



**'Green' winners in calls of the National
Research
Foundation of Ukraine**

The National Research Foundation of Ukraine (NRFU)

is a state budgetary non-profit organization the main purpose of which is grant support for fundamental research in natural, technical, social and humanitarian sciences, as well as applied research and scientific and technical (experimental) developments in priority areas of science and technology.

The **NRFU** was established by the Cabinet of Ministers of Ukraine and reports directly to it.

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The main objectives

- ✓ stimulation of national fundamental and applied scientific research;
- ✓ development of research infrastructure in Ukraine and its international integration;
- ✓ development of infrastructure of scientific research;
- ✓ young scientists' research project support;
- ✓ popularization of science.

WINNING PROPOSALS IN THE FIELD OF ENVIRONMENTAL SAFETY AND PROTECTION

Out of 216 winning proposals in two NRFU calls in 2020, 29 proposals are on environmental safety and protection:

- ✓ 13 research proposals in the call *'Science For Security Of the Human Being and Society'*;
- ✓ 16 research proposals *'Support For Research of Leading and Young Scientists'*

The research projects are to be implemented within the time frame of 2020-2022.

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The total planned funding for projects on environmental safety and protection for both calls makes 142,996,577 UAH (4,766,552 EUR) including:



44,080,775 UAH
(1,469,359 EUR)

for the *‘Science For Security Of the Human Being and Society’* call



98,915,802 UAH
(3,297,193 EUR)

for the *‘Support For Research of Leading and Young Scientists’* call

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The funding for 2020 (already financed) makes
28,744,477 UAH (958,149 EUR) including:



12,836,911 UAH
(427,897 EUR)

for the *'Science For Security Of the Human Being and Society'* call



15,907,566 UAH
(530,252 EUR)

for the *'Support For Research of Leading and Young Scientists'* call

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The list of beneficiaries includes among others the following higher education establishments which can be found on international academic university lists and institutes of the National Academy of Sciences of Ukraine:

National Technical University of Ukraine
'Igor Sikorsky Polytechnic Institute'
Taras Shevchenko National University of Kyiv

Ivan Franko National University of Lviv

Sumy State University

Dnipro University of Technology

National University of Life and
Environmental Sciences of Ukraine

Space Research Institute of the NAS and State
Space Agency of Ukraine
Institute of Mathematical Machines and Systems
Problems
Chuiko Institute of Surface Chemistry
V.T. Laskkaryov Institute of Semiconductor Physics
M.G. Kholodny Institute of Botany
Institute of Hydrobiology
S.I. Subbotin Institute of Geophysics
Schmalhausen Institute of Zoology

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The winning projects correlate with the following Green Deal research directions:

3 projects

Increasing climate ambition

4 projects

Clean, affordable and
secure energy

5 projects

Industry for a clean and
circular economy

1 project

Energy and resource
efficient buildings

6 projects

Biodiversity and ecosystems

8 projects

Zero-pollution, toxic-free
environments

2 projects

Biosafety

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3 projects Increasing climate ambition

1

Intelligent models and methods for determining land degradation indicators based on satellite data

2

Magnetic proxies of palaeoclimatic changes in the loess-palaeosol sequences of Ukraine

3

Development of palaeocryogenic processes in the Pleistocene loess-palaeosol sequences of Ukraine: engineering-geological, soil, climatic, and environmental protection aspects

4 projects Clean, affordable and secure energy

1

Energy-saving high-power and high-power LED lighting systems powered by renewable energy sources

2

The impact of the development of renewable energy on the herpetobiont fauna in the steppe zone of Ukraine

3

Improvement of the efficiency of thermal storage devices for solar energy by the use of nanofluids and capillary-porous structures

4

Alternative energy in Ukraine: ways of systemic legislative incentives

5 projects Clean, affordable and secure energy

1

Scientific bases for the environmentally safe transformation of power specifics of coalmines with ensuring hydrogeosphere stability

2

Experimental and analytical principles ensuring the safety of human and society by improving waste management technologies in the technosphere

3

Increasing the level of environmental safety of energy hydrocarbon production and transportation processes

4

New functional materials for carbon capture and utilization

5

New effective zeolite catalysts for environmentally friendly processes of the conversion of renewable raw materials into valuable organic compounds

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1 project Energy and resource efficient buildings

1

Geospatial models and information technologies of satellite monitoring of smart city problems

6 projects **Biodiversity and ecosystems**

1

Information technology for fire danger assessment and fire monitoring in natural ecosystems based on satellite data

2

Grassland habitats of Ukraine of pan-European importance: current status, losses extent and conservation strategy in the context of global climate change and anthropogenic transformation of the environment

4

Comprehensive assessment of radiation hazard of the nuclear legacy sites for aquatic ecosystems

5

Extinct and extant forests: taxonomy, phylogeny, genesis of fauna and diversity conservation of hymenopteran insects

3

Cellulose-destroying activity of soil microflora in Ukrainian Polissya under radioactive contamination and its participation in biological soil formation processes (including pyrogenically transformed soils)

6

Effect of chronic ionizing radiation on reference species of plants and animals in the ecosystems of the Chernobyl Exclusion Zone

8 projects Zero-pollution, toxic-free environments

1

Development of the concept of training and retraining in biosafety and biosecurity

4

System methodology-based tool set for planning underground infrastructure of large cities providing minimization of ecological and technogenic risks of urban space

2

Forecasting hazardous impacts of radioactively contaminated surface waters and floodplains inundation: enhancement of models and their implementation for reducing the consequences of emergencies in Kyiv city caused by the Dnipro River

5

Development of a methodology for complex biorisk assessment of pesticide-polluted environment for target and non-target organisms

3

Efficient use of renewable plant resources and photocatalytic conversion of biomass as eco-innovative approaches for environmental protection and human biosafety

6

Theoretical and experimental studies of global perturbations of natural and man-made origin in the Earth-Atmosphere-Ionosphere system.

8 projects Zero-pollution, toxic-free environments

7

Glutamate/GABA signalling in bidirectional Gut-Brain communication system: a focus on harmful effects of air pollution carbon-containing nanoparticles

2 projects Biosafety

1

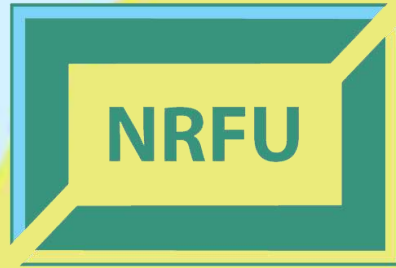
Economic and mathematical modelling and forecasting of the COVID-19 influence on Ukraine development in national and regional contexts: public health factors and socio-economic and ecological determinants

8



Direct and inverse problems of pollution distribution in the atmospheric and marine environment and their use to identify sources of pollution


2


Development of intelligent technologies for assessing the epidemic situation to support decision-making in the population biosafety management



THANK
YOU

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