Beni-Suef University

Measures of Interdisciplinary Research Success

[1] Specialized unit for International Publishing

The university is home to eight distinctive faculties, each specializing in critical interdisciplinary fields. These faculties are the first of their kind in both Egypt and the Middle East. They include the Faculty of Earth Sciences, the Faculty of Special Needs Sciences, the Institute of Elderly Science Studies, the Faculty of Postgraduate Studies for Applied Sciences, the Laser Institute for Research and Application (LIRA), the Faculty of Navigation Science and Space Technology, the Research Institute of Medical and Aromatic Plants, and the Institute of Small and Medium Enterprises. All research conducted within these faculties is interdisciplinary, with additional collaborative interdisciplinary research carried out with other faculties at the university.

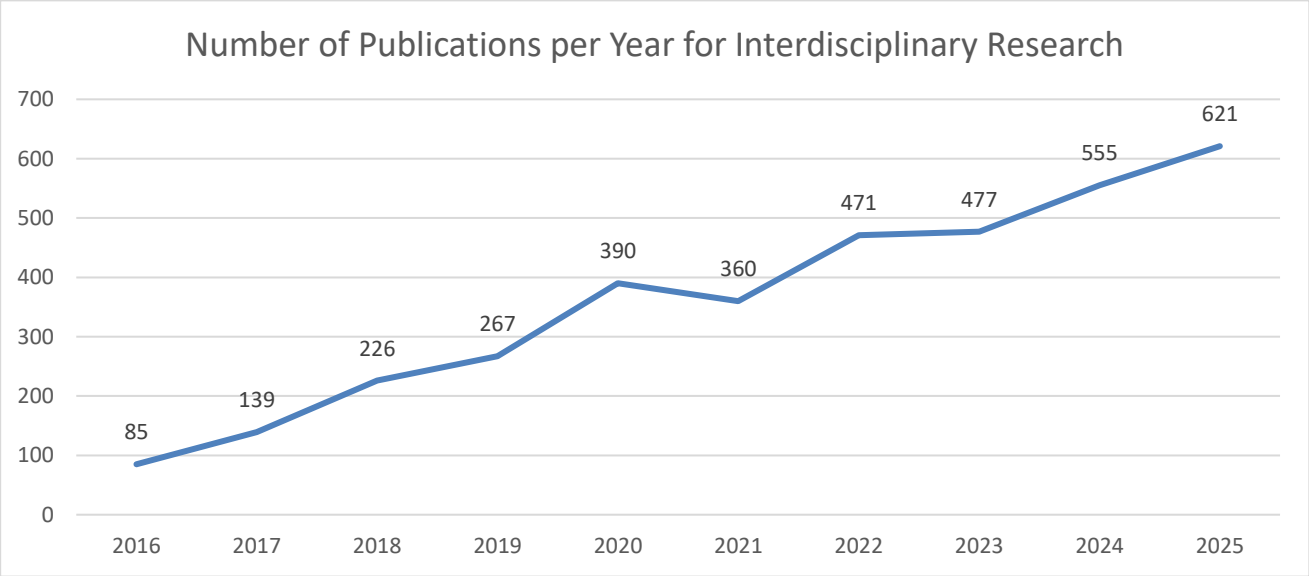
Scientific research, including interdisciplinary studies, at the university is managed and supervised by a dedicated unit, the “International Publishing Office.” This office is responsible for stimulating scientific research, securing research funds, and offering awards. You can find more information on this here.

The university also has a "Project Finance and Support Office," with the following goals:

- Assisting faculty members in securing funding for their research proposals.
- Helping researchers improve their skills in writing competitive research projects.
- Evaluating submitted research projects.
- Following up on funded projects and facilitating their implementation.
- Evaluating the final outputs of funded projects.
- Establishing local and international collaborations, in cooperation with the International Cooperation Office, to attract funding institutions.

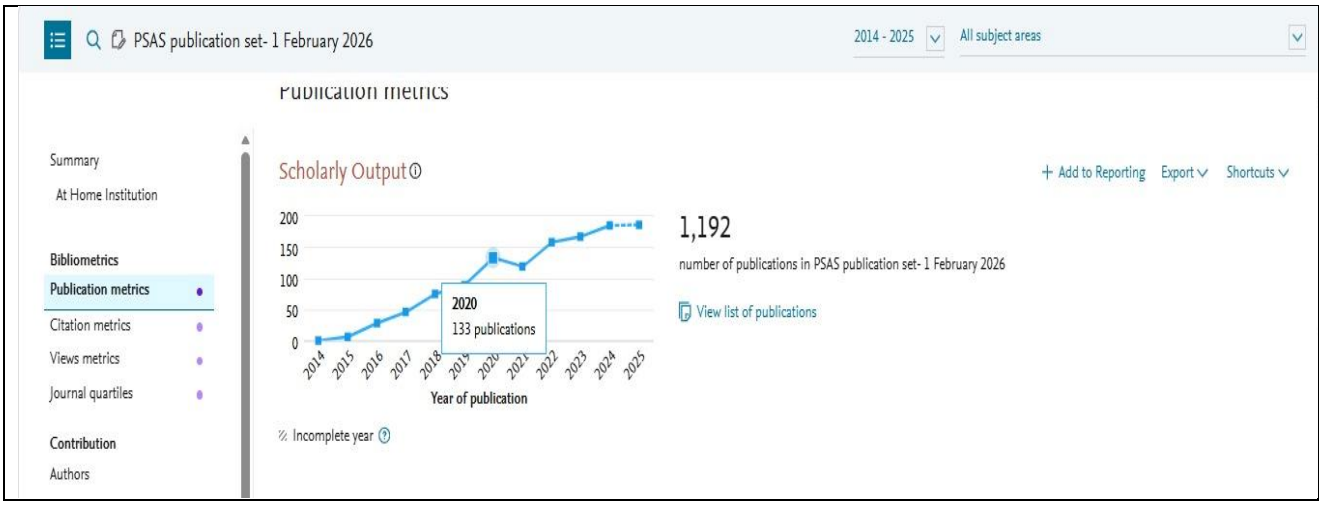
[2] Growing Number of Research Publications

Interdisciplinary research is one of the university's most prominent research areas, with significant efforts dedicated to its advancement. The number of publications in interdisciplinary fields has surged dramatically over the past decade. According to the Scopus database, Beni-Suef University's interdisciplinary publications rose from 85 in 2016 to 621 in 2025. The following graph demonstrates the steady increase in the number of interdisciplinary research publications from 2016 to 2025.



Source: Scopus, 2026

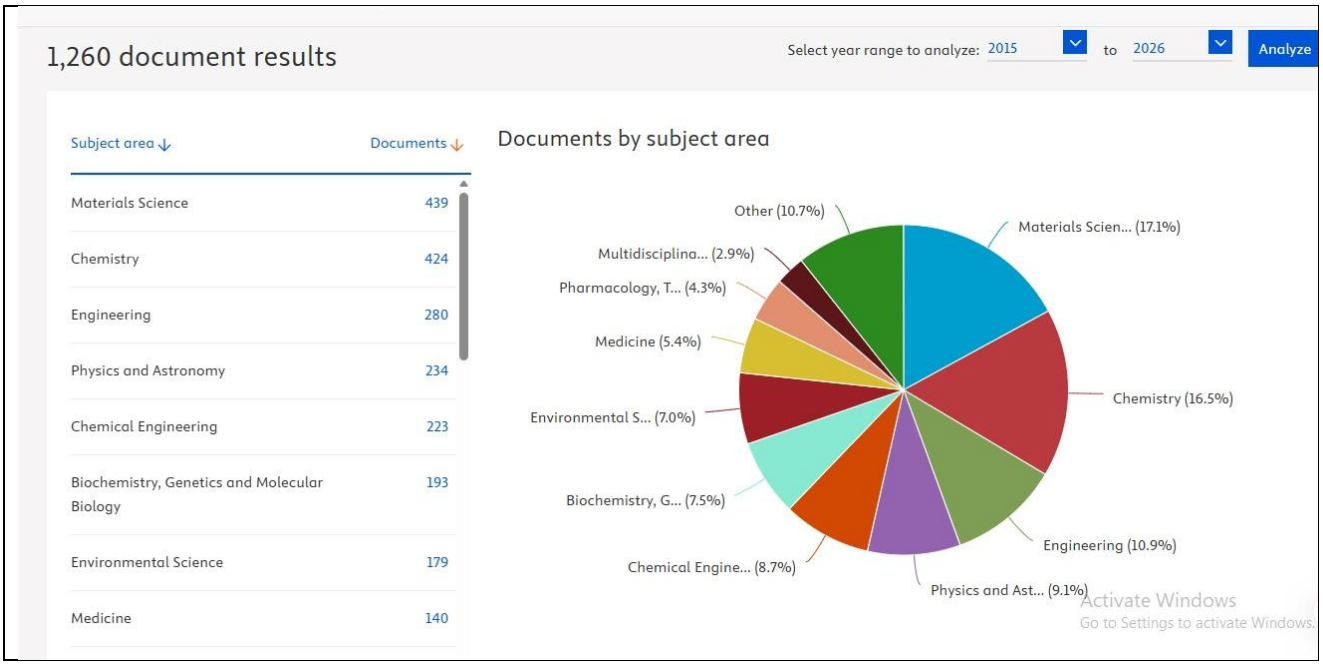
The Faculty of Postgraduate Studies for Applied Sciences stands out as the leading contributor to interdisciplinary research publications. This is largely due to its four interdisciplinary departments, which work in close collaboration with the Faculty of Science and the Faculty of Medicine. Since its founding in 2013 through to 2025, the faculty has produced 1192 interdisciplinary research publications, as shown in the following figure from Scopus.



Source: Scival, 2026

In addition to its high volume of interdisciplinary research output, the Faculty of Postgraduate Studies for Applied Sciences spans a wide range of subject areas, with particular emphasis on materials science

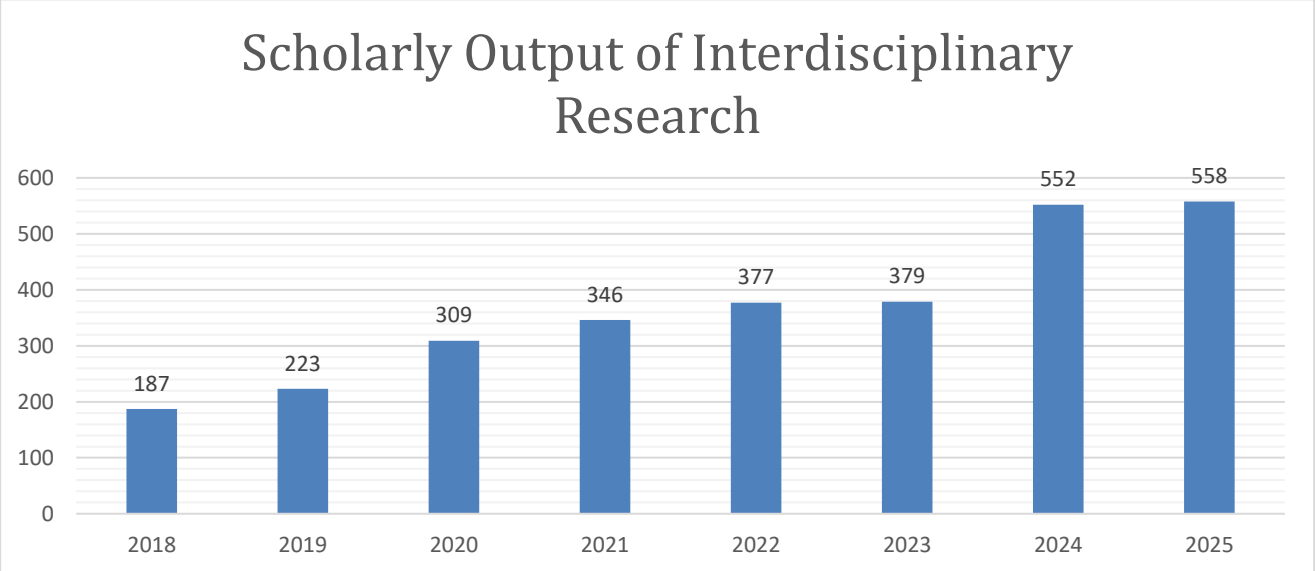
and chemistry. Out of the total 1192 publications, 439 are in the field of materials science and 424 in chemistry. The following graph illustrates the distribution of publications by subject area.



Source: Scival, 2026

[3] Scholarly Output for Interdisciplinary Research

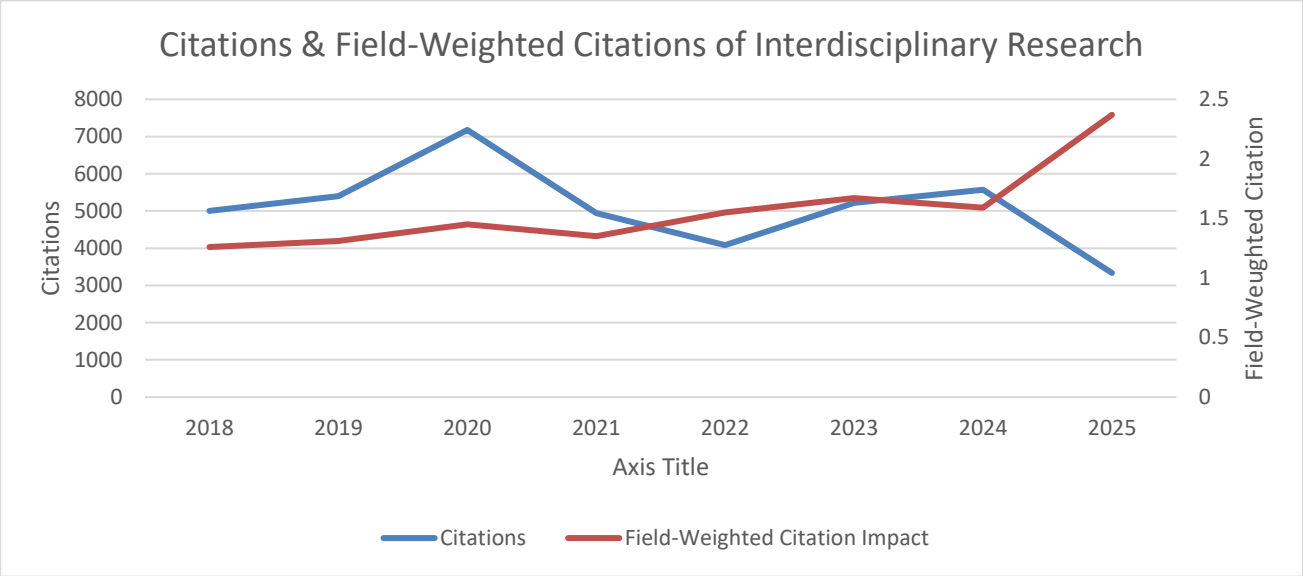
The scholarly output of interdisciplinary research has shown steady growth over the past eight years. According to data extracted from Scopus, the number of interdisciplinary research publications increased from 187 in 2018 to 558 in 2025. This significant rise can be attributed to the growing institutional support for interdisciplinary initiatives, particularly during the COVID-19 pandemic. The following figure illustrates the upward trend in interdisciplinary research output from 2018 to 2025.



Source: Scopus, 2026

[4] Number of Citations of Interdisciplinary Research

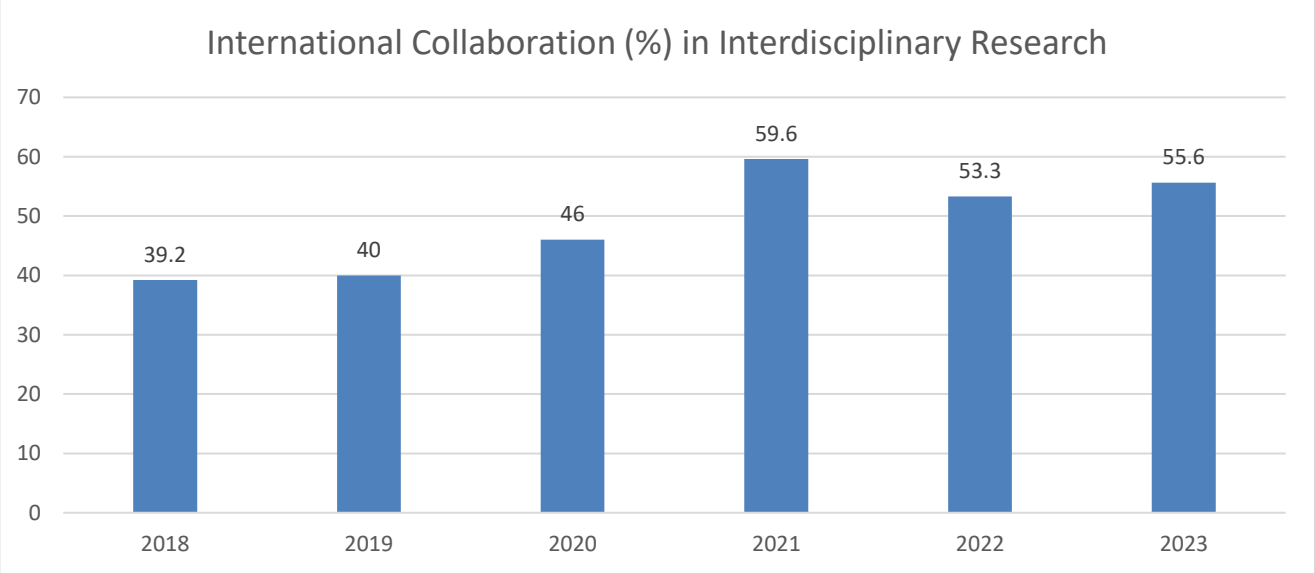
In recent years, citations for interdisciplinary research have increased in parallel with the overall rise in the university's research output. Particularly noteworthy is the substantial growth in field-weighted citation impact, which underscores the increasing influence and quality of interdisciplinary studies. The figures below present a comparison between the citation trends and field-weighted citation impact of interdisciplinary research and those of the university's total research output.



Source: Scival, 2026

[5] International Collaboration in Interdisciplinary Research

International collaboration in interdisciplinary research has seen substantial growth over the past five years. According to data from Scopus, the percentage of interdisciplinary publications involving international partners rose from 39.2% in 2018 to 55.6% in 2023. The following figure illustrates the increasing trend of international collaboration in interdisciplinary research between 2018 and 2023.



[6] Interdisciplinary Research as a Vital Player in SDGs

Interdisciplinary research plays a vital role in advancing the Sustainable Development Goals (SDGs) within the university's research landscape. An analysis of publications aligned with the SDGs reveals that the majority are focused on SDG 3 (Good Health and Well-being), SDG 7 (Affordable and Clean Energy), and SDG 6 (Clean Water and Sanitation). These priority areas align closely with the mission of the university's interdisciplinary faculties—particularly the Faculty of Postgraduate Studies for Applied Sciences, which encompasses departments such as Materials Science and Nanotechnology, as well as Renewable Energy Science and Engineering. As such, interdisciplinary research serves as a key driver of the university's overall research output. The following figure presents the distribution of research publications by SDG from 2018 to 2023, based on data from SciVal.

SDG	Scholarly Output	Field-Weighted Citation Impact	Citation Count
SDG 1: No Poverty	1	6.88	28
SDG 2: Zero Hunger	99	1.82	1,221
SDG 3: Good Health and Well-being	1,898	1.57	24,896
SDG 4: Quality Education	23	0.80	92
SDG 5: Gender Equality	26	1.11	157
SDG 6: Clean Water and Sanitation	352	1.84	5,343
SDG 7: Affordable and Clean Energy	450	1.92	7,473
SDG 8: Decent Work and Economic Growth	70	3.04	1,435
SDG 9: Industry, Innovation and Infrastructure	164	1.97	2,530
SDG 10: Reduced Inequality	18	0.84	113
SDG 11: Sustainable Cities and Communities	101	1.94	1,107
SDG 12: Responsible Consumption and Production	132	2.63	2,451
SDG 13: Climate Action	96	2.85	2,087
SDG 14: Life Below Water	74	1.32	873
SDG 15: Life on Land	65	1.49	739
SDG 16: Peace, Justice and Strong Institutions	24	0.57	56

[7] Funded Projects in Interdisciplinary Research

The university actively supports interdisciplinary research through funding provided by various agencies. One such contributor is the Scientific Research and Technology Academy, which has financed several interdisciplinary projects.

And here are list of some funded projects in interdisciplinary fields in the year 2025 within various faculties and from various funding bodies.

Faculty of Postgraduate Studies for Advanced Sciences					
#	Author	Funding Body	Project Title	Project No.	Amount EGP
1	Hadeer Mansy	STDF	Applications of Palladium-Carbon Nanocomposites in Fuel Cells	45100	**126,700**
2	Dina Salah	STDF	Preparation of Modified Nanometric Carbon Materials and Their Use in Ultra-Fast Supercapacitor Applications	45282	**162,300**
3	Naglaa Wasef	STDF	Evaluating the Therapeutic Effects of Melatonin-Activated Mesenchymal Stem Cell Exosomes and Colchicine/Stearylamine Nanoparticles on Liver and Kidney Injury and Fibrosis in Wistar Rats	48831	**345,200**
4	Rania Nasser	Academy of Scientific Research and Technology (ASRT)	Tuning the Surface and Structure of Multifunctional Titanate Nanostructures in Energy, Environmental, and Biomedical Applications	Next Generation Scientists Program – Phase 8	**220,000**
5	Amani Awad	STDF	The Effect of Genetic Changes in Interferon Lambda-4 and Leptin with COVID-19 and/or Liver Diseases, and the Impact of Phenotypic Modifications on Biochemical Changes	48658	**348,660**
6	Sara Abdel Aziz	STDF	Production and Evaluation of Food Flavorings via Microbial Fermentation from Some Food Manufacturing By-Products and Their Use as Natural Preservatives and Functional Foods	48873	**249,940**
7	Ahmed Nady Ismail	STDF	"Monitoring and controlling the performance of solar cell systems using Internet of Things (IoT) technology for biochemical modifications."	51204	**249,006**

Institute of Laser Research and Applications					
#	Author	Funding Body	Project Title	Project No.	Amount EGP
1	Ahmed Osama Elgendy	STDF	"Combating antimicrobial resistance using advanced synergistic ozone and laser technology enhanced with probiotic surface treatment."	51699	**61,500**

Faculty of Science					
#	Author	Funding Body	Project Title	Project No.	Amount EGP
1	Amal El-Khader	Academy of Scientific Research and Technology (ASRT)	Utilization of eco-friendly Egyptian natural clay and its nanocomposites as potential catalysts for the transformation of waste cooking oil to biodiesel	Next Generation Scientists - Phase VIII	**220,000**

2	Dr. Hassan Sayed	United States Agency for International Development (USAID)	Salinity sensor for desalination method using photonic crystals	-	**300,000**
3	Prof. Zakaria Mohamed	STDF	Evaluation of oil shale deposits from the Cretaceous and Paleocene sequences for oil and gas extraction in the Kharga and Khila depressions, Western Desert, Egypt	47195	**1,996,280**
4	Iman Refaat	STDF	Evaluation of the effects of mesenchymal stem cell exosomes and amygdalin on hepatocellular carcinoma induced by diethyl nitrosamine in Wistar rats	48673	**214,200**
5	Nariman Ragab Abdel-Aal	STDF	Nucleic acid components isotopes: Construction of innovative thio-glycoside pyrimidine derivatives with predicted biological activity	48819	**150,000**
6	Mohamed Gad elkareem	STDF	"Selected industrial waste and mining tailings as innovative and sustainable supplementary cementitious materials (SCMs) to partially replace cement in the production of normal concrete and radiation-shielding concrete."	47331	**1,915,847**
7	Khaled Nageh Mohamed	STDF	"Enhancing the production of fatty acids in algae for biofuel production."	ASRT	**400,000**
8	Sabrah Abdelaal Abdallah	STDF	"The biochemical significance of green tea and its nano-formulations as anti-neuroinflammatory agents in Alzheimer's disease."	50679	**340,100**
9	Mohamed Khaled Ramadan	STDF	"Studying the thermal and mechanical effects in living tissues during thermal therapy of tumors."	50763	**200,000**
10	Walaa Mostafa Ramadan	ASRT	"Green synthesis of bioactive heterocyclic compounds using AI-guided optimization for enzyme inhibition and enzyme kinetics, and for combating antibiotic resistance in Egypt."	Step by step	**250,000**
11	Hussein Nassar Hussein	ASRT	"AI-based multiscale computational optimization of polyaniline-grafted moringa seeds for enhanced dye removal from industrial wastewater."	Step by step	**250,000**
12	Rehab Khaled Mahmoud	STDF	"Risk assessment and removal of PFASs: case studies of water sources in the lower reaches of the Nile and Yangtze Rivers."	50515	**1,483,970**

Faculty of Earth Science

#	Author	Funding Body	Project Title	Project No.	Amount EGP
1	Prof. Fathy Mohamed Mohamed	STDF	Towards an Integrated System for Agricultural Drainage Water Treatment	46896	**939,280**
2	Aya Hassan Abdelhameed	ASRT	A hybrid system for recycling greywater for irrigation purposes.	Step by step	**80,000**

Faculty of Agriculture					
#	Author	Funding Body	Project Title	Project No.	Amount EGP
1	Sherif Ragab	Academy of Scientific Research and Technology (ASRT)	Enhancing Diversity in Cereal Farming Systems in the Mediterranean Basin	-	**1,200,000**
2	Sherif Ragab	Academy of Scientific Research and Technology (ASRT)	Strategies for the Resilience of Grains and Their Derivatives in the Middle East and North Africa	-	**1,800,000**
3	Prof.Mostafa Qotb	Academy of Scientific Research and Technology (ASRT)	Soil Information System for Africa	-	**311,940**

Faculty of Dentistry					
#	Author	Funding Body	Project Title	Project No.	Amount EGP
1	-	COST (European collaboration for science and technology) program	Digital Manufacturing of Flour Medicine	-	**525,000**
2	-	Marie Skłodowska-Curie Actions (Staff Exchange)	Linking Additive Manufacturing Technology in Personalized Bone Cancer Treatment Across Europe and Africa	-	**937,500**

In addition to internal funding and mega research projects, Interdisciplinary research in Beni-Suef University received a **total fund of 15,491,224.003 EGP, which is equivalent to 316,147.429 Dollars** in 2025.

[8] Patents in Interdisciplinary Research

Interdisciplinary faculties in the university were awarded a number of patents. For example, faculty of postgraduate studies for applied sciences received three patents described according to the following table.

#	Certificate No.	Deposit No.	Patent Title
1	29894	EG/P2015/223	Fast purity and in large quantity for the suspension of granite oxide micro flakes and other belongings using a system containing fiber filters
2	30037	EG/P2014/577	A way to convert aluminum and salt water waste into fresh water and electricity
3	30456	EG/P2016/263	Preparation of iron oxide nanoparticles from animal blood waste containing hemoglobin

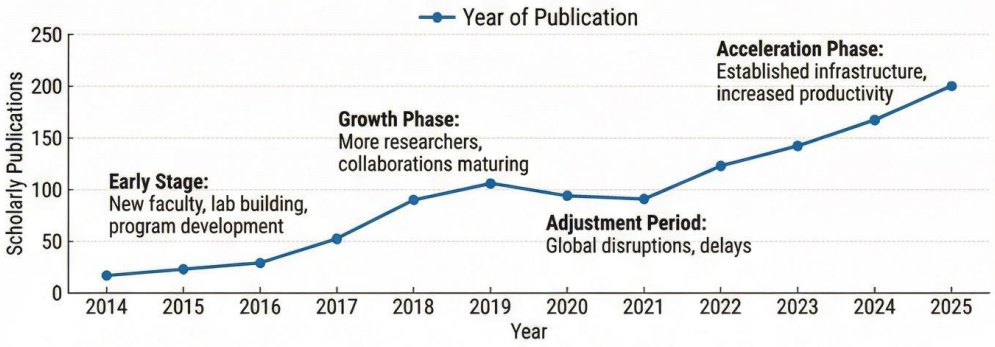
[9] Research Newsletter Promoting Interdisciplinary Research, 2026

The Faculty of Graduate Studies for Advanced Sciences has issued the Research Newsletter (February 2026) as an institutional platform to document, highlight, and disseminate the university's research activities, with a clear emphasis on interdisciplinary work. The newsletter provides comprehensive coverage of research outputs, ongoing projects, and collaborative initiatives across multiple scientific domains, reflecting the university's integrated research approach. It showcases contributions from various departments and research units, demonstrating how different disciplines converge to address complex scientific and societal challenges.

This initiative supports interdisciplinary research by enhancing visibility, facilitating knowledge exchange, and promoting collaboration among researchers within the university and with external stakeholders. It also aligns with the university's broader strategy of strengthening its position in international rankings by systematically documenting and communicating interdisciplinary research achievements.

https://online.fliphtml5.com/Doaa2000/Research-newsletter-Feb2026/#p=8

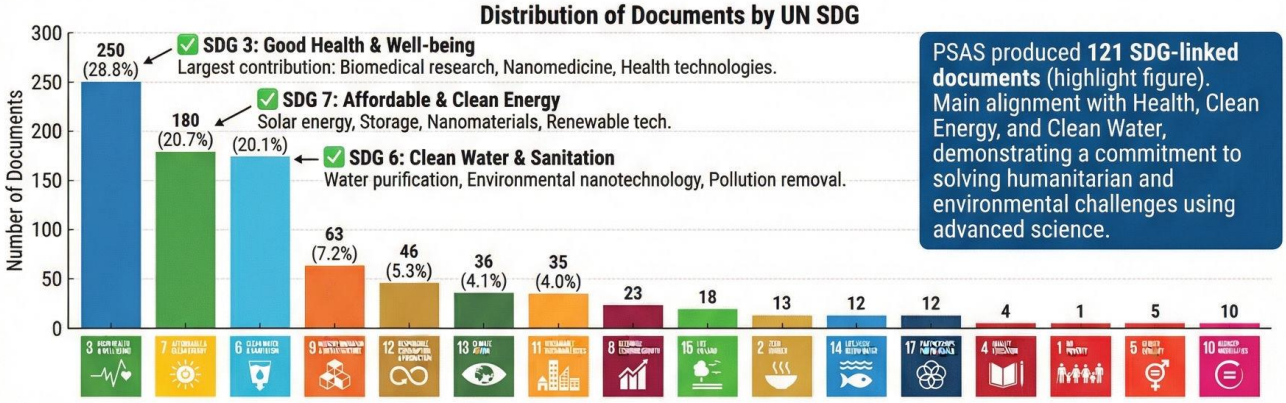
📈 Publication Output Growth (2014–2025) /Scopus



Publication output from 2014–2025 shows continuous growth in scholarly contributions, reflecting the transition from an emerging to a mature research institution.

🌎 Contribution to UN Sustainable Development Goals (SDGs)

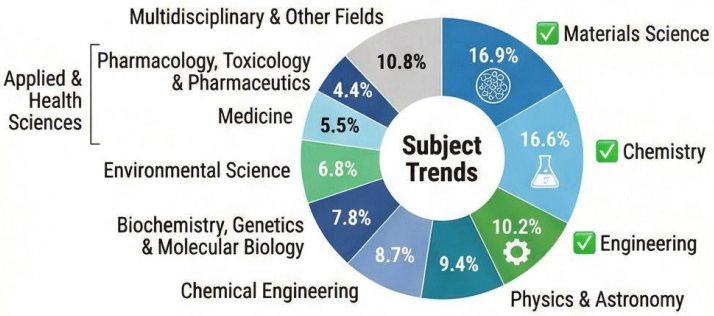
Alignment with global UN priorities (Health, Energy, Environment, Sustainability, etc.).



PSAS produced **121 SDG-linked documents** (highlight figure). Main alignment with Health, Clean Energy, and Clean Water, demonstrating a commitment to solving humanitarian and environmental challenges using advanced science.

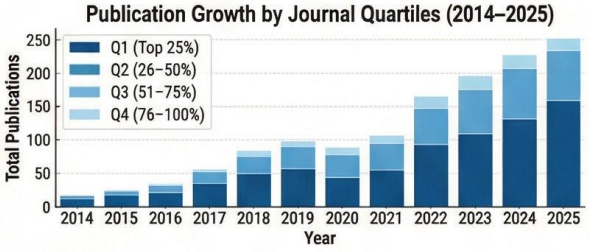
🎯 **Strategic Meaning: Research Growth, Global Relevance, Societal Impact.**

Research Newsletter — Detailed Explanation
(Tracking Research Trends & Publication Quality at PSAS)



Subject Trend Interpretation: Materials Science and Chemical Engineering are leading fields. Research is balanced and interdisciplinary, adapting to emerging scientific challenges and promoting innovation across boundaries.

Supporting Text: Publications appear across all quartiles, with a strong presence in top-tier (Q1) journals. This indicates that PSAS research meets international publishing standards and has high citation potential and visibility.



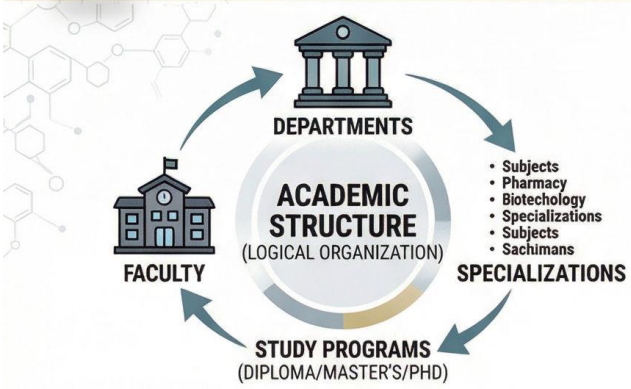
Quartile Statistics

Quartile	Publications	Share
★ Q1 (Top 25%)	629	54.7%
Q2 (26–50%)	307	26.7%
Q3 (51–75%)	166	14.4%
Q4 (76–100%)	48	4.2%

🎯 **Strategic Message: Interdisciplinary Research, Continuous Research Growth, High Research Quality**

FACULTY OF POSTGRADUATE STUDIES FOR ADVANCED SCIENCES (PSAS) (PSAS) – BENI-SUEF UNIVERSITY, EGYPT: OVERVIEW & PATHWAYS

POSTGRADUATE-ONLY FACULTY | Advanced Education After Bachelor's | No Undergraduate Degrees



MAIN PURPOSE (PILLARS OF EXCELLENCE)

- PREPARE RESEARCHERS & SPECIALISTS
- TEACH MODERN INTERDISCIPLINARY SCIENCES
- CONNECT RESEARCH WITH INDUSTRY & TECHNOLOGY
- SUPPORT SUSTAINABLE DEVELOPMENT & INNOVATION

Students Join After Bachelor's Degree

1. ACADEMIC DEPARTMENTS & FOCUS AREAS

MATERIALS SCIENCE & NANOTECHNOLOGY

Focus: Advanced materials at micro/nano scales

Areas:
- Nanotechnology
- Smart materials
- Electronic applications

Backgrounds:
- Physics
- Chemistry
- Engineering

ENVIRONMENTAL SCIENCE & INDUSTRIAL DEVELOPMENT

Focus: Balancing growth with protection

Areas:
- Environmental management
- Pollution control
- Sustainable industry
- **water treatment**

Backgrounds:
- Science
- Engineering
- Agriculture

BIOTECHNOLOGY & LIFE SCIENCES

Focus: Biological systems & modern technology

Areas:
- Genetic engineering
- Medical biotechnology
- Agricultural biotechnology

Backgrounds:
- Biology
- Pharmacy
- Vet Medicine

RENEWABLE ENERGY SCIENCE & ENGINEERING

Focus: Clean and sustainable energy

Areas:
- Solar/Wind energy systems
- Energy efficiency
- Fuel Cell

Backgrounds:
- Engineering
- Physics
- Energy fields

2. SPECIALIZATIONS OFFERED (TARGETED CAREER PATHS)

Materials Science | Environmental Science | Biotechnology | Applied Biochemistry | Chemistry & Cement Technology | Renewable Energy | Integrated Environmental & Water Management | Quality Control

3. STUDY PROGRAMS (DEGREES) & PATHWAY

POSTGRADUATE DIPLOMA
1 Year | Coursework & Skills
Professional Development

→

MASTER'S DEGREE
Academic: Thesis
Professional: Industry-focused

→

DOCTOR OF PHILOSOPHY (PHD)
Advanced Research & Dissertation
Academic Career

TYPICAL PATH: Bachelor's → (Diploma) → Master's → PhD

ADVANTAGES OF STUDYING AT PSAS

- Modern Fields Aligned with Global Trends
- Interdisciplinary Education
- Strong Link Between Research & Industry
- Career Opportunities: Research Centers, Energy, Environmental Agencies, Biotech Labs, Quality Control

WHO COULD JOIN US & HOW TO JOIN

Who Could Join:
Graduates with Bachelor's in Science, Engineering, Pharmacy, Agriculture, Vet, Biotech, Environmental, **Computer science and Equivalent**

1. **CHOOSE PROGRAM** Match goals
2. **PREPARE DOCUMENTS** App form, Degree, Transcript, ID, Photos
3. **SUBMIT APPLICATION** Graduate Affairs Office
4. **APPLICATION REVIEW** Eligibility Check
5. **REGISTRATION & ENROLLMENT** Begin Studies

[10] International Publication Supporting Interdisciplinary Sustainability Research

The university, through the International Rankings and Sustainable Development Office, Beni Suef University, actively supports interdisciplinary research dissemination at the international level. This is evidenced by the publication of a book chapter titled “Mapping BSU Strategy and Implementation of University’s Measures for Achieving the Interlinked and Integrated Sustainability Development Goals”, published in the book “Green Metric in Higher Education – Measuring and Reporting on Sustainability Initiatives at Higher Education Institutions” (Springer, 2026).

The chapter (pp. 117–152), authored by Loah R. Hemeda, Mohamed A. Mahdy, Fatma I. Abo El-Ela, Taghreed Badr Al-deen, Abeer Enaiet Allah, Usama M. Abdel-Hamied, Ahmed A. Elngar, and S. I. El-Dek, presents a comprehensive analysis of the university’s integrated strategy for achieving the Sustainable Development Goals (SDGs) through interconnected and interdisciplinary approaches.

This publication highlights how the university adopts a holistic, cross-disciplinary framework that integrates research, education, and community engagement to address sustainability challenges. It also reflects the university’s institutional capacity to contribute to global academic discourse and reinforces its position in international rankings by documenting interdisciplinary research practices and impact.

https://link.springer.com/chapter/10.1007/978-3-032-00361-4_9

[11] Institutional Support for Interdisciplinary Research through Competitive Internal Funding

The University of Beni-Suef has issued an official announcement inviting faculty members and researchers to apply for internal funding of research projects, with a strong and explicit priority given to interdisciplinary proposals. The initiative is designed to stimulate collaboration between different faculties and academic disciplines, encouraging the integration of diverse methodologies, theoretical frameworks, and scientific perspectives within single research projects.

By prioritizing interdisciplinary research, the university aims to enhance the quality, innovation, and societal relevance of its research output. This funding mechanism reflects a broader institutional strategy to strengthen cross-disciplinary engagement, support knowledge exchange across scientific fields, and align with international best practices that recognize interdisciplinary science as a key driver of research excellence and global competitiveness.

الاعلان عن فتح باب التقدم

لتمويل مشروعات لأعضاء هيئة التدريس بمرحلتها الثامنة ٢٠٢٤

تحت رعاية معالى الأستاذ الدكتور/ منصور حسن رئيس الجامعة وفي ضوء تبنى الجامعة لخطة طموحة لدعم و تمويل البحوث العلمية من خلال مكتب دعم و تمويل المشروعات البحثية بالجامعة و إيمانا منها بأن إسقاط مخرجات البحث العلمى على البيئة و المجتمع هى وبلا شك قاطرة التنمية فى بلدنا العزيز مصر.
و انطلاقا من هذه الفلسفة التنموية فان الجامعة لا تألو جهدا فى دعم أبنائها من أعضاء هيئة التدريس، لذا فان الجامعة تتيح لهم فرصا مميزة لدعم و تمويل أفكارهم و ابتكاراتهم البناءة فى مختلف العلوم الاجتماعية و الإنسانية و الأساسية و الطبية و الهندسية.

لذا يسر مكتب دعم و تمويل المشروعات البحثية – مركز تطوير الأداء الجامعي – جامعة بني سويف - أن يعلن عن بدء التقدم لتمويل مشروعات أعضاء هيئة التدريس (المرحلة الثامنة – ٢٠٢٤) على النحو الأتى:

اولا قطاع العلوم الأساسية و الطبية و الهندسية: قيمة التمويل ٢٠٠٠٠٠ جنيه (مئتان ألف جنيه مصرى) لكل مقترح لعدد ١٠ مشروعات. للكليات العملية الأتية:

العلوم – الدراسات العليا – الصيدلة – طب بشرى – طب بيطرى – تمريض – علوم صحية – تكنولوجيا التعليم – هندسة – علاج طبيعى – طب أسنان – حاسبات ومعلومات – زراعة – علوم ذوى الإحتياجات الخاصة – علوم الأرض – علوم الملاحة وتكنولوجيا الفضاء – معهد أبحاث وتطبيقات الليزر- المعهد القومى لعلوم المسنين – معهد أبحاث النباتات الطبية والعطرية - الفنون التطبيقية - تربية رياضية –.

ثانيا قطاع العلوم الاجتماعية و الإنسانية: قيمة التمويل ١٠٠٠٠٠ (مائة ألف جنيه) لكل مقترح لعدد ١٠ مشروعات للكليات النظرية الأتية:

الأداب – التربية – تربية طفولة مبكرة – التجارة –– إعلام – حقوق – إقتصاد وعلوم سياسية – الألسن – الخدمة الإجتماعية – السياحة والفنادق – معهد المشروعات الصغيرة

شروط التقدم:

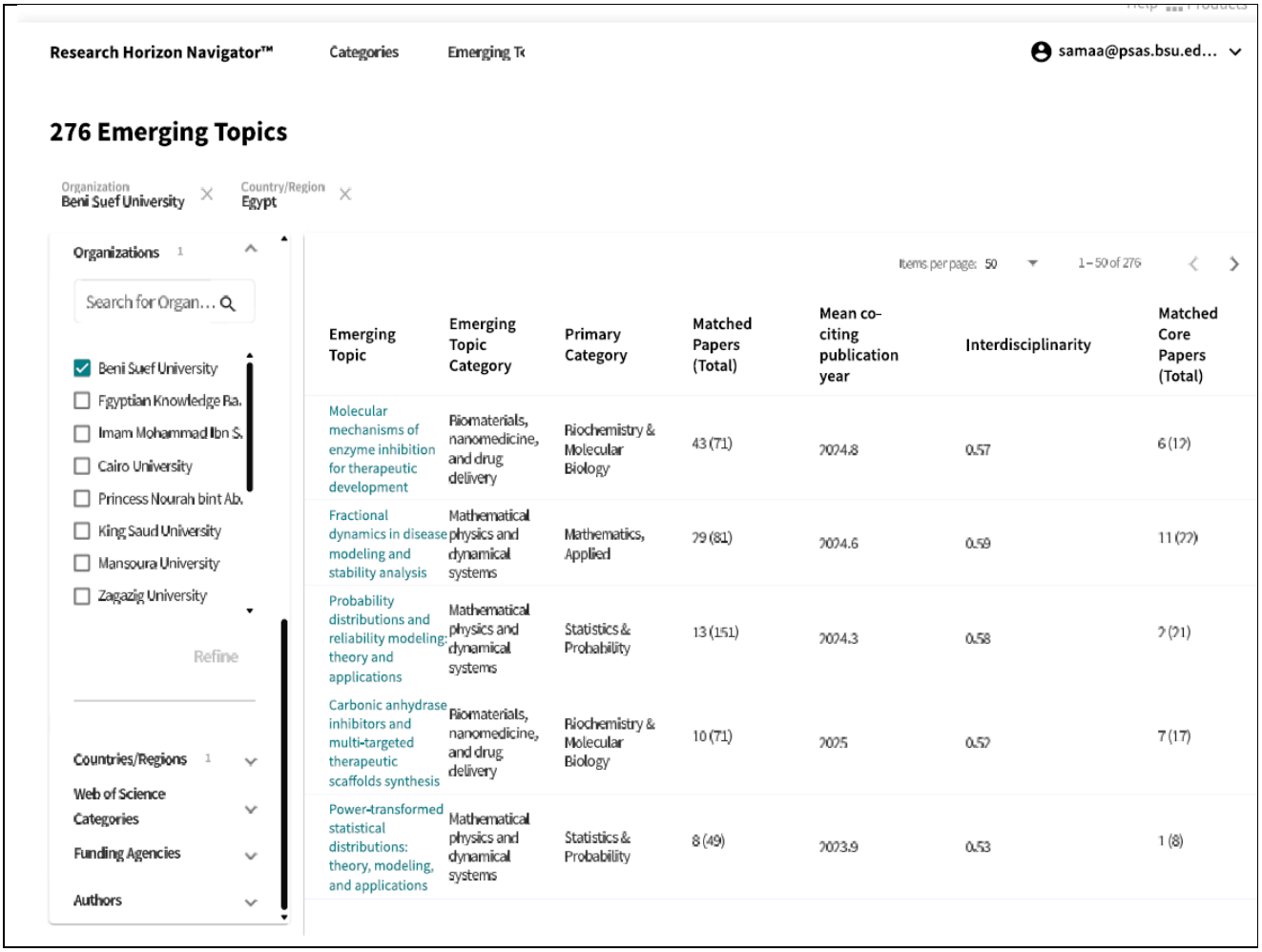
١. أن يكون الباحث الرئيسي من اعضاء هيئة التدريس بجامعة بنى سويف ومتواجد فعلياً على رأس العمل.
٢. أن يكون المقترح البحثى في الموضوعات ذات الأولوية والاتجاهات الحديثة للعلوم والمرتبطة بالخطة البحثية للجامعة والتى تحقق أحد أهداف التنمية المستدامة ورؤية مصر ٢٠٣٠ (مرفق المجالات المختلفة).
٣. أن لا يكون الباحث الرئيسي او اي عضو في الفريق البحثي قد سبق وأن تقدم بذات المقترح البحثي إلى جهة اخرى و حصل بالفعل على تمويل له او انه يكون في مرحله التحكيم حتى تاريخ الأعلان.

[11] Research Horizon Navigator – Institutional Framework for Research Planning and Interdisciplinary Development "276 emerging topics"

The Research Horizon Navigator is presented as an institutional framework that reflects the University of Beni-Suef's strategic orientation toward structured research planning and development. It outlines a guiding approach for identifying and organizing research priorities in a way that supports the university's broader vision for enhancing research quality, impact, and alignment with global academic standards.

The framework emphasizes the importance of fostering collaborative and interdisciplinary research pathways, encouraging integration across different scientific domains. It supports the development of research projects that go beyond traditional disciplinary boundaries, promoting cooperation among researchers from diverse academic backgrounds to address complex scientific and societal challenges.

In addition, the document reflects the university's commitment to strengthening research governance and creating a supportive environment for innovation-driven research activities. It aligns with international best practices in higher education that prioritize strategic research planning, interdisciplinarity, and the enhancement of institutional research performance and visibility in global rankings systems.



Emerging Topic	Emerging Topic Category	Primary Category	Matched Papers (Total)	Mean co-citing publication year	Interdisciplinarity	Matched Core Papers (Total)
Synthesis and molecular docking of thiazole-based bioactive compounds	Biomaterials, nanomedicine, and drug delivery	Chemistry, Multidisciplinary	8 (71)	2024.2	0.50	1 (3)
Adsorption technologies for wastewater remediation using sustainable materials	Sustainable environmental remediation materials	Engineering, Chemical	7 (116)	2023.6	0.59	1 (7)
Adsorption and removal of heavy metals from wastewater.	Sustainable environmental remediation materials	Engineering, Chemical	6 (973)	2024.2	0.60	0 (25)
Molecularly imprinted polymers for selective sensing and analysis	Nanomaterials and advanced sensing technologies	Chemistry, Analytical	6 (695)	2024	0.67	0 (22)
Mxene-based multifunctional biomaterials for regenerative and therapeutic applications	Biomaterials, nanomedicine, and drug delivery	Materials Science, Multidisciplinary	6 (127)	2024	0.58	1 (16)
Adsorption mechanisms and materials for dye removal solutions	Sustainable environmental remediation materials	Engineering, Chemical	6 (171)	2024.1	0.57	3 (10)
Cyclophosphamide-induced organ injury: mechanisms and protective strategies	Cancer biology and precision therapeutics	Pharmacology & Pharmacy	6 (18)	2025.1	0.62	3 (7)
Density functional theory and composite methods in computational chemistry	Biomaterials, nanomedicine, and drug delivery	Chemistry, Multidisciplinary	5 (1366)	2024.3	0.56	0 (21)

Emerging Topic	Emerging Topic Category	Primary Category	Matched Papers (Total)	Mean co-citing publication year	Interdisciplinarity	Matched Core Papers (Total)
Global trends and impacts of metabolic diseases and obesity	Global health, aging, and disease	Gastroenterology & Hepatology	5 (717)	2023.5	0.59	0 (20)
Novel heterocyclic compounds targeting metabolic enzymes and inflammation	Cancer biology and precision therapeutics	Biochemistry & Molecular Biology	5 (218)	2024	0.61	0 (15)
Energy management and defect detection in renewable microgrids	Smart renewable energy systems optimization	Computer Science, Artificial Intelligence	5 (48)	2025	0.65	4 (7)
Nursing education, climate change, and global workforce dynamics	Mental health and social determinants	Nursing	5 (46)	2024.8	0.60	3 (14)
Molecular classification, global trends, and treatment strategies in breast cancer	Cancer biology and precision therapeutics	Oncology	4 (1318)	2024.3	0.64	0 (25)
Microrna therapeutics: mechanisms, delivery, and clinical applications	Cancer biology and precision therapeutics	Biochemistry & Molecular Biology	4 (708)	2024.4	0.67	0 (20)
Doxorubicin-induced cardiotoxicity: mechanisms, pathways, and therapeutic strategies	Cancer biology and precision therapeutics	Pharmacology & Pharmacy	4 (676)	2024.3	0.63	0 (21)
Activated carbon from biomass for dye and metal adsorption	Sustainable environmental remediation materials	Engineering, Chemical	4 (581)	2023.6	0.58	1 (24)

Emerging Topic	Emerging Topic Category	Primary Category	Matched Papers (Total)	Mean co-citing publication year	Interdisciplinarity	Matched Core Papers (Total)
Radiation shielding properties and computational analysis of materials	Advanced materials and photonic–electronic technologies	Materials Science, Multidisciplinary	4 (179)	2024.3	0.58	2 (24)
Autophagy, AMPK, and PI3K/AKT signaling in metabolic disorders	Microbiome, inflammation, and metabolic disease mechanisms	Pharmacology & Pharmacy	4 (146)	2023.7	0.56	0 (9)
Solar drying systems for agricultural and food applications	Sustainable environmental remediation materials	Energy & Fuels	4 (85)	2024.2	0.53	0 (14)
Gene ontology and pathway databases for functional analysis	Infectious diseases and antimicrobial resistance	Biochemistry & Molecular Biology	3 (4744)	2023.9	0.69	0 (20)
Global cancer burden: incidence, risk factors, and socioeconomic impact	Global health, aging, and disease	Oncology	3 (1368)	2024.4	0.61	0 (20)
Flavonoids: biosynthesis, biological activity, and therapeutic applications	Bioactive natural compounds in food and health	Biochemistry & Molecular Biology	3 (838)	2024.3	0.65	0 (17)
Virtual reality and exercise interventions for parkinson's disease	Artificial intelligence and emerging technologies	Clinical Neurology	3 (297)	2024.4	0.60	0 (15)
Climate and environmental implications of global hydrogen systems	Advanced fluid-thermal and energy systems	Energy & Fuels	3 (169)	2024.7	0.57	0 (15)
Camel milk bioactive peptides: therapeutic potential in diabetes and health	Bioactive natural compounds in food and health	Food Science & Technology	3 (57)	2023.7	0.61	1 (8)
Adsorption and remediation of organic dyes using nanocomposites	Sustainable environmental remediation materials	Polymer Science	3 (41)	2024.9	0.60	0 (7)
Dissolving microneedles and nanocarriers for targeted drug delivery	Cancer biology and precision therapeutics	Pharmacology & Pharmacy	3 (30)	2024.8	0.67	2 (14)
Bioinformatics tools and databases for plant genomics analysis	Biological adaptation and environmental stress	Biochemistry & Molecular Biology	? (5133)	2024	0.62	0 (19)
Fructose metabolism, lipogenesis, and liver disease mechanisms	Microbiome, inflammation, and metabolic disease mechanisms	Endocrinology & Metabolism	? (1045)	2024.3	0.65	0 (21)
Impacts of pesticides on health, environment, and remediation	Climate, ecosystems, and sustainable agriculture	Environmental Sciences	? (738)	2024.4	0.71	0 (17)
Neutrophil metabolism and immune function in health and disease	Microbiome, inflammation, and metabolic disease mechanisms	Oncology	? (664)	2024.4	0.60	0 (19)
Adsorption kinetics and isotherms for water pollutant removal	Sustainable environmental remediation materials	Engineering, Chemical	? (570)	2024.3	0.60	0 (18)
Optical fiber plasmonic biosensors for healthcare and environmental applications	Nanomaterials and advanced sensing technologies	Instruments & Instrumentation	? (568)	2023.6	0.63	0 (25)

Emerging Topic	Emerging Topic Category	Primary Category	Matched Papers (Total)	Mean co-citing publication year	Interdisciplinarity	Matched Core Papers (Total)
Obesity, adiposity, and cardiovascular disease: global insights	Global health, aging, and disease	Endocrinology & Metabolism	? (500)	2024.7	0.66	1 (13)
Cardiovascular risk prediction and prevention strategies in adults	Global health, aging, and disease	Cardiac & Cardiovascular Systems	? (409)	2024.1	0.59	0 (16)
Small molecule kinase inhibitors in targeted cancer therapy	Cancer biology and precision therapeutics	Biochemistry & Molecular Biology	? (388)	2023.8	0.58	0 (11)
Green synthesis and biomedical applications of iron oxide nanoparticles	Nanomaterials and advanced sensing technologies	Materials Science, Multidisciplinary	? (333)	2024.2	0.64	1 (19)
Natural products and plant-derived compounds in cancer therapy	Cancer biology and precision therapeutics	Biochemistry & Molecular Biology	? (273)	2024.3	0.61	0 (11)
Machine learning applications in healthcare, neural networks, and stability analysis	Machine learning for medical imaging and prediction	Computer Science, Artificial Intelligence	? (241)	2024.8	0.68	? (18)
Sirt6 and vascular aging: mechanisms, calcification, and disease	Microbiome, inflammation, and metabolic disease mechanisms	Pharmacology & Pharmacy	? (239)	2024.6	0.67	1 (16)
Wastewater treatment and reuse: challenges, technologies, and sustainability	Sustainable environmental remediation materials	Environmental Sciences	? (235)	2024.4	0.60	1 (11)
Photocatalytic and sonocatalytic degradation of antibiotic pollutants	Advanced materials for energy and environmental catalysis	Chemistry, Physical	? (194)	2024.3	0.54	0 (17)

Emerging Topic	Emerging Topic Category	Primary Category	Matched Papers (Total)	Mean co-citing publication year	Interdisciplinarity	Matched Core Papers (Total)
Sustainable nanocomposites and membranes for advanced wastewater treatment	Sustainable environmental remediation materials	Engineering, Chemical	? (181)	2024.9	0.60	0 (22)
Optimal planning and management of electric vehicle charging stations	Smart renewable energy systems optimization	Energy & Fuels	? (178)	2024.3	0.55	0 (17)
Phytogenic feed additives and essential oils in poultry health	Infectious diseases and antimicrobial resistance	Agriculture, Dairy & Animal Science	? (169)	2023.9	0.60	1 (21)

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Source: Web of Science, March 2026

Additional evidence link (i.e., for videos, more images, or other files that are not included in this file):

International Publishing Unit (bsu.edu.eg)

Research success report (bsu.edu.eg)

مكتب دعم وتمويل المشروعات (bsu.edu.eg)

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