The 8th International Symposium on Computational Wind Engineering

Detailed Scientific Program

CWE-8
June 7-11, 2026
London, ON, Canada

2026-06-07 – 2026-06-11 | London, ON, Canada

Last updated: 2026-06-10 16:05 UTC

Format: Each parallel session is 90 min (unless noted) with 15 min per presentation incl. Q&A. Keynotes are 60 min. Session IDs in **bold** identify the track for attendees following it across days.

Day 0 — Sunday, June 7

15:00–18:00 *Registration Opens*

17:00–18:00 *Ice-Breaker Welcome Reception* — Informal networking; no technical sessions

Day 1 — Monday, June 8

07:30–08:30 *Registration / Hot Breakfast*

08:30–09:15 **Opening Ceremony & Welcome Remarks**
Host: Girma Bitsuamlak **Room:** SEI 1110

09:15–10:15 **Keynote: Melissa Burton**, *ARUP, Canada*
Title: "Bringing CWE into Industry Practice for Loading"
Convener: Yaojun Ge **Room:** SEI 1110

10:15–10:30 *Coffee Break | Sponsor Exhibition*

10:30–12:00	SEI 1110 *Main Event Space (Grand Hall)*	SEI 2110 *Alumni Commons*	SEI 4105 & 4106 *4th Floor Meeting Room*	*SEI 4109*	SEI 4110 *Classroom*
	MS07-A **Best Practice Recommendations for CFD in CWE** *Chair: Ted Stathopoulos, Yoshihide Tominaga* *Org.: Bert Blocken, Ted Stathopoulos, Yoshihide Tominaga*	**S04-A** **Wind Loads, Damage, and Structural Response Modeling** *Chair: Tracy Kijewski-Correa, Yuki Takadate*	**MS01-A** **Multi-disciplinary Efforts in Reducing Adverse Impact from Tornadoes, Downbursts and Gust Front** *Chair: Guirong (Grace) Yan, Josip Žužul* *Org.: Guirong (Grace) Yan*	*No event in this room*	**S05-A** **Building and Urban Wind Flow, Pedestrian Winds, and Ventilation** *Chair: Massimiliano Burlando, Anastasia Athanasiou*
10:30	**616** Mini-symposium Opening Remarks *Ted Stathopoulos, Yoshihide Tominaga*	**26** A Systematic Approach to Converting Skeletal Models Into Solid Models for LES-Based Aeroelastic Analysis of Flexible Tall Buildings *Sabiha Ashtara Rekha, Ahmed Elshaer*	**28** Validation Criteria for the Baker and Sterling Tornado Debris Flight Model in a Large-Scale Tornado Simulator. *Arjoo Shrestha, Akash Yadav, Nigel Kaye*		**39** Relationship Between Urban Morphology and Kinetic Energy Dissipation Within Urban Area *Tazune Ito, Ryutaro Ogihara, Yasuyuki Ishida*

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10:45	**51** Numerical Simulations for Urban Viaducts on Traffic Pollutant Dispersion and Residential Exposure *Lemei LI, Jun Cai, Xing Zheng*	**30** A Reliability-Based Approach to Uniform Structural Risk *Brian Skourup*	**29** 2D LES Axisymmetric CFD Modeling of a Microburst in a Closed-Circuit Simulator *Andre Hanley, R. Panneer Selvam, Partha Sarkar*		**81** Evaluating the Performance of Porous Screens as an Urban Wind Mitigation Measure Through Multi-Scale Modelling *Alex Lang, Aidan McLoughlin, Salvatore Manuel Renda, Andrew Nicoli, Stefano Cammelli*
11:00	**158** Numerical Modeling of Street Canyons Flow: Exploring the Balance Between Realism and Complexity *Bingchao Zhang, Cruz Y. Li, Yunfei Fu, Xisheng Lin, Tim K.T. Tse, Zhuangyi Yuan*	**36** The CFD Simulation of Porous Claddings Using the Pressure-Velocity Jump Approach: a Prism Surrounded by Lamellar Screens *Giovanni Lazzeri, Luca Patruno*	**99** A Numerical Study of Unsteady Flow in a Novel Downburst Simulator *Xingyu Chen, Jingyao Zhang, Yong Yu, Kenny Kwok*		**100** Quantifying Forest and Building Impacts on Local Wind and Turbulence at the Mariehamn Harbor *Ashvinkumar Chaudhari, Eero Immonen*
11:15	**219** Geometry Preparation for Air Quality Prediction in Complex Environments: the Case of Venice Airport *Priyadarshi Maurya, Ivan Pađen, Hugo Ledoux, Clara García-Sánchez, Alessio Ricci*	**43** CFD Modelling of the Galloping Response of a 3:2 Rectangular Prism in Smooth and Turbulent Flow *Antonio Jose Alvarez, Felix Nieto, Kenny K.C.S Kwok, Luca Patruno*	**135** Reynolds Number Effect on Low-Rise Buildings: a Consistent Inflow LES Study *Naveen Shiju Joseph, R. Panneer Selvam*		**110** Effect of Non-Neutral ABL Inflow on Pedestrian Comfort Analysis *Ben Malin, Matthew S. Mason*
11:30	**617** Panel Discussion *Ted Stathopoulos, Yoshihide Tominaga*	**54** Buffeting Response of Solar Photovoltaic Panels from Full-Scale Informed Wind Fields *Yuanchen Wan, Zachary Taylor, Etienne Cheynet*	**136** Laboratory Study of Translation Speed on Tornado-Induced Tall Building Load *Mahfuzur Rahman, Partha Sarkar*		
11:45			**175** Investigation of the Influence of Buildings on Tornado Characteristics Utilizing Large-Eddy Simulations and Post-Tornado Damage Surveys *Sung Min Moon, Franklin Lombardo, David Bodine, Zach Wienhoff, Anthony Reinhart, Alex Schueth, Dilan Yusgiantoro*		

12:00–13:00 *Lunch Break / Sponsor Exhibition*

13:00–14:00 **Keynote: Agerneh Dagnew**, *NVIDIA, USA*
Title: "Accelerated Computing and Agentic Workflows for Computational Wind Engineering"
Convener: Seymour Spence **Room:** SEI 1110

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14:00–14:15 *Short Break*

14:15–15:45	SEI 1110 *Main Event Space (Grand Hall)*	SEI 2110 *Alumni Commons*	SEI 4105 & 4106 *4th Floor Meeting Room*	SEI 4109 *Classroom*	SEI 4110 *Classroom*
	MS07-B **Best Practice Recommendations for CFD in CWE** *Chair: Yoshihide Tominaga, Alessio Ricci* *Org.: Bert Blocken, Ted Stathopoulos, Yoshihide Tominaga*	**S04-B** **Wind Loads, Damage, and Structural Response Modeling** *Chair: Un Yong Jeong, Wei Zhang*	**MS01-B** **Multi-disciplinary Efforts in Reducing Adverse Impact from Tornadoes, Downbursts and Gust Front** *Chair: Guirong (Grace) Yan, Partha Sarkar* *Org.: Guirong (Grace) Yan*	**MS06-A** **AI-Empowered CFD: Intelligent Automation and Generative Modeling for Computational Wind Engineering** *Chair: Fei Ding, Teng Wu* *Org.: Fei Ding, Teng Wu*	**S05-B** **Building and Urban Wind Flow, Pedestrian Winds, and Ventilation** *Chair: Stefano Cammelli, Tong Zhou*
14:15	**41** Impact of SGS Models on Effective Grid Scale of Large-Eddy Simulation Using Wind Flow Around a 1:1:2 Isolated Building *Tingzhou Tong, Tsubasa Okaze, Naoki Ikegaya*	**197** A Study on Causes of Variability in Peak Wind Pressure Coefficients on Low-Rise Building Evaluated by Large-Eddy Simulation *Takashi Takeuchi, Yuki Takadate, Kazuyoshi Nishijima*	**177** Estimating Tornado Wind Speed from Wind Turbine Damage *Mahfuzur Rahman, Partha Sarkar, Sidharthan Murugan, Nayan Tiwari*	**12** Physics-Informed Neural Networks for Predicting Turbulent Urban Flow *Yasaman Salahshour, Anina Šarkić Glumac, Cornelia Kalender, Rüdiger Höffer, Luca Facchini*	**134** Verification of UTCI Simulation with PALM-4U on Direct Measurements in Urban Environments *Amalie Renée Hartvig Jensen, Holger Hundborg Koss*
14:30	**63** Theoretical Understanding of the Effects of Advection Schemes and SGS Models for LES Practical Guidelines *Naoki Ikegaya, Tingzhou Tong, Tsubasa Okaze*	**56** Aerodynamic Characterisation of Tensile Membrane Canopies: CFD-Based Reference Pressure Coefficients *Rodrigo Castedo-Hernandez, Anoop Kodakkal, Guillermo Martínez-López, Ann-Kathrin Goldbach, Roland Wüchner*	**193** Numerical Investigation of the Vertical Aerodynamic Forces Acting on a Bluff Body in a Tornado-Like Flow [Full Paper] *Kouki Uchiyama, Takashi Takeuchi, Kazuyoshi Nishijima*	**71** Active Morphing Façades for Wind Mitigation: Multi-Agent Reinforcement Learning for Aerodynamic Control [Full Paper] *Foad Mohajeri Nav, Reda Snaiki, Pedro L. Fernández-Cabán*	**140** Measurements and Simulation of Internal Fan-Driven Airflow in a Commercial Greenhouse *Peter Sharpe, William Lubitz*
14:45	**121** How Much Detail is Enough? the Role of Building Resolution and Terrain in WRF-LES Urban Wind Simulations *Xing ZHENG, Qian MA*	**115** RANS-based Predictive Equation for Fluctuating and Peak Wind Pressure Coefficients on Buildings *Hansol Lee, Thomas Kang*	**221** A Digital Twin of a Tornado Simulator *Dylan Sitarski, Sudeep Menon, Fyona Shi, Partha Sarkar, Anupam Sharma*	**86** Physics-Informed Spatio-Temporal Graph Autoencoder for Wind Pressure Estimation from Sparse Sensor Networks *Seyedeh Fatemeh Mirfakhar, Reda Snaiki*	**142** Aerodynamic Effects of Balcony and Podium Geometry on Pedestrian-Level Wind Around Tall Buildings *seifu bekele, Sivakunalan Inparaja, Jerry Shen, Eugene Cullity*

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15:00	**169** Accuracy-Cost Trade-Offs in LES: Assessing the Impact of Reduced Spatial and Temporal Resolution *Tsigereda Getachew Eshete, Girma Bitsuamlak*	**119** Evaluation of Synthetic Turbulence Generation for LES-Based Wind Load Estimation on Square Cylinder Buildings *Long Doan Sy, Chisato Kojima, Manabu Kawashima, Yuichi Hirata, Hiroshi Noda*	**269** Comparison of Pressure Coefficient Between Tornado-Like Vortex and Boundary Layer Wind *Dan Rhee, Xinyang Wu, Marc Levitan, Delong Zuo*	**114** A Hierarchical Deep Learning Framework for High-Fidelity Prediction of Pedestrian-Level Urban Winds *REDA SNAIKI, Jiachen Lu, Shaopeng Li, Negin Nazarian*	**155** Performance Evaluation of RANS Models for Cross Ventilation Using LES and PIV as Benchmark Data *Kainan Liao, Wei Wang, Naoki Ikegaya*
15:15	**176** A Comparative Analysis of Wall-Function Roughness Models for Atmospheric Boundary Layer Simulations *Alessia Piazza, Alessio Ricci, Massimiliano Burlando, Maria Pia Repetto, Girma T. Bitsuamlak*	**345** Integrated Parametric Design Framework of Super-Slender Buildings with Wind Escape Floors *Yeliz Alevsaçanlar, Nilay Sezer-Uzol, Bekir Özer Ay*		**171** Equivariant Graph Neural Networks for Predicting Wind Loads on Buildings *Themistoklis Vargiemezis, Charilaos Kanatsoulis, Catherine Gorlé*	**298** Numerical Validation of a Naturally Ventilated Double-Skin BIPV Façade and Configuration Impact on Cell Temperatures *Fatma Abdul Hameed, Anwar Awol, Muna Younis, Girma Bitsuamlak*
15:30	**189** RANS for Wind Microclimate Assessments: Systematic Testing of Common Modelling Deficiencies Against Full-Scale Data *Giulio Vita, Stefano Capra*	**249** Partitioned OpenFOAM - Opensees FSI Framework for Wind-Structure Interaction Simulation *Jonathan Assefa, Tsinuel Geleta, Tibebu Birhane, Tsigereda Getachew Eshete, Lakshmana Doddipatla, Girma Bitsuamlak*		**237** A Verification, Validation and Uncertainty Quantification Framework for CFD Using Gaussian Process Modeling *Yunjae Hwang, Adam Pintar, DongHun Yeo*	
15:45–16:00	*Coffee Break*				
16:00–17:30	**SEI 1110** *Main Event Space (Grand Hall)*	**SEI 2110** *Alumni Commons*	**SEI 4105 & 4106** *4th Floor Meeting Room*	*SEI 4109*	**SEI 4110** *Classroom*
	MS07-C **Best Practice Recommendations for CFD in CWE** *Chair: Ted Stathopoulos, Félix Nieto* *Org.: Bert Blocken, Ted Stathopoulos, Yoshihide Tominaga*	**S04-C** **Wind Loads, Damage, and Structural Response Modeling** *Chair: Seifu Bekele, Daniel Butcher*	**MS12** **Special session on work progresses and dissemination of IAWE WGs: Climate Change and Non-synoptic Winds** *Organizers (Chair TBD): Girma Bitsuamlak, Luca Caracoglia, Teng Wu, Hassan Hemida* *Org.: Girma Bitsuamlak, Luca Caracoglia, Teng Wu, Hassan Hemida*	*No event in this room*	**S05-C** **Building and Urban Wind Flow, Pedestrian Winds, and Ventilation** *Chair: Hidenori Kawai, Aleksander Pistol*

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16:00	**48** Robust Verification for Computational Wind Engineering Applications *Radostin Mitkov, Petar O. Hristov, Franziska Hunger, Andreas Mark*	**129** Structural Risk Evaluation of Solar Panels Under Arid Dune-Modified Wind Flows *Tushar Singhania, Sumaja Kolli, Pradeep Dammala*	*Special multi-part session.* **See full details** → (p. 21)		**173** Exploring the Impact of Reynolds-Averaged Navier-Stokes Solvers on the Indoor Modelling of a Breathing Jet *Nadine Hobeika, Philomena M. Bluyssen, Clara García-Sánchez*
16:15	**55** BeStPLW - a Benchmark Study on Pedestrian Level Winds *Stefano Cammelli, Giulio Vita, Mingzhe He, Rubina Ramponi, Aidan McLoughlin, Andrew Nicoli, Donnchadh MacGarry, Stefanie Gillmeier*	**130** Modeling Porous Envelopes on Square Prisms: Validation of Darcy-Forchheimer Approach Via Wind Tunnel Testing *Marcello Catania, Giulia Pomaranzi, Paolo Schito, Alberto Zasso*			**188** Wind-Induced Turbulent Ventilation for a Simplified Building Using Large-Eddy Simulation *Gakuto Miura, Wei Wang, Naoki Ikegaya*
16:30	**57** From Validation to Application: Standardizing LES for Realistic Urban Aerodynamics *Theodore Potsis, Ahmed Marey, Liangzhu Leon Wang, Ted Stathopoulos*	**141** Spatio-Temporal Dynamics of Extreme Suction Pressure Events Under the Separation Bubble of a 5:1 Rectangular Cylinder: Effect of Integral Length Scale *Jing Zhang, Xuan Xiang, Chris Letchford, Shaowu Pan, Luca Patruno, Daniel Lander*			**199** Numerical Study for Clarifying Scale Effects on Flow and Heat Transfer Characteristics Around an Isolated Building *Yezhan Li, Kyoshiro Masuda, Naoki Ikegaya*
16:45	**62** Quality Assurance in Assessing Wind Loading with Scale Resolving CFD Simulations *Goncalo Pedro, Stephen Dajka*	**163** Validation of the Lattice Boltzmann Method for Wind Load Assessment of a High-Rise Building [Full Paper] *Yuki Takadate, Hideyuki Tanaka, Akihiro Mizoguchi, Ryoichi Shibata, Jumpei Yasunaga*			**225** Integrating Computational Fluid Dynamics Into Data-Center Site Layout to Resolve Near-Field Compliance Constraints Under Different Atmospheric Conditions *Jens Christian Bennetsen, Jason Reed, Jelena Popovic, Michael Keinath*
17:00	**180** The New WTG Guideline M3: Recommendations for Numerical Simulation of Wind Flows Around Structures *Cornelia Kalender, Casimir Katz, Frank Kemper, Rolf-Dieter Lieb*	**178** Numerical Prediction of Wind Pressure Around a High-Rise Residential Building in Urban Area by Means of LES Based on Lattice Boltzmann Method [Full Paper] *Yoshiaki Itoh, Koji Kondo, Tetsuro Tamura, Koichi Ijuin*			**260** Investigation of Twin Prisms with Square-Section in Tandem Arrangement with Uniform Turbulence Inflow by LES *Yi-Chao Li, Chien-Yuan Kuo, Ding-Bo Hu*

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17:15	**209** Integrated LES Guidelines and Database for Validation of CFD Simulations in Urban Wind Environments: the Accumulation of AIJ Activities Post-RANS Guidelines *Tsubasa Okaze, Hideki Kikumoto, Naoki Ikegaya, Keisuke Nakao, Hiroki Ono, Keigo Nakajima, Masashi Imano, Takamasa Hasama, Yuichi Tabata, Takeshi Kishida, Ryuichiro Yoshie, Yoshihide Tominaga*				

17:30–18:30 **Meeting:** Initial planning meeting of Canadian Association for Wind Engineering **Room:** SEI 1110

18:45–20:45 *Wind tunnel tours (BLWTL and WindEEE) - 1* — BLWTL (walkable) / WindEEE (shuttle pickup)

Day 2 — Tuesday, June 9

08:00–08:45 *Hot Breakfast*

08:45–09:45 **Keynote: Clara García-Sánchez**, *TU Delft, Netherlands*
Title: "Urban flow predictions: what is stopping us?"
Convener: Dominique Derome **Room:** SEI 1110

09:45–10:00 *Coffee Break | Sponsor Exhibition*

10:00–11:30 **Introducing the ASCE/SEI Computational Wind Engineering Prestandard for use of Computational Wind Engineering in Building Design**
Moderators: Marc Levitan; Melissa Burton **Room:** SEI 1110

See full details → (p. 20)

11:30–12:00 *Group Photo* — All participants must arrive by 11:40 — University College Hill, Western University — View directions image

12:00–13:00 *Lunch Break | Sponsor Exhibition*

13:00–14:00 **Keynote: Roland Wüchner**, *TU Munich, Germany*
Title: "High-Fidelity Digital Twins in Wind Engineering: Advancing Insights by Modern Computational Methods"
Convener: Claudio Borri **Room:** SEI 1110

14:00–14:15 **Poster Presentations**
Host: Mekdes Tadesse Mengistu **Room:** In front of Exhibition Space

See full details → (p. 20)

14:15–15:45	SEI 1110 *Main Event Space (Grand Hall)*	SEI 2110 *Alumni Commons*	SEI 4105 & 4106 *4th Floor Meeting Room*	SEI 4109 *Classroom*	SEI 4110 *Classroom*

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	MS07-D **Best Practice Recommendations for CFD in CWE** *Chair: Yoshihide Tominaga, Cruz Y. Li* *Org.: Bert Blocken, Ted Stathopoulos, Yoshihide Tominaga*	S04-D **Wind Loads, Damage, and Structural Response Modeling** *Chair: Lakshmana Doddipatla, Chieh-Hsun Wu*	MS08-A **Application of CFD to Non-Synoptic Wind Simulation** *Chair: Anant Gairola, Djordje Romanic* *Org.: Anant Gairola, Djordje Romanic*	S06-A **Aerodynamics of Bridges, Vehicles, and Infrastructure** *Chair: Tibebu H. Birhane, Antonio Jose Alvarez Naveira*	S05-D **Building and Urban Wind Flow, Pedestrian Winds, and Ventilation** *Chair: Takashi Takeuchi, Jennifer Keenahan*
14:15	**31** Towards Realistic 'on-Road' Flow Conditions for a Simple Vehicle Model. *Cameron Wallace, Andrew Garmory, Adrian Gaylard, Daniel Butcher*	**248** Aerodynamic Loading Under Progressive Envelope Failure Using Large-Eddy Simulations *Jieling Jiang, Seymour Spence*	**25** Vortex Shedding of Square and Rectangular Cylinders in Accelerating and Decelerating Flow Conditions *Mario Morello, Alessandro Mariotti, Maria Vittoria Salvetti*	**186** Wind Climate-Adaptive Design for Retrofitting Hurricane-Impacted Long-Span Bridges *Teng Wu, Miguel Cid Montoya, Wei Song*	**302** Large-Eddy Simulations of Pressure Driven Interior Flows *Jacob Goell, Nicholas Bachand, Catherine Gorle*
14:30	**84** Assessment of an Automatic Mesh Convergence Workflow Applied to a Neutral Boundary Layer in Complex Environment [Full Paper] *Paul LAUNAY, Pierre BENARD, Lauris JOUBERT, Béatrice PATTE-ROULAND, Léa VOIVENEL*	**218** Computational Benefits of Fast Non-Linear Analysis for Performance-Based Wind Design of Tall Mass-Timber Buildings *Nahom K. Berile, Matiyas A. Bezabeh*	**45** Effects of Spanwise Non-Uniform Inflow on the Aerodynamic Characteristics on a 5:1 Rectangular Cylinder [Full Paper] *Pengxin Wang, Genshen Fang, Yaojun Ge*	**52** Computational Analysis of VIV of a Pedestrian Suspension Bridge with a Span of 250 M Combined with Wind Tunnel Test Data *Santiago Hernández, Jose Angel Jurado, Miguel Cid Montoya, Ibuki Kusano, Juan Quintela, Davide de Domenico*	**305** CFD Analysis of Wind Safety and Material Take-Off at Exposed Upper Levels During Construction Stages *Kimberley Adamek, Anwar Awol, Farnaz Sadeghpour, Girma Bitsuamlak*
14:45	**92** 3D LES Modeling of the Effects of Small-Scale Turbulence on Bluff Bodies and Bridge Decks *Felix Nieto, Antonio J. Alvarez, Kenny C.S. Kwok, Luca Patruno*	**227** Computational Wind Load Generation Based on Regenerated Coherence Method for Time-History Analysis of Tall Buildings *Un Yong Jeong, Stephanie Hartlin*	**252** Numerical Modeling of Downburst-Induced Building Loads *Ahmed Mahmoud, Tibebu Birhane, Girma Bitsuamlak*	**64** Parametric Study of Cable-Supported Bridge Decks Under Wind Loads *Nishi Gupta, Rakesh Ranjan, Vipul Prakash*	**306** CFD Analysis of Interior Architectural Details on Interior Air Quality and Exterior Comfort *Kimberley Adamek, Anwar Awol, Girma Bitsuamlak*
15:00	**120** Advances in CFD-based fluid-structure interaction research for engineering structures *Qingshan Yang, Tian Li, Feixin Chen, Yuhao Zhang*	**236** Comparative Analysis of Wind Loads on Tall Buildings Derived from State-Of-The-Art LES CFD with Eurocode Design Approaches *Réamonn Mac Réamoinn, David Cunningham*	**243** Topographical Effects on Downburst-Induced Wind Loads: a BIM-Based CFD Analysis in Hilly Terrain *Muna Younis, Girma Bitsuamlak*	**105** Reliability Based Design Optimization of the Deck Suspension Bridge Considering Buffeting Constraints *Juan Quintela, Ibuki Kusano, José Ángel Jurado, Miguel Cid Montoya, Davide De Domenico, Santiago Hernández*	**317** Comparative Numerical Simulation of Wind-Driven Natural Ventilation of Low-Rise Buildings with Varying Window Arrangements *Abebe Getachew Fantaw, Muna Younis, Girma Bitsuamlak*

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15:15	**147** Validation of Chiller-To-Chiller Interactions in Datacentre Applications Through CWE and Experiment *Christian Rohr, Anke Beyer-Lout, Nicolas Coste, Brad Cochran*	**241** Roof Pressure Coefficients in Successive Eurocode Standards: Derivation, Divergence and Implications for Irish Wind Load Assessment *Edel Reilly, Jennifer Keenahan*	**296** Investigating Interference Effects on Aerodynamic Loading Under Tornado-Like Vortices: an LES Study *Samuel Hanson, Mohammad Abid Hasan, Mohammad Faiaz Khaled*	**112** Probabilistic Optimization of Twin Box Shape and Steel Plate Size of Suspension Bridges Under Flutter Constraint *Ibuki Kusano, Davide De Domenico, Juan Quintela, Miguel Cid Montoya, José Ángel Jurado, Santiago Hernández*	**320** Effects of Modeling Detail of 3D City Models on CFD Urban Microclimate Assessment *Yishak Tsehay Sewasew, Bomani Khemet, Aziza Chaouni, Alstan Jakubiec, Anwar Awol, Girma Bitsuamlak*
15:30	**160** A CFD Study of Fork-Wheel Aerodynamic Interaction in Cycling *Fabio Malizia, Xiaoqi Hu, Bert Blocken*	**263** Robust Topology Optimization of High Rise Building Facades Under Stochastic Wind Loads *Kaiming Luo, Haiquan Jing, Shinji Nishiwaki*	**304** Large-Eddy Simulations of Downburst Flow and Wind Loading Using a Cooling Source Term *Linqian Zheng, Jianyu Wang, Catherine Gorle*		
15:45–16:00	*Coffee Break*				
16:00–17:30	**SEI 1110** *Main Event Space (Grand Hall)*	*SEI 2110*	**SEI 4105 & 4106** *4th Floor Meeting Room*	**SEI 4109** *Classroom*	**SEI 4110** *Classroom*
	MS07-E **Best Practice Recommendations for CFD in CWE** *Chair: Ted Stathopoulos, Tsubasa Okaze* *Org.: Bert Blocken, Ted Stathopoulos, Yoshihide Tominaga*	*No event in this room*	**MS08-B** **Application of CFD to Non-Synoptic Wind Simulation** *Chair: Anant Gairola, Djordje Romanic* *Org.: Anant Gairola, Djordje Romanic*	**S06-B** **Aerodynamics of Bridges, Vehicles, and Infrastructure** *Chair: Santiago Hernández, Etienne Cheynet*	**MS06-B** **AI-Empowered CFD: Intelligent Automation and Generative Modeling for Computational Wind Engineering** *Chair: Fei Ding, Teng Wu* *Org.: Fei Ding, Teng Wu*
16:00	**69** Topographic Effects on Near-Surface Winds Over an Actual Hilly Island Using CFD Simulations *Shengming Tang, Nuohao Zhang*		**288** High-Fidelity CFD Reconstruction of the Full-Scale Thunderstorm Downburst Event in the City of Genoa, Italy *Josip Žužul, Alessio Ricci, Massimiliano Burlando*	**153** Comparisons of Experimental, Cfd, and Machine-Learning Based Predictions of Bridge Force and Moment Coefficients *Zachary Taylor, Arnaud Vadeboncoeur, Pierre-Olivier Dallaire*	**245** A Knowledge-Enhanced Two-Stage Transformer Framework for Wind Field Reconstruction from Sparse Measurements [Full Paper] *Baoheng Li, Teng Wu*

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16:15	**148** A Unified Methodology for Sand, Rain and Snow Through the Immersed Boundary Method *Nicolas Coste, Lorenzo Bellantuono*		**79** Exploring Downburst Propagation in Idealized Urban Environments Using Large-Eddy Simulations *Mohammad Hadavi, Djordje Romanic*	**40** Numerical Study on the Aerodynamic Properties of Rectangular Prism with Side Ratio of Two Rotating at a Constant Speed *Kyohei Noguchi, Risa Horie, Hisato Matsumiya, Riki Katayama, Tomomi Yagi*	**247** Towards Autonomous Numerical Wind Tunnel Testing: a Domain Knowledge-Enhanced LLM-CFD Framework for Structural Aerodynamics *Baoheng Li, Teng Wu*
16:30	**151** CFD Modeling of Wind-Fire Interaction and Smoke Exposure in Wildland-Urban Interface Environments *Ahmed Taha, Islam Gomaa, Nour Elsagan, Dahai Qi*		**80** Wind Chamber and LES-Based Investigation of Surface Pressures in Downburst-Like Impinging Jets *Mohammad Hadavi, Lucas Malatesta, Djordje Romanic, Aya Kassab, Horia Hangan, Federico Canepa, Massimiliano Burlando*	**50** Large-Eddy Simulation of Key Phases of Racing Wheelchair Athlete Motion *Will Dixon, Vicky Goosey-Tolfrey, Gary Page, Daniel Butcher*	**254** Differentiable Hybrid Neural-CFD Modeling of 3D Wall-Bounded Turbulence *Xiantao Fan, Fei Ding*
16:45	**216** Application of Computational Fluid Dynamics to Wind-Driven Rain Analysis for Optimised Urban Building Design *Uduak Ikono, Edoardo Cardone, Niall O'sullivan*		**226** Assessing Ligurian Downslope Winds Using Lidar Observations and CFD Simulations *Ivana Ivančić, Alessio Ricci, Massimiliano Burlando, Djordje Romanic, Hrvoje Kozmar, Grisogono Branko*	**297** Some Theoretical Considerations for the Spanwise Correlation of Unsteady Force: the Case of a Square Cylinder *Cong Chen, Lin Zhao*	**257** Autonomous CFD Preparation: Agentic AI for Mesh Generation and Turbulence Representation *Fei Ding, Teng Wu*
17:00	**289** Simulating Thunderstorm Downburst Winds by CFD: Impinging Jet Versus Gravity Current Technique *Josip Žužul, Andi Xhelaj, Alessio Ricci, Massimiliano Burlando, Federico Canepa*		**258** Numerical Simulation of Windeee's Downburst *Ahmed Mahmoud, Tibebu Birhane, Girma Bitsuamlak*		**78** Toward the Integration of Data Assimilation and Machine Learning for Improved RANS Turbulence Modeling of Urban Flows *Matteo Rosellini, Aurora Ursetto, Pietro Tavazzi, Alessandro Mariotti, Giovanni Stabile, Maria Vittoria Salvetti*
17:15	**616** Mini-symposium Closing Remarks *Ted Stathopoulos, Yoshihide Tominaga*		**310** Digital Twin of a Supercell Rear-Flank Downdraft (RFD) Current in a Computational Domain Using LES *Mohammad Abid Hasan, Faiaz Khaled, Samuel Hanson, John Schroeder*		
18:00–20:00	*Gala Dinner* — Room 3326 (Great Hall), Somerville House				

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Day 3 — Wednesday, June 10

08:00–09:00 *Hot Breakfast*

09:00–10:00 **Keynote: Catherine Gorle**, *Stanford University, USA*
Title: "Accelerating the Adoption of LES for Next-Generation Wind Engineering"
Convener: Rathinam Selvam **Room:** SEI 1110

10:00–10:15 *Coffee Break | Sponsor Exhibition*

10:15–11:45	SEI 1110 *Main Event Space (Grand Hall)*	SEI 2110 *Alumni Commons*	SEI 4105 & 4106 *4th Floor Meeting Room*	SEI 4109 *Classroom*	SEI 4110 *Classroom*
	MS02-A **New Frontiers in Computational Fluid Dynamics Simulation of Urban Wind Environments** *Chair: Nigel Kaye, Anwar Awol* *Org.: Xuelin (Bella) Zhang, Asiri Umenga Weerasuriya*	**S07-A** **Environmental Flows: Dispersion, Heat, Rain, Snow, and Debris** *Chair: Bingchao Zhang, Lisa Schielicke*	**S02** **Inflow Generation and Stochastic Wind Simulation** *Chair: Luca Patruno, Daniel Lander*	**MS09-A** **Validating CFD: The Critical Role of Wind Tunnel Testing** *Chair: Jin Wang, Guowei Qian* *Org.: Jin Wang, Guowei Qian*	**S09-C** **Machine Learning and Digital Twins for Wind Engineering** *Chair: Hassan Hemida, REDA SNAIKI*
10:15	**34** Rooftop Design for Urban Air Mobility (UAM) Using CFD Simulations *Chao Lin, Hideki Kikumoto, Yasutomo Takakuwa, Ryozo Ooka*	**82** Analysis of Urban Greenhouse Gas Dispersion Within Downtown Montréal Using Computational Fluid Dynamics and Field Measurements *Quinn Dyer-Hawes, Djordje Romanic, Yi Huang, John Gyakum, Peter Douglas, Lei Liu, Benjamin Riot-Bretêcher, Regina Gonzalez Moguel, Jacob Asomaning, John Stix, Gustavo Villarruel, Margaret Kalacska, Oliver Lucanus, Juan Pablo Arroyo Mora, Keyvan Ranjbar, Leonid Nichman, Felix Vogel*	**18** Record Length Coefficient in Up-Crossing Rate Analysis for Design Wind Velocities in Canada *Tristen Brown, Ahmed Elshaer, Anas Issa, Mike Gibbons*	**47** Towards Reliable CFD Validation from Wind Tunnel Studies of the Flow in a Street Canyon [Full Paper] *Maria Kotsiopoulou, Nikolaos-Petros Pallas, Demetri Bouris*	**204** Overcoming predictive limitations in observation-based wind speed forecasting using NWP data [Full Paper] *Kosuke Yamamoto, Hiroshi Hasebe*
10:30	**53** Helium-Heat Similarity for Urban Wind and Thermal Flows: a CFD-Based Verification Study *Kexin Zheng, Clément Nevers, Xin Zhang, Yongling Zhao, Liangzhu Leon Wang, Jan Carmeliet, Dominique Derome, Dahai Qi*	**191** Integrated Long-Term Snow Accumulation Prediction Using a Coupled Snowdrift-Snowmelt Framework with OpenFOAM *Xinyi Li, Ryuji Tanaka, Tetsuhiro Matsuda, Shintaro Ono, Yoshihide Tominaga*	**93** Effect of Coherent Structures Occurring in Urban Boundary Layer During a Typhoon on Turbulent Fields Within the Urban Canopy *Hidenori Kawai, Tetsuro Tamura*	**161** Wind Tunnel Tests of Flow Structures and Peak Pressures Over a Low-Rise Building: Building a Dataset for CWE Model Validation *Erick Shelley, Wei Zhang, Panneer Selvam, Arindam Chowdhury*	**222** AI-Assisted Satellite Detection of Tornado and Downburst Forest Damage in Canada *Daniel Butt, Lesley Elliot, David Sills, Gregory Kopp, Mark Daley*

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10:45	**70** Investigation of Wind Speed Profiles in an Urban Area by a Multiple-Fan Wind Tunnel Facility *Chung-Lin Fu, Yang-En Chen, Chi-Yu Chang, Yuan-Lung Lo*	**223** Air Quality and Pollution Dispersion Using CWE *Niall O Sullivan, Edoardo Cardone, Tony Rofail*	**131** Sensitivity of LES Wind Loads to Turbulence Coherency Decay Coefficients *Latife Atar, Jack K. Wong, Oya Mercan*	**164** Comparative Assessment of Inflow Turbulence Generation Methods and Subgrid-Scale Models for Large Eddy Simulation of Turbulent Flow Over Hilly Terrain *Tong Zhou, Qingshan Yang, Bowen Yan*	**235** A Hybrid Deep Learning Framework for Regional-Scale Forecasting of Hurricane-Driven Flood Evolution *Liuyun Xu, Sejin Kim, Seymour MJ Spence*
11:00	**77** Towards an Integrated Framework Connecting Urban Morphology and Wind Engineering *Akshay Patil, Ivan Pađen, Themistoklis Vargiemezis, Hugo Ledoux, Clara García-Sánchez*	**232** A Multi-Level Framework for Modeling Wildfires at the Wildland-Urban Interface: Case Study of the 2025 Eaton Fire *Tanmay Vora, Seymour Spence, Ann Jeffers*	**291** Assessment of Regularized Variational Multiscale Eddy-Viscosity Models in Homogeneous Isotropic Turbulence *Chieh-Hsun Wu*	**200** A Benchmark of the Aerodynamics of a Medium-Rise Building Tested in Different Wind Tunnels and Conditions *Stefano Brusco, Tim John Acosta, Yitian Guo, Jon Galsworthy, John Kilpatrick, Jin Wang, Gregory Kopp*	**250** Automated Geometric Model Generation from Point Clouds for Digital Twin-Based Wind Simulations *Jifar Mekonnen Hunde, Miriam Capretz, Girma Bitsuamlak*
11:15	**242** Key Challenges of AI for Urban Microclimate Simulations *Liangzhu Leon Wang, Ted Stathopoulos, Theodore Potsis, Shaoxiang Qin, Peng Liu*	**90** Evaluation of Heat Stress and Hot Environment in the Tokyo Metropolitan Area on an Extreme Hot Day in 2018 [Full Paper] *Maiko Arai, Tetsuro Tamura, Hidenori Kawai*	**319** Efficient Stochastic Reconstruction of Experimental Wind Loads Using Proper Orthogonal Decomposition *Xisheng Lin, Matiyas Bezabeh, Djordje Romanic, Un Yong Jeong*	**205** Experimental Study of Aerodynamics of Train-Bridge System in Synoptic and Non-Synoptic Winds *Dongqin Zhang, Siyu Zhang, Haiquan Jing, Xuhui He*	**270** Automated Classification of Thunderstorm Wind Events Using Deep Learning: Implications for United States Wind Climatology *David Roegner, Franklin Lombardo, Jeff Trapp, Evan McDonald, Faith Shepherd*
11:30				**323** Large-Scale Experimental and Numerical Study of Wind Flow Over Mono-Slope Roof Building: the Role of Eddy Viscosity in Numerical Prediction Accuracy *Binura Kudagama, Aly Mousaad Aly*	**274** From Simulations to Models: Predicting Natural Ventilation *Nicholas Bachand, Themistoklis Vargiemezis, Catherine Gorle*

11:45–12:00 Poster Presentations
Host: Mekdes Tadesse Mengistu **Room:** In front of Exhibition Space

See full details → (p. 20)

12:00–13:00 *Lunch Break | Sponsor Exhibition*

12:45–13:00 Platinum Sponsor Spotlight: Boundary Layer Wind Tunnel Laboratory (BLWTL)
Presenter: Eric Lalonde **Room:** SEI 1110

13:00–14:00 Keynote: John Kilpatrick, *RWDI, Canada*
Title: "An Evolution of Computational Tools in Commercial Wind Engineering Practice"
Convener: Yukio Tamura **Room:** SEI 1110

14:00–14:15 *Short Break*

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14:15–15:45	SEI 1110 *Main Event Space (Grand Hall)*	SEI 2110 *Alumni Commons*	SEI 4105 & 4106 *4th Floor Meeting Room*	SEI 4109 *Classroom*	SEI 4110 *Classroom*
	MS02-B **New Frontiers in Computational Fluid Dynamics Simulation of Urban Wind Environments** *Chair: Takeshi Ishihara, David Roueche* *Org.: Xuelin (Bella) Zhang, Asiri Umenga Weerasuriya*	**MS03** **Wind-Structure Interactions: from AI-driven Prediction to Resilient Design Under Extreme Winds** *Chair: Ahmed Elshaer, Stefano Brusco* *Org.: Jiayao Wang, Ahsan Kareem, You Dong*	**S08-A** **Wind Energy Systems and Structural Response** *Chair: Goncalo Pedro, Yuka Kikuchi*	**MS09-B** **Validating CFD: The Critical Role of Wind Tunnel Testing** *Chair: Jin Wang, Guowei Qian* *Org.: Jin Wang, Guowei Qian*	**MS11-A** **A Special Session to Honor Prof. Ted Stathopoulos** *Chair: Girma Bitsuamlak, Theodore Potsis*
14:15	**133** Connecting Synoptic and Micro Scale for Wind Load Assessment in Extreme Storms in a Future Warmer Climate *Johanne Ølund, Amalie Jensen, Hans Holger Koss*	**196** Transient Wind-Response Prediction of a High-Rise Building Using LES and Newmark-Beta Dynamics Validated Against Full-Scale Measurements *Frank Kemper, Chris Geurts, Catherine Gorle*	**19** Prediction of Airfoil Aerodynamic Coefficients at Near-Stall Angles in Critical Reynolds Number Flow Using CFD *Eric Lalonde*	**212** CFD and PIV Comparison of the Anisotropy of Turbulence in the Wake of a Cyclist *Jose Matias Arbelo Romero, Sajad Maleki Dastjerdi, Bert Blocken, Hassan Hemida, Mark Sterling, Wouter Terra, Andrea Sciacchitano, Thijs van Druenen*	**601** Riding the Wind: Advances in Computational Wind Engineering from Concordia to WindEEE *Girma Bitsuamlak*
14:30	**157** Pollutant Source Term Estimation in a Two-Dimensional Street Canyon Using Physics-Informed Neural Networks *Hideki Kikumoto, Yichen Wang, Bingchao Zhang*	**201** Wind-Induced Vibration Response of a Wind Turbine Under Downburst-Like Outflows *Zhu Yuhao, Yan Bowen, Zhou Xuhong, Yang Qingshan, Li Xiao, Yuan Yangjin, Ran Qiaowen*	**88** Predictive Framework for Wind Turbine Fatigue Loads Under Yawed Turbine Wake Effects *Yanchao Xiong, Qingshan Yang, Tian Li*	**230** Benchmark Experimental Data for CFD Validation of Tornadic Wind Loads on Buildings *Yonas Bekele, Girma Bitsuamlak, Jin Wang, Tibebu Birhane, Gregory Kopp*	**213** Digitization of Wind Tunnel Experiments an AI-Based Approach to Wind Field Reconstruction and Visualization *Dingyang Geng, Geng Tian, Murad Aldoum, Theodore Stathopoulos, Liangzhu Wang*

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14:45	**228** A Two-Stage CFD Method for Wind Microclimate Studies Coupling Large-Scale Topography and Local Urban Regions *Niall O'Sullivan, Uduak Ikono, Tony Rofail*	**220** A Multi-Source Hybrid AI Approach to Evaluate Wind Effects on Structures *Anoop Kodakkal, suneth warnakulasuriya, Roland Wüchner*	**98** LES Study of Wind Turbine Wake Characteristics in Inversion-Capped Neutral and Convective Boundary Layers *Tong Zhou, Takeshi Ishihara*	**234** Round-Robin Wind Tunnel Testing for High-Rise Buildings: Comparative Analysis of Approach Flow Effects on Aerodynamics and Structural Response *DongHun Yeo, Adam Pintar, Arindam Gan Chowdhary, Tsinuel Geleta, Kurtis Gurley, Stéphanie Hartlin, Un Yong Jeong, Sukjun Joo, Sunho Kim, Soon Duck Kwon, Seungho Lee, Jens Møller-Madsen, Claudio Mannini, Tommaso Massai, Niccolò Barni, Søren Østbirk, Brian Phillips, Ioannis Zisis, Girma Bitsuamlak*	**273** CFD Microclimate Modeling of NRC Campus in Ottawa, Canada: Landscape Impact Assessment *Payam Gholamalipour, Jiwei Zou, Lin Wang, Ted Stathopoulos, Hua Ge, Michael Lacasse*
15:00	**113** Identfy Unsafe Zones for UAV Operations Around Target Buildings in Urban Airspace Under Turbulent Wind Conditions *Xing ZHENG, Qiang LIN*	**46** A Generative Modeling Approach for Two-Dimensional Spatiotemporal Flow Around Elliptical Cross-Sections *Chuanting Liu, Genshen Fang, Ke Li, Yaojun Ge*	**122** Influence of Wind-Wave Interaction on Turbulent Flow Structures in Large Offshore Wind Farms [Full Paper] *Saroj Gautam, Kevin Pope, Baafour Nyantekyi-Kwakye, Jahrul M Alam*	**271** Comparison of Rans, LES and WT Measurements of Surface Pressures on an Irregular, Low-Rise Building *Prethesha Alagusundaramoorthy, David Roueche, Jay Khodadadi, Kurt Gurley*	**275** Unsteady Urban Buoyant Flows and Climate-Dependent Heat Mitigation by Trees *Jan Carmeliet, Clément Nevers, Aytac KUBILAY, yunpeng Xue, Dominique Derome*
15:15				**311** Comparison of Wind Tunnel Tests of Peak Pressures Over the TTU WERFL Building with Full-Scale Measurements [Full Paper] *Gobinda Kirtonia, Wei Zhang, Erick Shelley, Elliott Walker*	**278** A Short Perspective on Five Decades of Contributions to Wind Engineering Research and Practice by Professor Ted Stathopoulos *Yoshihide Tominaga, Bert Blocken*
15:30					**283** From Davenport's Wind Loading Framework to Contemporary Practice: Stathopoulos' Role in Wind Load Evaluation for Low-Rise Buildings and Their Attachments [Full Paper] *Hatem Alrawashdeh, Anastasia Athanasiou, Jianhan Yu, Murad Aldoum, Theodore Potsis, Faruk Ahmed Sakib*

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15:45–16:00 *Coffee Break*

16:00–17:30	**SEI 1110** *Main Event Space (Grand Hall)*	**SEI 2110** *Alumni Commons*	**SEI 4105 & 4106** *4th Floor Meeting Room*	*SEI 4109*	**SEI 4110** *Classroom*
	MS08-C **Application of CFD to Non-Synoptic Wind Simulation** *Chair: Anant Gairola, Andi Xhelaj* *Org.: Anant Gairola, Djordje Romanic*	**S06-C** **Aerodynamics of Bridges, Vehicles, and Infrastructure** *Chair: Zachary Taylor, Ibuki Kusano*	**S08-B** **Wind Energy Systems and Structural Response** *Chair: Yuan-Lung Lo, Kyohei Noguchi*	*No event in this room*	**MS11-B** **A Special Session to Honor Prof. Ted Stathopoulos** *Chair: Girma Bitsuamlak, Theodore Potsis*
16:00	**144** Effectiveness of Wall-Modeled Large-Eddy Simulation in Simulating Tornado-Like Vortices [Full Paper] *Anamika Malla, Delong Zuo, Hui Zhang*	**224** Buffeting-Resistant Design of Bridge Deck Shape Under Synoptic and Non-Synoptic Wind Scenarios *Miguel Cid Montoya, Santiago Hernández*	**138** Reduction of Dynamic Response and Wind Turbine Loading for Floating Offshore Wind Turbine System Using Feed Forward Control *Yuko Ward, Keita Honma, Yuka Kikuchi, Takeshi Ishihara*		**312** Effect of Turbulence Inflow Conditions on Wind Load Prediction for High-Rise Buildings *Hassan Hemida, Jose Arbelo Romero, Yonggui Li*
16:15	**238** LES and WindEEE Simulations of Tornadic Wind Fields *Yealemnegus Waktola, Tibebu Birhane, Anant Gairola, Girma Bitsuamlak*	**231** Prediction of Javelin Flight Trajectory Using a Combination of CFD and Dynamic Simulation [Full Paper] *Hiroshi Hasebe*	**281** Energy Harvesting of Wind-Induced Ultra-Low-Frequency Vibrations Using Nonlinear Energy Sink Strategies [Full Paper] *Ruihong Xie, Muhammet Calayir, Oya Mercan, Dapeng Mei, Lin Zhao*		**285** Benchmarking LES Simulations Using Experimental Databases for Fragility Curve Development *Josip Zuzul, Rigoberto Morales Hernandez, Luisa Pagnini, Alessio Ricci, Maria Pia Repetto*
16:30	**215** Advancing Tornado-Like Vortices (TLVs) Modeling in Straight-Line Simulators *Mohammad Abid Hasan, Faiaz Khaled, Franklin T. Lombardo*	**255** Hurricane Buffeting-Induced Life-Cycle Downtime Risk Assessment of Long-Span Coastal Bridges with Performance-Based Wind Design *Ruiqing Han, Teng Wu*	**315** Impact of Corrosion on the Structural Response of Offshore Wind Turbines' Monopile *Ali Khodam*		**316** Field Monitoring Investigation of the Wind Load and Load Path in an Open Structure *Mostafa Karami, Ghasan Doudak, Mauricio Chavez*
16:45	**168** Simultaneous Assessment of Debris Trajectories to Determine Characteristics of the July 1, 2023 Didsbury, Alberta Ef4 Tornado *Connell Miller, Christopher Howlett, Collin Town, Daniel Butt, Gregory Kopp*	**307** Vortex-Induced Vibration Performance and Suppression Mechanism of Spanwise Spoilers for Separated Twin Rectangular Box Girders *Rui Chen, Haiquan Jing, Xuhui He*	**195** CFD of Flow Characteristics of Oscillating Multiple Flat Plates [Full Paper] *Nozomi Suzuki, Hiroshi Hasebe*		**318** Analytical and Numerical Models of Atmospheric Boundary Layer Winds Interacting with Downbursts *Djordje Romanic*

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17:00	**229** Evaluating WRF-Simulated Winds Against Full-Scale Measurements in the August 2020 Derecho *Wesam Mohamed, David Roegner, Franklin Lombardo, Kyle Killion, Robert Trapp*				**284** Comparative Study of Structural Snow Load Predictions from Experimental and CFD Approaches Using the Finite Area Element Method *Hang You, Hanqing Wu, Daniel Davalos*
17:15	**253** Coupled WRF and Damage Analysis of the 21 May 2022 Canadian Derecho *Franklin T. Lombardo, Christoph Gatzen, Lisa Schielicke, Morgan Schneider, David M. L. Sills, Garrett Statum, Jeffrey Trapp*				

17:30–18:30 **Meeting:** AWE Journal Board Meeting **Room:** SEI 4109

19:00–21:00 **Meeting:** IAWE Executive Board Dinner & Meeting **Room:** Room 4405, Amit Chakma Engineering Building (ACEB), Western University

18:00–20:00 *Wind tunnel tours (BLWTL and WindEEE) - 2* — BLWTL (walkable) / WindEEE (shuttle pickup)

Day 4 — Thursday, June 11

08:00–09:00 *Hot Breakfast*

09:00–10:00 **Keynote: Laxmi Sushama**, *McGill University, Canada*
Title: "Leveraging Multi-scale Climate Modelling to Future-Proof the Built Environment"
Convener: Alessio Ricci **Room:** SEI 1110

10:00–10:15 *Coffee Break*

10:15–11:45	SEI 1110 *Main Event Space (Grand Hall)*	SEI 2110 *Alumni Commons*	SEI 4105 & 4106 *4th Floor Meeting Room*	SEI 4109 *Classroom*	SEI 4110 *Classroom*
	MS10-A **Experimental and Field Measurement Data for AI and CFD in Wind Engineering** *Chair: Maria Pia Repetto, Félix Nieto, Connell Shamus Miller, Stefanie Gillmeier* *Org.: Maria Pia Repetto, Félix Nieto, Connell Shamus Miller, Stefanie Gillmeier*	**S07-B** **Environmental Flows: Dispersion, Heat, Rain, Snow, and Debris** *Chair: Hideki Kikumoto, Yasuyuki Ishida*	**MS05** **Impact of Wind-Driven Rain (WDR) on Buildings and Structures** *Chair: Payam Gholamalipour, Ted Stathopoulos, Hua Ge* *Org.: Payam Gholamalipour, Ted Stathopoulos, Hua Ge*	**S04-E** **Wind Loads, Damage, and Structural Response Modeling** *Chair: Yasushi Uematsu, Frank Kemper*	**S09-A** **Machine Learning and Digital Twins for Wind Engineering** *Chair: Alessandro Mariotti, Miguel Cid Montoya*

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10:15	**132** Downburst Peak Pressures Over 6 Rows of Solar Trackers *Antonio Jose Alvarez, Felix Nieto, Petar Skavor, Hrvoje Kozmar, Jeroen van Beeck, Tibebu Birhane, Kimberley Adamek, Girma Bitsuamlak*	**60** The Significance of Droplet-Surface Interaction Models on the Spray Distribution Predictions from a Rotating Wheel *Oliver Lee, Andrew Garmory, Daniel Butcher, Gary Page*	**600** Introductory keynote presentation *Dominique Derome, Jan Carmeliet*	**290** Structural Effects of Floating Wind Turbines Based on Typhoon-Wave Prediction *Lin Zhao, Yue Cheng, Congju Liu*	**23** Estimating Pollutant Dispersion in a Two-Dimensional Street Canyon Using Physics-Informed Neural Networks *Yichen Wang, Bingchao Zhang, Hideki Kikumoto*
10:30	**149** ERIES-TNG: Insights Into Tornado Vortex Wandering *Aleksander Pistol, Mark Sterling, Mike Jesson, Girma Bitsuamlak, Fred L. Haan, Tibebu Birhane, Yealemnegus Waktola, Gregory A. Kopp*	**118** Wind Driven Rain: a Parametric Study on Bus Stop Canopy *Shuyi Liu, Zhengwei Zhang*	**95** Wind-Driven Rain Exposure of Pedestrians in Urban Environments *Dominique Derome, Aytac KUBILAY, Jan Carmeliet*	**308** Critical Tornado Configurations for Guyed Transmission Towers Subjected to Tornado Loading *Nour El-Heweity, Ashraf El Damatty, Jin Wang*	**58** Wind Flow Field Reconstruction by Boundary Condition Identification in Structures from Sparse Measurements. *Talhah Ansari, Suneth Warnakulasuriya, Anoop Kodakkal, Ihar Antonau, Harbir Antil, Rainald Löhner, Roland Wüchner*
10:45	**172** Development of a Canadian Severe Storms Event Database *Connell Miller, David Sills, Julian Brimelow, Gregory Kopp*	**128** Impact of Stoss Slope on Airflow Dynamics Over Transverse Dunes in Deserts: Experimental and Numerical Investigations [Full Paper] *Sumaja Kolli, Pradeep Kumar Dammala, Hassan Hemida*	**97** Field Measurements and Numerical Modelling of Wind-Driven Rain: Absorption and Runoff on Building Materials *Aytac KUBILAY, Dominique Derome, Jan Carmeliet*	**309** Elevated Conical Tanks in Codified Wind Load Provisions: Limitations of Cylindrical Analogies *Engy Abdelhadi, Ashraf ElDamatty*	**66** Predicting Pedestrian-Level Percentile Wind Speeds from Second-Order Statistics with Convolutional Neural Networks *Mingxuan Wan, Yezhan Li, Naoki Ikegaya*
11:00	**187** An ML-Based Surrogate Model for Predicting Velocity and Turbulence Intensity Profiles from Arbitrary Roughness Distributions in a Boundary Layer Wind Tunnel *Costin Ioan Coşoiu, Virgile Vittoz, Dan Hlevca*	**146** Large Eddy Simulation and Case Study of Reactive Pollutant Dispersion at a Real Intersection in Downtown Montréal *Quinn Dyer-Hawes, Djordje Romanic, Yi Huang, John Gyakum, Peter Douglas*	**139** Droplet Deposition on Inclined Porous Materials : Modeling Maximum Spreading *Maude Dias, Dominique Derome, Jan Carmeliet*	**313** Ground Wires Longitudinal Forces on End Transmission Tower Subjected to Downbursts *Maryam Seleemah, Ashraf El Damatty*	**72** A Hierarchical Framework for Reconstructing High-Resolution Urban Wind Fields from Constrained Sensor Networks [Full Paper] *Foad Mohajeri Nav, Reda Snaiki, Fei Ding*
11:15	**202** Experimental Database of Simulated Wind Fields and Aeroelastic Response of Lattice Towers in the WindEEE Dome *Ileana Calotescu, Costin-Ioan Coşoiu, Horia Hangan, Kim Adamek, Tibebu Birhane, Girma Bitsuamlak*	**170** CFD Analysis of Topographic Shielding Effects on Wind Flow Over Ridge and Plateau Features *Yunjae Hwang, DongHun Yeo*	**184** Wind-Driven Rain Prediction on Building Facades: Evaluation of Machine Learning Models *Payam Gholamalipour, Ted Stathopoulos, Hua Ge*	**277** Numerical Simulations of Hurricane Wind Loading in the Presence of Waves *Max Beeman, Hanul Hwang, Jianyu Wang, Catherine Gorle*	

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11:30	**211** Leveraging Experimental and Field Measurement Campaigns Across Machine Learning, CFD and Satellite Imagery in Wind Engineering Applications *Felix Nieto, Antonio J. Alvarez, Poorya Poozesh, Brais Villaverde, Giuseppe Piccardo, Maria Pia Repetto, Kenny C.S. Kwok, Luca Patruno, Jonas Snaebjörnsson, Teresa Simoes, António Couto*	**198** Environmental Loading on Lalibela's Biete Giorgis Church: a CFD Study of Wind-Driven Rain *Misrak Gizaw, Tibebu Birhane, Fitsum Tariku, Girma Bitsuamlak*			

11:45–12:45 *Lunch Break*

12:45–13:45 **Keynote: Cruz Y. (Yutong) Li**, *Chongqing University, China*
Title: "Orthogonal Decomposition and Beyond"
Convener: Giuseppe Piccardo **Room:** SEI 1110

13:45–14:00 *Short Break*

14:00–15:30	**SEI 1110** *Main Event Space (Grand Hall)*	**SEI 2110** *Alumni Commons*	**SEI 4105 & 4106** *4th Floor Meeting Room*	**SEI 4109** *Classroom*	**SEI 4110** *Classroom*
	MS10-B **Experimental and Field Measurement Data for AI and CFD in Wind Engineering** *Chair: Maria Pia Repetto, Félix Nieto, Connell Shamus Miller, Stefanie Gillmeier* *Org.: Maria Pia Repetto, Félix Nieto, Connell Shamus Miller, Stefanie Gillmeier*	**S09-B** **Machine Learning and Digital Twins for Wind Engineering** *Chair: Dagimawi Eneyew, Ahmed Elshaer*	**S03** **Non-Synoptic Wind Analysis: Empirical, Theoretical, and Observational Approaches** *Chair: Jens Christian Bennetsen, Christoph Gatzen*	**MS01-C** **Multi-disciplinary Efforts in Reducing Adverse Impact from Tornadoes, Downbursts and Gust Front** *Chair: Guirong (Grace) Yan, Tibebu H. Birhane* *Org.: Guirong (Grace) Yan*	**MS04** **AI/ML-Powered Rapid Damage Assessment and Wind Field Characterization** *Chair: Faiaz Khaled, Sejin Kim* *Org.: Bowei Li, Guangzhao Chen*
14:00	**233** A Wind Tunnel Study of Urban Pollution Dispersion - Benchmark Data from the ValUr Project *Stefanie Gillmeier, A.K.R. Jayakumari, P.O. Hristov, M. Pantusheva, R. Mitkov, V. Naserentin, A. Logg*	**76** A Benchmark Dataset for AI-driven Pedestrian-Level Wind Assessment in Early-Stage Urban Design *Adam Clarke, Knut Erik Teigen Giljarhus, Karthik Depuru-Mohan, Alistair Saddington*	**167** WRF Simulation of the Thunderstorm Downburst That Caused the Bayesian Sinking in Porticello (Italy) *Hanna Beatriz Wollmeister Muñoz, Massimiliano Burlando, Antonio Parodi, Martina Lagasio*	**240** Statistical Characteristics of Tornado Wind Speeds from WindEEE Dome Experiment *Muhammad Qamar Habib, Jin WANG*	**33** Computer-Vision Enables Subassembly Damage Identification on Heterogeneous Hurricane Reconnaissance Imagery *Rachel Hamburger, Tracy Kijewski-Correa*

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14:15	**279** Aerodynamic Characterisation of the DrivAer Car Model Under Cross-wind Through Wind Tunnel Testing *Carlos Esteban Araya Reyes, Stefano Negri, Gisella Tomasini*	**91** Time-History Wind Response Analysis of High-Rise Buildings Using Latent Space Time-Step Operators [Full Paper] *Chanho Kim, Thomas Kang*	**49** Numerical Investigation of Aerodynamic Characteristics of a High-Rise Building in a Steady Thunderstorm Outflow-Like Flow Field *Yang Li, Ting-Xuan Lu, Cheng-Yang Chung, Yuan-Lung Lo*	**262** The Mechanism of Tornadogenesis from the Perspective of Vortex Tube *Peng Yue, Y. Charles Li, Leigh Orf, Grace Yan*	**192** A Multi-Hazard Community Risk Assessment Framework for Hurricanes Considering Wind-Water Interaction and Building-Specific Characteristics *Sejin Kim, Seymour Spence, Liuyun Xu, Jeremy Bricker*
14:30	**287** Investigation of Extreme Winds for the Estimation of Aerodynamic Loads on Containership and Port Infrastructures *Alessio Ricci, Josip Žužul, Andi Xhelaj, Federico Canepa, Djordje Romanic, Franklin T. Lombardo, Mark J. Paker, Tibebu Birhane, Girma Bitsuamlak*	**101** A Prototype Machine Learning-Based System for Predicting Thunderstorm Wind Gusts *Seung Hun Choi, Sungsu Lee, Junyeong Kim, Chang Hee Won*	**104** CFD Study on the Aerodynamics of a Square Cylinder Under Time-Varying Accelerating Flow Conditions *Cheng-Yang Chung, Cheng-Xuan Wu, Yuan-Lung Lo*	**268** Investigating How Terrain Modifies Wind Speeds and Central Pressure Deficit in Tornadic Wind Field *Grace Yan, Jiamin Dang, Jana Houser, Leigh Orf, Peng Yue*	**239** A Framework for Translating Hurricane Forecasts Into Real-Time Cladding Damage Risk *Bowei Li, Seymour Spence*
14:45	**300** Experimental Investigation of Wind Effects on Ground-Level and Urban Vertiports *Mohammad Amir Neshat, Mekdes Tadesse Mengistu, Edward Canepa, Dario Milani, Giuseppe Piccardo, Maria Pia Repetto*	**116** Large-Scale CFD Analysis of Urban Airflow and Pollutant Transport Over a 24-Hour Period Associated with POD Analysis: the Vallecas District (Madrid) Case Study *Paul Jeanney, Clara Garcia-Sánchez, David Lanceta, Susana Saiz, José Miguel Perez, Soledad Le Clainche*	**107** Prediction of Typhoon-Induced Gust Wind Speed Using Mesoscale Model and Best Track Data *Yuka Kikuchi, Masato Fukushima, Takeshi Ishihara*	**282** A Concept for a Design Tornado in Wind Load Provisions *Greg Kopp, Osmany Hernandez, Yongxu Liu, Stefano Brusco, Hanping Hong, Wenxing Zhou*	
15:00	**322** Influence of Crown Porosity on Drag Coefficient of Deciduous and Coniferous Model Trees *Anwar Demsis Awol, Muhammad Naeem Owais, Girma Bitsuamlak, Kamran Siddiqui*	**123** Wind Pressure Prediction on Low-Rise Buildings Based on an Image Method *Youqin Huang, Zhiwei Wu*	**143** The Influence of Bottom Boundary Conditions on Simulated Mesovortex Evolution [Full Paper] *Morgan Schneider, Lisa Schielicke, David Sills*	**301** A Hybrid Analytical-Stochastic Framework for Simulating Downburst Winds on Moving Vehicles: the CROSS-STORM Project Approach *Andi Xhelaj, Massimiliano Burlando, Luisa Pagnini, Maria Pia Repetto*	
15:15		**124** Flow Activity-Based Sampling (Fabas) of 3D LES-Generated Flow Fields for AI-Based Flow Compression and Prediction *Omar A. Mures, Abrahan Dopazo, Miguel Cid Montoya*	**286** Wind Environment Characteristics at Taishan Nuclear Power Plant Over Coastal Complex Terrain: a Tri-Methodology Approach *Shihan Wang, Shuai Dou, Lin Zhao*		

(continued from previous page)

15:30–15:45 *Coffee Break*

15:45–16:15 Closing Ceremony & Best Paper Awards
Host: Girma Bitsuamlak **Room:** SEI 1110

Session Details

The following sessions feature a structured multi-part or multi-speaker format. Use the links below to navigate between the schedule table and the full session programmes.

Introducing the ASCE/SEI Computational Wind Engineering Prestandard for use of Computational Wind Engineering in Building Design

Moderators: Marc Levitan; Melissa Burton

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This session will provide an overview of the forthcoming ASCE/SEI Prestandard for Use of Computational Wind Engineering in Building Design, which will be available free from the ASCE website in August 2026. The session will begin with a series of lightning presentations that together provide an overview of the new prestandard, followed by a moderated panel discussion and audience Q/A.

Panelists: David Banks, Girma Bitsuamlak, Melissa Burton, Stefano Cammelli, Catherine Gorle, Goncalo Pedro, Ted Stathopoulos, JJ Tobolski, DongHun Yeo

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Poster Presentations

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- **321.** Turbulent eddy structure and vortex dynamics in deep convection and its sensitivity to microphysical parameterizations
  Lisa Schielicke, Christoph Gatzen, John Hanesiak, Clinton Macadam, Morgan Schneider, David Sills
- **183.** Development of a Platform for Risk Assessment and Early Warning of Urban Wind Hazards
  Boram Kim, Seungmin HAN, Kyucheoul Shim
- **166.** Comparison between k-epsilon (URANS) and Spalart-Allmaras (DES) turbulence models for CFD simulation of boundary layer wind tunnel experiment
  Lilli Sacharow, Daniel Markus, Thorben Weihbrecht, Andre Stollenwerk, Rolf-Dieter Lieb
- **159.** Wind effects on Base-Isolated Building-A Review
  Divya prakash, Ajay Gairola
- **94.** Development of a Wind-Induced NATECH Scenario Generation Technology for Industrial Complexes
  ChangHee Won, MinHo Kang, Sungsu Lee
- **27.** PID Control of Mean Velocity and Reynolds Stress for Generating Inflow Conditions in LES of Boundary Layer Flow
  Hitoshi Suto, Keisuke Nakao, Yasuo Hattori
- **16.** Influence of Hilly Terrain Slopes on External Flow and Façade Pressure Distribution Around Tall Buildings
  Saalim B.Kaisar, Dr Rajendra K. Varma
- **111.** From Circulation Regimes to Convective Precipitation Extremes: A Multi-Scale Perspective
  Marie-Christin Eckert, Annette Rudolph, Lisa Schielicke

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MS12: Special session on work progresses and dissemination of IAWE WGs: Climate Change and Non-synoptic Winds

Organizers (Chair TBD): Girma Bitsuamlak, Luca Caracoglia, Teng Wu, Hassan Hemida

↑ *Back to schedule* (p. 5)

Part 1: Wind Engineering under Changing Climate: Challenges and Opportunities

Chairs: Teng Wu, Hassan Hemida

- Overview of IAWE Climate Change Working Group Activities (5 min)
- Overview of Task Group III Activities [Adaptation Strategies] (3 min)
- Overview of Task Group I Activities [Impacts on wind conditions at different regions] (3 min)
- Overview of Task Group II Activities [Mitigation strategies (e.g., advancing codes and standards)] (3 min)
- **Panel Discussion** (31 min)
  Panelists: Hassan Hemida, Frank Kemper, Tracy Kijewski-Correa, Reda Snaiki, Teng Wu, others ...

Part 2: Non-synoptic Winds on Structures & Infrastructures: Realistic Modeling of Wind Loads for Ensuring Safety & Serviceability

Chairs: Girma Bitsuamlak, Luca Caracoglia

- Overview of IAWE Non-Synoptic Winds Working Group Activities (5 min)
- TG1: Super-Long-Span Bridges, in coop. with IABSE (3 min)
- TG2: Buildings, Large Roofs, Cladding/Envelopes (3 min)
- TG3: Wind Energy Structures, Industrial Plants, Transmission Lines, etc. (3 min)
- TA1: Experimental Testing and Large-Scale Facilities (3 min)
- TA2: CFD-LES through supercomputing at very high Re (3 min)
- TA3: Data Collection, Monitoring & Mapping (3 min)
- TA4: Pre-Normative Codification (3 min)
- **Panel Discussion** (16 min)
  Panelists: Girma Bitsuamlak, Lin Zhao, Qingshan Yang, Cruz Y. Li, Partha Sarkar, Luca Patruno