Curriculum Vitae
Chief Assist. Prof. Tsvetina Todorova Evgenieva, Ph.D.

Work address

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Education

- Ph.D. in Physics of Wave Processes, Institute of Electronics – BAS, Thesis title: "Investigation of atmospheric aerosol optical and microphysical characteristics by active (lidar) and passive (radiometric) remote sensing", 2011
- M.Sc. in Laser Physics and Optics, Sofia University "St. Kliment Ohridski", Faculty of Physics, 2006
- Bachelor in Quantum Electronics and Laser Techniques, Sofia University "St. Kliment Ohridski", Faculty of Physics, 2004
- Technician / Technologist (Laser Techniques), Technical High School of Fine Mechanics and Optics "M. V. Lomonosov", Sofia, 2000

Academic positions

- 2014 – present, Chief Assistant Professor, Laser Radars Laboratory, Institute of Electronics - BAS
- 2013 – 2014, Assistant Professor, Laser Radars Laboratory, Institute of Electronics - BAS
- 2009 – 2013, Physicist, Laser Radars Laboratory, Institute of Electronics - BAS
- 2005 – 2006, Physicist, Laser Radars Laboratory, Institute of Electronics – BAS

Main Fields of Scientific Research

- Active (lidar) and passive (sun photometer and spectroradiometer) remote sensing of the atmosphere
- Aerosol optical and microphysical characteristics
- Water vapor content and total ozone content in the atmosphere
- Planetary boundary layer development
- Particle dispersion and particle number concentrations in an urban area
- Optimum efficiency lidar sensing of specific aerosol objects in the atmosphere
- Numerical modeling and data analysis
- Physical basis, characteristic properties and impact of fogs on the environment and human health

Projects and Contracts

International

- ACTRIS PPP - Aerosols, Clouds and Trace gases Preparatory Phase Project, Contract No 739530, H2020-EU.1.4.1.1. - Developing new world-class research infrastructures, 2017-2019, *team member*
- "Aerosols, Clouds, and Trace gases Research Infrastructure Network, ACTRIS", FP7-INFRASTRUCTURES-2010-1, 2011-2015, Contract No 262254, *team member*

- “European Aerosol Research Lidar Network: Advanced Sustainable Observation System, EARLINET–ASOS, FP6: “Structuring the European Research Area Specific Program – Research Infrastructures Action”, 2006-2011; Contract No 025991, *team member*
- “Aerosols and clouds. Long term data base from space-borne lidar measurements”, CALIPSO Program, European Space Agency, ESA, *team member*
- “Laser radar characterization of atmospheric aerosols and clouds in the boundary layer and free troposphere”, Indo-Bulgarian Cooperative Research Programme, Grant INT/BULGARIA/B58/05, 2007, *team member*
- IvKo35 – ALOMAR (Norway) “Study of the structure and optical characteristics of atmospheric aerosol in the troposphere by active and passive remote sensing (lidars and radiometers)”, European Community's 6th Framework Programme, "ALOMAR eARI" (RITA-CT-2003-506208), 2007, *team member*
- ACCENT – Atmospheric Composition Change the European Network of Excellence, “Climatological Aspects of the Aerosol Optical Properties in the Planetary Boundary Layer over Urban Area”, Subproject WP12 (Aerosols), *team member*

National

- “Optimal effective elastic lidar sensing of aerosol atmosphere containing strongly scattering compact objects”, Bulgarian Academy of Sciences Program for supporting young scientists and PhD students in BAS – 2017 (DFNP-17-04/24.07.2017), 2017-2018, *project manager*
- “Influence of the aerosol and gaseous pollutants on the air quality over an urban area situated in a mountain valley”, Contract between National Science Fund at the Ministry of Education and Science of Republic of Bulgaria and University of Mining and Geology (DFNI E02/19), 2015-2018, *team member*
- “City versus Mountain Tropospheric Ozone: The Sofia-Plana region in an air quality and ecological sustainability perspective”, Contract between National Science Fund at the Ministry of Education and Science of Republic of Bulgaria and Sofia University “St. Kliment Ohridski” (DO 02-127/08), 2008-2012, *team member*
- “Doctoral Training in Core Research and Transferable Skills – a Groundwork for Dynamic Career Development Corresponding to the Labour Market Requirements”, Operational Programme “Human Resources Development”, CSSHS – BAS, Contract No BG 051PO001/07/3.3-02/33 17.06.2008, 2008-2010, *target group member*

Awards

Award from SPIE Student Services for Second Place Student Presentation of paper entitled: “Summer lidar measurements in the troposphere over ALOMAR, Norway (2007)” presented at the XV International School on Quantum Electronics: “Laser physics and applications”, Bourgas, Bulgaria, 19 September 2008

Membership in scientific organizations

- 2007 – present, Member of Union of the Physicists in Bulgaria
- 2007 – 2009, Member of SPIE – The International Society for Optical Engineering
- 2003 – 2004, Member of Optical Society of America (OSA)

List of main publications

Journal articles with IF and/or SJR

1. Ts. Evgenieva and L. Gurdev, “Optimum efficiency lidar sensing of multilayer hydrometeors through a turbid atmosphere”, IOP Conf. Series: Journal of Physics: Conf. Series, 992 (2018), 012021.
2. J. L. Pérez-Díaz, O. Ivanov, Z. Peshev, M A. Álvarez-Valenzuela, I Valiente-Blanco, Ts. Evgenieva, T. Dreischuh, O. Gueorguiev, P. V. Todorov and A. Vaseashta, “Fogs: Physical Basis, Characteristic Properties, and Impacts on the Environment and Human Health”, Water 9, (2017) 807, http://www.mdpi.com/2073-4441/9/10/807/pdf, doi:10.3390/w9100807
3. Ts. Evgenieva, L. Gurdev, “Optimal contrast elastic lidar sensing of clear and aerosol-loaded atmosphere”, Proc. SPIE. 10226, 19th International Conference and School on Quantum Electronics: Laser Physics and Applications, 102260Z. (January 05, 2017) doi: 10.1117/12.2261413
4. Ts. Evgenieva, N. Kolev, Pl. Savov, P. Kaleyna, D. Petkov, V. Danchovski, D. Ivanov, E. Donev, “Case study of the ABL height and optical parameters of the atmospheric aerosols over Sofia”, Proc. SPIE. 10226, 19th International Conference and School on Quantum Electronics: Laser Physics and Applications, 1022610. (January 05, 2017) doi: 10.1117/12.2262587
5. Z. Y. Peshev, T. N. Dreischuh, Ts. T. Evgenieva, A. D. Deleva, D. Tonev, D. V. Stoyanov, “Lidar observations of long-range transported Saharan dust over Sofia, Bulgaria: a case study of dust mixed with local aerosols”, J. Appl. Remote Sens. 10(3), 036009 (2016), doi: 10.1117/1.JRS.10.036009
6. N. Kolev, Pl. Savov, Ts. Evgenieva, N. Miloshev, D. Petkov, E. Donev, “Summer Measurements of Atmospheric Boundary Layer (ABL), Aerosol Optical Depth (AOD) and Water Vapour Content (WVC) over Sofia (Bulgaria) 2010-2014”, Comptes rendus de l'Academie bulgare des Sciences, Tome 69, No 4 (2016), pp. 421-430
7. Pl. Savov, N. Kolev, Ts. Evgenieva, M. Vatzkitcheva, V. Danchovski, “Correlations between particle number concentrations, boundary layer height, meteorological parameters and urban environments”, Comptes rendus de l'Academie bulgare des Sciences, Tome 69, No 1 (2016), pp. 19-24
8. P. Kaleyna, N. Kolev, P. Savov, Ts. Evgenieva, I. Kolev and V. Danchovski, “Measurements of total column ozone, precipitable water content and aerosol optical depth at Sofia”, AIP Conf. Proc. 1722, 260001 (2016); http://dx.doi.org/10.1063/1.4944272.
9. Ts. Evgenieva, N. Kolev, D. Petkov, “Ångström coefficients calculated from aerosol optical depth data obtained over Sofia, Bulgaria”, Proc. SPIE, vol. 9447, 94470P (2015); doi:10.1117/12.2175648
10. N. Kolev, Ts. Evgenieva, I. Grigorov, A. Deleva, D. Ivanov, V. Danchovski, P. Savov. D. Petkov, “Ceilometer observation of Saharan dust over mountain valley of Sofia, Bulgaria”, Proc. SPIE, vol. 9447, 94470Q (2015); doi:10.1117/12.2086082
11. Z. Peshev, Ts. Evgenieva, T. Dreischuh, D. Stoyanov, “Two-wavelength lidar characterization of optical, dynamical, and microphysical properties of Saharan dust layers over Sofia, Bulgaria”, Proc. SPIE, vol. 9447, 94470R (2015); doi:10.1117/12.2175654
12. N. Kolev, Ts. Evgenieva, N. Miloshev, P. Muhtarov, D. Petkov, E. Donev, D. Ivanov, I. Kolev, “Ceilometer, sun photometer and ozonometer measurements of the aerosol optical depth,angstrom coefficients, water vapor and total ozone content over Sofia (Bulgaria)”, Proceedings SPIE, 8894: Paper # 88940W (2013), DOI 10.1117/12.2029157
13. N. Kolev, Ts. Evgenieva, N. Miloshev, P. Muhtarov, D. Petkov, E. Donev, D. Ivanov, V. Danchovski, I. Kolev, “Aerosol optical depth, water vapor content and total ozone measurements over Sofia (Bulgaria) from three campaigns 2010-2012”, Comptes rendus de l'Acad_emie bulgare des Sciences , 66, 11 (2013), pp. 1603-1612
14. V. Grigorieva, N. Kolev, E. Donev, D. Ivanov, B. Mendeva, Ts. Evgenieva, V. Danchovski, I. Kolev, “Surface and total ozone investigations in the region of Sofia, Bulgaria”, International Journal of Remote Sensing, 33, 11 (2012) pp. 3542-3556
15. N. Kolev, I. Grigorov, Ts. Evgenieva, E. Donev, D. Ivanov, G. Kolarov, I. Kolev, D. Stoyanov “Combined lidar - ceilometer measurements in the troposphere over Sofia (Bulgaria)”, Comptes rendus de l’Academie bulgare des Sciences, 65, 4 (2012) pp 491- 498

16. Ts. Evgenieva, B.L.B. Wiman, N. Kolev, P. Savov, E. Donev, D. Ivanov, V. Danchovski, B. Kaprielov, V. Grigorieva, I. Iliev, I. Kolev “Three-point observation in the troposphere over Sofia-Plana Mountain, Bulgaria”, International Journal of Remote Sensing, 32, 24 (2011) pp. 9343-9363
17. N. Kolev, Pl. Savov, E. Donev, D. Ivanov, Ts. Evgenieva, V. Grigorieva, I. Kolev, “Boundary layer development and meteorological parameters impact on the ground level ozone concentration over an urban area in a mountain valley (Sofia, Bulgaria)”, International Journal of Remote Sensing, 32, 24 (2011), 8915–8933
18. Ts. Evgenieva, B. Wiman., N. Kolev, E. Donev, D. Ivanov, V. Danchovski, D. Petkov, V. Grigorieva, I. Kolev “Lidar, ceilometer and sun photometer investigation of the aerosol optical characteristics in the troposphere over Sofia, Bulgaria”, Comptes rendus de l’Academie bulgare des Sciences, 63, 8 (2010) pp. 1191-1200
19. Ts. Evgenieva, N. Kolev, I. Iliev, Pl. Savov, B. Kaprielov, P.C.S. Devara, I. Kolev “Lidar and spectroradiometer measurements of the atmospheric aerosol optical characteristics over urban area (Sofia, Bulgaria)”, International Journal of Remote Sensing, 30, 24 (2009) pp. 6381-6401
20. Ts. Gogosheva, V. Grigorieva, Ts. Evgenieva, B. Mendeva, N. Kolev, D. Krustev, B. Petkov “Resent ozone investigations over Bulgaria by remote sensing: ground based and satellite data”, Advances in Space Research, 43 (2009) pp 201-205
21. Ts. Evgenieva, N. Kolev, I. Iliev, I. Kolev “Investigation of the atmospheric aerosol optical characteristics by active and passive remote sensing over Sofia”, Comptes rendus de l’Academie bulgare des Sciences, 61, 6 (2008) pp. 721-726
22. Ts. Evgenieva, I. Iliev, N. Kolev, P. Sobolewski, A. Pieterczuk, B. Holben, I. Kolev “Optical characteristics of aerosol determined by Cimel, Prede and Microtops II sun photometers over Belsk (Poland)”, Proc. SPIE, vol. 7027 (2008) pp. 70270V-1-70270V-8
23. N. Kolev, Ts. Evgenieva, S. Blindheim, B. Lahnor, S. Mogo, A. Berjon, E. Rodriguez, K. Stebel, V. Cachorro, M. Gausa, I. Kolev “Summer lidar measurements in the troposphere over ALOMAR, Norway (2007)”, Proc. SPIE, vol. 7027 (2008), pp. 70270W-1–70270W-8
24. Ts. Evgenieva, N. Kolev, I. Iliev, B. Kaprielov, I. Kolev “Aerosol optical depth determined by lidar and spectrometer”, Proc. SPIE, vol. 6604 (2007), pp. 495-500.

Journal articles without IF and/or SJR

1. D. Stoyanov, T. Dreischuh, I. Grigorov, Z. Peshev, A. Deleva, G. Kolarov, L. Gurdev, N. Kolev, Ts. Evgenieva, V. Mitev, E. Toncheva, V. Pencheva, S. Penchev, “LIDAR sensing of aerosol processes over Sofia region in the frame of the Europian Aerosol Research Lidar Network (EARLINET)”, Bulgarian Journal of Physics, 40, 3 (2013), pp. 186-192.
2. Д. Стоянов, Т. Драйшу, И. Григоров, Л. Гърдев, З. Пешев, А. Делева, Г. Коларов, Н. Колев, В. Пенчева, В. Митев, Ц. Евгениева, Е. Тончева, “Лидарно сондиране на атмосферата, термоядрена плазма и оптично плътни и непрозрачни среди”, Списание на БАН, 6 (2013), pp. 82-95.
3. Ts. Evgenieva, N. Kolev, I. Iliev, I. Kolev “Aerosol optical depth determination by combination of lidar and sun photometer”, Colin D. O'Dowd and Paul E. Wagner Editors, Nucleation and Atmospheric Aerosols 17th International Conference, Galway, Ireland, 2007, Part X, Springer Netherlands, (2008) pp. 1159-1163.

Full text Papers in Conference Proceedings without IF and/or SJR

1. N. Kolev, P. Savov, Ts. Evgenieva, M. Vatzkitcheva, P. Kaleyna, D. Petkov, V. Danchovski, D. Ivanov, O. Gueorguiev, Bo L.B. Wiman, E. Donev, “Experimental results from a ceilometer, a sun photometer, particle counters and meteorological measurements in the valley of Sofia”, CD Proceeding 3rd National Congress on Physical Sciences, 29 Sep. – 2 Oct. 2016, Sofia, Section: Physics of Earth, Atmosphere and Space, S0651, pp. 1-13 (2017).
2. Ts. Evgenieva, Pl. Savov, N. Kolev, M. Vatzkitcheva and Bo L.B. Wiman, “Influential parameters on particle dispersion in urban environments” Proceedings from the 5th WeBIOPATR Workshop and Conference, Particulate Matter: Research and Management, Belgrade, Serbia, 14-16.10.2015, pp. 103-107 (2016).
3. O. Gueorguiev, N. Kolev, Ts. Evgenieva, E. Donev, P. Savov, E. Batchvarova, I. Kolev, “Determination of the atmospheric boundary-layer height over Sofia based on lidar and radiosoundings data”, 14th EMS Annual Meeting & 10th European Conference on Applied Climatology (ECAC), 06 – 10 October 2014, Prague, Czech Republic, Paper Number RB19: EMS2014-601.

4. N. Kolev, Ts. Evgenieva, D. Petkov, E. Donev, P.C.S. Devara, P. E. Raj, N. Miloshev, B.L.B. Wiman, I. Kolev, “Water vapor content, aerosol optical depth and planetary boundary layer height determined by sun photometer, lidar and ceilometer”, 26th International Laser Radar Conference 25-29 June 2012 Porto Heli, Greece, (2012) pp 849- 853.
5. N. Kolev, I. Grigorov, Ts. Evgenieva, A.Deleva, E. Donev, D. Ivanov, D. Petkov, “Observation in the troposphere over mountain valley by ceilometer, sun photometer and lidars”, 26th International Laser Radar Conference 25-29 June 2012 Porto Heli, Greece, (2012) pp 969- 973.
6. Ts. Evgenieva, I. Grigorov, N. Kolev, D. Stoyanov, A. Deleva, E. Donev, D. Ivanov, G. Kolarov, I. Kolev “Retrieval of the aerosol and atmospheric boundary layer structure over mountain valley by ceilometer and lidar (Sofia, Bulgaria)”, Papers presented at 5th International Workshop on Optoelectronic Techniques for Environmental Monitoring, 28-30 September 2011, Magurele, Romania, (2011) pp. 70-77.
7. N. Kolev, Ts. Evgenieva, E. Donev, P. Savov, R. Nenchev, I. Kolev, “Lidar determination of atmospheric boundary layer height over Sofia, Bulgaria”, Papers presented at 5th International Workshop on Optoelectronic Techniques for Environmental Monitoring, 28-30 September 2011, Magurele, Romania, (2011) pp. 64-69.
8. Ts. Evgenieva, B. Tatarov, B.L.B. Wiman, N. Kolev, E. Donev, D. Ivanov, V. Danchovski, D. Petkov, V. Grigorieva, I. Kolev “Remote sensing and in situ investigation of the atmosphere over mountain valley (Sofia-Bulgaria)”, Proceedings of the 25th International Laser Radar Conference 5-9 July 2010 Saint-Petersburg, Russia, (2010) pp. 1138-1141.
9. N. Kolev, Ts. Evgenieva, D. Petkov, I. Kolev, P. Devara, P. E. Raj “Lidar and two sun photometers observations in Sofia (Bulgaria)”, Proceedings of the 25th International Laser Radar Conference 5-9 July 2010 Saint-Petersburg, Russia, (2010) pp. 1142-1145.
10. Ts. Evgenieva, B. Wiman., N. Kolev, E. Donev, P. Savov, D. Ivanov, V. Danchovski, I. Iliev, B. Kaprielov, V. Grigorieva, I. Kolev “Investigation of the aerosol optical characteristics in the planetary boundary layer over Sofia, Bulgaria by lidar, ceilometer and sun photometer”, Proceedings of Fundamental Space Research 2009, (2009) pp. 39-42, available online at http://www.stil.bas.bg/.
11. V. Grigorieva, Ts. Evgenieva, N. Kolev, E. Donev, D. Ivanov, V. Danchovski “Surface ozone and boundary layer observations in the region of Sofia”, Proceedings of Fundamental Space Research 2009, (2009) pp. 32-35, available online at http://www.stil.bas.bg/.
12. Ts. Evgenieva, B. Tatarov, N. Kolev, I. Iliev, Pl. Savov, B. Kaprielov, I. Kolev “One year measurements of aerosol optical depth during development of the atmospheric boundary layer over urban area (Sofia, Bulgaria)”, Reviewed and Revised Papers Presented at the 24th International Laser Radar Conference 23 - 27 June 2008 Boulder, Colorado, (2008) pp. 951–954.
13. Ts. Evgenieva, N. Kolev, I. Iliev, P. Savov, B. Kaprielov, I. Kolev “Comparison of the aerosol optical characteristics obtained by lidar and sunphotometer”, Michela Maione and Sandro Fuzzi Editors, Atmospheric Composition Change – Causes and Consequences-Local to Global, CD with extended abstracts of 2nd ACCENT Symposium, Urbino, Italy, 23-27 July 2007, (2009), ISBN 978-88-548-2268-9.
14. N. Kolev, P. Devara, I. Iliev, Ts. Evgenieva, B. Kaprielov, I.Kolev “Lidar, sunphotometer and spectroradiometer measurements of the atmospheric aerosol optical characteristics”, Reviewed and Revised Papers Presented at the 23rd International Laser Radar Conference 24 -28 July 2006 Nara, Japan, (2006) pp. 761–764.
15. Ts. Evgenieva, N. Kolev, I. Iliev, B. Kaprielov, I. Kolev “Lidar and spectroradiometer measurements of optical characteristic of atmospheric aerosol over urban area”, COST 720 Final Symposium Proceedings, (2006), Paper No 704.
16. I. Iliev, N. Kolev, V. Grigorieva, Ts. Evgenieva, B. Kaprielov “An ecological study of the air quality using lidar, radiometer and ozonemeter”, Proceedings of the Eleventh International Scientific Conference “Solar-Terrestrial Influences”, (2005) pp. 106-109