Interdisciplinary Research Success Amongst Science Disciplines

Interdisciplinary Research Projects in Alexandria University

Every year Alexandria University receives funding for research projects from different donor bodies. The table below shows the 27 interdisciplinary projects out of all projects received in 2022 . The criteria set by AU to determine success of research projects is :

* concluding each of the project’s objectives achieved, whether these are establishing new programs, reaching new techniques, registering inventions that contributes new insights, theories, methodologies, or empirical findings to the existing body of knowledge.. Research success criteria vary depending on the nature of the research, its objectives, and the specific context in which it is conducted.
* Relevance: The extent to which the research addresses important questions, challenges, or gaps in knowledge within its broader context.
* Methodological Rigor: The quality and appropriateness of the research design, methods, data collection procedures, and analysis techniques employed in the study.
* Impact: The tangible or intangible effects or outcomes of the research on academia, policy, practice, or society at large. This may include changes in understanding, behavior, policy, or technological innovation.
* Contribution to Knowledge: The significance and depth of the research's contribution to advancing knowledge and understanding within its field or interdisciplinary context.
* Publications and Dissemination: The dissemination of research findings through peer-reviewed publications, conference presentations, reports, and other scholarly or professional outlets.
* Collaboration and Networking: The extent to which the research fosters collaboration, interdisciplinary exchange, and networking among researchers, institutions, and These criteria may be applied individually or collectively to assess the success of research projects, programs, or initiatives. It's essential to consider the specific goals, objectives, and context of the research when defining and evaluating success criteria. Additionally, success criteria may evolve over time as research projects progress, findings emerge, and new opportunities or challenges arise.

Top of Form

The percentage of projects that have concluded successfully are about 33%, and the rest are still in progress. Below is the list of interdisciplinary projects of AU in 2022, and a pie chart to show success of projects.

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| Interdisciplinary Projects  |
| # | Faculty Name | Project Theme | Type | Budget per year  | Success Indicator |
| 1 | Faculty of Agriculture | Innovative Sustainable Solutions for broomrapes: Prevention and integrated Pest… management approaches to overcome parasitism in Mediterranean cropping Systems  | International  |  945,000.00  | Active |
| 2 | Faculty of Pharmacy | Molecular epidemiology and antimicrobial resistance mechanisms in staphylococci from various geographic regions in Africa | International  |  1,642,882.50  | Active |
| 3 | Faculty of Science | Innovative solutions for the Development of Active Intelligent and Sustainable Food Packaging Materials  | National  |  877,666.67  | Active |
| 4 | Faculty of Science | Microbial degradation of phenol containing petroleum effluents and its application in electricity generation  | National  |  892,166.67  | Active |
| 5 | Medical Research Institute | Development of Antimicrobial Electrospun Polymeric Nanofibers Composites Membrane for Municipal Water Safety : prototype Construction | National  |  1,460,325.00  | Success |
| 6 | Faculty of Science  | Powerful strategy for treating triple negative breast Cancer: Silencing miR-21 by small interfering RNA loaded-Chitosan Nanoparticles | National  |  49,980.00  | Success |
| 7 |  Faculty of Engineering | Design and Implementation of a Smart and Hybrid Multiport Solid-State Transformer for Marine Applications | National  |  1,000,000.00  | Success |
| 8 | Faculty of Science | Combination of Neuroplacement Therapy With PLGA Nanoparticles for Alzheimer's Disease Treatment  | National  |  518,466.67  | Active |
| 9 | Faculty of Science | Improvement of the Performance of Reverse Osmosis Membranes using Eco-friendly Materials | National  |  318,750.00  | Success |
| 10 | Faculty of Engineering | Establishing and localizing the marketing office for technology transfer, innovation | National  |  400,000.00  | Active |
| 11 | Faculty of Agriculture Saba Pasha | Development of an Irrigation Management Information and Communication System (IMICS) for the humid tropical region of Kerala and for the dry climate of Egypt as a decision support systems (DSS) tool to improve crop productivity. | International  |  100,000.00  | Success |
| 12 | Faculty of Science | Sustainable technologies and methodologies to improve quality and extend product shelf life in the Mediterranean agro-food supply chain | National  |  1,406,250.00  | Active |
| 13 | Faculty of Science | Sustainable Resource Management Programme to solve Desert-ed challenges | International  |  1,858,515.00  | Active |
| 14 | Faculty of Science | knowledge exchange in Sustainable Fisheries Management and Aquaculture in the Mediterranean region /FishAqu | International  |  10,785,990.00  | Active |
| 15 | High Institute of Public Health | Knowledge Triangle, Innova lion : Reinforcing of Education- Research ll- Health & Medical Links | International  |  1,281,397.50  | Active |
| 16 | Faculty of Science | A novel combined approach for Poultry slaughterhouse wastewater treatment: prototype design and development  | National  |  346,666.67  | Active |
| 17 | Faculty of Engineering | Alexandria University Center of Excellence for Smart Urban Governance (AlEXU-COE-SUG) | National  |  1,955,085.00  | Success |
| 18 | Faculty of Science | Agricultural sustainability and water reuse in Egypt : innovative wastewater treatment and soil health  | National  |  809,950.00  | Active |
| 19 | Faculty of Pharmacy | Development of Herbal Extraction Unit for the Production of Standardized Herbal Products for Human Use | National  |  1,250,000.00  | Success |
| 20 | Faculty of Nursing | Support and Qualifying of Educational Programs for International Accreditation in Higher Education Institutions  | National  |  1,905,664.50  | Active |
| 21 | Faculty of Science | Synthesis, characterization, and computational studies on new synthesized azo-based ligands and their metal complexes | National  |  144,960.00  | Success |
| 22 | Faculty of Dentistry | The Potential role of Nanoparticle-Based Delivery of microRNA fortargeted Oral squamous cell carcinoma gene therapy | National  |  159,197.00  | Active |
| 23 |  Faculty of Engineering | Towards a green Economy Farm: Innovative Solar Collector for Biochar Production from Agricultural & Food Industry Wastes, Power Generation, and Crops Drying | National  |  1,408,750.00  | Success |
| 24 | Faculty of Medicine | Integrating biomarkers and healthcare solutions to deliver personalized medicine and intervention in the home and community for the upper leg of children with stroke-related hemiplegia. | National  |  1,496,400.00  | Active |
| 25 | Faculty of Agriculture | A community solution to natural ecosystem problems Sustainable distribution of resources with multiple economic, social and environmental benefits for the Mediterranean regions | PRIMA |  524,085.00  | Active |
| 26 | Faculty of Agriculture | Advancing non -conventional Water management for innovative climate- resilient water governance in the Mediterranean Area (AG-WaMED) | National  |  1,174,973.08  | Active |
| 27 | Faculty of Science | Downscaling atmosphcric components over Egypt under different fulure climate change scenarios (2065-2100) | National  |  375,000.00  | Active |
| Total |  35,088,121.25   |

