

Final
Program



INNOVATION • BUSINESS • DESIGN

GPD Glass Performance Days 2015 • June 24–26, 2015, Tampere, Finland

New concepts > More interaction

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GPD Glass Performance Days 2015 • June 23, TUESDAY

GPD workshops are 4–8 hour intensive courses with each focusing on techniques and skills in a particular field (e.g. pre-processing, tempering,

structural glass facades, etc). The main emphasis is interaction and exchange of information among small groups e.g. the number of participants for practical

workshops will be limited to 5–15 persons and 20–50 persons for theoretical workshops. Below is a list of the accepted workshops.

For the latest list, please check the GPD website.

Price: **EUR 150** + VAT 24% / workshop.

WORKSHOP 1	WORKSHOP 2	WORKSHOP 3	WORKSHOP 4	WORKSHOP 5	WORKSHOP 6	WORKSHOP 7
<p>9:00–17:00 ‘Immaterial Property Rights’ and ‘Patents, a key source of knowledge for the flat glass industry’</p> <p>Bernard Savaète, BJS. Différences Ari Hirvonen, Kitasakura Oy</p>	<p>9:00–13:00 Facade engineering</p> <p>Agnes Koltay, Koltay Façades</p>	<p>9:00–17:00 Cutting and Grinding</p> <p>Michael Emonds, Chemetall GmbH Peter Pokoern, Bohle AG</p>	<p>9:00–17:00 Glass Chemical Strengthening by Ion Exchange</p> <p>Guglielmo Macrelli, Isoclima SpA</p>	<p>9:00–17:00 High Rise buildings</p> <p>Glass Innovation Institute (Workshop will be in Helsinki)</p>	<p>9:00–17:00 Glass Lamination & Processing Efficiency of SentryGlas and PVB (EVA, etc.)</p> <p>Jan Scheers, Kuraray</p>	<p>9:00–17:00 Eurocode - Design of glass panes on the basis of prEN 16612:2013 (E)</p> <p>Glass Innovation Institute</p>

GPD Glass Performance Days 2015 • June 24, WEDNESDAY

WORKSHOP 1	WORKSHOP 2	WORKSHOP 3	WORKSHOP 4	WORKSHOP 5	WORKSHOP 6	WORKSHOP 7	WORKSHOP 8
<p>9:00–13:00 Structural Performance and Applications of Laminated Glass</p> <p>Ingo Stelzer, Malvinder Singh Rooprai, Robin Czyzewicz, Kuraray</p>	<p>9:00–13:00 The thermal and mechanical performance of vacuum insulating glazing</p> <p>Cenk Kocer, University of Sydney</p>	<p>9:00–13:00 Structural Silicone Glazing and next generation bonding technologies: Optimizing Design and Performance in facade systems</p> <p>Larry Carbarry, Dow Corning</p>	<p>9:00–13:00 The introduction to glass tempering process and properties of tempered glass</p> <p>Antti Aronen, University of Sydney</p>	<p>9:00–13:00 Anisotropy</p> <p>Glass Innovation Institute</p>	<p>9:00–13:00 Glass Surface Treatment</p> <p>Edda Rädlein, TU Ilmenau Michael Emonds, Chemetall GmbH</p>	<p>9:00–13:00 Retrofitting of Projects</p> <p>Glass Innovation Institute</p>	<p>9:00–13:00 Some key figures for the global flat glass industry</p> <p>Bernard Savaète, BJS. Différences</p>
<p>9:00–13:00 Business profitability solutions – 90 Day Challenge</p> <p>Lisett Gulnick, Jim Gulnick, McGrory Glass, Inc.</p>	<p>9:00–13:00 Industrial Internet</p> <p>Glass Innovation Institute</p>						



Posters

The Ageing of Transparent Adhesives under Solar Exposure
 Bernhard Weller
 Technische Universität Dresden

Novel concept for adhesive joints in glass structure towards optimized performances
 Manuel Santarsiero
 EPFL - ICOM

Detection and resolution of scratch-causing roller side defects
 Gary Mauer
 Window Cleaning Network

Stone/Glass composite panel for facades
 Yutaka Misawa
 Arup

Glass products standardization progress in CIS
 Alexander Chesnokov
 Glass Research Institute

GPD Glass Performance Days 2015 • June 25, THURSDAY

Architect Forum

Chairperson: James O'Callaghan

9:00 Damesalen, Copenhagen – A case history of high performance through collaboration Stig Mikkelsen • Mikkelsen Architects
9:35 Contemporary museum – case Guggenheim Helsinki Rainer Mahlamäki • Arkkitehtitoimisto Lahdelma & Mahlamäki Oy

11:00 Transparent Engineering – Structural Glass Developments James O' Callaghan • Eckersly O'Callaghan
11:35 Glass Towers Christoph Timm som • SOM Architects

13:45 Helsinki Central Library Janne Teräsvirta • Arkkitehtitoimisto ALA
14:20 Silence of the Plans: Designing glass facades with acoustical isolation Patrick Loughran • Goettsch Partners

15:45 To be Announced Peter French • Snohetta

Glass and Sustainability

Chairperson: Mikel Kragh

9:00 Energy labelling scheme for windows: delivering a genuine consumer oriented tool Bertrand Cazes • Glass for Europe
9:25 Building Energy Simulations – Optimize/Customize Glazing Performance & Aesthetics by climate Zones while considering Building Shape, Orientation, and Window to Wall Ratio Patricia Athey • PPG Industries Inc.
9:50 Mobile Air Conditioning: the impact of glazing on vehicle consumption Cédric Janssens • Glass for Europe

11:00 Integrated Fenestration and Lighting Systems: Optimal solution for both energy performance, daylighting and human comfort Helen Sanders • SAGE Electrochromics, Inc
11:25 All-glass house – a new space for living Philip Wilson • Malishev Wilson Ingenierie
11:50 Benefits of interior installed high performance insulating glass for commercial retrofit applications Tracy Rogers • Quanex Building Products

13:45 High performance curtain wall solutions – optimization by simulations David Appelfeld • Dow Corning Corporation
14:10 Implementing a High Performance Unitized Curtain Wall Over-Clad Design William Fischer • Skidmore Owings & Merrill LLP
14:35 Smart Facade Systems Adopt The Internet of Things Stephen Selkowitz • Lawrence Berkeley National Laboratory

15:45 Iconic skin self conditioning facade: development of a new façade generation Heiko Mertel • Seele GmbH
16:10 Thin Glass – Opportunities and Risks Hannes Spiss • ARUP
16:35 When Buildings Attack Their Neighbors Vicente Montes-Amoros • Curtainwall Design & Consulting (CDC)

IGU and Window Technology

Chairperson: Tracy Rodgers

9:00 Durability of insulating glass units: Influence of climate ageing & climate loads according EN 1279 Stephan Buddenberg • Staatliche Materialprüfungsanstalt Darmstadt
9:25 The mechanical performance of a vacuum insulating glazing Cenk Kocer • University of Sydney
9:50 Comparison of Non-Linear to Linear Load Sharing of Triple Insulating Glass Units Stephen Morse • Texas Tech University

11:00 Attaching insulated glass to buildings, what are your options? Louis Moreau • AGNORA
11:25 A new warm edge system with superior energy efficiency and durability Christian Scherer • Kömmerling Chemische Fabrik GmbH
11:50 Ceramic Pillars for Efficient Vacuum Insulated Glazing Terry Collier • 3M

13:45 Plastic spacers for large sealed units. Are they strong enough? Karl-Theo Roes • Swisspacer
14:10 Windows in cold climate – U-value stability in 2 vs. 3 glass units Alf Rolandsson • Svensk Planglasförening
14:35 Quadruple IG-Unit with thin glass membranes Markus Jandl • LISEC Austria GmbH

15:45 New technology for non invasive gas testing on IG Miikkael Niemi • Sparklike
16:10 Optimisation of curved insulated glas Vladimir Marinov • Ove Arup And Partners Ltd

Coatings Technology and Applications

Chairperson: Jutta Trube

9:00 Air plasma treatment of glass surfaces for improving coating and joint properties Tomáš Homola • Masaryk University
9:25 Combination of nFOG™ and Khepri-Coat® technologies to deliver superior quality of anti-reflective coating on solar cover glass Simo Tammela • Beneq Oy
9:50 Low Cost Electrochromic Film for Architectural and Automotive Applications Damoder Reddy • Argil, Inc.

11:00 Cost efficient manufacturing for architectural glass coatings by optimizing processes and equipment Jutta Trube • Bühler Alzenau GmbH
11:25 Evolving Dual Magnetron Sputtering (DMS): Strategies for Increased Control and Efficiencies David Christie • Advanced Energy Industries, Inc.
11:50 Process impact of modern power supplies in dual magnetron sputtering Moritz Heintze • TRUMPF Hüttinger GmbH + Co. KG

Glass in Structural Applications
Chairperson: Ingo Stelzer & Mitsu Edwards
13:45 30 years of Dutch Glass Developments and Innovations Mick Eekhout • TU Delft
14:10 Free form glass braced structures. Laverstoke Mill glasshouses Carles Teixidor • Bellapart Group
14:35 Recent advances in use of structural glass in Russia Gennady Vasilchenko-Malishev • Malishev Engineers

15:45 The new glass floor and glass balustrade for the renovation of the Eiffel Tower's 1st floor and the pagoda's glass façades for the elevators Núria Guitart • Bellapart
16:10 Laboratory experiments of centrally loaded glass columns Andrés Jakab • BME
16:35 Structural glass fin under blast loading Thomas Henriksen • Waagner Biro

Laminated Glass / Process / Design

Chairperson: Julia Schimmelpenninck

9:00 Designing Impact Glazing to Meet Tornado Performance Standards Valerie Block • Kuraray
9:25 Development of a bond shear stress-slip model for embedded reinforcement in glass laminates Kenny Martens • Ghent University
9:50 The mechanical behaviour of "thick" embedded laminated connections at different temperatures – preliminary results Manuel Santarsiero • EPFL - ICOM

11:00 Determination of shear connection of glass-polycarbonate composite panels Simon Tiedemann • Universität Siegen
11:25 Viscoelastic Properties of Laminated Glass – Theory and Experiments Johannes Kuntsche • Technische Universität Darmstadt
11:50 Shear Modulus Measurement of PVB interlayers and prEN16613 Pu Zhang • Eastman Chemical Company

13:45 Which interlayer for which glazing application? Björn Sandén • Kuraray
14:10 Welding of thermoplastic interlayer – wider and combined interlayer Hanno Sastré • glaslabor.de gmbh
14:35 Glass Finns in Architecture Mick Eekhout • TU Delft

15:45 Acoustic glazing based on different PVB interlayers Bernhard Koll • Kuraray Europe GmbH
16:10 Design and testing of annealed glass balustrade panels using a structural PVB interlayer Wim Stevels • Eastman Chemical Company
16:35 High performance acoustic interlayers – a laminate design shift Julia Schimmelpenninck • Eastman Chemical Company

Architectural Challenges & Solutions and facades

Chairpersons: Larry Carbarry, Valerie Block

9:00 A high performing and multifunctional building skin with four different grades of transparency Lutz Schöne • LEICHT Structural Engineering and Specialist Consulting GmbH
9:25 Performance Testing of Glazed Cavities to Prevent Condensation and Glass Corrosion Daniel Vos • Heintges
9:50 Thermal Performance of High Performance Shadow Boxes, Modeling and Testing Lawrence Carbarry • Dow Corning Corporation

11:00 Shadow-box spandrels: Risks, defects and unexpected outcomes Chris Barry • Independent consultant
11:25 Analytic Design Approach to maximize panel dimensions in horizontal 2 hrs Fire-Resistant & Thermally insulated Glass Assemblies Dirk Schulte • APG International, Inc.
11:50 Movable canopy Jürgen Neugebauer • University of Applied Sciences, FH-Joanneum

13:45 The Challenge's for Glass/Glazing's as part of Curtain Wall Facades in High Rise Buildings Michael Elstner • AGC Interpane
14:10 Crystallized Angel Wings – Folded Glass Membrane Enclosure of the Third Church of Christ the Scientist, Washington D.C. Dirk Schulte • APG International, Inc.
14:35 Engineering of Large Scale Cast Art Glass Installations Beres Dowdle • Surface Design

15:45 The shape of spaces – projects with curved glass Felix Weber • Arup
16:10 Building The Opus – case study and history of a double curved glazed Dubai project Agnes Koltay • Koltay Facades
16:35 Laser Tracking Metrology: Confirming Vision Brian Rogers • Enclos

INTERACTIVE BREAK 10:15-11:00

INTERACTIVE LUNCH BREAK 12:15-13:45

INTERACTIVE BREAK 15:00-15:45

17:00 INTERACTIVE ACTIVITIES BEFORE EVENING NETWORKING EVENT

CONFERENCE DINNER 19:30-23:00

Curved Glass

Glass Bonding and Point Fixing

New Products and Applications

Glass in Structural Applications

Tempering / Pre-processing

Market Trends and Future Opportunities

Chairperson: Benjamin Beer

9:00 Unfolding glass for adaptive moulds Christian Raun • Adapa ApS

9:25 Structural silicone sealed cold bent glass – High-rise projects experience leading to a new design concept Benjamin Beer • Meinhardt Façade Technology

9:50 Beneath the Surface: Buckling of Cold Formed Glass Austin Bensend • Enclos

Chairperson: Thomas Hendriksen & Blandini Lucio

9:00 Innovative structural applications of adhesively bonded solid glass blocks Faidra Oikonomopoulou • TU Delft

9:25 Resin based mortar: Long term behaviour test compared with numerical models Georg H. E. Kolany • Graz University of Technology

9:50 The influence of surface composition and plasma treatment on adhesion Christina Stålhandske • Glafo

Chairperson: Norbert Wruk

9:00 Concept of a multifunctional glass-composite panel with a laminar silicone application Florian Doebbel • Sika Services AG

9:25 Epoxy Resin Adhesives – Influence of Additives and Fillers to the Mechanical Properties and the Ageing Stability Michael Kothe • Technische Universität Dresden

9:50 Fabric & Glass – Design meets function / SEFAR® Architecture VISION fabric(s) with SentryGlas® Ionoplast Interlayer(s) Jérôme Lugin • Sefar AG

Chairperson:

Ingo Stelzer & Mitsu Edwards

9:00 Comparative study of laminated glass fins using full-scale testing, finite element modeling, and buckling formulas Robin Czyzewicz • Kuraray America Inc, John Knowles • STUTZKI Engineering

9:25 Stiff and Flexible Glazed Cable Net Structures Mick Eekhout • TU Delft

9:50 Glass Breakage – Glass railing system failures Vicente Montes-Amoros • Curtainwall Design & Consulting (CDC)

Chairpersons:

Francis Serruys, Miika Äppelqvist

9:00 The mechanical failure of tempered glass; a comparison of testing standards and in-service catastrophic failure Antti Aronen • University of Sydney

9:25 Experimental Study of Weathered Tempered Glass Plates Stephen Morse • Texas Tech University

9:50 Variance in pre-stresses obtained through thermal treatment Fred Veer • Delft University of Technology

Chairperson: Nigel Rees

9:00 New developments in transporting float glass by Inloader trailers Albert Balke • Faymonville Distribution AG

9:25 Dynamic Glazing in U.S. Building Energy Codes and Green Construction Codes Helen Sanders • SAGE Electrochromics, Inc.

9:50 Solar Power Case Study – Investment for the Future Jim Gulnick • McGroly Glass, Inc.

INTERACTIVE BREAK 10:15-11:00

11:00 Stress concentrations and optimal shapes in cold-(lamination-) Gianni Royer Carfagni • University of Parma

11:25 Temperature effects on curved annealed glass Lisa Rammig • Eckersley O'Callaghan

High Performance Facades – Design Requirements

Chairperson: Leon Jacob, Keith Boswell

11:50 High performance design considerations – an Architect's perspective Keith Boswell • SOM

11:00 Investigation of multi-axial loading on adhesive point-fixings Jonas Dispersyn • Ghent University

11:25 Structural silicone glazed curtain walls: beyond ETAG002 Patrick Vandereecken • Dow Corning Europe

11:50 Investigations on the aging resistance of sealing materials for the protection of bonded point fixings Christiane Kothe • Technische Universität Dresden

11:00 Precision Window Optics for Natural Light Distribution and Aesthetics Martin Wolk • 3M

11:25 "Additional" features of the modern glazing Stanislav Chesnokov • Glass Research Institute

11:50 Impact Testing for Overhead Laminated Glass Applications Malvinder Singh Rooprai • Kuraray India Pvt. Ltd

11:00 Impact behaviour of glass balustrades Kinga NEHME • STRUKTÚRA KFT

11:25 From design by testing to structural verification of glass. The role of subcritical crack propagation Gianni Royer Carfagni • University of Parma

11:50 A new window glass design approach following a review of international window glass design practice Ignatius Calderone • Calderone and Associates Pty Ltd

11:00 Flow and lay-out optimization in the downstream business John de Baere • Bottero

11:25 Latest development and applications in thin heat-treated glass tempering Miika Äppelqvist • Glaston Finland Oy

11:50 Anisotropy as a defect in U.K. architectural floatheat-treated glass Saverio Pasetto • Skanska

11:00 Internet of Things in Glass processing factory Kimmo Kuusela • Glaston Finland Oy

11:25 The UK Glass and Window Industry 2014 / 2015 Nigel Rees • Glass and Glazing

11:50 Two years (2013 & 2014) in the world flat glass industry – facts & analysis Bernard Savaète • BJS.Differences

INTERACTIVE LUNCH BREAK 12:15-13:45

13:45 New royal Adelaide hospital: façade challenges Oliver Ng & Peter Smithson • BG & E Facades Pty. Ltd

14:10 A review of thermally induced fracture of low e solar control glass used in warm climates Dr Leon Jacob • Jacob & Associates Pty Ltd & Mr Peter Smithson • BG&E Facades Pty. Ltd

14:35 Comparative review of international glass strength standards based on design considerations and variation with time of issue Dr Leon Jacob • Jacob & Associates Pty Ltd

13:45 Concepts for seismic design of structural silicone joints in unitized curtain walling Viviana Nardini • Sika Services AG

14:10 Validation of hyperelastic material models for silicone sealants for use in finite element modeling Jon Kimberlain • Dow Corning Corporation

14:35 Translational stiffness of adhesive connections between cold-formed steel members and glass panels Bert Van Lancker • Ghent University

13:45 Challenges and new look in BIPV (Building Integrated Photovoltaics) Tomas Lenkimas • GLASSBEL

14:10 Thermochromic Glazing Systems – Defining Curtis Liposcak • Pleotint, LLC

14:35 Iconic skin glass sandwich panel: development of a new façade generation Martien Teich • Seele GmbH

13:45 The Influence of the Boundary Conditions and Local Stress Concentrations on the Effective Thickness of Laminated Glass Elements Peter Lenk • Eckersley O'Callaghan

14:10 Load bearing behavior of sliced beams under tensile load René Ringli • ETH Zurich

14:35 Stability behaviour of cantilevered glass fins Vlad Alexandru Silvestru • Graz University of Technology

13:45 Glass Chemical Strengthening by Ion Exchange: from ion exchange kinetics to strength determination Guglielmo Macrelli • ISOCLIMA SpA

14:10 Chemically Strengthened Glass: correlation between Surface Compression, Potassium Count and Profile, Mechanical Strength and Strengthening Effect and production parameters ENNIO MOGNATO • Stazione Sperimentale del Vetro S.C.P.A

14:35 Effect of heat transfer on glass quality in tempering Reijo Karvinen • Tampere University of Technology

13:45 Lightweight acoustic glazing – achieving acoustic performance in thin, stiff, lightweight glass laminates Chuck Butler • Kuraray America, Inc.

Quality Measurement Systems

Chairperson: Kimmo Kuusela

14:10 Reliable methods for non destructive quality inspection of glass products with focus on determination of tin load on float glass Heinrich Ostendarp • Bohle AG

14:35 Highest quality and full process control via contact-free 3D measurement of flat or bent glass: PowerPlate (P2)-3D Bertrand Mercier • ISRA VISION

Glass in Interior Design

Chairperson: To be appointed

15:45 Threshold: When Does a Reflection Become Noticeable? Jim Gulnick • McGroly Glass, Inc

16:10 Interior as a fun playground communicating art through synergy of light, glass, video, digital printings and luminescent inspiration Mery Crystal Ra • Crystal Energy OY

15:45 Tall buildings, operable facades, life safety Ross Murchie, Peter Smithson & Oliver Ng • BG&E Facades Pty. Ltd

15:45 Combining Glass and Displays – Making the See-Through Difference Gerald Smid • Beneq Products Oy

16:10 Restauration with authentic glasses: Bridging the gap between traditional look and modern building standards Marten Walther • SCHOTT AG

15:45 Development of load-bearing timber-glass composite shear wall elements Felix Nicklisch • Technische Universität Dresden

16:10 Application of post-tensioning techniques on structural glass beams Jagoda Cupac • EPFL-ICOM

15:45 Vesuvius next generation ceramic roller for advanced tempering processes Jakob Molin • VESUVIUS

16:10 The Penguin Effect James Gulnick • McGroly Glass, Inc.