
CURRICULUM VITAE

Professor

Founder and acting Head of the Chair of Environmental and Structural Aerodynamics
Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb
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EDUCATION

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

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

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

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

EMPLOYMENT

- ***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 at:

- 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.

AWARDS, FELLOWSHIPS, GRANTS

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
Stanford University

Principal investigator: *Non-synoptic wind loads on solar panels* (with 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 University of Genoa)
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)
2024-2028

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

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

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 Fluids and Structures (Elsevier), 17) Journal of Fluids Engineering (ASME), 18) Journal of Wind Engineering and Industrial Aerodynamics (Elsevier), 19) Measurement (Elsevier), 20) Procedia Environmental Sciences (Elsevier), 21) Science of the Total Environment (Elsevier), 22) Strojarstvo (Croatian Society of Mechanical Engineers and Naval Architects), 23) Technical Transactions (Cracow University of Technology), 24) Theoretical and Applied Climatology (Springer), 25) Transactions of Famena (University of Zagreb, Croatia), 26) Wind and Structures (Techno Press).

MEMBERSHIP

- 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,
- 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,
- Supervisory board member – 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

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

PUBLICATIONS

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, Zrnić 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 (71)

- 8) 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.
- 9) Ivanković M, Vrdoljak M, Andrić M, Kozmar H (2023) Angle-of-Attack Estimation for General Aviation Aircraft, *Aerospace* 10(3), 1-12.
- 10) Golem P, Večenaj Ž, Kozmar H, Grisogono B (2023) The Effect of Orography on Bora Wind Turbulence, *Boundary-Layer Meteorology* 187, 193-212.
- 11) 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.
- 12) 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).
- 13) Kozmar H, Hadžić N, Čatipović I, Rudan S (2022) Wind load assessment in marine and offshore engineering standards, *Ocean Engineering* 252, 110872, 1-14.
- 14) 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.
- 15) 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.
- 16) 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.
- 17) 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.
- 18) Škvorc P, Kozmar H (2021) Wind energy harnessing on tall buildings in urban environments, *Renewable and Sustainable Energy Reviews* 152, 111662, 1-18.
- 19) 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.
- 20) 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.
- 21) 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.
- 22) 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.
- 23) 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.
- 24) 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)
- 25) 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.

- 26) Kozmar H (2020) Surface pressure on a cubic building exerted by conical vortices, *Journal of Fluids and Structures* 92, 1-18.
- 27) 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.
- 28) 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.
- 29) Ćatipović 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.
- 30) 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.
- 31) Kozmar H, Laschka B (2019) Pressure tap cavity for unsteady aerodynamic pressure measurements, *Measurement* 132, 282-291.
- 32) 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.
- 33) 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.
- 34) 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.
- 35) Hadžić N, Kozmar H, Tomić M (2018) Feasibility of investment in renewable energy systems for shipyards, *Brodogradnja* 62(2), 1-16.
- 36) Hadžić N, Ćatipović I, Tomić M, Vladimir N, Kozmar H (2018) Offshore wind turbines – Research and development, *Pomorski zbornik* 2 59-70.
- 37) 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.
- 38) 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.
- 39) 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.
- 40) Lepri P, Večenaj Z, Kozmar H, Grisogono B (2017) Bora wind characteristics for engineering applications, *Wind and Structures* 24(6), 579-611.
- 41) 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.
- 42) 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.
- 43) 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.
- 44) 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.
- 45) 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.
- 46) 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.
- 47) 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.
- 48) 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-.
- 49) 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.
- 50) 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.
- 51) 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.

- 52) 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.
- 53) 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.
- 54) 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.
- 55) 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.
- 56) Liščić 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.
- 57) Kozmar H, Procino L, Borsani A, Bartoli G (2014) Optimizing height and porosity of roadway wind barriers for viaduct and bridges, *Engineering Structures* 81, 49-61.
- 58) Hadžić N, Kozmar H, Tomić M (2014) Offshore renewable energy in the Adriatic Sea with respect to the Croatian 2020 energy strategy, *Renewable and Sustainable Energy Reviews* 40, 597-607.
- 59) Juretić F, Kozmar H (2013) Computational modeling of the neutrally stratified atmospheric boundary layer flow using the standard $k-\varepsilon$ turbulence model, *Journal of Wind Engineering and Industrial Aerodynamics* 115, 112-120.
- 60) Barić E, Džijan I, Kozmar H (2012) Effect of terrain roughness on the building wake dimensions, *Strojarstvo* 54(4), 273-282.
- 61) Kozmar H, Butler K, Kareem A (2012) Transient cross-wind aerodynamic loads on a generic vehicle due to bora gusts, *Journal of Wind Engineering and Industrial Aerodynamics* 111, 73-84.
- 62) Kozmar H (2012) Improved experimental simulation of wind characteristics around tall buildings, *Journal of Aerospace Engineering* 25(4), 670-679.
- 63) Kozmar H, Procino L, Borsani A, Bartoli G (2012) Sheltering efficiency of wind barriers on bridges, *Journal of Wind Engineering and Industrial Aerodynamics* 107-108, 274-284.
- 64) Kozmar H (2012) Physical modeling of complex airflows developing above rural terrains, *Environmental Fluid Mechanics* 12(3), 209-225.
- 65) Kozmar H (2011) Characteristics of natural wind simulations in the TUM boundary layer wind tunnel. *Theoretical and Applied Climatology* 106(1-2), 95-104.
- 66) Kozmar H (2011) An alternative approach to experimental simulation of wind characteristics in urban environments. *Procedia Environmental Sciences* 4, 43-50.
- 67) Kozmar H (2011) Truncated vortex generators for part-depth wind-tunnel simulations of the atmospheric boundary layer flow. *Journal of Wind Engineering and Industrial Aerodynamics* 99, 130-136.
- 68) Kozmar H (2011) Wind-tunnel simulations of the suburban ABL and comparison with international standards. *Wind and Structures* 14(1), 15-34.
- 69) Barić E, Džijan I, Kozmar H (2010) Numerical simulation of wind characteristics in the wake of a rectangular building submitted to realistic boundary layer conditions. *Transactions of Famena* 34(3), 1-10.
- 70) Kozmar H (2010) Scale effects in wind tunnel modeling of an urban atmospheric boundary layer. *Theoretical and Applied Climatology* 100(1-2), 153-162.
- 71) Šavar M, Kozmar H, Sutlović I (2009) Improving centrifugal pump efficiency by impeller trimming. *Desalination* 249(2), 654-659.
- 72) Pavlović B, Kozmar H, Šunić M (2009) A new system for the calibration of gas flow meters. *Transactions of Famena* 33(1), 37-46.
- 73) Kozmar H, Procino L, Borsani A, Bartoli G (2009) Testing aerodynamic properties of road windscreens. *Gradevinar* 61(3), 261-267.
- 74) Kozmar H (2008) Influence of spacing between buildings on wind characteristics above rural and suburban areas. *Wind and Structures* 11(5), 413-426.
- 75) Pavlović B, Kozmar H, Šunić M (2008) Advances in gas flow measurement using weighing method. *Strojarstvo* 50(5), 295-304.
- 76) Džijan I, Virag Z, Kozmar H (2007) The influence of grid orthogonality on the convergence of the SIMPLE algorithm for solving Navier-Stokes equations. *Journal of Mechanical Engineering* 53(2), 105-113.
- 77) Pavlović B, Šunić M, Kozmar H (2006) Calibration of gas flow meters in range up to 400 m³/h using reference standard with flow range up to 17 m³/h. *GWF-Gas/Erdgas* 147(6), 371-375.

- 78) Kozmar H, Džijan I, Šavar M (2005) Uniformity of atmospheric boundary layer model in the wind tunnel. *Strojarstvo* 47(5-6), 157-167.

Peer-reviewed journal papers under review/revision (2)

- 79) Škvorc P, Giachetti A, Kozmar H, Bartoli G (2023) Wind loads on tall buildings with porous double-skin façades, *under review*.
- 80) Golem P, Večenaj Ž, Kozmar H, Grisogono B (2023) A misalignment between the propagation direction of the Bora wind and its pulsations, *under review*.

Peer-reviewed conference contributions (75)

- 81) Nieto F, van Beeck J, Kozmar H (2023) Wind engineering for modular sustainable energy islands: project proposals and synergies for international collaborative research. *16th International Conference on Wind Engineering, Florence, Italy*.
- 82) Ivanković M, Manolesos M, Jentzsch M, Kozmar H, Nayeri CN (2023) Self-starting characteristics of wind turbines with passive flow-control devices on rotor blades. *16th International Conference on Wind Engineering, Florence, Italy*.
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- 89) Golem P, Večenaj Ž, Kozmar H, Grisogono B (2022) Systematic Differences in Moderate to Severe Bora Upwind and Downwind Turbulence. *Meteorological Challenges 8, Zagreb, Croatia*.
- 90) Golem P, Toman I, Večenaj Ž, Kozmar H, Grisogono B (2022) Windward Measurements and WRF Simulation of a Long-Lasting Severe Bora Event. *Meteorological Challenges 8, Zagreb, Croatia*.
- 91) Vladimir N, Koričan M, Kozmar H, Slapničar V, Fan A (2022) A simplified formulation of the energy efficiency index for purse seiners. *15th International Symposium on Practical Design of Ships and Other Floating Structures, Dubrovnik, Croatia*.
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- 94) Macháček M, Pospíšil S, Kozmar H (2020) Scaling of wind turbine aerodynamics: wind tunnel experiments. *MATEC Web of Conferences, Vyhne, Slovakia*.
- 95) Bejić A, Panić G, Pavlović B, Kozmar H (2020) Ponašanje i karakteristike ultrazvučnih plinomjera na distributivnom području GPZ. *35th International Scientific & Expert Meeting of Gas Professionals, Zagreb, Croatia*.
- 96) Panić G, Bejić A, Škrlec N, Kozmar H, Pavlović B (2020) Utjecaj vremenskog pomaka na točnost rada turbinskih plinomjera i dugotrajnu stabilnost mjerenja. *35th International Scientific & Expert Meeting of Gas Professionals, Zagreb, Croatia*.
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- 103) Cindori M, Džijan I, Juretić F, Kozmar H (2018) A novel steady RANS model for the computational modeling of the homogeneous atmospheric boundary layer flow over hilly terrain. *15th Conference of the Italian Association for Wind Engineering, Naples, Italy.*
- 104) Kuznetsov S, Pospíšil S, Kozmar H, Trush A (2018) Wind-tunnel modelling of wind flows above a hill in the thermally stratified atmospheric boundary layer. *8th International Conference on Environmental Effects on Buildings and People: Actions, Influences, Interactions, Discomfort, Cracow, Poland.*
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- 153) 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.*
- 154) Kozmar H (2006) Experimental simulation of the oncoming air flow on bridges. *International Conference on Bridges, Dubrovnik, Croatia.*
- 155) Kozmar H (2006) Experimentelle Untersuchungen von Windlasten auf Gebäude. *STAB Conference, German Aerospace Center (DLR), Göttingen, Germany.*
- + 30 invited lectures at leading international universities and research institutes (incl. *Duke University, University of California Berkeley, University of Notre Dame, Technical University of Munich, Technical University of Berlin, Graz University of Technology, University of Augsburg, Ruhr University Bochum, Freiberg University of Mining and Technology, KTH Royal Institute of Technology Stockholm*).

MAJOR COLLABORATIONS (in alphabetical order)

- 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 Günter Brenn (Graz University of Technology, Austria): natural building ventilation;
- 3) Professor Branko Grisogono (University of Zagreb, Croatia): bora wind turbulence;
- 4) Professor Ahsan Kareem (University of Notre Dame, USA): transient wind loads on vehicles, environmental loads on offshore wind turbines;
- 5) Professor Boris Laschka (Technical University of Munich, Germany): experimental modeling of the atmospheric boundary layer and wind effects on structures;
- 6) Dr. Christian Navid Nayeri (Technical University of Berlin, Germany): aerodynamic characteristics of wind-turbine rotor blades equipped with Gurney flaps and vortex generators;
- 7) 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;
- 8) Professor Wenxian Yang (Newcastle University, UK): environmental loads on offshore wind turbines.