro station. In the restaurant they grill, smoke, fry and constantly bake new ideas while their genuine Italian wood-oven bears hands-down the best pizzas in all of Espoo. Seasons and tastes from all around the world are present on the menu.

# SIGHTS IN ESPOO

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## Hotels

### [Hanaholmen](#)

Hanaholmen offers visitors top modern hotel rooms and conference facilities with the beautiful Finnish archipelago just outside the window. Spacious rooms of Hanaholmen are decorated in Nordic style and are filled with natural light. Each room offers a view of unique maritime nature. Tasty breakfast and a morning sauna and swim are included for all guests. You can take advantage of the unique location on Hanasaari island and start exploring the coastline and Espoo's Waterfront Walkway directly from the hotel's premises.

### [Radisson Blu Espoo](#)

The Radisson Blu Hotel, Espoo, sits on the stunning shores of the Gulf of Finland, treating guests to a tranquil location, memorable views, and easy access to an array of attractions and transport options. It offers guests a unique, nature-inspired stay. This waterfront hotel boasts luxury hotel rooms, with walls adorned by wallpaper of the Espoo archipelago and beautiful wood floors. All rooms feature a safe equipped with an electrical outlet appropriate for laptop computers, as well as air conditioning, coffee and tea provisions, complimentary breakfast buffet, and free high-speed Internet access. The popular business and leisure hotel offers an inspiring environment and a wide range of services for recreation both before and after the day. The hotel is located by the sea, within walking distance of the concentration of Finland's largest high-tech companies and Aalto University.

### [Original Sokos Hotel Tapiola Garden](#)

The Tapiola area where the hotel is located is like small town with all the services of an urban centre. Tapiola is also a cultural district with numerous events. It is only a short walk from the hotel to the Espoo Cultural Centre, City Theatre and WeeGee Exhibition Centre as well as the metro station. The AINOA shopping centre is next door and there are plenty of sports opportunities nearby. The hotel has a fitness room, saunas, and a swimming pool. Borrow a bicycle from the hotel for a small fee and set off for nature in Espoo. Espoo's Waterfront Walkway is close to the hotel and invites you to explore the coastline.

### [Heymo 1 by Sokos Hotels](#)

Heymo is the new flexible service hotel brand by sokos hotels. It's a hotel with all the essentials and where everything has been made as easy as possible. At heymo, you only pay for what you need. Heymo is a place that focuses on what hotels originally were created for: you can have a high-quality, safe good night's sleep - all the other services you can find in the city and close to the hotel. Heymo has invested in digital solutions that make your stay easy and convenient, but you will still get personal service in matters for which you really need service. Heymo is located next to the metro, Keilaniemi's top companies, Aalto University and outdoor routes by the sea. Check-in takes place at vending machines and breakfast is available from smart lockers around the clock. You can have coffee at any time. There is a gym and restaurant under the same roof.

# SIGHTS IN ESPOO

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## Glamping

Glamping is an abbreviation for glamorous camping and means camping with amenities. The Haltia Lake Lodge glamping tents are designed and manufactured in Finland for year-round use. The design has been based on the values of sustainable development, and aesthetics and ecology go hand in hand. The Lodge Glamping is like an elegant hotel room surrounded by the sounds and atmosphere of the forest. The tent cover material brings the sounds of nature inside but keeps rain and cold outside. The tent is warm, comfortable and full of natural light. It is decorated with high-quality furniture and textiles carefully selected by the interior designer. The electrified Lodge Glamping tents are equipped with heating and air conditioning, lighting, a kitchenette with fridges, high-quality beds and a waterless toilet.

## Shopping centers

**Sello** Located in Leppävaara, there are over 170 shops and services as well as the municipal services offered by the city of Espoo (such as the library). The shopping center is located right next to Leppävaara train station and bus terminal can be easily reached by car.

**Iso Omena** is a family-friendly shopping centre in Matinkylä. There are more than 200 stores specializing in fashion, home décor, leisure and wellbeing but also full-service supermarkets that contain all the necessary daily goods and groceries. After a day of shopping, it's nice to relax in one of Iso Omena's many bars and restaurants, at the cinema or working out at the gym. Shopping centre has excellent public transport connections and direct access to the Länsiväylä and Ring II motorways.

**AINOA** shopping center is located in Tapiola, Espoo. The mall has about 100 stores, of which more than 30 are restaurants or cafes. It's easy to visit AINOA by metro. You can take any metro train, as all trains stop at Tapiola.