

Invited Talks
Case Studies
Hands-on Sessions
Activities



Online!



Avinashilingam Institute for Home Science and Higher Education for Women



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

&

Department of Chemistry

Jointly organizes

Fifth Short Term Capacity Building Programme for the year 2025
on

**Technology-Driven Sustainability in the Sciences:
Innovations, Applications, and Pedagogical Approaches**

25.08.2025 to 30.08.2025





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, 4-Star Performer by Institution Innovation Council of MHRD.

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.

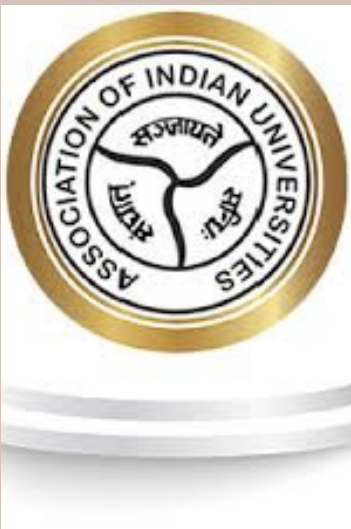
It has the distinct feature of having the largest network of universities and other higher education institutions under its ambit, with 1,088 institutions, including 16 foreign associate members from other countries. The membership of AIU includes all types of universities, such as conventional universities, 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.





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 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



ABOUT THE PROGRAMME

- The Faculty Development Programme (FDP) on "Technology-Driven Sustainability in the Sciences: Innovations, Applications, and Pedagogical Approaches" is a forward-looking initiative designed to empower educators in science and allied disciplines with cutting-edge knowledge and tools.
- In an era where sustainability is no longer an option but a necessity, this program aims to bridge the gap between scientific innovation and sustainable development.



- It will explore key areas such as green chemistry, renewable energy, biotechnology, sustainable materials, and climate change adaptation — all through the lens of technological advancement.
- The FDP will provide hands-on exposure to digital tools such as Artificial Intelligence (AI), Internet of Things (IoT), data analytics, and simulation platforms to solve real-world environmental and energy-related challenges.

- The programme also emphasizes a transformative pedagogical approach that supports embedding sustainability within the science curriculum. Through interactive sessions, expert talks, case studies, and project-based learning modules, participants will gain practical strategies to foster sustainability-oriented scientific inquiry in classrooms and research settings.



- It will promote the integration of sustainability goals within higher education curricula, encourage interdisciplinary collaboration, and support long-term institutional impact. Ultimately, the FDP will prepare faculty to inspire future-ready students equipped with both scientific expertise and a commitment to sustainable development.

OBJECTIVES

- Build awareness of tech innovations for sustainable science practices.
- Train faculty in AI, IoT, and data tools for solving environmental issues.
- Encourage tech-based teaching and research focused on sustainability.

TARGET PARTICIPANTS

- Faculty from Chemistry, Physics, Biology, Environmental Science, Engineering, and Education.
- Researchers and doctoral scholars in science and sustainability fields.
- STEM-focused teachers, curriculum developers, and education policymakers.

Duration : 25.08.25 to 30.08.25

(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: 25.08.2025

Sustainability in Scientific Thinking

- **Inauguration: The landscapes of Sustainability, Science and Global welfare**
- **UN SDGs & their alignment with science education**
- **Role of science in environmental stewardship- case studies**
- **Principles of green chemistry & physics**

Day 2: Date: 26.08.2025

Innovative Technologies for Sustainable Development

- **Intellectual Property rights in Science Research**
- **Green materials and biodegradable alternatives**
- **Sustainable agriculture and biotech**
- **Renewable energy innovations**

Day 3: Date: 28.08.2025

Digital Tools for Environmental Monitoring

- **IoT and remote sensing**
- **Role of Machine Learning & AI for environmental predictions**
- **GIS, simulation tools, and data visualization**
- **Citizen science and open data platforms**

Day 4: Date: 29.08.2025

Pedagogical Innovations

- **Integrating sustainability into the science curriculum**
- **Assessment rubrics for sustainability competencies**
- **Project-based experiential learning and place-based approaches**
- **Understanding Institutional Carbon Footprint: Concepts, tools and strategies**

PROGRAMME SCHEDULE

Day 5: Date: 30.08.2025

Sustainability in Action

- **Hands-on tech tool demos (e.g., Tinkercad, GIS)**
- **Institutional sustainability audit model**
- **Rural sustainability-Smart villages for future**
- **Valediction: Sustainability and transformation for a better tomorrow**



REGISTRATION

REGISTRATION LINK :

<https://forms.gle/bvdK1hVgASvWqrocA>



REGISTRATION FEE

- Indian Participants Rs. 1000
- International Participants USD 25

PAYMENT 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

Scan here to register yourself



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 COORDINATOR

Dr. R. SARATHA

Professor and Head

Department of Chemistry

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REACH US AT

Dr. K. RAMYA

Nodal Officer

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