

## Approved projects financed under project BG-RRP-2.004-0002-C03 "BiOrgaMCT"

	Topic of the project proposal	Project head
1	Research on the possibilities of converting waste and by-products into alternative materials, and their utilization as a source of clean energy	Metodi Mladenov, Assoc.prof. PhD eng.
2	Investigation of the microstructure and wearresistance of high chromium tool steel after modification with nanodispersed modifier	Boyan Yordanov, Assoc.prof. PhD eng.
3	Combinatorial Spectroelectrochemical Biomolecules for Detection and Quantification determination of metal ions	Temenuzhka Radoykova, Assistant prof. PhD eng.
4	Innovative technology for recovery of critical metals from industrial waste	Petar Iliev, Assoc.prof. PhD eng.
5	Research the possibilities for optimal management of wastewater treatment processes using green adsorbents and biochars to achieve ecological efficiency and environmental protection	Silviya Lavrova-Popova, Assoc. Prof. PhD eng.
6	Low carbon waste decarbonization practices and regenerative agriculture	Ekaterina Serafimova, Assoc.prof. PhD eng.
7	Extraction of useful ingredients from plant raw materials and their application in the synthesis of metal nanoparticles	Diyan Tochev, Assistant prof. PhD eng.
8	Creation, optimization of the composition and application in industrial conditions of functional coatings improving the barrier properties of flexible packaging	Iskren Spiridonov, Assoc.prof. PhD eng.
9	Decision-making and diagnostic systems in the field of medicine and biomedicine based on artificial intelligence	Stefan Panov, Assistant prof. PhD eng.
10	Multyphysics simulation for efficient and reliable technologies for plasma processing of materials in batch systems	Nina Penkova, Prof. PhD eng.
11	Low temperature and environmentally acceptable conversion coatings on metal surfaces	Gergana Ilieva, Assistant prof. PhD eng.
12	Low-adhesive, antibacterial coatings incorporating graphene structures, peptides, metal, and oxide nanoparticles	Boris Martinov, Assistant prof. PhD eng.

13	Development of a technological regulation to diagnose local damage and a system to support decision-making for operation and maintenance to extend the life cycle and use the maximum resource of high-temperature metallurgical units with periodic (cyclic) heat load	Emil Mihailov, Prof. PhD eng.
14	Study of the mechanism of inhibition of enzyme systems by biologically active substances	Spaska Yaneva, Assoc. prof. PhD eng.
15	Low-temperature synthesis, research on structural properties and application of self-healing materials	Georgi Chernev, Assoc. prof. PhD eng.
16	Improving the performance properties of tool steel by modification	Rozina Yordanova, Assoc. prof. PhD eng.
17	Fillers for next generation polymer composites	Petrunka Malinova, Assoc. prof. PhD eng.
18	Refinement of papers obtained from waste products	Dimitrina Todorova, Assoc. prof. PhD eng.
19	Encapsulation of essential oils in inorganic aluminosilicate zeolite and bentonite matrices	Janna Mateeva, Assistant prof. PhD eng.
20	Smart Learning Factory for Industry 4.0	Daniela Gocheva, Assoc. prof. PhD eng.
21	Intelligent methods for digitization of technological processes and systems	Elena Koleva, Prof. PhD eng.