

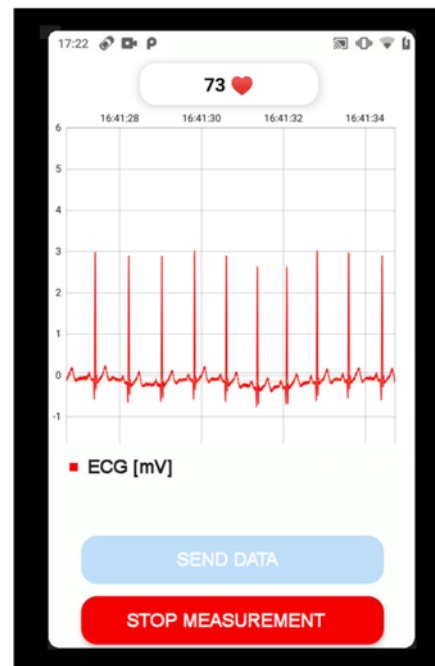
**NATO Emerging Security Challenges Division
Science for Peace and Security (SPS) Programme**

Project G5825

“Smart Patch for Life Support Systems - SP4LIFE”

LIST OF PUBLICATIONS

(updated: January 16, 2025)



Journal papers:

1. Teodora Vićentić, Stevan Andrić, Vladimir Rajić, Marko Spasenović. Reliable fabrication of transparent conducting films by cascade centrifugation and Langmuir–Blodgett deposition of electrochemically exfoliated graphene. *Beilstein J. Nanotechnol.* 2022, 13, 666–674. <https://doi.org/10.3762/bjnano.13.58>
2. Teodora Vicentic, Milena Rašljic Rafajilovic, Stefan D. Ilic, Bojana Koteska, Ana MadevskacBogdanova, Igor A. Pašti, Fedor Lehocki and Marko Spasenovic, “Laser-induced graphene for heartbeat monitoring with HeartPy analysis”, *Sensors* 2022, 22 (17), 6326. <https://doi.org/10.3390/s22176326>. <https://www.mdpi.com/1424-8220/22/17/6326>
3. Immacolata Greco, Vanja Miskovic, Carolina Varon, Chiara Marraffa, Carlo S Iorio. Printability of Double Network Alginate-Based Hydrogel for 3D Bio-Printed Complex Structures. *Frontiers in Bioengineering and Biotechnology*, 2022 Jul 8:10:896166. <https://doi.org/10.3389/fbioe.2022.896166>. PMID: 35875487; PMCID: PMC9304713.
4. Teodora Vićentić, Immacolata Greco, Carlo Saverio Iorio, Vanja Miskovic, Danica Bajuk-Bogdanovic, Igor Pašti, Katarina Radulović, Sebastian Klenk, Tanja Stimpel-Lindner, Georg S Duesberg and Marko Spasenović, "Laser-induced graphene on cross-linked sodium alginate", *Nanotechnology* 35 (11), 2024. <https://doi.org/10.1088/1361-6528/ad143a>
5. Ana Madevska Bogdanova, Bojana Koteska, Teodora Vićentić, Stefan D. Ilić, Miona Tomić, Marko Spasenović, "Blood Oxygen Saturation Estimation with Laser-Induced Graphene Respiration Sensor", *Journal of Sensors*, vol. 2024, Article ID 4696031, 10 pages, 2024. <https://doi.org/10.1155/2024/4696031>

Conference papers:

6. Fedor Lehocki, Ana Madevska Bogdanova, Milan Tysler, Beata Ondrusova, Monika Simjanoska, Bojana Koteska, Magdalena Kostoska, M. Majak, M. Macura, "SmartPatch for Victims Management in Emergency Telemedicine," In *MEASUREMENT 2021 : Proceedings of the 13th International Conference on Measurement*. – Bratislava : Institute of Measurement Science, SAS, 2021, 2021, p. 146-149. ISBN 978-80-972629-4-5. <https://doi.org/10.23919/Masurement52780.2021.9446791>
7. Teodora Vićentić, Stefan Andrić, M. V. Bošković, J. Stevanović, I. Pašti, Marko Spasenović, “Optimization of Optoelectronic Properties of Electrochemically Exfoliated Graphene by Cascade Centrifugation”, 2021 Photonica Conference, 2021, pp 184, ISBN 978-86-82441-53-3. <http://www.photonica.ac.rs/docs/Book%20of%20abstracts%202021.pdf>
8. S. Jovanov, B. Ristovski, Ana Madevska Bogdanova, Magdalena Kostoska “Validation of Data correlation - ECG with Heart Rate and Respiratory Rate in Python”, 13th ICT Innovations Conference 2021, Web Proceedings, Skopje, N. Macedonia, 2021. <https://repository.ukim.mk/handle/20.500.12188/22822>
9. Hristina Mitrova, Bojana Koteska, Ana Madevska Bodganova, Fedor Lehocki, Beata Ondrusova, Nevena Ackovska, “Evaluation of Python HeartPy Toolkit for Heart Rate extraction from PPG”, 13th ICT

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Innovations Conference 2021, Web Proceedings, 2021, Skopje, N. Macedonia.
<https://repository.ukim.mk/handle/20.500.12188/21634>

10. Teodora Vićentić, Milena Rasljic, Bojana Koteska, Ana Madevska Bogdanova, Igor Pasti, Marko Spasenović, “Wearable Graphene Sensor for Pulse Measurement”, Nineteenth Young Researchers Conference – Materials Science and Engineering, Belgrade, Serbia, December 2021.
<https://repository.ukim.mk/handle/20.500.12188/21652>
11. Ivan Kuzmanov, Ana Madevska Bogdanova, Magdalena Kostoska, “Blood pressure class estimation using CNN-GRU model”, 19th International Conference on Informatics and Information Technologies CIIT, Skopje, N. Macedonia, 2022. <https://repository.ukim.mk/handle/20.500.12188/25677>
12. Teodora Vićentić, Milena Rašljić Rafajilović, Stefan Ilić, Bojana Koteska, Ana Madevska Bogdanova, Igor Pašti, Fedor Lehocki and Marko Spasenović, “Wearable Patch for Mass Casualty Screening with Graphene Sensors”, 19th International Conference on Informatics and Information Technologies, CITT 2022, Skopje, N. Macedonia. <https://cer.ihtm.bg.ac.rs/handle/123456789/5722>
13. Ivan Kuzmanov, Ana Madevska Bogdanova, Magdalena Kostoska, Nevena Ackovska, “Fast Cuffless Blood Pressure Classification with ECG and PPG signals using CNN-LSTM Models in urgent medicine”, IEEE conference, 45-th MIPRO, Opatija, Croatia, 2022. <https://ieeexplore.ieee.org/document/9803582>
14. Bojana Koteska, Hristina Mitrova, Ana Madevska Bogdanova, Fedor Lehocki, “Machine learning based SpO2 prediction from PPG signal’s characteristics features”, 17th edition of IEEE International Symposium on Medical Measurements and Applications, June 22-24, 2022, Taormina, Messina, Italy.
<https://ieeexplore.ieee.org/document/9856498>
15. Katerina Zdravkova, Ana Madevska Bogdanova, “ Smart patches in mass-casualty incidents”, Ethicomp 2022, 26-28th July, 2022, Turku, Finland. https://sites.utu.fi/ethicomp2022/wp-content/uploads/sites/1104/2022/09/Ethicomp-2022-Proceedings_Corrected.pdf
16. Bojana Koteska, Ana Madevska Bogdanova, Hristina Mitrova, M. Sidorenko, Fedor Lehocki, “Deep Learning Approach to Estimate SpO2 from PPG Signals”, 6th International Conference on Biomedical Engineering and Bioinformatics, September 18-20, 2022, Berlin, Germany.
<https://dl.acm.org/doi/abs/10.1145/3569192.3569215>
17. Ivan Kuzmanov, Anastasija Vasilevska, Ana Madevska Bogdanova, Nevena Ackovska, Magdalena Kostoska, Fedor Lehocki, “Blood Pressure Classification Using CNN-LSTM Model”, 14th ICT Innovations Conference 2022, 29 September -1 October, 2022, Skopje, N. Macedonia.
<https://proceedings.ictinnovations.org/2022/paper/563/blood-pressure-classification-using-cnn-lstm-model>
18. Eduard Žnava, Fedor Lehocki, Milan Tyšler, Ana Madevska Bogdanova, Magdalena Kostoska, Oto Masár, Marko Spasenović, Silvia Puteková, “Estimation of Respiratory Rate from ECG Signal in Python Programming Language”, 14th ICT Innovations Conference 2022, 29 September -1 October, 2022, Skopje, N. Macedonia. <https://proceedings.ictinnovations.org/2022/paper/565/estimation-of-respiratory-rate-from-ecg-signal-in-python-programming-language>
19. Barbora Andrášikova, Fedor Lehocki, Milan Tyšler, Ana Madevska Bogdanova, Ivan Kuzmanov, Oto Masár, Marko Spasenović, Silvia Puteková, “Using Cuffless Non-Invasive Methods for Blood Pressure



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Estimation: A Literature Review”, poster, 14th ICT Innovations Conference 2022, 29 September -1 October, 2022, Skopje, N. Macedonia. <https://proceedings.ictinnovations.org/2022/paper/568/using-cuffless-non-invasive-methods-for-blood-pressure-estimation-description-of-the-selected-solutions>

20. Ivan Kuzmanov, Nevena Ackovska and Ana Madevska Bogdanova, “Transformer Models for Processing Biological Signal”, 20th International Conference on Informatics and Information Technologies, CIIT , Krusevo, N. Macedonia, May 2023. <https://ciit.finki.ukim.mk/proceedings/ciit-2023-proceedings.pdf>
21. Teodora Mladenovska, Ana M. Bogdanova, Magdalena Kostoska, Nevena Ackovska and Bojana Koteska, “Estimation of Blood Pressure from Arterial Blood Pressure using PPG Signals”, 20th International Conference on Informatics and Information Technologies, CIIT, Krusevo, N. Macedonia, May 2023. <https://ciit.finki.ukim.mk/proceedings/ciit-2023-proceedings.pdf>
22. Viktor Meglenovski, Stojan Delenikov, Bojan Dukovski, Hristina Miteva, Bojana Koteska, Magdalena Kostoska and Ana Madevska Bogdanova, “Extraction and Preprocessing of PPG Data from the MIMIC III Database”, 20th International Conference on Informatics and Information Technologies, CIIT, Krusevo, N. Macedonia, May 2023. <https://ciit.finki.ukim.mk/proceedings/ciit-2023-proceedings.pdf>
23. Daniel Gogola, Nevena Ackovska, Richard Bagin, Bojana Koteska, Ana Madevska Bogdanova, Magdalena Kostoska, Fedor Lehocki, Milan Tysler “Integrated Smart Patch for Heart Rate and Respiratory Rate Monitoring “, Measurement 2023, 14th International Conference on Measurement, 29 - 31 May 2023, Smolenice Castle, Slovakia. <https://doi.org/10.23919/MEASUREMENT59122.2023.10164383>
24. Ace Dimitrievski, Tatjana Loncar-Turukalo, Vladimir Trajkovic, “Securing Patient Information in Connected Healthcare Systems in the Age of Pervasive Data Collection”, IEEE International Mediterranean Conference on Communications and Networking, 4-7 September, 2023, Dubrovnik, Croatia. <https://ieeexplore.ieee.org/abstract/document/10266620>
25. Stefan D. Ilic, Miona Tomic, Teodora Vicentic, Christophe Minetti, Carlo S. Iorio, Milan Tyšler, Marko Spasenovic. Laser-induced graphene sensing for wearable respiratory monitoring. In 2023 IEEE 33rd International Conference on Microelectronics (MIEL). – IEEE, 2023, iEEE Catalog No. CFP23432-ART. ISBN 979-8-3503-4776-0. <https://doi.org/10.1109/MIEL58498.2023.10315807>
26. Miona Tomic, Stefan D. Ilic, Christophe Minetti, Carlo S. Iorio, Milan Tyšler, Marko Spasenovic. Wearable ECG smart patch for mass casualty emergency situations. In 2023 IEEE 33rd International Conference on Microelectronics (MIEL). – IEEE, 2023, iEEE Catalog No. CFP23432-ART. ISBN 979-8-3503-4776-0. <https://doi.org/10.1109/MIEL58498.2023.10315845>
27. M. Kostoska, V. Trajkovic, B. Koteska, N. Ackovska, F. Lehocki and A. M. Bogdanova, "Enabling Cybersecurity Mechanisms in a SmartPatch-Based Emergency Response System," 2023, 31st National Conference with International Participation (TELECOM), Sofia, Bulgaria, 2023, pp. 1-4, <https://doi.org/10.1109/TELECOM59629.2023.10409722> .
28. Ivan Kuzmanov, Nevena Ackovska, Fedor Lehocki, Ana Madevska Bogdanova “Implementation of the Time Series and the Convolutional Vision Transformers for Biological Signal Processing - Blood Pressure Estimation from Photoplethysmogram”, Springer, ICT Innovations, 24-26 September 2023, Ohrid, N. Macedonia https://link.springer.com/chapter/10.1007/978-3-031-54321-0_4



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29. Bojana Koteska, Ana Madevska Bogdanova, Teodora Vićentić, Stefan D. Ilić, Miona Tomić, Marko Spasenović "Prediction of Oxygen Saturation from Graphene Respiratory Signals with PPG trained DNN", BIOSTEC / BIOSIGNALS 2024, 17th International Joint Conference on Biomedical Engineering Systems and Technologies, February 21-23, 2024, Rome
<https://www.scitepress.org/Papers/2024/123541/123541.pdf>
30. Magdalena Kostoska, Ivan Kuzmanov, Bojana Koteska, Fedor Lehocki, Ana Madevska Bogdanova “Processing MIMIC-III for Evaluation of Various Blood Pressure Estimation Models”, ICT Innovations, 24-26 September 2023, Ohrid, N. Macedonia. In: ICT Innovations 2023 web proceedings, 142-152.
<https://proceedings.ictinnovations.org/attachment/paper/590/processing-mimic-iii-for-evaluation-of-various-blood-pressure-estimation-models.pdf>
31. Barbora Andrášikova, Ana Madevska Bogdanova, Milan Tyšler, Magdalena Kostoska, Ivan Kuzmanov, Vladim Trajkovik, Oto Masar, Silvia Puteková and Fedor Lehocki, “Using Cuffless Methods for Blood Pressure Estimation Without Need for Individual Calibration”, ICT Innovations, 24-26 September 2023, Ohrid, N. Macedonia. In: ICT Innovations 2023 web proceedings, 111-121.
<https://proceedings.ictinnovations.org/attachment/paper/587/using-cuffless-methods-for-blood-pressure-estimation-without-need-for-individual-calibration.pdf>
32. Miona Tomić, Stefan Ilic, Teodora Vićentić and Marko Spasenović. Development of an ECG system based on the ADS1194 integrated circuit”, ICT Innovations, 24-26 September 2023, Ohrid, N. Macedonia. ICT Innovations, 24-26 September 2023, Ohrid, N. Macedonia. In: ICT Innovations 2023 web proceedings, 78-89.
<https://proceedings.ictinnovations.org/2023/paper/584/development-of-an-ecg-system-based-on-the-ads1194-integrated-circuit>
33. Teodora Mladenovska, Nevena Ackovska, Magdalena Kostoska, Bojana Koteska, Katarina Trojancanec Dineva, Ana Madevska Bogdanova, “Comparison of different methods for Estimation of Arterial Blood Pressure using PPG Signals”, EAI ROSENET 2023 - 7th EAI International Conference on Robotics and Networks, December 15-16, 2023, Istanbul, Turkey, 177-184.
https://link.springer.com/chapter/10.1007/978-3-031-64495-5_13
34. Richard Bagín, Bojana Koteska, Magdalena Kostoska, Nevena Ackovska, Anastas Mishev, Ana Madevska Bogdanova, Milan Tysler, Smart System for Real-time Monitoring of Vital Parameters. In SQAMIA 2024, Proceedings of the Eleventh Workshop on Software Quality Analysis, Monitoring, Improvement, and Applications, Novi Sad, Serbia, September 9-11, 2024.
<https://perun.pmf.uns.ac.rs/ceur/sqamia24/paper02.pdf>



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