

CITY UNDER MICROSCOPE

OULU | FINLAND

20-23
November
2019

#LUCIcmOulu



Welcome to Oulu, the Light of the North!

November is a great time for light enthusiasts to visit Oulu as permanent lighting installations and the Lumo Light Festival illuminate the darkest month of the year.

During this LUCI City Under Microscope, you will have a unique opportunity to discover Oulu in its full variety. The programme introduces how lighting plays a crucial role in school education, park renovations, as well as in university education and research. You will get familiar with Oulu's lighting strategy and walk by the river delta to witness the permanent lighting solutions on our many bridges. Experience darkness at Kierikki Stone Age Centre and wander around Oulu's most popular park that stages our magnificent Light Festival.

The City of Oulu is bidding for the European Capital of Culture 2026 where contrasts of light and darkness emerge as central themes for our bid.

I hope this conference will bring out the different sides of Oulu and will be an inspiration for all participants!

I wish you all a luminous time in Oulu!

Päivi Laajala

Mayor of Oulu



We are honoured to bring the second LUCI City under Microscope in 2019 to Oulu, LUCI's northern-most city. It will be an important opportunity for all to meet and share about urban lighting and learn from this city full of contrasts.

We will learn how the city reinvents itself and uses light to enhance public spaces and promote a better quality of life for its residents. Indeed, with smart lighting solutions and light-art projects, the city comes alive even in the darkest of months.

We will learn how Oulu, the "Light of the North" seeks a luminous future with bright innovative and creative talent and shines across the world with a high cultural ambition.

Last but not least, participants will have the chance to experience the city's Lumo festival, a festival growing in size and popularity each year.

On behalf of the LUCI network, I would like to thank the City of Oulu for hosting what is sure to be a unique and memorable experience and wish everyone a very successful event!

Hee Seon Jin

President of LUCI

Vice Mayor II of Seoul

WEDNESDAY 20 NOVEMBER

18:30 Welcome Reception

20:00 Light Walking Tour around the Oulu River Delta

THURSDAY 21 NOVEMBER

8:00 Bus departure to Hiukkavaara Community Centre

8:30 Registration

9:00 Opening of the LUCI City Under Microscope Oulu

9:15 General Overview of Oulu & its Lighting Strategy

12:00 Finnish school lunch

13:00 Bus transportation to University of Oulu

14:00 Encounters of Light:
Innovation in the Urban Context

17:00 Departure to the hotel by bus

19:00 Dinner

FRIDAY 22 NOVEMBER

9:00 Possibilities of Light - Overview of
Present and Future Luminous Oulu

12:15 LUCI Announcements

12:45 Lunch

» 13:45 - 17:00 Northern Lights within Darkness
at Kierikki Stone Age Centre
OR

» 14:00 - 15:00 Oulu Dance Hack

18:00 Walk through Lumo Light Festival

19:30 Dinner

OPTIONAL PROGRAMME

SATURDAY 23 NOVEMBER

9:00 - 12:45 Finnish Sauna and Lunch at Pehkolanlampi



WEDNESDAY 20 NOVEMBER

10:30 LUCI EXECUTIVE COMMITTEE MEETING / for LUCI EC Members only

14:00–17:30 LUCI PILLAR WORKING GROUPS

📍 City Board Room, City Hall



PUBLIC SPACES



GOVERNANCE



ART & CULTURE

18:30 WELCOME RECEPTION

📍 Oulu2026 Office and Oulu10 Lobby

20:00 LIGHT WALKING TOUR AROUND THE OULU RIVER DELTA





THURSDAY 21 NOVEMBER

General Overview of Oulu & its Lighting Strategy

LUCI City Under Microscope Oulu will begin with a general overview about Oulu and its lighting strategy. Morning sessions will focus on Oulu's urban development, lighting throughout the times and the role of light in Oulu's bid for the European Capital of Culture 2026.

8:00 Bus to Hiukkavaara Community Centre from Sokos Hotel Arina

8:30 Registration

📍 Hiukkavaara Community Centre and School

Conference Moderator: Karri Oikarinen

9:00 OPENING OF THE LUCI CITY UNDER MICROSCOPE OULU

Päivi Laajala, Mayor, City of Oulu

Kiewook Kwon, LUCI President and General Director, Urban Planning Bureau, Seoul Metropolitan Government

9:15 OULU'S URBAN DEVELOPMENT STRATEGY

Matti Matinheikki, Director of Urban and Environment Services, City of Oulu

An overview of lighting in Oulu will be presented in the context of the city's urban development strategy and the recently introduced environment programme.

9:45 LIGHTING IN OULU THROUGHOUT THE TIMES

Tapio Siikaluoma, City Engineer, City of Oulu

Veera Sanaksenaho, Landscape Architect, City of Oulu

City of Oulu representatives will present the history of urban lighting in Oulu. How has city lighting developed over the years? How is lighting used in such a northern city and what are the possibilities it can offer in the future?

➤ Q&A

10:25 Coffee break

10:55 CONTRASTS OF LIGHT AND DARKNESS IN EUROPEAN CAPITALS OF CULTURE

Piia Rantala-Korhonen, Director of International Affairs and Oulu2026, City of Oulu

The City of Oulu is bidding for the European Capital of Culture 2026. In Oulu, there are strong contrasts between light and darkness; during summer the sun does not set at all and during winter there are only a few hours of daylight. These contrasts in nature affect art and culture in the North, therefore Oulu "City of Light" will include these contrasts in the Oulu2026 Cultural Program with the overall theme of "Cultural Climate Change".

11:30 PRESENTATION OF HIUKKAVAARA COMMUNITY CENTRE

Anne Moilanen, Principal of Hiukkavaara School

Tapio Rosenius, CEO and Lighting Designer, Skandal Technologies (via video)

Participants will experience this very unique school and learn about the various lighting aspects of the building, inside and out.

12:00 Finnish school lunch

13:00 Bus transportation to University of Oulu

Encounters of Light: Innovation in the Urban Context

This session will focus on innovation within urban lighting in Oulu. Local education and research institutions will talk about their various collaborations with the City of Oulu. Presentations will also focus on smart cities and smart lighting and how these concepts have been put to the test in Oulu.

14:00 WELCOMING REMARKS

 Agora Hall, University of Oulu, Main Entrance 2T

Dr. Riitta Keiski, Dean, University of Oulu

14:10 EDUCATION AND RESEARCH ON URBAN LIGHTING AT THE UNIVERSITY OF OULU - COLLABORATIONS WITH CITIES AND INDUSTRIES

Dr. Henrika Pihlajaniemi, Post-Doctoral Researcher, Oulu School of Architecture, University of Oulu

Oulu School of Architecture collaborates actively with the City of Oulu in developing the nocturnal quality of urban environments with high quality lighting design and studying the innovative applications of adaptive, intelligent and interactive lighting technologies, user-centric design methodologies and citizens' experiences of new forms of urban lighting.

Q&A

15:00 Coffee break





15:30 BIG DATA IN THE SMART CITY CONTEXT

Dr. Ekaterina Gilman, Post-Doctoral Researcher, Computer Science and Engineering, University of Oulu

There are different views on the interpretation and development of Smart Cities. Some concentrate on integrating ICT into urban environments and on performing analytics and optimisation for better operational decisions; others are more focused on sustainability, wealth, needs and comfort of people and community. This talk will focus on data as a key ingredient and enabler for the vision and realisation of Smart Cities, generally and in relation to smart city lighting.

➤ Q&A

16:00 FLEXIBLE SMART LUMINAIRE CONCEPTS

Dr. Martin Kögler, VTT Technical Research Centre of Finland

There are two major application areas of flexible smart luminaires in Oulu. The first one is related to general lighting with condition monitoring and the second one relates to ambient lighting with communication inside glass laminated structures. This luminaire concept can be utilised in construction site lighting, public elevators or within office room dividers/walls.

➤ Q&A

16:30 INAUGURATION OF LIGHT INSTALLATION «NÄETKÖ METSÄÄ PUULTA?» / WOOD(S)

Participants of OSAaValo Lighting Design Education and Dr. Henrika Pihlajaniemi, University of Oulu

This light installation, using dynamic lighting, reveals the essence of wood as a natural living organism in a forest and as an industrially-processed but traditional Finnish building material. The installation was designed and produced during a workshop organised in Oulu School of Architecture as part of OSAaValo - Northern Attraction from Lighting Know-How project, funded by the European Social Fund ESF and the ELY Centres of North Ostrobothnia and South Savo.

17:00 Departure to the hotel by bus

19:00 DINNER HOSTED BY THE CITY OF OULU

📍 City Hall, Main Hall



FRIDAY 22 NOVEMBER

Possibilities of Light: Overview of Present and Future Luminous Oulu

This session will focus on the possibilities of light, both permanent and temporary. Speakers will share about permanent lighting solutions in the city, including their approaches to using creative lighting on bridges and in parks. The Lumo Light Festival team will present this year's edition before participants can experience it themselves in the evening. Finally, a panel will discuss the opportunities and challenges for the future of luminous Oulu.

9:00 INTRODUCTION TO THE LUMO LIGHT FESTIVAL

📍 Piki Hall, City Theatre

Jarkko Halunen, Programme Manager, Lumo Light Festival

Anna Lanas, Producer, Lumo Light Festival

The Lumo Light Festival takes place for the 7th time this year. It is organised by the City of Oulu in cooperation with multiple partners: businesses, communities, artists and institutions from different fields. The visitor count has gone up year by year; in last year, the festival attracted tens of thousands of visitors to the city centre every night. The full programme is open to everyone and free of charge.





9:30 PERMANENT LIGHTING SOLUTIONS IN OULU: BRIDGES, PARKS AND ART

› Lighting the Oulu River Delta

Roope Siirainen, Director, VALOA Design

Roope Siirainen will present about the lighting project of the bridges of the Oulujoki river delta in Finland. He will discuss the objectives and the challenges of the project and explain the visual and aesthetic concept of the lighting. You will get to know the “less is more” principle through a concrete case example.

› Light Art at the Merikoski Hydro Power Plant

Leevi Lehtinen, Animation and Media Artist

This presentation will review the lighting of the Merikoski power plant buttress dam and how it has changed both the visual appearance and citizens relationship towards the dam. It will also include a technical and visual description of designer Ari Tiilikainen’s light art installation followed by a look at the light installations made by Lehtinen himself.

› Lighting the Mannerheim Park

Reija Pasanen, Head of Lighting Design, Ramboll Finland

The renovation of Mannerheim Park was completed in August 2019. The park was completely renovated and built into a year-round event park where residents can spend their leisure time. Colour-changing lighting is programmed into spectator stand structures, water jets and winter projections. The park’s special lighting and sound systems vary according to the seasons and events.

› Q&A

10:50 Coffee break

11:15–12:15 PANEL DISCUSSION ON FUTURE LUMINOUS OULU

What is the role of light in developing a city now and in the future? How are generations in Oulu touched by light? What is the Luminous Future of Oulu? This panel discussion will challenge its participants to reflect on the current situation and preferable future of Oulu.

Piia Rantala-Korhonen, Director of Oulu2026, City of Oulu

Dr. Henrika Pihlajaniemi, Post-Doctoral Researcher, Oulu School of Architecture, University of Oulu

Juha Ala-Mursula, Executive Director, BusinessOulu

Jussi Tomberg, Senior Advisor, Education and Cultural Services, City of Oulu

› Q&A

12:15–12:45 LUCI ANNOUNCEMENTS

12:45 Lunch

2 options are available for the Friday afternoon...

13:45–17:00 NORTHERN LIGHTS WITHIN DARKNESS

📍 Kierikki Stone Age Centre

This session will take participants back in time to experience life in Stone Age. The session will focus on light and darkness in nature and includes a tour of the Stone Age Centre.

13:45 Bus to Kierikki Stone Age Centre

14:45 WELCOME TO THE STONE AGE CENTRE

Leena Lehtinen, Director, Kierikki Stone Age Centre

14:50 THE MAGIC OF NORTHERN LIGHTS

Jouni Jussila, Photographer, Former Northern Light Researcher and Product Manager at Specim, Oulu

Learn about the Northern Lights from the viewpoint of a scientist and a photographer. Jouni Jussila will describe how these lights come to life, when and where they can be seen, and how they behave in the skies of Oulu and other northern areas.

15:15 Tour of the Stone Age Centre with drum and fire show

16:00 Departure to the hotel by bus

OR

14:00–15:00 OULU DANCE HACK AT LUMO FESTIVAL

📍 Oulu Museum of Art

Oulu Dance Hack 2019 brings artists from around the world to experiment with lighting technology in a dance context, resulting in a series of installations and short performances. You are invited to an open studio session where you can talk with the artists and try out the interactive lighting systems created during the Dance Hack before the artists present their work at the Lumo Light Festival.

For those who select this option, you will have the rest of the afternoon to visit Oulu and get to know the city before dinner!

18:00 WALK THROUGH LUMO LIGHT FESTIVAL ON OUR WAY TO DINNER

📍 Hupisaaret Park

19:30 DINNER AND LIGHT ART INSTALLATION

📍 Aurora Hall, Hotel Lasaretti

22:00 Departure to the hotel by bus


Karri Oikarinen | Conference Moderator

Karri is a basketball enthusiast from Oulu. He currently works for the City of Oulu as a Special Advisor to the Mayor, Ms. Päivi Laajala. With his wife hailing from Lapland, Karri is well engaged in the staggering contrasts of light and darkness in the Arctic. As your host, Karri hopes to help provide you an instructive, entertaining and valuable event in Oulu.

Opening of the LUCI City Under Microscope Oulu


Päivi Laajala | Mayor, City of Oulu

Päivi Laajala (M.Sc., Admin) has served as the Mayor of Oulu since April 2017. Prior to that, from 2008 to 2017, she served as Director-General, Head of the Department for Local Government Department, subsequently Regional Administration and Regional State Administrative Department at the Ministry of Finance. In the period 2005 – 2008, Laajala served as Deputy Mayor of the City of Oulu. Prior to this, she has worked as Mayor of the City of Kannus, Mayor of Kauhajoki Municipality and as Director of the Social and Welfare Department in Pielavesi Municipality.


Kiewook Kwon | General Director, Urban Planning Bureau, Seoul Metropolitan Government

Kiewook Kwon is the General Director of the Urban Planning Bureau in Seoul Metropolitan Government. He studied civil engineering at Seoul National University and urban planning at the University of Pennsylvania. He worked in the Water Circulation Safety Bureau, laying the foundations for natural restoration and regional development. Last year, he also established a new urban lighting master plan and recently has been leading the 2040 urban planning in Seoul. The Urban Light Policy Division, which establishes and manages the dynamic night scenery of Seoul, is under his leadership.

General Overview of Oulu & its Lighting Strategy


Matti Matinheikki | Director of Urban and Environment Services, City of Oulu

Matti Matinheikki is the Director of Urban and Environmental Services. His interests are urban planning and movies, in this order. Matinheikki likes to speak out on challenges related to urban planning. Interesting projects that Matinheikki is currently working on at the city of Oulu include the coordination of the Environmental Programme, Housing Fair 2025 and attracting hotel projects to Oulu.


Tapio Siikaluoma | Chief of Street Planning, Urban and Environmental Services, City of Oulu

Tapio Siikaluoma represents the unit responsible for planning, building and maintenance of streets and other traffic lanes and parks in the City of Oulu. Outdoor lighting is included in these responsibilities as well as the coordination of municipal engineering systems like water supply, electricity and telecommunication.


Veera Sanaksenaho | Landscape Architect, Urban and Environmental Services, City of Oulu

Veera Sanaksenaho is part of the team responsible for planning the public spaces, green areas and parks in the City of Oulu. She participates in the planning processes of master planning and also detailed planning of the city and works with the special lighting projects.


Piia Rantala-Korhonen | Director of International Affairs and Oulu2026, City of Oulu

Piia Rantala-Korhonen works as Director and Advisor to the Mayor of the City of Oulu, responsible for International Affairs and the bidding office of Oulu2026 European Capital of Culture. She has worked with art and culture in many organisations on national and international level. She holds a Master of Science degree from the University of Helsinki. She has completed postgraduate studies in governance, leadership and management.


Anne Moilanen | Principal of Hiukkavaara School

Anne has extensive experience in teaching mathematical subjects. She has worked in administration as ICT advisor and pedagogical planner. Before taking on her role at the Hiukkavaara School, she was the head teacher of Laanila School.

Encounters of Light: Innovation in the Urban Context



Dr. Riitta Keiski | Dean, University of Oulu

D.Sc.(Tech.) Riitta L. Keiski is Professor in Mass and Heat Transfer, Docent in Chemical Process Engineering, Dean of the Faculty of Technology. Prof. Keiski is an expert in chemical and environmental engineering, especially in catalysis, nanomaterials, sustainable production, separation processes and clean technologies. She holds Doctor Honoris Causa title at three international and national universities and is the Chair of the Finnish National Board on Research Integrity TENK. She has supervised 29 doctoral theses, has over 250 publications and one patent.



Dr. Henrika Pihlajaniemi | Post-Doctoral Researcher, Oulu School of Architecture, University of Oulu; Lighting Design Consultant, M3 Architects

Architect (M.Sc.), D.Sc. (Tech), lighting designer and researcher Henrika Pihlajaniemi lectures and teaches Architectural and Urban Lighting in the Oulu School of Architecture (OSA), University of Oulu. She had a leading role in establishing architectural lighting education in the curricula in 2003. In 2016, she defended her doctoral thesis "Designing and experiencing adaptive lighting – Case studies with adaptation, interaction and participation". Her research is related to intelligent lighting and well-being in learning and working environments, lighting education, and to the use of lighting to develop cities. Additionally, she works as a lighting design consultant in her architectural office (M3 Architects).



Dr. Ekaterina Gilman | Post-Doctoral Researcher, Computer Science and Engineering, University of Oulu

Ekaterina Gilman, D.Sc. (Tech.), is a postdoctoral researcher supported by the Academy of Finland at the Center for Ubiquitous Computing, University of Oulu. With a strong background in ubiquitous computing and context-awareness, she has started exploring urban data since 2012 through participation in research projects funded by Business Finland, Academy of Finland, and EU Horizon 2020 research & innovation programme. Her research activities related to urban computing include data collection, fusion, and analysis for improved situation awareness for individual drivers; development of big data solution for urban data collection and analysis. Her research interests include data analytics, context modelling and reasoning, and machine learning in IoT and data-intensive systems.



Dr. Martin Kögler | VTT Technical Research Centre of Finland

Martin Kögler received his Doctoral degree (Dr. Ing.) from Technische Universität Berlin, Germany in 2018 and has since worked as a senior scientist at VTT (Technical Research Center of Finland) in the flexible electronics and integration team focusing on embedded systems, sensors and integration. Prior to that, he worked at the University of Helsinki, Timegate Instruments Oy a VTT- spin-off company and more than 7 years at VTT as well.

FRIDAY 22 NOVEMBER 2019

Possibilities of Light: Overview of Present and Future Luminous Oulu



Jarkko Halunen | Programme Manager, Lumo Light Festival

Jarkko Halunen is the taller half of Lumo Light Festival's dynamic producer duo. His background is in music and culture-oriented development projects and productions. Halunen works at BusinessOulu Events and Marketing Unit and is especially interested in sound, light and good vibes.



Anna Lanás | Producer, Lumo Light Festival

Anna Lanás is the more beautiful half of Lumo Light Festival's dynamic producer duo. She has been part of producing Lumo since the very first year. She works for her own company and is also involved in the Qstok Music Festival. Lanás gets her kicks from making people smile.

**Roope Siirainen** | Director, VALOA Design

Roope Siirainen has a Master of Arts degree in Lighting Design (1995). He established VALOA design Ltd. In 1997, VALOA was one of the first architectural lighting design companies in Finland. VALOA has won national and international awards and has lectured at national and international forums of architectural lighting design. He was recognised lighting designer of the year in 2016 (IESF) for his lifetime work in the architectural lighting profession and progressive work for lighting culture in Finland.

**Leevi Lehtinen** | Animation and Media Artist

Leevi Lehtinen is a media artist who has studied animation in Finland, Slovakia as well as the Netherlands. Since 2002, his films have been screened at more than 80 festivals, in 36 countries, on 5 continents. Leevi's installation art has been presented at museums, galleries and art fairs in Sweden, Germany, the Netherlands, Belgium, Czech Republic, Greece, Poland and Finland. He has also created interactive media art for many dance and theatre plays. At the moment he works as a Regional Artist of Light Art at Arts Promotion Centre Finland.

**Reija Pasanen** | Head of Lighting Design, Ramboll Finland

Reija Pasanen is an industrial designer MA specialised in product design, architectural constructions and in the creation of lighting solutions. She has over 'ten-years' experience of developing urban lighting and structures in both Finland and abroad. Reija works as project manager and lighting designer in architectural lighting design projects at Ramboll Finland.

**Juha Ala-Mursula** | Executive Director, BusinessOulu

Juha Ala-Mursula is Executive Director of BusinessOulu, the Economic Development agency of the City of Oulu. He has extensive experience in innovation and international business development with many managerial positions in the global business sector as well as in the public sector. He is currently an Advisor Board Chairman of 6G Flagship programme.

**Jussi Tomberg** | Senior Advisor, Education and Cultural Services, City of Oulu

Tomberg has a background as a biology and geography teacher. He has worked for 12 years as advisor and teacher at the same time, covering the subject of sustainable development and science. He is currently working on two major projects: Climate change with high schoolers and Finnish UNESCO ASPnet schools project. His goal is saving the world.

Northern Lights within Darkness

**Leena Lehtinen** | Director, Kierikki Stone Age Centre

Leena Lehtinen has been Curator and Director of the Kierikki Stone Age Centre since 2000. She is an archaeologist working in museums for nearly 40 years. Lehtinen also has a much experience in international projects.

**Jouni Jussila** | Photographer, Former Northern Light Researcher and Product Manager at Specim, Oulu

Jouni Jussila is a former northern lights scientist from the University of Oulu and an active northern lights photographer. He has published two science and photography books about northern lights. He is currently working in Oulu with optics and optical measurement systems for research and industry, but following northern lights and related space phenomena is part of his everyday life.



SATURDAY 23 NOVEMBER

Discover the City of Oulu's VIP Guest House located by the river Sanginjoki and experience the finest Finnish traditional saunas.

 City of Oulu VIP Guest House, Pehkolanlampi

9:00 Bus to Pehkolanlampi

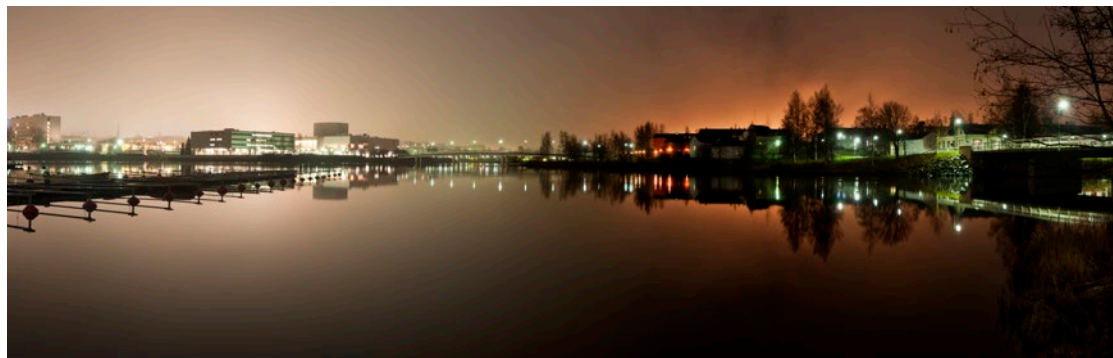
9:30 Welcome to Pehkola

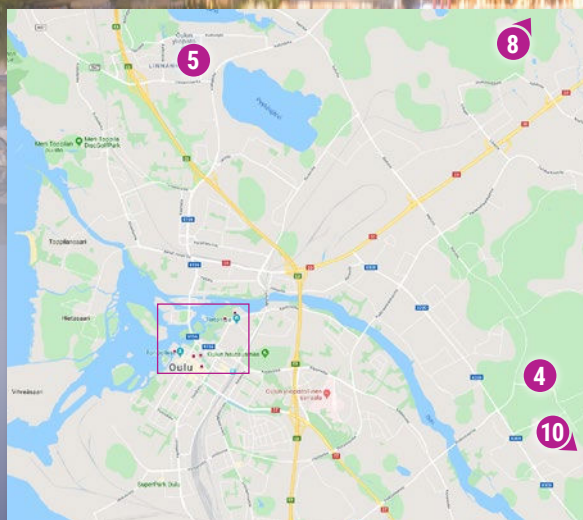
9:45 Finnish morning sauna, men and women separately (everything included: towels, soap, etc.) or walk in the forest

11:45 Finnish lunch

12:45 Departure back to the hotel or to airport

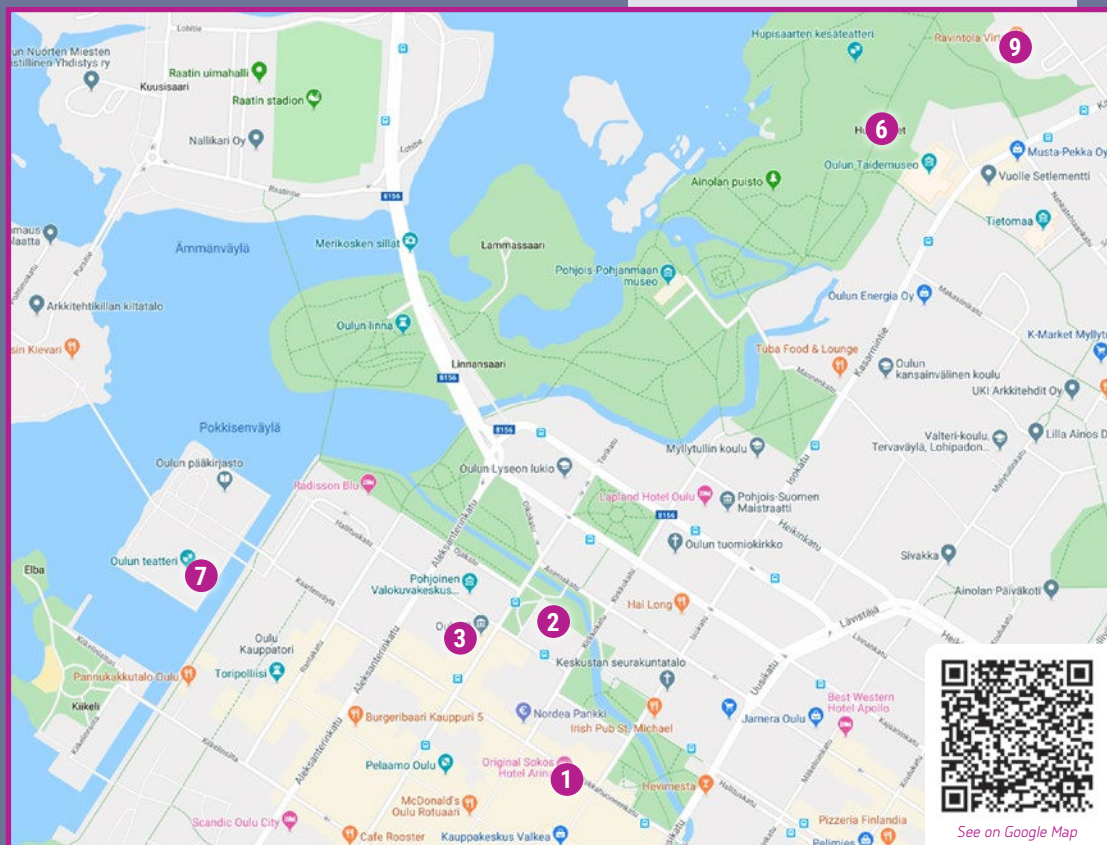
OPTIONAL PROGRAMME






Oulu – City Centre

- 1 Conference Hotel:
Original Sokos Hotel Arina
Pakkahuoneenkatu 16, Oulu
- 2 City Board Room, City Hall
Kirkkokatu 2a, Oulu
- 3 Oulu2026 Office and Oulu10 Lobby
Torikatu 10A, Oulu
- 4 Hiukkavaara Community
Centre and School
Tahtimarssi 3 Oulu
- 5 Agora Hall, University of Oulu
Erkki Koiso-Kanttilan katu 1,
Main Entrance 2T
- 6 Lumo Light Festival
Hupisaaret Park
- 7 Piki Hall, City Theatre
Kaarlenväylä 2, Oulu
- 8 Kierikki Stone Age Centre
Pahkalantie 447, Oulu
- 9 Aurora Hall, Lasaretti Hotel
Kasarmintie 13b, Oulu
- 10 VIP Guest House
Peräkylläntie 225, Oulu



See on Google Map



LUCI (Lighting Urban Community International) is the international network of cities on urban lighting bringing together around 70 municipalities across the world. It creates spaces for exchange of knowledge and good practices, and helps cities develop an appropriate and sustainable use of urban lighting.

A LUCI City under Microscope event enables participants to discover the lighting strategy of a member city over a two day period.

A chance to see a city in its best light!

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More information

- Free participation for LUCI members (accommodation included)
- 300 euros for non-LUCI members (accommodation not included)

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In collaboration with:



With the support of:

