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EDUCATION

Technical University, Sofia - Master / 1994-1999 /

Professional Qualification: Mechanical Engineer

Specialty: Metal technology and Metalworking equipment

Technical University, Sofia - / 2000 /

Specialty: International Economic Relations

WORK EXPERIENCE:

since 2000 - engineer, Space Research Institute-Bulgarian Academy of Science (BAS)

2003 – Research Associate, Space Research Institute – BAS, Departmen „Space Materials Science“

2012 – Assistant, Space Research and Technology Institute – BAS, Departmen „Space Materials Science“

2017 – Assistant Ph.D., Space Research and Technology Institute – BAS, Departmen „Space Materials Science“

2017 – Assistant Professor PhD, Space Research and Technology Institute – BAS, Departmen „Space Materials Science”

2022 – Associate Professor PhD, Space Research and Technology Institute – BAS, Departmen „Space Materials Science”

2025 – Professor PhD, Space Research and Technology Institute – BAS, Departmen „Space Materials Science”

PARTICIPATION IN SCIENTIFIC PROJECTS:

- Technical task for the Space Experiment (CE) “Obstanovka 1–stage”, 515-7/689 of 12.30.99, **participant**
- Dispersion strengthened Al alloys. Project under contract with TISNUM, Troitsk, **participant**

- Obtaining polysilicon thin films by aluminum induced crystallization for solar photovoltaics and bioapplications, 2004–2005, **participant**

- Program for Terrestrial Experimental Processing of the Plasma-Wave Complex for the Space Experiment “Obstanovka 1– stage” of the Russian Space Station of the International Space Station. Contract with the Rocket-Space Corporation Energy on the topic “ICS-Science” of the Russian Space Agency, 2009 – 2015. **Head of part of the project related to block DP-PM.**

- Project ”ZARQD” Research in surface processes of polarization of space Apparatuses; A Russian–Bulgarian project in the region on the fundamental space research 2015-2017, **manager**

- Study of composite material behavior in stress situations of the International Space Station (ISS), Competition for financial support for projects of junior researchers and postdocs – 2017, 2017–2019 DM17/1 **manager**

- Development of a methodology for determining material parameters of modern porous and multilayer materials based on experimental and numerical-theoretical approaches – EBR, Competitions for projects under bilateral cooperation programs – 2018 – Bulgaria–Russia 2018–2020, (Institute of Mechanics – BAS and Rostovna Don University), **participant**

- Exploring the open-space influence on the physico-chemical properties of glass-carbon coatings after a prolonged stay on the International Space Station (ISS), Competition for financial support of basic research projects – 2018, 2018–2023, **participant**

- Testing of equipment according to the program, methodology, requirements, and conditions provided by the Principal, 38/09.12.2019**, participant**

- Testing of equipment according to the program, methodology, requirements, and conditions provided by the Principal, 06/21.02.2020, **participant**

- Testing of equipment according to the program, methodology, requirements, and conditions provided by the Principal, 8/15.03.2023, **participant**

- Conducting continuous 24-hour measurements of power flux density in the frequency range from 100 kHz to 7 GHz, at a site of the Principal in Bankya, 37/14.09.2023, **participant**

- Conducting continuous 24-hour measurements of power flux density in the frequency range from 100 kHz to 7 GHz, at three sites of the Principal in Sofia, 02/19.01.2024, **participant**

- Conducting continuous 24-hour measurements of power flux density in the frequency range from 100 kHz to 7 GHz, at a site of the Principal in Sofia”, 05/18.03.2024, **participant**

- Testing of equipment according to the program, methodology, requirements, and conditions provided by the Principal, 10/10.04.2025, **participant**

SELECTED SCIENTIFIC PUBLICATIONS:

1. **Anna D. Bouzekova-Penkova**, Dimitar K. Teodosiev, Temenuzhka G. Spasova (2025) Electromagnetic radiation in urban environments, heat islands in the center of Sofia, Eleventh International Conference on Remote Sensing and Geoinformation of Environment (RSCy2025), Proc. SPIE 13816, 38161Z: 1–7, https://doi.org/10.1117/12.3071084
2. **Anna D. Bouzekova-Penkova**, Dimitar K. Teodosiev, Temenuzhka G. Spasova (2025), Assessment of electromagnetic radiation in the urban environment, Eleventh International Conference on Remote Sensing and Geoinformation of Environment (RSCy2025), Proc. SPIE 13816, 138161C:1–10, https://doi.org/10.1117/12.3069141
3. **Anna Bouzekova-Penkova,** Dimitar Teodosiev (2025) Electromagnetic radiation in urban environments, Proceedings of Knowledge, Science, Innovation, Technology Conference, 2(1), 1060–1072, https://www.ceeol.com/search/article-detail?id=1384827
4. **Anna Bouzekova-Penkova,** Dimitar Teodosiev (2025) Rapid-decompression and Electromagnetic interference Testing of Tablets, Proceedings of Knowledge, Science, Innovation, Technology Conference, 2(1), 1073–1083, https://www.ceeol.com/search/article-detail?id=1384828
5. Dimiter Teodosiev, **Anna Bouzekova-Penkova**, Boyko Tsyntsarski, Peter Tzvetkov, Urszula Szeluga (2025) Assessment of some structural properties of novel glassy carbon coatings, Aerospace Research in Bulgaria, 37, 192–199, ISSN 1313–0927, DOI: https://doi.org/10.3897/arb.v37.e19
6. Adelina Miteva, **Anna Bouzekova-Penkova** (2025) Advancements in aerospace alloys: navigating the future of aviation and space exploration, Aerospace Research in Bulgaria, 37, 223–238, ISSN 1313–0927, DOI: 10.3897/arb.v37.e23
7. Bouzekova-Penkova A., Teodosiev D. (2025) Measurements of electromagnetic fields emitted in urban environments, International journal for science, technics and innovations for the industry “Machines, Tehnologies, Materials”, 19(9), 329–341, o–ISSN 1314–507X, https://stumejournals.com/journals/mtm/2025/9/329
8. **Anna Bouzekova-Penkova**, Dimitar Teodosiev, Adelina Miteva (2025) Assessment of the risk of electromagnetic emissions through monitoring for an object on the territory of the Metropolitan municipality, International scientific journal “Machines, Tehnologies, Materials”, 19(1), 22–24, o–ISSN 1314–507X, https://stumejournals.com/journals/mtm/2025/1/22
9. **Bouzekova-Penkova A.** (2025) Effect of electromagnetic radiation in space on aluminum alloy AA7075, International journal for science, technics and innovations for the industry “Machines, Tehnologies, Materials”, 19(9), 353–355, o–ISSN 1314–507X, https://stumejournals.com/journals/mtm/2025/9/353
10. **Bouzekova-Penkova Anna**, Silviya Simeonova, Dimitar Teodosiev (2024) AFM analysis of glassy carbon coatings after an extended stay on the international space station (ISS), Aerospace Research in Bulgaria, 36, 169-176, ISSN 1313–0927, https://doi.org/10.3897/arb.v36.e15

11. Tsanev A., K. Grigorov, H. Kolev, **A. Bouzekova-Penkova**, B. Tsyntsarski, P. Tsvetkov, D. Teodosiev (2024) XPS investigation of the work function of glass carbon coatings after extende stay on the international space station (ISS), Aerospace Research in Bulgaria, 36, 177–188, ISSN 1313–0927, DOI: https://doi.org/10.3897/arb.v36.e16
12. Getsov Peter, **Anna Bouzekova-Penkova**, Nikolay Zagorski, Garo Mardirossian, Dimo Zafirov (2024) Impact of spacecraft and ISS engines on experimental samples of various materials mounted on the outer surface of the "ZVEZDA" module, Aerospace Research in Bulgaria, 36, 189–200, ISSN 1313–0927, DOI: https://doi.org/10.3897/arb.v36.e17
13. **Bouzekova-Penkova Anna**, Stanislav Klimov, Valery Grushin, Olga Lapshinova, Denis Novikov, Dimitar Teodosiev (2023) Space Experiment "Obstanovka (1–stage)", block DP–PM of the Russian segment of the International Space Station (ISS), Aerospace Research in Bulgaria, 35; 156–164, ISSN 1313–0927, DOI: https://doi.org/10.3897/arb.v35.e15, https://www.webofscience.com/wos/woscc/full-record/WOS:000995620400015
14. Tsyntsarski Boyko, **Anna Bouzekova-Penkova**, Urszula Szeluga, Georgi Georgiev, Peter Tzvetkov, Dimitar Teodosiev (2023) SEM and EDX study of glassy carbon coatings after an extende stay on the international space station (ISS), Aerospace Research in Bulgaria, 35, 165–173, ISSN 1313–0927, DOI: https://doi.org/10.3897/arb.v35.e16.
15. Teodosiev Dimitar, **Anna Bouzekova-Penkova**, Silviya Simeonova, Nikolay Grozev (2023) Contact angle and AFM analysis of glassy carbon coatings after an extended stay on the international space station (ISS), Comptes rendus de l'Acade'mie bulgare des Sciences, 76(2), 256–263, DOI: https://doi.org/10.7546/CRABS.2023.02.10.
16. Teodosiev Dimitar, **Anna Bouzekova-Penkova**, Boyko Tsyntsarski, Jordan Georgiev, Denitsa Borisova, Valentina Hristova (2023), Spherical sensors with glassy carbon coatings for measurement of electric fields in near-earth plasma on board satellites, Ninth Ninth International Conference on Remote Sensing and Geoinformation of the Environment (RSCy2023), Proc. SPIE 12786, 1278620: 1–8, ISSN 0277786X, https://doi.org/10.1117/12.2680612.
17. Teodosiev Dimitar, **Anna Bouzekova-Penkova**, Rositsa Koleva, Dimitar Tonev, Elena Geleva, Boyko Tsyntsarski, Peter Tzvetkov, Nikolay Goutev, Anguel Demerdjiev, Bozhidar Slavchev (2023) Investigation of the influence of ionization radiation on glassy carbon coatings, after long stay in the outer space on the International Space Station (ISS), Comptes rendus de 'Acade'mie bulgare des Sciences, 76(10), 1495–1504, ISSN 13101331, DOI10.7546/CRABS.2023.10.03
18. Galina Cherneva, Valentina Hristova, Denitsa Borisova, **Anna Bouzekova-Penkova**, Daniela Avetisqn (2023) Compensation of linear distortions in case of transmitting measurement information, Earth Resources and Environmental Remote Sensing/GIS Applications XIV, part of SPIE Remote Sensing 2023, Amsterdam, Netherlands, 12734, 127341G: 1–7, ISSN 0277786X, https://doi.org/10.1117/12.2680510.
19. Teodosiev Dimiter, **Anna Bouzekova-Penkova** (2022) Novel Glassy Carbon Coatings in Sensors for Satellite Systems and Space Research, Journal „Geodesiya, kartografiya, zemeustroystvo", 3-4, 9-13, ISSN 0324-1610;

Publication of the Union of Surveyors and Land Planners in Bulgaria, https://geodesy-union.org/?page_id=1668.
20. Cherneva Galina, Valentina Hristova, Denitsa Borisova, **Anna Bouzekova-Penkova**, Mila Atanasova-Zlatareva (2022) Application of ranking correlation in synthesis of resistance-resistant signals, Earth Resources and Environmental Remote Sensing/GIS Applications XIII, Proc. SPIE 12268, 1226816-1-6, https://doi.org/10.1117/12.2638501.
21. Cherneva Galina, Valentina Hristova, Denitsa Borisova, **Anna Bouzekova-Penkova**, Mila Atanasova-Zlatareva (2022) Application of chaotic sequences to expand the spectrum, Earth Resources and Environmental Remote Sensing/GIS Applications XIII, Proc. SPIE 12268, 1226815-1-6, https://doi.org/10.1117/12.2638484.
22. Teodosiev Dimitar, **Anna Buzekova-Penkova** (2022) Glassy Carbon Coatings on Titanium Alloys for Applications in Space Research, Mechanics, Transport, Communications Scientific Journal, 20 (3/2), IX-21 – IX-26, p-ISSN 1312–3823, https://mtc-aj.com/article.2256.bg.htm.
23. **Buzekova-Penkova Anna** (2022) Application of aluminum alloys in transport, scientific journal “Mechanics, transport, communications”, 20 (3/2), IX-15 – IX 20, p-ISSN 1312-3823, https://mtc-aj.com/article.2255.bg.htm.
24. Tsyntsarski Boyko, Ivanka Stoycheva, Georgi Georgiev, Nartzislav Petrov, Angelina Kosateva, Bilyana Petrova, **A. Bouzekova-Penkova**, Tanya Tsoncheva, Gloria Issa (2022) Refuse-derived fuel based cobalt catalysts for hydrogen Production, Comptes rendus de l’Acade'mie bulgare des Sciences, 75(9), 1295–1302, https://doi.org/10.7546/CRABS.2022.09.06.
25. **Bouzekova-Penkova Anna**, Stanislav Klimov, Valery Grushin, Olga Lapshinova, Denis Novikov, Dimitar Teodosiev (2023) Space Experiment “Obstanovka (1 - stage)”, block DP–PM of the Russian segment of the International Space Station (ISS), Aerospace Research in Bulgaria, 35, 156–164, ISSN 1313–0927, DOI: https://doi.org/10.3897/arb.v35.e15.
26. **Bouzekova-Penkova Anna**, Adelina Miteva (2022) Hardness and alloys for space, a collection of reports from the Annual University Scientific Conference 2022 National University Vasil Levski, 1229–1239, ISSN 2367–7481.
27. **Bouzekova-Penkova Anna** (2022) Aerospace safety, a collection of reports from the Annual University Scientific Conference 2022 National University Vasil Levski, 1219–1227, ISSN 2367–7481.
28. **Bouzekova-Penkova Anna** (2022) Aerospace applications of aluminum alloys, a collection of reports from the Annual University Scientific Conference 2022 National University Vasil Levski, 1207–1217, ISSN 2367–7481.
29. Petkov Vladimir, Mihaela Aleksandrova, Veselin Petkov, Dimitar Teodosiev, **Anna Bouzekova-Penkova** (2022) Investigation of glassy-carbon coating/layer deposited on titanium alloy, microstructure and mechanical properties, Journal of Theoretical and Applied Mechanics, 52, 381–392, p-ISSN: 0861–6663, https://jtambg.eu/.
30. **Bouzekova-Penkova Anna**, Adelina Miteva (2022) Some aerospace applications of 7075 (B95) aluminium alloy, Aerospace Research in Bulgaria, 34, 165–179, ISSN 1313–0927; DOI: https://doi.org/10.3897/arb.v34.e145.

31. **Bouzekova-Penkova Anna**, Silviya Simeonova (2022) AFM analysis of aluminium alloy 7075, Aerospace Research in Bulgaria, 34, 157–164, ISSN 1313–0927; DOI: https://doi.org/10.3897/arb.v34.e14.
32. Miteva Adelina, **Anna Bouzekova-Penkova** (2021) Some aerospace applications of functionally graded materials, Aerospace Research in Bulgaria, 33, 195–209, ISSN 1313–0927; DOI: https://doi.org/10.3897/arb.v33.e14.
33. Teodosiev Dimitar, **Anna Bouzekova-Penkova**, Korneli Grigorov, Rumen Nedkov, Georgi Stanev, Peter Tzvetkov, Boyko Tsyntsarski, Angelina Kosateva, Stanislav Klimov, Valery Grushin (2021) Structural and mechanical properties of glass-carbon coatings after an extended stay on the international space station, Comptes rendus de l'Acade'mie bulgare des Sciences, 74(2), 197–206, ISSN 1310–1331, DOI:10.7546/CRABS.2021.02.05.
34. Teodosiev Dimitar, **Anna Bouzekova-Penkova**, Vladimir Petkov, Peter Tzvetkov, Rumen Nedkov, Boyko Tsyntsarski, Georgi Stanev (2020) New materials and technologies for satellite systems, space exploration and terrestrial applications, XXX International symposium modern tehnologies, education and professional practice in geodesy and related fields, 04–06 November 2020, Sofia, Bulgaria, http://symp2020.geodesy-union.org.
35. **Bouzekova-Penkova Anna**, Silviya Simeonova, Rositza Dimitrova, Rayna Dimitrova (2020) Structural properties of aluminium alloy enhanced by nanodiamond and tungsten exposed in the outer space, Comptes rendus de l'Acade'mie bulgare des Sciences, 73(9), 1270–1276, ISSN 1310–1331, DOI:10.7546/CRABS.2020.09.11
36. **Bouzekova-Penkova Anna**, Yordan Mirchev (2020) Destructive and nondestructive testing of the mechanical properties of aluminium alloy enhanced by nanodiamond and tungsten exposed in the outer space, Comptes rendus de l'Acade'mie bulgare des Sciences, 73(4), 547-552, ISSN 1310–1331, DOI:10.7546/CRABS.2020.04.13.
37. **Bouzekova-Penkova Anna**, Maria Datcheva, Roumen Iankov (2019) Mechanical properties of the enhanced with nanodiamond and tungsten strengthened aluminium alloy being exposed in the Outer space, International Journal "NDT Days", II / 4, 396-401, DOI: 10.5281/zenodo.3548122.
38. **Bouzekova-Penkova Anna**, Peter Tzvetkov (2019) Investigation of outer space influence on structural properties of strengthened 7075 aluminum alloy. Experiments onboard the international space station (ISS), Comptes rendus de l'Acade'mie bulgare des Sciences, 72(7), 939–946, ISSN 1310–1331, DOI: 10.7546/CRABS.2019.07.12.
39. **Bouzekova-Penkova A.**, R. Nedkov, G. Stanev, Klimov, Grushin, Karagjov, Teodosiev (2017) Technological experiment "OBSTANOVKA" aboard the International Space Station, Jurnal of the Bulgarian Academy of Sciences, 130 (5), 22-26.
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41. **Bouzekova-Penkova A.**, Korneli Grigorov, Maria Datcheva, Cicero Alves Cunha (2016) InfluenceoftheouterspaceonnanohardnesspropertiesofAl-

basedalloy, Comptes rendus de l'Acade'mie bulgare des Sciences, 69(10), 1351–1354, https://www.proceedings.bas.bg/index_old.html.

42. **Bouzekova-Penkova A.**, Markov Lyudmil, Peter Cvetkov (2016) Fazov having gone to nanomodifitsiran composite, Eleventh scientific conference with international participation "Space, Ecology, Safety" SES 2015, 403–406, ISSN 1313–3888, SES 2015 (bas.bg).
43. **Bouzekova-Penkova A.** (2016) Method of Removal of the DP-PM block from the ISC board and a program for subsequent ground tests, Eleventh scientific conference with international participation "Space, Ecology, Safety" SES 2015, 397–402, ISSN 1313–3888, SES 2015 (bas.bg).
44. **Bouzekova-Penkova A.** (2015) Mechanical properties of modified aluminum alloy - B95, Tenth anniversary scientific conference with international participation "Space, Ecology, Safety" SES 2014, 479–483, ISSN 1313–8308, SES 2014 (bas.bg).
45. **Bouzekova-Penkova A**., L. Markov, Julian Karadjov, (2014) Application of detonation synthesized deaggregated nanodiamonds in high strength Aluminium alloy, Proceedings of the fourth national conference with international participation "Material science, hydro- and aerodynamics and national security'2014", Publisher: IMETHC-BAS, 157–161, ISSN 1313–8308.
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47. **Bouzekova-Penkova A.**, A. Miteva (2014) Aluminium-based functionally graded materials, Proceedings of the fourth national conference with international participation "Material science, hydro- and aerodynamics and national security'2014", Publisher: IMETHC-BAS, 145–151, ISSN 1313–8308.
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51. Miteva Adelina, **Anna Bouzekova-Penkova** (2009) Practical Applications of Some Nanostructures in Advanced Mechanical Engineering Technologies; International scientific conference AMTECH 2009, Journal "Fundamental sciences and applications", 12–13 November 2009, Plovdiv, Bulgaria, 15, 221–226, ISSN 1310–8271.
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Ruse University "Angel Kanchev" and the Union of Scientists, Ruse, Bulgaria, 44(2), 125–129, ISSN 1311–3321.
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