



The core of Otaniemi is a parkland-style campus established in the 1950s, the overall vision of the campus being that of **Alvar Aalto**.

Otaniemi was mainly built in an era when the so-called functionalist building style was dominant. The campus' oldest buildings send a clear message in their material choice: red bricks are a reference to old Finnish industrial architecture. They represent the close relationship of the work being done in the buildings to the industry. Completed in 1964, the old main building of the Helsinki University of Technology is now called the Undergraduate Centre. The building's main auditorium, at the end of the old manor's lime tree rows, presents an impressive silhouette. The building and library flank the green broadly.

Alvar Aalto designed the original layout of the Otaniemi campus and the main building of the Helsinki University of Technology (now the Aalto University Undergraduate Centre, Otakaari 1), as well as the Otaniemi library building (now the Harald Herlin Learning Centre, Otaniementie 9). Alvar Aalto's office also designed other buildings on the campus; one of them is the shopping centre.



GLASS INNOVATION INSTITUTE



HIGH RISE workshop 2017

27th June Helsinki FINLAND

High Rise Workshop Schedule 27th June 2017

Aalto University, School of Arts, Design and Architecture, Hall A1, Otakaari 1, Espoo

- 08:00 Registration
- 08:45 Opening words – **Kimmo Lintula**, Aalto University & **Jorma Vitkala**, GPD Chairman
- 09:00 **Dr. Leon Jacob**, Jacob & Associates Pty Ltd, Australia
 - Introduction to high rise facade design
 - Historic overview
 - Development of curtain wall
 - Façade systems
 - Double skin facades
 - Cold bending
- 09:30 **Mr. Keith Boswell**, SOM, San Francisco USA
 - High Rise design considerations - Building Typology, Useable floor area and support “core” floor areas by typology
 - Structural considerations, Vertical circulation (elevators), Life safety systems, Building services (mechanical/electrical/plumbing/etc),
 - Energy efficiency & Public spaces
- 10:00 **Mr. Peter Smithson**, BG & E Facades Australia
 - Loading - External and internal Loading – wind, air and water penetration,
 - Energy efficiency – Natural daylight vs solar heat gain
 - Fire resistance and acoustics
 - Performance criteria – air infiltration, acoustics, daylight, energy criteria
- 10:30 **COFFEE BREAK**
- 11:00 **Dr. Leon Jacob**, Jacob & Associates Pty Ltd Australia
 - Processing of glass for various applications and performance criteria
 - Smart design fundamentals
 - Switchable glass
 - Photochromic & Electrochromic glass
 - Vacuum glazing
- 11:30 **Mr. Peter Smithson & Mr. Oliver Ng**, BG & E Facades Australia
 - Energy efficiency – Natural daylight vs solar heat gain
 - Fire resistance and acoustics
 - Performance criteria – air infiltration, acoustics, Structural and water permeation
- 12:00 **Mr. Keith Boswell**, SOM, San Francisco USA
 - Delivery Methods
 - Impact of wind pressure on Operable windows
 - Sequencing
- 12:30 **LUNCH**
- 13:00 **Mr. James Carpenter**, James Carpenter Design Associates Inc USA
 - Façade Design: Integrating Light into the Public Realm
 - Commercial and other examples of façades that merge structure, performance and materiality to articulate the presence of nature within the urban experience
- 13:30 **Ms. Lisa Follman**, SOM, San Francisco USA
 - 111 South Main—structural glass façade with demanding performance requirements
- 14:00 **COFFEE BREAK**
- 14:30 **Dr. Thomas Henriksen**, Mott McDonald UK
 - ASpinningfields Manchester, Ian Simpson Architecture
 - Mærsk Tower, Copenhagen, CFMoller
- 15:00 Discussions
Chaired by Dr. Leon Jacob in association with all the other presenters

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Celebrating its 25th year,
GPD Glass Conference,
world's leading learning
event for glass industry will
be held on June 28 – 30,
2017 in Tampere, Finland



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High Rise Workshop Speaker profiles

Dr. Leon Jacob www.jacobassociates.com.au
Principal, Jacob & Associates – Glass & Glazing Consultant

Dr. Leon is recognised as an expert in the field of glass technology. His Masters and PhD research related to thermal fracture of glass and glass strength.

Dr. Leon has been involved in façade design for all type of buildings and been involved in finding solutions for problem high rise building failures around the world. He has worked on projects in Australia, Austria, London, USA, Dubai, Qatar, Malaysia, India, China etc. He has also been involved with legal expert witness work relating to glass, glazing.

Dr. Leon has published in excess of 60 technical papers and presented short courses on glass technology.

Mr. Keith Boswell www.som.com
Partner – SOM San Francisco USA

As the Technical Design Partner for SOM, Keith Boswell orchestrates and guides detailed design, construction documentation and implementation for all of SOM's West Coast practice. Since joining SOM in 1981, he has worked on high-rise office buildings, governmental facilities, residential and mixed use complexes, and international and domestic airport passenger terminals. Keith is a specialist in designing and executing complex building systems such as exterior enclosures, curtain walls, elevator systems, and special construction. He is actively engaged in the research and application of materials and systems for use in SOM designs. He is the author of the book, Exterior Building Enclosures: Design Process and Composition for Innovative Facades, published in June 2013.

Some of Keith's recent project experience include 350 Mission Street, Moscone Center Expansion, Cathedral Christ the Light, and the San Francisco International Airport- all in the San Francisco Bay Area, The New United States Courthouse in Los Angeles, and the Poly International Plaza in Beijing China.

Mr. Peter Smithson www.bgeeng.com
Managing Director – BG&E Facades Pty. Limited

Peter trained as an architect with additional specialist studies in polymer physics and metallurgy.

Peter's consulting business provides property developers, architects and main contractors specialist advice relating to building facades from conceptual design through to completion, from high-rise to historic conservation. He has worked on projects in Australia, The Peoples Republic of China, Hong Kong and the Middle East.

Peter also undertakes legal expert witness work relating to glass, glazing and construction materials science matters.

Mr. James Carpenter www.jcdainc.com
Principal, James Carpenter Design Associates Inc.

James has worked at the intersection of architecture, fine art, and engineering for nearly 50 years, advancing a distinctive vision based on the use of natural light as the foundational element of the built environment. Originally studying architecture before concentrating on the fine arts, Carpenter founded the cross-disciplinary design firm James Carpenter Design Associates in 1979 to support the application of these aesthetic principles to large-scale architectural projects. Carpenter's work is driven by a deep awareness of materiality and craft as a means of enhancing the individual human experience within the built environment.

Carpenter has been recognized with numerous national and international awards, including an Academy Award in Architecture from the American Academy of Arts and Letters, the MacArthur Foundation Fellowship and the Smithsonian National Environment Design Award. He holds a degree from the Rhode Island School of Design, and was a Loeb Fellow of Harvard University's Graduate School of Design and a Mellon Teaching Fellow at the University of Chicago.

Dr. Thomas Henriksen <https://www.mottmac.com/>
Technical Director, Global Façade lead, Mott McDonald

Thomas Henriksen joined Mott MacDonald as Global practice leader for the façade group in 2016. He has gained a high level of experience in design, across a wide range of buildings, and infrastructure projects. This experience includes: architectural competitions; direct liaison with clients, developing design proposals; Contract negotiations; design development and detailing; coordinating interfaces between subcontractor packages and overseeing construction on-site; reviewing progress against contractors programs and maintaining on-site quality. He has served as Design Director on several large projects including the Maersk Panum Tower in Copenhagen, the Shard London Bridge Station canopy, and the Sowwah Galleria, Abu Dhabi. He is currently affiliated with TU Delft as a Doctoral scholar, researching the application of GFRC as a cladding material.

Mr. Oliver Ng www.bgeeng.com
Director, Practice Manager, BG&E Facades Pty. Limited

Oliver is an architect involved in façade project management, the design and construction of glazed facades and the remediation of existing facades. His core skill is facade consultancy: conceptual design, design development, detail documentation, prototype testing and the construction process. His key strength is in the coordination and management of varied and complex issues in commercial, educational, health and residential projects.

Ms. Lisa Follman www.som.com
Associate, SOM San Francisco USA

Lisa Follman is an Associate and Technical Designer with SOM San Francisco, where she specializes in the design and detailing of exterior enclosures and public spaces. Her participation in a wide range of domestic and international projects, combined with Lisa's attention to detail, material research, and dedication to a collaborative team environment has led to accomplishments such as 11 South Main Tower in Salt Lake City Utah, 75 Howard Street, and the United States Consulate in Guangzhou China.



GLASS INNOVATION INSTITUTE
www.gii.fi

The Glass Innovation Institute (GII) is an independent organization not associated with glass or glass-equipment manufacturers. It is the first organization aiming at bringing together experts from around the world to create and share a body of knowledge about the whole value chain of glass in innovative construction/building solutions.

GII is a new organization aiming to build a platform for clear communication among all players in glass industry. Creating a balanced ecosystem would require your material and financial support. For more information please visit our website or contact Mr. Jorma Vitkala.