BIOGRAPHICAL AND BIBLIOGRAPHICAL INFORMATION

DEPARTMENT: Civil and Environmental Engineering

A. IDENTIFYING DATA

Name: **Catherine Gorlé**
Current Rank: Assistant Professor

B. ACADEMIC HISTORY

2010 Ph.D., Physics
Von Karman Institute for Fluid Dynamics and
University of Antwerp

2006 Diploma Course, Environmental and Applied Fluid Dynamics
Von Karman Institute for Fluid Dynamics

2005 M.Sc., Aerospace Engineering, Aerodynamics
Delft University of Technology

2002 B.Sc., Aerospace Engineering
Delft University of Technology

C. EMPLOYMENT RECORD

Academic Positions

Jul 2016 – present STANFORD UNIVERSITY
Assistant Professor of Civil and Environmental Engineering

Jan 2015 – Jun 2016 COLUMBIA UNIVERSITY
Assistant Professor of Civil Engineering and Engineering Mechanics

Feb 2014 – Dec 2014 STANFORD UNIVERSITY
Research Associate, Department of Mechanical Engineering

May 2014 POLITECNICO DI MILANO
Visiting Professor, Department of Mechanical Engineering

Oct 2012 – Jan 2014	VON KARMAN INSTITUTE FOR FLUID DYNAMICS Research Professor, Department of Aerospace Engineering
Apr 2013	POLITECNICO DI MILANO Visiting Professor, Department of Mechanical Engineering
Apr 2010 – Sep 2012	STANFORD UNIVERSITY Postdoctoral Fellow, Center for Turbulence Research

Non-Academic Positions

Dec 2008 – Apr 2012	Arcade Engineering Company, Wilrijk, Belgium Freelance Consultant
May 2007 – Apr 2012	FluidDA, Antwerp, Belgium Member of the Board of Directors
Nov 2004 – Jul 2005	BMT Fluid Mechanics, London, UK Student Researcher
Oct 2003 – Apr 2004	The Boeing Company, Mesa, Arizona Intern

D. PROFESSIONAL ACTIVITIES

Scientific committees and conference sessions organized

May 2022	Mini-symposium organizer, "Analysis and Prediction of Wind Effects on the Built Environment", EMI Conference, Baltimore, MD, May 31-Jun 3, 2022.
May 2022	Scientific Committee Member, 14th Americas Conference on Wind Engineering Workshop, Lubbock, TX, May 17-19, 2022.
May 2021	Mini-symposium organizer, "Analysis and Prediction of Wind Effects on the Built Environment", EMI Conference, online, May 25-27, 2021.
May 2021	Scientific Committee Member, 6th American Association of Wind Engineering Workshop, online, May 12-14, 2021.
Jun 2019	Mini-symposium organizer, "Computational and Experimental Methods for Assessing Wind Effects on the Built Environment", EMI Conference, Caltech, CA, June 18-21, 2019.

Oct 2018 – Oct 2019	Co-organizer for Lecture Series at Stanford and at the Von Karman Institute for Fluid Dynamics, sponsored by the Research and Technology Organization of NATO, "Uncertainty Quantification for CFD", Sint-Genesius-Rode, Belgium, October 17-19, 2018 and Stanford, CA, October 10-11, 2019.
Apr 2018	Mini-symposium organizer, "Efficient Uncertainty Quantification for Simulation and Optimization of Industrial Applications", SIAM Conference on Uncertainty Quantification, Garden Grove, CA, April 16-19, 2018.
Jun – Sep 2014	Co-organizer for Lecture Series at Stanford and at the Von Karman Institute for Fluid Dynamics, sponsored by the Research and Technology Organization of NATO, "Uncertainty Quantification for CFD", Stanford, CA, June 2-4, 2014 and Sint-Genesius-Rode, Belgium, September 15-19, 2014.
Jun 2014	Scientific board member, "International Symposium on Computational Wind Engineering", Hamburg, Germany, June 8-12, 2014.
Sep 2013	Co-organizer for workshop, "Computational Methods for Sustainable Building Design", Stanford, CA, September 26-27, 2013.
Jul 2011	Organizer for special technical session, "OpenSource computational tools for wind engineering", 13th International Conference on wind Engineering, Amsterdam, The Netherlands, July 10-15, 2011.
May 2010	Special reviewers board member, International Symposium on Computational Wind Engineering, Chapel Hill, NC, USA, May 23-27, 2010.
2008-2009	Member of COST Action 732, "Quality Assurance and Improvement of Microscale Meteorological Models".

External thesis evaluator

2021	Sofia Fellini, "Modeling pollutant dispersion at the city and street scales: from wind tunnel experiments to complex network theory", Politecnico di Torino.

2018 Stéphanie Zeoli, "Numerical Simulation of Turbulent Flows with Application to Wind Engineering Problems", The University of Mons.

2016 Marcel Vonlanthen, "Multiscale and Turbulent Interactions for Urban Microclimate Prediction", ETH Zurich.

2014 Ashvinkumar Chaudhari, "Large-Eddy Simulation of Wind Flows Over Complex Terrains for Wind Energy Applications", Lappeenranta University of Technology.

Reviewer/advisory service

2021 National Science Foundation (NSF) Reviewer, Physical and Dynamic Meteorology Program

2020 NSF Panelist, Engineering for Civil Infrastructure CAREER Program

2019 NSF Reviewer, Engineering for Civil Infrastructure CAREER Program

2017 NSF Reviewer, Advanced Cyberinfrastructure, Software Institutes

2017 NSF Reviewer, Engineering for Natural Hazards Program

2015, 2017 NSF Panelist, Engineering for Natural Hazards Program

Memberships and Affiliations

2020 – present Member, Engineering Mechanics Institute Fluid Dynamics Committee

2020 – present Board of Directors, American Association for Wind Engineering

2019 – present Member, American Society for Civil Engineers

2018 – present Member, Engineering Mechanics Institute

2014 – 2018 Member, Society of Industrial and Applied Mathematics

2010 – present Member, American Physics Society

Editorial Boards

2021 – present Associate Editor, Frontiers in Built Environment, Wind Engineering and Science Section

2020 – present Associate Editor, Theoretical and Computational Fluid Dynamics

E. UNIVERSITY AND DEPARTMENTAL SERVICE

2021 – 2022 CEE Faculty Search Committee

2021 – present Undergraduate Education Committee

2020 – present Member, Institute for Computational and Mathematical Engineering

2017 – present Affiliated Faculty Member, Woods Institute for the environment

2017 – present CEE Vision Committee

2017 – 2020 CEE Website Committee

2018 – 2019 Woods Institute Environmental Venture Projects Selection Committee

Dissertation Reading Committee Member:
2023 J. Liu, Mechanical Engineering
2021 J. Cardona, Mechanical Engineering
2021 A. Nutkiewicz, Civil and Environmental Engineering
2021 Y. Ping, Civil and Environmental Engineering
2020 C. Fleeter, Institute for Computational and Mathematical Engineering
2019 S. Tarantino, Civil and Environmental Engineering Department

University Oral Examination (Chair):
2022 Y. Shirian, Department of Mechanical Engineering
2021 J. Heyse, Department of Mechanical Engineering
2021 J. Mukhopadhaya, Department of Aeronautics and Astronautics
2020 H. Torres, Department of Mechanical Engineering
2019 T. Geisler, Chemical Engineering Department
2019 S. Mirjalili, Department of Mechanical Engineering
2019 J. Park, Department of Geological Sciences
2018 E. Sinha, Department of Earth System Science
2018 S. Ganguli, Department of Aeronautics and Astronautics
2018 A. Inamdar, Department of Mechanical Engineering
2017 A. Frankel, Department of Mechanical Engineering
2017 J. O'Brien, Department of Mechanical Engineering
2017 H. Abdehkakha, Department of Mechanical Engineering

University Oral Examination (Examiner):
2022 J. H. Kim, Department of Mechanical Engineering
2020 P. Milani, Department of Mechanical Engineering
2018 Y. Shiga, Civil and Environmental Engineering

F. AWARDS AND HONORS

2021	Scanlan Award for Best Doctoral Thesis G. Lamberti
2018	ARUP Global Research Challenge Award
2018	CAREER Award, National Science Foundation
2016 - 2018	Gabilan Fellow, Stanford University
2014	Outstanding Reviewer, Journal of Wind Engineering and Industrial Aerodynamics
2014	Recognized Reviewer, Atmospheric Environment
2012 - 2014	Pegasus Marie Curie Fellow, Research Foundation Flanders, Marie Curie Action
2012	International Postdoctoral Fellowship, Politecnico di Milano (Declined)
2010	Postdoctoral Fellowship, Center for Turbulence Research, Stanford University
2006 - 2010	PhD fellowship, University of Antwerp, Department of Physics
2006	Von Karman Institute Diploma Course with Honors; Belgian Government Price

G. BIBLIOGRAPHICAL INFORMATION

Publications

Statement of the customary practices for order of authors on scholarly publications: Author order is based on percentage of work performed or contributed, except for the PI on the project or paper who is typically listed as last author. Ph.D. student names are in bold, supervised postdoctoral researcher names are in italics.

Refereed Journal Publications

1. **Z. Hao** and C. Gorlé, "A conceptual model to quantify uncertainty in steady-RANS dissipation closure for turbulence behind bluff bodies," Physical Review Fluids, 7, 014607, 2022.
2. G. Pomaranzi, L. Amerio, P. Schito, **G. Lamberti**, C. Gorlé, A. Zasso, "Wind tunnel pressure data analysis for peak cladding load estimation on a high-rise building," Journal of Wind Engineering and Industrial Aerodynamics, 220, 104855, 2022.

3. **C. Chen** and C. Gorlé, "Optimal temperature sensor placement in buildings with buoyancy-driven natural ventilation using computational fluid dynamics and uncertainty quantification," Building and Environment, 207, 108496, 2022.
4. **G. Lamberti** and C. Gorlé, "A multi-fidelity machine learning framework to predict wind loads on building," International Journal of Wind Engineering and Industrial Aerodynamics, 214, 104647, 2021.
5. T. Dauxois, T. Peacock, P. Bauer, C.P. Caulfield, C. Cenedese, C. Gorlé, G. Haller, G.N. Ivey, P.F. Linden, E. Meiburg, N. Pinardi, N.M. Vriend, A.W. Woods, "Confronting Grand Challenges in Environmental Fluid Dynamics," Physical Review Fluids, 6(2), 2021.
6. A. Bar-Cohen, M. Asheghi, T.J. Chainer, S. Garimella, K. Goodson, C. Gorlé, …, Y. Joshi, "The ICECool Fundamentals Effort on Evaporative Cooling of Microelectronics," IEEE Transactions on Components Packaging and Manufacturing Technology, 11(10), 1546-1564, 2021.
7. **G. Lamberti** and C. Gorlé, "Sensitivity of LES predictions of wind loading on a high-rise building to the inflow boundary condition," International Journal of Wind Engineering and Industrial Aerodynamics, 206, 104370 2020.
8. **Z. Hao** and C. Gorlé, "Pressure scrambling effects and the quantification of turbulent scalar flux model uncertainties," Physical Review Fluids, 5, 082501(R), 2020.
9. **G. Lamberti**, L. Amerio, G. Pomaranzi, A. Zasso, C. Gorlé, "Comparison of high resolution pressure peaks in closed and open-section wind tunnels," Journal of Wind Engineering and Industrial Aerodynamics, 104, 104247, 2020.
10. **Z. Hao** and C. Gorlé, "Quantifying turbulence model uncertainty in Reynolds-averaged Navier-Stokes simulations of a pin-fin array. Part I: flow field." Computers & Fluids, 209, 104641, 2020.
11. **Z. Hao** and C. Gorlé, "Quantifying turbulence model uncertainty in Reynolds-averaged Navier-Stokes simulations of a pin-fin array. Part II: scalar transport." Computers & Fluids, 209, 104642, 2020.
12. C. Gorlé, "Improving predictions of the urban wind environment using data," Technology|Architecture + Design, 3:2, 137-141, 2019.
13. *J. Sousa* and C. Gorlé, "Computational urban flow predictions with Bayesian inference: validation with field data," Building and Environment, Vol. 154, pp. 13–22, 2019.
14. **Z. Hao** and C. Gorlé, "Large eddy simulations of forced heat convection in a pin-fin array with a priori examination of an eddy-viscosity turbulence model," International Journal of Heat and Fluid Flow, Vol. 77, pp. 73–83, 2019.
15. C. Gorlé, S. Zeoli, M. Emory, J. Larsson and G. Iaccarino, "Epistemic uncertainty quantification for Reynolds-averaged Navier-Stokes modeling of separated flows over streamlined surfaces," Physics of Fluids, Vol. 3, No. 3, 035101, 2019.
16. *J. Sousa*, **C. García-Sánchez** and C. Gorlé, "Improving urban flow predictions through data assimilation," Building and Environment, Vol. 132, pp. 282–290, 2018.
17. **G. Lamberti** and C. Gorlé, "Uncertainty quantification for modeling night-time ventilation in Stanford's Y2E2 building," Energy and Buildings, Vol. 168, pp. 319-330, 2018.

18. **G. Lamberti**, **C. García-Sánchez**, *J. Sousa* and C. Gorlé, "Optimizing turbulent inflow conditions for large-eddy simulations of the atmospheric boundary layer," Journal of Wind Engineering and Industrial Aerodynamics, Vol. 177, pp. 32-44, 2018.
19. **C. García-Sánchez** and C. Gorlé, "Uncertainty quantification for microscale CFD simulations based on input from mesoscale codes," Journal of Wind Engineering and Industrial Aerodynamics, Vol. 176, pp. 87-97, 2018.
20. **C. García-Sánchez**, J. van Beeck and C. Gorlé, "Predictive large eddy simulations for urban flows: Challenges and opportunities," Building and Environment, Vol. 139, pp. 146–156, 2018.
21. **C. García-Sánchez**, G. Van Tendeloo and C. Gorlé, "Quantifying inflow uncertainties in RANS simulations of urban pollutant dispersion," Atmospheric Environment, Vol. 161, pp. 263-273, 2017.
22. G. Ercolani, C. Gorlé, C. Corbari and M. Mancini, "RAMS sensitivity to grid spacing and grid aspect ratio in large-eddy simulations of the dry neutral atmospheric boundary layer," Computers & Fluids, Vol. 146, pp. 59-73, 2017.
23. H. Lee, D. Agonafer, Y. Won, F. Houshmand, C. Gorlé, M. Asheghi and K. E. Goodson, "Thermal modeling of extreme heat flux microchannel coolers for GaN-on-SiC semiconductor devices," Journal of Electronic Packaging, Vol. 138, No. 1, 010907, 2016.
24. G. Ercolani, C. Gorlé, **C. García-Sánchez**, C. Corbari and M. Mancini, "RAMS and WRF sensitivity to grid spacing in large-eddy simulations of the dry convective boundary layer," Computers & Fluids, Vol. 123, pp. 54–71, 2015.
25. C. Gorlé, **C. García-Sánchez** and G. Iaccarino, "Quantifying inflow and RANS turbulence model form uncertainties for wind engineering flows," Journal of Wind Engineering and Industrial Aerodynamics, Vol. 144, pp. 202-212, 2015.
26. **C. García-Sánchez**, D. Philips and C. Gorlé, "Quantifying inflow uncertainties for CFD simulations of the flow in urban canopies: Joint Urban 2003 case," Building and Environment, Vol. 78, pp. 118-129, 2014.
27. C. Gorlé, J. Larsson, M. Emory and G. Iaccarino, "The deviation from parallel shear flow as an indicator of linear-eddy viscosity model inaccuracy," Physics of Fluids, Vol. 26, 051702, 2014.
28. C. Gorlé and G. Iaccarino, "A framework for epistemic uncertainty quantification of turbulent scalar flux models for RANS simulations," Physics of Fluids, Vol. 25, 055105, 2013.
29. A. Parente, C. Gorlé, J. van Beeck and C. Benocci, "A comprehensive modeling approach for the neutral atmospheric boundary layer: consistent inflow conditions, wall function and turbulence model," Boundary Layer Meteorology, Vol. 140, No. 3, pp. 411-428, 2011.
30. A. Parente, C. Gorlé, J. van Beeck and C. Benocci, "Improved k-ε model and wall function formulation for the RANS simulations of ABL flows," Journal of Wind Engineering and Industrial Aerodynamics, Vol. 99, No. 4, pp. 267-278, 2011.

31. C. Gorlé, J. van Beeck and P. Rambaud, "Dispersion in the wake of a rectangular building: evaluation of two CFD RANS modeling approaches," Boundary-Layer Meteorology, Vol. 137, No. 1, pp. 115-133, 2010.
32. G. Nakiboglu, C. Gorlé, J. van Beeck and B. Blocken, "Stack gas dispersion measurements with Large Scale-PIV, Aspiration Probes and Light scattering Techniques and comparison with CFD." Atmospheric Environment, Vol. 43, No. 21, pp. 3396-3406, 2009.
33. C. Gorlé, J. van Beeck, P. Rambaud and G. van Tendeloo, "CFD modeling of small particle dispersion: the influence of the turbulence kinetic energy in the atmospheric boundary layer," Atmospheric Environment, Vol. 43, No. 3, pp. 673-681, 2009.
34. J. De Backer, W. Vos, C. Gorlé, P. Germonpré, B. Partoens, F. Wuyts, P. Parizel and W. De Backer, "Flow analyses in the lower airways: Patient-specific model and boundary conditions," Medical engineering & physics, Vol. 30, No. 7, 872-879, 2008.

Refereed Journal Publications Submitted

1. **C. Chen** and C. Gorlé , "Characterizing spatial variability in the temperature field to support thermal model validation in a naturally ventilated building," submitted to Building Simulation.
2. **C. Chen** and C. Gorlé , "Full-scale validation of CFD simulations of buoyancy-driven natural ventilation in a three story office building," submitted to Building and Environment.
3. **Y. Hwang** and C. Gorlé, "Identifying similarity relationships for natural ventilation flow rates using large-eddy simulations", submitted to Flow.
4. *Z. Huang*, **M. Ciarlatani**, D. Philips, and C. Gorlé, "Investigation of peak wind loading on a high-rise building using large-eddy simulations," submitted to the Journal of Fluid Mechanics.
5. **Y. Hwang** and C. Gorlé, "Large eddy simulations of wind-driven cross ventilation - Part 1: validation and sensitivity study," submitted to Frontiers in the Built Environment.
6. **Y. Hwang** and C. Gorlé, "Large eddy simulations of wind-driven cross ventilation - Part 2: assessment of different ventilation measures," submitted to Frontiers in the Built Environment.
7. *L.W. Chew*, **C. Chen**, and C. Gorlé, "A multi-fidelity simulation framework for predicting buoyancy-driven natural ventilation", submitted to Building and Environment.

Refereed Conference/Symposia Proceedings

1. **C. Chen** and C. Gorlé, "Full-scale validation of Natural Ventilation Models in Stanford's Y2E2 Building," In: Proceedings of the Building Simulation Conference, Bruges, Belgium, September 1-3, 2021.
2. *L.W. Chew*, **C. Chen** and C. Gorlé, "CFD-based analysis of the discharge coefficient for buoyancy-driven ventilation in a full-scale operational building," In: Proceedings of the Building Simulation Conference, Bruges, Belgium, September 1-3, 2021.
3. **Y. Hwang** and C. Gorlé, "Natural ventilation predictions for a slum house in Dhaka using large-eddy simulations within a multi-fidelity framework with UQ," In: Proceedings of the Building Simulation Conference, Bruges, Belgium, September 1-3, 2021.

4. **M. Ciarlatani**, **Z. Hao** and C. Gorlé, "Addressing turbulence model-form uncertainty," In: 6th American Association of Wind Engineering Workshop – Conference Proceedings, Clemson, SC, pp. 201-203, 2021.
5. **C. Chen** and C. Gorlé, "Full-scale experimental investigations of a naturally ventilated building and validation of simulation models," In: 6th American Association of Wind Engineering Workshop – Conference Proceedings, Clemson, SC, pp. 46-48, 2021.
6. **J. Hochschild** and C. Gorlé, "Modeling natural ventilation in refugee healthcare shelters," In: 6th American Association of Wind Engineering Workshop – Conference Proceedings, Clemson, SC, pp. 20-21, 2021.
7. **J. Hochschild** and C. Gorlé, "An absolute pressure sensing mote for measuring full-scale wind pressure loads on buildings," In: 6th American Association of Wind Engineering Workshop – Conference Proceedings, Clemson, SC, pp. 18-19, 2021.
8. **Y. Hwang** and C. Gorlé, "Large-eddy simulations of combined wind and buoyancy-driven ventilation in a slum house in Dhaka, Bangladesh," In: 6th American Association of Wind Engineering Workshop – Conference Proceedings, Clemson, SC, pp. 121-122, 2021.
9. **T. Vargiemezis** and C. Gorlé, "Evaluation of a multi-fidelity simulation framework for predicting wind pressure loads on buildings," In: 6th American Association of Wind Engineering Workshop – Conference Proceedings, Clemson, SC, pp. 75-77, 2021..
10. **C. Chen** and C. Gorlé, "Temperature measurements in Stanford's Y2E2 building for validation of natural ventilation models," In: Proceedings of the 15th International Conference on Wind Engineering, Beijing, China, 2019.
11. *J. Sousa* and C. Gorlé, "Model Predictive Control for Natural Ventilation Systems," In: Proceedings of the 15th International Conference on Wind Engineering, Beijing, China, 2019.
12. **G. Lamberti** and C. Gorlé, "Investigating inflow uncertainty in LES of wind loading," In: Proceedings of the 15th International Conference on Wind Engineering, Beijing, China, 2019.
13. L. Amerio, **G. Lamberti**, G. Pomaranzi, A. Zasso and C. Gorlé, "Comparison of high resolution pressure peaks in closed and open-section wind tunnels," In: Proceedings of the XV Conference of the Italian Association for Wind Engineering, Napels, Italy, 2018.
14. **G. Lamberti** and C. Gorlé, "Uncertainty quantification for RANS predictions of wind loads on buildings," In: Proceedings of the XV Conference of the Italian Association for Wind Engineering, Napels, Italy, 2018.
15. **C. Chen** and C. Gorlé, "Validating computational predictions of natural ventilation in Stanford's Y2E2 building" In: Proceedings of the 7th International Symposium on Computational Wind Engineering, Seoul, Republic of Korea, 2018.
16. **Y. Hwang**, R. Ho, and C. Gorlé, "Predictive simulations for improving natural ventilation to decrease respiratory illness in the slums of Dhaka, Bangladesh," In: Proceedings of the 7th International Symposium on Computational Wind Engineering, Seoul, Republic of Korea, 2018.
17. *J. Sousa*, **Y. Hwang** and C. Gorlé, "Combining urban flow predictions with field data assimilation: experimental validation," In: Proceedings of the 7th International Symposium on Computational Wind Engineering, Seoul, Republic of Korea, 2018.

18. **G. Lamberti**, **C. García-Sánchez** and C. Gorlé, "Large-eddy simulations of the atmospheric boundary layer for calculating wind loads on buildings," In: Proceedings of the 7th European and African Conference on Wind Engineering, Liège, Belgium, 2017.
19. **G. Lamberti** and C. Gorlé, "Uncertainty quantification of an integral model and a CFD model to predict natural ventilation in Stanford's Y2E2 building," In: Proceedings of the 7th European and African Conference on Wind Engineering, Liège, Belgium, 2017.
20. *J. Sousa* and C. Gorlé, "A new urban test campaign for numerical uncertainty quantification," In: Proceedings of the 7th European and African Conference on Wind Engineering, Liège, Belgium, 2017.
21. **C. García-Sánchez** and C. Gorlé, "Influence of inflow parameter uncertainty in CFD simulations of urban environments," In: Proceedings of the 8th International Colloquium on Bluff Body Aerodynamics and Applications, Boston, MA, USA, 2016.
22. S. Zeoli, L. Bricteux and C. Gorlé, "Turbulence model form uncertainty quantification for bluff body RANS simulations," In: Proceedings of the 8th International Colloquium on Bluff Body Aerodynamics and Applications, Boston, MA, USA, 2016.
23. S. Scholl, C. Gorlé, F. Houshmand, T. Liu, H. Lee, Y. Won, H. Kazemi, M. Ashegi and K. Goodson, "Numerical simulation of advanced monolithic microcooler designs for high heat flux microelectronics," InterPACK Technical Paper Publication, InterPACKICNMM2015-48122, San Francisco, CA, USA, 2015.
24. S. Scholl, C. Gorlé, F. Houshmand, T. Verstraete, M. Ashegi and K. Goodson, "Optimization of a microchannel geometry for cooling high heat flux microelectronics using numerical simulations," InterPACK Technical Paper Publication, InterPACKICNMM2015-48123, San Francisco, CA, USA, 2015.
25. C. Gorlé, P. Parida, H. Lee, F. Houshmand, M. Ashegi and K. Goodson, "Validation study for VOF simulations of boiling in a microchannel," InterPACK Technical Paper Publication, InterPACKICNMM2015-48129, San Francisco, CA, USA, 2015.
26. T. Liu, F. Houshmand, C. Gorlé, S. Scholl, H. Lee, Y. Won, H. Kazemi, M. Ashegi and K. Goodson, "Full scale simulation of an integrated monolithic heat sink for thermal management of a high power density GaN-SiC Chip," InterPACK Technical Paper Publication, InterPACKICNMM2015-48592, San Francisco, CA, USA, 2015.
27. H. Lee, Y. Won, F. Houshmand, C. Gorlé, M. Ashegi and K. Goodson, " Computational modeling of extreme heat flux microcooler for GaN-based HEMT," InterPACK Technical Paper Publication, InterPACKICNMM2015-48670, San Francisco, CA, USA, 2015.
28. A. Sridhar, C.L. Ong, S. Paredes, T. Brunschwiler, P. Parida, E. Colgan, T. Chainer, C. Gorlé and K. Goodson, "Thermal design of a hierarchical radially expanding cavity for two-phase cooling of integrated circuits," InterPACK Technical Paper Publication, InterPACKICNMM2015-48690, San Francisco, CA, USA, 2015.
29. C. Gorlé, A. Chigurupati and G. Iaccarino, "Modeling night-time ventilation in Stanford's Y2E2 building," In: Proceedings of the 14th International Conference on Wind Engineering, Porto Alegre, Brazil, 2015.

30. **C. García-Sánchez**, C. Gorlé, J. van Beeck and G. Iaccarino, "Inflow uncertainty quantification of dispersion in Oklahoma City," In: Proceedings of the 14th International Conference on Wind Engineering, Porto Alegre, Brazil, 2015.
31. C. Gorlé, **C. García-Sánchez** and G. Iaccarino, "Uncertainty quantification for RANS turbulence and mixing models for wind engineering flows," In: Proceedings of the 6th International Symposium on Computational Wind Engineering, Hamburg, Germany, 2014.
32. **C. García-Sánchez**, A. Parente, A. Fisher and C. Gorlé, "Extracting RANS CFD inflow boundary conditions from mesoscale simulations for RANS simulations of the Joint Urban 2003 experiment," In: Proceedings of the 6th International Symposium on Computational Wind Engineering, Hamburg, Germany, 2014.
33. C. Gorlé and G. Iaccarino, "Uncertainty quantification for RANS simulations of dispersion over a wavy wall," In: Proceedings of the 8th International Symposium on Turbulence and Shear Flow Phenomena, Poitiers, France, 2013.
34. C. Gorlé, R. Rossi and G. Iaccarino, "Uncertainty quantification for RANS simulations of flow over a wavy wall," In: Proceedings of the 6th European and African Conference on Wind Engineering, Cambridge, UK, 2013.
35. C. Gorlé, M. Emory and G. Iaccarino, "RANS modeling of turbulent mixing for a jet in supersonic cross flow: model evaluation and uncertainty quantification," In: Proceedings of the 7th International Symposium on Turbulence, Heat and Mass Transfer, Palermo, Sicily, 2012.
36. L. Lignarolo, C. Gorlé, A. Parente and C. Benocci, "Large eddy simulation of the atmospheric boundary layer using OpenFOAM," In: Proceedings of the 13th International Conference on Wind Engineering, Amsterdam, The Netherlands, 2011.
37. C. Gorlé and G. Iaccarino, "Large eddy and Reynolds-averaged Navier-Stokes simulations of an underexpanded sonic jet," In: Proceedings of the 7th European Aerothermodynamics Symposium, Brugge, Belgium, 2011.
38. C. Gorlé, P. Rambaud and J. Van Beeck, "Large eddy simulation of flow and dispersion in the wake of a rectangular building," In: Proceedings of the 5th International symposium on Computational Wind Engineering, Chapel Hill, North Carolina, 2010.
39. A. Parente, C. Gorlé, C. Benocci and J. van Beeck, "RANS simulation of ABL flows: implementation of advanced boundary conditions for mixed rough and smooth surfaces," In: Proceedings of the 5th International symposium on Computational Wind Engineering, , Chapel Hill, North Carolina, 2010.
40. C. Gorlé, J. Van Beeck and P. Rambaud, "RANS CFD modelling of particle dispersion behind a rectangular building in the atmospheric boundary layer," In: Proceedings of the 5th European and African Conference on Wind Engineering, Florence, Italy, 2009.
41. C. Gorlé, J. Sanz and J. van Beeck, "Design of Belgian Polar base: CFD analysis and validation," In: Proceedings of the 12th International Conference on Wind Engineering, Cairns, Australia, pp. 535-542, 2007.

42. J. Sanz, C. Gorlé, J. van Beeck and P. Planquart, "Aerodynamic Design of Princess Elizabeth Belgian Antarctic Research Station," In: Proceedings of the International Workshop on Physical Modelling of Flow and Dispersion Phenomena PHYSMOD 2007, Orléans, France, pp. 53-58, 2007.

Non-refereed Publications

1. C. Gorlé, M. Emory, J. Larson and G. Iaccarino, "Epistemic uncertainty quantification for RANS modeling of the flow over a wavy wall," Technical Report, In: Center for Turbulence Research Annual Research Briefs 2012, pp. 81-91, 2012.
2. O. Marxen, G. Serino, F. Pinna, P. Constantine, C. Gorlé and G. Iaccarino, "Statistical inverse analysis and stochastic modeling of transition," Technical Report, In: Center for Turbulence Research Proceedings of the Summer Program 2012, pp. 189-198, 2012.
3. C. Gorlé, M. Emory and G. Iaccarino, "Epistemic uncertainty quantification of RANS modeling for an underexpanded jet in a supersonic cross flow," Technical Report, In: Center for Turbulence Research Annual Research Briefs 2011, pp. 147-159, 2011.
4. C. Gorlé, M. Gamba and F. Ham. Investigation of an underexpanded hydrogen jet in quiescent air using numerical simulations and experiments. Technical Report, In: Center for Turbulence Research Annual Research Briefs 2010, pp. 249-262, 2010.

Book Chapters

1. C. Gorlé, "Uncertainty quantification for atmospheric boundary layer flows - Part I: Definitions, concepts, and methods" In: CFD for Atmospheric Flows and Wind Engineering, Edited by J.P.A.J. van Beeck, VKI LS 2019-03, ISBN-13 978-2-87516-147-5, 2019.
2. C. Gorlé, "Uncertainty quantification for atmospheric boundary layer flows - Part II: Case studies" In: CFD for Atmospheric Flows and Wind Engineering, Edited by J.P.A.J. van Beeck, VKI LS 2019-03, ISBN-13 978-2-87516-147-5, 2019.
3. C. Gorlé and G. Lamberti "Calculating wind loading using CFD" In: CFD for Atmospheric Flows and Wind Engineering, Edited by J.P.A.J. van Beeck, VKI LS 2019-03, ISBN-13 978-2-87516-147-5, 2019.
4. C. Gorlé, "Uncertainty Quantification for atmospheric boundary layer flows. Part I: Definitions, Concepts, and Methods" In: VKI LS 2017-01, CFD for Atmospheric Flows and Wind Engineering, ISBN-13 978-2-87516-113-0, 2017.
5. C. Gorlé, "Uncertainty Quantification for atmospheric boundary layer flows. Part II: Case Studies" In: VKI LS 2017-01, CFD for Atmospheric Flows and Wind Engineering, ISBN-13 978-2-87516-113-0, 2017.
6. C. Gorlé, "Uncertainty Quantification for atmospheric boundary layer flows," In: VKI LS 2015-02, CFD for Atmospheric Flows and Wind Engineering, ISBN-13 978-2-87516-086-7, 2015.
7. C. Gorlé and G. Iaccarino, "Uncertainty quantification for atmospheric boundary layer flows," In: VKI LS 2013-02, CFD for Atmopheric Flows and Wind Engineering, ISBN-13 978-2-87516-047-8, 2013.
8. J. Sanz Rodrigo, C. Gorlé, Ph. Planquart, J. van Beeck, Ph. Samyn, P. Lecoq and J. Berte, "Wind loading and snow accumulation on the Belgian Antarctic Station, assessed by wind

tunnel testing and CFD," In "Energy Efficiency and New Approaches", pp. 949-957. Edited by N.T. Bayazit et al. ISBN 978-975-561-350-5. 2009.

Presentations

Invited Plenary Talks and Distinguished Lectures

1. C. Gorlé, "Predictive simulations of high-rise building peak pressure loads", 13th International ERCOFTAC Symposium on Engineering Turbulence Modeling and Measurements, September 12-14, 2021.
2. C. Gorlé, "Uncertainty quantification and data assimilation for predictive computational wind engineering," 8th Urban Fluid Mechanics Meeting, virtual, March 29, 2021
3. C. Gorlé, "Predicting the wind pressure coefficient distribution on a high-rise building using computational fluid dynamics," NHERI Webinar Series hosted by the Computational Modeling and Simulation Center and DesignSafe, virtual, June 24, 2020. (Invited presentation on the use of CFD for calculating wind loads; widely attended by the DesignSafe Community.)
4. C. Gorlé, "Natural ventilation of buildings," Urban Land Institute China Mainland Real Estate and Technology Forum, virtual, August 6, 2020.
5. C. Gorlé, "Predictive Simulations of Urban Flow and Dispersion", Environmental Flows: Confronting Grand Challenges Conference, Les Houches, France, January 23-25, 2019.
6. C. Gorlé. Predictive Simulations of Urban Flow and Dispersion. KAUST Research Conference: Predictive Complex Computational Fluid Dynamics. KAUST, Saudi Arabia, May 24th, 2017.

Plenary Talks and Distinguished Lectures Canceled due to COVID

1. C. Gorlé, "Uncertainty quantification and data assimilation for predictive computational wind engineering," 9th International Colloquium on Bluff Body Aerodynamics and Applications, Birmingham, UK, 20-23 July, 2020 (canceled).
2. C. Gorlé, "Predictive simulations of high-rise building peak pressure loads," Conference of the Italian Association of Wind Engineering, Milan, Italy, September, 2020 (canceled).

Other Invited Presentations

1. C. Gorlé, "Predictive Simulations of High-Rise Building Peak Pressure Loads" Institute for High-Performance Computing Signapore Webinar, March 17, 2022.
2. C. Gorlé, "Uncertainty Quantification and Data Assimilation for Predictive Computational Wind Engineering," USACM TTA on Uncertainty Quantification and Probabilistic Modeling Webinar, November 4, 2021.

3. B. Olesen, L. Helsen, C. Gorlé and J. Spitler, "Meet the peers panel discussion," Building Simulation Conference, Bruges, Belgium, September 1-3, 2021.
4. C. Gorlé, "Sensitivity of LES peak pressure load predictions to boundary layer turbulence," UF NHERI Virtual Workshop on Boundary Layer Wind Tunnel Simulation of Transient and Non-synoptic Wind Events, May 19, 2021.
5. C. Gorlé, "Uncertainty Quantification for ABL Flows. Part I: Concepts and Methods" Lecture Series: CFD for Atmospheric Flows and Wind Engineering, Von Karman Institute for Fluid Dynamics, Sint-Genesius-Rode, Belgium, May 4, 2021.
6. C. Gorlé, "Uncertainty Quantification for ABL flows. Part II: Applications," Lecture Series: CFD for Atmospheric Flows and Wind Engineering, Von Karman Institute for Fluid Dynamics, Sint-Genesius-Rode, Belgium, May 4, 2021.
7. C. Gorlé, "Calculating Wind Loads using CFD," Lecture Series: CFD for Atmospheric Flows and Wind Engineering, Von Karman Institute for Fluid Dynamics, Sint-Genesius-Rode, Belgium, May 4, 2021.
8. C. Gorlé, "Uncertainty Quantification in Computational Wind Engineering: Inflow and Turbulence Model Uncertainties," Science and Technology Organization Lecture Series: Uncertainty Quantification for CFD, Stanford, CA, October 10-11, 2019.
9. C. Gorlé, "Uncertainty Quantification for ABL Flows," Lecture Series: CFD for Atmospheric Flows and Wind Engineering, Von Karman Institute for Fluid Dynamics, Sint-Genesius-Rode, Belgium, May 8, 2019.
10. C. Gorlé, "Predictive Simulations of Urban Flow and Dispersion," Lecture Series: CFD for Atmospheric Flows and Wind Engineering, Von Karman Institute for Fluid Dynamics, Sint-Genesius-Rode, Belgium, May 8, 2019.
11. C. Gorlé, "Calculating Wind Loading using CFD," Lecture Series: CFD for Atmospheric Flows and Wind Engineering, Von Karman Institute for Fluid Dynamics, Sint-Genesius-Rode, Belgium, May 8, 2019.
12. C. Gorlé, 2019, "Predictive Simulations of Urban Flow and Dispersion", Arup Digital Wind Forum, New York, NY, December 5, 2018.
13. C. Gorlé, "Introduction to Uncertainty Quantification", Science and Technology Organization Lecture Series: Uncertainty Quantification for CFD, Von Karman Institute for Fluid Dynamics, Sint-Genesius-Rode, Belgium, October 15-19, 2018.
14. C. Gorlé, "Uncertainty Quantification for ABL flows," Lecture Series: CFD for Atmospheric Flows and Wind Engineering, Von Karman Institute for Fluid Dynamics, Sint-Genesius-Rode, Belgium, March 29, 2017.
15. C. Gorlé, "Predictive Simulations of Urban Flow and Dispersion," Lecture Series: CFD for Atmospheric Flows and Wind Engineering, Von Karman Institute for Fluid Dynamics, Sint-Genesius-Rode, Belgium, March 29, 2017.
16. C. Gorlé, "Epistemic Uncertainty Quantification for RANS turbulence models," Science and Technology Organization Lecture series: Uncertainty Quantification for CFD, Stanford, CA and Sint-Genesius-Rode, Belgium, June and September, 2015.

17. C. Gorlé, "Uncertainty Quantification for Atmospheric Boundary Layer Flows," VKI Lecture Series on Atmopheric Boundary Layer Modeling for Wind Engineering Applications, Sint-Genesius-Rode, Belgium, February 2015.
18. C. Gorlé, "Validation of Volume-of-Fluid simulations for predicting two-phase cooling in a micro channel," DARPA IceCOOL modeling workshop, Arlington, VA, January 2015.
19. C. Gorlé, "Predictive computations for the design of buildings and cities," Workshop on Computational Methods for Sustainable Building Design, Stanford, CA, October, 2013.
20. C. Gorlé, "Urban Pollutant Dispersion and Uncertainty Quantification for Atmospheric Boundary Layer Flows," Urban Physics Autumn School, Thessaloniki, Greece, September, 2013.
21. C. Gorlé, "High Speed Turbulent Mixing," VKI Lecture Series on High Speed Turbulence, Sint-Genesius-Rode, Belgium, May 2013.
22. C. Gorlé. "Uncertainty Quantification for Atmospheric Boundary Layer Flows," VKI Lecture Series on Atmopheric Boundary Layer Modeling for Wind Engineering Applications, Sint-Genesius-Rode, Belgium, March 2013.

Contributed Conference Presentations

1. **M. Ciarlatani**, **Z. Hao** and C. Gorlé, "LES-informed RANS predictions," 74th Annual Meeting of the APS Division of Fluid Dynamics, Phoenix, AZ, November 21–23, 2021.
2. *L.W. Chew*, **C. Chen** and C. Gorlé, "Simulating natural ventilation in buildings using CFD: importance of thermal boundary conditions," 74th Annual Meeting of the APS Division of Fluid Dynamics, Phoenix, AZ, November 21–23, 2021.
3. **J. Hochschild** and C. Gorlé, "Modeling natural ventilation in refugee healthcare shelters," 74th Annual Meeting of the APS Division of Fluid Dynamics, Phoenix, AZ, November 21–23, 2021.
4. **T. Vargiemezis** and C. Gorlé, "Comparison of RANS, LES and wind tunnel experiments for the calculation of wind loads on low-rise buildings," 74th Annual Meeting of the APS Division of Fluid Dynamics, Phoenix, AZ, November 21–23, 2021.
5. **Y. Hwang** and C. Gorlé, "Similarity relations for combined wind and buoyancy-driven natural ventilation using CFD," 74th Annual Meeting of the APS Division of Fluid Dynamics, Phoenix, AZ, November 21–23, 2021.
6. **C. Chen** and C. Gorlé, "Full-scale validation of Natural Ventilation Models in Stanford's Y2E2 Building," Building Simulation Conference, Bruges, Belgium, September 1-3, 2021.
7. *L.W. Chew*, **C. Chen** and C. Gorlé, "CFD-based analysis of the discharge coefficient for buoyancy-driven ventilation in a full-scale operational building," Building Simulation Conference, Bruges, Belgium, September 1-3, 2021.
8. **Y. Hwang** and C. Gorlé, "Natural ventilation predictions for a slum house in Dhaka using large-eddy simulations within a multi-fidelity framework with UQ," Building Simulation Conference, Bruges, Belgium, September 1-3, 2021.
9. **M. Ciarlatani, G. Lamberti** and C. Gorlé, "Influence of terrain exposure and Reynolds number on the peak pressure coefficient measured on a high-rise building," Engineering Mechanics Institute Conference, online, May 25-28, 2021.
10. **C. Chen** and C. Gorlé, "Full-scale validation of natural ventilation models with uncertainty quantification," Engineering Mechanics Institute Conference, online, May 25-28, 2021.

11. **Y. Hwang** and C. Gorlé, "Uncertainty quantification for modeling ventilation in a slum house in Dhaka, Bangladesh," Engineering Mechanics Institute Conference, online, May 25-28, 2021.
12. **T. Vargiemezis** and C. Gorlé, "CFD-based design of experiments for quantifying interference effects in the prediction of wind loads on a low-rise building," Engineering Mechanics Institute Conference, online, May 25-28, 2021.
13. **M. Ciarlatani**, **Z. Hao** and C. Gorlé, "Addressing turbulence model-form uncertainty," 6th American Association of Wind Engineering Workshop, online, May 12-14, 2021.
14. **C. Chen** and C. Gorlé, "Full-scale experimental investigations of a naturally ventilated building and validation of simulation models," May 12-14, 2021.
15. **J. Hochschild** and C. Gorlé, "Modeling natural ventilation in refugee healthcare shelters," 6th American Association of Wind Engineering Workshop, online, May 12-14, 2021.
16. **J. Hochschild** and C. Gorlé, "An absolute pressure sensing mote for measuring full-scale wind pressure loads on buildings," 6th American Association of Wind Engineering Workshop, online, May 12-14, 2021.
17. **Y. Hwang** and C. Gorlé, "Large-eddy simulations of combined wind and buoyancy-driven ventilation in a slum house in Dhaka, Bangladesh," 6th American Association of Wind Engineering Workshop, online, May 12-14, 2021.
18. **T. Vargiemezis** and C. Gorlé, "Evaluation of a multi-fidelity simulation framework for predicting wind pressure loads on buildings," 6th American Association of Wind Engineering Workshop, online, May 12-14, 2021.
19. **T. Vargiemezis** and C. Gorlé, "Evaluation of a polynomial-chaos based multi-fidelity simulation framework for predicting wind pressure loads on buildings," 73rd Annual Meeting of the APS Division of Fluid Dynamics, Virtual, November 22–24, 2020.
20. **J. Hochschild** and C. Gorlé, "Design and Testing of an Absolute Pressure Sensor Mote to Measure Full-Scale Wind Pressure Loads on Buildings, 73rd Annual Meeting of the APS Division of Fluid Dynamics, Virtual, November 22–24, 2020.
21. **Y. Hwang** and C. Gorlé, "A multi-fidelity simulation framework with uncertainty quantification for predicting natural ventilation in a slum house in Dhaka, Bangladesh," 73rd Annual Meeting of the APS Division of Fluid Dynamics, Virtual, November 22–24, 2020.
22. **M. Ciarlatani**, *Z. Hao* and C. Gorlé, LES-informed RANS Predictions, 73rd Annual Meeting of the APS Division of Fluid Dynamics, Virtual, November 22–24, 2020.
23. **C. Chen** and C. Gorlé, Full-scale validation of natural ventilation models using uncertainty quantification, 73rd Annual Meeting of the APS Division of Fluid Dynamics, Virtual, November 22–24, 2020.
24. **Y. Hwang**, M. Hasan, L. Kwong, F. Nizame, S. Luby and C. Gorlé, "Modeling ventilation in an urban-slum home in Dhaka, Bangladesh," 72nd Annual Meeting of the APS Division of Fluid Dynamics, Seattle, WA November 23–26, 2019.
25. **G. Lamberti** and C. Gorlé, "Data-driven predictions of root mean square pressure fluctuations from RANS simulations," 72nd Annual Meeting of the APS Division of Fluid Dynamics, Seattle, WA November 23–26, 2019.
26. **C. Chen** and C. Gorlé, "Uncertainty quantification in CFD simulations of natural ventilation to support designing experiments for model validation," 72nd Annual Meeting of the APS Division of Fluid Dynamics, Seattle, WA November 23–26, 2019.

27. **Z. Hao** and C. Gorlé, "Uncertainty quantification of the scale determination in steady RANS modeling for turbulence with large-scale structures," 72nd Annual Meeting of the APS Division of Fluid Dynamics, Seattle, WA November 23–26, 2019.
28. **C. Chen** and C. Gorlé, "Temperature measurements in Stanford's Y2E2 building for validation of natural ventilation models," International Conference of Wind Engineering, Beijing, China, September 2-6, 2019.
29. **G. Lamberti** and C. Gorlé, "Investigating inflow uncertainty in LES of wind loading," International Conference of Wind Engineering, Beijing, China, September 2-6, 2019.
30. *J. Sousa* and C. Gorlé, "Model predictive control for natural ventilation systems", International Conference of Wind Engineering, Beijing, China, September 2-6, 2019.
31. **C. Chen** and C. Gorlé, "CFD-based design of experiments for validation of natural ventilation models in Stanford's Y2E2 building," Engineering Mechanics Institute Conference, Pasadena, CA, June 18-21, 2019.
32. **Y. Hwang**, L. H. Kwong, J. Forsyth, M. Hasan, S. Rahman, F. A. Nizame, S. P. Luby, and C. Gorlé, "Modeling ventilation in a slum house in Dhaka, Bangladesh," Engineering Mechanics Institute Conference, Pasadena, CA, June 18-21, 2019.
33. **G. Lamberti** and C. Gorlé, "Investigating inflow uncertainty in LES predictions of wind loading", Engineering Mechanics Institute Conference, Pasadena, CA, June 18-21, 2019.
34. *J. Sousa* and C. Gorlé, "Inflow boundary conditions for urban flow prediction using data assimilation", Engineering Mechanics Institute Conference, Pasadena, CA, June 18-21, 2019.
35. **Y. Hwang**, L. H. Kwong, J. Forsyth, M. Hasan, S. Rahman, F.A.Nizame, S.P.Luby, C. Gorlé, "Modeling ventilation in a slum house in Dhaka, Bangladesh," Engineering Mechanics Institute Conference, Pasadena, CA, June 18-21, 2019.
36. **G. Lamberti** and C. Gorlé, "Predictive simulations for wind loads on buildings", SIAM Conference on Uncertainty Quantification, Garden Grove, CA, April 16-19, 2018.
37. *J. Sousa* and C. Gorlé, "Validation of a framework for data assimilation and uncertainty quantification for urban flow predictions", SIAM Conference on Uncertainty Quantification, Garden Grove, CA, April 16-19, 2018.
38. **Z. Hao** and C. Gorlé, "Quantifying Structural Uncertainty in Reynolds-averaged Navier-Stokes Turbulence Models for Simulations of Heat Exchangers", SIAM Conference on Uncertainty Quantification, Garden Grove, CA, April 16-19, 2018.
39. **Y. Hwang** and C. Gorlé, "Predictive simulations for improving natural ventilation to decrease respiratory illness in slums of Dhaka, Bangladesh", 7th International Symposium on Computational Wind Engineering, Seoul, Republic of Korea, June 18-22, 2018.
40. *J. Sousa* and C. Gorlé, "Combining urban flow predictions with field data assimilation: Experimental validation", 7th International Symposium on Computational Wind Engineering, Seoul, Republic of Korea, June 18-22, 2018.
41. **C. Chen** and C. Gorlé, "Validating computational predictions of natural ventilation in Stanford's Y2E2 building", 7th International Symposium on Computational Wind Engineering, Seoul, Republic of Korea, June 18-22, 2018.

42. **G. Lamberti** and C. Gorlé, "Uncertainty quantification for RANS prediction of wind loads on buildings", IN-VENTO 2018, XV Conference of the Italian Association for Wind Engineering, Napoli, Italy, September 9-12, 2018.
43. L. Amerio, **G. Lamberti**, G. Pomaranzi, A. Zasso, and C. Gorlé, 2018, "Comparison of high-resolution pressure peaks in closed and open-section wind tunnels", IN-VENTO 2018, XV Conference of the Italian Association for Wind Engineering, September 9-12, Napoli, Italy.
44. C. Gorlé and **G. Lamberti.** "Quantifying inflow uncertainty in CFD predictions for wind pressure coefficients on buildings", Engineering Mechanics Institute Conference, Cambridge, MA, May 29-June 1, 2018.
45. **G. Lamberti** and C. Gorlé, 2018, "Investigating inflow uncertainty in LES prediction of wind loading", 71st Annual Meeting of the APS Division of Fluid Dynamics, Atlanta, GA, November 18–20, 2018.
46. **C. Chen** and C. Gorlé, 2018, "Validating computational predictions of natural ventilation in Stanford's Y2E2 building", 71st Annual Meeting of the APS Division of Fluid Dynamics, Atlanta, GA, November 18–20, 2018.
47. **P. Zhu,** F. Mayer, O. Fringer, and C. Gorlé, 2018, "Quantification of uncertainty due to spectral parameterization of topography in deep-ocean lee waves", 71st Annual Meeting of the APS Division of Fluid Dynamics, Atlanta, GA, November 18–20, 2018.
48. **Y. Hwang** and C. Gorlé, 2018, "Predictive simulations for quantifying ventilation in slum housing in Dhaka, Bangladesh", 71st Annual Meeting of the APS Division of Fluid Dynamics, Atlanta, GA, November 18–20, 2018.
49. **Z. Hao** and C. Gorlé. "A physics-based approach for quantifying the structural uncertainties for turbulent scalar flux models", 71st Annual Meeting of the APS Division of Fluid Dynamics, Atlanta, GA, November 18–20, 2018.
50. C. Gorlé and **C. García-Sánchez**. Large-eddy simulation of the flow in downtown Oklahoma City. APS Division of Fluid Dynamics Conference, Denver, November 19-21, 2017.
51. **G. Lamberti** and C. Gorlé. Optimizing inflow boundary conditions for LES of wind loading. APS Division of Fluid Dynamics Conference, Denver, November 19-21, 2017.
52. **Z. Hao** and C. Gorlé. Quantifying Structural Uncertainties for RANS modeling of Turbulent Scalar Transport. APS Division of Fluid Dynamics Conference, Denver, November 19-21, 2017.
53. **Y. Hwang**, *J. Sousa* and C. Gorlé. Quantifying the influence of geometrical details on urban canopy flow simulations. APS Division of Fluid Dynamics Conference, Denver, November 19-21, 2017.
54. *J. Sousa* and C. Gorlé. Improving urban wind flow predictions through data assimilation. APS Division of Fluid Dynamics Conference, Denver, November 19-21, 2017.
55. **C. García-Sánchez** and C. Gorlé. Inflow uncertainty definition for atmospheric flows in urban and rural environments. The 7th European and African Conference on Wind Engineering. Liege, Belgium, July 4-7, 2017.

56. C. Gorlé, **G. Lamberti** and **C. García-Sánchez**. Large-eddy simulations of the atmospheric boundary layer for calculating wind loads on buildings. The 7th European and African Conference on Wind Engineering. Liege, Belgium, July 4-7, 2017.
57. **G. Lamberti** and C. Gorlé. Uncertainty quantification of an integral model and a CFD model to predict natural ventilation in Stanford's Y2E2 building. The 7th European and African Conference on Wind Engineering. Liege, Belgium, July 4-7, 2017.
58. *J. Sousa* and C. Gorlé. A New Urban Test Campaign for Numerical Uncertainty Quantification. The 7th European and African Conference on Wind Engineering. Liege, Belgium, July 4-7, 2017.
59. S. Zéoli, L. Bricteux and C. Gorlé. RANS Turbulence Model Form Uncertainty Quantification for the flow around a wall-mounted cube. The 7th European and African Conference on Wind Engineering. Liege, Belgium, July 4-7, 2017.
60. **C. García-Sánchez** and C. Gorlé. On the use of the weather research and forecasting model to define inflow uncertainty for atmospheric boundary layer simulation. 13th Americas Conference on Wind Engineering, Gainesville, Florida, May 21-24, 2017.
61. **G. Lamberti** and C. Gorlé. Generating a turbulent inflow for LES of wind loading. 13th Americas Conference on Wind Engineering, Gainesville, Florida, May 21-24, 2017.
62. *J. Sousa* and C. Gorlé. Numerical Design of a Field Campaign on Stanford's Campus. 13th Americas Conference on Wind Engineering, Gainesville, Florida, May 21-24, 2017.
63. C. Gorlé and **C. García-Sánchez**. Quantifying uncertainties in coupled meso-scale weather forecasting and urban-scale CFD simulations. 2017 SIAM Conference on Computational Science and Engineering, Atlanta, Georgia, February 27 - March 3, 2017.
64. **C. García-Sánchez** and C. Gorlé. Uncertainty Quantification for atmospheric flows: natural terrain and urban area applications. Presented at the APS DFD Conference, Portland, November 20-22, 2016.
65. C. Gorlé, S. Zéoli and L. Bricteux. RANS turbulence model form uncertainty quantification for wind engineering flows. Presented at the APS DFD Conference, Portland, November 20-22, 2016.
66. **G. Lamberti** and C. Gorlé. Predicting night-time natural ventilation in Stanford's Y2E2 building using an integral model in combination with a CFD model. Presented at the APS DFD Conference, Portland, November 20-22, 2016.
67. **Z. Hao** and C. Gorlé. Investigation of RANS Model Deficiencies for Flow and Heat Transfer Simulations in a Pin-Fin Array. Presented at the APS DFD Conference, Portland, November 20-22, 2016.
68. **C. García-Sánchez**, and C. Gorlé. Influence of inflow parameter uncertainty in CFD simulations of urban environments. Presented at the 8th International Colloquium on Bluff Body Aerodynamics and Applications, Northeastern University, Boston, Massachusetts, USA June 7 - 11, 2016.
69. S. Zéoli, L. Bricteux and C. Gorlé. Turbulence model form uncertainty quantification for bluff body RANS simulations. Presented at the 8th International Colloquium on Bluff Body

Aerodynamics and Applications, Northeastern University, Boston, Massachusetts, USA June 7 - 11, 2016.

70. C. Gorlé and G. **Lamberti.** Uncertainty Quantification for modeling nighttime ventilation in Stanford's Y2E2 building. Presented at the 2016 SIAM conference on Uncertainty Quantification. Lausanne, Switzerland, April 5-8, 2016.
71. **C. García-Sánchez** and C. Gorlé. Uncertainty Quantification for modeling nighttime ventilation in Stanford's Y2E2 building. Presented at the 2016 SIAM conference on Uncertainty Quantification. Lausanne, Switzerland, April 5-8, 2016.
72. C. Gorlé and **Z. Hao**. Quantifying turbulence model form uncertainty in RANS simulations of complex flow and scalar transport. Presented at the 2016 SIAM conference on Uncertainty Quantification. Lausanne, Switzerland, April 5-8, 2016.
73. S. Scholl, C. Gorlé, F. Houshmand, T. Liu, H. Lee, Y. Won, H. Kazemi, M. Ashegi and K. Goodson, "Numerical simulation of advanced monolithic microcooler designs for high heat flux microelectronics," ASME InterPACK/ICNMM 2015, San Francisco, CA, July 2015.
74. S. Scholl, C. Gorlé, F. Houshmand, T. Verstraete, M. Ashegi and K. Goodson, "Optimization of a microchannel geometry for cooling high heat flux microelectronics using numerical simulations," ASME InterPACK/ICNMM 2015, San Francisco, CA, July 2015.
75. C. Gorlé, P. Parida, H. Lee, F. Houshmand, M. Ashegi and K. Goodson, "Validation study for VOF simulations of boiling in a microchannel," ASME InterPACK/ICNMM 2015, San Francisco, CA, July 2015.
76. T. Liu, F. Houshmand, C. Gorlé, S. Scholl, H. Lee, Y. Won, H. Kazemi, M. Ashegi and K. Goodson, "Full scale simulation of an integrated monolithic heat sink for thermal management of a high power density GaN-SiC Chip," ASME InterPACK/ICNMM 2015, San Francisco, CA, July 2015.
77. H. Lee, Y. Won, F. Houshmand, C. Gorlé, M. Ashegi and K. Goodson, "Computational modeling of extreme heat flux microcooler for GaN-based HEMT," ASME InterPACK/ICNMM 2015, San Francisco, CA, July 2015.
78. A. Sridhar, C.L. Ong, S. Paredes, T. Brunschwiler, P. Parida, E. Colgan, T. Chainer, C. Gorlé and K. Goodson, "Thermal design of a hierarchical radially expanding cavity for two-phase cooling of integrated circuits," ASME InterPACK/ICNMM 2015, San Francisco, CA, July 2015.
79. C. Gorlé, A. Chigurupati and G. Iaccarino, "Modeling night-time ventilation in Stanford's Y2E2 building," 14th International Conference on Wind Engineering, Porto Allegre, Brazil, June 2015.
80. **C. García-Sánchez**, C. Gorlé, J. van Beeck and G. Iaccarino, "Inflow uncertainty quantification of dispersion in Oklahoma City," 14th International Conference on Wind Engineering, Porto Allegre, Brazil, June 2015.
81. L. Amerio, A. Zasso, S. Giappino, **D. Koti** and C. Gorlé, "Comparison between experimental and large-eddy simulation of the atmospheric boundary layer using geometrical representation

of the roughness and a digital filter inlet technique," 3rd symposium on OpenFOAM in wind energy, Milan, Italy, June 2015.

82. C. Gorlé, **C. García-Sánchez** and G. Iaccarino, "Predicting Pollutant Dispersion in Urban Canopies using an Inflow UQ Study," 1st International Conference on Uncertainty Quantification in Computational Sciences and Engineering, Crete, Greece, May 2015.
83. C. Gorlé, **C. García-Sánchez** and G. Iaccarino, "Predicting Turbulent Flow and Pollutant Dispersion in Oklahoma City," Thermal and Fluid Sciences Affiliates Conference, Stanford, CA, January 2015.
84. **C. García-Sánchez**, C. Gorlé, J. Van Beeck and G. Iaccarino, "Uncertainty quantification of RANS dispersion modeling in Oklahoma City during the JU2003 field experiment," 67th Annual Division of Fluid Dynamics Meeting of the American Physical Society, San Francisco, CA, November 2014.
85. C. Gorlé, P. Parida, F. Houshmand, M. Ashegi and K. Goodson, "Volume-Of-Fluid Simulation for Predicting Two-Phase Cooling in a Microchannel," 67th Annual Division of Fluid Dynamics Meeting of the American Physical Society, San Francisco, CA, November 2014.
86. C. Gorlé, **C. García-Sánchez** and G. Iaccarino, "Uncertainty quantification for RANS turbulence and mixing models for wind engineering flows," 6th International Symposium on Computational Wind Engineering, Hamburg, Germany, June 2014.
87. **C. García-Sánchez**, A. Parente, A. Fisher and C. Gorlé, "Extracting RANS CFD inflow boundary conditions from mesoscale simulations for RANS simulations of the Joint Urban 2003 experiment," 6th International Symposium on Computational Wind Engineering, Hamburg, Germany, June 2014.
88. C. Gorlé, M. Emory and G. Iaccarino, "Quantification of model-form uncertainty in turbulence mixing models," 2014 SIAM Conference on Uncertainty Quantification, Savanah, GA, March 2014.
89. G. Iaccarino, M. Emory and C. Gorlé. Quantification of model-form uncertainty in turbulence closures. 2014 SIAM Conference on Uncertainty Quantification, Savanah, GA, March 2014.
90. C. Gorlé, C. García-Sánchez and G. Iaccarino, "Uncertainties in Urban Canopy Flow Simulations," Thermal and Fluid Sciences Affiliates Conference, Stanford, CA, February 2014.
91. C. Gorlé, **C. García-Sánchez**, D. Philips and G. Iaccarino, "Quantifying the effect of inflow variability in RANS simulations of the JU2003 field experiment," 66th Annual Division of Fluid Dynamics Meeting of the American Physical Society, Pittsburgh, PA, November 2013.
92. C. Gorlé and G. Iaccarino, "Uncertainty quantification for RANS simulations of dispersion over a wavy wall," 8th International Symposium on Turbulence and Shear Flow Phenomena, Poitiers, France, August 2013.
93. C. Gorlé, R. Rossi and G. Iaccarino, "Uncertainty quantification for RANS simulations of flow over a wavy wall," 6th European and African Conference on Wind Engineering, Cambridge, UK, July 2013.

94. C. Gorlé, M. Emory and G. Iaccarino, "Uncertainty in predicting turbulent separated flow," Thermal and Fluid Sciences Affiliates Conference, Stanford, CA, February 2013.
95. C. Gorlé, R. Rossi and G. Iaccarino, "Evaluation and quantification of uncertainty of RANS turbulence and turbulent mixing models for a separated flow," 65th Annual Division of Fluid Dynamics Meeting of the American Physical Society, San Diego, CA, November 2012.
96. O. Marxen, F. Pinna, P. Constantine, C. Gorlé and G. Iaccarino, "Statistical inverse analysis of supersonic boundary-layer transition," 65th Annual Division of Fluid Dynamics Meeting of the American Physical Society, San Diego, CA, November 2012.
97. J. Larsson, M. Emory, P.Constantine, N. Kseib, J. Urzay, F. Palacios, C. Gorlé and G. Iaccarino, "Quantification of multiple types of uncertainties in the hyshot II scramjet," 65th Annual Division of Fluid Dynamics Meeting of the American Physical Society, San Diego, CA, November 2012.
98. C. Gorlé, M. Emory and G. Iaccarino, "RANS modeling of turbulent mixing for a jet in supersonic cross flow: model evaluation and uncertainty quantification," In: Proceedings of the 7th International Symposium on Turbulence, Heat and Mass Transfer, Palermo, Sicily, September 2012.
99. C. Gorlé, M. Emory and G. Iaccarino, "Uncertainty quantification in turbulent mixing models," Thermal and Fluid Sciences Affiliates Conference, Stanford, CA, February 2012.
100. C. Gorlé, M. Emory and G. Iaccarino, "Uncertainty of RANS mixing model prediction for an underexpanded jet in asupersonic cross flow," 64th Annual Division of Fluid Dynamics Meeting of the American Physical Society, Baltimore, MD, November 2011.
101. L. Lignarolo, C. Gorlé, A. Parente and C. Benocci, "Large eddy simulation of the atmospheric boundary layer using OpenFOAM," 13th International Conference on Wind Engineering, Amsterdam, The Netherlands, July 2011.
102. C. Gorlé and G. Iaccarino, "Large eddy and Reynolds-averaged Navier-Stokes simulations of an underexpanded sonic jet," 7th European Aerothermodynamics Symposium, Brugge, Belgium, May 2011.
103. C. Gorlé, J. Fike, K. Durhaisamy and P. Moin, "LES, RANS simulations and Schlieren imaging of an underexpanded jet," Thermal and Fluid Sciences Affiliates Conference, Stanford, CA, February 2011.
104. C. Gorlé, M. Gamba and F. Ham, "Large eddy simulation of an underexpanded sonic jet," 63th Annual Division of Fluid Dynamics Meeting of the American Physical Society, Longbeach, CA, November 2010.
105. C. Gorlé, P. Rambaud and J. Van Beeck, "Large eddy simulation of flow and dispersion in the wake of a rectangular building," 5th International symposium on Computational Wind Engineering, Chapel Hill, NC, May 2010.
106. A. Parente, C. Gorlé, C. Benocci and J. van Beeck, "RANS simulation of ABL flows: implementation of advanced boundary conditions for mixed rough and smooth surfaces," 5th International symposium on Computational Wind Engineering, Chapel Hill, NC, May 2010.

107. C. Gorlé, J. Van Beeck and P. Rambaud, "RANS CFD modelling of particle dispersion behind a rectangular building in the atmospheric boundary layer," 5th European and African Conference on Wind Engineering, Florence, Italy, 2009.
108. J. De Backer, W. Vos, C. Gorlé, B. Partoens, P. Parizel and W. De Backer, "Effect of patient specific characteristics on deposition behavior in central airways." American Thoracic Society 2008, Toronto, Canada, 2008.
109. J. Sanz, C. Gorlé, J. van Beeck and P. Planquart, "Aerodynamic Design of Princess Elizabeth Belgian Antarctic Research Station," International Workshop on Physical Modelling of Flow and Dispersion Phenomena PHYSMOD 2007, Orléans, France, pp. 53-58, August 2007.
110. C. Gorlé, J. Sanz and J. van Beeck, "Design of Belgian Polar base: CFD analysis and validation," 12th International Conference on Wind Engineering, Cairns, Australia, pp. 535-542, July 2007.
111. J. De Backer, W. Vos, A. Devolder, C. Gorlé, B. Partoens, P. Germonpré, P. Parizel and W. De Backer, "Comparison between gamma scintigraphy and image-based assessment of lower airway ventilation using Computational Fluid Dynamics," American Thoracic Society 2007, San Francisco, CA, May 2007.
112. J. De Backer, C. Gorlé, A. Devolder, P. Van de Heyning, D. Van Dijck, J. Verbraecken and W. De Backer, "Correlation between the effect of a mandibular advancement device on AHI and the change in intraluminal pressure using Computational Fluid Dynamics," American Thoracic Society 2006, San Diego, CA, May 2006.
113. J. De Backer, C. Gorlé, O. Vanderveken, W. Wittesaele, J. Verbraecken, E. Oostveen, F. Wuyts, P. Van de Heyning and W. De Backer, "Modeling of upper airway collapse in OSA patients based on Computational Fluid Dynamics," American Thoracic Society Conference, San Diego, CA, May 2005.
114. J. De Backer, C. Gorlé, O. Vanderveken, W. Wittesaele, F. Wuyts, P. Parizel, P. Van de Heyning and W. De Backer, "Assessment of a Mandibular Advancement Device in a sleep apnea patient using Computational Fluid Dynamics," American Thoracic Society 2005, San Diego, CA, May 2005.

Department Seminars

1. C. Gorlé, "Predictive Simulations of High-Rise Building Peak Wind Pressure Loads," Mechanical Engineering and Applied Mechanics seminar, University of Pennsylvania, November 30, 2021.
2. C. Gorlé, "Uncertainty quantification and data assimilation for predictive computational wind engineering," Mechanical and Aerospace Engineering seminar, Princeton University, April 9, 2021.
3. C. Gorlé, "Uncertainty quantification and data assimilation for predictive computational wind engineering," Center for Environmental and Applied Fluid Mechanics seminar, Johns Hopkins University, February 12, 2021.

4. C. Gorlé, "Quantifying uncertainty in computational fluid dynamics simulations for wind engineering", Aerospace Engineering Seminar, University of Illinois at Urbana Champaign, November 11, 2019.
5. C. Gorlé, "Uncertainty quantification and data assimilation for predictive computational wind engineering," Saint-Anthony Falls Lab Seminar, University of Minnesota, November 5, 2019.
6. Gorlé, C. "Predictive Computational Wind Engineering: Quantifying and Reducing Inflow and Turbulence Model Uncertainties," Environmental Engineering Seminar, Stanford University, October 14, 2019.
7. C. Gorlé, "Quantifying Inflow and Turbulence Model Uncertainties in Urban Flow Simulations," GALCIT Seminar, October 4, 2019.
8. C. Gorlé, "Predictive Simulations of Urban Flow and Dispersion," Berkeley Atmospheric Sciences Center Seminar," Berkeley, January 30, 2019.
9. C. Gorlé, "Predictive Simulations of Urban Flow and Dispersion," Fluid Mechanics Seminar, Stanford University, February 21, 2017.
10. C. Gorlé, "Computational Wind Engineering for Sustainable Cities," A/E seminar, Department of Civil and Environmental Engineering, Stanford University, April 4, 2017.
11. C. Gorlé, "Uncertainty Quantification in RANS Simulations of Urban Flow and Dispersion," EES/EFMH seminar, Department of Civil and Environmental Engineering, Stanford University, June 4, 2017.
12. C. Gorlé, "Uncertainty Quantification for CFD Simulations of Urban Flow and Dispersion," Arts et Métiers Paristech, September 29, 2017.
13. C. Gorlé, "Predictive flow simulations for the development of sustainable urban environments," Department seminar at the Wind Engineering and Renewable Energy Laboratory, EPFL, Lausanne, Switzerland, April 8, 2016.
14. C. Gorlé, "Epistemic Uncertainty Quantification for Turbulence and Turbulent Mixing Modeling," SANDIA seminar, Albuquerque, NM, May 2015.
15. C. Gorlé, "Quantifying uncertainty in flow simulations for sustainable urban environments," Columbia University, Department of Earth and Environmental Engineering, New York, NY, May 2015.
16. C. Gorlé, "Predictive flow simulations for the development of sustainable urban environments," Columbia University, Department of Applied Physics and Applied Mathematics, New York, NY, April 2015
17. C. Gorlé, "Predictive flow simulations for the development of sustainable urban environments," Department of Civil Engineering and Engineering Mechanics, Stanford, CA, April 2015.
18. C. Gorlé, "Quantifying uncertainties in flow simulations: urban canopy case study and potential applications to two-phase cooling simulations," IBM Research, Zurich, Switzerland, May 2014.
19. C. Gorlé, "Uncertainty quantification for turbulent flow simulations," San Diego State University, Department of Aerospace Engineering, San Diego, CA, March 2014.

20. C. Gorlé, “Quantifying uncertainties in flow simulations of the natural and built environment,” Columbia University, Department of Civil Engineering and Engineering Mechanics, New York, NY, February 2014.