VLADO SPIRIDONOV
Doctor of Meteorological Sciences
PhD in Meteorology

A brief CV

Current position

2020- Full Professor of Meteorology and Atmospheric Physics, Institute of Physics, PMF at the University of St. Cyril and Methodius" in Skopje

2017-2019 Visiting Professor of Meteorology, University of Vienna, Austria

E-mail: vlado.spiridonov@pmf.ukim.mk;
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Tel.: + 389 70 55 16 55

EDUCATION

3/2000 - 8/2002 Doctor of Meteorological Sciences
Institute of Meteorology, Faculty of Physics, University of Belgrade

3/1998 - 3/2000 Master of Meteorological Sciences
Institute of Meteorology, Faculty of Physics, University of Belgrade

11/1994 - 09/1998 Specialist in meteorology
Institute of Meteorology, Faculty of Physics, University of Belgrade

9/1982 –9/1987 Graduated Meteorological Engineer
Faculty of Science and Mathematics
Institute of Physics - Meteorology, Skopje, Macedonia

PROFESSIONAL POSITIONS AND FUNCTIONS

09/2014 Representative from PMF in the National Committee for Climate Change
08/2013 Chief delegate from Macedonia in the Global Framework for Climate Change (GFCS) in the World Meteorological Organization- "WMO"
11/2014 Delegate from Macedonia to WMO (GFCS) at IBCS-2
09/2008- Representative from Macedonia in the Commission for Atmospheric Sciences in the World Meteorological Organization (WMO)
09/2008 State Counselor for International Cooperation in HMRC
12/2006 Advisor to the permanent representative of Macedonia in the WTO
10/2006 Head of Department for International Cooperation and State Counselor for International Cooperation in the Meteorological Field
5/2004 – 08/2006 Director of the Administration for Hydrometeorological Affairs and permanent representative of the Republic of Macedonia with the World Meteorological Organization (WMO)

ACADEMIC POSITION

09 / 2000-06 / 2001 assistant in meteorology at the Natural and Mathematical faculty-"PMF, Institute of Physics and Meteorology".
09 / 2004-09 / 2006 Meteorology lecturer at PMF
09 / 2007-09 / 2012 Titled assistant professor at the Faculty of Arts
08 / 2012-08 / 2017 Titled associate professor-PMF
10 / 2017-10 / 2019 Visiting Professor of Meteorology, University of Vienna, "Faculty of Earth Sciences, geography and astronomy", Institute of Meteorology and Geophysics, Vienna, Austria
10/2019-10/2021 Honorary visiting professor at the Faculty of Information sciences and computer engineering - "FINKI"
10/2023- Visiting professor at the University of Pristina

AREAS OF RESEARCH

- Modeling the atmosphere
- Physics and chemistry of convective clouds
- Climate and climate change
- Numerical weather forecast
- Extreme weather and climate events
- Urban meteorology
- Biometeorology

INVITED LECTURES AND SEMINARS

2 / 2006-2 / 2006 Invited lecturer at Aristotle University in Thessaloniki Geological School, Department of Meteorology and Climatology gr-541 24 Thessaloniki, Greece, "Application of cloud chemistry model in simulation of chemical properties of convective clouds"

6 / 2006-6 / 2006 Organization and Chairman of Numerical Time Forecasting Symposia. Ohrid, May 25-26, 2006

5 / 2007-5 / 2007 Government representative at IPCC meeting Twenty-sixth Session of the IPCC Bangkok, Thailand

6 / 2007-6 / 2007 Invited Lecturer from the Thai Department of Meteorology of the Ministry of Technology and Informatics. "Seminar on: Cloud Model Application in Thai Language Meteorological Department" 11-13 June 2007 TMD, Bangkok, Thailand

8 / 2007-9 / 2007 Invited Lecturer from the Thai Department of Meteorology of Ministry of Technology and Informatics Training Seminar on Hydrological Forecasting and Flood, Warning System "August 27-31, 2007 TMD, Bangkok-Thailand

3 / 2008-2 / 2008 Invited lecturer from the Korean Administration for meteorology KMA Convective Cloud Model Application Training Seminar “March 27-31, 2008 KMA, Seoul-Korea

3 / 2008-3 / 2008 Invited lecturer at the Department of Atmospheric Science, Kongyu National University, Kongyu, Korea Research and operational use of chemistry in model clouds (theoretical part and installation)

4 / 2008-4 / 2008 Invited lecturer at the Italian Meteorological service, National Center for Aeronautical Meteorology, April 2, 2008, Rome, Italy "Application of a Cloud Chemistry Model in the Simulation of Physical and Chemical Properties of Convective Clouds

9 / 2008-9 / 2008 Invited Lecturer from the Malaysian Department of Meteorology. Training seminar on the application of the cloud-chemistry model in MMD "September 22-24, 2008 MMD, Kuala Lumpur-Malaysia

9 / 2008-9 / 2008 Invited lecturer from King Moncut University in Technology-Thongburi, Joint Graduate School of Environment and Energy Special Seminar on Cloud Modeling - Chemistry” September 25, 2008 KMMUT- JGSEEE, Bangkok. Thailand

5 / 2009-5 / 2009 Special Seminar on Global Climate Change, weather and air quality studies in the 21st century, Bangkok, Thailand, Ministry of Environment, Thailand Air Quality Center of Excellence

1 / 2010-2 / 2010 Special workshop on weather change and

rainfall enhancement, Bangkok, Thailand, Ministry of Agriculture, Thailand, Royal Bureau of Rain Production and Agricultural Aviation

12 / 2011-12 / 2011 Advanced Cloud Chemistry Model Seminar Volcanic Ash Transport and Dispersion Tool for Early Warning and Evacuation, Slovak Hydrometeorological Service, Bratislava Slovakia

05 / 2012-05 / 2012 Cloud Chemistry Model as Advanced a tool for analyzing volcanic fragment transport and dispersion for early warning and evacuation" University of Bologna - Faculty of Mathematical, Physical and Natural Sciences,

06 / 2012-06 / 2012 Application of the cloud chemistry model in simulation, of cloud seeding for weather modification, air quality and chemistry-climate studies. Bulgarian Academy of Sciences, National Institute of Meteorology and Hydrology

10 / 2013-10 / 2013 "Advanced monitoring and modeling of weather and the climate system". Hydrometeorological Institute of Paraguay and Catholic University of Asuncion

03 / 2013-03 / 2014 "Advanced monitoring and modeling of the weather and climate system." BMKG-Ag

06/2014-06/2014 InterMet Asia, 2014. Conference and Exhibition, June 2-3, 2014 Singapore. Invited speaker: “Modeling system storm as an advanced tool in forecasting and warning of severe weather risks" and panelist at the Panel session "Knowledge and Training".

11/2014-11/2014 Invited Speaker at Indian Meteorological Association IMS and Lecturer at Special Seminar on 'Cloud Modelling' and Foundation Day of Indian Institute of Tropical Meteorology (IITM) 17-21 November 2014, Pune, Republic of India

12/2015-12/2015 Invited Speaker at the Korea Atmospheric Institute Prediction Systems (KIAPS) 05-12, December 2015 Seoul, Republic of Korea. A Cloud Chemistry Model: Model Framework, Comparison and Initialization Studies Can WRF together with a Cloud Model Show Improved Skill in Predicting Catastrophic Convective Precipitation and Flooding

12/2015-12/2015 Invited speaker at YONSEI University, Department of Atmospheric Sciences, December 5-12, 2015 Seoul, Republic of Korea. Cloud Chemistry Model Review- Development and Application: Physical Studies

12/2015-12/2015 Invited speaker at Korea National University, Department of Atmospheric Sciences, 5-12 December 2015 Seoul, Republic of Korea

OTHER ACTIVITIES OF PUBLIC INTEREST

- Member of the editorial board of "The International Journal of Sustainable Water Systems and Environment (SWES)".
- Reviewer of many scientific papers, articles, and books from scientific journals with a high impact factor
- Associate Editor, "Akta Geofizika Official Journal of the Institute of Geophysics, PAS and Polish Academy of Sciences"

PARTICIPATION IN PROJECTS

02/2023 Project for climate change in spatial planning of
Republic of North Macedonia 2022-2040
03/2020 PM Alarm - Sophisticated forecast system
of air pollution. A project within the framework of cooperation with the Ministry of Education and Culture and Intelligenta.
11/2011 European Territorial Cooperation 2007 -
2013, ORIENTGATE: “Structured Network for
integration of climate knowledge in politics and territorial planning"
05/2006 Second national report on climate communication
changes in Macedonia, UNDP and the Ministry of Environment and Spatial Planning
01/2005 Project to improve the information system of
time modification: Fund-FARE of the European Commission
digitization of the radar system in Macedonia,
installation of an operating system for numerical weather forecasting based on a non-hydrostatic model (WRF-NMM**)**

AWARDS AND RECOGNITIONS

09/2000 Patent of the year -2000 in the Republic of Macedonia,
Ministry of Economy, Government of the Republic of Macedonia
11/2000 Gold medal marked EUREKA-2000,
International Exhibition Brussels-Belgium
11/2000 GENIUS-2000 Hungarian Innovation Association
04/2002 Grand Prix of "GENIUS 2002"
International Exhibition of Innovations and New Technologies
Budapest, Hungary
03/2004 Postdoctoral scholarship from the National Scientific
Research Council of Canada (NSERC) Air quality modeling.
Many certificates, recognitions, and awards

BOOKS

12/2024 **Atmospheric Perspectives**-Unvailing Earth's Environmental Challenges
Spiridonov, Vlado, Ćurić, Mladjen, Novkovski Nenad
Springer International Publishing, xxx p. ISBN, DOI.

00/2023 "**History of Meteorology**" Ćurić, Mladjen, Spiridonov, Vlado
Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7

00/2023 "Наука за планетата Земја" V.Spiridonov, M. Curic, N. Nowkovski
ISBN 978-608-65175-4-0, COBISS.MK-ID

04/2022 "Essentials in Medical Meteorology"
Ćurić, Mladjen, Zafirovski, Oliver, Spiridonov, Vlado
Springer International Publishing, 324 p. ISBN 978-3-030-80975-1, DOI. 10.1007/978-3-030-80975-1

00/2021 "Fundamentals of Meteorology"
Authors: Vlado Spiridonov and Mladjen Curic
Springer International Publishing, 437 p. ISBN 978-3-030-52654-2020, DOI.10.1007/978-3-030-52655-9.

02/2020 "Health, Weather and Air Pollution".
O. Zafirovski, V. Spiridonov. ISBN 978-608-65175-3-3. Pg. 289.

01/2014 "WEATHER AND HUMAN HEALTH" in English, Authors: Vlado Spiridonov, Mladjen Curic, and Oliver Zafirovski, 344 p. ISBN 978-608-65175-2-6, COBISS, MK-ID 95152138

12/2012 "Weather conditions and health", Authors: Vlado Spiridonov and Oliver Zafirovski, 244 pages, ISBN 978-608-65175-1-9, COBISS, MK-ID 92945674

09/2010 "AN INTRODUCTION TO METEOROLOGY", in English, Authors: Vlado Spiridonov and Mladjen Curic. -Skopje: 2010 - 241 p., ISBN 978-608-65175-0-2 COBISS.MK-ID 83607306

06/2010 "METEOROLOGY" Vlado Spiridonov 317 p., ISBN 976-9989-57-642-331, COBBIS.MK-ID 79389450

SCIENTIFIC PUBLICATION (last 5 years)

Osmanaj, L., Spiridonov, I., Jakimovski, B. et al. Three-dimensional cloud-resolving modeling of the flash-flood heavy rainfall event over Kosovo. Acta Geophys. (2024). https://doi.org/10.1007/s11600-024-01426-z

Osmanaj, L., Spiridonov, I., Jakimovski, B. *et al.* Assessment of the WRF model in reproducing a flash-flood heavy rainfall event over Kosovo. *Acta Geophys.* (2024). https://doi.org/10.1007/s11600-024-01365-9

Spiridonov, M., Grčić, M., N. Sladic, et al. The capability of NOTHAS in the prediction of extreme weather events across different climatic areas. Acta Geophysica, (**20230**, № 6, p. 3007-3024. https://doi.org/10.1007/s11600-023-01122-4

Spiridonov, V., Ćurić, M., Grčić, M. et al. Assessment of the WRF model in simulating a catastrophic flash flood. Acta Geophys. 71, 1347–1359

(**2023)**. https://doi.org/10.1007/s11600-023-01032-5
Ćurić, M., Spiridonov, V. (2023). The Earliest Past of the Earth and the Atmosphere. In: History of Meteorology. Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7_1
Curić, M., Spiridonov, V. (2023). Brief General Historical Overview. In: History of Meteorology. Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7_2
Ćurić, M., Spiridonov, V. (2023). Early Development of Meteorology. In: History of Meteorology. Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7_3
Ćurić, M., Spiridonov, V. (2023). Beginnings of Quantitative Meteorology. In: History of Meteorology. Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7_4
Ćurić, M., Spiridonov, V. (2023). Beginnings of Meteorological Measurements and Observations. In: History of Meteorology. Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7_5
Ćurić, M., Spiridonov, V. (2023). Establishment of Meteorological Institutes (Services). In: History of Meteorology. Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7_6
Ćurić, M., Spiridonov, V. (2023). Establishment of Weather Forecast Services. In: History of Meteorology. Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7_7
Ćurić, M., Spiridonov, V. (2023). Exploring the Free Atmosphere. In: History of Meteorology. Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7_8
Ćurić, M., Spiridonov, V. (2023). Early Theories About Cyclones and Anticyclones. In: History of Meteorology. Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7_9
Ćurić, M., Spiridonov, V. (2023). Recognition of Forces in the Atmosphere. In: History of Meteorology. Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7_10
Ćurić, M., Spiridonov, V. (2023). Later Theories of Cyclones and Anticyclones. In: History of Meteorology. Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7_11
Ćurić, M., Spiridonov, V. (2023). Atmospheric Motion. In: History of Meteorology. Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7_12
Ćurić, M., Spiridonov, V. (2023). Bergen Synoptic School. In: History of Meteorology. Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7_13
Ćurić, M., Spiridonov, V. (2023). Clouds and Precipitation. In: History of Meteorology. Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7_14
Ćurić, M., Spiridonov, V. (2023). Auxiliary Tools in Meteorology. In: History of Meteorology. Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7_15
Ćurić, M., Spiridonov, V. (2023). Development of Modern Meteorology. In: History of Meteorology. Springer, Cham. https://doi.org/10.1007/978-3-031-45032-7_16
Владо Спиридонов, Млаѓен Ќуриќ, Ненад Новковски, Наука за Планетата Земја (2023). Интелигента Доо Скопје. ISBN 978-608-65175-4-0, стр. 362

Spiridonov et al. 2022, Ensemble Cloud Model Application in Simulating the Catastrophic Heavy Rainfall Event, *Journal of Atmospheric Science Research* 5(4), | Vol. 05 | Issue 01 | January 2022, DOI: 10.30564/jasr. v5i4.5081
Spiridonov et al. 2022, Advanced Method for Forecasting and Warning of Severe

Convective Weather and Local-scale Hazards, *Journal of Atmospheric Science Research* | Vol. 05 | Issue 01 | January 2022

Spiridonov, V., Ćurić, M., Velinov, G., Jakimovski, B.: 2021 Numerical simulation of a violent supercell tornado over Vienna airport initialized and initiated with a cloud model, *Atmospheric Research*, Volume 261, https://doi.org/10.1016/j.atmosres.2021.105758

Spiridonov, V., Anchev, N., Jakimovski, B., etc. Chemical enhancement initialization in the air quality forecasting system in Northern Macedonia, based on the WRF-Chem model. Air Health Qual Atmos **(2020).** https://doi.org/10.1007/s11869-020-00933-4

Spiridonov, V., Curic, M., Sladic, N. et al. Novel Thunderstorm Alarm System (NOTAS). Asia-Pacific J. Atmos Science **(2020).** https://doi.org/10.1007/s13143-020-00210-5

Spiridonov, V., Baez, J., Telenta, B., Jakimovski, B: **(2020)** Prediction of Extreme Convective Rainfall Intensities Using the Free Rock 3-D Sub-Kilometer Cloud Model, Initiated by NWP Forecasts on a WRF km scale, Journal of Atmospheric and Solar-Terrestrial Physics, Volume 209, 105401, ISSN 1364-6826, https://doi.org/10.1016/j.jastp.2020.105401

Anchev N., Jakimovski B., Spiridonov V., Velinov G. (2021) Temperature Dependent Initial Chemical Conditions for WRF-Chem Air Pollution Simulation Model. In: Dimitrova V., Dimitrovski I. (eds) ICT Innovations 2020. Machine Learning and Applications. ICT Innovations **2020**. Communications in Computer and Information Science, vol 1316. Springer, Cham. https://doi.org/10.1007/978-3-030-62098-1_1

Spiridonov, V., Sladic, N., & Zafirovski, O. Climate variability and seasonal weather related to COVID-19. Advances in Health and Behavior **(2020)** 3(1), 112-117. https://doi.org/10.25082/AHB.2020.01.002

Spiridonov, V., Jakimovski, B., Spiridonova, I. etc. System development for air quality forecasting in Macedonia, based on the WRF-Chem model. Air Qual Atmos Health 12, 825–836 (2019). https://doi.org/10.1007/s11869-019-00698-5

Spiridonov, V., Jakimovski, B., Spiridonova, I. etc. System development for air quality forecasting in Macedonia, based on the WRF-Chem model. Air Qual Atmos Health 12, 825–836 (2019). https://doi.org/10.1007/s11869-019-00698-5

Spiridonov V, Curic M, Jakimovski B (2018) Examination of Chemistry in cloud sulfate using the initialization of a different model. Qual Atmos Air Health. https://doi.org/10.1007/s11869-018-0632-y

Spiridonov, V., Curic, M. Evaluation of supracellular factors of Storm activation based on model simulation of Asia-Pacific cloud solution J Atmos Science 55, 439–458 (2019). https://doi.org/10.1007/s13143-018-0070-7

Spiridonov, V., Curic, M. Examination of the physical processes of convective cell evolved from MCS - Using the initialization of a different model. Asia-Pacific J. Atmos Science 52, 263–279 (2016). https://doi.org/10.1007/s13143-015-0088-z

Karacostas, T., Spiridonov, V., Bampzelis, D., Pytharoulis, I., Tegoulias, I. and Tymbanidis, K. (2016) Analysis and numerical simulation of real cell fusion using a three-dimensional cloud solution model. Atmospheric Research, 169, 547-555. https://doi.org/10.1016/j.atmosres.2015.09.011

REFERENCES

Prof. Dr. Mladjen Curic, University of Belgrade, Department of Meteorology curic@ff.bg.ac.rs
Prof. Dr. Theodoros Karacostas, Aristotelian University, Greece, Department of Meteorology and Climatology, director
e-mail: karac@geo.auth.gr
Prof. Dr. Zev Levin, The Cypros Institute for Energy, Environment and Water, Email: z.levin@cyi.ac.cy; zevlev@post.tau.ac.il
Prof. Dr. Daniel Rosenfeld, The Hebrew University in Jerusalem, Earth Science Institute, Israel, E-mail: daniel.rosenfeld@huji.ac.il
Prof. Dr. Leopold Haimberger, University of Vienna, Faculty of Earth Science, Astronomy and Geography, Institute of Geophysics and Meteorology, E-mail: leopold.haimberger@univie.ac.at
Prof. Dr. Marjan Gusev, University of Skopje, Faculty of Informatics Technology and Computer Engineering-Skopje, Macedonia E-mail: mgusev@finki.ukim.mk