



IARE
INSTITUTE OF
AERONAUTICAL ENGINEERING

Industry Institute Partnership





INSTITUTE OF AERONAUTICAL ENGINEERING (AUTONOMOUS)

Dundigal - 500 043, Hyderabad, Telangana

Industry-Institute Partnership Centre (IIPC) Initiatives

Industry-Institute Partnership Centre (IIPC) of the institute is a dedicated to promote the close interaction of industry and various departments of the institute. The IIPC facilitates internships, MoUs, Professional Networking, consultancy, sponsored R & D projects and industrial and academic trainings those are not prescribed in the syllabus in addition to conducting industrial exhibitions and interaction meets. IIPC prepares engineering students for jobs in multinational companies, by exposing them to newer technologies and engineering methodologies. This bridges the gap between industry and the academic institute.

OBJECTIVES:

- Provide internship and placement assistance for students
- Create awareness and guidance for higher education in India and abroad
- Organize need base and skill-based Training sessions for the students every semester
- Establish research labs /COE / MOUs with industry collaborations
- Provide real time exposure to students and faculty members with the contemporary industrial technologies and projects
- Explore opportunities for collaborative research, technology transfer, product development and curriculum development

IIPC will mainly concentrate on

- MoUs / Collaborative Partnerships
- Internships
- Professional Networking for Engineers

I. MoUs / Collaborative Partnerships

The Division of Industry-Institute Partnership Centre (IIPC) has initiated active MoUs to promote research collaborations and student & faculty exchange programs. The internationalization strategy at the institute is founded on the four pillars: research, education, cultural engagement, and skill development. This strategy is reflected with the following four key collaborative partnerships:

i. Academic Partnerships (International)

The institute works relentlessly to promote global engagement to meet world class standards of education. Within one year since its inception, the office has inked MoU's with premiere universities and institutions in different countries for various collaborative activities including faculty as well as student exchange programs, joint research programs, symposia, workshops, internships, etc.

Following are the existing International partnerships

- Nanyang Technological University, Singapore
- University of Malaya, Malaysia.
- King Mongkut's Institute of Technology Ladkrabang, Thailand.
- Nakhon Pathom Rajabhat Univerity Thailand.
- Asian Institute of Technology, Thailand.
- University of Alabama, USA.
- Vientana National University, Ho Chi Minh City, Vietnam.
- Royal Melbourne Institute of Technology (RMIT), Vietnam.

- Institute of Technology, Bandung, Indonesia.
- University of Melbourne, Australia
- Royal Melbourne Institute of Technology (RMIT), Australia

With its strategic academic partnerships (international), the institute brings faculty and students the following benefits:

- Stimulate stronger research aptitude by encouraging collaborative projects thereby enhancing the chances of publications and impact.
- Professional growth of both the faculty as well as students via knowledge sharing while promoting inter-cultural understanding.
- Provide scope to the students and faculty for further education in global universities.

ii. Academic Partnerships (National)

Active academic partnerships initiated by the IIPC with various central institutes and other national institutes are being initiated to promote research and academic activity collaborations. These academic partnerships are helpful for the student's development as per the industry needs. The faculties are encouraged to do collaborative research activities and promote the quality of research.

Following are the existing Academic partnerships

- Indian Institute of Technology Hyderabad (IITH), Hyderabad
- National Institute of Technology, Warangal
- Jawaharlal Nehru Technological University Hyderabad
- Military College of Electronics and Mechanical Engineering, Hyderabad
- Kalam Institute of Health Technology (KIHT)
- Santhiram Engineering College, Nandyal.
- SVR Engineering College, Nandyal
- Hyderabad Institute of Electrical Engineers (HIEE)

Industry Partnerships

The Institute promotes industry partnership for consultancy, sponsored research, Industrial training and for the establishment of centre of excellences in advanced technologies. The industry partnerships provide opportunity for the students to explore new technologies through training programs and internships.

Following are the initiatives of Industry partnerships

- Participation of experts from industry in curriculum development
- Organizing workshops, conferences and symposia.
- Establishment of industry sponsored laboratories
- Joint research programmes and field studies.
- Providing guidance with industry experts during full semester internship program.
- Industry Exposure Visits for students and faculty.
- Participation of industry executives and practicing engineers in the Institute activities.
- Scholarships/fellowships by industries to the merit students.
- In-Plant Industrial training for the students. .

Research Partnerships

Significant research is progressed with the collaboration of government organizations, academic institutes and industries. IARE has initiated research partnerships with premier institutes in national and international level with students exchange program and collaborative projects,

Highlights of Research Partnerships

1. Access to collaborative funding with IITH by the granted SERB- TARE Research Project 'Development of a Multiview Learning Model for Visualizing Suspicious Behaviors in Public Sector Video Surveillance' – Research Partnership with IITH

2. Connections to outstanding researchers in the international institutes, RMIT, KMIT, University of Malaya, etc. for supporting of doing of quality of research by the faculty and students.
3. Creating opportunity for consultancy, intellectual property generation and commercialization

II). Internships

Internships are methods of combining classroom-based education with practical work experience. Internships may be full-time or part-time, paid or unpaid positions. IARE provides internships for students over the summer break (May / June). During this period can improve skills in real-life situations, and also get access to domain experts.

Internship is a form of experiential learning that integrates knowledge and theory learned in the classroom with practical application and skills development in a professional workplace setting (across in-person, remote, or hybrid modalities). Internships provide students the opportunity to gain valuable applied experience, develop social capital, explore career fields, and make connections in professional fields.

The various internship opportunities are

- a) **Placement Internships**
- b) **Summer Research Internships**
- c) **Field Project**
- d) **Field Practicum**
- e) **Industry In-plant Training**
- f) **Internship to Employment**
- g) **Global Research Internship Program (GRIP)**
- h) **Full Semester Internship**
- i) **Corporate Internship Program**
- j) **Internship through AICTE – INTERNSHALA / EduSkills**
- k) **Online Internships**

a) Placement Internships

Placement internships refer to work experience opportunities that are typically part of a student's academic curriculum. These internships offer practical, hands-on experience in a professional setting, allowing students to apply what they've learned in the classroom to real-world situations. They usually occur during or after a student's course of study and can vary in duration from a few weeks to a year, depending on the nature of the internship and the institution's requirements.

Key Features of Placement Internships:

1. **Integrated into Academic Programs:** These internships are mandatory component of a degree or diploma program. They provide academic credits and are aligned with the student's field of study.
2. **Real-World Experience:** Students get exposure to the work environment in the industries, which enhances their understanding of how theoretical knowledge is applied practically.
3. **Networking Opportunities:** Internships provide a valuable opportunity for students to build relationships with professionals in their field, which can lead to future job opportunities.
4. **Skill Development:** Placement internships allow students to develop technical and soft skills, such as problem-solving, communication, and time management, which are essential in any workplace.
5. **Industry-Specific:** Depending on the student's major or area of study, internships can be in a wide range of sectors, such as finance, engineering, healthcare, IT, marketing, and more.
6. **Future Employment:** Many companies use internships as a pipeline for full-time positions. Successful interns may be offered jobs at the end of their placements.

b) Summer Research Internships

A Summer Research Internship refers to a specialized program typically offered by research institutions. It provides undergraduate or graduate students with an opportunity to engage in hands-on research activities under the guidance of experienced researchers or faculty members.

Here are some key characteristics of a Summer Research Internship:

Research Focus: Interns participate in research projects aligned with their academic interests or career aspirations. These projects can span various disciplines such as science, engineering, social sciences, humanities, and more.

Hands-On Experience: Interns actively contribute to research activities, which may include literature reviews, data collection and analysis, experimentation, simulations, and writing research reports or papers.

Mentorship: Interns work closely with mentors who are experts in their field. Mentors provide guidance, support, and feedback to help interns develop research skills, navigate challenges, and refine their research methodologies.

Learning Objectives: The internship is designed to achieve specific learning outcomes, such as enhancing research skills, gaining exposure to advanced research techniques, understanding the research process from conception to dissemination, and fostering critical thinking.

Professional Development: Interns have opportunities to attend seminars, workshops, and professional development sessions related to research ethics, presentation skills, academic writing, and career planning. They may also network with peers, faculty members, and professionals in their field.

Duration and Structure: Summer Research Internships typically last for several weeks to a few months, depending on the program. The structure may include regular progress meetings, presentations of findings, and opportunities to collaborate with other interns or researchers.

Outcome: Interns often produce a final research report, presentation, or poster summarizing their findings and conclusions. Some may also have the opportunity to publish their work in academic journals or present at conferences.

Summer Research Internships provide valuable experiential learning opportunities to strengthen resumes, help participants make informed decisions about their academic and career paths. They are highly competitive and sought after by students looking to gain practical research experience and establish professional connections in their fields of interest.

c) Field Project

A Field Project is a specific type of educational or research endeavour that typically involves conducting practical work or investigation in a real-world setting, rather than within a controlled laboratory or classroom environment. It is often undertaken by students or researchers as part of their academic or professional development.

In field projects, students work to solve real-world problems on various fields. These unique practical, hands-on learning experiences give students the opportunity to put classroom learning into action, strengthen critical professional skills, and connect with industry insiders.

d) Field Practicum

Field Practicum refers to a structured educational experience where students apply theoretical knowledge gained in the classroom to real-world settings within their field of study. It typically involves supervised, hands-on learning in a professional environment relevant to the student's academic program.

The primary goal is to bridge the gap between academic learning and practical application, preparing students for their future careers by allowing them to gain first-hand experience and develop professional skills under the guidance of experienced practitioners.

e) Industry In-plant Training

Industrial in-plant training, also known simply as in-plant training, refers to a structured program where students or trainees from educational institutions gain practical knowledge and experience within an industrial or corporate environment.

This type of training is particularly common in fields such as engineering, manufacturing, technology, and management studies.

Industrial in-plant training plays a crucial role in preparing students and young professionals for their careers by providing valuable hands-on experience, industry-specific knowledge, and practical skills that are essential for success in the workplace. It serves as a valuable complement to academic education, helping individuals transition effectively from educational institutions to professional environments.

f) Internship to Employment

Internships are work-based learning experiences where students do entry-level tasks at a company. They can benefit their career, not only with that specific company but also by helping in build professional experience, expertise, and networking connections.

Internships are supervised, structured learning experiences in a professional setting that gain valuable work experience in a student's chosen field of study.

g) Global Research Internship Program (GRIP)

Participation in Global Research & Internship Program (GRIP), enhances career potential through life-changing global work and research experience.

The Global Research & Internship Program (GRIP) offers outstanding B.Tech / M.Tech students to intern or conduct research with a variety of organizations and companies abroad for 8 to 12 weeks over the summer/spring. As part of the GRIP program, students collaborate with people from different backgrounds, embrace and adapt to new challenges, and gain global exposure that makes them stand out when applying for jobs or higher studies.

Program Features and Facts:

- A wide variety of internships across many institutions / universities including business, engineering, sustainable development, healthcare, community development, and more.
- Opportunity to develop hands-on research skills under leading international researchers and faculty associated with a university abroad.
- Generous guaranteed funding awards to help accepted students offset travel and internship-related expenses.

h) Full Semester Internship

Internship is undergone as a part of the programme where students can select it as full semester internship (FSI) programme. In FSI, the student must spend one full semester in an identified industry, R&D organization or another academic institution / University and has to carry out the internship as per the guidelines of that industry or institute. The FSI work shall be innovative in nature and explore the research bent of the mind of the student.

Objectives:

The FSI will expose students:

- To enhance and expand the knowledge of a particular area.
- To explore career alternatives prior to graduation.

- To develop employer-valued skills such as teamwork and communications.
- To extend students an opportunity to study at internationally renowned partner institutions.
- To gain an in-depth exposure to a different study environment.
- To prepare the students to adapt to and excel in a global work environment.
- To help them to understand different cultures, work styles and mindsets

i) Corporate Internship Program

A **Corporate Internship Program** is a structured opportunity offered by companies to students or recent graduates to gain hands-on work experience in a corporate environment. These programs typically last for a few months and provide participants with practical exposure to the industry, professional development, and networking opportunities.

Key Elements of a Corporate Internship Program:

1. **Duration:**
 - Typically 8 to 12 weeks, though some programs may extend up to a year.
 - Can be offered during the summer, winter, or throughout the year (part-time or full-time).
2. **Mentorship and Training:**
 - Interns usually work under the guidance of a supervisor or mentor.
 - Formal training sessions, workshops, or seminars may be provided to enhance skills.
3. **Departmental Exposure:**
 - Interns may work in specific departments (e.g., marketing, finance, engineering) or rotate through multiple departments to gain broader exposure.
4. **Project-Based Work:**
 - Many internships involve working on real projects, which can be valuable for learning and portfolio-building.
 - Interns may also participate in team collaborations or contribute to ongoing company initiatives.
5. **Networking Opportunities:**
 - Interns have the chance to build professional relationships with employees and industry leaders.
 - Networking events or social activities may be organized to foster connections.
6. **Corporate Culture Exposure:**
 - Interns get a first-hand understanding of the company's corporate culture, values, and day-to-day operations.

Benefits for Interns:

- **Skill Development:** Gain practical skills related to their academic background or career interests.
- **Resume Enhancement:** Real-world experience can be a valuable addition to a resume.
- **Networking:** Building a professional network can help in future job searches.
- **Job Offers:** Exceptional interns may be offered full-time employment post-internship.

Benefits for Companies:

- **Talent Pipeline:** Internships serve as a recruitment tool, allowing companies to identify and groom future employees.
- **Fresh Perspectives:** Interns often bring new ideas and enthusiasm to the company.
- **Support for Teams:** Interns can assist with tasks, providing support to full-time employees.

j) Internship through AICTE – INTERNSHALA / EduSkills

To facilitate internships to the students, AICTE has been identifying organizations / Ministries both in India & abroad and signing MoUs. AICTE has recently signed an MoU with Internshala. Student can use Internshala platform for free internships.

Internshala (<http://internshala.com>) is India's largest internship & training platform with more than four lac internship listing every year across all streams. Founded in 2010, by a team of IIT & NIT alumni, Internshala helps students to find internships in more than 40,000 organisations that use the platform to hire interns.

k) Online Internships

Online internships are immersive experiences – not just a series of Zoom meetings, in which remote working with an organisation, undertaking genuine and relevant projects for them, working with their staff. Students can conduct internships across all sorts of industries and sectors, including established corporations, start-ups, finance companies, government departments and not-for-profits. With an Individual Internships, students work independently like a regular (remote) employee reporting to a mentor/manager from campus, closely supported by faculty.

Types of Online Internships:

- **Corporate internships:** Companies in various industries, such as tech, finance, marketing, and consulting, offer remote internships.
- **Non-profit internships:** Many non-profit organizations offer internships in areas like social work, communications, research, and fundraising.
- **Startups:** Startups, especially in technology, often have online interns working in software development, digital marketing, business development, and design.
- **Research internships:** Many universities and research institutions offer online internships in fields such as data analysis, scientific research, and policy.
- **Government internships:** Some government agencies offer remote internships in fields like public administration, law, and data analysis.

Advantages of Online Internships:

- **Flexibility:** Interns can work from anywhere, which is especially beneficial for those unable to relocate.
- **Time management:** Many internships offer flexible working hours, allowing students or part-time workers to balance their responsibilities.
- **Global opportunities:** Students can apply for internships worldwide, opening up a range of experiences and learning opportunities.
- **Skill-building:** Remote work builds important skills such as digital communication, time management, and self-discipline.

III) Professional Networking for Engineers

Professional Networking membership refers to an individual's enrolment in an organization or association related to their profession or field of expertise. These societies often offer opportunities for networking, professional development, continuing education, certifications, and access to research and publications. They can also advocate for industry standards and provide platforms for members to collaborate on advancements in their field.

Examples of professional societies include:

- Institute of Electrical and Electronics Engineers (IEEE)
- Institution of Electronics and Telecommunication Engineers (IETE)
- Indian Society for Technical Education (ISTE)
- Computer Society of India (CSI)
- Association for Computing Machinery (ACM)
- Society of Automotive Engineers (SAE)

- Indian Concrete Institute (ICI)
- The Institution of Engineers India (IEI)
- The Institution of Mechanical Engineers (IMechE)
- Association of Indian Management Schools (AIMS)

The IIPC will also provides

Industry Visits and Workshops: Organizing regular industry visits and workshops enables students to interact directly with industry professionals. This exposure helps them understand industry practices, technological advancements, and market demands.

Guest Lectures by Industry Experts: Inviting industry experts to deliver guest lectures provides valuable insights into current trends, challenges, and innovations. It also offers networking opportunities for students and faculty.

Collaborative Research Projects: Encouraging joint research projects between academia and industries fosters innovation and addresses industry-specific challenges. Such collaborations can lead to breakthroughs in technology and solutions to practical problems.

Skill Development Programs: Offering skill development programs tailored to industry needs equips students with relevant competencies and prepares them for the workforce. These programs may include training in emerging technologies, soft skills, and professional ethics.

Industry-Academia Conclaves and Seminars: Hosting conferences, conclaves, and seminars where industry leaders, academicians, and students can exchange ideas, discuss challenges, and explore collaboration opportunities.

Incubation Centers and Start-up Support: Establishing incubation centres within campuses encourages entrepreneurship among students and faculty. Providing support for start-ups with mentorship, funding opportunities, and access to industry networks accelerates their growth.

Industry-sponsored Projects and Competitions: Engaging industry sponsors for student projects and competitions incentivizes practical problem-solving and innovation. It also enhances industry visibility and recruitment opportunities.

Joint Certification Programs: Offering joint certification programs with industry partners validates student skills and enhances their market value. These programs can be aligned with industry standards and requirements.

INDUSTRY OUTREACH ASSOCIATIONS:

At their core, professional associations are groups of people with common career interests. The students can imagine them as clubs filled with professionals aiming to grow in their careers. Members typically pay a yearly fee to join. Here are a few ways you could benefit:

Connections

While each association differs, they universally aim to connect members of a profession and give them opportunities for career enhancement.

Resources

Professional associations may offer continuing education units (CEUs), job boards, workshops, conferences, publication opportunities, scholarships, grants, fellowships and more.

In order to cope up with market demands and equip the students to become successful in the field of data Integration, Institute of Aeronautical Engineering, Hyderabad has associated with

- **TASK - Telangana Academy for Skill and Knowledge**
- **CII - Confederation of Indian Industry**
- **FICCI - Federation of Indian Chambers of Commerce & Industry**
- **AICTE Edu Skills**
- **Internshala**

 **Find out more:**
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