High Impact Accelerated Research Program

This program aims to encourage and support high-impact scientific publishing in ISI scientific journals in a rapid manner that keeps pace with rapid scientific development in order to raise the rates of distinguished scientific publication in the name of the university, which leads to raising the university's classification at the international level.

Program outcomes and goals

- A number of research published in high-impact international journals.
- The high rate of scientific publication for faculty members.
- High citation rate for faculty members.

Program standards and controls

1. The duration of the program is one year starting from 1-1-2023 AD, and the status of each priority will be updated periodically or when the budget is running out..
2. Priority support will be given to projects stemming from the university's partnerships with industry that are identified and announced independently during the program life cycle.
3. Priority support will be given to projects that do not have researchers who have stalled projects at the Deanship.
4. The need to provide the deanship with everything it requests regarding the project, whether in the form of reports, presentation of the project, or participation in any of the events.
5. The priority of support for research directed to the research priorities of the university and its following axes will be

Priority	Research Area	Description
Logistics	4.0 Logistics	Industry 4.0 provides digital transformation through networking, decentralization, real-time capability, and service orientation. Digital transformation has huge potential to grow the revenues of companies. Therefore, Logistics 4.0 is receiving growing interest by public and private entities internationally. Recent advancements in the enabling technologies of AI, machine learning, deep learning, IoT, block-chain, cloud computing

		and increased computing power of single board processors, are contributing to this trend and driving the R&D activities.
	Laws and ethics related to logistics	Logistics laws and regulations in the kingdom requires a great deal of attention due to the Islamic laws the kingdom adopts. Hence, legal researcher need to suggest laws that not only fit the kingdom Islamic laws but also manage the relationships of all parties to ensure the benefits to all parties and logistics flow. Smart contracts can be suggested to address these concerns as well as providing flexibility. Other related research opportunities include designing Islamic-compliant cargo insurance policies and code of ethics.
	Transport	New technologies can make it easier to book shipments on trucks by connecting shippers and trucking carriers online in real time. As a result, there is more and more demand on developing route planning and fleet management software. This project includes the use of IoTs, Sensors & Asset Tagging, which leverages AI-powered software and IoT technology to track assets, such as vehicles, for companies in the logistics space. The software would access data provided by internet-connected sensors and guarantee full transparency to companies so they can see where a package is until delivery. Intelligent Real time tracking will improve supply chain visibility to ensure reliability, flexibility, safety and efficiency by lowering costs for shippers and carriers, decrease miles driven empty and reduce impact on infrastructure and environment. The project would allow users to track freight shipments in real-time, analyze key performance metrics and find reliable carriers. To track order shipments around the globe with an option of choosing carriers with the most dependable and timely services, as well as delay estimations. The aim is to provide supply chain and logistics analytics with organized, easy-to-access and efficient-to-predict data. The real-time tracking platform centers on trucking marketplace and fleet management, drayage services at ports, as well as full truckload and less-than-truckload services. To increase delivery speed and optimize inventories. "
	Supply chains and e-commerce	One of the key aspects of the supply chain is managing the flow of information, resources and funds among the different entities and stages of the e-Commerce supply chain, from the supply of raw materials to the delivery of finished products to the buyer. Industrial automation in the form of intelligent collaborative robots and semi-autonomous systems in warehouses has increased the efficiency of the e-commerce industry. The

		project will a) provide smart and efficient solutions for supply-chain management that can detect and predict backlogs and issues to better respond b) identify the industries which could benefit most from automation using cyber physical systems and industrial collaborative robots.
Defense	Communication systems security	Radio Communication is commonly used allowing for transmitting of a large amount of data to be transmitted while providing good protection against jamming attempts. Risks of errors are increased when there are large numbers of users near each other. In wars, there is great competition for broadcast frequencies in a rapidly deployed communication network which can lead to interference affecting the data. The use of these smart algorithms in that way provides better protection for fighters. This activity aims to improve security, data availability, reliability, and resilience against electronic warfare attack.
	Unmanned systems security	Unmanned Systems are already used in military applications in many environments (air, ground, underwater) to detect moving or dangerous objects. Unmanned Systems can be prone to traditional cyber-attacks, including wireless and wired network attacks. Such systems can also be susceptible to attacks that target specific control elements such as stability and performance. This activity aims to enhance security in Unmanned systems and provide useful application of them for defense.
	Cyber security and electronic warfare	Data confidentiality and integrity become very important due to the increase of attack surfaces resulting from the reliance on the Internet for everyday communications. With the access to substantial resources, government-sponsored hackers are involved in cyberwar by carrying a wide variety of techniques like Malware, Man-in-Middle, Phishing, Denial of Service, etc. to cause severe damage to critical systems. In this activity, we aim to improve the security readiness in the kingdom by utilizing new technologies like Internet of Things, Block chain, Artificial Intelligence to protect data and systems.
Environment	combating climate change	The Green Saudi and Green Middle East Initiatives are huge steps toward the confirmation of the Kingdom's efforts in combating climate change during the previous years. In accordance with its ambitious vision 2030, the national efforts in the field of environment will be completed with the expansion of its regional surroundings, by the announcement of His Highness the Crown Prince about the "Green Saudi Initiative" and "The Green Middle East Initiative". These initiatives will chart the direction of the

		Kingdom and the region in protecting the land and nature and placing them in a road map with clear and ambitious milestones to achieve global goals to combat climate change. The University of Jeddah will contribute effectively to achieving the goals of these two initiatives through the following proposed research areas: 1. Cultivation of green belts around major cities as windbreaks using wastewater with the help of remote sensing techniques 2. The effect of climate change on coastal ecosystem. 3. The effect of climate changes on fine particulate matter and other air pollutions. 4. Infrastructural study on the effect of climate changes. 5. Climate changes adaptation with the adverse side effect on coastal marine organisms. 6. Environmental effect and methods of application for initiation farming mangrove ecosystem, restoration, conversation and sustainable management in cities environmental ecosystem. 7. Development and applied environmental law regulation on environmental ecosystem. 8. Assess the impacts of climate change on ecosystems (coastal vulnerability index, etc.) and develop action plans to adapt to climate change.
	Clean and sustainable energy	1. Renewable energy innovations and novel techniques. 2. Novel high energy battery for solar systems. 3. Novel and high efficient solar cells. 4. Analysis the health effect of climate changes: heat stress and humidity response on physical fitness and body health among Saudi population 5. Artificial intelligent (AI) and Internet of Things (IoT) for Air quality assessment. 6. Develop and implement plans to monitor climate changes by monitoring changes in ecosystems and air pollution 7. Recent techniques and control plans to counter act the adverse impact of climate changes. 8. Requirements Engineering Model in a Sustainable and Green IT environment to provide a green requirements engineering model.
	Carbon recycling economy	Reduction of carbon emission in relation to circular carbon economy, sustainable, low-carbon pathway, and capturing carbon and converting it into valuable raw materials. 1. Novel techniques for capturing carbon and converting it into valuable

		raw materials. 2. Novel system for air pollution forecasting and carbon emission, mitigation and purification at crowded sites towards smart Jeddah city. 3. Innovations in advanced and high energy battery for future electric cars and storing solar energy. 4. Future engine technology and low emission fuel combustion vehicles. 5. Environmental impact on marine ecosystem due to environmental changes. 6. AI and hyperspectral imaging for monitoring water and air pollution. 7. Study the development and applied environmental laws regulations on environmental ecosystem.

6. A reward will be given to the researcher after publishing the research according to the following points only, as follows:

clause	Published Article	Reward
A	A **Research Article** published in a journal ranked in the Web of Science (WoS) database within the first 25% **(Q1)** of the average ranking ratio for the disciplines in which the journal is ranked according to the Journal Impact Factor (JIF) average of the WoS page.	**19,000 SR**
B	• A **Research Article** published in a journal classified in the WoS database within the category of the highest 25% - 50% (Q2) of the average ranking percentage in the disciplines in which the journal is classified, according to the average JIF of the WoS page. or • A **scientific review article** type paper published in a journal classified in the WoS database within the category of the highest 25% (Q1) of the average ranking percentage in the disciplines in which the journal is classified, according to the average JIF of the WoS page.	**15,000 SR**
C	Jeddah University is the only affiliation for the correspondent researcher.	**3,000 SR**
D	The University of Jeddah is the only affiliation for the principal investigator (the applicant).	**3,000 SR**
E	All participants on the scientific paper are from Saudi Arabia, the G20 countries, the European Union, Singapore or New Zealand.	**4,000 SR**

Any published research that does not conform to the specifications mentioned in items A or B of the previous table will not be accepted.

Total Reward Due = Total Reward with Items {(a or b) + c + d + e}

7. The submitted research has not been previously published, has not been financially supported by any internal or external party, and has not been drawn from a scientific thesis or project supported internally or externally in the past.
8. The number of researchers to research should not be less than two.
9. The number of members of the research team from outside Saudi Arabia should not exceed more than half of the team.
10. Each faculty member is allowed to participate a maximum of three times (either as an Associate Researcher or Principal Investigator) during each quarter. The priority in each quarter after that will be for those who did not participate previously, and this can be excluded according to the availability of a budget.
11. The principle investigator must be from University of Jeddah.
12. It is forbidden to waive a project previously supported by the university to participate with the same project in this program.
13. The responsibility for distributing rewards to the research team rests with the principal investigator, and the university does not bear any responsibility in the event of disagreement among the team members.
14. Commitment to use the official address of the university **(University of Jeddah)** and the official mail of the university **(example@uj.edu.sa)**, provided that it is the address and the first affiliation for all researchers affiliated with the University of Jeddah.
15. Mentioning the support of the University of Jeddah in the space designated for this in the journal in which the research was published and in the following form:

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* ID should be replaced with the employee number and X is replaced with the research number published during the program.

Procedures and progress mechanism

1. The accepted research is submitted using the following form: https://www.fpls.in/moe-if-uj-r-22
2. The accepted research will be verified and compliant with the program controls.
3. If the support is accepted, the contract will be sent for signature.
4. The reward will be disbursed after the research is published in its final form in WoS and submitted via the following form: https://www.fpls.in/moe-if-uj-r-22-completion