

CENTRALIZING TABLE OF PROJECTS AND RESULTS OF RESEARCH ACTIVITIES

The year 2021

Crt. No.	Project	No. CD contract	Product resulting from the CD activity (Technology/Method/Methodology)
1.	Integrated process for disseminating the polluting potential of the filter ash resulting from the incineration of hazardous medical waste and carbide sludge	38N/2016 - PN162550301	Integrated process for disseminating the polluting potential of filter ash resulting from the incineration of hazardous medical waste and carbide sludge
2.	Alternative wastewater treatment solution using the microalgae - activated sludge system	13N/2009 – PN09-130312	PATENT 130247 B1 Process for obtaining mixed microalgae - bacteria granules for wastewater treatment, BOPI no 12/2020
3.	Promotion, identification and realization of partnerships for knowledge transfer in the field of industrial ecology. Subsidiary theme POC-C: Improvement of the pretreatment system in the food industry	Ctr. no. 55/ 05.09.2016 Subsidiary no. 22242/2018	Evaluation study of the efficiency of physico-chemical/biological purification of certain categories of wastewater with specific loading
4.	Promotion, identification and realization of partnerships for knowledge transfer in the field of industrial ecology. Subsidiary topic POC_D: Conceptual modeling and development of an integrated wastewater treatment system adapted to the production technologies of porous collagen substrates within SC Sanimed International Impex SRL	Ctr. no. 55/ 05.09.2016 Subsidiary no. 5831/2018	Wastewater treatment system adapted to the production technologies of porous collagenous substrates
5.	Promotion, identification and realization of partnerships for knowledge transfer in the field of industrial ecology. Subsidiary theme POC_D: Obtaining photocatalysts by vacuum deposition for applications in the field of waste water treatment	Ctr. no. 55/ 05.09.2016 Subsidiary no. 6537/2018	Evaluation study of cytostatic degradation yields on various types of photocatalytic nanomaterials synthesized under specific operating conditions, chemical composition and temperature behavior
6.	Promotion, identification and realization of partnerships for knowledge transfer in the field of industrial ecology. Subsidiary theme POC_D: Obtaining photocatalysts by vacuum deposition for applications in the field of waste water treatment	Ctr. no. 55/ 05.09.2016 Subsidiary no. 6537/2018	Evaluation study of the kinetic parameters and photogeneration mechanisms of oxidizing species involved in cytostatic degradation on the synthesized photocatalysts
7.	Promotion, identification and realization of partnerships for knowledge transfer in the field of industrial ecology. Subsidiary theme POC_D: Obtaining photocatalysts by vacuum deposition for applications in the field of waste water treatment	Ctr. no. 55/ 05.09.2016 Subsidiary no. 6537/2018	Evaluation study of the cytostatic degradation performances on the obtained photocatalysts, optimal depollution conditions in a real context of impurity
8.	Innovative ecological purification system on site with water and resource recovery - INNOQUA	H2020 Ctr. no. 689817/2016	Modular system for biological purification of wastewater
9.	Innovative ecological purification system on site with water and resource recovery - INNOQUA	H2020 Ctr. no. 689817/2016	Advanced purification module with microalgae "BioSolarPurification-BSP"

10.	Research on reaction systems for the treatment of mine waters - PN 16 25 03 04	Ctr. no. 38 N/2016 - AA 5/2017	Process of valorization of the coagulation sludges resulting from the treatment of surface waters with aluminum salts. Patent no. 132146 / 29.01.2021 BOPI no. 1/2021
11.	Promotion, identification and realization of partnerships for knowledge transfer in the field of industrial ecology. POC-D subsidiary theme: Innovative system for identification and characterization of microplastics in water by RAMAN spectrometry	Ctr. no. 55/ 05.09.2016 Subsidiary no. 13674/ 30.08.19	Prototype Innovative system for identification and characterization of microplastics in water by RAMAN spectrometry
12.	Promotion, identification and realization of partnerships for knowledge transfer in the field of industrial ecology. Subsidiary topic POC-D: Innovative ecological recycling of flakes/feathers, wool, fur and similar waste containing keratin, with various degrees of contamination for the production of biocomposite materials with matrices from recycled plastics, intended for the field of transport and construction	Ctr. no. 55/ 05.09.2016 Subsidiary no. 14352/ 12.09.19	Process and composition for obtaining polyolefin composites / keratin material
13.	Promotion, identification and realization of partnerships for knowledge transfer in the field of industrial ecology. Subsidiary topic POC-C: Research on the optimization of the parameters of the CMID Bălteni leachate treatment plant	Ctr. no. 55/ 05.09.2016 Subsidiary no. 3700/11.03.2020	Technical assistance for the optimization of the parameters of the leachate treatment plant of CMID Bălteni, industrial level, with the follow-up of the treatment plant in operation and the influence of the deposit and discharge of the leachate after treatment on the environmental factors and technological solution for the post-treatment of biological effluent
14.	Promotion, identification and realization of partnerships for knowledge transfer in the field of industrial ecology. Subsidiary topic POC-C: Researches regarding the evolution over time of the degree of pollution of environmental factors induced by the permanently closed non-compliant waste deposits in Olt County (Slatina, Bals, Caracal, Corabia, Draganesti Olt and Scornicesti) - optimal solutions for a long-term sustainable management	Ctr. no. 55/ 05.09.2016 Subsidiary no. 4964/ 01.04.2020	The study of the evolution over time of the quality of the environmental components (groundwater, surface water, air) in the locations of the permanently closed household waste depots in Olt County (Scornicesti, Bals, Slatina, Draganesti-Olt, Caracal, Corabia)
15.	Advanced research on the transfer of emerging contaminants from abiotic environmental factors to aquatic organisms and plants through bioaccumulation - BIOACUM	Ctr. 20N/ 2019 PN 19 04 01 01	The method for determining endocrine disruptors such as perfluoroalkylated organic compounds from wastewater and surface water samples
16.	Advanced research on the transfer of emerging contaminants from abiotic environmental factors to aquatic organisms and plants through bioaccumulation - BIOACUM	Ctr. 20N/ 2019 PN 19 04 01 01	LC-MS method for the determination of some pharmaceutical compounds with antacid effect and their metabolites from surface water and waste water samples
17.	Advanced research on the transfer of emerging contaminants from abiotic environmental factors to aquatic organisms and plants through bioaccumulation - BIOACUM	Ctr. 20N/ 2019 PN 19 04 01 01	The method for the determination of herbicides from the class of diphenyl ethers, pyrimidines and carbamates from environmental samples: surface water and soil.

18.	Alignment of air quality assessment methods/methodologies with the requirements of the regulations regarding the reduction of emissions and the improvement of the quality of life in the current context of climate change - QALAIR	Ctr. 20N/ 2019 PN 19 04 02 02	Case study regarding the assessment of indoor air quality by applying methods/methodologies developed within the project, including Radon and electromagnetic waves
19.	Advanced materials, methods and technologies with applications in water treatment/purification - ADVANTECH	Ctr. 20N/ 2019 PN 19 04 03 01	Established/completed experimental model for wastewater treatment by conventional hybrid processes - membrane
20.	Advanced materials, methods and technologies with applications in water treatment/purification - ADVANTECH	Ctr. 20N/ 2019 PN 19 04 03 01	Experimental model established/completed for the removal of halogenated compounds from groundwater
21.	Advanced materials, methods and technologies with applications in water treatment/purification - ADVANTECH	Ctr. 20N/ 2019 PN 19 04 03 01	Experimental model established/completed for the removal of ciprofloxacin, flutamide, dimethyl-phthalate and methylparaben from wastewater
22.	Advanced materials, methods and technologies with applications in water treatment/purification - ADVANTECH	Ctr. 20N/ 2019 PN 19 04 03 01	Experimental model established/completed for the biological oxidation/purification of process waters containing complexes with thiol ligands
23.	Advanced materials, methods and technologies with applications in water treatment/purification - ADVANTECH	Ctr. 20N/ 2019 PN 19 04 03 01	Experimental model established/completed for the adsorption of pollutants from waste water using new materials with adsorbent properties
24.	Biological models and molecular biomarkers for evaluating the toxic potential of water resources affected by anthropogenic pollution - SMARTWAY	Ctr. 20N/ 2019 PN 19 04 02 01	Study to evaluate the toxicity of antibiotics using a complex methodology to investigate sub-lethal effects through dosage analyzes of enzymatic antioxidants involved in oxidative stress, liver enzymes and the highlighting of protein profiles.
25.	Advanced methods and techniques for water quality assessment - ECOSENZ	Ctr. 20N/ 2019 PN 19 04 01 02	Experimental model regarding the metal accumulation mechanism in the Lemna minor species
26.	Research on new methods, techniques and procedures for evaluating and managing waste, acronym: DESEVAL	Ctr. 20N/ 2019 PN 19 04 04 01	Method for characterizing and evaluating non-hazardous waste that can complete the European waste list
27.	Research on new methods, techniques and procedures for evaluating and managing waste, acronym: DESEVAL	Ctr. 20N/ 2019 PN 19 04 04 01	Improved recipes of combustible secondary raw materials from non-hazardous waste mixtures
28.	Research on new methods, techniques and procedures for evaluating and managing waste, acronym: DESEVAL	Ctr. 20N/ 2019 PN 19 04 04 01	Technological variants for the creation of new ceramic materials that can be used in construction by adding red mud and mining tailings to the base material - clay
29.	Research on the geochemical assessment of the natural background and the establishment of reference thresholds for the soil and water environmental components, in the European context of the implementation of strategic measures for the protection of soils and groundwater, acronym: GEFOSA	Ctr. 20N/ 2019 PN 19 04 02 03	Functional experimental model dedicated to the study of naturally protected areas to highlight the quality of the environmental factors soil and water
30.	Project 1. Research on reaction systems for the treatment of mine waters. The valorization of secondary mineral resources, project code PN 16 25 03 04, phase 2/2017 period:	Ctr. 38 N/2016 PN 16 25 Ctr. 55 / 05.09.2016	PATENT RO133716 B1 Process of valorization of the waste resulting from the purification of mine waters by precipitation of the

	14.11.2017-08.12.2017. Project 2. Promotion, identification and realization of partnerships for knowledge transfer in the field of industrial ecology, Research on new procedures for improving treatment technologies and for the recuperative treatment of mine waters originating from the extractive industry of non-ferrous ores.	Subsidiary: 15350 / 13.09.2017	sulfate ion. BOPI 7/2021
31.	Research on the use of phytoadditive in bird feed in order to reduce environmental pollution with nitrogen	ADER 9.1.2./ 14.10.2019, AA 3/ 09.06.2021	Study regarding the identification of risk factors and the evaluation of the impact on the environment resulting from the use of new innovative fodder recipes
32.	Research on the use of phytoadditive in bird feed in order to reduce environmental pollution with nitrogen	ADER 9.1.2./ 14.10.2019, AA 3/ 09.06.2021	Ranking the effectiveness of recipes for laying hens based on zootechnical performance, egg quality and environmental impact through the AHP method
33.	Research on the use of phytoadditive in bird feed in order to reduce environmental pollution with nitrogen	ADER 9.1.2./ 14.10.2019, AA 3/ 09.06.2021	Study on the physico-chemical and microbiological characterization of samples of raw materials and combined feed used in the feed of laying hens
34.	Validation of the new modified screen-printed electrodes as a sensor for the detection of mercury ions (optimization of analytical parameters)	293PED/2020, Collaboration Agreement no. 10605/28.07.2020	Method for the determination of Hg(II) ions with the help of screen-printed electrodes modified with poly L films.
35.	Advanced research on the transfer of emerging contaminants from abiotic environmental factors to aquatic organisms and plants through bioaccumulation - BIOACUM	Ctr. 20N/ 2019 PN 19 04 01 01	Bioaccumulation study of some toxic metals in the medicinal plant Yarrow
36.	Advanced research on the transfer of emerging contaminants from abiotic environmental factors to aquatic organisms and plants through bioaccumulation - BIOACUM	Ctr. 20N/ 2019 PN 19 04 01 01	Bioaccumulation study of some toxic metals in thyme
37.	Advanced research on the transfer of emerging contaminants from abiotic environmental factors to aquatic organisms and plants through bioaccumulation - BIOACUM	Ctr. 20N/ 2019 PN 19 04 01 01	Database regarding the concentration level of per-fluorinated organic pollutants (PFAS) in waste water and surface water
38.	Advanced research on the transfer of emerging contaminants from abiotic environmental factors to aquatic organisms and plants through bioaccumulation - BIOACUM	Ctr. 20N/ 2019 PN 19 04 01 01	The database regarding the presence of pharmaceutical residues in wastewater and their transfer to surface waters
39.	Advanced research on the transfer of emerging contaminants from abiotic environmental factors to aquatic organisms and plants through bioaccumulation - BIOACUM	PN 19 04 01 01	Database regarding the concentration level of organic pollutants such as synthetic herbicides in agricultural soil and surface waters
40.	Advanced research on the transfer of emerging contaminants from abiotic environmental factors to aquatic organisms and plants through bioaccumulation - BIOACUM	PN 19 04 01 01	Database regarding the degree of contamination with organic pollutants (polycyclic aromatic hydrocarbons and polychlorinated biphenyls) adsorbed on microplastics taken from the Prahova River upstream and downstream of the municipal treatment plant in Ploiesti
41.	Advanced research on the transfer of emerging contaminants from abiotic environmental factors to aquatic organisms and plants through bioaccumulation - BIOACUM	PN 19 04 01 01	Database regarding the degree of contamination with organic pollutants (polycyclic aromatic hydrocarbons and polychlorinated biphenyls) adsorbed on

			microplastics taken from the Ialomita river upstream and downstream of the municipal sewage treatment plant in Slobozia
42.	Research on the geochemical assessment of the natural background and the establishment of reference thresholds for the soil and water environmental components, in the European context of the implementation of strategic measures for the protection of soils and groundwater, acronym: GEFOSA	PN 19 04 02 03	Updated georeferenced database with 10,400 analytical results
43.	Research on new methods, techniques and procedures for evaluating and managing waste, acronym: DESEVAL	PN 19 04 04 01	Experimental study to characterize solid waste flows from galvanizing processes
44.	Research on new methods, techniques and procedures for evaluating and managing waste, acronym: DESEVAL	PN 19 04 04 01	Verified experimental model for hazard assessment and waste characterization "in the mirror"
45.	Research on new methods, techniques and procedures for evaluating and managing waste, acronym: DESEVAL	PN 19 04 04 01	Experimental study on the optimization of the specific parameters of the combustion processes for the new secondary raw materials obtained
46.	Research on new methods, techniques and procedures for evaluating and managing waste, acronym: DESEVAL	PN 19 04 04 01	Optimum technological study (technological solutions) for the valorization of the two mineral wastes, red mud and mining tailings, as secondary raw material in new construction materials
47.	Research on new methods, techniques and procedures for evaluating and managing waste, acronym: DESEVAL	PN 19 04 04 01	Experimental model for the recovery of useful components from galvanic sludges, in correlation with the project's OS2.2
48.	Advanced methods and techniques for water quality assessment - ECOSENZ	PN 19 04 01 02	Voltametric procedure of simultaneous detection for emerging pollutants - Diclofenac and Tetracycline
49.	Advanced methods and techniques for water quality assessment - ECOSENZ	PN 19 04 01 02	Amperometric process of selective detection for the emerging pollutant - Diclofenac
50.	Advanced methods and techniques for water quality assessment - ECOSENZ	PN 19 04 01 02	Selective voltammetric detection procedure for the emerging pollutant - Tetracycline
51.	Alignment of air quality assessment methods/methodologies with the requirements of the regulations regarding the reduction of emissions and the improvement of the quality of life in the current context of climate change - QALAIR	PN 19 04 02 02	Case study intended to illustrate the way in which the provisions of the BATC can be applied in practice regarding the assessment of the annual NH3 emission resulting from the activities of intensive breeding of birds.
52.	Alignment of air quality assessment methods/methodologies with the requirements of the regulations regarding the reduction of emissions and the improvement of the quality of life in the current context of climate change - QALAIR	PN 19 04 02 02	Experimental model for the evaluation of air pollution with submicron particles;
53.	Advanced materials, methods and technologies with applications in water treatment/purification - ADVANTECH	PN 19 04 03 01	Experimental model established/completed for the treatment of groundwater by combined enzyme-membrane processes

54.	Advanced materials, methods and technologies with applications in water treatment/purification - ADVANTECH	PN 19 04 03 01	Research study on the identification and selection of the method of fractionation of the quality parameters of the influent wastewater
55.	Advanced materials, methods and technologies with applications in water treatment/purification - ADVANTECH	PN 19 04 03 01	Optimized technology for the treatment of waste water through conventional hybrid processes - membrane
56.	Advanced materials, methods and technologies with applications in water treatment/purification - ADVANTECH	PN 19 04 03 01	Optimized technology for the removal of halogenated compounds from underground water
57.	Advanced materials, methods and technologies with applications in water treatment/purification - ADVANTECH	PN 19 04 03 01	Optimized technology for methylparaben and ciprofloxacin removal in the UV-VIS/TiO ₂ system
58.	Advanced materials, methods and technologies with applications in water treatment/purification - ADVANTECH	PN 19 04 03 01	Optimized technology for removing dimethyl-phthalate and flutamide in the UV-VIS/H ₂ O ₂ /TiO ₂ system
59.	Advanced materials, methods and technologies with applications in water treatment/purification - ADVANTECH	PN 19 04 03 01	Experimental study on non-conventional methods of treating effluents containing thiol compounds / metallocomplexes
60.	Advanced materials, methods and technologies with applications in water treatment/purification - ADVANTECH	PN 19 04 03 01	Optimized technology for the adsorption of pollutants from waste water using new materials with adsorbent properties
61.	Advanced materials, methods and technologies with applications in water treatment/purification - ADVANTECH	PN 19 04 03 01	Optimized technology for the treatment of underground water through combined enzyme-membrane processes
62.	Advanced materials, methods and technologies with applications in water treatment/purification - ADVANTECH	PN 19 04 03 01	The method of evaluating the efficiency of biological processes
63.	Biological models and molecular biomarkers for evaluating the toxic potential of water resources affected by anthropogenic pollution - SMARTWAY	PN 19 04 02 01	Study highlighting the sub-lethal toxicity of the pharmaceutical compound with antibiotic action - sulfamethoxazole on vertebrate aquatic organisms (fish) and the changes in protein profiles that it can induce at the translational and post-translational level
64.	Biological models and molecular biomarkers for evaluating the toxic potential of water resources affected by anthropogenic pollution - SMARTWAY	PN 19 04 02 01	The alternative method of testing the toxicity of antibiotics with the aim of minimizing the negative effects on vertebrates that fall under the protection of animals used for scientific purposes
65.	Installation for the removal of organic pollutants from waste water based on photocatalysis and biological processes - BIOCAT	PN-III-P2-ID-PTE2019-0628 (ctr no. 39/2019)	Study to analyze the degree of bacterial adhesion on SAMs as well as to analyze the biodegradability of anionic and cationic surfactants in the presence of bacterial strains
66.	The selection and dissemination of antibiotic resistance genes at the level of wastewater treatment plants in the aquatic environment and the clinical sector, acronym RADAR	PN-III-P4-ID-PCCF2016-0114 ctr no. 10/2018	Study regarding the bacterial dissemination from hospitals to the environment
67.	Project 1: Research on reaction systems for the treatment of mine waters. Project 2: New mine water treatment techniques with the chemical-morphological modification of sludge through recirculation in successive technological phases: densification	Project code PN 16 25 03 04, Stage 1/2016 Project code: PN 09-13-03-17, stage period	PATENT RO 131327 B1: Wastewater treatment process by separating sulfate ion as ettringite with hydroxylated aluminum products recovered from water

	in the HDS system and the potential valorization of ettringite, Stage 1, 2015: Technological implications of the supersaturation and desaturation processes with sulfates in mine water treatment,	01.01.2015-30.07.2015	
68.	Pretreatment technology by sonolysis of activated sludge resulting from the treatment of urban wastewater. Phase 3/2017 Evaluation of the technical-economic efficiency of the ultrasonic pretreatment technology of biological sludge for biogas generation	Project code PN 16250309/2019, No. 38N/2016 /AA5/2017- BG3531/2016	PATENT RO 132382 B1: Combined process of ultrasonic pretreatment and alkaline hydrolysis of biological sludge from sewage treatment plants, to improve the yields of biogas obtained through anaerobic fermentation