

Darko Koračin

Professor Emeritus

Faculty of Science, Physics Department, University of Split
Ruđera Boškovića 33, 21000 Split, Croatia

Phone: 00385-21-619-238; E-mail: dkoracin@pmfst.hr

<https://www.pmfst.unist.hr/team/darko-koracin/?lang=en>

&

Research Professor Emeritus

Desert Research Institute

Nevada System of Higher Education

2215 Raggio Parkway, Reno, NV 89512, USA

Phone: 001-775-673-7332; E-mail: Darko.Koracin@dri.edu

&

Visiting Professor

Environmental Fluid Mechanics Laboratory, University of Notre Dame

Holy Cross Dr, Notre Dame, IN 46556

ORCID: 0000-0002-2043-5429

Web of Science: Y-3931-2018

Education

1989	Ph.D.	Physics-Atmospheric Physics, University of Nevada, Reno (UNR) /18 Aug/
1983	M.S.	Atmospheric Physics, University of Zagreb, Croatia /83-05/
1979	B.S.	Geophysics and Meteorology, University of Zagreb, Croatia /79-09/

Professional Experience

2023-present	Visiting Professor, University of Notre Dame, Indiana, USA
2021-present	Professor Emeritus, Faculty of Science, Physics Department University of Split, Croatia
2013-2021	Professor, Faculty of Science, Physics Department University of Split, Croatia
2017-present	Research Professor Emeritus, Desert Research Institute, Reno, Nevada, USA
2002-2013	Research Professor, Desert Research Institute
2006-2009	Director, Atmospheric Sciences Graduate Program, University of Nevada, Reno
1997-2002	Associate Research Professor, Desert Research Institute (DRI)
1994-present	Graduate faculty member, UNR
1990-1997	Assistant Research Professor, DRI, UNR
1989-1990	Postdoctoral Research Associate, Atmospheric Physics, DRI, UNR
1987-1989	Graduate Research Assistant, Atmospheric Physics, DRI, UNR
1984-present	Affiliated Research Scientist, University of Zagreb, Croatia
1984-1986	Sabbatical research, Danish National Agency for Environmental Protection (now the National Environmental Research Institute of Denmark)
1980-1986	Research Scientist, HMIZ, Zagreb, Croatia (microscale and mesoscale meteorological measurements and modeling)

Research Interests

Dr. Koračin investigates weather and climate phenomena through the development and application of high-resolution mesoscale meteorological models, fluid mechanics models as well as global and regional climate models. His expertise includes assessing the emission, transport, and dispersion of environmental pollutants using the US Environmental Protection Agency's regulatory and advanced air quality models for complex terrain as well as applying principles of artificial intelligence (neural networks). His research includes development of a higher-order turbulence closure atmospheric model, a cloud-resolving model, as well as turbulence and radiation parameterizations of existing models. Dr. Koračin also develops models for the transport and dispersion of atmospheric pollutants and integrates these with meteorological models. Applications include investigation of air-sea interaction, atmospheric dynamics and cloudiness in coastal regions, coupling of the oceanic and atmospheric models, real time weather forecasting; predictability and chaos in weather and climate modeling; atmospheric flow over complex terrain; assessment of wind energy;

and evaluation methods applied to atmospheric models. Research includes investigation of formation, evolution and dissipation of marine fog using observations and modeling.

Dr. Koračin has published 99 peer-reviewed articles in recognized U.S. and international journals and has presented over 150 conference papers at domestic and international conferences. He has served as a reviewer for over 40 peer-reviewed journals and various funding agencies in the U.S. and abroad. He has been invited to visit many institutions and participate in and design environmental research in the US, Denmark, Sweden, Slovenia, Croatia, Brazil, Turkey, Germany, Greece, Chile, and China. He was teaching graduate level classes and mentoring students in the M.S. and Ph.D. programs in the U.S., Slovenia, and Croatia.

Research areas

- Weather modeling and forecasting
- Coastal dynamics and marine fog
- Regional and global climate analysis and modeling in coastal regions
- Turbulence, radiation, clouds, and fog in the atmospheric boundary layer
- Wind regimes and air-sea interaction
- Dispersion simulations in the atmospheric boundary layer
- Air quality measurements and modeling
- Renewable energy assessment and predictions

Peer-reviewed publications:

Google Scholar (241016):

Citations: 3553 ; h-index: 33; i10-index: 66

Dr. Koračin has published over 80 peer-reviewed articles in recognized U.S. and international journals and has presented over 120 conference papers at domestic and international conferences. He has served as a reviewer for over 40 peer-reviewed journals and various funding agencies in the U.S. and abroad. He has been invited to visit many institutions and participate in and design environmental research in the US, Denmark, Sweden, Croatia, Brazil, Turkey, Australia, Greece, Uganda, China, and Chile. He is actively involved in the Atmospheric Sciences graduate program at the University of Nevada, Reno. He is teaching graduate level classes and mentoring students in the M.S. and Ph.D. programs.

Awards

2001 - Senior Scientist Specialist Award – Environmental Modeling, Fulbright Program.

2003 - Senior Scientist Specialist Award – Environmental Modeling, Fulbright Program.

2005 - Senior Scientist Specialist Award – Environmental Modeling, Fulbright Program.

Honors

2017 – Promoted to a Research Professor Emeritus by the Desert Research Institute, Reno, Nevada, USA

2021 – Promoted to a Professor Emeritus, Sveučilište u Splitu, Split, Croatia

Professional Activities

American Meteorological Society, member

American Geophysical Union, member

National Geographical Society, member

American Wind Energy Association, member

Service on Advisory Panels

Journal of the Geophysical Research - Atmospheres, Associate Editor

Geofizika, Associate Editor

American Meteorological Society, Committee on *Coastal Environment*, Chair

Member of the Renewable Energy Task Force, State of Nevada

California Air Resources Board Committee on: “Community Health Modeling”, member

California Air Resources Board –California Energy Commission Committee on “Urban scale dispersion”, member

California and Nevada Smoke and Air Committee (CANSAC) – Technical Advisory Subcommittee, member

AMS Annual Meeting, Member of Organizing and Program Committee

Program Chair for the AMS Coastal Conference on Atmospheric and Oceanic Processes and Prediction;

Member, Steering Committee, International Symposium on Visual Computing, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2018.

Member, Organizing Committee, Scientific Committee, 3rd International Conference on Finite Element Methods (FEMTEC), 2011, 2013

Desert Research Institute, chair of Academic Committee

Member of DRI’s Advanced Computing Group

Advances in Visual Computing -11th International Symposium, ISVC 2015, Las Vegas, NV, USA, December 14-16, 2015, Member of the Steering Committee.

ESCO 2016 – 5th European Seminar on Computing – 5th to 10th June 2016 – Member of the Scientific Committee.

Panel member for the Croatian National Science Foundation, 2019

Co-editor of the Special Volume for journal *Atmosphere*, 2020

Co-editor of the Special Volume for journal *Frontiers in Earth Sciences*, 2022

Publications

Koraćin, D. and R. Berkowicz, 1988: Nocturnal boundary-layer height: Observations by acoustic sounders and predictions in terms of surface-layer parameters. *Boundary-Layer Meteorol.*, **43**, 65-83.

Koraćin, D., 1989: Numerical simulations of the cloud-capped marine boundary layer. Ph.D. dissertation, University of Nevada, Reno, 151 pp.

Koraćin, D. and D. P. Rogers, 1990: Numerical simulations of the response of the marine atmosphere to ocean forcing. *J. Atmos. Sci.*, **47**, 592-611.

Rogers, D. P. and D. Koraćin, 1992: Radiative transfer and turbulence in the cloud-topped marine atmospheric boundary layer. *J. Atmos. Sci.*, **49**, 1473-1486.

Enger, L., D. Koraćin and X. Yang, 1993: A numerical study of the boundary layer dynamics in a mountain valley. Part 1: Model validation and sensitivity experiments. *Bound.-Layer Meteorol.*, **66**, 357-394.

Koraćin, D. and L. Enger, 1994: A numerical study of boundary layer dynamics in a mountain valley. Part 2: Observed and simulated characteristics of atmospheric stability and local flows. *Bound.-Layer Meteorol.*, **69**, 249-283.

Enger, L. and D. Koraćin, 1995: Simulations of dispersion in complex terrain using a higher-order closure model. *Atmos. Environ.*, **29**, 2449-2466.

Tjernström, M. and D. Koraćin, 1995: Modeling the impact of marine stratocumulus on the boundary-layer structure. *J. Atmos. Sci.*, **52**, 863-878.

Switzer, P., L. Enger, T.E. Hoffer, D. Koraćin, and W.H. White, 1996: Ambient sulfate concentrations near Grand Canyon as a function of fluctuating loads at the Mohave Power Project: An atmospheric experiment. *Atmos. Environ.*, **30**, 2551-2564.

Cohn, S.A., J. Hallett, and D. Koraćin, 1997: Blending education and research in atmospheric science - a case study. *Physics Today*, **50**, 34-39.

Koraćin, D., V. Isakov, and L. Mendez-Núñez, 1998: A cloud-resolving model with the radiation scheme based on the Monte Carlo method. *Atmos. Res.*, **47-48**, 437-459.

Koraćin, D., J. Frye, and V. Isakov, 2000: A method of evaluating atmospheric models using tracer measurements. *J. Appl. Meteor.*, **39**, 201-221.

Koraćin, D., D. Podnar, V. Isakov, J. Chow, Y. Dong, A. Miller, and M. McGown, 2000: PM₁₀ dispersion modeling for Treasure Valley, Idaho. *J. Air Waste Manage. Assoc.*, **50**, 174-185.

- Svensson, G., M. Tjernstrom, and D. Koračin, 2000: The sensitivity of a stratocumulus transition: Model simulations of the ASTEX First Lagrangian. *Boundary-Layer Meteorol.* **95**, 57-90.
- Koračin, D., V. Isakov, and J. Frye, 2000: A method of evaluating atmospheric models using tracer measurements: Main algorithms. *Int. J. Environment and Pollution*, **14**, Nos. 1-6, 89-97.
- Koračin, D., J. Lewis, W. T. Thompson, C. E. Dorman, and J. A. Businger, 2001: Transition of stratus into fog along the California coast: Observations and modeling. *J. Atmos. Sci.*, **58**, 1714-1731.
- Koračin, D., and C. Dorman, 2001: Marine atmospheric boundary layer divergence and clouds along California in June 1996. *Mon. Wea. Rev.*, **129**, 2040-2055.
- Beg Paklar, G., V. Isakov, D. Koračin, V. Kourafalou, and M. Orlic, 2001: A case study of bora-driven flow and density changes on the Adriatic shelf (January 1987). *Cont. Shelf Res.*, **21**, 1751-1783.
- Podnar, D., D. Koračin, and A. Panorska, 2002: Application of artificial neural networks to modeling the transport and dispersion of tracers in complex terrain. *Atmos. Environ.*, **36**, 561-570.
- Lewis, J., D. Koračin, R. Rabin, and J. Businger, 2003: Sea fog off the California coast: Viewed in the context of transient weather systems. *J. Geoph. Res. (Atmos.)*, **108**, No. D15, 4457, 10.1029/2002JD002833.
- Lewis, J., D. Koračin, and K. Redmond, 2004: Sea fog research in the UK and USA: Historical essay including outlook. *Bull. Amer. Met. Soc.*, **85**, 395-408.
- Koračin, D., C. E. Dorman, and E. P. Dever, 2004: Coastal perturbations of marine layer winds, wind stress, and wind stress curl along California and Baja California in June 1999. *J. Phys. Ocean.*, **34**, 1152-1173.
- Koračin, D., A. Kochanski, C. E. Dorman, and E. P. Dever, 2005: Wind stress curl and upwelling along the California coast. *Bull. Amer. Met. Soc.*, **86**, 629-630.
- Luria, M., R.L. Tanner, R.J. Valente, S. T. Bairai, D. Koračin, and A. W. Gertler, 2005: Local and transported pollution over San Diego California. *Atmospheric Environment*, **39**, 6765-6776.
- Koračin, D., D. F. Leipper, and John M. Lewis, 2005: Modeling sea fog on the U.S. California coast during a hot spell event. *Geofizika*, **22**, 59-82.
- Koračin, D., J. A. Businger, C. E. Dorman, and J. M. Lewis, 2005: Formation, evolution, and dissipation of coastal sea fog. *Bound.-Layer Meteorol.*, **117**, 447-478.
- Bebis, G., R. Boyle, D. Koračin, and B. Parvin, Eds, 2005: *Advances in Visual Computing. Lecture Notes in Computer Science*, **3804**, Springer, 755pp.
- Dorman, C. E., E. P. Dever, J. Largier, and D. Koračin, 2006: Buoy measured wind, wind stress, and wind stress curl over the shelf off Bodega Bay, California. *Deep Sea Res. II*, **53**, 2850-2864.
- Chow, J. C., J. G. Watson, L.-W. A. Chen, D. Koračin, B. Zielinska, D. Tang, F. Perera, J. Cao, and S.C. Lee, 2006: Exposure to PM_{2.5} and PAHs from the Tong Liang, China - Epidemiological Study. *J. Environ. Sci. Health Part A*, **41**, 517-542.
- Kochanski, A., D. Koračin, and C. E. Dorman, 2006: Comparison of wind stress algorithms and their influence on the wind stress curl using buoy measurements over the shelf of Bodega Bay, California. *Deep Sea Res. II*, **53**, 2865-2886.
- Bebis, G., R. Boyle, B. Parvin, D. Koračin, P. Remagnino, A. Nefian, G. Meenakshisundaram, V. Pascucci, J. Zara, J. Molineros, H. Thiesel, and T. Malzbender, Eds., 2006: *Advances in Visual Computing. Lecture Notes in Computer Science*, **LNCS 4291**, Vol. I, 916pp, Springer, Berlin.
- Bebis, G., R. Boyle, B. Parvin, D. Koračin, P. Remagnino, A. Nefian, G. Meenakshisundaram, V. Pascucci, J. Zara, J. Molineros, H. Thiesel, and T. Malzbender, Eds., 2006: *Advances in Visual Computing. Lecture Notes in Computer Science*, **LNCS 4292**, Vol. II, 906pp, Springer, Berlin.
- Vellore, R., D. Koračin, and M. Wetzal, 2006: Improvements in cloud predictions through modeling and visualization of the satellite imagery. *Lectures in Computer Science*, **LNCS 4292**, Vol. II, 544-553.
- Largier, J. L., C. A. Lawrence, M. Roughton, D. M. Kaplan, E. P. Dever, C. E. Dorman, R. M. Kudela, S. M. Bollens, F. P. Wilkerson, R. C. Dugdale, L. W. Botsford, N. Garfield, B. Kuebel-Cervantes, and D. Koračin, 2006: WEST: a northern California study of the role of wind-driven transport in the productivity of coastal plankton communities. *Deep Sea Research II*, **53**, 2833-2849.
- Koračin, D., A. Panorska, V. Isakov, J. S. Touma, and J. Swall, 2007: A statistical approach for estimating uncertainty in dispersion modeling: an example of application in southwestern U.S., *Atmos. Environ.*, **41**, 617-628.
- Isakov, V., A. Venkatram, J. Touma, D. Koračin, and T. L. Otte, 2007: Evaluating the use of outputs from comprehensive meteorological models in air quality applications: A case study in Wilmington, CA. *Atmos. Environ.*, **41**, 1689-1705.

- Vellore, R., D. Koraćin, M. Wetzel, S. K. Chai, and Q. Wang, 2007: Challenges in mesoscale predictions of nocturnal stratocumulus-topped marine boundary layer and implications for operational forecasting. *Wea. Forecasting*, **22**, 1101-1122.
- Bebis, G., R. Boyle, B. Parvin, D. Koraćin, N. Paragios, S.-M. Tanveer, T. Ju, Z. Liu, S. Coquillart, C. Cruz-Neira, T. Muller, and T. Malzbender, Eds., 2007: Advances in Visual Computing. *Lecture Notes in Computer Science*, **LNCS 4291**, Vol. I, 831pp, Springer, Berlin.
- Bebis, G., R. Boyle, B. Parvin, D. Koraćin, N. Paragios, S.-M. Tanveer, T. Ju, Z. Liu, S. Coquillart, C. Cruz-Neira, T. Muller, and T. Malzbender, Eds., 2007: Advances in Visual Computing. *Lecture Notes in Computer Science*, **LNCS 4842**, Vol. II, 827pp, Springer, Berlin.
- McAlpine, J.D., D. Koraćin, K. Veropoulos, D. Boyle, E. McDonald, and G. Lamorey, 2007: Determining atmospheric dust concentrations during strong flow perturbations using a digital-optical technique. *Lecture Notes in Computer Science: Advances in Visual Computing*, **4841**, 393-402.
- Dorman, C.E., and D. Koraćin, 2008: Response of the summer marine layer flow to an extreme California coastal bend. *Mon. Wea. Rev.*, **136**, 2894-2922.
- Beg Paklar, G., N. Žagar, M. Žagar, R. Vellore, D. Koraćin, P.-M. Poulain, M. Orlić, I. Vilibić, and V. Dadić, 2008: Modeling the trajectories of satellite-tracked drifters in the Adriatic Sea during a summertime bora event, *J. Geophys. Res.*, **113**, C11S04, doi:10.1029/2007JC004536.
- Pullen, J., J. Ching, D. Sailor, W. Thompson, B. Bornstein, and D. Koraćin, 2008: Progress toward meeting the challenges of our coastal urban future. *Bull. Amer. Meteor. Soc.*, **89**, 1727-1731.
- Weinroth, E., W. Stockwell, D. Koraćin, J. Kahyaoglu-Koraćin, M. Luria, T. McCord, D. Podnar, and A. Gertler, 2008: A hybrid model for local and regional ozone forecasting. *Atmos. Environ.*, **42**, 7002-7012.
- Bebis, G., R. D. Boyle, B. Parvin, D. Koraćin, P. Remagnino, F. M. Porikli, J. Peters, J. T. Klosowski, L. L. Arns, Y. K. Chun, T.-M. Rhyne, L. Monroe: *Advances in Visual Computing*. 4th International Symposium, ISVC 2008, Las Vegas, NV, USA, December 1-3, 2008. Proceedings, Part I Springer 2008.
- Bebis, G., R. D. Boyle, B. Parvin, D. Koraćin, P. Remagnino, F. M. Porikli, J. Peters, J. T. Klosowski, L. L. Arns, Y. K. Chun, T.-M. Rhyne, L. Monroe: *Advances in Visual Computing*. 4th International Symposium, ISVC 2008, Las Vegas, NV, USA, December 1-3, 2008. Proceedings, Part II Springer 2008.
- Beg Paklar, G., D. Koraćin, and C. Dorman, 2009: Wind-induced ocean circulation along California and Baja California coasts in June 1999. *Atmos. Res.*, **94**, 106-133.
- Belu, R., and D. Koraćin, 2009: Wind characteristics and wind energy potential in western Nevada. *Renewable Energy*, **34**, 2246-2251. [IF: 13.5; Q1]
- Lowenthal, D. H., J. G. Watson, D. Koraćin, L.-W. A. Chen, D. Dubois, R. Vellore, N. Kumar, E. M. Knipping, N. Wheeler, K. Craig, and S. Reid, 2010: Evaluation of regional scale receptor modeling. *J. Air & Waste Manage. Assoc.*, **60**, 26-42.
- Chen, L.-W.A., D. Lowenthal, J.G. Watson, D. Koraćin, D. Dubois, R. Vellore, N. Kumar, E.M. Knipping, N. Wheeler, K. Craig, S. Reid, 2010: Factors or sources: investigation of multivariate receptor modeling with simulated PM2.5 data. *J. Air & Waste Manage. Assoc.*, **60**, 43-54.
- Bebis, G., R. D. Boyle, B. Parvin, D. Koraćin, Y. Kuno, J. Wang, R. Pajarola, P. Lindstrom, A. Hinkenhann, M.L. Encarnacao, C.T. Silva, D. Coming (Eds.): *Advances in Visual Computing*. 5th International Symposium, ISVC 2009, Las Vegas, NV, USA, 30 November -2 December, 2009. Proceedings, Part I, Lecture Notes in Computer Science, 5876, Springer, 2009, 1117p.
- Bebis, G., R. D. Boyle, B. Parvin, D. Koraćin, Y. Kuno, J. Wang, R. Pajarola, P. Lindstrom, A. Hinkenhann, M.L. Encarnacao, C.T. Silva, D. Coming (Eds.): *Advances in Visual Computing*. 5th International Symposium, ISVC 2009, Las Vegas, NV, USA, 30 November -2 December, 2009. Proceedings, Part II, Lecture Notes in Computer Science, 5876, Springer, 2009, 1197.
- McAlpine, J.D., D. Koraćin, D. P. Boyle, J. A. Gillies, and E. V. McDonald, 2010: Development of a rotorcraft dust-emission parameterization using a CFD model. *Environ. Fluid Mechan.*, **10**, 691-710.
- Bebis, G., R. Boyle, B. Parvin, D. Koraćin, R. Chung, R. Hammound, M. Hussain, T. Kar-Han, R. Crawfis and D. Thalmann, 2010: Advances in Visual Computing. *Lecture Notes in Computer Science*, **6455**, 2010, Springer Publishing. DOI: 10.1007/978-3-642-17277-9.
- Žabkar, R., J. Rakovec, and D. Koraćin, 2010: The roles of regional accumulation and advection of ozone during high ozone episodes in Slovenia: a WRF/Chem modelling study. *Atmos. Environ.*, **45**, 1192-1202.
- Koraćin, D., R. Vellore, D. H. Lowenthal, J. G. Watson, J. Koraćin, T. McCord, D. W. DuBois, L.-W. Antony Chen, N. Kumar, E. M. Knipping, N. J. M. Wheeler, K. Craig, and S. Reid. 2011: Regional source identification using Lagrangian stochastic particle dispersion and HYSPLIT backward-trajectory models. *J. Air & Waste Manage. Assoc.*, **61**, 660-672. DOI:10.3155/1047-3289.61.6.660.

- Mejia, J.F., J. Huntington, B. Hatchett, D. Koračin, and R.G. Niswogner, 2012: Linking global climate models to an integrated hydrologic model: Using an individual station downscaling approach. *J. of Contemporary Water Research & Education*, **147**, 17-27. []
- Bebis, G., R. Boyle, B. Parvin, D. Koračin, C. Fowlkes, S. Wang, M-H. Choi, S. Mantler, J. Schulze and D. Acevedo (eds), 2012: Advances in Visual Computing, 8th International Symposium, ISVC 2012, Rethymnon, Crete, Greece, July 16-18, 2012, Revised Selected Papers, Parts I and II, Lecture Notes in Computer Science, Volumes 7431 and 7432, doi: 10.1007/978-3-642-33179-4 and doi: 10.1007/978-3-642-33191-6
- Horvath, K., D. Koračin, R. Vellore, J. Jiang, and R. Belu, 2012: Sub-kilometer dynamical downscaling of near-surface winds in complex terrain using WRF and MM5 mesoscale models. *J. Geophys. Res. – Atmospheres*, **117**, D11111, doi:10.1029/2012JD017432.
- Seo, H., K.H. Brink, C.E. Dorman, D. Koračin, and C.A. Edwards, 2012: What determines the spatial pattern in summer upwelling trends on the U.S. West Coast? *J. Geoph. Res.-Oceans*, **117**, C08012, doi:10.1029/2012JC008016.
- Žabkar, R., D. Koračin, and J. Rakovec, 2013: A WRF/Chem sensitivity study using ensemble modelling for a high ozone episode in Slovenia and the Northern Adriatic area. *Atmospheric Environment*, **77**, 990-1004.
- Belu R.G and D. Koračin, 2013: Statistical and spectral analysis of wind characteristics relevant to wind energy assessment using tower measurements in complex terrain. *Journal of Wind Energy*, Volume 2013 (2013), 739162. doi:10.1155/2013/739162. <http://dx.doi.org/10.1155/2013/739162>
- Dorman, C. E., J. F. Mejia, and D. Koračin, 2013: Impact of U.S. west coastline inhomogeneity and synoptic forcing on winds, wind stress, and wind stress curl during upwelling season. *J. Geophys. Res. Oceans*, **118**, 4036–4051, doi:10.1002/jgrc.20282.
- Koračin, D., R. Belu, B. Canadillas, K. Horvath, R. Vellore, C. Smith, J. Jiang, and T. McCord, 2014: A review of challenges in assessment and forecasting of wind energy resources. *Croat. Met. Journal.*, **47**, 13-33. []
- Koračin, D., C. E. Dorman, J. M. Lewis, J. G. Hudson, E. M. Wilcox, and A. Torregrosa, 2014: Marine fog: A review. *Atmospheric Research*, **143**, 142-175.
- Smith, C. M., Koračin, D. R., Horvath, K., 2014: Day-ahead predictability of complex terrain flows for wind resource production: a case study of the Washoe Zephyr. *Weather and Forecasting*, **29**, 1343-1355, doi: 10.1175/WAF-D-14-00021.1.
- Bebis, G., R. Boyle, B. Parvin, D. Koračin, R. McMahan, J. Jerald, H. Zhang, S. Drucker, K. Chandra, E.C. Maha, Z. Deng, M. Carlson, M. (Eds.) 2014: Advances in Visual Computing, Lecture Notes in Computer Science (LNCS), Vols. 8887, 8888, 10th International Symposium, ISVC 2014, Las Vegas, Nevada, USA, Dec 8-10, 2014.
- Belu, R., and D. Koračin, 2014: Chapter 1: Wind Energy Assessment and Analysis. In: Advances in Energy Research (ed. M.J. Acosta), **20**, Nova Science Publishers, pp. 1-55.
- Belu, R., and D. Koračin, 2014: Wind energy assessment and analysis. *International Journal of Energy, Environment and Economics*. **22.2**, 131-185.
- Belu R.G and D. Koračin, 2015: Wind Energy Analysis and Assessment, *Advances in Energy Research*, Vol. 20(1), pp. 1-55
- Bebis, G., R. Boyle, B. Parvin, D. Koračin, I. Pavlidis, R.S. Feris, T. McGraw, M. Elendt, R. Kopper, E. Ragan, Z. Ye, G. Weber, (Eds.) 2015: Advances in Visual Computing", Lecture Notes in Computer Science (LNCS), Vols. 9474, 9475, 11th International Symposium, ISVC 2015, Las Vegas, Nevada, USA, Dec 14-16, 2015.
- Hatchett, B., D. Koračin, J. Mejia, and D. Boyle, 2016: A need for incorporating urban heat island effects into future climate projections: A case study in Reno, Nevada, USA. *J. of Arid Environments*, **125**, 59-64, doi:10.1016/j.jaridenv.2016.01.007.
- Semmler, T., L. Štulić, T. Jung, N. Tilina, C. Campos, S. Gulev, and D. Koračin, 2016: Impact of reduced Arctic sea ice on atmosphere circulation and cyclone development in an ensemble of coupled model simulations. *J. of Climate*, **29**, 5893-5913, doi:10.1175/JCLI-D-15-0586.1.
- Bebis, G., R. Boyle, B. Parvin, D. Koračin, F. Porikli, S. Skaff, A. Entezari, J. Min, D. Iwai, A. Sadagic, C. Scheidegger, and T. Isenberg, 2016: Advances in Visual Computing, 12th International Symposium, ISVC 2016, Las Vegas, NV, USA, December 12-14, 2016, Lecture Notes in Computer Science, Volume 10072. ISBN: 978-3-319-50834-4 (Print) 978-3-319-50835-1 (Online).
- Koračin, D., and C. E. Dorman, (Eds.), 2017: *Marine Fog: Challenges and Advancements in Observations and Forecasting*. Springer Atmospheric Sciences Series, Springer International Publishing, Cham, Switzerland. doi 10.1007/978-3-319-45229-6, ISBN 978-3-319-45227-2., 537 pp.

- Dorman, C.E., J. Mejia, D. Koračin, and D. McEvoy, 2017: Worldwide marine fog occurrence and climatology. In: *Marine Fog: Challenges and Advancements in Observations and Forecasting* (eds: D. Koračin and C.E. Dorman). Springer International Publishing, Cham, Switzerland, 7-152. doi: 10.1007/978-3-319-45229-6_2.
- Koračin, D., 2017: Modeling and forecasting marine fog. In: *Marine Fog: Challenges and Advancements in Observations and Forecasting* (eds: D. Koračin and C.E. Dorman). Springer International Publishing, Cham, Switzerland, 425-475. doi: 10.1007/978-3-319-45229-6_9.
- Belu, Radian, Darko Koračin, and Lucian-Ionel Cioca, 2017: Chapter 9. Spatial Planning of Offshore Wind Farms: Criteria and Methods (pp. 229-256). In: *Marine Spatial Planning: Methodologies, Environmental Issues and Current Trends. (Dimitra Kitsiou and Michael Karydis (eds.))*. Nova Science Publishers, Inc., ISBN 978-1-53612-170-4. 491 pp., Hauppauge, NY, 11788 USA.
- Wang Q., S. Zhang, Q. Wang, M. Zhaoxi, D. Koračin, and S-H Gao, 2018: A Fog Event off the Coast of the Hangzhou Bay during Meiyu Period in June 2013. *Aerosol and Air Quality Research*, 18, 91-102. doi: 10.4209/aaqr.2016.11.0489.
- Bebis, G., R. Boyle, B. Parvin, D. Koračin, M. Turek, S. Ramalingam, K. Xu, S. Lin, B. Alsallakh, J. Yang, E. Cuervo, J. Ventura, (Eds.) 2018: *Advances in Visual Computing, Lecture Notes in Computer Science (LNCS)*, Vol. 11241, 13th International Symposium, ISVC 2018, Las Vegas, Nevada, USA, Nov 19-21, 2018.
- Mejia, J., D. Koračin, and E. Wilcox, 2018: Effect of coupled GCM SST biases on simulated climate of the western U.S. *Int. J. of Clim.* doi: 10.1002/joc.5817.
- Toro, A. R., M. Kvakić, Z.B. Klaić, D. Koračin, S. R. G. E. Morales, and G.M.A. Leiva, 2019: Exploring atmospheric stagnation during a severe particulate matter air pollution episode over complex terrain in Santiago, Chile. *Environmental Pollution*, **244**, 705–714. <https://doi.org/10.1016/j.envpol.2018.10.067>.
- Belu, R., and D. Koračin, 2019: Regional analysis of wind velocity patterns in complex terrain. *Geofizika*, **36**(2), 111–130. <https://doi.org/10.15233/gfz.2019.36.6>.
- Bebis George, R Boyle, D. Koračin, B. Parvin, D. Ushizima, S. Chai, L. Sueda, X.L.u A. Lin, D. Thalmann, C.X. Wang P. Xu, 2019: *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)* Vols. 11844, 11845, 14th International Symposium on Visual Computing, ISVC 2019, Lake Tahoe, Nevada, USA, October 7-9, 2019.
- Dorman, C. E., J. Mejia, D. Koračin, and D. McEvoy, 2020: World marine fog analysis based on 58-years of ship observations. *International Journal of Climatology*, **40**(1), 145–168. <https://doi.org/10.1002/joc.6200>
- Radilović, S., D. Koračin, C. Denamiel, D. Belušić, I. Güttler, and I. Vilibić, 2020: Simulated and observed air temperature trends in the eastern Adriatic. *Atmospheric Science Letters*, **21**(1). <https://doi.org/10.1002/asl.951>.
- Bergot, T., and D. Koračin, 2021: Observation, Simulation and Predictability of Fog: Review and Perspectives. *Atmosphere*, 12, 235. <https://doi.org/10.3390/atmos12020235>
- Li, X., S. Zhang, D. Koračin, L. Yi, X. Zhang, 2022: Atmospheric conditions conducive to marine fog over the northeast Pacific in winters 1979-2019. *Frontiers in Earth Sciences*, 10:942846. doi: 10.3389/feart.2022.942846.
- Wang, G., D. Koračin, D., and D. Kang, eds., 2023: *Advances in observations and modeling of physical processes in the marine environment*. Lausanne: Frontiers Media SA. doi: 10.3389/feart.2022.1116287.
- Wang G, D. Koračin, and D. Kang, 2022: Editorial: Advances in observations and modeling of physical processes in the marine environment. *Front. Earth Sci.* 10:1116287. doi: 10.3389/feart.2022.1116287.
- Veljović Koračin, K., N. Kovačević, and D. Koračin, 2023: Regional characteristics of cloudiness in Serbia during the period 1991–2017. *Meteorological Applications*, 30(2), e2120. <https://doi.org/10.1002/met.2120>
- Koračin, D., K. Pandžić, and K. Veljović Koračin, 2024: Climate variations of the summer season maximum air temperatures and associated heat waves over the eastern Adriatic coast for the period 1961-2018. *Theoretical and Applied Climatology*. <https://doi.org/10.1007/s00704-024-05206-z>.
- Koračin, D., Dorman, C.E. & Fernando, H.J.S., 2024: Frontal effects on the rapid formation of a deep layer of marine fog and cloud in the NW Atlantic. *Quarterly Journal of the Royal Meteorological Society*, 1–18. <https://doi.org/10.1002/qj.4843>.

Teaching

Graduate/undergraduate Teaching (University of Split, Croatia) - Instructor

Selected Chapters of Environmental Physics – Air Pollution (L:30; Ex:10) (2010s, 2011s, 2012s, 2015s, 2016s, 2017s, 2018s, 2019s, 2021s)
 Global Climate Change (L:30; Ex:15) (2011, 2013, 2014s, 2014f, 2015f, 2016f)
 Mathematical Methods in Physics I (L:30; Ex:15) (2013f)
 Numerical Modeling of Atmospheric Dynamics (L:20; Ex:10) (2013f, 2016s, 2018f)
 Introduction to Meteorology (L:30; Ex:10) (2014f, 2016f, 2017f, 2018f)
 Introduction to Geophysics (L:30; Ex:15) (2015s, 2016s, 2017s, 2018s)
 Measurement Techniques in Meteorology (L:30; Ex:30) (2015s, 2016s, 2017s)
 Research in Environmental Physics (L:20) (2015f, 2016s, 2016f, 2017f, 2018f)
 Seminar in Environmental Physics (L:20; Ex:20) (2015f, 2016s, 2016f, 2017f, 2018f)
 Environmental Changes and Risks (L:30; Ex:15) (2016f, 2017f; 2018f)
 Atmospheric Pollution (L:30; Ex:15) (2018s, 2019s, 2020s, 2021s, 2022s)
 Climate System (L:35; Ex:20) (2017f, 2018f, 2019f, 2020f, 2021f, 2022f)

Graduate/undergraduate Teaching (University of Split, Croatia) – Co-instructor

Statistical Physics II (L:10; Ex:5) (2013f, 2015s)
 Dynamics and Modeling of Geophysical Fluids (L:10; Ex:5) (2016f)

Graduate Teaching (University of Nevada, Reno)

PHYS 771R “Boundary-Layer Modeling” (Spring 1994, Spring 1996)
 ATMS 742 “Regional and Mesoscale Dynamics” (Fall 1995, Spring 1998, Spring 2000, Spring 2002, Spring 2004)
 ATMS 749 “Atmospheric Radiation” (Spring 1997, Spring 1999, Spring 2001, Spring 2004)
 ATMS 746 “Atmospheric Modeling” (Fall 1997, Fall 1999, Fall 2001, Fall 2003, Spring 2006, Fall 2008, Spring 2013)
 ATMS 792 “Modeling Laboratory” (Spring 2008)
 ATMS 745 “Atmospheric Turbulence” (Spring 2010)
 ATMS 792 “Climate Modeling” (Spring 2012)

Graduate Teaching (University of Zagreb, Croatia)

Atmospheric Modeling (1999, 2001, 2003, 2005, 2007, 2009, 2011, 2013, 2015, 2017, 2019, 2020, 2021, 2022)

Graduate Teaching (University of Ljubljana, Slovenia)

Numerical Methods in Meteorology (2013s)

Lecture series at the Ocean University of China, Qingdao, China

Observations and modeling of marine fog (30.10-1.11. 2016, 16.6-1.7. 2018)

Lecture series at the Institute of Tropical and Marine Meteorology, Guangzhou, China

Weather and climate modeling applied to marine fog (27.7.-2.8. 2013, 2.11.-14.11. 2014, 22.10.-6.11. 2016)

Lecture series at the Aegean University, Lesvos, Greece

Numerical weather and climate modeling of the atmospheric boundary layer (15.05-22.05. 2017)

Graduate Advisees

1. Nash'at Ahmad, M.A. - Atmospheric Science. Thesis: A Numerical Study of Atmospheric Boundary Layer Dynamics over Complex Terrain (defended 12/96)
 Current affiliation: NASA, Langley
2. John Lukas, Ph. D. - Atmospheric Science. Dissertation: Similarity Functions and the Heat Budget Terms in a Shallow Convective Boundary Layer (defended 5/97)

- Current affiliation: Dynakin Corp., France
3. Vlad Isakov, Ph.D. - Atmospheric Science. Dissertation: Evaluation of Atmospheric and Dispersion Models in Complex Terrain by Using Tracer Measurements (defended 1/98)
Current affiliation: U.S. EPA, NC
 4. Pinaki Saha, M.A. - Atmospheric Science. Thesis: A Synthesis of Observations and Simulations of the U.S. West Coast Summertime Weather Phenomena (defended 5/98)
Current affiliation: Anshar Labs, Chicago, Illinois.
 5. Domagoj Podnar, M.A. - Atmospheric Science. Thesis: Simulations of the Land and Sea Breezes on the U.S. West Coast (defended 5/99)
Current affiliation: Desert Research Institute, Reno, Nevada
 6. Sherri del Soldato, M.A. - Atmospheric Science. Thesis: The Adaptation and Implementation of a High Wind Event Prediction Model for the Truckee Meadows (Reno/Sparks, Nevada) (defended 12/00)
Current affiliation: UNR, Fleischman Planetarium, Reno, Nevada
 7. Narendra Adhikari, M.A.- Atmospheric Science. Thesis: Observation and Modeling of Nocturnal Marine Stratocumulus (defended 12/03)
Current affiliation: McGill University, Canada
 8. Adam Kochanski, M.S. – Atmospheric Science. Thesis: Comparison of Wind Stress Algorithms and Their Influence on the Wind Stress Curl Using Buoy Measurements over the Shelf off Bodega Bay, California (defended 12/29/04)
Current affiliation: University of Utah, Salt Lake City, UT
 9. Ramesh Vellore, Ph.D. – Atmospheric Science. Dissertation: Challenges in Forecasting the Cloud-capped marine boundary Layer and Utilization of Satellite Data to Improve Mesoscale Modeling (Thesis defended 12/07/06)
Current affiliation: Institute of Tropical Meteorology, Pune, India
 10. Marshall Liddle, M.S., - Atmospheric Science. Thesis: Towards a Better Wind Power Map of Nevada (defended 5/7/08)
Current affiliation: UNR, Desert Research Institute, Reno, Nevada
 11. Adam Kochanski, Ph.D. – Atmospheric Science. Dissertation: On the Practical Applications of Atmosphere-ocean and Atmosphere-wave Coupling (defended 8/08)
Current affiliation: University of Utah, Salt Lake City, Utah
 12. Jerrold McAlpine, M.S., - Atmospheric Science. Thesis: Lagrangian Stochastic Dispersion Modeling in the Atmospheric Surface Layer with an Embedded Strong Flow Perturbation (defended 27 April 2009)
Current affiliation: Desert Research Institute, Reno, Nevada
 13. Benjamin Hatchett, M.S., - Atmospheric Science. Thesis : Integrating Urban Heat Island Influences into Statistically Downscaled Climate Projections for the Truckee Meadows, Nevada (defended 5/12)
Current affiliation: Desert Research Institute, Reno, Nevada
 14. Jerrold McAlpine, Ph.D., - Atmospheric Science. Dissertation: Development of a Mobile Dust Source Parameterization Using an Inverse Lagrangian Stochastic Modeling Technique (defended 16 Nov 2012). Current affiliation: ENVIRON Corp.
 15. Josipa Jurić, Bsc. thesis, University of Split, Croatia. Thesis: Impact of Global Climate on the Eastern Adriatic Coast (defended 12/12/2013)
Current affiliation: University of Split, Croatia.
 16. Amanda Young, M.S., University of Nevada, Reno. Thesis: Sensitivity Analysis of Probabilistic Multi-model Ensemble Forecasts of Wintertime Fronts over Northwestern Nevada (defended 12/14)
Current affiliation: Naval Air Station, Fallon, Nevada
 17. Zvonko Ivanović, Bsc. thesis: Effects of condensation on propagating patterns in the tropics. University of Split, Croatia (thesis defended 28 September 2016). 35 pp.
Current affiliation: University of Split, Croatia.
 18. Ante Bralić, Bsc. thesis: An evaluation of regional climate models in deterministic and probabilistic modes for the Adriatic region. University of Split, Croatia (thesis defended 25 September 2017). 69 pp.
Current affiliation: University of Split, Croatia.
 19. Karlo Penović, Bsc. thesis: Projections of Adriatic climate by using regional climate models. University of Split, Croatia (thesis defended 25 September 2017). 88 pp.
Current affiliation: University of Split, Croatia.

20. Emil Eterović, Bsc. thesis: Teleconnection of Adriatic climate with short-periodic climate variabilities. University of Split, Croatia (thesis defended 26 September 2017). 96 pp.
Current affiliation: University of Split, Croatia.
21. Marijana Gjergja, Bsc. thesis: Spatial and temporal properties of the sea surface temperature in the Adriatic region based on satellite measurements and station data. University of Split, Croatia (thesis defended 26 September 2017). 44 pp.
Current affiliation: University of Split, Croatia.
22. Iva Tojčić, Bsc. thesis: Influence of the North Atlantic and East Atlantic oscillations on European climate. University of Split, Croatia (thesis defended 18 September 2019).
23. Tihana Dević, Bsc. thesis: Analysis of cyclone tracks over southern Europe and their effects on weather in the Adriatic region. University of Split, Croatia (thesis defended on 18. Sep 2020). 40 pp.
24. Slavko Radilović, Ph.D. dissertation: Opažanja i modeliranje klimatskih trendova temperatura zraka i mora za jadransko područje (Observations and Modeling of Air and Sea Temperature Climate Trends in the Adriatic Region) University of Zagreb, Croatia (dissertation defended 23 July 2021), 87 pp.
Current affiliation: University of Split, Croatia; Croatian Meteorological and Hydrological Service.
25. Denk, L., 2022: Lagrangian simulations of pollutants under conditions of bora and sirocco winds in the middle Adriatic using FLEXPART-WRF (Lagranžijske simulacije polutanata u uvjetima bure i juga na srednjem Jadranu korištenjem FLEXPART i WRF modela). BSc. Thesis. Faculty of Science, University of Split and the University of Bremen, Germany, 46 pp.
25. Marko Zoldoš, Ph.D., University of Zagreb, Croatia (in progress).
Current affiliation: Meteorological Service, Zagreb Airport; Addiko Bank, Zagreb, Croatia
26. Filip Frntić, Ph.D., University of Zagreb, Croatia (in progress)
Current affiliation: University of Split, Croatia

Post-doctoral Advisees

1. Vlad Isakov, Ph.D. (1998/99); U.S. EPA, NC
2. Yi Mi, Ph.D (1998); China
3. Ragothaman Sundararajan, Ph.D. (2001/2002); India
4. Ramesh Vellore (2007-2011); Institute of Tropical Meteorology, Pune, India
5. Radian Belu (2008); University of Alaska, Anchorage, AK
6. Kristian Horvath (2009; 2011); Meteorological and Hydrological Service, Zagreb, Croatia
7. John Mejia (2009-2012); DRI
8. Linlin Pan (2009); NCAR, Boulder, CO
9. Jinhua Jiang (2010-2012); DRI, China
10. Craig Smith (2012-2013); DRI, USA