

Science Fund of the Republic of Serbia

## **Annual Report** 2020

December 2020

## Annual Report 2020

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## Acknowledgements

Science Fund of the Republic of Serbia (hereinafter referred to as the: "Science Fund") extends its gratitude to the colleagues from the Ministry of Education, Science and Technological Development, the Cabinet of the Prime Minister of the Republic of Serbia, the members of Scientific Council and the Management Board, the Serbian Academy of Sciences and Arts, the Scientific and Research Organizations (SROs) across the Republic of Serbia, the Rectors of the public and private Universities in the Republic of Serbia, representatives of research funding agencies across Europe, colleagues from the Innovation Fund of the Republic of Serbia as well as the representatives of the World Bank and European Union Delegation to the Republic of Serbia for all their support, but also for the challenging discussions which have helped improve the work of Science Fund.

Science Fund is also thankful to the scientific community for taking such a high interest in its work and Programs, for participating in all interactive discussions, which were fruitful, albeit often difficult because of the numerous challenges pressing its proponents. Most of all, Science Fund would like to commend all the scientists, researchers and other participants in taking the time and effort to apply for support with their project proposals. This was a learning experience for all of us, and finally, Science Fund's work is aimed for the benefit of the scientific community, national and international, as well as for the benefit of society at large.

Our thanks also go to all Project Peer Reviewers, Program Board members, advisors, consultants and all of those who have contributed to the work of Science Fund with their constructive comments, suggestions and feedback.

Finally, all of this would not have been possible without the hard work of Science Fund's team, that has been working with great commitment and dedication to help achieve so much since Science Fund's establishment.

## About the Science Fund

Science Fund of the Republic of Serbia is a public organization that supports scientific and research activities. It was established in March 2019, with the aim of providing funds and supporting the conditions for the continuous development of scientific and research activities in the Republic of Serbia necessary for the advancement of a knowledge-based society. The work of Science Fund contributes to the strategic objectives of scientific and technological development of the Republic of Serbia.

Science Fund's Programs are devised to support research activities, including basic scientific research and applied scientific research and their commercial use and potential, as well as to boost technological development of the Republic of Serbia.

Science Fund's Programs also focus on developing human resources, encouraging international cooperation, collaboration and exchange, investment in the infrastructure of Scientific-Research organizations in the Republic of Serbia, by providing equipment and core support, as well as assisting the development of laboratories and institutions of the strategic importance. In addition, Science Fund is supporting the publishing of scientific and research and development (R&D) findings and results in internationally acclaimed publications and those of the strategic importance for the Republic of Serbia.

The Programs are established on identified needs of the Republic of Serbia, as well as the scientific community. They are based on the Strategy of Scientific and Technological Development of the Republic of Serbia, Smart Specialization (SS) and other relevant sectorial strategies, with the aim of contributing to the advancement of knowledge-based society.

Science Fund's Programs have been designed for the benefit of public and private research and development institutions, including SROs and their respective institutes, universities and faculties across the Republic of Serbia, individual scientists and researchers (in the Republic of Serbia and in the diaspora), as well as private sector enterprises and investors.

Science Fund's Programs are driven by scientific excellence and quality. They are realized through thematic Public Calls for Project Proposals, and Projects are funded in the form of grants through public competition. Project duration varies from Program to Program, spanning from 1 year or less to a maximum of four years. The Projects are expected to provide high-level research, innovative results, competitiveness at international level, and relevance to society in general.

### Our Mission

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The main mission of Science Fund is to support scientific, R&D, and technological projects that are based on scientific excellence and quality.

### Our Vision

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The vision of Science Fund is to promote the social, technological, cultural and economic development of the Republic of Serbia by financing scientific and R&D projects.

In order to achieve its mission and vision, as well as to effectively devise, implement, monitor and improve its Programs, Science Fund has been carrying out consultations with all major stakeholders including, but not limited to, the Ministry of Education, Science and Technological Development, the Cabinet of the Prime Minister of the Republic of Serbia, representatives of SROs, members of the scientific community in the Republic of Serbia, research organizations, individual researchers, former and current participants in Horizon 2020 Calls for Projects Proposals, representatives of the European Research Council (ERC), as well as representatives of other funding agencies from European countries. In addition, consultations are continuously held with Science Fund's Scientific Council and its Management Board, carried out as part of Science Fund's internal procedures.

#### **#trustinscience**

## Timeline

		December	Law on Science Fund of the Republic of Serbia
2019	•		
	+	March	Establishment of Science Fund of the Republic of Serbia.
	+	April/May	Constitution of the Science Fund decision-making bodies.
		June	Public Call for the first pilot program - Program for excellent projects of young researchers (PROMIS).
	+	July	New Law on Science and Research. National institutional funding has been established.
	+	November	Public Call for the Serbian Science and Diaspora Collaboration Program. Public Call for the Program for Development of Projects in the Field of Artificial Intelligence
	+	December	The World Bank Project for financing scientific projects in Serbia (SAIGE – Serbia Accelerating Innovation and Entrepreneurship Project) with additional funding of 38 million € for science has been approved
2020	•		
	t	March	PROMIS grant award ceremony - 59 projects approved for funding. Public Call for the IDEAS Program.
	+	Мау	Public Call for the Special research program on COVID-19.
	+	July	Beginning of project implementation for Program PROMIS – 59 projects.
	+	September	Beginning of project implementation for the Program for Development of Projects in the Field of Artificial Intelligence – 12 projects
	-	December	Beginning of project implementation for the Serbian Science and Diaspora Collaboration Program – 92 projects. Beginning of project implementation for the Special research program on COVID-19 – 14 projects.
2021	•		

# Organization and Decision-making Bodies

### The Science Fund's Team

Science Fund's team consists of highly motivated people coming from a range of different areas of expertise. Ever since its establishment, Science Fund has been growing, continuously building its team and their professional capacities.



Acting Director

Dr. Milica Djurić Jovičić Senior Research Associate

### Organizational Structure



### Managing Board

The Managing Board consists of a chairperson and four members. The Management board's role is to adopt general acts of Science Fund, its Programs, annual work programs and financial plans, reports on performed activities, rules of procedure, as well as other procedures, as defined by the Law on Science Fund.

#### Dr. Vujo Drndarević

Chairmen of the Executive Board School of Electrical Engineering University of Belgrade Retired Professor

#### Dr. Vladan Vuletić

Member of the Executive Board Massachusetts Institute of Technology, Cambridge, MA, USA, Professor

#### Dr. Momčilo Pavlović

Institute for Contemporary History University of Belgrade Principal Research Fellow

#### Mr. Gordana Danilović - Grković

Member of the Executive Board Science Technology Park Belgrade Acting Director

#### Dr. Jovan Babić

Member of the Executive Board Faculty of Philosophy University of Belgrade Professor

### Scientific Council

The Scientific Council of Science Fund is the highest expert and advisory body of Science Fund.

The Scientific Council consists of 15 members, representatives of the scientific community: two representatives from each of six scientific fields – natural sciences and mathematics, technology and engineering sciences, medical sciences, biotechnical sciences, social sciences and humanities, two members from industry, as well as one member proposed by the Serbian Academy of Sciences and Arts, with respect to gender equality. Its members are internationally recognized in their respective scientific fields, whereas at least two thirds hold the highest scientific or teaching title.

The Scientific Council's role is to provide expertise in designing Science Fund's Programs, operations, procedures and Public Calls, as well as to define procedures and monitor the implementation of Science Fund Programs.

#### Academician Stevan Pilipović

Chairman of the Scientific Council Serbian Academy of Sciences and Arts Full member of SASA

#### **Dr. Aleksandar Belić**

Institute of Physics Belgrade University of Belgrade Principal Research Fellow

#### **Dr. Nina Obradović**

Institute of Technical Sciences SASA Principal Research Fellow

#### Dr. Dušan Starčević

Faculty of Organizational Sciences University of Belgrade Professor Emeritus

#### **Dr. Aleksandar Jovović**

Faculty of Mechanical Engineering University of Belgrade Professor

#### Dr. Snežana B. Pajović

Faculty of Medicine University of Niš Professor

#### Academician Miodrag Čolić

Institute for Application of Nuclear Energy University of Belgrade Full member of SASA

#### Dr. Snežana Bogosavljević Bošković

Faculty of Agronomy Čačak University of Kragujevac Professor **Dr. Nebojša Ilić** Institute of Food Technology University of Novi Sad Principal Research Fellow

#### Dr. Jasna Milošević Đorđević

Faculty for Media and Communications Belgrade Singidunum University Professor

#### **Dr. Zorica Mladenović**

Faculty of Economics University of Belgrade Professor

#### **Dr. Aleksandar Rastović**

Historical Institute Belgrade Principal Research Fellow

#### Dr. Ljiljana Rogač Mijatović

Faculty of Dramatic Arts University of Belgrade Associate Professor

#### Igor Bogićević

Seven Bridges Genomics Ltd. Belgrade

#### Dr. Đorđe Janaćković

Innovation Centre, Faculty of Technology and Metallurgy University of Belgrade Professor

## Funding

## Total Funding in 2020

Budget of the Republic of Serbia	7.6 M€	
World Bank – Project SAIGE	2.0 M€	
Total Funding for 2021		
Budget of the Republic of Serbia	8.5 M€	
World Bank – Project SAIGE	7.9 M€	
EU-IPA	3.4 M€	

### Grants from International Contracts 2020-2024

World Bank – Project SAIGE EU-IPA

26.0 M€	
17.0 M€	







## Ongoing Programs

Program for Excellent Projects of Young Researchers	9.0 M€	
Program for Development of Projects in the Field of Al	2.4 M€	-
Serbian Science and Diaspora Collaboration Program	0.8 M€	•
Program IDEAS	24.0 M€	
Special Research Program on COVID-19	2.0 M€	-

## **Ongoing Programs Summary**

#### **Research Programs**

No.	1	2	3	4
Program	PROMIS	AI	COVID-19	IDEAS
No. of Submitted Projects	585	70	129	915
No. of Approved Projects	59	12	14	80-150
Min. Approved Project Budget	25,261.66 €	121,296.51 €	46,865.92 €	/
Max. Approved Project Budget	200,000.00 €	200,000.00 €	406,612.43 €	/
Total Approved Budget	8,964,169.42 €	2,207,774.08 €	1,973,435.71 €	24,000,000.00 €
No. of Researchers from Serbia	317	119	130	/
No. of Research Groups in organization	114	23	29	/
No. of Research Organizations	51	19	19	/
No. of Researchers from Diaspora	0	3	4	/
No. of Female/Male Researchers	184/133	41/78	85/45	/

#### International Mobility and Collaboration Programs

No.	5
Program	DIASPORA
No. of Submitted Projects	126
No. of Approved Projects	92
Min. Approved Project Budget	4,499.25€
Max. Approved Project Budget	10,000.00 €
Total Approved Budget	797,591.59€
No. of Researchers from Serbia	268
No. of Research Groups in organization	92
No. of Research Organizations	43
No. of Researchers from Diaspora	88
No. of Female/Male Researchers	151/117

Research Programs Total

#### **All Programs Total**

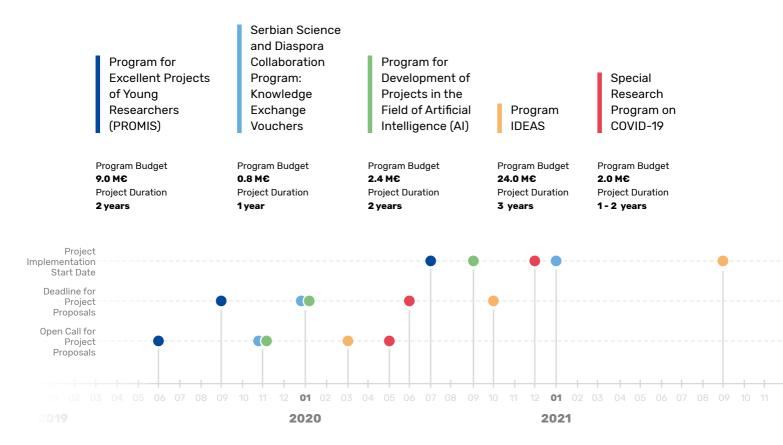
No. of Approved Projects	85	177
Total Approved Budget	13,145,379.21 €	13,942,970.80 €
No. of Researchers from Serbia	556	809
No. of Research Groups in organization	166	258
No. of Research Organizations	66	75
No. of Researchers from Diaspora	7	95
No. of Female/Male Researchers	304/252	447/362

## **Science Fund Programs**

The Programs and projects of the Science Fund have been formed to help some of the identified needs and challenges of modern Serbian society. Science and innovation must drive our aspiration for sustainable development.

The Programs of the Science Fund have been designed having in mind the needs of the scientific community in the Republic of Serbia, as well as the needs and challenges of society in general. Since the beginning of its operations, the Science Fund has opened five Programs: (1) Program for Excellent Projects of Young Researchers (PROMIS), (2) Serbian Science and Diaspora Collaboration Program: Knowledge Exchange Vouchers, (3) Program for Development of Projects in the Field of Artificial Intelligence (AI), (4) Program IDEAS and (5) Special Research Program on COVID-19.

Programs support technological development, advanced and innovative ideas, the development of human resources, laboratories and scientific infrastructure, integration into international science trends, cooperation between science and industry, and other topics that are of strategic and social significance.



## Three Main Criteria for the Evaluation of all Projects Proposals







### 1. Excellence

Science Fund supports projects with sustainable goals, clear concepts, and systematic and well-designed working methodologies. High-level scientific excellence, quality, and innovative ideas represent the fundamental values of all projects supported by the Fund.

### 2. Impact

Projects should contribute towards resolving relevant social issues and current topics. The quality of the project proposals is evaluated based on the usability and potential dissemination value of the expected results. Project activities and results are presented to different target groups.

### 3. Implementation

Projects have an effective work plan and resources, matched with goals, tasks, and expected results. The complementary skills and aptitudes of the participants and expertise of the whole team are evaluated. Participants have the resources and knowledge to fulfil their roles and tasks.

## **Project Evaluation**

The procedure of Project evaluation includes administrative verification and two stages of evaluation.

The Project Proposal that has passed the administrative check is sent to the first stage of the evaluation procedure.

## First Stage of Evaluation

In the first stage of evaluation, each Proposal is evaluated by peer reviewers, foreign experts with an internationally recognized professional career. Science Fund is continuously looking for independent Peer Reviewers in the evaluation of project proposals.

The final distribution of projects for Peer Review is made after matching available international Reviewers with Projects that have passed the administrative check, in line with corresponding keywords and selected scientific areas.

An application for matching Projects and Peer Reviewers has been devised, enabling anonymized matching according to key words, or according to secondary and tertiary scientific areas.

Identification of Peer Reviewers for areas which are not covered by the selected applicants is carried out individually, according to key words and scientific areas, in line with the Act (minimum of 3 experts need to be contacted for each missing place).

Each project receives three reviews from international Reviewers, assessing the criteria of excellence, impact, and implementation of the Project Proposal.

The first stage is completed after the Lead Reviewer summarizes the evaluations of all Peer Reviewers and prepares a summary report by averaging the scores given by each Peer Reviewer. The Lead Reviewer formulates a recommendation on whether the evaluated Project Proposal passes the qualifying threshold for further evaluation.

## Second Stage of Evaluation

The proposal that has passed the first stage of evaluation is sent to the Program Board.

The Program Board consists of three to seven members, depending on the program. The members of the Program Board are foreign experts with an internationally recognized professional careers.

Program Board forms a preliminary ranking list of Project Proposals, which have passed the first stage of evaluation and whose individual budgets in total do not exceed the double budget provided by the Program funding. The Program Board performs evaluation of all proposals that are qualified for the second stage of evaluation. For majority of programs all proposals that are on the preliminary ranking list are presented before the Program Board.

Upon completion of the presentations, the Program Board considers all the presented Proposals that have met the second stage of evaluation and forms the final evaluation.

Based on the final evaluation, the Program Board forms a ranking list of Project Proposals that have met both levels of evaluation and will be funded within the available funds of the Program.

Program Board forms a preliminary ranking list of Project Proposals, and takes for consideration of eligibility for funding only those Projects which have met the evaluation criteria in the first instance, and whose individual budgets in total do not exceed the double budget provided by the Public Call.

After this procedure, the Scientific Council and Managing Board of Science Fund give the positive opinion and formal approval of the preliminary rang list formed by the Program Board.

The Call for the Program Board members is announced for every specific program.

## **Experts**

Our peer reviewers for 2019 and 2020 were international experts from 63 countries, and we continuously keep expanding our pool of experts for forthcoming programs in 2021.

### Grand Total: 1300+

USA Ukraine UK Uganda Turkey Thailand Switzerland Sweden Spain South Africa Slovenia Slovakia Russia Romania Portugal Poland Persia Pakistan Norway **New Zealand Netherlands** 

Montenegro Mauritius Malta Macedonia (North) Luxembourg Lithuania Lebanon Latvia Kuwait Korea Japan Italy Israel Ireland Iran Indonesia India Hungary Greece Germany Georgia

France Finland Ethiopia Estonia Denmark Czech Republic Cyprus Croatia Colombia China Chile Canada Bulgaria Brazil Bosnia and Herzegovina Belgium Azerbaijan Austria Australia Argentina Albania

## PROMIS – Program for Excellent Projects of Young Researchers

Science Fund's first Call for Project Proposals was opened on June 21, 2019. The Call for Project Proposals was opened until September 2, 2019. Project evaluation was officially completed in March 2020.

This Program targets young researchers in the Republic of Serbia. Project grants amounting up to **€200,000** will be awarded after a two-stage international Peer Review process in the following areas: natural sciences and mathematics, technology and engineering sciences, medical sciences, biotechnical sciences, social sciences and humanities.

Through this Call for Project Proposals, the applicants were encouraged to initiate research programs in their early careers, advance their careers by adding new approaches or directions to their on-going research programs, and increase their capacity to apply for research grants.

PROMIS is devised to support postdocs and young researchers and give them an opportunity to become project managers, work independently, as well as to create new partnerships, develop innovative ideas, products, patents, publications, as well as to develop skills and concepts for applying for future Project-based funding under national and foreign funds.

Initially with a budget of €6 million, the total budget for PROMIS was increased to €9 million in order to support a greater number of young researchers through this Call for Project Proposals, especially having in mind the high level of interest and number of received Project Proposals.

585	Submitted Projects	25,261.66 €	Min. Approved <b>3</b> Project Budget	17	Researchers from Serbia
59	Approved Projects	200,000.00 €	Max. Approved <b>1</b> Project Budget	14	Research Groups in Organizations
		8,964,169.42 €	Total Approved Budget	51	Research Organizations
		2 years	Project <b>184/1</b>	33	Female/Male Researchers

## **PROMIS Application Process and Outcomes**

A total of **585 Project applications** for PROMIS were received through the Republic of Serbia's eGovernment web portal.

Awarded Projects are led by SROs located in Belgrade, Novi Sad and Čačak.

An administrative-technical examination of Project Proposals submitted for PROMIS has been carried out by the Committee for Performing the Administrative Check, consisting of members of Science Fund staff. The administrative check included the following criteria: whether the applications were submitted in a timely manner through the designated web portal (eGovernment Portal of the Republic of Serbia), completeness of applications and supporting documentation, eligibility of researchers and participants on the Project, eligibility of the participating SROs, eligibility of costs, allowed cost categories' percentage and overall budget size, allowed percentage of engagement on the Project for all participants.

An analysis of Principal Investigators (PIs) had shown that faculty staff members applied as PIs in 372 applications, institute staff members applied as PIs in 203 applications, and integrated university staff members applied as PIs in 10 applications.

As regards the scientific area distribution, the statistics show that there are 31.36 % applications from technology and engineering sciences, 27 % applications from natural sciences and mathematics, there are 16.75 % applications from social sciences, 12.55 % of applications are from medical sciences, 9.55 % applications are from biotechnical sciences and 2.79 % from the humanities.

Category	Total Amount per Category (EUR)	Total Amount per Category (RSD)	
Personnel	4,324,250.71	510,261,583.78	
Travel	257,774.19	30,417,354.22	
Conferences	456,089.66	53,818,579.80	
Equipment	1,330,383.96	156,985,307.31	
Consumables	851,144.80	100,435,085.91	
Publications	293,105.66	34,586,467.46	
Services and Subco	ntracting 392,314.05	46,293,057.88	
Dissemination	171,752.16	20,266,755.10	
Other costs	59,301.17	6,997,537.57	
SR0 overhead	828,053.07	97,710,262.59	
Grand Total (59 pro	ojects) 8,964,169.42	1,057,771,992.05	

#### **PROMIS Funding by Cost Type**

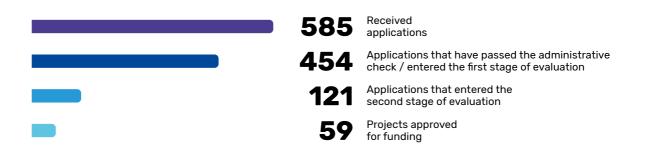
## PROMIS Grants Approved by Research Discipline

#### 59 Projects | 8,964,169.42 € Total Budget

Natural sciences and Mathematics   24	3.681.555.87 €	41%
Engineering and Technologies   11	1,904,995.23 €	21%
Medical and Health sciences   10	1,651,857.06 €	18%
Agricultural and Veterinary sciences   9	1,219,414.51 €	14%
Social sciences and Humanities   5	506,340.75 €	<b>6</b> %

### **PROMIS Projects Evaluation**

The Project Proposals are subject to an administrative verification and a two-stage evaluation process. The first stage of evaluation is performed by Peer Reviewers and the second stage by the Program Board.



In the first stage of evaluation for PROMIS, Science Fund has established cooperation with 620 Reviewers from 63 countries world-wide. Principal Investigators whose projects entered the second stage of evaluation (121) had the opportunity to present their Project Proposals before the Program Board for evaluation of PROMIS. The Second stage of evaluation process of PROMIS was completed in March 2020 when the Scientific Council and Managing Board of Science Fund gave the positive opinion and formal approval of the rang list.

The 'time to inform', the time from closing of the Call for Project Proposals to the final results of the call, was 6 months for PROMIS. The 'time to grant', the time from opening the Call for Project Proposals to signing of the contracts for selected Projects which have passed all evaluation stages and are proposed for support, was expected to be 9 months, but was prolonged due to COVID-19 pandemic.

As regards the gender ratio, the statistics show that 44.1% of Principal Investigators (PIs) of approved Projects are female with the total number of 26 and 55.9% are male with the total number of 33.

### **PROMIS Award Ceremony**

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PROMIS grant award ceremony was held at the National Theatre in Belgrade on March 11, 2020. On this special occasion, awardees of the Program for Excellent Projects of Young Researchers were presented, and the new Program IDEAS was officially announced.

A

Фонд за науку Републике Србије

ГОДИНА ЗА НАУКУ изврсност • идеје • људи • развој

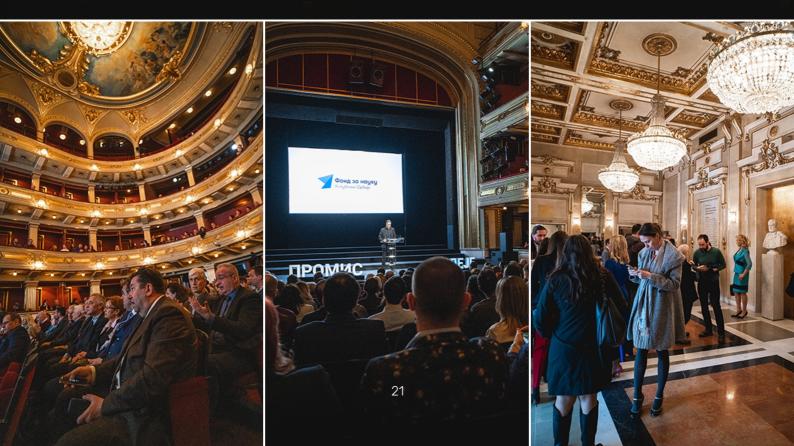
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Програм за изврсне пројекте младих истраживача ПРОМИС

## промис

The event was attended by high-level state representatives, university rectors, faculty deans and institute directors, research teams from 59 awarded projects, and other public officials.



## Program for Development of Projects in the Field of Artificial Intelligence

The aim of the Program for Development of Projects in the Field of Artificial Intelligence (AI) is to support excellence and relevance of scientific research in the Republic of Serbia in artificial intelligence. The Program aims to support the application of scientific results and technological innovations, increase Serbia's competitiveness, enhance the development of human resources, as well as promote the international cooperation in the domain of science and innovations.

The two subprograms support basic and applied scientific research and contribute to the development of fundamental science, and the application of artificial intelligence, respectively.

The basic thematic areas of the Program include: **General artificial intelligence, Machine learning, Natural language processing, Planning, Knowledge reasoning, Computer vision and speech communication and Intelligent systems.** Researchers were enabled to propose an additional area with regards to the predefined thematic areas.

The total budget for this Program amounts to &2,400,000. The available budget is divided equally between the two sub-programs, with &1,200,000 available per each sub-program.

The Call for Project Proposals was opened on November 29th, 2019 and closed on January 31, 2020. There were 70 applications received through the eGovernment web portal within this deadline.

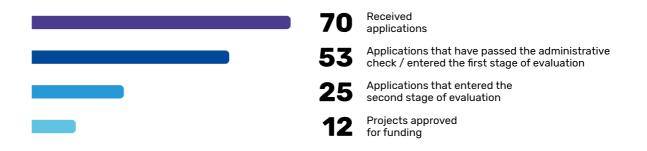
70	Submitted	121,296.51 €	Min. Approved Project Budget	119	Researchers from Serbia
	Projects	200,000.00 €	Max. Approved Project Budget	23	Research Groups in Organizations
12	Approved Projects		, ,	19	Research Organizations
		2,207,774.08 €	Total Approved Budget	3	Researchers from Diaspora
		2 years	Project Duration	41/78	Female/Male Researchers

### Al Projects Evaluation

The two-stage evaluation process of received Project Proposals under this Program is organized in a similar way to PROMIS.

The first step consists of a review by 3 international Reviewers per each Project Proposal. The Lead Reviewer summarizes the review findings and makes a recommendation for the second stage.

The Program Board which deliberates on Project Proposals in the second stage evaluation for the Program for Development of Projects in the Field of Artificial Intelligence consists of 3 international experts coming from the artificial intelligence field.



After the evaluation, six applied research projects were selected, which will provide a concrete contribution to the development of agriculture, information technology, energy, modern industry, environmental protection; also, six fundamental research projects were selected, which are expected to contribute to the development of science.

These projects will be realized in the next two years by research teams from Belgrade, Novi Sad, Niš and Kragujevac. The maximum budget per project is **€200,000** and project duration is up to two years.

## Serbian Science and Diaspora Collaboration Program: Knowledge Exchange Vouchers

Serbia is proud to have many distinguished scientists around the world who represent us in the best possible way. Science Fund aims to enable formal cooperation among researchers from Serbia and diaspora by introducing collaboration programs for knowledge exchange and joint research. There are three different Calls for Project Proposals planned as part of the Serbian Science and Diaspora Collaboration Program. The first Call for Project Proposals focuses on short term visits of researchers from the Republic of Serbia to experts from the diaspora, while providing support to SROs in the Republic of Serbia for developing cooperation with the diaspora. The support is conceived as a mobility grant, in the form of vouchers.

#### The total budget for this call for proposals is €800,000.

The Call for Project Proposals was opened on November 31st, 2019, and it was closed on January 31, 2020. There were **126 applications received** under this Call. A total number of 92 Projects are approved for funding.

126	Submitted Projects	4,499.25€	Min. Approved Project Budget	268	Researchers from Serbia
_		10,000.00 €	Max. Approved Project Budget	92	Research Groups in Organizations
92	Approved Projects	-	, 0	43	Research Organizations
		797,591.59 €	Total Approved Budget	88	Researchers from Diaspora
		1 year	Project Duration	151/117	Female/Male Researchers

## Diaspora Grants Approved by Research Discipline

#### 92 Projects | 797,591.70 € Total Budget

Natural sciences and Mathematics   42	371,699.43 €	<b>47</b> %
Engineering and Technologies   24	207,836.72 €	<b>26</b> %
Medical and Health sciences   13	112,504.93 €	14%
Agricultural and Veterinary sciences   5	41,055.05 €	5%
Social sciences and Humanities   8	64,495.57 €	<b>8</b> %

### **Diaspora Projects Evaluation**

126 Received applications
92 Projects approved for funding

### Geographic Distribution

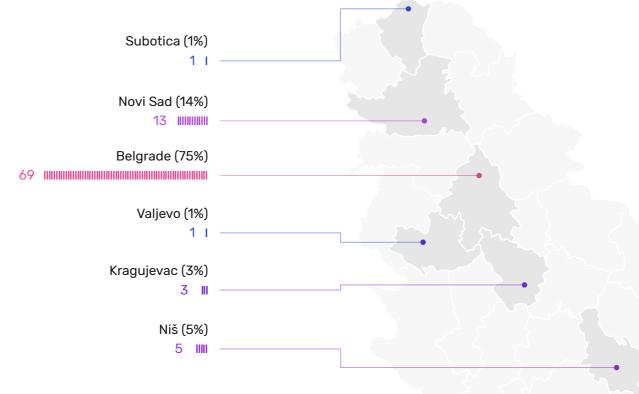
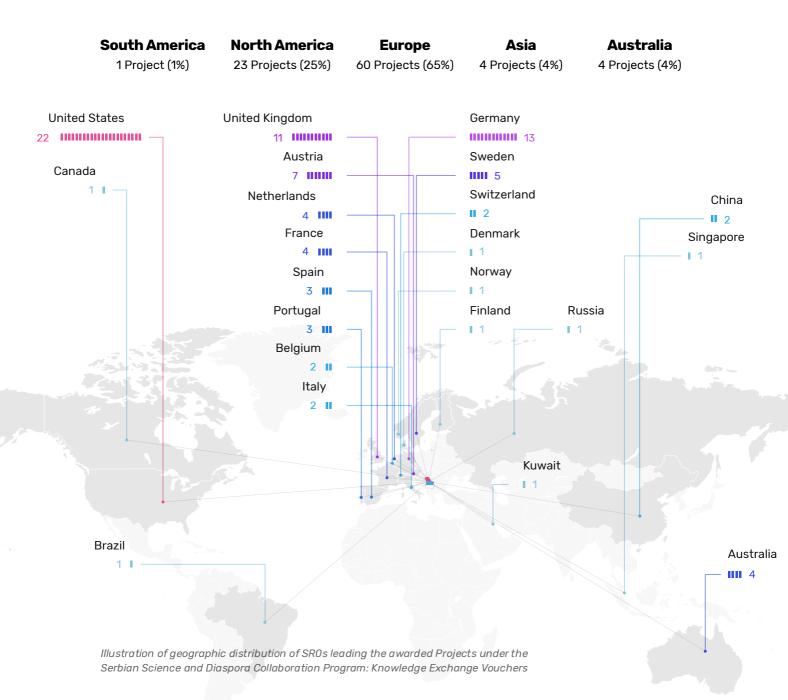


Illustration of geographic distribution of Projects approved for funding under the Serbian Science and Diaspora Collaboration Program: Knowledge Exchange Vouchers Diaspora is defined in this Program as citizens of the Republic of Serbia residing abroad, and members of the Serbian people, expatriates from the territory of the Republic of Serbia and their descendants.

The aim of the Program is to establish or improve scientific cooperation with the diaspora, exchange of knowledge, cooperation on scientific and research problems and challenges, publication of papers and creation of patents, development of commercial products, jointly application for project funding.

The Host Institutions (HIs) are located in numerous European countries (with the total number of 60 approved Projects), Australia (with the total number of 4), North America (with the total number of 23), Asia (with the total number of 4) and South America (with 1 approved Projects).



The Program targets scientists and researchers employed in accredited SROs during Project implementation.

As regards the gender ratio, the statistics show that 62 % of Principal Investigators (PIs) of approved Projects are female with the total number of 57 and 38 % are male with the total number of 35.

An analysis of SROs leading the approved Projects under this Call has shown that 31.5 % of SROs are institutes (with the total number of 29 approved Projects) and 68.5 % of SROs are universities (with the total number of 63 approved Projects).

When it comes to Host Institutions (HIs), the statistics show that the most of the HIs are universities (65.2 %) and institutes (21.7 %). The rest are hospitals (6.5 %), companies (3.3 %), research centres (2.2 %) and research laboratories (1.1 %)

A Program Board that has participated in the application evaluation under this Call for Project Proposals consists of 3 members, coming from the following fields: natural sciences and mathematics, technology and engineering sciences, biomedical sciences, social sciences and humanities.

## **Program IDEAS**

Science Fund's Program IDEAS is designed to support and finance research projects based on outstanding ideas that could have, in the future, a significant impact on the development of science and research, economy and/or society as a whole, to include outstanding researchers into scientific and research work, to strengthen professional capacities of researchers and to create new research teams.

With a total budget of **€24 million**, the Program IDEAS is the largest Program of Science Fund of the Republic of Serbia.

The Program lends support to basic and applied research in all fields of science. There are no pre-defined topics for Projects within the Program. The program allows researchers to define their own research programs, form their own teams and collaborate with relevant laboratories, research centres and industry in the Republic of Serbia and worldwide.

The IDEAS program is implemented with four subprograms for the development of scientific research in the following fields of science: 1) natural sciences and mathematics, 2) engineering and technological sciences, 3) (bio)medical sciences, and 4) social sciences and humanities. Given this specified fields of science, it is assumed that focus areas will include specialized sectors, such as food and agriculture, health, education, biotech, etc. The main activities that could have social and environmental impacts and related to investments and/ or products that are expected to be small, not requiring major civil works and developed using new and energy efficient technologies.

The Projects are designed for duration of up to three years (36 months). The maximum Project budget amount is €300,000 per Project. In exceptional cases, when the cost of equipment requires a larger budget, the Principal Investigator may request additional budget of up to €200,000. In such cases, the total Project budget may be up to €500,000.

The Call for Project Proposals was opened on March 11th, 2020. Due to the situation caused by the global COVID-19 pandemic, Science Fund had twice extended the deadline for the submission of Project proposals within IDEAS program. The deadline moved to August 7 from June 6, and then to October 7 from June 6. Thus, the opportunity was given to all interested researchers to overcome the difficulties caused by the pandemic and to prepare a Project proposal under the IDEAS Program.





Available Program Budget

A total of 9096 researchers applied with 915 Project proposals.

The total budget of all received Project proposals is €241,861,988. The lowest proposed budget is €36,759, and the maximum proposed budget is €500,000. The average proposed budget is €264,330.

Science Fund has received 263 Project proposals from natural sciences and mathematics, 276 Project proposals from technology and engineering sciences, 168 Project proposals from biomedical sciences and 208 Project proposals from social sciences and humanities.

Project evaluation is performed in two stages. The first stage is performed by three Peer Reviewers per each Project proposal, while the second stage is performed by the members of the Program Board participating in one of four Expert Panels: 1) natural sciences and mathematics, 2) technology and engineering sciences, 3) (bio)medical sciences, and 4) social sciences and humanities.

Project implementation is expected to start in September 2021.

# Special Research Program on COVID-19

Special research program on COVID-19 aims to support projects that will contribute to efficient scientific response to the COVID-19 pandemic caused by the SARS-CoV-2 virus and enable better preparedness and the timely reaction of the whole society to this pandemic.

The program was initiated and prepared under the circumstances of the state of emergency declared in the Republic of Serbia considering the COVID-19 pandemic. Having in mind the importance of involving the scientific community, this Program has a special strategic significance for the Republic of Serbia and its citizens.

This Program includes the development of applicable solutions while supporting applied scientific research, creation of interdisciplinary and multidisciplinary teams and project applications made by consortiums. This program is inciting the projects that can offer solutions that actively contribute to the fulfilment of the goals of this Program the fastest.

Open Public Call that was opened until June 11, 2020 resulted with 129 submitted Project proposals. After two stages of the evaluation, **14 research projects** were selected: 11 from the biomedical, 2 from economics, sociological, psychological research and management of complex systems and 1 project from biomedical engineering and IT.

Within the Special research program on COVID-19, total of 131 scientist from SROs form Belgrade, Novi Sad, Kragujevac and Novi Pazar will be working on the approved project proposals.

The total approved budget of the Program is €1,975,435.71. The minimal amount per project is €46,866 with the maximum amount per project up to €406,612.

Program funding is provided by the World Bank, project SAIGE.

129	Submitted Projects	46,865.92 €	Min. Approved Project Budget	130	Researchers from Serbia
		406,612.43 €	Max. Approved Project Budget	29	Research Groups in Organizations
14	Approved Projects	4 077 475 74 0	Total Approved	19	Research Organizations
		1,973,435.71 €	Budget	4	Researchers from Diaspora
		<b>1-2</b> years	Project Duration	85/45	Female/Male Researchers

## COVID-19 Grants Approved by Research Discipline

#### 14 Projects | 1,975,435.71 € Total Budget

Biomedical sciences   11	1,654,621.88 (	€ <b>84%</b>
Economics, sociological, psychological		
research and management of complex systems   2	144,190.31	€ <b>7%</b>
Biomedical engineering and IT   1	174,623.52 🕯	€ <b>9%</b>

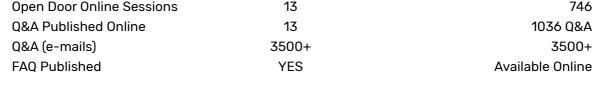
## COVID-19 Projects Evaluation

129	Received applications
126	Applications that have passed the administrative check / entered the first stage of evaluation
<b>25</b>	Applications that entered the second stage of evaluation
<b>1</b> 4	Projects approved for funding

## Communication with the Science Community – The Openness Principle

Science Fund gives great attention to openness and transparency as the guiding principles of its work. In preparation and realization of its Programs, Science Fund reaches out to the scientific community with aim to get the feedback which will improve quality of the prepared Programs. Since its establishment Science Fund has been dedicated to communication with researchers. In 2019 this was performed through workshops and open-door sessions, but due to global pandemic, in 2020 Science Fund transferred to online events and communication.

2019	No.	Participants
Workshops	5	1323
Belgrade	3	900
Novi Sad	1	275
Niš	1	145
Budget Trainings	4	850
Belgrade	2	700
Online	2	150
Open Door Sessions	5	250
Q&A (e-mails)	1000+	1000+
FAQ Published	YES	Available Online
2020	No.	Participants
Open Door Online Sessions	13	746
0&A Published Online	13	1036 O&A



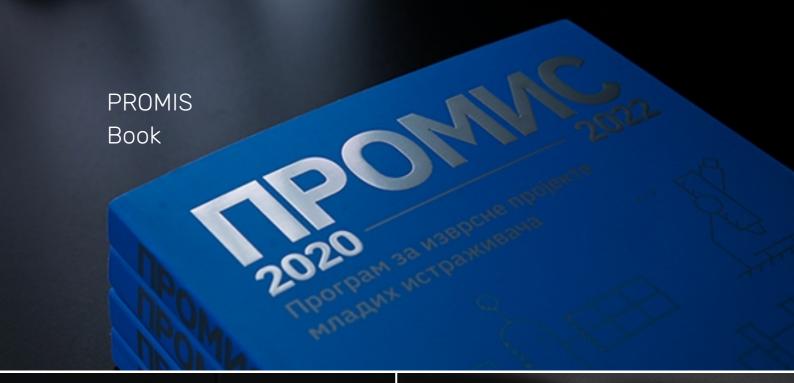




Science Fund has opened its doors to all interested scientists, researchers and other stakeholders who wanted to learn more about PROMIS, Serbian Science and Diaspora Collaboration Program: Knowledge Exchange Vouchers, and Program for Development of Projects in the Field of Artificial Intelligence.

de la

The first Open Call for pilot program attracted many researchers. While this interest remained the same in 2020, due to global pandemic situation, all events were transferred to online webinars and open-door sessions.







### InfoBomat

Лечење крава антибиотицима лоше утиче на здравље људи и животиња. Једна од алтернатива је лечење биљним препаратом на бази етарских уља пореклом из Србије

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ононстраживание орган опривредни факултет, ироитет у Новон Саду; ицински факултет, ерзитет у Новон Саду Sysee: 88.807.21 EVP

РЕЗИСТЕНЦИЈА НА АНТИБИОТИКЕ ЈЕ ВЕЛИКА ПРЕТЊА ПО БЕЗБЕДНОСТ ХРАНЕ И здравље људи и животиња. У савременом соведарству један од највалочнјих здравстве-них проблема који уклаучује тералија антибиотицина јесте маститис код кулику крава. Због тега се гобална ликуча нију сроја сусива са великон губицика, уклуучуји ни повећању стопу морталитета оболелих крава. Повећање инциденце све болести доводи и повећању стопу морталитета оболелих крава. Повећање инциденце све болести доводи и повећању стопу морталитета оболелих крава. Повећање инциденце све болести доводи и повећању стопу морталитета оболелих крава. Повећање инциденце све болести доводи и повећању стопу морталитета оболелих крава. Повећање инциденце све болести доводи и повећањи стопу морталитета оболелих крава. Повећање инциденце све болести доводи и повећањи стопу морталитета оболелих крава. Повећање инциденце све болести доводи и повећањи стопу морталитета оболелих крава. Повећање инциденце све болести доводи и повеђањи скларати и стораводи и повеља и повеља и разверима прадицики, којом ће се упоредити троизоводими производоми. Произемцира, Примена природ-нос пренарата ћа, и у Србији и сесту, светулити кање у Укритем новеља услед каренце која је генерално краћа од каренце накои примење актибиотика.

Пројекат ће омогућити истраживачима да опреме лабораторију за фармаколог кологију, и допримеће јачаму научноистраживачког потекцијала студенала вел

ина у пројекту Јејовопот је то што ће истранивање бити спроведено међу ветерин ка у Србије, уз узма у минове пропоставиче навике, те ће тим моћи да утиче на раци плазцију примене актибиотика, али и на увођење новик метода печења у тералој типска код редак. На коај начит биће везсућен транофер занава на фармициутск

Science Fund highly values feedback from scientific community. After each Open call, the Science Fund organizes online surveys to collect feedback, comments and suggestions for future programs and procedures. Through these surveys, everyone who applied or was interested in Program can use the opportunity to communicate all issues pertaining, which can contribute to future work of Science Fund.

The research community is also invited to send their comments, suggestions and opinion about programs, procedures or SF work in general. For this purpose, there is a dedicated email address: misljenje@fondzanauku.gov.rs.

The openness principle is applied towards all stakeholders. As important it is to provide support to researchers interested in participation in the open call and apply for funding, it is also crucial to promote to society in Serbia all projects and researchers supported through SF programs.

Promoting our supported projects and researchers can lead to new partnerships among research groups as well as new collaborations between science and industry. It also motivates other researchers to apply and compete for funding, while all stakeholders can learn about new scientific activities in Serbia.

Our pilot program PROMIS, which is implemented through 59 projects lead by postdocs with young researchers in their teams, inspired us to design special publication dedicated to their projects. In order to attract and inspire everyone interested in their work and this program, each project is illustrated by the most talented artists from Serbia and region.

Both science and art are human attempts to understand and describe the world around us, and their collaboration always brings new ideas. We look forward to all new proposals and possibilities which will be inspired by such collaborations and new impact they will generate.

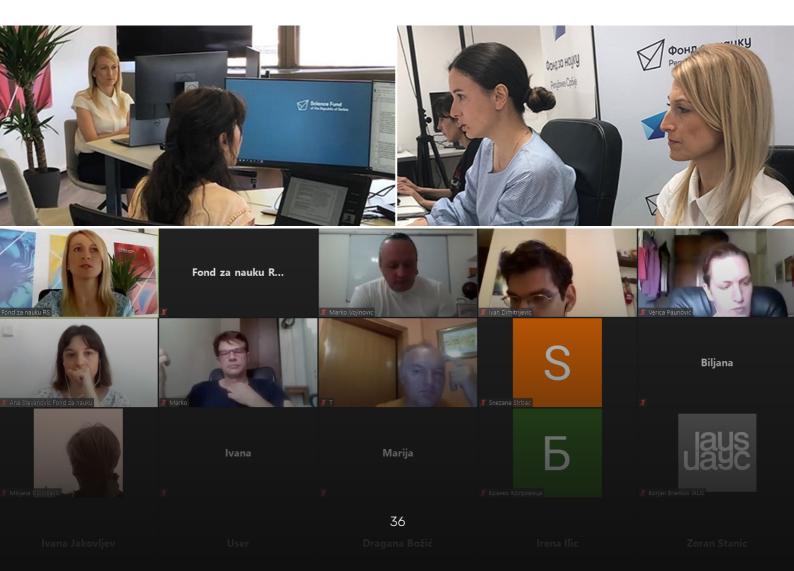
Open-door day – discussion about the Program for Development of Projects in the Field of Artificial Intelligence, January 2020, Belgrade

## Online communication and support in 2020

The Science Fund has transferred to online open-door sessions and communication due to situation caused by the global COVID-19 pandemic. Since March 11, when the Public Call for the IDEAS Program was announced, Science Fund has been actively communicating with researchers in order to prepare better and submit a Project Proposals within the Program.

During this period, Science Fund provided support during the preparation of Projects through digital channels and organized 13 online open-door sessions through video conferencing software platform attended by 688 researchers. Science Fund responded to more than 3000 email enquiries and published 935 responses to asked questions on its website. Questions and answers from open-door sessions were published on the official website so that all researchers have had access to all the information.

The open communication with interested stakeholders, scientists and researchers was a learning opportunity for Science Fund as well, providing insight into the most pressing issues and constraints faced by those willing to apply for funding. Science Fund has taken careful consideration of all feedback while designing all subsequent Programs, procedures and processes.



## Cooperation – A Learning Opportunity

Since its establishment, the Science Fund has been opened for cooperation both with national bodies as well as international science funds, eager to learn from their experience, and adopt best international practice.

The Science Fund communicated and exchanged knowledge with numerous funds and research agencies across Europe who were at our disposal all the time and keen to help us improve programs, acts and procedures. The Science Fund is grateful to them for sharing their knowledge and experience. Also, we extend our gratitude to our scientists from diaspora who supported the development of the Science Fund from the beginning and shared their experiences from the countries where they currently live and work.

Science Fund has also been investigating the procedures and experiences of different national and international funds, aiming to develop most efficient and objective procedures, and to adopt and transpose their best practices, as applicable to rules defined by the Law on the Science Fund of the Republic of Serbia, and Serbian science in general.

When devising its bylaws, procedures, guidelines and programs, Science Fund has considered similar documents and practice from national funds and research agencies in EU, as well as those supported by the European Commission, but has also been learning from its own experience and communication with Serbian research community and improving continuously.

# Science Fund in Media and on Social Networks

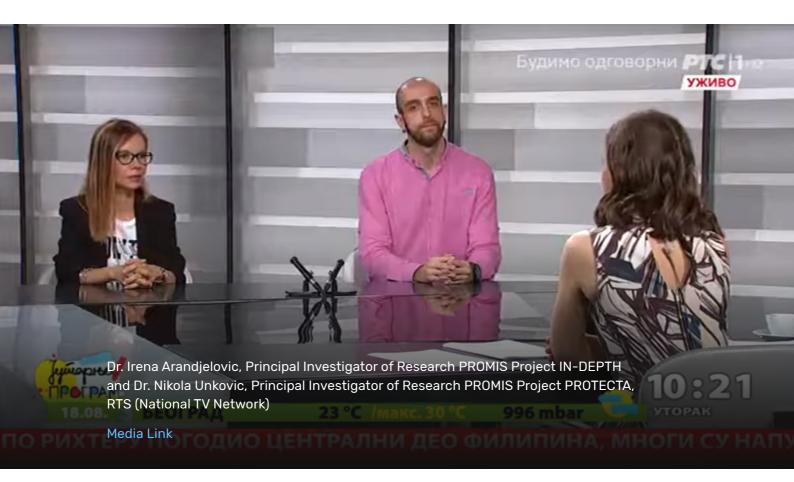
Science Fund supports high-quality research which can lead to significant scientific achievements and innovations, thus contributing to industry and society in the Republic of Serbia.

Our goal is to provide high visibility to all supported projects and research activities. We want to inspire researchers and industry to new partnerships, and to expand collaborations world-wide.

Science Fund has started with its communication activities since its establishment in March 2019, through spreading synchronized information, provided in the form of PR announcements, as well as interviews with the Acting Director of Science Fund Dr. Milica Djurić Jovičić. Science Fund's representation in media was also significantly contributed by press releases and interviews given by the Prime Minister of the Republic of Serbia Ms. Ana Brnabić, Minister of Education, Science and Technological Development Mr. Mladen Šarčević and the State Secretary at the Ministry of Education, Science and Technological Development Dr. Vladimir Popović.

<image>

Acting director of Science Fund of the Republic of Serbia Dr. Milica Djurić Jovičić, RTS (National TV Network) Science Fund in 2020 increased media coverage about scientific researches. Press service organized interviews with principal investigators and members of the project teams within Programs of Science Fund in the most renowned media in Serbia, and in-depth magazine articles.



The Science Fund was mentioned in 863 media reports, articles, news, and interviews during 2020, and each of them had affirmative or neutral tone.

Science Fund's announcements have been recorded in all types of media: 657 on web portals, 146 in print editions, 51 in TV formats and 9 on radio stations.

### BBC NEWS | NA SRPSKOM

### Zdravlje, ljudi i plastika: "Nedeljno pojedemo jednu kreditnu karticu"

Početna strana Korona virus Srbija Balkan Svet Video Najpop

Nataša Anđelković BBC novinarka 24 oktobar 2020



#### Zastanite za trenutak.

U ruci držite telefon koji ima plastične delove, moguće je da pijete vodu ili jogurt iz plastične flaše, a pored sebe vrlo verovatno imate plastičnu kesu.

Milioni tona plastike završe na otpadima širom sveta, ali delić toga lancem ishrane dođe i do ljudskog organizma, do beba pogotovo, upozoravaju stručnjaci.

• PROMIS research project DETOX is

- Kementioned in article on BBC News
- na srpskom

Media Link



Ћир

### VEŠTAČKA INTELIGENCIJA -NAJBOLJI PROJEKTI SRPSKIH NAUČNIKA: Upoznajte edukativni alat za podršku pisanja dobro dizajniranog koda

Q

Fond za nauku Republike Srbije i National Geographic predstavljaju vam najuspešnijie mlade srpske naučnike i njihove projekte iz oblasti veštačke inteligencije.

OBJAVLJENO: 23. 10. 2020. PODELI **F** Facebook **Y** Twitter **P** 



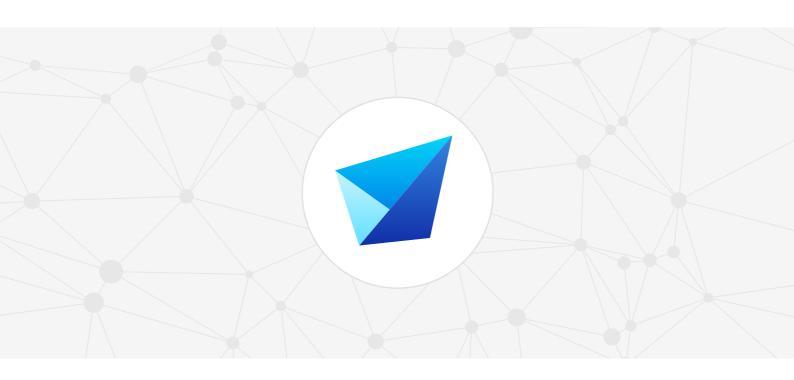
Dr Jelena Slivka, principal investigator of research Al project Clean CADET, National Geographic Serbia

### Media Link



Dr Marin Jukic, principal investigator of research PROMIS project PsyCise, TV Prva Media Link

### Science Fund on Social Networks





**Instagram** fondzanauku\_rs



**Twitter** fondzanauku\_rs



**Facebook** Science Fund of the Republic of Serbia



**LinkedIn** Science Fund of the Republic of Serbia



YouTube Science Fund of the Republic of Serbia

## Broadening Science Horizons

### "Society 5.0 to Better Shape our Aging Society"

In February 2020, the Embassy of Japan in the Republic of Serbia and Science Fund hosted Professor Yuko Harayama of Tohoku University, Japan. Professor Harayama gave a lecture on "Society 5.0 to Better Shape our Aging Society" in Science Fund's premises. The round table was also organized.



The round table was chaired by Professor Harayama, who gained considerable experience in this field by working for the Science and Technology Council and as the Deputy Director of the Science, Technology, and Innovation Directorate of the Organization for Economic Cooperation and Development of Japan. The aim of this event was to introduce the concept of Society 5.0 – a super smart society that should enable solving various societal challenges by incorporating new technologies (Internet of Things/IoT, Artificial Intelligence/AI, Big Data, Robotics) into industry and social life. Society 5.0 is part of the Japan's Strategic Program, proposed in the 5th Science and Technology Basic Plan, as a vision for future society and progress.



Society 5.0 should enable the provision of products and services to people who need them, at the right time and in appropriate quantities, regardless of age, gender, region, language or any other limitation. It is a society focused on the well-being of each individual, in which each person can lead an active and enjoyable life. Creating such a society will provide economic development and address key societal problems, which will at the same time contribute to meeting the goals of sustainable development – said Professor Harayama.

Considering the great importance for science, scientific community and scientific and national development, this event was a special occasion, attended by the Ambassador of Japan, H.E. Mr. Junichi Maruyama, representatives of the Government of the Republic of Serbia, directors of the Science and Innovation Fund, deans of technical faculties, director of the Innovation Center School of Electrical Engineering, directors of Institutes, science and Technology parks Belgrade and Čačak, as well as large IT companies. This event is just the very first step in improving scientific cooperation with Japan, exchanging knowledge and cooperating on research challenges.

## Exhibition Dedicated to Scientific Projects in the Field of Artificial Intelligence

Exhibition dedicated to scientific projects in the field of artificial intelligence was opened by Science Fund of the Republic of Serbia in cooperation with the Center for the Promotion of Science on the Sava Promenade at the Kalemegdan park on October 9th, 2020.

The exhibition showed twelve scientific projects supported by Science Fund of the Republic of Serbia – Program for Development of Projects in the Field of Artificial Intelligence.



These complex research projects were presented through artistic prism at the exhibition – illustrations of some of the best Serbian illustrators, who combined art and science on creative and imaginative way.

At the opening of the exhibition the principal investigators and members of the project teams shared their scientific experiences, explained goals, challenges and results of their research in the field of artificial intelligence. This exhibition showed the potential of the Serbian scientific community in the development of Artificial Intelligence.



## **Final Remarks**

The Programs of Science Fund are constantly evolving, based on feedback from the scientific community, existing Calls for Project Proposals, as well as experience from other scientific funds. The Program for Excellent Projects of Young Researchers was a pilot Program and served as an opportunity to understand the needs of the scientific community, as well as the technical, legal and other conditions which need to be taken into consideration when devising new Calls for Project Proposals. Remarks, comments and constructive feedback were all included in each subsequent Call for Project Proposals.

The broad consultative process which includes the scientific community, as well as the bodies of the Scientific Fund – the Scientific Council and its Managing Board, representatives of the Ministry of Education, Science and Technological Development, the eGovernment online platform for the application process, as well as benevolent advice from its vast body of international Reviewers and experts, has enabled Science Fund to improve its Programs, as well as the underlying procedures, in order to better address the needs of the scientific community, to improve its mode of operation as well as its efficiency.

Particular care has been taken to make the newer Calls for Project Proposals easier to navigate, the application process more user-friendly and the application form easier to complete.

Consideration has been made regarding the research or academic titles and employment status of eligible scientists and researchers, their work engagement capacities, the salary categorizations, the cost and procurement of equipment and supplies, subcontracting procedures, ethical considerations and risk management plans.

Science Fund's newest Program – IDEAS, has been devised having all of this in mind, with the aim of supporting outstanding scientific ideas with potential for significant impact on science, research, economy and society at large.

Science Fund will continue to develop its programs further, based on the principles of scientific excellence, creating high impact and providing competitiveness and relevance at the international level and inclusion in the global scientific trends, and will support projects striving towards these principles.

"The friction which results from ignorance can be reduced only by the spread of knowledge and the unification of the heterogeneous elements of humanity. No effort could be better spent"

### Nikola Tesla

Serbian Inventor and Scientist

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## Appendix

List of projects approved for funding in 2020

### 1. Program for Excellent Projects of Young Researchers – PROMIS

List of projects approved for funding can be found on the following link

## 2. Program for Development of Projects in the Field of Artificial Intelligence

List of projects approved for funding can be found on the following link

### 3. Special Research Program on COVID-19

List of projects approved for funding can be found on the following link

### 4. Serbian Science and Diaspora Collaboration Program: Knowledge Exchange Vouchers

List of projects approved for funding can be found on the following link

### 5. Program IDEAS

In progress







