

Anexa 3.1.8. Lista de lucrări cadre didactice

LISTA DE LUCRĂRI ÎN DOMENIUL DE STUDII UNIVERSITARE DE LICENȚĂ PENTRU SPECIALIZAREA MECANICĂ FINĂ ȘI NANOTEHNOLOGII

Numele și prenumele: **CAZACU MARIUS MIHAI**

A. Teza de doctorat.

Instituție: Universitatea „Alexandru Ioan Cuza” din Iași

Perioada: 2007 - 2010

Coordonator: Profesor Dr. Dorohoi Dana - Ortansa

Titlul tezei: Contribuții la implementarea primei rețele lidar la scară națională pentru caracterizarea optică a aerosolilor atmosferici

Titlul: DOCTOR în Fizică, diploma seria H nr. 0008105, Ordin 4387/ 06.06.2011

B. Cărți (manuale, monografii, tratate, îndrumare etc.) publicate în străinătate.

1. Mireștean, C. C., Agop, M., **Cazacu, M. M.**, Buzea, C. G., Prelipceanu, M., Iancu, R. I., & Iancu, D. T. (2022). Radiotherapy for pelvic malignancies in a COVID-19 pandemic scenario: Focus on rectal and cervical cancers. *Biomedical Engineering Applications for People with Disabilities and the Elderly in the COVID-19 Pandemic and Beyond*, 131–143, Capitolul 14, <https://doi.org/10.1016/B978-0-323-85174-9.00006-6>.
2. Mireștean, C. C., Agop, M., Buzea, C. G., **Cazacu, M. M.**, Prelipceanu, M., Iancu, R. I., & Iancu, D. T. (2021). Radiotherapy challenges in COVID era. *Biomedical Engineering Tools for Management for Patients with COVID-19*, 41–72, Capitolul 3, <https://doi.org/10.1016/B978-0-12-824473-9.00009-4>
3. T.B. Coman, **M.M. Cazacu**, G. Apreotesei., M. Prelipceanu, I. Radinschi; In-person versus virtual activities: Assessing the usefulness and impact of simulated experiments, a case study, *Biomedical Engineering Tools for Management for Patients with COVID-19*, Capitol carte, Academic Press, 2021, Pages 73-86, ISBN 9780128244739, <https://doi.org/10.1016/B978-0-12-824473-9.00004-5>.
4. Buzea, C. G., Eva, L., Prelipceanu, **M.**, **Cazacu, M. M.**, Garofalide, S., & Agop, M. (2021). Coronavirus disease COVID-19 tracking the global outbreak. SEIR compartmental model applied to SARS-CoV-2 epidemic in Romania. *Biomedical Engineering Tools for Management for Patients with COVID-19*, 87–102, Capitolul 5, <https://doi.org/10.1016/B978-0-12-824473-9.00002-1>

C. Cărți (manuale, monografii, tratate, îndrumare etc.) publicate în țară, la edituri recunoscute CNCIS.

1. **Cazacu M.M.**, Șchiopu C.E., Rădulescu C.M., Falotă D., Bodnariu A.I., Politică publică alternativă pentru măsurarea, îmbunătățirea și păstrarea calității aerului ambiental: Propunere de politică publică dezvoltată în cadrul proiectului „Politici publice alternative în domeniul calității aerului”, ISBN: 978-606-48-1175-2, StudIS, Iasi, 2024 – 109 pg
2. Irina Radinschi, **Marius Mihai Cazacu** - Physics 1 Quizzes - Performantica, Iasi, 2023, ISBN: 9786303280615

3. Capitoale: “Îndrumar de lucrări practice pentru disciplina Fizică”, Ed. Performantica, 2023, ISBN: 978-630-328-060-8:
 - a. **M. M. Cazacu**, Studiul proprietăților elastice. Studiul oscilațiilor, 9 pg.
 - b. **M. M. Cazacu**, I. Radinschi, Oscilații amortizate. Oscilații forțate. Pendulul lui Pohl, 9 pg.
 - c. **M. M. Cazacu**, I. Radinschi, Studiul fenomenelor specifice undelor electromagnetice. Microundele, 11 pg.
 - d. **M. M. Cazacu**, Experimentul Franck și Hertz. Determinarea primului potențial de excitație la atomii de neon, 5 pg.
4. M. Voiculescu, S. Condurache-Bota, L. Sfică, **M.M. Cazacu**, Teste și întrebări de fizica atmosferei, meteorologie și climatologie, Editura: Ars Longa, ISBN 978-973-148-354-9, 2020
5. A. Ionce, I.S. Stratulat, A. Timofte, **M.M. Cazacu**, Analiza unui areal natural de balneoclimatoterapie: Cacica, Județul Suceava, Capitol din Partea III-a al cărții: Balneoclimatologia în România și Republica Moldova, coordonator I.S. Stratulat, Editura Academiei Române, ISBN 978-973-27-3005-8, 2018
6. A. Ionce, I.S. Stratulat, **M.M. Cazacu**, A. Timofte, Analiza unui areal natural de balneoclimatoterapie: Cacica, Județul Suceava, Capitol din Partea III al cărții: Balneoclimatologia Românească. Istoric și perspective europene, coordonator I.S. Stratulat, Editura Academiei Române, ISBN 978-973-27-2704-1, 2016
7. **M. M. Cazacu**, A. Timofte, G. Bulai, S. Gurlui, D. Nicolae, A. Nemuc. L. Belegante, C. Radu, Advanced optical remote sensors for airborne and spaceborne platforms, Capitol din cartea “Romanian projects and initiatives in support of Earth Observation”, Editor D. Nicolae, Editura Tehnypress, ISBN 978-606-687-281-2, 2016

D. Cărți (manuale, monografii, tratate, îndrumare etc.) publicate pe plan local.

E. Cărți (manuale, monografii, tratate, îndrumare etc.) publicate pe web.

F. Lucrări științifice publicate în reviste cotate ISI sau indexate în baze de date internaționale.

2025

1. Tanasa, I., Cazacu, M., Botan, D., Atkinson, J. D., Sebestyen, V., & Sluser, B. (2025). From Aerosol Optical Depth to Risk Assessment: A Novel Framework for Environmental Impact Statistics of Air Quality Using AERONET. *Environments* 2025, Vol. 12, Page 285, 12(8), 285. <https://doi.org/10.3390/ENVIRONMENTS12080285>
2. Drăgoi, L., Cazacu, M.-M., & Breabăn, I.-G. (2025). Evaluation of Scenarios for the Application of the Future PM2.5 and PM10 Standards: A Case Study of Three Urban Areas in Romania and Implications for Public Policies. *Environments* 2025, Vol. 12, Page 373, 12(10), 373. <https://doi.org/10.3390/ENVIRONMENTS12100373>
3. Ciocan, G., Nemuc, A., Belegante, L., & Cazacu, M. M. (2025). Mineral dust intrusions in Southeastern Romania: insights from seventeen years of sun photometer data. *Journal of Optoelectronics and Advanced Materials*, 27(July-August 2025), 354–367.
4. Drăgoi, L., Cazacu, M. M., & Breabăn, I. G. (2025). Analysis of the PM2.5/PM10 Ratio in Three Urban Areas of Northeastern Romania. *Atmosphere*, 16(6), 720. <https://doi.org/10.3390/ATMOS16060720/S1>
5. Ababei, R. V., Garofalide, S., Bulai, G., Dimitriu, G. D., Gurlui, S., & Cazacu, M. M. (2025). Unveiling the Correlation between Lyapunov Coefficients and Deep Learning Performance Using Ceilometer Data. *IEEE Geoscience and Remote Sensing Letters*, 22, 1–5. <https://doi.org/10.1109/LGRS.2025.3557150>

2024

6. Roman, A.-M., Cimpoeșu, R., Pricop, B., **Cazacu, M. M.**, Zegan, G., Istrate, B., Cocean, A., Chelariu, R., Moscu, M., Bădărașu, G., Cimpoeșu, N., & Ivănescu, M. C. (2024). Investigations on the Degradation Behavior of Processed FeMnSi-xCu Shape Memory Alloys. *Nanomaterials* 2024, Vol. 14, Page 330, 14(4), 330. <https://doi.org/10.3390/NANO14040330>
7. **Cazacu, M. M.**, Roșu, A. I., Ababei, R. V., Roșu, A., Vasincu, D., Nica, D. C., Rusu, O., Bruma, A. B., & Agop, M. (2024). Investigating Nonlinear Dynamics in Atmospheric Aerosols during the Transition from Laminar to Turbulent Flow. *Atmosphere*, 15(3). <https://doi.org/10.3390/atmos15030366>

2023

8. Bostan, D., Miclăuș, I., Apetroaie, C., Voiculescu, M., Timofte, A., & **Cazacu, M.-M.** (2023). Long-Range Transport Analysis Based on Eastern Atmospheric Circulation and Its Impact on the Dust Event over Moldavia , Romania in August 2022 Circulation and Its Impact on the Dust Event over Moldavia ,. *Atmosphere*, 14(August), 1366.
9. Dragoi (Oniu), L., Breabăn, I. G., & **Cazacu, M. M.** (2023). 2017 – 2020 trends of particulate matter PM10 concentrations in the cities of Suceava and Botoșani. *Present Environment and Sustainable Development*, 17(1), 335–349.
10. Tanasa, I., **Cazacu, M.**, & Sluser, B. (2023). Air Quality Integrated Assessment: Environmental Impacts, Risks and Human Health Hazards. *Applied Sciences*, 13(2). <https://doi.org/10.3390/app13021222>
11. Roman, A. M., Cimpoeșu, R., Pricop, B., Lohan, N. M., **Cazacu, M. M.**, Bujoreanu, L. G., Panaghie, C., Zegan, G., Cimpoeșu, N., & Murariu, A. M. (2023). Influence of Dynamic Strain Sweep on the Degradation Behavior of FeMnSi–Ag Shape Memory Alloys. *Journal of Functional Biomaterials*, 14(7), 377. <https://doi.org/10.3390/jfb14070377>
12. Luțcanu, M., Munteanu, C., Kicsi, G., Roman, A. M., Croitoru, C. G., Prisecariu, B. A., **Cazacu, M. M.**, Știrbu, I., Chicet, D. L., & Cimpoeșu, N. (2023). Analysis of water jet cutting of metal-ceramic elements made through atmospheric plasma spraying technique. *Materials Today: Proceedings*, 72, 550–553. <https://doi.org/10.1016/j.matpr.2022.10.037>

2022

13. **Cazacu, M. M.**, Roșu, I. A., Bibire, L., Vasincu, D., Rotundu, A. M., & Agop, M. (2022). Theoretical and Experimental Designs of the Planetary Boundary Layer Dynamics through a Multifractal Theory of Motion. *Fractal and Fractional*, 6(12). <https://doi.org/10.3390/fractalfract6120747>
14. Roman, A. M., Chelariu, R., Cimpoesu, R., Stirbu, I., Ionita, I., **Cazacu, M. M.**, Prisecariu, B. A., Cimpoesu, N., Pietrusiewicz, P., & Sodor, A. (2022). Analysis of the corrosion rate of FeMn-Si biodegradable material. *Archives of Metallurgy and Materials*, 67(4), 1243–1250. <https://doi.org/10.24425/amm.2022.141048>
15. Roșu, I. A., Nica, D. C., **Cazacu, M. M.**, & Agop, M. (2022). Cellular Self-Structuring and Turbulent Behaviors in Atmospheric Laminar Channels. *Frontiers in Earth Science*, 9, 1344. <https://doi.org/10.3389/FEART.2021.801020/BIBTEX>
16. Luțcanu, M., Coteață, M., Bernevig, M. A., Nechifor, C. D., **Cazacu, M. M.**, Paraschiv, P., Istrate, B., Bădărașu, G., Sandu, I. G., & Cimpoeșu, N. (2022). Obtaining and Analyzing the Al₂O₃-ZrO₂ Ceramic Layers on Metallic Substrate. *Archives of Metallurgy and Materials*, 67(2), 479–485.
17. Panaghie, C., Cimpoesu, N., Benchea, M., Roman, A., Manole, V., Alexandru, A., Cimpoesu, R., **Cazacu, M. M.**, Wnuk, I., & Zegan, G. (2022). “In-vitro” Tests on New Biodegradable Metallic Material Based on ZnMgY. *Archives of Metallurgy and Materials*, 67(2), 587–594.

18. Nica, D.-C., **Cazacu, M.-M.**, Constantin, D.-E., Nedeff, V., Nedeff, F., Vasincu, D., Roşu, I.-A., & Agop, M. (2022). Boundary Layer via Multifractal Mass Conductivity through Remote Sensing Data in Atmospheric Dynamics. *Fractal and Fractional* 2022, Vol. 6, Page 250, 6(5), 250. <https://doi.org/10.3390/FRACTALFRACT6050250>
19. Radinschi, I., Grammenos, T., Spanou, A., Chattopadhyay, S., & **Cazacu, M. M.** (2022). Landau-Lifshitz and Weinberg Energy Distributions for the Static Regular Simpson-Visser Space-Time Geometry. *Symmetry* 2022, Vol. 14, Page 900, 14(5), 900. <https://doi.org/10.3390/SYM14050900>
20. Apetroaie, C., Bostan, D.-C., Timofte, A., Bostan, S., & **Cazacu, M.-M.** (2022). Usage of Atmospheric Sounding to Characterize the Meteorological Events on the Night of 23/24 August, 2022. *Bulletin of the Polytechnic Institute from Iaşi: Chemistry and Chemical Engineering Section*, 68(2), 33–62. <https://doi.org/10.2478/bipmf-2022-0008>
21. Apetroaie, C., Timofte, A., Bostan, D.-C., Bostan, S., & **Cazacu, M.-M.** (2022). The description of important historical moments in terms of meteorological aspects. *Bulletin of the Polytechnic Institute from Iaşi: Chemistry and Chemical Engineering Section*, 68(3), 53–69. <https://doi.org/10.2478/bipmf>
22. Chiruşă C., Tănasă I.M., Roşu I.A., Tudose O.G., Sluşer B., **Cazacu M.M.**, (2022). Case study of the evidence of PM1& PM2.5 contribution on PM10 from Podul de Piatra– Iasi city, *Bulletin of the Polytechnic Institute of Iasi, Section Mathematics. Theoretical Mechanics, Physics, Volume 68(72), No. 1*, doi:10.2478/bipmf-2022-0004
23. Rosu, A.I., Voiculescu, M., Constantin, D., Rosu, A., Timofte, A., **Cazacu, M.M.**, (2022). Quantifying atmospheric dynamics predictions through atmospheric laminar channels, *Report series in aerosol science, Nr. 250, Abstract Book - 1st ACTRIS Science Conference 2022, ISBN 978-952-7276-80-8*

2021

24. Radinschi, I., Grammenos, T., Chakraborty, G., Chattopadhyay, S., & **Cazacu, M. M.** (2021). Einstein and Møller Energy-Momentum Distributions for the Static Regular Simpson–Visser Space-Time. *Symmetry*, 13(9), Article 1622. <https://doi.org/10.3390/sym13091622>
25. Roşu, I., Nica, D., **Cazacu, M. M.**, & Agop, M. (2021). Towards Possible Laminar Channels through Turbulent Atmospheres in a Multifractal Paradigm. *Atmosphere*, 12(8), Article 1038. <https://doi.org/10.3390/atmos12081038>
26. Roşu, I. A., **Cazacu, M. M.**, & Agop, M. (2021). Multifractal model of atmospheric turbulence applied to elastic lidar data. *Atmosphere*, 12(2), 1–25. <https://doi.org/10.3390/atmos12020226>
27. Radinschi, I., Grammenos, T., Sahoo, P. K., Chattopadhyay, S., & **Cazacu, M. M.** (2021). Einstein and Møller energies of a particular asymptotically Reissner–Nordström non-singular black hole solution. *Astronomische Nachrichten*. <https://doi.org/10.1002/asna.202113917>

2020

28. Țîmpu, S., Sfică, L., Dobri, R.-V., **Cazacu, M.-M.**, Nita, A.-I., Birsan, M.-V., 2020. Tropospheric Dust and Associated Atmospheric Circulations over the Mediterranean Region with Focus on Romania's Territory. *Atmosphere* 11, 349.
29. Roşu, A. I., **Cazacu, M. M.**, Ghenadi, S. A., Bibere, L., & Agop, M. 2020. On a multifractal approach of turbulent atmosphere dynamics. *Frontiers in Earth Science*, 8, Article 216. <https://doi.org/10.3389/feart.2020.00216>
30. Radinschi, I., Kumar Sahoo, P., Grammenos, T., Chattopadhyay, S., **Cazacu, M.M.**, 2020. Localization of energy and momentum in an asymptotically Reissner-nordström non-singular black hole space-time geometry. *Universe* 6.

31. Radinschi, I., Grammenos, T., Rahaman, F., **Cazacu, M.M.**, Spanou, A., Chakraborty, J., 2020. On the energy of a non-singular black hole solution satisfying the weak energy condition. *Universe* 6, 1–13.
32. Roșu, A.I., **Cazacu, M.M.**, Ghenadi, S.A., Bibere, L., Agop, M., 2020. On a multifractal approach of turbulent atmosphere dynamics. *Frontiers in Earth Science*.
33. Pelin, V., Radinschi, I., Ciocan, V., Sandu, I., Coman, T.B., **Cazacu, M.M.**, 2020. Preliminary Evaluation of Coating Hydrophobization of Natural Stone from Repedea - Iasi area (Romania). *Revista de Chimie* 71, 273–282.
34. **Cazacu, M.M.**, Pelin, V., Radinschi, I., Sandu, I., Ciocan, V., Sandu, I.G., Gurlui, S., 2020. Effects of meteorological factors on the hydrophobization of specific calcareous geomaterials from Repedea - Iasi area, under the urban ambient air exposure. *International journal of conservation science* 11, 1019–1030.
35. Roșu, A.I., **Cazacu, M.M.**, 2020. Further developments of a multifractal model of atmospheric turbulence. *Bulletin of the Polytechnic Institute of Iasi, Section Mathematics. Theoretical Mechanics, Physics* 66, 77–91.
36. Roșu A. I., **Cazacu A.**, Bodale I., Cazacu M. M. (2020), Developing a concrete inequality condition for Taylor's hypothesis in common turbulent atmospheric flows, *Bulletin of the Polytechnic Institute of Iasi, Section Mathematics. Theoretical Mechanics, Physics*, vol. 66(70), No.4, pag. 49–55.
37. Braniște M.V., Ștefan I., Ana M., Unga F., **Cazacu M.M.**, (2020), Particle air pollution (PM10) monitoring and public opinion on air quality. a case study in Northeastern Romania, *Bulletin of the Polytechnic Institute of Iasi, Chemistry and Chemical Engineering Section*, vol. 66(70), No. 4, pag. 56–67.

2019

38. Rosu, I.A., **Cazacu, M.M.**, Prelipceanu, O., Agop, M., 2019. A Turbulence-Oriented Approach to Retrieve Various Atmospheric Parameters Using Advanced Lidar Data Processing Techniques. *Atmosphere* 10, 38. doi:10.3390/atmos10010038
39. Rosu, I.-A., Ferrarese, S., Radinschi, I., Ciocan, V., **Cazacu, M.M.**, 2019. Evaluation of Different WRF Parametrizations over the Region of Iasi with Remote Sensing Techniques. *Atmosphere* 10, 559.
40. **M.M. Cazacu**, N. Cimpoeșu, S. E. Băcăiță, M. Zaharia, Characterization of mixing state of tropospheric aerosols by using scanning electron microscopy (SEM) and energy dispersive spectroscopy (EDS), *Proceedings of the 3rd Conference of the Romanian Electron Microscopy Society – CREMS 2019, October 23 – 25, 2019, Poiana Brașov, România. Vol 1, 2019, DOI: <https://doi.org/10.33263/Proceedings11.00210022>, ISSN: 2668-6384.*
41. Prelipceanu, O.S., Havriliuc, Ștefan, Rusu, I.D., **Cazacu, M.M.**, Roșu, I.A., Prelipceanu, M., 2019. New experimental approach of atmospheric pollutant compounds detection. *Bulletin of the Polytechnic Institute of Jassy, Section Mathematics. Theoretical Mechanics, Physics* 65(69), 9–23.
42. Covatariu, G., Radinschi, I., Ciocan, V., Verdeș, M., Frățiman, V., **Cazacu, M.M.**, Coman, T.B., 2019. Analysis on the use of Javascript and adobe flash programs for teaching physics in civil engineering. *Bulletin of the Polytechnic Institute of Jassy, Section Mathematics. Theoretical Mechanics, Physics* 65(69), 69–78.

2018

43. G. Bulai, O. Rusu, **M. M. Cazacu**, F. Tudorache, B. Chazallon, C. Focsa, and S. Gurlui, “Structural, magnetic and humidity sensing properties of rare earth doped cobalt ferrite thin films synthesized by pulsed laser deposition,” *Journal of Ovonic Research*, vol. 14, no. 2, pp. 119–128, 2018.

44. **M. M. Cazacu**, O. Tudose, D. Balanici, and I. Balin, "Research and development of commercial lidar systems in Romania: Critical review of the ESYRO lidar systems developed by sc enviroscopy SRL (ESYRO)," EPJ Web of Conferences, vol. 176, 2018.
45. P. Ichim, S. Gurlui, **M. M. Cazacu**, L. Sfică, C.R. Trif, I. Iordache, and A. Leahu, "The Influence of Weather Conditions and Local Climate on Particulate Matter (PM₁₀) Concentration in Metropolitan Area of Iasi, Romania," Present Environment and Sustainable Development, vol. 12, no. 2, pp. 47–69, 2018.
46. A. Cocean, I. Cocean, **M. M. Cazacu**, G. Bulai, F. Iacomì, and S. Gurlui, "Atmosphere self-cleaning under humidity conditions and influence of the snowflakes and artificial light interaction for water dissociation simulated by the means of COMSOL," Applied Surface Science, vol. 443, pp. 83–90, 2018.
47. S. Gurlui, **M. M. Cazacu**, A. Timofte, O. Rusu, G. Bulai, and D. Dimitriu, "Space-and time-resolved raman and breakdown spectroscopy: Advanced lidar techniques," EPJ Web of Conferences, vol. 176, 2018.
48. V. Pelin, O. Rusu, **M. M. Cazacu**, S. Gurlui, A. V Sandu, I. Radinschi, V. Ciocan, and I. Sandu, "Assessment of Hydrophobic Coating on Porous Calcareous Rocks Surface Exposed in Urban Ambient Air Pollution," IOP Conference Series: Materials Science and Engineering, vol. 374, no. 1, p. 012091, Jun. 2018.
49. I. Radinschi, T. Grammenos, F. Rahaman, A. Spanou, **M. M. Cazacu**, S. Chattopadhyay, and A. Pasqua, "Localization of Energy-Momentum for a Black Hole Spacetime Geometry with Constant Topological Euler Density," Advances in High Energy Physics, 2018.
50. L.-M. Amarandi, F. Unga, I.-E. Popovici, P. Goloub, **M.M. Cazacu**, S.-O. Gurlui, L. Blarel, and M. Choël, "Investigation of atmospheric particulate matter (PM) mass concentration spatial variability by means of on-foot mobile measurements in lille, northern france," Bulletin of the Polytechnic Institute of Jassy, Section Mathematics. Theoretical Mechanics, Physics, vol. 64(68), no. 1, pp. 25–36, 2018.
51. F. G. Huşanu, **M. M. Cazacu**, G. Bulai, S. Gurlui, and E. Pettinelli, "Laboratory measurements for the characterization of the physical parameters of geomaterials and planetary analogues," Bulletin of the Polytechnic Institute of Jassy, Section Mathematics. Theoretical Mechanics, Physics, vol. 64(68), no. 1, pp. 17–23, 2018.
52. O. S. Prelipceanu, **M. M. Cazacu**, I. A. Roşu, and M. Prelipceanu, "Wireless system for monitoring and control of environmental parameters," Bulletin of the Polytechnic Institute of Jassy, Section Mathematics. Theoretical Mechanics, Physics, vol. 64(68), no. 4, pp. 77–89, 2018.
53. V. Pelin, O. Rusu, **M. M. Cazacu**, I. Sandu, S. Gurlui, V. Ciocan, I. Radinschi, and I. G. Sandu, "Comparative assessment on colorimetric change of calcareous geomaterials exposed in urban and periurban environmental conditions from Iasi city – Romania," Annals of the Academy of Romanian Scientists, Series on Engineering Sciences Volume, vol. 10, no. 1, pp. 17–28, 2018.
54. I. Radinschi, V. Fratiman, **M. M. Cazacu**, V. Ciocan, and G. Covatariu, "Javascript computer simulation for damped oscillations in a series RLC circuit, a tool to improve students' learning," in Proceedings of EDULEARN18 Conference, 2018, pp. 6015–6024.
55. I. Radinschi, **M. M. Cazacu**, G. Covatariu, V. Ciocan, M. Verdes, and C. M. Helepciuc (Gradinaru), "The effect of the use of computer simulations and virtual physics laboratory in gender performance of physics learning," in Proceedings of ICERI2018 Conference, 2018, pp. 0549–0555.

2017

56. **M. M. Cazacu**, O. Tudose, A. Boscornea, L. Buzdugan, A. Timofte, and D. Nicolae, "Vertical and temporal variation of aerosol mass concentration at Magurele – Romania during EMEP / PEGASOS campaign," Romanian Reports in Physics, vol. 69, no. 2, pp. 1–15, 2017.

57. I. Radinschi, V. Fratiman, V. Ciocan, and **M. M. Cazacu**, "Interactive computer simulations for standing waves," *Computer Applications in Engineering Education*, vol. 25, no. 3, pp. 521–529, 2017.
58. A. Banica, E. D. Bobric, **M. M. Cazacu**, A. Timofte, S. Gurlui, and I. G. Breaban, "Integrated assessment of exposure to traffic-related air pollution in Iasi city, Romania," *Environmental Engineering and Management Journal*, vol. 16, no. 9, pp. 2147–2163, 2017.
59. A. Cocean, V. Pelin, **M. M. Cazacu**, I. Cocean, I. Sandu, S. Gurlui, and F. Iacomì, "Thermal effects induced by laser ablation in non-homogeneous limestone covered by an impurity layer," *Applied Surface Science*, vol. 424, no. 3, pp. 324–329, 2017.
60. V. Pelin, O. Rusu, I. Sandu, V. Vasilache, S. Gurlui, A. V. Sandu, **M. M. Cazacu**, and I. G. Sandu, "Approaching on Colorimetric Change of Porous Calcareous Rocks Exposed in Urban Environmental Conditions from Iasi - Romania," *IOP Conference Series: Materials Science and Engineering*, vol. 209, no. 1, p. 012080, 2017.
61. G. Covatariu, **M. M. Cazacu**, I. Radinschi, V. Ciocan, V. Fratiman, and F. E. Turcanu, "Statistical survey of the outcome of effective use of computer simulations in students' learning," in *Proceedings of EDULEARN17 Conference*, 2017, pp. 0887–0893.
62. **M. M. Cazacu**, O. G. Tudose, O. Rusu, A. E. Scripa, and I. Radinschi, "An overview of remote sensing techniques for the tropospheric aerosols monitoring. A case study," *Bulletin of the Polytechnic Institute of Jassy, Section Mathematics. Theoretical Mechanics, Physics*, vol. 63(67), no. 2, pp. 43–60, 2017.
63. **M. M. Cazacu**, G. Covatariu, and I. Radinschi, "Statistical study of impact of the use of computer simulations on the improvement of students' marks," *Bulletin of the Polytechnic Institute of Jassy, Section Mathematics. Theoretical Mechanics, Physics*, vol. 63(67), no. 1, pp. 35–42, 2017.
64. E. V. Gafton, F. Haque, F. Huşanu, **M. M. Cazacu**, G. Bulai, and S. Gurlui, "Hydrogen passivation effect on ZnO powder," *Bulletin of the Polytechnic Institute of Jassy, Section Mathematics. Theoretical Mechanics, Physics*, vol. 63, no. 67, pp. 61–70, 2017.

2016

65. **M. M. Cazacu**, O. G. Tudose, A. Timofte, O. Rusu, L. Apostol, L. Leontie, and S. Gurlui, "A case study of the behavior of aerosol optical properties under the incidence of a Saharan dust intrusion event," *Applied ecology and environmental research*, vol. 14, no. 3, pp. 183–194, 2016.
66. Radinschi, I., Fratiman, V., **Cazacu, M. M.**, Covatariu, G., (2016): A Computer Aided Study of Two Perpendicular Harmonic Oscillations of the Same Frequency. *Bull. Polytech. Inst. Jassy, Sect. Math. Theor. Mech. Phys.* 62(66) (1), S. 55–66;
67. Radinschi, I., Covatariu, G., **Cazacu, M.**, (2016): Maple Program for Studying Physics Phenomena with Applications in Civil Engineering. *Intersections*. 13 (2), S. 107–118;

2015

68. Belegante, L., **Cazacu, M.M.**, Timofte, A., Toanca, F., Vasilescu, J., Rusu, M.I., Ajtai, N., Stefanie, H.I., Vetres, I., Ozunu, A., Gurlui, S., (2015): Case study of the first volcanic ash exercise in Romania using remote sensing techniques. *Environ. Eng. Manag. J.* 14 (11), S. 2503–2514;
69. **Cazacu, M.M.**, Timofte, A., Unga, F., Albina, B., Gurlui, S., (2015): AERONET data investigation of the aerosol mixtures over Iasi area, One-year time scale overview. *J. Quant. Spectrosc. Radiat. Transf.* 153 S. 57–64;
70. Timofte, A., Belegante, L., **Cazacu, M.M.**, Albina, B., Talianu, C., Gurlui, S., (2015): Study of planetary boundary layer height from LIDAR measurements and ALARO model. *J. Optoelectron. Adv. Mater.* 17 (7–8), S. 911–917;

71. Stratulat, S.I., **Cazacu, M.M.** & Timofte, A. (2015) Ambient Air-Quality Impact as a Determinant External Factor of the Exposome in Cacica Area, Romania. *Journal of Environmental Science and Engineering A*. 4 (11), 567–577;

2014

72. Papayannis, A., Nicolae, D., Kokkalis, P., Binietoglou, I., Talianu, C., Belegante, L., Tsaknakis, G., **Cazacu, M.M.**, Vetres, I., Ilic, L., (2014): Optical, size and mass properties of mixed type aerosols in Greece and Romania as observed by synergy of lidar and sunphotometers in combination with model simulations: A case study. *Sci. Total Environ.* 500–501 S. 277–294;
73. Albina, B., **Cazacu, M.M.**, Timofte, A., Dimitriu, D.G., Gurlui, S., (2014): Studies of planetary boundary layer by infrared thermal imagery. *AIP Conf. Proc.* 174 S. 174–179;

2013

74. Unga, F., **Cazacu, M.M.**, Timofte, A., Bostan, D., Mortier, A., Dimitriu, D.G., Gurlui, S., Goloub, P., (2013): Study of tropospheric aerosol types over Iasi , Romania , during summer of 2012. *Environ. Eng. Manag. J.* 12 (2), S. 297–303;

2012

75. **Cazacu, M.M.**, Timofte, A., Talianu, C., Nicolae, D., Danila, M.N., Unga, F., Dimitriu, D.G., Gurlui, S., 2012: Grimsvotn Volcano: atmospheric volcanic ash cloud investigations, modelling-forecast and experimental environmental approach upon the Romanian area. *J. Optoelectron. Adv. Mater.* 14 (5–6), S. 517–522;
76. Vetres, I., Ionel, I., **Cazacu, M.M.**, Balin, I., (2012): Necessity of complementary vertically-resolved LIDAR observation for ground air pollution analysis in western Romania. *J. Environ. Prot. Ecol.* 13 (2), S. 409–419;
77. O. Niculescu, **M.M. Cazacu**, M. Danila, D. Dimitriu, S. Gurlui, M. Agop, Magnetosphere double layers and aurora borealis. *Acceleration Mechanisms and Instabilities, STUDIA UBB AMBIENTUM*, LVII, 1-2, 2012, pp. 123-128
78. Danila, M.N., Unga, F., **Cazacu, M.M.**, Timofte, A., Strat, M., Dimitriu, D.G., Gurlui, S. , 2012: Lidar measurements comparison of two volcanic eruptions: environmental influences upon the Romanian territory. *Analele Univ. Vest din Timișoara*. LVI S. 68–75;
79. Danila, M.N., **Cazacu, M.M.**, Gurlui, S. , 2012: Python utility: Laser-atmosphere interaction extended to network data management. 5th Romania TIER 2 Federation Grid, Cloud & High performance computing science (RO-LCG). *IEEE*. S. 90–92;

2011

80. Timofte, A., **Cazacu, M.M.**, Radulescu, R., Belegante, L., Dimitriu, D.G. & Gurlui, S. (2011) Romanian lidar investigation of the Eyjafjallajokull volcanic ash. *Environmental Engineering and Management Journal*. 10 (1), 91–97;
81. **Cazacu, M.M.**, Timofte, A., Balin, I., Dimitriu, D.G., Gurlui, S. , 2011: Complementary atmospheric urban pollution studies in the North-East region of Romania, Iasi county. *Environ. Eng. Manag. J.* 10 (1), S. 139–145;
82. Tudose, O.-G., **Cazacu, M.M.**, Timofte, A., Balin, I. , 2011: ESYROLIDAR system developments for troposphere monitoring of aerosols and clouds properties. *Proc. SPIE*. 8177 S. 817716-817716–10;

2008

83. Grimberg, R., Savin, A., Steigmann, R., Andreescu, A., Iftimie, N., **Cazacu, M.M.**, Tamburrino, A., Melikhov, Y., Chen, Z., Udpa, L., 2008: Lifetime Prediction of Pressure Tubes in PHWR Nuclear Power Plants using Eddy Current Data. Electromagn. Nondestruct. Eval. 31 S. 257–262;

2007

84. Raimond Grimberg, Paul Barsanescu, Adriana Savin, Rozina Steigmann, **Marius Mihai Cazacu** – Evaluation of carbon epoxy composites delaminations using Lamb waves, Buletinul Institutului Politehnic Iasi, tom LIII(LVII), Fasc.2, pp. 53-60, 2007;
85. Raimond Grimberg, Ioan Curtu, Ioan Szava, Adriana Savin, Rozina Steigmann, Nicoleta Iftimie, **Marius Mihai Cazacu** – Nondestructive evaluation with ultrasound of sandwich ligno-cellulose composites using noncontact transducers, Buletinul Institutului Politehnic Iasi, tom LIII(LVII), Fasc.2, pp.61-68, 2007.
86. Iacomì, F., Apetroaei, N., Calin, G., Zoderiu, G., **Cazacu, M.M.**, Scarlat, C., Goian, V., Menzel, D., Jursic, I. & Schoenes, J. (2007) Structure and surface morphology of Mn-implanted TiO₂. Thin Solid Films. 515 (16), 6402–6406;
87. Covasnianu, A., **Cazacu, M.**, Libralesso, N., Galisson, L., Memier, M., Balin, I., 2007: Digital terrain model by airborne LIDAR technique: An essential tool for hydrologic risks assessment. J. Optoelectron. Adv. Mater. 9 (11), S. 3529–3532.

G. Lucrări științifice publicate în reviste din străinătate.

H. Lucrări științifice publicate în reviste din țară, recunoscute CNCSIS.

2015

1. Iftime, M., **Cazacu, M.**, Albina, B., Stratulat, S.I., Gurlui, S.O., 2015: Exposomul : un nou concept privind studiile impactului calității mediului atmosferic asupra sănătății. V. Adamachi. XXIV (1), S. 3–5.

2008

2. A. Covasnianu, **M.M. Cazacu**, I. Balin, Advanced DTM generation using airborne LIDAR technique, Geographia Tehnica, vol. 8(2), 2008

I. Lucrări științifice publicate în volumele conferințelor.

2021

88. Coman, T. B., **Cazacu, M. M.**, & Radinschi, I. (2021). Teaching strategy based on interactive use of computer simulations during COVID-19 pandemic. INTED2021 Proceedings (pp. 10485–10490). IATED Academy, ISBN 978-84-09-27666-0
89. Coman, T. B., **Cazacu, M. M.**, & Radinschi, I. (2021). Developing virtual tools to complement experiments in the physics laboratory. INTED2021 Proceedings (pp. 10499–10504). IATED Academy. ISBN 978-84-09-27666-0

2019

90. **Cazacu M.M.**, Cimpoeșu N., Băcăiță S. E., Zaharia M., Characterization of mixing state of tropospheric aerosols by using scanning electron microscopy (SEM) and energy dispersive spectroscopy (EDS), Conference of the Romanian Electron Microscopy Society – CREMS 2019, October 23 – 25, 2019, Poiana Brașov, România

2018

91. Pelin, V., Rusu, O., **Cazacu, M. M.**, Gurlui, S., Sandu, A. V., Radinschi, I., Ciocan, V., & Sandu, I. (2018). Assessment of Hydrophobic Coating on Porous Calcareous Rocks Surface Exposed in Urban Ambient Air Pollution. IOP Conference Series: Materials Science and Engineering, 374(1), 012091. <https://doi.org/10.1088/1757-899X/374/1/012091>
92. Radinschi, I., Fratiman, V., **Cazacu, M. M.**, Ciocan, V., & Covatariu, G. (2018). Javascript computer simulation for damped oscillations in a series RLC circuit, a tool to improve students' learning. Proceedings of EDULEARN18 Conference, (pp. 6015–6024)., <https://doi.org/10.21125/edulearn.2018.1438>
93. Radinschi, I., **Cazacu, M. M.**, Covatariu, G., Ciocan, V., Verdes, M., & Helepciuc (Gradinaru), C. M. (2018). The effect of the use of computer simulations and virtual physics laboratory in gender performance of physics learning. ICERI Proceedings (pp. 0549–0555). <https://doi.org/10.21125/iceri.2018.1112>
94. Gurlui, S., **Cazacu, M. M.**, Timofte, A., Rusu, O., Bulai, G., & Dimitriu, D. (2018). Space- and time-resolved Raman and breakdown spectroscopy: Advanced lidar techniques. EPJ Web of Conferences, 176, Article no. 01028, (pp. 1–4). <https://doi.org/10.1051/epjconf/201817601028>
95. **Cazacu, M. M.**, Tudose, O., Balanici, D., & Balin, I. (2018). Research and development of commercial lidar systems in Romania: Critical review of the ESYRO lidar systems developed by SC Enviroscopy SRL (ESYRO). EPJ Web of Conferences, Vol. 176, Article no. 11005, (pp. 1–4). <https://doi.org/10.1051/epjconf/201817611005>

2017

96. Pelin, V., Rusu, O., Sandu, I. G., Vasilache, V., Gurlui, S., Sandu, A. V., **Cazacu, M. M.** & Sandu, I. G. G. (2017). Approaching on Colorimetric Change of Porous Calcareous Rocks Exposed in Urban Environmental Conditions from Iasi - Romania. IOP Conference Series-Materials Science and Engineering, Vol. 209, Issue 1, Article no. 012080 (pp.:1 - 8). <https://doi.org/10.1088/1757-899X/209/1/012080>
97. Covatariu, G., **Cazacu, M. M.**, Radinschi, I., Ciocan, V., Fratiman, V., & Turcanu, F. E. (2017). Statistical survey of the outcome of effective use of computer simulations in students learning. EDULEARN Proceedings: 9th International Conference on Education and New Learning Technologies (EDULEARN17), (pp. 887–893). ISBN 978-84-697-3777-4.

2013

98. **M.M. Cazacu**, F. Unga, A. Mortier, P. Goloub, D. Dimitriu, S. Gurlui, Optical parameters analysis of mixtures of biomass-burning and urban aerosols: a case study, 6th Workshop on Optoelectronic Techniques for Environmental Monitoring, OTEM 2013, Jun, 2013, Timisoara, Romania;
99. **M.M. Cazacu**, F. Unga, N. Ajtai, H.I. Stefanie, A. Timofte, D. Dimitriu, S. Gurlui, Monitoring and analyses of Grímsvötn volcanic dust intrusion over northern Romania. LIDAR and AERONET considerations, 6th Workshop on Optoelectronic Techniques for Environmental Monitoring OTEM 2013, Jun, 2013, Timisoara, Romania;
100. O.G. Tudose, **M.M. Cazacu**, A. Timofte, D. Nicolae, S. Gurlui, I. Balin, May29, 2013 - a Saharan dust event over Iasi region, Romania. Remote sensing Observations and regional dust modeling, 6th Workshop on Optoelectronic Techniques for Environmental Monitoring, OTEM 2013, Jun, 2013, Timisoara, Romania;

2011

101. **Marius Mihai Cazacu**, Adrian Timofte, Camelia Talianu, Doina Nicolae, Dan Gheorghe Dimitriu, Silviu Gurlui, Iasi County: Atmospheric volcanic ash cloud investigations. Modeling-forecast and experimental environmental approach, 5th Workshop on Optoelectronic Techniques for Environmental Monitoring – OTEM 2011, București, Romania;
102. Ioan-Sorin Stratulat, **Marius-Mihai Cazacu**, Adrian Timofte, Dan-Gheorghe Dimitriu, Silviu Gurlui, Meteo-climatic factors influence upon Cacica salt-mines, Suceava county-natural climatic areal for medical rehabilitation treatment, 5th Workshop on Optoelectronic Techniques for Environmental Monitoring – OTEM 2011, București, Romania;
103. Ioan-Sorin Stratulat, Adrian Timofte, **Marius-Mihai Cazacu**, Dan-Gheorghe Dimitriu, Silviu Gurlui, Cacica salt-mines, Suceava county: meteorological factors and balneary-climatic potential studies, 5th Workshop on Optoelectronic Techniques for Environmental Monitoring – OTEM 2011, București, Romania;
104. Ovidiu-Gelu Tudose, **Marius-Mihai Cazacu**, Adrian Timofte, Ioan Balin, ESYROLIDAR system developments for troposphere monitoring of aerosols and clouds properties, SPIE Remote Sensing, 2011, Prague, Czech Republic;

2010

105. A. Timofte, **M.M. Cazacu**, D. Dimitriu, S. Gurlui, R. Radulescu, C. Talianu, Utilizarea sistemelor LIDAR in Romania pentru investigarea norului de cenusa provenit de la vulcanul EYJAFJALLAJOKULL, Sesiunea anuala de comunicari stiintifice, Administratia Nationala de Meteorologie, Bucuresti, Romania, 10 – 11 Noiembrie 2010;
106. Timofte, **M.M. Cazacu**, R. Radulescu, C. Talianu, D. Dimitriu, S. Gurlui, First Romanian LIDAR investigation of the EYJAFJALLAJOKULL volcanic ash, 4th International Workshop on Optoelectronic Techniques for Environmental Monitoring – OTEM 2010, București, Romania;
107. **M.M. Cazacu**, A. Timofte, D. Dimitriu, S. Gurlui, Experimental validation of MAP 3D environmental data in NE region of Romania-Iasi area, 4th International Workshop on Optoelectronic Techniques for Environmental Monitoring – OTEM 2010;

2009

108. **M. Cazacu**, I. Vetres, P. Ristori, P. Mark, O. Tudose, D. Nicolae, D. Dorohoi, I. Balin – mESYLIDAR – a new up-gradable and versatile LIDAR configuration for 3D monitoring of atmospheric aerosols, clouds and water vapor within ROLINET project, 3rd International Workshop on Optoelectronic Techniques for Environmental Monitoring – OTEM 2009, 30 Septembrie – 2 Octombrie 2009;

2008

109. Adrian Covășnianu, **Mihai Cazacu**, Alexis Merlaud, Joelle Bechara, Victor-Daniel Cărbunaru, Daniel-Eduard Constantin, Tropospheric exploration above Moldavia province: trace gas measurements ATR-42 flight AS0729 on the 16th of July 2007, The II^{sd} edition of the International Symposium - Present Environment and Sustainable Development, 2008;
110. M.M. Cazacu, V. Nica, H. Morawiec, Structure formation and its effect on properties of shape memory materials, Physics of Advanced Materials Winter School 2008

2007

111. A. Covasnianu, M. Cazacu, N. Libralesso, L. Galisson, M. Memier, I. Balin – Digital Terrain Model by airborne LIDAR technique: an essential tool for hydrologic risks assessment; 1st International Workshop on Optoelectronic Techniques for Environmental Monitoring and Risk Assessment, Bucharest, Romania, 21– 24 May 2007;

2006

112. **Mihai Cazacu**, Eduard-Daniel Constantin, Adrian Covasnianu, Ioan Balin – O₃, SO₂ and NO_x urban processes: point monitor measurement & interpretation in Bucharest – spring 2006; 1st International Summer School – Optoelectronic Techniques for Environmental Monitoring and Risk Assessment 31 iulie – 9 august 2006, Baia Mare, Romania;
113. Eduard-Daniel Constantin, Adrian Covasnianu, **Mihai Cazacu**, Ioan Balin - O₃, SO₂ and NO_x urban processes: interpretation in Bucharest – May 2006; 1st International Summer School – Optoelectronic Techniques for Environmental Monitoring and Risk Assessment 31 iulie – 9 august 2006, Baia Mare, Romania.

J. Invenții.

K. Contracte de cercetare.

Programme/Project	Position	Period	Administrated Budget
PN-III-P1-1.1-TE-2019-1921, Nano Air	Project coordinator	11.2020 – 10.2022	100.000 €
ARUT/GnaC2018 65 / 2019, MYAIR	Project coordinator	06.2019 – 05.2020	6.300 €
MySMIS / 111890/249/	Expert	03.2019 – 10.2019	180.000 €
STAR ROSA/114/07.11.2016, AIRFRAME	Researcher	07.2017 – 12.2018	330.000 €
STAR ROSA/114/07.11.2016, SATY	Researcher	07.2017 – 12.2018	160.000 €
STAR ROSA/114/07.11.2016, LEO	Researcher	11.2016 – 11.2017	1.000.000 €
STAR-ROSA/98/129.11.2013, DARLIOES	Research assistant	02.2014 – 12.2016	180.000 €
PN-II-PT-PCCA-2013-4-1798, MOBBE	Researcher	07.2014 – 12.2016	275.000 €
PN-II-PT-PCCA-2013-4-2074, LIRA	Researcher	07.2014 – 12.2016	231.033 €
CAPACITATI/RO-CERN, ELI-NP, E03/30.06.2014	Researcher	09.2014 – 07.2016	140.000 €
POSDRU /157/1.3/S/132731	Training Expert	05.2014 – 11.2015	650.000 €
POSDRU/89/1.5/S/63663	Postdoctoral Researcher	10.2011 – 09.2012	330.000 €
POSCCE/5710 (ID364)/93/02.02.2010	Research assistant	02.2010 – 02.2013	300.000 €
RADO – Norway Grants STVES 115266	PhD student position	05.2009 – 04.2011	3.500.000 €
ROLINET, Proiect nr. 31-002/14.09.2007	PhD student position	09.2007 – 09.2010	280.000 €

L. Premii, distincții.

DE ADAUGAT PREMIUL TUIASI

1. Premiul pentru tânărul cercetător cu cele mai bune performante în cercetarea științifică, Zilele Universității Tehnice „Gheorghe Asachi” din Iași, 9 - 12 noiembrie 2021
2. Premiul III: M.M. Cazacu, A. Timofte, O.G. Tudose, D. Dimitriu, S. Gurlui, I. Balin – ^{mESY}LIDAR – A new configuration for 3D monitoring of atmospheric aerosols and clouds, A XXXIX-a Conferinta Nationala Fizica si Tehnologiile Educationale Moderne, 15 Mai 2010, Iasi, Romania;
3. Premiul I: I. Vetres, I. Ionel, M.M. Cazacu, I. Balin – Necessity of complementar vertical resolved LIDAR observation towards ground air pollution analysis, in western Romania, International U.A.B. – B.E.N.A Workshop Management and Sustainable Protection of Environment, 6 -7 Mai 2009, Alba Iulia, Romania;

M. Alte realizări semnificative.

Data,
17.10.2025

Nume, semnătura
Cazacu Marius Mihai

* Conform H.G. 1175/ 2006