



AMITY UNIVERSITY MAHARASHTRA

Established vide Maharashtra Act No.13 of 2014, of Government of Maharashtra, and recognized under Section 2 (f) of UGC Act 1956.

Specific Administrative Support for Interdisciplinary Research Teams Amongst Science Disciplines

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1. Overall Administrative Support

Honorable Vice Chancellor, the statutory bodies and the Management of the Amity University Maharashtra has full support for interdisciplinary science research. Each project proposal abstract is reviewed by the honorable Vice Chancellor of the university. Dean Research of the university has specific actions to review the Research aspects and provides all the inputs for the constructive enhancement of the research proposals, and the outcomes of the research projects. The research project proposals are scrutinized at the office of Dean Research, and the committee approves the proposal with specific recommendations to win the funding.

The research clusters are created for the effective research proposal writing, and knowledge exchange among the faculty members. The team of managers are appointed to identify the research project funding opportunities and disseminating information about the project proposals. Complete support is provided for getting the endorsement letter from the office of Registrar of the University and Amity Science and Technology Foundation (ASTF) under Ritnand Ritnand Balved Education Foundation. The financial matters of receiving funds in the bank account of the Amity University Maharashtra is handled by the Chief Finance Officer (CFO) of the university. The CFO is coordinating with the Central CFO of Ritnand Balved Education Foundation (RBEF). All the transactions are ethically handled, and smooth administrative support is provided to the Principal Investigator and the co-investigator of the research projects. The approval of the expenditure of the funds is securitized and smoothly processed, as per the guidelines provided by the funding agencies.

The ethical committee checks the ethical concerns of the research work, which includes that there is no harm to the participants involved such as emotional, physical or psychological. If the vulnerable groups such as children or physically disabled people are involved in the research the ethical committee suggest to the research group that these groups should be treated specially and avoid exploitation. If the animals are involved in the research, then the ethical committee closely monitors that there is no distress, pain or suffering.

The procurement of any research equipment is done through ethical practices and follows the lowest price quotations in the purchasing in a transparent manner. Similarly, it is the practice to follow the sustainable practices during the material purchase for all kinds of research projects. The security team takes care of the material handling coming to the university campus and goes outward from the university campus.

The administration highly prefers to conduct the student projects having the scope of Science, Engineering, Biotechnology and life science involved with the specific challenging problems to be solved.



2. Administrative Support for the Project in Collaboration with ISRO



Fig. 1: Spinach Callus in Space, project in collaboration with ISRO

In collaboration with Indian Space Research organization Amity University Mumbai, has provided all administrative support for the Spinach tissue to successfully growth in zero-gravity conditions. It is the first space experiment conducted by Amity University Mumbai in collaboration with ISRO. This inter-disciplinary science research experiment aims to establish sustainable food production systems in space, with the spinach callus tissue showing growth patterns like ground-based samples within the first week. It was orbiting 350 km above earth, demonstrating growth patterns comparable to ground-based control sample during the first week in space. The university sent the spinach callus on board the PSLV orbital experiment module (POEM) as part of the PSLV-C60 mission that launched two space docking experiment (SpaDeX) satellites into orbit on 30 December 2024.

The primary data is extremely promising. Healthy tissue development, with all environmental parameters, including CO₂ levels, humidity, and lighting systems, performing optimally. The experiment, conducted through Amity Plant Experimental Module in Space (APEMS), is utilizing an innovative approach of growing callus tissue rather than traditional seeds. This method allows researchers to easily track changes in growth and health through color monitoring, as any stress-induced discoloration in the bright green tissue can be readily detected by module's built-in cameras.

University administration has provided the Seed funding and all funding support for the ISRO project to send Spinach Callus in the space.



3. Appointing Research fellows

University has all the support for the appointment of the various fellows to encourage interdisciplinary Science research. The following six fellows are doing their research as interdisciplinary Science Research.

Table 1: Fellows appointed at AUM for Interdisciplinary Science Research

Sr. No.	Name of the Awardee	Name of the Fellowship Grant	Name of awarding agency
1	Dr. Bhuvna Shanbaug	Ramalinga Swami fellow	DBT
2	Dr. Sneha Arunkumar Gokani	Ramanujan Fellow	SERB
3	Dr. Sushant Sahu	Ramanujan Fellow	SERB
4	Dr. Shashank Kamble	SERB-TARE Fellow	SERB
5	Ms. Vaishali Gudda	DST-WISE Fellow	DST
6	Ms. Meenakshi Murmu	Junior Research Fellow	ICMR

4. Collaboration and Memorandum Of Understanding (MoUs)

Amity University Mumbai has signed the various MoUs which have the interdisciplinary research scope. The following 33 active MOUs are signed by the University with full administrative support.

Table 2: AUM's International and National MoUs.

Sr. No	Name of External Organization / Institution	MOU signed on
INTERNATIONAL		
1.	National Chung Cheng University, Taiwan	27/02/2024
2.	Sunbeam Co., Ltd., Tokyo, Japan	27/11/2023
3.	The University of Surrey, UK	13/02/2023
4.	DigiTech Confidential. Pvt. Ltd., London, UK	08/06/2022
5.	University of Arizona, Tucson, USA	30/11/2021
6.	University of Cincinnati, USA	13/04/2021
7.	Mars Society Australia	31/07/2019
NATIONAL		
8.	Naval Material Research Laboratory (NMRL), add Ambernath MIDC, Dist- Thane	25/09/2024
9.	Indian National Space Promotion and Authorization Centre Department of Space, Govt of India, Ahmedabad	23/03/2024
10.	IdeaForge Technology Limited	30/07/2024



11.	Blessings Always Guruji Associates	22/02/2024
12.	Vijyalaxmi Charitable Trust, Kolhapur	01/10/2024
13.	Tisser Artisans Trust, Mumbai	25/11/2024
14.	Terminal Ballistics Research Laboratory	07/12/2023
15.	Solid State Physics Laboratory	20/12/2023
16.	Seth GS Medical College and KEM Hospital	31/10/2023
17.	miBiome Therapeutics LLP	13/06/2023
18.	Government Dental College and Hospital, Mumbai	20/04/2023
19.	Life Cell International Pvt. Ltd., Pune	04/12/2023
20.	Gubbi Civil Engineers, Mumbai	16/01/2023
21.	Wenzins Technologies Pvt. Ltd, Bengaluru	20/11/2022
22.	Organic Recycling system Pvt. Ltd. Navi Mumbai	26/09/2022
23.	Indian Institute of Tropical Meteorology	15/09/2022
24.	HBT Medical College and Dr. R. N. Cooper Municipal General Hospital	26/08/2022
25.	Param Foundation and Rotary Club of Smart City, Navi Mumbai	09/07/2022
26.	Instron Technologies LLP., Pune	05/06/2022
27.	Information and Library Network Centre	09/03/2022
28.	Centre for DNA Fingerprinting and Diagnostics (CDFD)	18/12/2021
29.	Birbal Sahni Institute of Palaeosciences, Lucknow	01/10/2020
30.	NeuroGen Brain and Spine	18/11/2021
31.	Cloud Counselage Pvt. Ltd., Mumbai	21/10/2021
32.	Jagruti Rehabilitation Center, Navi Mumbai	09/02/2020
33.	Blue Marble Space Institute of Science	31/07/2019

5. FUNDED PROJECTS

Due to the administrative support, the following are the sanctioned projects and ongoing projects in the university.

Table 3: Projects Sanctioned at AUM having inter-disciplinary science scope

Sr. No.	School	Funding Agency	Amount Sanctioned
SANCTIONED			
1.	ASET	UK-India Education and Research Initiatives (UKERI)	120 Lakhs



2.	AIB	DBT	83.16 Lakhs
3.	AIB	CSIR-ASPIRE	24.35 Lakhs
4.	ASAS	DST	23.76 Lakhs
ONGOING			
5.	AIB	DST-SERB	119 Lakhs
6	AIB	DST-SERB	119 Lakhs
7	ASAS	SERB-SRG	30 Lakhs
8	ASET	SUNBEAM CO., LTD.	20 Lakhs
9	AIB	DST-SERB	18 Lakhs
10	ASET	IEEE-GRSS, USA	8.55 Lakhs
11	AIB	DST-NIDHI PRAYAS	8 Lakhs

6. IPR Support

Due to very good support from the University Administration, the Intellectual Property Right cell of the Amity University Mumbai has helped in the grant of 09 patents, 12 Patents filed and published, and 8 copyrights are granted.

Table 4: AUM Patents filed through the IPR Cell

Sr. No	Campus/School	Invention Title, Inventor, Application Number/Patent File No.
GRANTED		
1.	ASET	Robotic system for hospital, Dr. Garima Shukla, 520601
2.	AIP	Volatile oil extraction apparatus, Dr Vaibhav Bhadange, 411057-001
3.	AIP	Digital rotary evaporator for production of transferosomes, Dr. Pankaj Bhamare, 16476-001
4.	ASET	Machine learning-based epizootic ulcerative syndrome fish disease detection system, Dr. Swetta Kukreja, 6300172
5.	ASET	Multi-purpose testing equipment for testing model piles, Dr. Vedprakash Chandrakant Maralapalle, 463767
6.	AUM	Plant monitoring pot using nanotechnology, Prof. (Dr) A.W. Santhosh Kumar, 6311060
7.	ASET	Compression testing equipment for testing model piles, Dr. Vedprakash Chandrakant Maralapalle, 476647
8.	ASET	Soil extractor equipment, Dr. Shrikant Charhate, Dr. Vedprakash C Maralapalle, Dr. S. Sangita Mishra, Dr. Shruthi BK, 391885-001



9.	ABS	Customer finance analysing device, Dr. Neha Choudhary, 389348-001
FILED/PUBLISHED		
1.	ASAS	Portable green hydrogen plant with precious metal refining for wastewater treatment, Dr. Arghya Basu, 202421055591
2.	ASFT	The art of Vetiver grass fiber extraction, spinning and weaving into fabric, Prof (Dr) Bhawana Chanana, 202441003221
3.	ASFT	Unveiling the ritualistic significance of divine Darbha grass (Desmostachya bipinnata) textile, Prof (Dr) Bhawana Chanana, 202441028174
4.	AIIT	A system and method for calculating quality index of municipal solid waste compost, Dr. Manoj Devare, Dr. Savita Mohurle, 202211040992
5.	ASAS	AI-powered financial and human resource management integration, Dr. Nancy Acharya, 202421037316
6.	AIIT	An automated quality assurance system for liquid bottles in industrial assembly lines, Dr. Anita Devare, Dr. Manoj Devare, 202421070178
7.	ABS	An innovative framework for price risk management based on the financial engineering in supply chain, Prof. Indrayani Uthale, 202321036849
8.	AIIT	A tire bead opener assembly, Dr. Manoj Devare, 202111032921
9.	ASET	Implementation of AI-based approaches to automated visual detection of geometrical defects in composite manufacturing process, Dr. Amol Kamble, 202331005687
10.	ASET	An IoT-based digital auto vending file processing system, Dr. Swetta Kukreja, 202321031427
11.	ABS	Data analysis perspective on artificial intelligence and machine learning in human resource management for sales, Dr. Reshma Nair, 202341015770
12.	ABS	An innovative framework for price risk management based on the financial engineering in supply chain Prof. Indrayani Uthale, 202321036849 A

Table 5: AUM Copyrights filed through the IPR Cell

Sr. No	Diary No	Title	Name
1.	L-153847/2024	Aloe emodin hydrogel: Useful remedy for psoriasis.	Prof Dr. Suneela Dhaneshwar
2.	L-152765/2024	Designing and measuring correlation between talent acquisition and sustaining engagement in its industry with specific reference to high caliber talent in Mumbai metropolitan region	Mr. Sanjay Kumar Rawat and Prof. (Dr.) A.W. Santhosh Kumar



3.	24399/2023-CO/L	Citation counts prediction dataset	Dr. Manoj Devare and Dr. Priya Porwal
4.	2925/2023-CO/L	HR strategic use cases framework	Dr. Bhawna Sharma
5.	4209/2023-CO/L	HR analytics implementation model	Dr. Bhawna Sharma
6.	33403/2023-CO/L	Process initiation framework to implement hr analytics	Dr. Bhawna Sharma
7.	27964/2023-CO/L	A study of effect of emotional intelligence on work life balance of shop floor employees in luxury women apparel sector	Dr. Bhawna Sharma
8.	L-139548/2023	Copy-move image forgery dataset invariant to scaling and rotation	Dr. Manoj Devare

