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## CURRICULUM VITAE

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Professor

Founder and acting Head of the Chair of Environmental and Structural Aerodynamics  
Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb  
Ivana Lučića 5, 10000 Zagreb, Croatia

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Google Scholar: [https://scholar.google.com/scholar?q=%22hrvoje+kozmar%22&hl=hr&as\\_sdt=0,5&as\\_vis=1](https://scholar.google.com/scholar?q=%22hrvoje+kozmar%22&hl=hr&as_sdt=0,5&as_vis=1)

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## EDUCATION

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PhD Physics (Dr. rer. nat.), 2023  
Technical University of Berlin

PhD Mechanical Engineering (Dr. sc.), 2005  
University of Zagreb (in conjunction with the Technical University of Munich)

Mr. sc. Mechanical Engineering, 2000  
University of Zagreb (in conjunction with the Technical University of Munich)

Dipl.-Ing. (4.5 years) in Mechanical Engineering (top 5% of the class), 1994  
University of Zagreb, Croatia

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## EMPLOYMENT

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- **Full Professor**, 12/2018-
- **Associate Professor**, 07/2013-12/2018
- **Assistant Professor**, 07/2008-07/2013
- **Postdoc**, 07/2005-07/2008
- **PhD student**, 04/2000-07/2005
- **MSc student**, 03/1996-04/2000

Department of Fluid Mechanics  
Faculty of Mechanical Engineering and Naval Architecture  
University of Zagreb, Croatia

Including 55 months of research stays:

- a) Technical University of Munich (30 months),
- b) University of Notre Dame (13 months),
- c) Technical University of Berlin (6 months),
- d) University of Florence (4 months),
- e) German Aerospace Center (2 months).

- **Mechanical Engineer**, 12/1994-03/1996  
Soltech Zagreb Inc.

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## AWARDS, FELLOWSHIPS, GRANTS

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Principal investigator: *Structural aerodynamics*  
2025-2029  
Competitive University of Zagreb grant

Principal investigator: *Lidar measurements of Ligurian downslope windstorms* (with the University of Genoa, Italy)  
2024-2026  
HORIZON-INFRA-2021-SERV-01-07 ERIES

Grand Medal (highest award for outstanding academic achievement)  
2023  
Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb

World's top 2% scientist  
2020, 2022, 2023, 2024  
Stanford University List

Principal investigator: *Non-synoptic wind loads on solar panels* (with the WindEEE Dome at Western University, Canada)  
2023-2025

**HORIZON-INFRA-2021-SERV-01-07 ERIES**

Collaborator: *Genoa Port microclimate study by WindCube 400S & airborne ultrasonic anemometer and wind-tunnel tests to drive CFD for wind loads on harbour cranes* (with the University of Genoa, Italy)  
2023-2025

**HORIZON-INFRA-2021-SERV-01-07 ERIES**

Principal investigator: *Aero- and hydrodynamic enhancement of environmentally friendly energy systems* (with Newcastle University, UK; Graz University of Technology, Austria; Technical University of Berlin, Germany; University of Notre Dame, USA)  
2023-2027

**Croatian Science Foundation**

Research Fellowship at the Technical University of Berlin (TU-Berlin, with Dr. Christian Navid Nayeri and Prof. Christian Oliver Paschereit), Germany  
05/2023-08/2023, (3 months)

**German Academic Exchange Service (DAAD)**

Collaborator: *Modular energy islands for sustainability and resilience*  
2021-2025

**COST Action CA20109**

Member of the Croatian Academy of Engineering  
2021-

**Croatian Academy of Engineering**

Principal investigator: *Characteristics of bora wind turbulence* (with Prof. Branko Grisogono)  
2020-2024

**Croatian Science Foundation**

Annual Research Award of the Croatian Academy of Sciences and Arts  
2020

**Croatian Academy of Sciences and Arts**

Annual Research Award of the Republic of Croatia  
2019

**Republic of Croatia**

Principal investigator: *Aerodynamic loads on tall buildings with porous façades* (with University of Florence, Prof. Gianni Bartoli)  
2019-2023

**Croatian Science Foundation**

Collaborator: *Aerodynamic characteristics of ice-accreted cylinders and bridge cables* (with Institute of Theoretical and Applied Mechanics Prague, Prof. Stanislav Pospíšil)  
2019-2022

**Czech Science Foundation**

Principal investigator: *Wind loads on wind turbines in complex terrain* (with Institute of Theoretical and Applied Mechanics Prague, Prof. Stanislav Pospíšil)  
2018-2022

**Croatian Science Foundation**

Special recognition for extraordinary personal contributions to the activities and development of the Croatian DAAD Club  
05/2018

**Croatian DAAD Club**

Principal investigator: *Wind and sea loads on offshore energy structures* (with Newcastle University)  
2017-2021

**Croatian Science Foundation**

Visiting (Teaching) Professor at University of Natural Resources and Life Sciences, Vienna  
2017

**Central European Exchange Program for University Studies**

Principal investigator: *Aeroelasticity and aerodynamics of bridges influenced by wind barriers and traffic terrain* (with Institute of Theoretical and Applied Mechanics Prague, Prof. Stanislav Pospíšil)  
2015-2019

**Croatian Science Foundation**

Collaborator: *Dynamic stability and post-critical processes in non-conservative and non-holonomic stochastic systems with interactions* (with Institute of Theoretical and Applied Mechanics Prague, Dr. Jiri Naprstek)  
2015-2017

**Czech Science Foundation**

Principal investigator: *Bora wind gusts on vehicles and structures*  
2013-2023

**University of Zagreb**

Collaborator: *Characteristics of turbulence of the bora winds* (with Prof. Branko Grisogono)  
2013-2015

**Croatian Science Foundation**

Principal investigator: *Wind turbine aerodynamics in complex coastal terrains* (with University of Florence, Profs. Claudio Borri and Gianni Bartoli)  
2013-2015

**FP7-Marinet**

Collaborator: *Climatic wind-tunnel modeling of the thermally stratified atmospheric boundary layer flow developing above complex terrains* (with Institute of Theoretical and Applied Mechanics Prague, Prof. Stanislav Pospíšil)  
2013-2016

**Czech Science Foundation**

Research Fellowship at the Technical University of Berlin (TU-Berlin, with Prof. Jörn Sesterhenn), Germany  
05/2012-08/2012, (3 months)

**German Academic Exchange Service (DAAD)**

Special recognition for extraordinary personal merits in developing and strengthening German-Croatian relations  
05/2012

**German Ambassador to Croatia Dr. Bernd Fischer**

Invited speaker at the NATO Advanced Research Workshop on Climate Change, Human Health and National Security in Dubrovnik, Croatia  
04/2011

**North Atlantic Treaty Organization (NATO)**

Travel grant for attending the "Urban Environmental Pollution" conference in Boston, MA, United States  
06/2010

**U.S. Embassy Zagreb**

Travel grant for attending the "Environmental Wind Engineering and Wind Energy Structures" course at the International Centre for Mechanical Sciences (CISM) in Udine, Italy  
09/2009

**International Centre for Mechanical Sciences (CISM)**

Visiting Scholar at the University of Notre Dame, IN, USA (with Prof. Ahsan Kareem)  
09/2007-09/2008, (13 months)

**Fulbright Foundation**

Principal investigator: *Aerodynamics of roadway wind barriers: Wind-tunnel testing* (with University of Florence)  
2006-2007

**Rijeka-Zagreb Roadway**

Research Scholarship at the University of Zagreb  
10/2006-12/2006, (3 months)

**Croatian Ministry of Science and Technology**

Research Scholarship at the German Aerospace Center (DLR), Göttingen, Germany (with Dr. Günter Schewe)  
05/2006-07/2006, (2 months)

**German Academic Exchange Service (DAAD)**

Research Scholarship at the University of Zagreb  
 10/2005-12/2005, (3 months)  
**Croatian Academy of Sciences and Arts**

Research Scholarship at the Technical University of Munich (with Prof. Boris Laschka)  
 05/2002-10/2002, (6 months)  
**Croatian Academy of Sciences and Arts**  
 Research Scholarship at the Technical University of Munich (with Prof. Boris Laschka)  
 03/1999 -02/2000, (12 months)  
**German Academic Exchange Service (DAAD)**

Research Scholarship at the Technical University of Munich (with Prof. Boris Laschka)  
 03/1998-02/1999, (12 months)  
**Croatian Ministry of Science and Technology**

Research collaborator: *Experiments in fluid mechanics* (with Prof. Zdravko Doliner)  
 1999-2005  
**Croatian Ministry of Science and Technology**

Research collaborator: *Measurements in fluid mechanics* (with Prof. Zdravko Doliner)  
 1996-1998  
**Croatian Ministry of Science and Technology**

Scholarship for an undergraduate study at the University of Zagreb  
 10/1989-11/1994  
**Shipyard Brodosplit, Split, Croatia**

## RELEVANT EXPERIENCE

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**The University of Melbourne, Australia**  
*Collaborator*

- Turbulent boundary-layer flows

**Western University, Canada**  
*Principal investigator*

- Non-synoptic wind effects on structures

**Graz University of Technology, Austria**  
*Collaborator*

- Natural building ventilation

**Newcastle University, United Kingdom**  
*Principal investigator, wind-wave-current tank testing*

- Concurrent wind, wave, current loads on offshore wind turbines

**Institute of Theoretical and Applied Mechanics Prague, Czech Republic**  
*Investigator, wind-tunnel testing*

- Atmospheric turbulence in complex terrain, aerodynamics and aeroelasticity of rough cylinders and cable-supported bridges, aerodynamic loads on wind turbines

**University of Florence, Italy**  
*Principal investigator, wind-tunnel testing*

- Aerodynamic loads on tall buildings with porous facades
- Wind turbine aerodynamics in complex coastal terrains

**Technical University of Berlin, Germany**  
*DAAD Visiting Scholar*

- Atmospheric turbulence and volcano outflows
- Aerodynamics of wind-turbine rotor blades

**University of Notre Dame, IN, USA**  
*Fulbright Visiting Scholar*

- Characterization of bora wind loads on vehicles

**University of Zagreb, Croatia***Professor*

- Teaching Fluid Mechanics, Environmental Aerodynamics, Experimental Fluid Mechanics, Aerodynamics, Hydraulic Machines, in anonymous surveys among the students constantly ranks among the top rated teachers
- Research in Environmental Aerodynamics, Wind Engineering, Fluid Mechanics

**CRIACIV (Inter-University Research Centre on Building Aerodynamics and Wind Engineering), Florence, Italy***Research Engineer*

- Designing wind barriers to protect vehicles from wind-induced instability on Croatian freeways

**German Aerospace Center (DLR), Göttingen, Germany***DAAD Research Fellow*

- Design and development of hardware for natural wind simulation in the DLR high-pressure wind tunnel

**Technical University of Munich, Germany***DAAD, Croatian Gov., Croatian Academy of Sciences and Arts Research Assistant*

- Natural wind simulation in the boundary layer wind tunnel
- Modeling of wind loads on structures and hazard mitigation

**Soltech-Zagreb, Croatia***Project Engineer*

- Planning and design of thermal solar collectors for domestic applications
- Warehouse management and administrative tasks such as audits and customer support

**REVIEWER FOR PEER-REVIEWED JOURNALS**

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1) Atmospheric Pollution Research (Elsevier), 2) Brodogradnja (Croatian Institute of Advanced Technologies), 3) Building and Environment (Elsevier), 4) Building Simulation (Springer), 5) Energy (Elsevier), 6) Energy Conversion and Management (Elsevier), 7) Engineering Review (University of Rijeka, Croatia), 8) Engineering Structures (Elsevier), 9) Environmental Fluid Mechanics (Springer), 10) Environmental Pollution (Elsevier), 11) Frontiers in Built Environment: Wind Engineering and Science (Frontiers), 12) International Journal of Green Energy (Taylor & Francis), 13) International Journal of the Physical Sciences (Academic Journals), 14) Journal of Bridge Engineering (ASCE), 15) Journal of Environmental Monitoring (Elsevier), 16) Journal of Fluid Mechanics (Cambridge University Press), 17) Journal of Fluids and Structures (Elsevier), 18) Journal of Fluids Engineering (ASME), 19) Journal of Wind Engineering and Industrial Aerodynamics (Elsevier), 20) Measurement (Elsevier), 21) Nature Communications (Springer Nature), 22) Procedia Environmental Sciences (Elsevier), 23) Science of the Total Environment (Elsevier), 24) Strojarstvo (Croatian Society of Mechanical Engineers and Naval Architects), 25) Technical Transactions (Cracow University of Technology), 26) Theoretical and Applied Climatology (Springer), 27) Transactions of Famena (University of Zagreb, Croatia), 28) Wind and Structures (Techno Press).

**MEMBERSHIP**

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- Board of Trustees of the University of Zagreb (2023- ),
- Head of Environmental and Structural Aerodynamics at the University of Zagreb (2017- ),
- International scientific advisory board for the Institute of Theoretical and Applied Mechanics Prague,
- Guest editor of a special issue of Wind and Structures on downslope windstorms (Vol. 24, Issue 6, 2017),
- Editorial board member for international journals a) Wind and Structures, b) Transactions of Famena (Editor-in-Chief), c) Transactions of the VŠB – Technical University of Ostrava, Civil Engineering Series, d) Frontiers in Built Environment: Wind Engineering and Science, e) Wind, f) Advances in Wind Engineering,
- Former President of the Croatian DAAD Club (currently supervisory board member),
- Chief Editor of the Fulbright Foundation for Engineering Science in Croatia,
- Member of the NATO Science and Technology Organization,
- Member of the University-of-Zagreb council for student support,
- President of the Croatian Society of Mechanics,
- Co-chair of the 7ICCSM international conference in 05/2012,
- Reviewer for the Croatian government, DAAD, US-Israeli Science Foundation, Czech Science Foundation, etc., research grant proposals.

## LANGUAGE SKILLS

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1) Croatian: Mother tongue, 2) English: Fluent, 3) German: Fluent, 4) Italian: Basic

## PUBLICATIONS

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### Book chapters (5)

- 1) Kozmar H, Grisogono B (2021) *Characteristics of Downslope Wind Storms in the View of the Typical Atmospheric Boundary Layer*. In the book: The Oxford Handbook of Non-Synoptic Wind Storms, edited by Horia Hangan and Ahsan Kareem, Oxford University Press, Oxford, UK, 1-32.
- 2) Trush A, Pospíšil S, Kozmar H (2020) *Comparison of turbulence integral length scale determination methods*. In the book: Advances in Fluid Mechanics XIII, edited by Santiago Hernández, WIT Press, Southampton, UK, 113-123.
- 3) Buljac A, Kozmar H, Macháček M, Pospíšil S (2019) *Self-excited vibrations of a bridge deck with single and double wind barriers*. In the book: Lecture Notes in Civil Engineering, edited by Ricciardelli F, Avossa, Alberto Maria, Springer International Publishing, New York City, 124-132.
- 4) Liščić B, Hadžić N, Čorić V, Kozmar H, Tomić M (2016) *Offshore wind turbines in the Adriatic Sea – an opportunity for the Croatian economy*. In the book: Croatian Natural Resources, edited by Neidhart V, Zelić M, Zrnčić A, Muhek R, published by the Croatian Academy of Sciences and Arts.
- 5) Kozmar H, Bencetić Klaić Z (2012) *Wind effects on man-made structures in a world with a changing climate*. In the book: National Security and Human Health Implications of Climate Change, edited by Prof. Harindra Joseph Fernando from the University of Notre Dame, Springer, Dordrecht, The Netherlands.

### Book editor (2)

- 6) Virag Zdravko, Kozmar Hrvoje, Smojver Ivica (2012) *7th International Congress of the Croatian Society of Mechanics, Book of Abstracts*
- 7) Virag Zdravko, Kozmar Hrvoje, Smojver Ivica (2012) *7th International Congress of the Croatian Society of Mechanics, Full papers and posters*

### Peer-reviewed journal papers (84)

- 8) Ivanković M, Jentzsch M, Großmann AFR, Zimmermann V, Manolesos M, Nayeri CN, Kozmar H (2026) The effects of vortex generators and Gurney flaps on the dynamic stall of airfoils, Journal of Wind Engineering and Industrial Aerodynamics, doi.org/10.1016/j.jweia.2026.106371.
- 9) Li X, Basu B, Alujević N, Kozmar H, Zhang Z (2026) Time-varying aerodynamic damping of offshore wind turbines: An analytical formulation, Energy Conversion and Management, in press.
- 10) Sokol I, Čatipović I, Hadžić N, Kozmar H (2026) Environmental loads on offshore renewable energy structures, Renewable and Sustainable Energy Reviews 226 Part D, 116138, 1-16.
- 11) Jelašić M, Irrenfried C, Brenn G, Kozmar H (2026) The effects of an elongated building structure and skylight windows on wind-driven building ventilation, Journal of Wind Engineering and Industrial Aerodynamics 268, 1-9.
- 12) Golem P, Kozmar H, Večenaj Ž, Grisogono B (2026) Dynamic features of bora wind vortices, Quarterly Journal of the Royal Meteorological Society 152 Part B, 1-18.
- 13) Hilo AK, Nieto F, Barajas G, Lara JL, Ahn BK, Alvarez AJ, Kozmar H (2026) Computational modelling of hydrodynamic loads on offshore monopiles in concurrent wave and current conditions, Ocean Engineering 352, 1-15.
- 14) Škvorc P, Melnjak P, Giachetti A, Bartoli G, Kozmar H (2026) Wind loads on tall buildings in urban environments: The effects of surrounding buildings and double-skin façade porosity, Journal of Fluids and Structures 144, 104526, 1-32.
- 15) Ivanković M, Jentzsch M, Manolesos M, Nayeri CN, Kozmar H (2026) Aerodynamic Characteristics of Airfoils Equipped With Gurney Flaps and Vortex Generators for the Entire Range of Pitch Angles, Wind Energy 29(5), 1-28.
- 16) Batistić I, Cindori M, Krizmanić S, Džijan I, Juretić F, Škvorc P, Kozmar H (2026) Steady RANS Modeling of the Atmospheric Boundary Layer: A Systematic Review and Some Practical Guidelines, OpenFOAM Journal 6, 60-78.
- 17) Macháček M, Pospíšil S, Kozmar H (2025) Wind loads on horizontal-axis wind turbines on hilly terrains, Wind and Structures 41(1), 57-73.
- 18) Škvorc P, Giachetti A, Bartoli G, Kozmar H (2025) Aerodynamic characteristics of tall buildings with porous double-skin façades, Wind and Structures 40(3), 207-220.

- 19) Miše D, Irrenfried C, Meile W, Brenn G, [Kozmar H](#) (2024) Wind-driven natural ventilation of cubic buildings in rural and suburban areas, *Journal of Building Engineering* 87, 108740, 1-27.
- 20) Golem P, Večenaj Ž, [Kozmar H](#), Grisogono B (2024) Misalignment between the propagation direction of the bora wind and its pulsations, *Quarterly Journal of the Royal Meteorological Society* 150(759), 1194-1205.
- 21) Škvorc P, [Kozmar H](#) (2023) The effect of wind characteristics on tall buildings with porous double-skin façades, *Journal of Building Engineering* 69, 106135, 1-28.
- 22) Ivanković M, Vrdoljak M, Andrić M, [Kozmar H](#) (2023) Angle-of-Attack Estimation for General Aviation Aircraft, *Aerospace* 10(3), 1-12.
- 23) Golem P, Večenaj Ž, [Kozmar H](#), Grisogono B (2023) The Effect of Orography on Bora Wind Turbulence, *Boundary-Layer Meteorology* 187, 193-212.
- 24) [Kozmar H](#), Jokić M, Butler K, Stegić M, Kareem A (2022) A Data-Driven Model for Aerodynamic Loads on Road Vehicles Exposed to Gusty Bora-Like Winds, *Applied Sciences* 12, 7625, 1-9.
- 25) Buljac A, [Kozmar H](#), Yang W, Kareem A (2022) Concurrent wind, wave and current loads on a monopile-supported offshore wind turbine, *Engineering Structures* 255, 113950, 1-17.
  - Featured Paper Award of the Editors-in-Chief of the Engineering Structures journal as the best paper in Volume 255 out of the total 51 papers published in this volume.
  - Runner Up for Best Paper 2022 (Structural Analysis & Design).
- 26) [Kozmar H](#), Hadžić N, Čatipović I, Rudan S (2022) Wind load assessment in marine and offshore engineering standards, *Ocean Engineering* 252, 110872, 1-14.
- 27) [Kozmar H](#), Kareem A (2022) Experimental modeling of Bora wind loads on road vehicles, *Bulletin of the Croatian Academy of Sciences and Arts (RAD - HAZU)* 549(21), 81-112.
- 28) Golem P, Toman I, Večenaj Ž, [Kozmar H](#), Grisogono B (2022) Unique Windward Measurements and a Mesoscale Simulation of an Extremely Long-Lasting Severe Bora Event, *Boundary-Layer Meteorology* 183, 495–504.
- 29) Cindori M, Čajić P, Džijan I, Juretić F, [Kozmar H](#) (2022) A comparison of major steady RANS approaches to engineering ABL simulations, *Journal of Wind Engineering and Industrial Aerodynamics* 221, 104867, 1-28.
- 30) Škvorc P, [Kozmar H](#) (2021) Aerodynamic characteristics of tall buildings with porous double-skin façades: State of the art and future perspectives, *Wind and Structures* 33(3), 233-249.
- 31) Škvorc P, [Kozmar H](#) (2021) Wind energy harnessing on tall buildings in urban environments, *Renewable and Sustainable Energy Reviews* 152, 111662, 1-18.
- 32) Bosnar D, [Kozmar H](#), Pospíšil S, Macháček M (2021) Thrust force and bending moment acting on a horizontal axis wind turbine with a high tip speed ratio at high yaw angles, *Wind and Structures* 32(5), 471-485.
- 33) [Kozmar H](#), Bartoli G, Borri C (2021) The effect of parked wind turbines on wind flow and turbulence over a complex terrain, *Wind Energy* 24(11), 1337-1347.
- 34) [Kozmar H](#) (2021) Flow, turbulence and surface pressure on a wall-mounted cube in turbulent boundary layers, *Journal of Wind Engineering and Industrial Aerodynamics* 210, 104503, 1-15.
- 35) Džijan I, Pašić A, Buljac A, [Kozmar H](#) (2021) Aerodynamic characteristics of two slipstreaming race cars, *Journal of Mechanical Science and Technology* 35(1), 179-186.
- 36) Golubić D, Meile G, Brenn G, [Kozmar H](#) (2020) Wind-tunnel analysis of natural ventilation in a generic building in sheltered and unsheltered conditions: Impact of Reynolds number and wind direction, *Journal of Wind Engineering and Industrial Aerodynamics* 207, 104388, 1-17.
- 37) Buljac A, [Kozmar H](#), Pospíšil S, Macháček M, Kuznetsov S (2020) Effects of wind-barrier layout and wind turbulence on aerodynamic stability of cable-supported bridges, *Journal of Bridge Engineering* 25(12), 04020102-1 - 04020102-18.
  - Finalist for the best paper award: Arthur M. Wellington Prize - ASCE
- 38) Cindori M, Džijan I, Juretić F, [Kozmar H](#) (2020) Atmospheric boundary layer over generic hills: Computational model of a body force-driven flow, *Boundary-Layer Meteorology* 176, 159-196.
- 39) [Kozmar H](#) (2020) Surface pressure on a cubic building exerted by conical vortices, *Journal of Fluids and Structures* 92, 1-18.
- 40) [Kozmar H](#), Allori D, Bartoli G, Borri C (2019) Wind characteristics in the wake of a non-rotating wind turbine close to a hill, *Transactions of Famena* 43(3), 13-36.
- 41) [Kozmar H](#), Laschka B (2019) Wind-tunnel modeling of wind loads on structures using truncated vortex generators, *Journal of Fluids and Structures* 87, 334-353.

- 42) Čatipović I, Hadžić N, Dias F, Kozmar H (2019) Computational model of simultaneous wave and sea current loads on tidal turbines, Ocean Engineering 184, 323-331.
- 43) Džijan I, Pašić A, Buljac A, Kozmar H (2019) Aerodynamic forces acting on a race car for various ground clearances and rake angles, Journal of Applied Fluid Mechanics 12(2), 361-368.
- 44) Kozmar H, Laschka B (2019) Pressure tap cavity for unsteady aerodynamic pressure measurements, Measurement 132, 282-291.
- 45) Majdandžić Lj, Buljić D, Buljac A, Kozmar H (2018) Aerodynamic design of a solar road vehicle, International Journal of Automotive Technology 19(6), 949-957.
- 46) Cindori M, Juretić F, Kozmar H, Džijan I (2018) Steady RANS model of the homogeneous atmospheric boundary layer, Journal of Wind Engineering and Industrial Aerodynamics 173, 289-301.
- 47) Kozmar H, Allori D, Bartoli G, Borri C (2018) Wind characteristics in wind farms situated on a hilly terrain, Journal of Wind Engineering and Industrial Aerodynamics 174, 404-410.
- 48) Hadžić N, Kozmar H, Tomić M (2018) Feasibility of investment in renewable energy systems for shipyards, Brodogradnja 62(2), 1-16.
- 49) Hadžić N, Čatipović I, Tomić M, Vladimir N, Kozmar H (2018) Offshore wind turbines – Research and development, Pomorski zbornik 2 59-70.
- 50) Kuznetsov S, Ribičić M, Pospíšil S, Plut M, Trush A, Kozmar H (2017) Flow and turbulence control in a boundary layer wind tunnel using passive hardware devices, Experimental Techniques 41(6), 643-661.
- 51) Marušić A, Kozmar H, Pospíšil S, Kuznetsov S (2017) Wake characteristics of ice-accreted cylindrical bars in a cross-flow at subcritical Reynolds numbers, Journal of Aerospace Engineering 31(2), 06017007-1-06017007-7.
- 52) Buljac A, Kozmar H, Pospíšil S, Macháček M (2017) Flutter and galloping of cable-supported bridges with porous wind barriers, Journal of Wind Engineering and Industrial Aerodynamics 171, 304-318.
- 53) Lepri P, Večenaj Z, Kozmar H, Grisogono B (2017) Bora wind characteristics for engineering applications, Wind and Structures 24(6), 579-611.
- 54) Pavlović B, Pavičević M, Buljac A, Džijan I, Kozmar H (2017) Design curves for gas pressure drop in excess flow safety valve, Journal of Pipeline Systems Engineering and Practice 8(4), 06017005-1-06017005-5.
- 55) Trush A, Pospíšil S, Kuznetsov S, Kozmar H (2017) Wind-tunnel experiments on vortex-induced vibration of rough bridge cables, Journal of Bridge Engineering 22(10), 06017001-1-06017001-8.
- 56) Pospíšil S, Kuznetsov S, Kozmar H, Michalcová V (2017) Wind-tunnel simulation of thermally unstable atmospheric flow in complex terrain. Procedia Engineering 190, 575-580.
- 57) Buljac A, Kozmar H, Pospíšil S, Macháček M (2017) Aerodynamic and aeroelastic characteristics of typical bridge decks equipped with wind barriers at the windward bridge-deck edge, Engineering Structures 137, 310-322.
- 58) Pospíšil S, Buljac A, Kozmar H, Kuznetsov S, Macháček M, Král R (2017) Influence of stationary vehicles on bridge aerodynamic and aeroelastic coefficients, Journal of Bridge Engineering 22(4), 05016012-1-05016012-13.
- 59) Buljac A, Kozmar H, Džijan I (2016) Aerodynamic performance of the underbody and wings of an open-wheel race car, Transactions of Famena 40(2), 19-34.
- 60) Buljac A, Džijan I, Korade I, Krizmanić S, Kozmar H (2016) Automobile aerodynamics influenced by airfoil-shaped rear wing, International Journal of Automotive Technology 17(3), 377-385.
- 61) Buljac A, Pospíšil S, Kozmar H, Kuznetsov S, Kral R (2016) Flutter derivatives of the Kao-Pin Hsi cable-supported bridge, Applied Mechanics and Materials 821, 172-.
- 62) Kozmar H, Allori D, Bartoli G, Borri C (2016) Complex terrain effects on wake characteristics of a parked wind turbine, Engineering Structures 110, 363-374.
- 63) Babić N, Večenaj Ž, Kozmar H, de Wekker S, Horvath K, Grisogono B (2016) On turbulent fluxes during strong winter bora wind events, Boundary-Layer Meteorology 158(2), 331-350.
- 64) Lepri P, Večenaj Ž, Kozmar H, Grisogono B (2015) Near-ground turbulence of the Bora wind in summertime, Journal of Wind Engineering and Industrial Aerodynamics 147, 345-357.
- 65) Kozmar H, Butler K, Kareem A (2015) Downslope gusty wind loading of vehicles on bridges, Journal of Bridge Engineering 20(11), 04015008-1-04015008-11.
- 66) Križan J, Gašparac G, Kozmar H, Antonić O, Grisogono B (2015) Designing laboratory wind simulations using artificial neural networks, Theoretical and Applied Climatology 120(3-4), 723-736.
- 67) Juretić F, Kozmar H (2014) Computational modeling of the atmospheric boundary layer using various two-equation turbulence models, Wind and Structures 19(6), 687-708.

- 68) Lepri P, Kozmar H, Večenaj Ž, Grisogono B (2014) A summertime near-ground velocity profile of the Bora wind, *Wind and Structures* 19(5), 505-522.
- 69) Lišić B, Senjanović I, Čorić V, Kozmar H, Tomić M, Hadžić N (2014) Offshore wind power plant in the Adriatic sea: An opportunity for the Croatian economy, *Transactions on Maritime Science* 2, 103-110.
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- 92) Hadžić N, Kozmar H, Vladimir N, Koričan M, Ložar V (2026) The application of nonhomogeneous Markov chains in Artificial Intelligence and Machine Learning, *under review*.

- 93) Jelašić M, Brenn G, [Kozmar H](#), Irrenfried C (2026) Wind-driven natural ventilation of cube-shaped buildings: The effects of roof design and wind direction, *under review*.
- 94) Ivanković M, Jentzsch M, Manolesos M, Nayeri CN, [Kozmar H](#) (2026) Enhanced self-starting performance of vertical-axis wind turbines, *under review*.

#### Peer-reviewed conference contributions (98)

- 95) Golem P, [Kozmar H](#), Večenaj Ž, Grisogono B (2025) *Simulating the submesoscale rotating structures in the bora wind. EGU General Assembly, Vienna, Austria.*
- 96) Golem P, [Kozmar H](#), Večenaj Ž, Grisogono B (2025) Dynamic features of bora wind vortices. *4<sup>th</sup> MeteoXchange ECS Conference, virtual event.*
- 97) Golem P, [Kozmar H](#), Večenaj Ž, Grisogono B (2025) Dynamic features of bora wind vortices. *10<sup>th</sup> Meteorological Challenges, Zagreb, Croatia.*
- 98) Škvorc P, [Kozmar H](#), Grisogono B, Alvarez AJ, Nieto F, van Beeck J, Birhane T, Bitsuamlak G (2025) Experimental modeling of gusty bora windstorms. *9<sup>th</sup> European-African Conference on Wind Engineering, Trondheim, Norway.*
- 99) Jelašić M, Irrenfried C, Gunter B, [Kozmar H](#) (2025) Wind-driven natural ventilation of airport terminals. *9<sup>th</sup> European-African Conference on Wind Engineering, Trondheim, Norway.*
- 100) Ivančić I, Ricci A, Burlando M, Romanic D, Grisogono B, [Kozmar H](#) (2025) Field measurements and numerical analysis of downslope winds in port areas. *9<sup>th</sup> European-African Conference on Wind Engineering, Trondheim, Norway.*
- 101) Álvarez AJ, Nieto F, Škvorc P, [Kozmar H](#), van Beeck J, Birhane T, Adamek K, Bitsuamlak G (2025) ERIES-SOLAR: the assessment of downburst actions on solar panels at the WindEEE dome. *9<sup>th</sup> European-African Conference on Wind Engineering, Trondheim, Norway.*
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- 105) Ivanković M, Jentzsch M, Großmann AFR, Zimmermann V, Manolesos M, Nayeri CN, [Kozmar H](#) (2025) Dynamic stall control of wind-turbine blades equipped with vortex generators and Gurney flaps. *9<sup>th</sup> European-African Conference on Wind Engineering, Trondheim, Norway.*
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- 128) Vladimir N, Koričan M, Kozmar H, Slapničar V, Fan A (2022) A simplified formulation of the energy efficiency index for purse seiners. 15<sup>th</sup> International Symposium on Practical Design of Ships and Other Floating Structures, Dubrovnik, Croatia.
- 129) Pavlović B, Panić G, Bejić A, Kozmar H (2021) Utjecaj ulaznih poremećaja na točnost mjerenja ultrazvučnih mjerila protoka. 36<sup>th</sup> International Scientific & Expert Meeting of Gas Professionals, Opatija, Croatia.
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- 131) Macháček M, Pospíšil S, Kozmar H (2020) Scaling of wind turbine aerodynamics: wind tunnel experiments. MATEC Web of Conferences, Vyhne, Slovakia.
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- 137) Cindori M, Džijan I, Juretić F, Kozmar H (2019) Computational model of the atmospheric boundary layer flow over two-dimensional cosine-shaped hills. 15<sup>th</sup> International Conference on Wind Engineering, Beijing, China.

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- 142) Kuznetsov S, Pospíšil S, Kozmar H, Trush A, Macháček M, Michálek P (2018) Wind Flow Simulation under Thermally-Stratified Atmospheric Boundary Layer. 9<sup>th</sup> International Congress of Croatian Society of Mechanics, Split, Croatia.
- 143) Buljac A, Kozmar H, Wenxian Y, Kareem A (2018) Experimental Study of Environmental Loads on a Monopole-supported Offshore Wind Turbine. 9<sup>th</sup> International Congress of Croatian Society of Mechanics, Split, Croatia.
- 144) Cindori M, Juretić F, Džijan I, Kozmar H (2018) Computational Approach to Steady RANS Simulations of the homogeneous Naturally-Stratified Atmospheric Boundary Layer. 7<sup>th</sup> International Symposium on Computational Wind Engineering 2018, Seoul, South Korea.
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- 146) Pavlović B, Panić G, Kozmar H (2018) Influence of time drift on accuracy of gas flow meters and long term measurement stability. 33<sup>rd</sup> International Scientific & Expert Meeting of Gas Professionals, Opatija, Croatia.
- 147) Buljac A, Kozmar H, Pospíšil S, Macháček M (2017) Flutter and galloping of bridge decks with roadway wind barriers. 7<sup>th</sup> European-African Conference on Wind Engineering, Liege, Belgium.
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- 152) Pospíšil S, Trush A, Kuznetsov S, Kozmar H, Naprstek J (2016) Influence of wind angle of attack and isotropic turbulence on wind-induced vibrations of ice-accreted bridge cables. 8<sup>th</sup> International Colloquium on Bluff Body Aerodynamics and Applications, Boston, USA.
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- 164) Buljac A, Pospíšil S, Kozmar H, Kuznetsov S, Král R (2015) Comparison of flutter derivatives for Kao Pin Hsi Bridge and flat plate. *21<sup>st</sup> International Conference Engineering Mechanics, Svratka, Czech Republic.*
- 165) Pospíšil S, Buljac A, Kuznetsov S, Kozmar H (2015) Influence of vehicles on bridge flutter and galloping. *Proceedings of Symposium on Progress in Wind Engineering and Structural Dynamics, Taipei, Taiwan.*
- 166) Lepri P, Kozmar H, Večenaj Ž, Grisogono B (2014) A summertime near-ground velocity profile of the Bora wind. *International Conference on Advances in Wind and Structures, Busan, South Korea.*
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- 168) Lepri P, Kozmar H, Večenaj Ž, Grisogono B (2014) Velocity profile of the gusty Bora wind. *13<sup>th</sup> Conference of the Italian Association for Wind Engineering, Genoa, Italy.*
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- 170) Lepri P, Kozmar H, Večenaj Ž, Grisogono B (2013) On the Bora near-ground velocity profile. *Meteorological Challenges 3, Zagreb, Croatia.*
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- 172) Grisogono B, Večenaj Ž, Milovac J, Lepri P, Gašparac G, Horvath K, Kozmar H (2013) Some current and future research on bora wind. *Davos Atmosphere and Cryosphere Assembly, Davos, Switzerland.*
- 173) Barić E, Džijan I, Kozmar H (2012) Computational simulation of wind flow behind a rectangular building. *7<sup>th</sup> International Congress of Croatian Society of Mechanics, Zadar, Croatia.*
- 174) Juretić F, Kozmar H (2012) Reynolds stress modeling in computational simulations of the urban atmospheric boundary layer flow. *7<sup>th</sup> International Congress of Croatian Society of Mechanics, Zadar, Croatia.*
- 175) Kozmar H, Butler K, Kareem A (2012) Aerodynamic loads on vehicles due to the gusty bora wind. *7<sup>th</sup> International Congress of Croatian Society of Mechanics, Zadar, Croatia.*
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- 177) Kozmar H (2012) Aerodynamic loads on vehicles due to the bora wind. *Meteorological Challenges 2, Zagreb, Croatia.*
- 178) Jokić M, Kozmar H, Stegić M, Butler K, Kareem A (2011) A data-driven model for transient cross-wind loads on vehicles. *13<sup>th</sup> International Conference on Wind Engineering, Amsterdam, The Netherlands.*
- 179) Kozmar H, Butler K, Kareem A (2011) Effects of cross-wind gust strength on vehicle aerodynamics. *13<sup>th</sup> International Conference on Wind Engineering, Amsterdam, The Netherlands.*
- 180) Kozmar H (2010) A novel approach to wind-tunnel simulation of wind characteristics in urban environment. *Urban Environmental Pollution: Overcoming Obstacles to Sustainability and Quality of Life, Boston, MA, USA.*
- 181) Kozmar H, Butler K, Kareem A (2009) Aerodynamic loads on a vehicle exposed to cross-wind gusts: An experimental study. *7<sup>th</sup> Asia-Pacific Conference on Wind Engineering (APCWE-VII), Taipei, Taiwan.*
- 182) Kozmar H, Procino L, Bartoli G, Borsani A (2009) Wind barriers on bridges: Effects of wind incidence angle on flow field characteristics. *7<sup>th</sup> Asia-Pacific Conference on Wind Engineering (APCWE-VII), Taipei, Taiwan.*
- 183) Kozmar H (2009) Natural wind simulation in the TUM boundary layer wind tunnel. *5<sup>th</sup> European & African Conference on Wind Engineering, Florence, Italy.*
- 184) Procino L, Kozmar H, Bartoli G, Borsani A (2008) Wind barriers on bridges: The effect of wall porosity. *6<sup>th</sup> International Colloquium on Bluff Bodies Aerodynamics and Applications, Milan, Italy.*
- 185) Pavlović B, Kozmar H (2008) Improved system for calibration of gas flow working standards in the Zagreb Gasworks. *2<sup>nd</sup> Symposium for Laboratory Experiences in Application of HRN EN ISO/IEC 17025, Opatija, Croatia.*

- 186) Pavlović B, Kozmar H (2008) Recent advances in calibration of gas flow working standards. 1<sup>st</sup> International Symposium RMO 2008 and Regional Metrology Organizations and 20th International Metrology Symposium, Cavtat – Dubrovnik, Croatia.
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- 188) Pavlović B, Kozmar H (2007) New system for calibrating gas flow working standards in Gradska Plinara Zagreb. 22<sup>nd</sup> International Scientific-Professional Meeting of Gas Experts, Opatija, Croatia.
- 189) Pavlović B, Kozmar H (2007) Improvement of equipment for calibrating gas flow working standards in Zagreb Gasworks. 22<sup>nd</sup> International Scientific-Professional Meeting of Gas Experts, Opatija, Croatia.
- 190) Pavlović B, Kozmar H (2006) Calculation of measurement uncertainty of venturi nozzles. Symposium for Laboratory Experiences in Application of HRN EN ISO/IEC 17025, Opatija, Croatia.
- 191) Kozmar H (2006) Experimental simulation of the oncoming air flow on bridges. International Conference on Bridges, Dubrovnik, Croatia.
- 192) Kozmar H (2006) Experimentelle Untersuchungen von Windlasten auf Gebäude. STAB Conference, German Aerospace Center (DLR), Göttingen, Germany.

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## **MAJOR COLLABORATIONS (in alphabetical order)**

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- 1) Professors Gianni Bartoli and Claudio Borri (University of Florence, Italy): aerodynamic design of roadway wind barriers, wind environment of wind turbines in complex terrain, wind loads on tall buildings with porous double-skin façades;
- 2) Professor Girma Bitsuamlak (Western University, Canada): non-synoptic wind effects on structures;
- 3) Professor Günter Brenn (Graz University of Technology, Austria): natural building ventilation;
- 4) Professor Branko Grisogono (University of Zagreb, Croatia): bora wind turbulence;
- 5) Professor Ahsan Kareem (University of Notre Dame, USA): transient wind loads on vehicles, environmental loads on offshore wind turbines;
- 6) Professor Boris Laschka (Technical University of Munich, Germany): experimental modeling of the atmospheric boundary layer and wind effects on structures;
- 7) Professor Ivan Marušić (The University of Melbourne, Australia): turbulent flows;
- 8) Dr. Christian Navid Nayeri (Technical University of Berlin, Germany): aerodynamic characteristics of wind-turbine rotor blades equipped with Gurney flaps and vortex generators;
- 9) Professor Felix Nieto (University of A Coruña, Spain); environmental loads on offshore engineering structures;
- 10) Professor Stanislav Pospíšil (Institute of Theoretical and Applied Mechanics Prague, Czechia): aerodynamic and aeroelastic characteristics of cable-stayed bridges, aerodynamic characteristics of ice-accreted bridge cables, aerodynamic loading of wind turbines;
- 11) Professor Jeroen van Beeck (Von Karman Institute for Fluid Dynamics, Belgium); non-synoptic wind engineering;
- 12) Professor Wenxian Yang (University of Huddersfield, UK): environmental loads on offshore wind turbines.