

8:30 SESSION 1	MATERIAL <> TECTONICS   California D	DAYLIGHT <> CONTROL   California E	INTEGRATION <> ADAPTION   California F	COMFORT <> SKIN   Wiltern	PROCESS <> DELIVERY   El Capitan
	Wherefor Aluminum: The Materiality of Curtainwall Framing Systems Peter Arbour, Ashley Reed / Vidaris	Discomfort Glare Metrics: Investigating Their accuracy and Consistency in Daylight Glare Evaluation by Using Human Subject Study Data Jae Yong Suk / The University of Texas at San Antonio	Adaptive Envelope: Behavior Derived From Climate James Erickson / Arizona State University	Energy Code Implications for Spandrel Design: Quantifying and Mitigating the Impact of Thermal Bridging Stéphane Hoffman / Morrison Hershfield Corporation	Breaking the Barrier: Developing Formal Partnerships Between Architects and Extruders Scott Condreay / Sapa Extrusions North America
	Fabric-formed Robotic Facades: The Robotic Positioning of Fabric Formwork Ron Culver / Culver Architects Joseph Sarafian / Perkins + Will	Avoiding The Dreaded Death Ray: Controlling Facade Reflections Through Purposeful Design Ryan Danks / Rowan, Williams, Davies & Irwin Inc.	COST: Adaptive Facades Thomas Henriksen / TU Delft	Break it or Lose It: Thermal Bridging in Building Envelopes Charles Klee, Jeffrey Abramson / Payette	Work Different for Different Work: Changing the Way We Collaborate to Achieve Artfulness in the Facade Hagy Belzberg, Cory Taylor, Kristofer Leese / Belzberg Architects
	The Dynamic Double Facade: An Integrated Approach to High Performance Building Envelopes Edgar Stach, Barbara Klinkhammer / Philadelphia University, College of Architecture and the Built Environment	Daylight Glare Analysis: Reducing Visual Discomfort in the Crystal Cathedral Greg Collins, Chanyang Shin / Syska Hennessy Group	Facades with Gills: Advanced Technology in Hybrid Breathing Facade Systems John E. Breshears / Architectural Applications Erin McConahey, Irene Pau, Matt Williams / ARUP	Balancing Energy and Aesthetics: The Wilshire Grand Envelope Study Brian Stern, Laure Michelon / Glumac	Glazing Hazard Assessment: Collaborative Design for High Fidelity Facade Analysis Kirk A. Marchand, Carrie E. Davis / Protection Engineering Consultants
10:00 NETWORKING BREA	K – SPONSORED BY KURARAY				
10:30 SESSION 2	MATERIAL <> TECTONICS   California D	DAYLIGHT <> CONTROL   California E	INTEGRATION <> ADAPTION   California F	COMFORT <> SKIN   Wiltern	PROCESS <> DELIVERY   El Capitan
	Parameters for Plasticity: An Approach to Unitized FRP Facade Design Jeff Ponitz, Mark Cabrinha / Cal Poly State University, San Luis Obispo	Retrospective Optimization: Balancing Openings and Shading Devices for Kahn's Psychiatric Hospital Clifton Fordham / Temple University, Department of Architecture	Adaptable Facade: A Case Study of High Performance System in Relation to the Human Condition Christianne Jordan / BNIM Greg Collins / Syska Hennessy Group	Development of Enclosure Details: Optimization Aided by Thermal Simulation Christian Stutzki / STUTZKI Engineering, Inc.	Managing Complexity: Implementing Parametric Tools in Project Management – A Case Study Matt Cohn, Alessandro Ronfini / Enclos
	FRP Composite Facade: Using FRP on High-rise Buildings Bill Kreysler / Kreysler & Associates	The Effectiveness of SUDARE: External Shading for Energy Efficiency and Visibility Quality in Jakarta Agus Hariyadi / The University of Kitakyushu		Measuring Envelope Heat Transfer: In-Situ Methods for Architects and Architectural Researchers Michael D. Gibson / Kansas State University, Department of Architecture	Light as Form Generator: Workflows for Performance-Based Generative Design Luisa Caldas / University of California, Berkeley, Department of Architecture
	Adhesive Bonding in a Ventilated Facade: Structural Silicon Glazing of Composite Panels Stanley Yee / Dow Corning	The Effectiveness of Fixed Solar Shading: A Case Study Ned S. Kirschbaum / Fentress Architects	LEAF (Low Energy Adaptive Facade): Self-adapting Micro Shading Facade Design Using Responsive Polymer Sheets Jin Young Song / University at Buffalo, Department of Architecture	Glazing Design and Winter Thermal Comfort:  Making Informed Decisions Early in the Design Process Alejandra Menchaca, Lynn Petermann / Payette	Performative Morphogenesis: A Performance-Oriented Data-Driven Facade Design Process Furion Huang / NBBJ
12:00 LUNCH BREAK					
1:30 SESSION 3	MATERIAL <> TECTONICS   California D	DAYLIGHT <> CONTROL   California E	INTEGRATION <> ADAPTION   California F	COMFORT <> SKIN   Wiltern	PROCESS <> DELIVERY   El Capitan
	Innovative Complex Geometry GFRC: Thin-walled Concrete Panels for Future Building Envelopes Thomas Henriksen / TUDelft and Mott Macdonald	Circadian Daylight in Practice:  Determining a Simulation Method for the Design Process  Henry Richardson / Atelier Ten	Material Actuation in Architecture: Using Shape Memory Alloy in Dynamic Vera Parlac / University of Calgary	Climate Data: Tall, Supertall and Megatall Buildings Peter Simmonds / Building and Systems Analytics	Envelope Longevity: The Benefits of the Building Enclosure Commissioning Process Robert Golda / Horizon Engineering Associates, LLP
	D O F O	WELL Retrofit Case Study:	Structural Skin: Integrating Structure and Cladding	Cost-benefit Analysis of BIPV Systems: Axial Sun	Cellular Shells as Structural Networks: Mesh-based
	Precast Concrete Envelope Systems: Three Distinct Systems, their Attributes and Limitations Doug Mooradian / PCI West	Balancing Opportunities and Challenges Stacey Hooper, Joseph Montange / NBBJ Shruti Kasarekar / Atelier Ten	John Neary / HOK NY	Tracking Louvers for Various Geographic Locations Edgar Stach / Philadelphia University, College of Architecture and the Built Environment	Engineering Optimization in Freeform Aggregated Structures Keyan Rahimzadeh / Front, Inc.
	Three Distinct Systems, their Attributes and Limitations	Balancing Opportunities and Challenges Stacey Hooper, Joseph Montange / NBBJ	John Neary / HOK NY  Understanding and Enhancing Ventilated Facades: From the System Benefits to Smart Sidings Material Olivier Jung / Trespa International B.V.	Edgar Stach / Philadelphia University, College of Architecture	Engineering Optimization in Freeform Aggregated Structures
3:00 NETWORKING BREA	Three Distinct Systems, their Attributes and Limitations Doug Mooradian / PCI West  High Performance Concrete Facades: UHP-FRC in Precast Sandwich Panel Design Jonathan M. Essary / University of Texas Arlington	Balancing Opportunities and Challenges Stacey Hooper, Joseph Montange / NBBJ Shruti Kasarekar / Atelier Ten  Shadow Boxes: Re-engineered	Understanding and Enhancing Ventilated Facades: From the System Benefits to Smart Sidings Material	Edgar Stach / Philadelphia University, College of Architecture and the Built Environment  High Performance Facades: Heating and Cooling Loads Generation	Engineering Optimization in Freeform Aggregated Structures Keyan Rahimzadeh / Front, Inc.  Timber Facades: A Conversation about the Engineering Process
3:00 NETWORKING BREA 3:30 SESSION 4	Three Distinct Systems, their Attributes and Limitations Doug Mooradian / PCI West  High Performance Concrete Facades: UHP-FRC in Precast Sandwich Panel Design Jonathan M. Essary / University of Texas Arlington	Balancing Opportunities and Challenges Stacey Hooper, Joseph Montange / NBBJ Shruti Kasarekar / Atelier Ten  Shadow Boxes: Re-engineered	Understanding and Enhancing Ventilated Facades: From the System Benefits to Smart Sidings Material	Edgar Stach / Philadelphia University, College of Architecture and the Built Environment  High Performance Facades: Heating and Cooling Loads Generation	Engineering Optimization in Freeform Aggregated Structures Keyan Rahimzadeh / Front, Inc.  Timber Facades: A Conversation about the Engineering Process
	Three Distinct Systems, their Attributes and Limitations Doug Mooradian / PCI West  High Performance Concrete Facades: UHP-FRC in Precast Sandwich Panel Design Jonathan M. Essary / University of Texas Arlington	Balancing Opportunities and Challenges Stacey Hooper, Joseph Montange / NBBJ Shruti Kasarekar / Atelier Ten  Shadow Boxes: Re-engineered Daniel Arztmann / Schüco International KG	Understanding and Enhancing Ventilated Facades: From the System Benefits to Smart Sidings Material Olivier Jung / Trespa International B.V.	Edgar Stach / Philadelphia University, College of Architecture and the Built Environment  High Performance Facades: Heating and Cooling Loads Generation Peter Simmonds / Building and Systems Analytics	Engineering Optimization in Freeform Aggregated Structures Keyan Rahimzadeh / Front, Inc.  Timber Facades: A Conversation about the Engineering Process Robert Moisy / Surface Design Consulting Pty Ltd
	Three Distinct Systems, their Attributes and Limitations Doug Mooradian / PCI West  High Performance Concrete Facades: UHP-FRC in Precast Sandwich Panel Design Jonathan M. Essary / University of Texas Arlington  K  MATERIAL <> TECTONICS   California D  New Options for the Envelope: Applications for Modular Pre-tensioned Textile Frames	Balancing Opportunities and Challenges Stacey Hooper, Joseph Montange / NBBJ Shruti Kasarekar / Atelier Ten  Shadow Boxes: Re-engineered Daniel Arztmann / Schüco International KG  FACADE <> EDUCATION   California E  An Ideal Curriculum: Preparing Architecture Graduates for a Career in Enclosure Design Diane Armpriest / University of Idaho, College of Art and	Understanding and Enhancing Ventilated Facades: From the System Benefits to Smart Sidings Material Olivier Jung / Trespa International B.V.  INTEGRATION <> ADAPTION   California F 3D Glass in Complex Facades: Annealed Bent Glass	Edgar Stach / Philadelphia University, College of Architecture and the Built Environment  High Performance Facades: Heating and Cooling Loads Generation Peter Simmonds / Building and Systems Analytics  COMFORT <> SKIN   Wiltern  Impact of Climate Change: Thermal and Energy Performance of Facade Types in Different Climates Ajla Aksamija / University of Massachusetts Amherst,	Engineering Optimization in Freeform Aggregated Structures Keyan Rahimzadeh / Front, Inc.  Timber Facades: A Conversation about the Engineering Process Robert Moisy / Surface Design Consulting Pty Ltd  PROCESS <> DELIVERY   El Capitan  Data and Order: A Making of Complex Architecture
	Three Distinct Systems, their Attributes and Limitations Doug Mooradian / PCI West  High Performance Concrete Facades: UHP-FRC in Precast Sandwich Panel Design Jonathan M. Essary / University of Texas Arlington  K  MATERIAL <> TECTONICS   California D  New Options for the Envelope: Applications for Modular Pre-tensioned Textile Frames Robert W. Jagger / Schüco International KG  Performative Water-filled ETFE Cushions: Adaptive Building Envelope	Balancing Opportunities and Challenges Stacey Hooper, Joseph Montange / NBBJ Shruti Kasarekar / Atelier Ten  Shadow Boxes: Re-engineered Daniel Arztmann / Schüco International KG  FACADE <> EDUCATION   California E  An Ideal Curriculum: Preparing Architecture Graduates for a Career in Enclosure Design Diane Armpriest / University of Idaho, College of Art and Architecture  Facade Education Survey for Industry and the Academy	Understanding and Enhancing Ventilated Facades: From the System Benefits to Smart Sidings Material Olivier Jung / Trespa International B.V.  INTEGRATION <> ADAPTION   California F  3D Glass in Complex Facades: Annealed Bent Glass Ferran Figuerola / CRICURSA  Electrochromic Glass: Maximizing the Performance Through Optimum Zoning and Control Strategies	Edgar Stach / Philadelphia University, College of Architecture and the Built Environment  High Performance Facades: Heating and Cooling Loads Generation Peter Simmonds / Building and Systems Analytics  COMFORT <> SKIN   Wiltern  Impact of Climate Change: Thermal and Energy Performance of Facade Types in Different Climates Ajla Aksamija / University of Massachusetts Amherst, Department of Architecture and Perkins+Will  Cooling with Water and Green Roofs: Passive Systems to Improve Thermal Comfort in Buildings	Engineering Optimization in Freeform Aggregated Structures Keyan Rahimzadeh / Front, Inc.  Timber Facades: A Conversation about the Engineering Process Robert Moisy / Surface Design Consulting Pty Ltd  PROCESS <> DELIVERY   El Capitan  Data and Order: A Making of Complex Architecture Na Min Ra, Evan Levelle / Front, Inc  3D Glass Facade Design Apps: Design, Development and Evaluation

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8:30 SESSION 1	RENOVATION <> PRESERVATION   California D	GLASS <> STRUCTURE   California E	TRANSPARENCY <> SECURITY   California F	VENTILATION <> SKINS   Wiltern	PROCESS <> DELIVERY   El Capitan	
	Envelope Efficiency in the Public Sector: Edith Green-Wendell Wyatt Facade Replacement Laure Michelon, Dave Summers / Glumac	n-Wendell Wyatt Facade Replacement Concentrations and Drilling Defects in Monolithic Tempered in Balancing Trans		t Security in Federal Architecture: A Case Study g Transparency, Security, and High Performance ton / Krueck + Sexton Architects  Trickle Vent: New Generation Ventilation System Paul Burch / Metal Yapi USA Inc.		
	Louis Kahn's Stainless Steel Glazing System: Performance Upgrades in the Richards Building Aaron Davis / Heintges & Associates David Fixler / EYP Architecture and Engineering	Philosophy of Structural Glass Design: Progress on the ASTM Structural Glass Guide Richard Green / Front, Inc	Blast & Ballistic Protection: A New Kind of Protective Curtainwall Tim Brewer / Karagozian & Case, Inc.	Slide and Push: Integrated Curtainwall Sliding Vent System Zuhal Özgül / Metal Yapi USA Inc.	Precision on the Jobsite: Tight Tolerance Features in a Low Tolerance World Michael Mulhern / TriPyramid Structures, Inc.	
	Refurbishing 20thC UK Heritage Facades: Success and Failures of Design and Delivery Clive Atkinson / Mott MacDonald	The Stavros Niarchos Foundation Cultural Center: Innovative Facade Systems Contrasting Monumental Massing and Structural Glass Richard Green / Front, Inc	Super Transparent and Complex: Cutting Edge Facade Technology in Doha, Qatar Thomas Winterstetter / Werner Sobek Stuttgart AG	Thermal Chimney: An Investigation into Passive Air Movement Chad-Jamie Rigaud / BNIM	Facade Option Engineering: Optimization of Transparency in a Mega Glass Lite Project Steve Lewis, Vickie Chiou / Walter P Moore	
10:00 NETWORKING BRE	AK – SPONSORED BY KURARAY					
10:30 SESSION 2	RENOVATION <> PRESERVATION   California D	LAYERS <> ORIENTATION   California E	FACADE <> FUTURE   California F	ACOUSTICS <> SKIN   Wiltern	ADVANCED <> CASE STUDIES   El Capitan	
	Making the Glass House Habitable: The Debate on Transparency and A. William Hajjar's Contribution in the Mid-Twentieth Century  Ute Poerschke / The Pennsylvania State University	The "Air-Wall": A Mid-Twentieth-Century Double-Skin Facade by A. William Hajjar Mahyar Hadighi / The Pennsylvania State University	FutureHAUS: Industrializing Architecture in the Digital Age Joseph Wheeler / Virginia Tech, Center for Design Research	Sound Control Laminated Glass: Improving Acoustical Performance Valerie Block / Kuraray	Entisar Tower: The Next Generation of Super Tall Towers Matthew Fineout / AE7	
	Innovative Envelope: Experimental Technologies On Skyscrapers 1945-75 Michelle Schneider Santos / Mackenzie Presbyterian University	Double Skin Facades: Thermal and Energy Performance in Different Climate Types Ajla Aksamija / University of Massachusetts Amherst, Department of Architecture and Perkins+Will	NEXUSHAUS Building Envelopes:  Zero Net Energy, Net Positive Water, & Carbon Neutral  Sanaz Delar / The University of Texas at Austin, School of  Architecture	Glass House for Music: Exploring Glass Walls for Concert Halls Jin Young Song / University at Buffalo, Department of Architecture Arthur van der Harten / Acoustic Distinctions    Pachyderm	Case Study – 222 2nd St: Technical Development of a Shingled Curtainwall Karen Brandt / Heintges & Associates	
	Steel and Backed Clay: The Invention of the Curtainwall in American Skyscrapers Michele Chiuini / Ball State University	Parametric Study: Advanced Structural Silicone Glazing John Gustafson / Curtain Wall Design & Consulting, USA	Intelligent Tensegrity Structures: An Autonomous Adaptive Facade System Phillip Anzalone / New York City College of Technology & Atelier Architecture 64 Stephanie Bayard / Pratt Institute & Atelier Architecture 64	Sound Flanking at Unitized Mullions: Performance Reduction Across Curtainwall Elements Elizabeth Valmont / ARUP	Integrated Curtainwall Design: Design-Build Process of the LA Federal Courthouse Jose Palacios, Garth Ramsey, Andrew Krebs / SOM	
12:00 LUNCH BREAK						
1:30 SESSION 3	RENOVATION <> PRESERVATION   California D	LAYERS <> ORIENTATION   California E	FACADE <> FUTURE   California F	FTI <> FACADE TECTONICS INSTITUTE   Wiltern	MAINTENANCE <> LIFECYCE   El Capitan	
	Reglazing Modernism: The American and European Experience To Date Angel Ayón / AYON Studio Architecture and Preservation	21st Century Collegiate Gothic: Design and Fabrication of Concrete Precast Panels at USC Village Jon Soffa / USC Willy Marsh / USC Capital Construction Development Michael Bulander, Chris Wedel / Harley Ellis Devereaux (HED)	Algae Textile: A Lightweight Photobioreactor for Urban Buildings Petra Bogias / BoyashiMade	The Facade Tectonics Institute FTI Steering Committee	Compliant Access and Maintenance Planning: How to Increase the Sustainability and Minimize Operational Risks Philip Weisse / TAW WEISSE International	
	Curtainwall Deficiencies and Failures: Observations on Multi-story Buildings in Istanbul Elif Tu_ba Yalaz / Istanbul Technical University	The Fifth Facade: Exploring and Celebrating Horizontality Alex Korter / CO Architects	Bio-Inspired Urban Futures: Designing Adaptive Facade Networks to Reimagine the City Ecosystem Ilaria Mazzoleni / imstudio mi/la		Facade Health(care): Extended Envelope Lifespans through Permanence, Adaptability and De-Generation Kevin Kavanagh / CO Architects	
2:30 NETWORKING BRE	AK					

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