



# Avinashilingam Institute for Home Science and Higher Education for Women



**AIU – Avinashilingam Institute –  
Academic and Administrative Development Centre  
(AIU-AI-AADC)**

**&**

**School of Biosciences**

**&**

**Centre for Machine Learning and Intelligence (CMLI)**

**jointly organizes**

**Ninth Short Term Capacity Building Programme for the year 2024**

**on**

**Revolutionizing Life Sciences using  
Artificial Intelligence**

**25.11.2024 to 29.11.2024**



**Invited Talks  
Case Studies  
Hands -on Sessions  
Activities**

## ABOUT THE INSTITUTE



Avinashilingam Institute for Home Science and Higher Education for Women - the epitome of higher education is one of the premier institutions in India well known for its commitment towards the empowerment of women through value-based and holistic education. The institute follows the educational ideals of Sri Ramakrishna, Holy Mother Sri Saradamani Devi, Swami Vivekananda and Mahatma Gandhiji. The institute is one of the significant contributions of Padma Bhushan, Dr. T. S. Avinashilingam, an illustrious educationist, freedom-fighter and Gandhian and Dr. Rajammal P. Devadas, the world-renowned nutritionist.

The Institute had its humble beginning in the year 1957 as Sri Avinashilingam Home Science College for Women and has been conferred the Deemed to be University by MHRD in 1988. Few of the recent accolades of the Institute includes: A++ with CGPA of 3.65/4 by NAAC, 98th Rank in NIRF, 5th Rank under the category of 'University & Deemed to be University (Govt. & Govt. Aided) Technical' in ARIIA - 2021.

Presently, the institution is progressing towards 'beyond-excellence' under the able guidance and leadership of Dr.T. S. K. Meenakshisundaram, Managing Trustee and Chancellor, Dr. V. Bharathi Harishankar, Vice Chancellor and Dr. H. Indu, Registrar i/c.



## ABOUT THE ASSOCIATION OF INDIAN UNIVERSITIES

Association of Indian Universities (AIU) is an apex inter university representative body of universities and other higher education institutions in the country. Established in 1925 as the Inter University Board (IUB) of India, it acquired its legal status as a registered society in 1967 under the Societies Registration Act 1860 and was rechristened as Association of Indian Universities (AIU) in 1973. AIU is the second oldest university association in the world next to the Association of Commonwealth Universities which was established in 1913.

It has the distinct feature of having the largest network of universities and other HEIs under its ambit with 1002 Members which includes 16 Associate Members of Foreign Countries. The membership of AIU includes all types of universities e.g., Conventional Universities, Open Universities, Deemed to be Universities, State Universities, Central Universities, Private Universities and Institutes of National Importance.

In addition to Indian Universities, Universities / Institutes from Bangladesh, Bhutan, Republic of Kazakhstan, Malaysia, Mauritius, Nepal, Thailand, United Arab Emirates and United Kingdom are its Associate Members. Since its inception, AIU has played a very significant role in the development of Education in the Country.

Some of the eminent scholars and visionary leaders like Dr Sarvepalli Radhakrishnan, Dr Shyama Prasad Mukherjee, Dr Zakir Hussain, Sir. A L. Mudaliar have given leadership to AIU. During such a long journey, AIU has carved a niche for itself by serving the Ministry of Education, Govt. of India as a research-based policy advisory body. Being an apex institution, it constitutes an integral part of all major decision-making committees and commissions in the country.

As an academic 'think tank' organization, AIU supports the Government as research-based policy advisory body with the wider mandate of taking up research projects on higher education policy and capacity building. It also acts as a bureau of information on higher education; liaise with international bodies and universities for internationalization of Indian higher education among many others. The Vision of AIU is to emerge as a dynamic service and apex advisory organization in India by undertaking initiatives and programmes which could strengthen and popularize Indian higher education as leading-edge system in the world and promote greater national and international collaboration in Higher Education, Research, Extension, Sports, Youth and Cultural Activities.

It is bestowed with the mission of promoting and representing the Indian Universities and other higher education institutions through strong liaison with the government and National/International organizations, sister associations world over and establish liaison between/among universities through active support, cooperation and coordination among the member universities and all its stakeholders for quality education, research and other academics and extension activities.



## ABOUT THE CENTRE

**AIU-Avinashilingam Institute - Academic and Administrative Development Centre (AIU-AI-AADC)** has been initiated by the institute in association with Association of Indian Universities (AIU) as a step towards training the human resources of higher education institutions. The specific objectives of the centre are to :

- Facilitate learning through Performance Improvement Programmes for different groups (Administrators/Teaching Faculty/Non-Teaching Research Scholars/Technical Personnel) towards progression based on their career stages.
- Enable continuous learning through rigorous need-based training sessions
- Sensitize stakeholders on recent developments in higher education system in the country and across the world.
- Equip academic / administrative / technical / information personnel with the requisite skills on ICT to handle their work effectively.
- Develop integrity and professional ethics among higher education personnel.
- Strengthen the human capital of the country with right attitude, skills, and knowledge



### **VISION**

To facilitate value-based transition towards changing higher education ecosystem through continuous capacity building.



### **MISSION**

To impart ICT enabled training to human resources of higher education institutions thereby preparing themselves towards Education 5.0.



## ABOUT THE PROGRAMME

In today's rapidly evolving field of life sciences, the integration of Artificial Intelligence (AI) is revolutionizing research methodologies and offering innovative solutions to complex challenges. AI-based tools have transformed drug discovery, personalized medicine and clinical decision-making, enabling precise diagnoses and cost-effective treatments. The use of AI in agriculture has also reduced waste, increased productivity, and streamlined market delivery, highlighting its cross-disciplinary impact.



Through advanced machine learning (ML) and deep learning techniques, AI can optimize metabolic pathways in living systems, improving microbial strains for industrial applications. These innovations have significant implications, from enhancing bio-based industries to advancing ecology, epidemiology, and molecular biology. As AI technologies like ChatGPT and BioGPT become more prevalent, they present new opportunities and challenges for life sciences research.

This program emphasizes the practical application of AI in bioscience, fostering interdisciplinary collaborations and real-world problem-solving. Participants will gain hands-on experience with state-of-the-art AI tools, equipping them to design impactful research projects. The initiative aims to bridge the gap between AI advancements and their practical use in life sciences, ensuring that participants are well-prepared to leverage AI for breakthroughs in their fields.



By the end of the program, participants will possess not only technical skills but also the foresight to apply AI solutions across diverse domains. As AI becomes increasingly user-friendly, its adoption in life sciences is accelerating, making it essential for researchers to stay informed. A future biologist might make the next major breakthrough with AI, underscoring the importance of integrating AI literacy into modern scientific education.

## OBJECTIVES

- Understand the fundamentals of applications of AI in Life sciences
- Explore various AI-driven tools and platforms for research in Biosciences
- Predictive analytics to help learn patterns and trends and make better decisions.
- Address the growing concern over the ethical and regulatory implications of using AI.
- Foster collaboration among participants to share knowledge and resources in their fields of expertise

## TARGET PARTICIPANTS

The Program is Designed for Professors, Lecturers, and Research Scholars from Higher Education Institutions who are Interested in Exploring the role of AI in Biosciences. Staff members and Scholars in Related Disciplines can also Participate.

**Duration :** 25.11.24 to 29.11.24

( 5 Days Programme )

**Time :** 9:30 am to 4:45 pm

Note : E-certificates will be issued upon successful completion of programs, with attendance, feedback, and assessment submissions being mandatory.

# PROGRAMME SCHEDULE

**Day 1: Date: 25.11.2024**

## **When AI meets Biology**

- **Session 1:** Understanding the Role of AI in Life Sciences Research
- **Session 2:** Game Changing Artificial Intelligence and Machine Learning Technologies in Drug Discovery
- **Session 3:** Unlocking the power of AI in academic research writing and publications
- **Session 4:** The Growing Impact of AI in Life Sciences

**Day 2: Date: 26.11.2024**

## **Scientific literature analysis and Research planning**

- **Session 1:** AI/ML in Drug Discovery
- **Session 2:** Hands on training in drug discovery using Chem AIRS software
- **Session 3:** Demonstration Session on Farm Intelligence Using FarmBot
- **Session 4:** Exploring AI Applications in Healthcare: A Video Session
- **Session 5:** Write and Edit Manuscripts, Cite relevant sources, and Identify Journals.

**Day 3: Date: 27.11.2024**

## **AI in Agriculture and Livestock**

- **Session 1:** AI in Drug Discovery
- **Session 2:** Application of Artificial Intelligence, Machine Learning and Internet of Things in Animal Agriculture and Integrated Farming
- **Session 3:** AI in Livestock Management
- **Session 4:** AI Based Smart Farming

**Day 4: Date: 28.11.2024**

## **AI in Disease Diagnosis**

- **Session 1:** Prediction of Parameters for Simulated Body Segments of an Aircraft Pilot during High G (Gravity) Maneuvers
- **Session 2:** Role of AI in Oncology
- **Session 3:** Fundamentals of AI In Biology
- **Session 4:** The Role of Artificial Intelligence in Drug Discovery: From Bench to Bedside

**Day 5: Date: 29.11.2024**

## **AI in Drug Discovery**

- **Session 1: AI in Small Molecule Drug Discovery**
- **Session 2: AI/ML in Neurological Disorders**
- **Session 3: Role of Artificial Intelligence in Drug Discovery and Development**
- **Session 4: Machine Learning Applications to Biological Data Analysis**

## **LIST OF RESOURCE PERSONS**

- **Dr. Nalini Arumugam**, Associate Professor, School of Agricultural Sciences and Biotechnology, Universiti Sultan Zainal Abidin, Malaysia.
- **Prof. G Narahari Sastry**, Fifth Paradigm Lab, Department of Biotechnology, Indian Institute of Technology, Hyderabad, Telangana, India.
- **Dr. Vishnukumar**, New York University, Abu Dhabi.
- **Dr. V. Uma**, Professor and Head, Department of Veterinary and Animal Husbandry Extension Education, Veterinary College and Research Institute, Udumalpet.
- **Dr. Munna Khan**, Professor, Department of Electrical Engineering, Jamia Millia Islamia (A Central University) New Delhi.
- **Dr. P. Subashini**, Coordinator, Centre for Machine Learning and Intelligence, Professor of Computer Science, Avinashilingam Institute for Home Science and Higher Education for Women, Coimbatore.
- **Prof. Tapan Kumar Gandhi**, Cadence Chair Professor of Automation & AI, Department of Electrical Engineering, Indian Institute of Technology, Delhi.

- **Dr. Adhiraj Nath**, Senior Scientific Specialist, Excelra, Hyderabad, Telangana, India.
- **Mr. Raghu Rangasamy**, CEO, Molecular Solutions Software Pvt. Ltd, Bangalore, Karnataka.
- **Mr. Jithesh Doshi**, Computer Aided / AI Based Drug Discovery Scientist, Peptris Technologies, Bangalore, Karnataka.
- **Dr. Om Prakash Sharma**, Head of Bioinformatics, NatlgGs GmbH, Germany.
- **Dr. Dakshinamurthy Sivakumar**, CoFounder, BioCogniz, Dubai, United Arab Emirates.
- **Dr. Shyam Rajagopalan**, Senior Assistant Professor, Institute of Bioinformatics & Applied Biotechnology (IBAB), Bangalore.
- **Dr. Abhishek Subramanian**, Assistant Professor, Department of Biotechnology, Indian Institute of Technology, Hyderabad.
- **Dr. Deepa Jaganathan**, Founder, Deebiotech Academic Research Services(DARS), Tamil Nadu, India.
- **Dr. T. K. Mohanty**, Principal Scientist (Animal Reproduction), ICAR-National Dairy Research Institute, Karnal, Haryana.
- **Ms. Subhiksha**, Research Fellow, Adyar Cancer Institute (W.I.A), Adyar.



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## REGISTRATION FEE

- Indian Participants Rs. 750
- International Participants USD 25

## PAYMENT DETAILS

### BANK ACCOUNT DETAILS

Account Name : **Avinashilingam  
Institute for Home Science and Higher  
Education for Women**

Name of the Bank : **Indian Bank**

Bank Account Number : **6010310202**

IFSC Code : **IDIB000A005**

SWIFT Code : **IDIBINBBCBE** (for  
International Registrations)

## AI ADVISORS

**Dr. T. S. K. MEENAKSHISUNDARAM**, Managing Trustee & Chancellor

**Dr. V. BHARATHI HARISHANKAR**, Vice Chancellor

**Dr. H. INDU**, Registrar i/c

## AIU ADVISORS

**Dr. PANKAJ MITTAL**, Secretary General, AIU

**Mrs. RANJANA PARIHAR**, Joint Secretary, Printing & Publications, AIU

## PROGRAMME COORDINATORS

**Dr. ANITHA SUBASH**

Dean, School of Biosciences

Professor, Department of Biochemistry, Biotechnology and Bioinformatics  
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## REACH US AT

**Dr. K. RAMYA**

Nodal Officer

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