Research Centre: Integral Advanced Technology and Innovation Center (IATIC)

RESEARCH REPORT (2022-23)

INTEGRAL UNIVERSITY
LUCKNOW - INDIA

A+ ACCREDITED BY NAAC
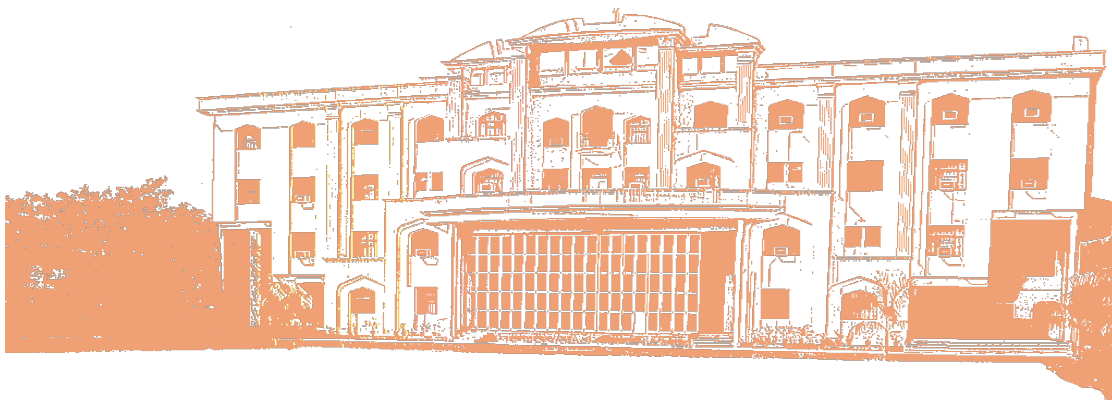
Message
from the Desk of
Hon'ble Founder & Chancellor

The triumphant landing on moon by the Chandrayan 3's lander on-August 23, 2023 is a testament to the unwavering dedication, unparalleled commitment, and indomitable spirit displayed by the entire team at the Indian Space Research Organization (ISRO) and its invaluable collaborators. Their hard work, innovative thinking, and relentless pursuit of excellence have not only propelled India into the prestigious League of Nations capable of lunar landings but have also set an extraordinary example for the world to follow.

As we bask in the glory of this remarkable achievement, it is essential that we acknowledge the invaluable lessons that the Chandrayan-3 mission imparts to all of us, especially the teachers and students here at Integral University. These historic endeavors encapsulate numerous learning that will undoubtedly shape our collective future. To be in pace with the scientific developments in country, the Integral University is progressively heading towards transitioning from "Teaching University" to a "Research Intensive University".

With its A+ Ranking by NAAC, the University is committed to advancing scientific research and fostering interdisciplinary collaboration. In line with this vision, the University is in the process of establishment of an Integral Centre of Excellence for Interdisciplinary Research. This would facilitate interdisciplinary research, promote high-quality publications, develop collaborations, organize conferences, seminars and symposia and extend State-of-the-art research facilities. Exploring the unknown, and pursuing knowledge are fundamental tenets of any successful mission and we at Integral University have been following the same path.

This Research Annual Report 2022-23 records and showcases the activities and achievements of University in Research Innovations.

I am pleased to reiterate my confidence in University's Management consisting of excellent and dedicated colleagues drawn from various departments, who always rose to the occasion with the relentless spirit which bears testimony to the power of teamwork and collaboration.

-Prof. S.W. Akhtar

Founder & Chancellor

Brief history of

ISLAMIC COUNCIL FOR PRODUCTIVE EDUCATION AND UNIVERSITY

Like most of the great institutions, the Integral University had a very humble beginning; a group of foresighted and dedicated teachers, intellectuals and technocrats joined hands together to form an Education Society and named it as the ISLAMIC COUNCIL FOR PRODUCTIVE EDUCATION (ICPE). It was registered under the Societies Registration Act XXI of 1860, with Dr. Saeedur Rehman Azmi, Nadvi as its President and Prof. Syed Waseem Akhtar as the General Secretary. One of the main objectives of the Council was to develop technical, scientific, and professional know-how by means of technical training among Muslims and to establish colleges and institutes for the same.

The Council purchased land measuring about 7.5 acre on Kursi Road Lucknow for construction of the educational buildings. The foundation stone of the Institute of Integral Technology was laid on 3rd November 1993 by Maulana Abul Hasan Ali Hasani Nadvi (Ali Mian), a world-renowned Arabic scholar and Rector of Darul Uloom Nadwatul Ulema, Lucknow.

Soon thereafter, the Techno Academic School was launched in the session 1994-95. In the meantime, the Government of Uttar Pradesh permitted entry of the private sector in higher technical education in the State. The All-India Council for Technical Education (AICTE) and the State Government laid down procedures and norms for starting bachelor level courses in engineering and technology. Conscious of the placement situation in the State, to start with, the Council identified three areas for its UG programmes namely,

- Electronics & Communication Engineering
- Computer Science & Engineering
- Architecture

Since Lucknow University was a non-affiliating university and for starting any degree-level programme, affiliation to a university was a pre-requisite, the Institute was affiliated with RML University, Faizabad vide UP Govt. Technical Education Department G.O. no. 5545/Sixteen-Pra.Shi-1-143/97 dated 7th November, 1997 and the University's letter no. E 6160/GS dated 24th October, 1997. The Institute was first approved by the All-India Council for Technical Education (AICTE) vide its letter no. F.720-67-240(E)/ET/97 dated 28th July 1997 and was permitted to admit 60 students in each of the engineering programmes of Computer Science & Engineering, Electronics and 40 students in Architecture. The Institute admitted its first batch in the engineering programmes (B.Tech) in 1998 and in the Architecture (B.Arch) in 1999 and later, more programmes were also added. With starting of theacademic session 2000-2001, the U.P.Technical University was established and affiliation of all institutes of engineering and technology in U.P. was transferred to this new University, while the students admitted in the earlier years were allowed to continue to complete their studies and obtain their degrees of the RML University Faizabad. (UPTU No. E.S.1208/GSdated 26th July, 2001)

A group of IITians drawn from educational institutions, government organizations, enterprises played a vital role in providing a strong and formidable academic foundation and curriculum for the phenomenal

progress which the Institute of Integral Technology has made in subsequent years. This group comprised of Prof. S.M. Iqbal, (IIT, Kanpur), Prof. D.C. Thapar (IIT, Kharagpur), Prof. M.M. Hasan (IIT, Kanpur), Prof. M.I. Khan (IIT, Roorkee), Prof. Bal Gopal (IIT, Kanpur), Prof. Mansoor Ali (IIT, Rorkee), Er. M.S. Ansar (IIT, Kanpur), Prof. Subodh Shankar (IIT, Kharagpur) and Prof. Qamar-uz-Zaman (IIT, Kharagpur).

The Institute of Integral Technology made phenomenal progress as the years passed by. In infrastructure, it did not limit itself to the minimum standards laid down by the regulatory authorities but went far ahead. Its academic buildings, laboratories and the workshops, though not luxurious, were highly functional, appropriately designed and provided with the best possible equipments and, thus, could be compared with any well-established institute in country. Its strong emphasis on students' discipline, human values, and character- building had an enduring effect and was path- breaking. The management was able to attract eminent

experts, many with IIT background, to serve as its teaching faculty with dedication and unflinching commitment. It was not just an ordinary institution; within a very short time it established its singular reputation. The Prime Minister of India, Sri Atal Bihari Vajpai personally came to visit and bless the Institute of Integral Technology on 30th June, 1999. In subsequent years, the Institute continued to progress further; and many new courses were added, new labs and equipment were provided and the campus was expanded further. In February 2004 it was recognized as a minority institution and on 26th of that month, the U.P. Legislature passed The Integral University Act (U.P. State Act No. 9 of 2004) raising this institution to the level of a full-fledged university. It was a unique and historic event.

The Integral University was thus born and it started functioning from 1st April 2004. It is the first enacted Muslim Minority University in the Country. The President of the Islamic Council for Productive Education, Dr. Saeedur Rehman Azmi and Prof. Syed Waseem Akhtar, General Secretary took over as the first Chancellor and Vice- Chancellor of the new University respectively. The University was recognized by the U.G.C.under Section 2(f) of the UGC Act 1956. Having been un-shackled from the fetters of an affiliated institution, the University continued to grow further during the years 2004-05to 2022-23.

Governance

The University functions as per provisions of Uttar Pradesh Private Universities Act, 2019 and the Integral University Statutes 2020, which have laid down the powers of the University, its officers and authorities. The officers administering the University include the Chancellor, Pro-Chancellor, the Vice Chancellor, Pro-Vice Chancellor, the Registrar, the Treasurer & Finance Officer, the Deans of Faculties, Proctor, Controller of Examination etc. Their roles in governance are well defined in Act & Statutes. Further, the following are the 'Authorities' of the University: -

1. The Governing Body
2. The Executive Council
3. The Academic Council
4. The Finance Committee
5. The Planning Board
6. The Boards of Faculties
7. The Boards of Studies
8. The Admission Committee
9. The Examination Committee
10. The Research & Development Committee
11. The Centre for Career Guidance & Development
12. The Alumni Engagement Committee

Integral Advanced Technology and Innovation Center (IATIC)

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About IATIC

The **Integral Advanced Technology and Innovation Center (IATIC)** at **Integral University, Lucknow**, serves as a premier **research hub** dedicated to **technological innovation, interdisciplinary collaboration, and cutting-edge research**. With specialized divisions in **Robotics, Artificial Intelligence (AI), and Organic Photovoltaics (OPV)**, IATIC is committed to advancing **education and research** to address contemporary **industrial, social, and environmental challenges**.

◆ **Divisions at IATIC**

Robotics and Artificial Intelligence Division

The **Robotics and AI Division** at IATIC pioneers research in **robotic systems and AI-driven applications**, blending theoretical principles with hands-on experimentation. This division empowers **students and researchers** to develop **breakthrough innovations** in areas such as **industrial automation, social robotics, and autonomous systems**.

Advanced Material Science and Renewable Energy Division

Focusing on **Organic Photovoltaics (OPV) and renewable energy**, this division leverages **innovative material science approaches** to drive sustainable energy solutions.

Key Research Areas:

- **High-efficiency solar cells**: Exploring novel **donor-acceptor materials** and **device architectures** for enhanced performance.
- **Environmental stability & scalability**: Addressing **durability challenges** in OPV technologies.
- **Molecular electronics & artificial photosynthesis**: Expanding research into **next-generation energy solutions**.

State-of-the-Art Infrastructure:

- **Thin Film Coating System**: Ensures **precise, defect-free deposition** of organic layers for **enhanced light absorption and charge carrier mobility**.
- **Thermal Evaporation System**: Facilitates **ultra-high vacuum deposition** of high-purity metallic layers, enhancing device efficiency.

- **Solar Simulator with I-V Characterization**: Enables **precise performance analysis** of solar cells under controlled conditions.

Cross-Divisional Innovations

IATIC fosters interdisciplinary collaboration by integrating **expertise from Robotics, AI, and Material Science**, driving advancements in **automation, sustainable energy, and smart technologies**.

Cutting-Edge Research Facilities

IATIC is equipped with **state-of-the-art research infrastructure**, supporting **experimentation, prototyping, and real-world applications**.

Key Facilities:
✓ **6-degree-of-freedom robotic arm** – High-precision robotic manipulation.
✓ **3D printer** – Rapid prototyping and iterative design.
✓ **4-axis CNC milling machine** – Advanced manufacturing capabilities.
✓ **Laser cutting & engraving tools** – Precision engineering applications.
✓ **Differential drive robotics platform** – Motion-based research.
✓ **Open-source drone platform (Pluto)** – Aerial robotics exploration.
✓ **TurtleBot** – Autonomous navigation & SLAM studies.
✓ **Opti-Track motion capture system** – Real-time tracking for robotic motion analysis.

These advanced resources enable researchers and students to **develop practical solutions** while gaining expertise in **both hardware and software aspects of robotics**.

Innovative Research Projects at IATIC

IATIC is actively involved in **groundbreaking research**, driving real-world technological advancements.

Notable Research Projects:
✓ **2-DOF Research Helicopter** – Aerial navigation studies & autonomous flight control.
✓ **Centralized water level & energy monitoring systems** – Enhancing **sustainability in urban infrastructure**.
✓ **Underwater exploration robot** – Designed for **deep-sea research applications**.
✓ **Spherical robots** – Optimized for **mobility in complex terrains**.

✓ **Autonomous ultrasound system with robotic arm** – A **medical diagnostics innovation**.
✓ **Vision-based lane tracking & obstacle avoidance robots** – **Self-driving vehicle research**.
✓ **Visual SLAM (Simultaneous Localization and Mapping)** – Object recognition using **TurtleBot**.
✓ **Tethered drone technology** – Extended **aerial surveillance & operations**.
✓ **Pick-and-place automation with UR5e robotic arm** – **Industrial automation** using **Robot Operating System (ROS)**.
✓ **Algorithm design for Research Helicopter control** – Optimizing **autonomous flight performance**.

These projects reflect **IATIC's commitment to pushing the boundaries of robotics, automation, and AI**, while contributing **significantly to industry and society**.

Workshops, Training & Industry Collaborations

Beyond research, IATIC plays a crucial role in **knowledge dissemination and skill development** through:

✅ **Hands-on workshops & training programs** – Engaging **students, researchers, and industry professionals** in the latest **robotics and AI innovations**.
✅ **Industry-academia collaborations** – Partnering with **leading organizations** to bridge the gap between **theory and practical implementation**.
✅ **Expert-led technical seminars** – Keeping researchers updated on **emerging trends and innovations** in **robotics, AI, and automation**.

Through **a collaborative and interdisciplinary approach**, IATIC ensures that its research and innovations remain at the **forefront of technological advancements**, empowering the **next generation of engineers, scientists, and entrepreneurs**.

Team Members of Integral Advanced Technology and Innovation Center (IATIC)

Team Members of Integral Advanced Technology and Innovation Center (IATIC)

The success of **Integral Advanced Technology and Innovation Center (IATIC)** is driven by a team of dedicated researchers and experts who bring extensive knowledge and experience in **robotics, artificial intelligence (AI), and engineering innovation**. The team works collaboratively to advance cutting-edge research, mentor students, and develop technological solutions that address real-world challenges.

Core Team:

1. **Mr. Syed Adnan Akhtar – Founder, IATIC**
   - Visionary leader and driving force behind IATIC.
   - Leads research initiatives and technological advancements in robotics and AI.
   - Specializes in innovation, automation, and interdisciplinary research.
2. **Dr. Mohammad Atif Siddiqui – Associate Professor, Department of Electrical Engineering (EE)**
   - Expert in **control systems, embedded systems, and industrial automation**.
   - Focuses on the **development of autonomous systems and AI-driven applications**.
   - Actively involved in mentoring students and guiding research projects at IATIC.
3. **Dr. Faiyaz Ahmad – Associate Professor, Department of Computer Science & Engineering (CSE)**
   - Specializes in **machine learning, AI, and computer vision**.
   - Works on the integration of **AI algorithms in robotic systems**.
   - Plays a key role in research projects related to **autonomous navigation and vision-based robotics**.
4. **Dr. Asif Khan – Assistant Professor**
   - Research interests include **robotic motion planning, SLAM, and deep learning applications**.
   - Contributes to the development of **autonomous robotic systems** at IATIC.
   - Actively involved in training programs and workshops for students.
5. **Mr. Mohd Zaid – Robotics Engineer**
   - Hands-on expert in **robotic hardware design, control systems, and prototyping**.
   - Specializes in **robotic arm manipulations, drone technology, and embedded programming**.
   - Leads the implementation and testing of robotic solutions developed at IATIC.

This team, with its diverse expertise, ensures that **IATIC remains at the forefront of technological advancements**, driving impactful research and innovation in **robotics and AI**.

Major Activities and Achievements of Integral Advanced Technology and Innovation Center (IATIC)

Major Activities and Achievements of IATIC (Academic Year 2022-23)

The **Integral Advanced Technology and Innovation Center (IATIC)** at **Integral University** has made remarkable strides in **robotics, AI, and engineering innovation** during the academic year 2023-24. From pioneering research and student-led projects to prestigious recognitions and international opportunities, IATIC continues to establish itself as a hub of technological excellence.

The **academic year 2022-23** has been a **remarkable year of innovation, recognition, and technological breakthroughs** for IATIC.
> **Cutting-edge research** in robotics, AI, and aerospace.
> **Prestigious national and international recognitions**.
> **Student success stories, funded projects, and global opportunities**.
> **Industry and academic collaborations leading to real-world applications**.

With its **state-of-the-art facilities, expert team, and student-driven research**, **IATIC continues to shape the future of robotics, AI, and engineering innovations** at Integral University.

1. Development of a 1-Degree of Freedom (DOF) Research Helicopter

IATIC successfully designed and developed a **1-Degree of Freedom (DOF) Research Helicopter**, marking a significant achievement in the field of **autonomous aerial systems**. This research-oriented helicopter serves as an experimental platform for:

- **Studying aerodynamics and flight control mechanisms.**
- **Testing control algorithms for autonomous navigation.**
- **Enhancing research in UAV (Unmanned Aerial Vehicle) stabilization and motion control.**

This development lays the foundation for more advanced multi-DOF aerial robotics projects in the future.

2. 'Star Tracker' Project Receives Funding from UPCST

A team of final-year **Computer Science Engineering** students—**Hozaifa, Insha, and Faiz**—achieved a significant breakthrough with their project, **"Star Tracker" (Project ID: 701)**.

- Developed at **IATIC**, this innovative project focuses on **tracking celestial bodies** for applications in **astronomy, space exploration, and navigation systems**.
- Their research and development efforts were recognized by the **Uttar Pradesh Council of Science and Technology (UPCST)**, which awarded **funding support**, emphasizing its scientific and technological potential.

This achievement highlights **IATIC's role in fostering innovation and supporting student-led research projects**.

3. Samiya Farooqui Selected as Project Associate at IIT Kanpur

Samiya Farooqui, a bright researcher from Integral University, secured a prestigious position as a **Project Associate at the Indian Institute of Technology (IIT) Kanpur**.

- This achievement underscores **IATIC's commitment to nurturing talent**, equipping students with **cutting-edge research skills**, and enabling them to contribute to **high-impact national projects**.
- Her selection at **one of India's premier institutions** is a testament to the quality of research exposure provided at IATIC.

4. 'Star Tracker' Project Ranked in the Top Five at the Innovation Festival

Hozaifa Shakeel's 'Star Tracker' project continued to gain recognition at the **Innovation Festival organized by the Ministry of Culture, Government of India**.

- The project was **ranked among the top five innovations**, highlighting its **scientific relevance and technological ingenuity**.
- This festival served as a platform for young innovators to **showcase their research in space technology and astronomical advancements**.

This recognition further cements **IATIC's reputation as a center for pioneering student-led research**.

5. Mohammad Ayman Receives an MS Offer from Cranfield University, UK

Mohammad Ayman, a student associated with IATIC, received an **offer for a Master's (MS) program** at the prestigious **Cranfield University, United Kingdom**.

- Cranfield University is renowned for its **aerospace, robotics, and advanced engineering programs**.
- His selection demonstrates the **global impact of IATIC's research** and its **role in preparing students for higher studies at world-class institutions**.

This achievement serves as motivation for other students at IATIC to **pursue international academic and research opportunities**.

6. Object-Based Color Recognition Robot Recognized by Raspberry Pi

IATIC developed an **Object-Based Color Recognition Robot**, which gained **recognition from Raspberry Pi**, a leading name in **microcomputer and embedded systems**.

- This **AI-driven robotic system** is capable of identifying and categorizing objects based on **color recognition algorithms**.
- The project showcases the **potential of integrating machine learning with robotics for industrial and automation applications**.

- Raspberry Pi's acknowledgment underscores the **technical sophistication and innovation** embedded in IATIC's research projects.

This recognition further strengthens **IATIC's position in AI-driven robotic research**.

7. Development of a Centralized Water Level Monitoring System for Integral Business School (Phase 3)

As part of its **smart infrastructure initiatives**, IATIC developed a **centralized water level monitoring system** for **Integral Business School, Phase 3**.

- This system **automates water level monitoring**, optimizing **water conservation and resource management**.
- It utilizes **IoT-based sensors and real-time monitoring dashboards**, ensuring **efficient water usage**.
- This project represents **IATIC's commitment to sustainability and smart technology integration in institutional infrastructure**.

This practical implementation highlights **how IATIC's research extends beyond labs to solve real-world problems**.

Glimpse of the activities and achievements:

रात में ग्रहों और तारों की दिखेगी साफ तस्वीर

Colour-based object tracking with Raspberry Pi - Raspberry Pi
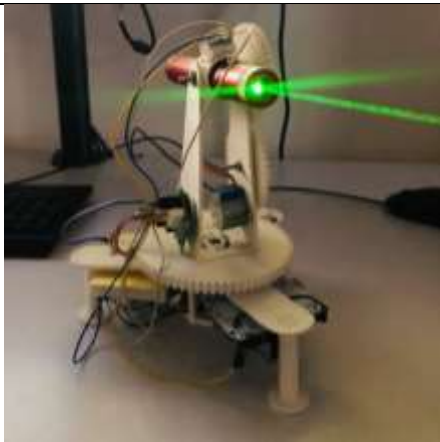
Patents, Publications, and Collaborations of Integral Advanced Technology and Innovation Center (IATIC)

Patents, Publications, and Collaborations of IATIC (Academic Year 2022-23)

Patents

1. 1-Degree of Freedom (DOF) Research Helicopter for Control System Applications

Patent Application Number: **202411066524**
Applicant: **Integral University, through IPRMC Cell**

- This patented **1-DOF Research Helicopter** is designed for **control system applications**, serving as an **experimental platform for aerodynamics and flight control studies**.
- It provides a **simplified yet effective model** to analyze **stabilization, motion control, and autonomous flight behavior** in aerial systems.
- The research focuses on **testing advanced control algorithms** used in drones, UAVs, and **autonomous aerial vehicles**.

This patent underscores **IATIC's expertise in robotics, AI-driven automation, and aerospace research**.

Research Publications (2023)

IATIC researchers have contributed to **renowned journals and IEEE conferences**, highlighting advancements in **robotics, AI, IoT, and thermal engineering**.

1. Quadrotor Control: A Linear Approach for Non-Linear Dynamics

Authors: **Farhan Haroon, Syed Adnan Akhtar, Faiyaz Ahmad, M. Zaid, et al.**
📌 **Conference**: **IEEE 3rd International Conference on Control, Computing, Communication and Materials (ICCCCM), 2023**

- This paper presents a **linear control approach** for handling **non-linear dynamics of quadrotor drones**.
- The research improves **stability and precision** in drone flight, particularly for **aerial navigation and autonomous UAV applications**.

2. Effect of Cylindrical Ribs Location in a Fan-Shaped Cavity on Thermo-Hydraulic Performance of a Microchannel Heatsink

Authors: **Mohammad Nawaz Khan et al.**
Journal: **Journal of Thermal Analysis and Calorimetry (SCI, Q1, Impact Factor: 3.0)**

- This **high-impact thermal engineering study** examines how **rib placement affects heat dissipation in microchannel heatsinks**.
- The findings have applications in **efficient cooling systems for microprocessors, power electronics, and industrial thermal management**.

3. IoT-Based Truck Wheel Temperature Monitoring System Using Arduino Uno Board

    Authors: **M. Zaid, Asif Khan, et al.**
    Conference: **IEEE Asian Conference on Intelligent Technologies (ACOIT), 2023**

- This research focuses on an **IoT-based real-time monitoring system** for **truck wheel temperatures**, enhancing **vehicle safety and predictive maintenance**.
- The study demonstrates how **Arduino-based smart systems** can optimize **transportation efficiency** and **prevent mechanical failures**.

4. Development and Implementation of an Arduino-Based Celestial Object Tracking System Utilizing Additively Manufactured Components

    Authors: **Hozaifa Shakeel, Faiyaz Ahmad, M. Zaid, et al.**
📌 **Conference**: **IEEE 3rd International Conference on Control, Computing, Communication and Materials (ICCCCM), 2023**

- This paper details the development of an **Arduino-controlled Star Tracker** for **celestial navigation and space research**.
- It integrates **3D-printed components**, reducing **costs and enhancing customizability** for amateur astronomers and professional space researchers.

These publications highlight **IATIC's contributions to robotics, automation, AI, IoT, and aerospace research**, further cementing its **global academic footprint**.

    Collaborations with Other Universities

1. International Research Collaboration with National Taiwan Normal University

    Researcher: **Mohd Zaid, Robotics Engineer at IATIC**
📌 **Research Focus**: **Modeling an External Force Estimator for a Robot's End-Effector Using Neural Networks**

- This collaboration explores **AI-driven force estimation models** for **robotic arms**, improving **precision, adaptability, and safety** in **industrial automation**.
- The research integrates **machine learning algorithms** to predict **external force interactions**, crucial for applications like **robot-assisted surgery, manufacturing, and autonomous robotics**.

This partnership reinforces **IATIC's global research outreach in AI-driven robotics**.

2. Internship Program for Government University Students

Participating Institutions:

- **Baba Saheb Bhimrao Ambedkar University (BBAU)**
- **Khwaja Moinuddin Chishti University**
- IATIC successfully conducted an **internship program** that allowed students from **government universities** to gain hands-on experience in **robotics, AI, and automation technologies**.
- The program provided exposure to **advanced research facilities, real-world projects, and mentorship from leading experts**.

This initiative promotes **inter-university collaboration and knowledge-sharing**, ensuring that more students benefit from **IATIC's state-of-the-art research ecosystem**.

The **patents, publications, and collaborations of IATIC** in **2022-23** demonstrate:

Cutting-edge innovations in robotics, AI, IoT, and thermal engineering.

✅ **Global research recognition and academic impact through high-impact journals and IEEE conferences.**

Strong international and national collaborations, enhancing research excellence.

Opportunities for students to engage in real-world problem-solving and interdisciplinary projects.

With its **advanced research infrastructure, expert faculty, and student-driven innovation**, **IATIC continues to push the boundaries of technology and engineering research**.

Facilities at Integral Advanced Technology and Innovation Center (IATIC)

Facilities at Integral Advanced Technology and Innovation Center (IATIC):

Open Source Drone Platform (Pluto)	TurtleBot
Differential Drive Robotics Platform	Pixhawk based drone
Laser Cutting and Engraving	4-Axis CNC Milling
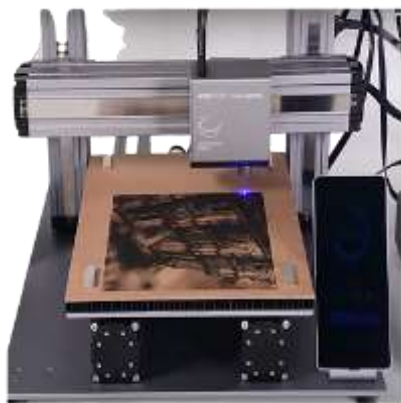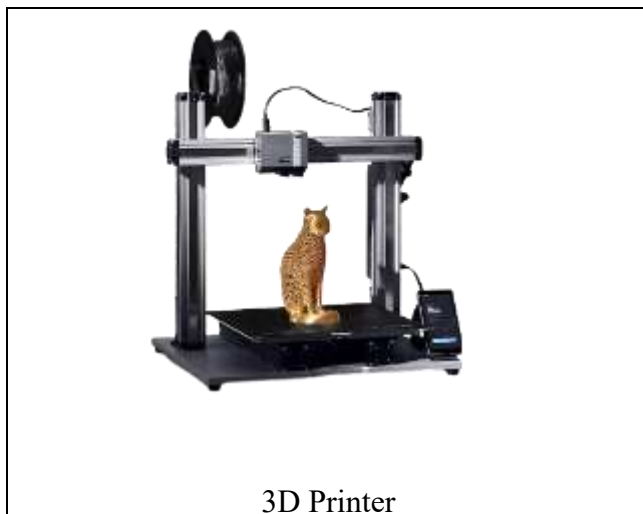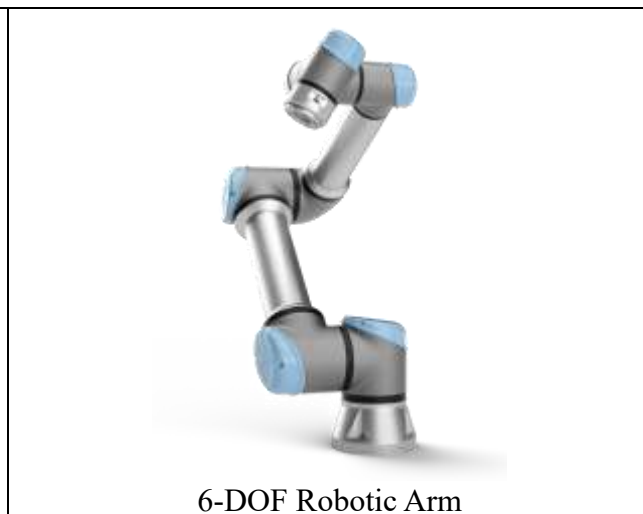
3D Printer	6-DOF Robotic Arm
OptiTrack Flex 13 Motion Capture	Work station
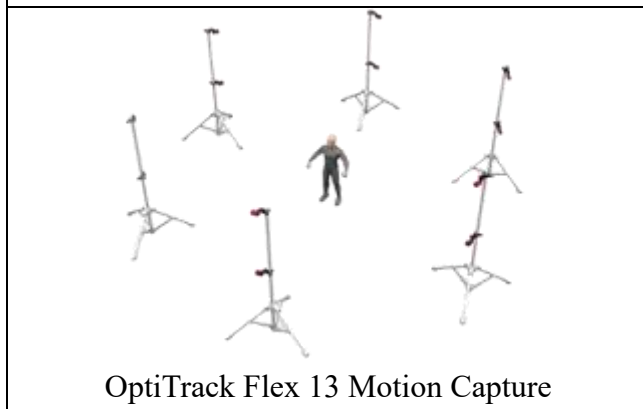
Major Equipment in Organic PV Lab

Solar Simulator

Thermal Evaporation System

Spin Coating Unit

Hot Plate Magnetic Stirrers

Ultra Sonic Cleaners

International Conferences Organized by the research centre IATIC

ABOUT INTEGRAL UNIVERSITY

Integral University is a NAAC accredited state private university established in 2004 and approved by UGC under section 2(f) and 12(B) of UGC act 1956, MCI, PCI, BCI, INC, CoA, NCTE, UPSMF, IAP & DEB. Member of AIU. Courses Accredited by NBA. Recognized as a Scientific and Industrial Research Organization (SIRO) by the Department of Scientific and Industrial Research (DSIR), Ministry of Science & Technology. It has marvelous ambience and academically, lively and vibrant environment, highly conducive to higher and dedicated academic pursuits. It has lush green campus spread in 35 acres. The university is committed to generating, disseminating, and preserving knowledge. Our academic programs like engineering, medicine, science, arts, architecture and management equip students with the academic rigor and intellectual capacity to meet the corporate business challenges. University has its Medical, Integral Institute of Medical Sciences and Research with a 500 + bedded multispecialty hospital.

ABOUT LUCKNOW

Lucknow has been known as the city of Tehzeeb, Culture, Art, Literature and Cuisine. In past few decades, city is also being known as science and education hub. New architecture of Lucknow includes Ambedkar Park, Eco garden, Janeshwar Mishra Park, JPN International center, Newly established International Cricket stadium, Awadh Shilp Gram, Indira Gandhi Pratisthan, New building of High Court. Some of the major historical monuments of Lucknow include Bara Imambara, Residency, Chattar Manzil, Rumi Darwaza, Clock Tower, Moti Mahal, Hussainabad Imambara and many others. Lucknow is connected with major cities through flights, trains and buses.

PAPER SUBMISSION & SCOPE OF CONFERENCE

The aim of this Conference is to create an opportunity for participants to discuss the applications of Computational and Characterization Techniques in Engineering & Sciences. Original research contributions, technical papers and review papers on the following topics are invited for peer review and possible publications.

Articles should comprise of upto six (6) pages, and comply with the IEEE layout of the template provided.

IEEE Template link:

www.ieee.org/conferences_events/conferences/publishing/templates.html

PAPER PUBLICATIONS

Accepted and Presented papers will be published in the proceedings and submitted to the IEEE Xplore Digital Library for possible publication. At least one author of each accepted paper is required to register and present their paper at the conference; otherwise paper will not be included in the proceedings. Best Paper Awards will be presented to high quality papers in each track.

CONFERENCE TRACKS

Track 1: Innovative Solar Cell Technologies and Applications
Track 2: Advancements in Robotics and Artificial Intelligence
Track 3: Smart Manufacturing and Automation for Energy Systems
Track 4: Sustainable Energy and Robotics for Smart Cities
Track 5: Hybrid Innovations: Robotics and Renewable Energy Synergies
Track 6: Innovative Solar Cell Technologies and Applications

Interested candidates should register either through online or offline mode. For online mode, registration fee may be deposited through NEFT.
A/C Holder: IEEE Student Chapter IU Lucknow
Account No. 4786000100013095
IFSC Code: PUNB0478600
Punjab National Bank, IIT Dasauli, Lucknow

		Indian Authors	Foreign Authors
Indian Authors	Non-IEEE Members	6000	275 USD
		6500*	300USD*
	IEEE Members	4500	225 USD
		5000*	250USD*
Student Authors	Non-IEEE Members	4500	225 USD
		5000*	250USD*
	IEEE Members	3500	175 USD
		4000*	200USD*
Industry delegates	Non-IEEE Members	9000	350 USD
		9500*	375USD*
	IEEE Members	7000	300 USD
		7500*	325USD*
Attending Conference	Non-IEEE Members	1000	100 USD
	IEEE Members	700	75 USD
On the Spot Registration (Only in Cash)		10% addition charges are applicable.	

Early Bird Registrations August 05, 2022
*Late Date of Registration August 25, 2022

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INTEGRAL UNIVERSITY
Dasauli, Kursi Road
Lucknow-226026 (U.P), India
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Integral Advance Technology and Innovation Centre(IATIC) and Faculty of Pharmacy Integral University Lucknow

Organises

International Conference

On

15th- 16th March 2023

"INNOVATIONS, BREAKTHROUGHS IN TECHNOLOGY IN AREA OF PHARMACY"

(HYBRID MODE)

In association with

| Indian Pharmaceutical Association (State branch) | Association of Pharmaceutical Teachers of India (State branch) | Indian Pharmacy Graduates Association (State branch) | Danteswari College of Pharmacy, Jagdalpur | School of Pharmacy Neotia University, Kolkata, West Bengal | Raghu College of Pharmacy, Visakhapatnam, A.P. |

About Integral University

Integral University is situated in Lucknow, a city known for its culture, etiquette, monuments and role in the freedom struggle. Lucknow is the capital city of the largest state of India, and has a population of about 4.6 million. Lucknow is the capital city of Uttar Pradesh and it has always been a mulcultural city. Integral University has a unique culture of inclusiveness, diversity, personal and intellectual integrity and value-based education

The curriculum has a strong focus on individual growth and the development of essential tools so that its students make a mark in the corporate world and the field of technology. These are solidly supported by a highly qualified and trained team of accomplished faculty and robust academic infrastructure. It was established under the Act Number 9 of 2004 by the State Government. The University is duly approved by the University Grants Commission (UGC) under section 2(f) and 12B of the UGC Act, 1956, Medical Council of India, Pharmacy Council of India, Indian Nursing Council, Council of Architecture, Bar Council of India, Indian Association of Physiotherapists, National Council for Teacher Education, UP State Medical Faculty. The University maintains a decent and decorous atmosphere in the campus. The campus is highly disciplined and ragging-free, with all modern amenities for pursuit of higher education and sports. The campus provides state-off the-art hostel accommodation, with the capacity to host 2600 students in the hostels, and houses a 550-bedded hospital, as part of the Medical College, with state-of-the-art medical facilities and more than 200 doctors. Integral University is not only an academic institution but also a mission and a vision to make the country progressive and prosperous in all walks of life.

Faculty of Pharmacy

The Faculty of Pharmacy was established in the year 2004,Department of Pharmacy offers UG,PG & Ph.D Program. Now the Faculty consists of the following discipline.
Pharmaceutics
Pharmacology
Pharmaceutical Chemistry
Pharmacognosy & Phytochemistry
Pharmacy Practice
In these departments, the thrust areas of research are Drug discovery and development of formulation from natural and synthetic sources. The faculty is fully devoted to high class research with standardization of Unani and Ayurvedic (single and polyherbal) drugs, isolation of herbal molecules, development and validation of analytical methods for medicinal plants and formulations.
Design and synthesis of broad-spectrum novel therapeutic agents and analysis of synthetic molecules are research areas in Department of Pharmaceutical Chemistry. Department of Pharmacology is grooming with quality research, especially in evaluation of natural phytoconstituent/synthetic compounds/ formulation for acute (LD50) determination and subacute toxicity, for their specific pharmacological in-vivo studies like Cardiovascular System, Hepatocellular carcinoma (HCC), anti-hepatotoxicity, anti-ulcer, anti-diabetic, immunomodulatory, neurotoxicity, behaviour activity and cerebral ischemia in experimental animals. Some research scholars are also working in the field of nanobased drug delivery systems.

About the Conference

Our goal is to assist scientists whose research may be relevant to drug discovery and/or development in framing their research report in such a way that their findings are appropriately placed within the drug discovery and development process, thereby facilitating the effective translation of preclinical research to humans. One of the key topics of our conference is that the approach is lengthy, convoluted, and expensive enough that for any new medication to be authorised for clinical usage, several physiological sites must be studied, and new scientific methods may be necessary to investigate each new target. The efficiency of the development process can be improved by studies that contribute to the resolution of any of the many scientific and operational difficulties that arise during the process. Awareness of these challenges enables the early introduction of actions that will improve the chances of success.

Conference Objectives

1. Raise public awareness about the need for improved pharmacovigilance and public health
2. Encourage the safe, effective, and rational use of medicines
3. Raise awareness of the role of clinical pharmacists in the safe use of drugs among pharmacy students and pharmacists.
4. The implementation of adequate pharmacovigilance, including its requirements, challenges, and limitations, as well as the process for improving it.
5. To improve patient care and safety in the use of medications and all other therapeutic interventions.
6. To raise awareness of the importance of ADR reporting among healthcare practitioners in India.
7. To enlist the help of various healthcare professionals and the general people in India to participate in pharmacovigilance.
8. Increase public knowledge of pharmacovigilance, educational, and healthcare experience, and also excellent public awareness.

Thematic Areas

- Post-marketing Safety Surveillance
- Safety Regulatory Submissions
- Adverse Drug Reactions
- Drug Utilisation Research
- Pharmaceutical Care
- Nanotherapeutics Safety Parameters
- Biotechnological Benefits
- Clinical/Medical Case Studies
- Emerging Diseases
- Pharmaceutical Sciences
- Pharmacovigilance
- Pharmacoeconomics
- Cardiovascular Medicine
- Patient Care
- Emergent Drug Development Process
- Life Sciences & Allied Health Sciences
- Pharmacovigilance & Clinical Trial Strategy
- Unreported Adverse Interactions
- Adjunctive Pharmacology
- Adverse Drug Reaction Monitoring

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Call for Abstract

The International Conference invites abstracts from delegates from all over the globe, including guest/invited speakers, faculties, research scholars, and postgraduate and graduate students from different organisations. This conference will be a suitable forum for sharing views on drug discovery & development, the role of pharmacovigilance and future challenges in this field. Abstracts up to 250-300 words should be prepared using Times New Roman (12pt) in a single line. The title should be in bold. The abstract should be free from plagiarism. Mention the names of the author(s), affiliation(s), and E-mail ID of the corresponding author. Underline the name of the presenting author and email to ibtap@iul.ac.in The selected full-length paper will be published in a Web of Science (WoS) indexed journal. All the abstracts will be published in the form of conference proceedings. A soft copy of the conference proceedings will be provided to all participants.

Call for Papers and Guidelines for Paper Publication

We invite academicians, researchers, research scholars, students, and industrialists to submit original, unpublished research articles relevant to the theme of the conference. The selected full-length paper will be published in a Web of Science (WoS) indexed journal. All the abstracts will be published in the form of conference proceedings with ISBN number. A soft copy of the conference proceedings will be provided to all participants.
Full-length papers should be submitted in the form of a manuscript per the journal author guidelines provided on the journal website. Publication charges will be as per the journal, and the publication charge will be completely paid by the author.

Publication Partner (Publication fee will be borne by the author after acceptance of full-length paper)

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Advances in Bioresearch (Web of Science (WoS) indexed journal, (Fee - INR 3500/-)
Journal of Pharmacovigilance and Drug Research (Fee - INR 500/-)

Submission Guidelines

1. An abstract may have a maximum of 300 words and a maximum of 5 keywords.
2. Abstract and full-length paper should be emailed to ibtap@iul.ac.in
3. The full paper must be formatted as an MS Word document in Times New Roman, 12-point font size.
4. All papers will be checked for plagiarism per the university guidelines.
5. Registration is compulsory for all participants.

Registration Fee Details

Category	Early Bird Registration Fees (Upto-28th February 2024)	Registration Fees (After-03rd March 2024)
Students	INR 800/-	INR 1000/-
Research Scholar	INR 1000/-	INR 1200/-
Academicians	INR 1300/-	INR 1500/-
Delegates from Industry	INR 1500/-	INR 1700/-
Foreign Delegates	USD 40/-	USD 50/-

Important Dates

- Early bird registration close on & abstract submission   -   **28**[th] **February** 2023
- Last date of registration   -   **3**[rd] **March** 2023
- Notification of acceptance of abstracts   -   **5**[th] **March** 2023
- Last date for submission of full paper   -   **8**[th] **March** 2023
- Dates of conference   -   **15**[th] **& 16**[th] **March** 2023

Paper cum Oral/Poster Presentation

Paper cum Oral/Poster presentation will be presented in a prescribed format. Each presentation will be of 5 minutes + 2 minutes of discussion. A certificate of presentation will be provided to the participants, who will present their research work.

Registration Details

Link for registration: https://forms.gle/BVxuQhwSkHv7LrsMA
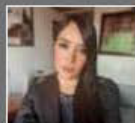
Scan QR to Pay

Keynote Speakers

Dr. Albertina Onsea (Spain),
Professor, Clinical Pharmacy Department, International University of Applied Sciences, Spain, Southwest Europe

Dr. Samaa Al Tabbah (Lebanon),
Co-founder and CEO of the Medical Agency for Research and Statistics (MARS), Lebanon, Syria

Dr. Alejandra Cruz (Colombia),
Bacteriologist with emphasis in Industrial Microbiology and Pharmacovigilance, Colombia

Dr. Rozafa Koliqi (Kosovo),
Associate Professor in the Pharmacy Department, Faculty of Medicine, at the University of Prishtina, Kosovo, Southeast Europe

Dr. Jyoti Upadhyaya (India),
Associate Professor, Department of Pharmaceutical Sciences, School of Health Sciences and Technology, UPES, Dehradun, Uttarakhand, India

Dr. Amer Ahmed Syed, MD (USA),
Head of Drug Safety/Pharmacovigilance Tarsus Pharmaceuticals, USA

Dr. Chinmaya Mahapatra (India),
Founder and President of the Global Pharmacovigilance Society, India

Dr. Amber Vyas (India),
Associate Professor, UIOP, Pt. Ravi Shankar Shukla University, Raipur

Dr. Hara Prasad Mishra (India),
Physician & Digital Health Researcher, KCDH - Ashoka University, India

Dr. Gargi Dey,
Associate Medical Manager, Lalocano Drug Development

Ms. Arshia Bhandari (India),
Senior Pharmacovigilance Consultant, India

Ms. Henna Gupta (India),
Pharmacovigilance Associate, CRO, India

Dr. T. Pugazhenthan,
Assistant Professor, Pharmacology AIIMS Raipur

Dr. Nitin Rewaram Gaikwad,
Professor and Head, Department of Pharmacology and Registrar, AIIMS, Raipur

ADVISORY COMMITTEE

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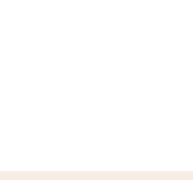
Convenor

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A+ ACCREDITED BY NAAC