IUCEE Annual Report 2020

Indo Universal Collaboration for Engineering Education

IUCEE

Bringing in Change One Step at a Time!

IUCEE

TABLE OF CONTENTS

IUCEE
Message from The Executive Director

Dr. Krishna Vedula
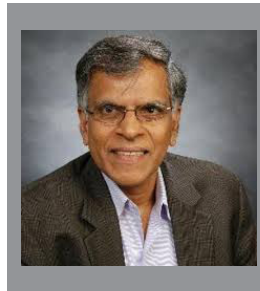
Dear Members of the IUCEE Community,

It is my pleasure and privilege to present below a short summary of what we have collectively accomplished in 2020. This is particularly exciting for me because I have retired and relocated to India in August after 45 years in the US and look forward to work full-time towards our common goal of improving the quality and global relevance of engineering education in India. We are now registered as a Section 8 Company in India and will be able to operate in a more structured manner.

An ecosystem has been built for our 50 IUCEE Consortium institutions with the help of global experts from around the world. Much of this is available to all institutions in India. The central feature of this ecosystem is sharing and collaboration to address the key attributes of global engineering graduates. The New National Education Policy (NEP 2020) provides further guidance by reinforcing need for flexibility, culture of excellence and innovation along with holistic and multidisciplinary education. Particular emphasis is on enhancing student experiences by working on projects and with harmonious integration of education and skill development which fosters critical and interdisciplinary thinking.

This ecosystem includes face-to-face workshops, webinars and courses in a blended format for faculty students as well as institutional leaders. Networking opportunities are created through global partnerships and industry partnerships. Focus on global quality is facilitated by our partnership with ABET (our Quality Partner).

Below is a summary of what we did in 2020. Details are in following pages.

Jai Ho !

Krishna Vedula
Executive Director, Indo Universal Collaboration for Engineering Education (IUCEE)
Dean Emeritus, University of Massachusetts Lowell

Indo Universal Colobration for Engineering Education: Summary of Activities

All these programs are either free or at discounted fees for Consortium members and guided by a network of global experts:

- Annual Conference ICTIEE 2020: Sharing among faculty, academic leadership and industry. More than 1000 participants from more than 100 institutions; more than 100 papers presented.

- **Leadership Programs**
1. Leadership Summit: Annual event for planning among leaders of institutions, 240 leaders from 50 institutions.
2. Voice of Customer Series: Interactions with institutional leaders to determine their priorities: 40 institutions

- **Student Programs**
1. Student Leadership Forum: Annual event for student leadership development: 189 students from 24 institutions
2. Student Summit : Annual event for student chapters: 266 students, 56 institutions
3. Student Chapters: Facilitate formation and managing of

- **IUCEE student chapters: 20 institutions**
1. Student Leadership Course (8 month duration): Students learn leadership skill by working on societal problems: 250 students in 25 institutions.
2. AI for All Course (3 months duration): Students of all disciplines learn Artificial Intelligence: 300 students, 30 faculty, 25 institutions.
3. Entrepreneurship Course (3 months duration): Students learn basics of entrepreneurship: 200 students, 35 faculty, 20 institutions.
4. Clean and Green Campus Course (6 months duration): Students work on C&G Campus projects: 100 students, 15 faculty, 12 institutions.
5. Soft Skills Course (2 months duration): Students learn soft and professional skills: 350 students, 15 faculty, 35 institutions.

- **Faculty Programs**
1. Collaboration Clusters: Global experts facilitate monthly sessions of sharing among faculty in several areas of importance: 230 faculty, 50 institutions, 12 global experts.
2. JEET (Journal for Engineering Education Transformations): Scopus Indexed journal published in partnership with Rajarambapu Institute of Technology (India) with one issue every quarter containing 15 papers each: several global experts reviewing: 100 institutions.
3. Soft Skills Faculty Certification (2 months duration): Faculty learn to teach soft and professional skills: 90 faculty and 22 institutions.
4. IUCEE Engineering Educators Certification (9 months duration): Faculty learn to be more effective teachers: 300 faculty, 10 institutions.
5. OnLine Teaching Course (3 months duration): faculty learn tools for online teaching and for engaging students online: 304 faculty, 45 institutions.
6. Engineering Education Research Course (11 months duration)): Faculty learn to conduct research in engineering education: 18 faculty, 6 institutions.
7. Research Methods Course (4 months duration): Faculty learn how to conduct research in their domain areas: 80 faculty, 15 institutions.

- **Industry Partnerships**
1. Dassault, Mathworks, Comsol, IonCudos, Emona, Siemens, National Instruments
2. Quanser Virtual Internship (6 months): Faculty and students develop online learning modules using Quanser platform: 4 faculty, 12 students.
3. ESF Labs Workshop (1 month): students learn how to use Virtual Labs for Cybersecurity: 60 students, 10 institutions.
4. Social Proton Workshop (1 month): students learn how to use Virtual Labs for various applications: 50 students, 10 institutions.
5. Smartbridge Virtual Internship (1 month): Students participate in a virtual internship on AI, ML and IOT: 20 students, 10 institutions.
6. Smart Manufacturing Partnership with AIA (Automotive Industry Association) and IIT Delhi: 150 students and 20 faculty from 10 institutions.

Indo Universal Colobration for Engineering Education: Summary of Activities

Article by Dr. Krishna Vedula
Executive Director IUCEE

- **Global Partnerships:**
1. Global Industrial Advisory Forum: Global industry leaders guide IUCEE programs and mentor IUCEE institutions: 50 institutions, 20 global experts
2. Global Academic Advisory Forum: Global academic leaders guide IUCEE programs and mentor IUCEE institutions: 50 institutions, 30 global experts
3. Webinars in partnership with IFEES (International Federation of Engineering Education Societies) and GEDC (Global Engineering Deans Council); 43 webinars with average 289 participants.
4. Webinars with focus on entrepreneurship in partnership with University of Massachusetts Lowell; 10 webinars with average 247 participants.
5. EPICS (Engineering Projects in Community Service) in partnership with Purdue University: 14 institutions continue work on community projects.
6. Engineers Without Borders (EWB) India: IUCEE Student Chapters encouraged to become EWB India Chapters and collaborate on monthly webinars: 5,000 students.

Indo Universal Collaboration for Engineering Education: At a Glance

From Year 2007

Brief History

Indo Universal Collaboration for Engineering Education (IUCEE) was conceptualized by over 150 leaders of engineering education and businesses from US and India in 2007. The name was modified in 2016 from Indo US Collaboration for Engineering Education to reflect the more global nature of the collaborations.

The major focus of IUCEE is faculty development, student development, curriculum development, as well as improved teaching methodologies & engineering education research.

IUCEE has become established as a prime mover for improving quality of engineering education in more than 50 engineering colleges in India. An ecosystem has been built with the help of experts from around the world. This ecosystem includes face-to-face workshops, webinars and courses in a blended format for faculty development, international conferences, a peer-reviewed journal on engineering education, a certification program as well as networking opportunities between engineering educators and students from India and the global community.

IUCEE Vision: The vision of IUCEE is to improve the quality and global relevance of engineering education and research in India with related benefits to engineering educators around the world.

Consortium Members

IUCEE believes in assisting any engineering institution, which is interested in improving the quality of engineering education it offers.
The primary objective of inviting institutions to become members of the IUCEE Consortium is to assist them in improving the quality of their engineering graduates. IUCEE works with the institutional leadership and faculty to understand the strategic plan of the institution and facilitate the transformation of the process of engineering education at the institution.

Annual fees for institutional membership in the IUCEE Consortium is $1,000 payable to IUCEE headquartered at University of Massachusetts Lowell, USA. As of November 2020, there are 91 consortium member institutions.

IUCEE Mission: The Mission is to build an ecosystem for transforming engineering education in India with the assistance of engineering education experts and industry from around the world.

IUCEE Team extends our thanks to Late Dr. Luney Morell for her contribution to IUCEE and education field! You will be missed.

IUCEE team extends our heartfelt condolences to those who lost their loved ones to this pandemic!

We would also like to convey our warm regards to all the faculty members, administrative staff, and directors who stood strong to this challenge. We salute your efforts which, made sure that high quality engineering education persisted, despite the challenges!

Thanks to all the students, who stayed positive and acclimatized to the new normal!

ICTIEE: International Conference on Transformations in Engineering Education

From Year 2014

Article by Dr. Krishna Vedula
Executive Director IUCEE

The Seventh Annual Conference ICTIEE 2020, was held in January 2020 at Anurag Group of Institutions in Hyderabad, Telangana. The IUCEE community of engineering institutions experienced all dimensions of the IUCEE ecosystem. Faculty from engineering colleges all over India shared their transformational experiments and best practices in 149 paper presentations in 18 sessions on Jan 7. Themes for the papers were Outcomes Based Education, Assessment and Evaluation, Curriculum Design and Development, Societal Impact, Game Based and Project Based Learning, Innovations in Teaching Learning Process and Entrepreneurship, Women in Policy and Decision Making and Outreach. Best Papers were recognized. 70 teams of faculty and students shared their Project Based Learning experiences through community projects at the IUCEE-EPICS Expo and Poster sessions on January 6 and 7. Best Posters were recognized. Global experts shared a variety of their experiences in 13 keynote presentations including Preparing the Workforce of Tomorrow, Building Clean and Green Campuses, Science, Technology, Engineering, Arts and Mathematics education, Global Partnerships for Sustainability Education, Engineers Without Borders India, Teaching Entrepreneurship for Sustainability, Global Quality in Engineering Education, Engineering Education Research for Transforming Engineering Education and IUCEE International Engineering Educator Certification Program.

Workshops on 10 different topics were offered to participating faculty on January 5. Workshop topics were highly relevant to transforming engineering education: ABET Accreditation, Developing Clean and Green Campuses, Improving STEAM Education, Building Teacher Excellence Corps, Outcomes Based Education, Effective Assessment for OBE, Project Based Learning, Engineering Education Research, Teaching Entrepreneurship for Sustainability, Research to Publication/ PhD Thesis.

Members of the IUCEE Global Industrial Advisory Forum (GIAF) reported on the Collaborations between IUCEE institutions through Clusters on Teaching and Learning Centers, IIEECP Certification, Project Based Learning, Outcomes Based Education, Engineering Education Research, Entrepreneurship and First Year Engineering Education.

Sessions for Management and Academic Leadership of IUCEE institutions were held on Jan 7 along with the leadership of GEDC (Global Engineering Deans Council). These leaders shared progress of quality initiatives in their institutions as well as planned collaborations for the coming year.

A Thanksgiving Banquet was held on Jan 7 to recognize these leaders as well as the sponsors and international guests. Individuals from IUCEE institutions who have been particularly effective in leading and catalyzing transformations were recognized with Certificates and Cash Awards at the Showcase of Transformation Awards on January 8. Categories of Awards were Leadership of Teaching and Learning Centers, Progress after IIEECP Certifications, Excellence in Community Based Projects, Overall Leadership of Institutions, Excellence in Engineering Education Research and Student Leadership.

50 faculty certified under IIEECP received additional recognition with the title of "International Engineering Educator ING.PAED.IGIP" by the President of IGIP along with Certificates.

Sponsor workshops were presented by Dassault Systems, Mathworks, National Instruments and Comsol on January 6 and keynotes were delivered on January 6, 7 and 8. Two new strategic initiatives which were an outcome of the 2019 IUCEE Leadership Summit in Goa in July 2019 were launched. These are "Clean and Green Campus" and "STEAM Education". Plans are being made with IUCEE institutions interested. In addition, we also found time for IUCEE Strategic Planning for the coming year. As part of this process, discussions were held for modifying IUCEE EPICS Partnership and making it more economical for institution.

Participation in ICTIEE 2020
149 Paper presentations in 18 Sessions
70 Team Poster Presentation
13 Keynote Presentations
10 Workshops

ICTIEE 2020 Inaugural ceremony at Anurag Group of Institutions

IUCEE Team at the ICTIEE Event

Dr. Veena Kumar and Dr. Krishna Vedula felicitating Dr. Gopalkrishna Joshi at ICTIEE

Attendance in Academic Workshops
ABET Accreditation Workshop: 7
Developing Clean and Green Campuses: 48
Improving STEAM Education: 48
Building Teacher Excellence Corps:21
Outcomes Based Education: 89
Effective Assessment for OBE: 81

Project Based Learning: 109
Engineering Education Research: 69
Teaching Entrepreneurship for Sustainability: 57
A-Z for Research to Publication/PhD Thesis: 135

Sponsors Workshop
COMSOL: 62
EMONA: 34
Lab view: 50
Math works: 76
National Instruments: 31

IUCEE: Virtual Academy - Webinars

From Year 2011

Article by Sheetal Sohoni
UX Designer and Consultant
Sridhar Nori
Manager, Virtual Acadmey

Covid 19 brought in a big change in terms of how we perceive and practice education. IUCEE has always believed in creating an environment that promotes learning, upskilling and continuous professional development. IUCEE started webinars based virtual academy in 2011. These webinars became an important platform to communicate, network, and learn in these trying times. Academy uses technology as a platform for engaging, teaching and learning for engineering faculty and students across India. The topics of these webinars vary from teaching, research, use of technology in conveying ideas, and case studies. These online webinars are synchronous in nature, and thus provide a chance for networking, connecting, collaborating (to identify peers with similar interests), and learning from each other. Keeping in mind the busy schedules of faculty members and students, IUCEE also provides recordings of the webinars. These webinars are available to all consortium member institutions. IUCEE has developed an ecosystem that promotes quality education and learning from peers.

In 2020 calendar year, Virtual Academy hosted 200 webinars, and a total of 44,487 particpants attended.

Some of the topics covered in the webinars are:

- COVID-19: Lessons Learned From Teaching Remotely
- A new imperative: connecting science, society and policy via social media
- Combining Engineering Design and Entrepreneurial Mindset Learning: Teaching Entrepreneurship to STEM Students
- Intro to Social Proton
- Knowledge Versus Skills Dilemma in the Midst of Industry 4.0, Education 4.0, Covid-19 and Beyond
- Working with Project Teams Online
- CRM: Teaching students how to acquire, retain and grow customers
- Remote Internship Program
- Online Tools/Utilities to Keep the Online Sessions More Interactive & Engaged Smartly
- Effective Use of Online Tools
- Accelerating Computations using MATLAB and Simulink
- Experiential Learning Using Ultra Concurrent Remote Laboratory
- Distance Learning with Cloud-based Tools from MathWorks

- A New Genre Class-Book
- A Scalable Approach to Distance Learning Available Today!
- Effective Conduction of Online Lectures using ZOOM
- Problem-based Megaprojects: Complex problem-solving competences and interdisciplinarity in higher education
- Online Classroom – Need of the Hour
- Upskilling and Engaging the Global Engineering Students More Deeply in IFEES/GEDC/ISEE Global activities

Most Popular webinars and presenters:

- Online Classroom –Need of the Hour: April 20th 2020: Prof. Keith. R. Fernandes, St Joseph Engineering College, Mangaluru, India
- Online Teaching: Challenge, Technique, and Opportunity: May 13th 2020: Professor Xinjie Yu, Department of Electrical Engineering Tsinghua University, China
- Online Tools/Utilities to Keep the Online Sessions More Interactive & Engaged Smartly: May 19th 2020: Dr. Sachin Subhash Patil, Rajarambapu Institute of Technology, Rajaramnagar MH
- Working With Project Teams Online: April17th 2020: Dr. William Oakes, EPICS, Purdue University
- Problem-based Megaprojects: Complex problem-solving competences and interdisciplinarity in higher education: May 6th 2020: Anette Kolmos & Lykke Brogaard Berte, Aalborg University, Denmark

Dr. William Oakes, EPICS, Purdue University

Prof. Keith. R. Fernandes, St Joseph Engineering College

Anette Kolmos & Lykke Brogaard Berte, Aalborg University

Dr. Sachin Subhash Patil, Rajarambapu Institute of Technology

Professor Xinjie Yu, Department of Electrical Engineering Tsinghua University

IIEECP: International Engineering Educators Certification Program

From Year 2015

Article by Dr. Veena Kumar
Director IIEECP

This IUCEE International Engineering Educator Certification Program (IIEECP) is the first certification program of its kind for training engineering faculty in India.

The IIEECP program is unique in many ways. Although it is primarily taught by faculty from renowned universities in the United States, the program is fully customized and adapted for India. It takes into consideration the socio-cultural realities as well as the teaching and learning needs of the Indian faculty and students respectively. As we step into 2021, nearly 800 engineering educators in India carry this distinct certification, with the last batch of 165 participants completing their certification in Spring 2020.

Numbers apart, the qualitative contribution of IIEECP in developing engineering educators' professional competence has been very impressive. Even though this growth is hard to quantify, it is evident in certified faculty's feedback. Most faculty experienced heightened motivation in preparing for their classes, using innovative classroom practices, conducting and publishing research, and actively participating in their institution's accreditation process.

The proof-positive of the great motivating impact of the IIEECP on engineering faculty can be seen through the leadership role they play in training their colleagues and faculty from neighboring institutions. Whether these are academic events conducted through their Teaching-Learning Centers or sponsored training programs, the IIEECP certified faculty is always at the forefront.

The IIEECP is extremely proud of its association with the IGIP, the International Society of Engineering Pedagogy. A year after its inception in 2015, the IIEECP was recognized by the IGIP for a joint certification. The IGIP is a highly prestigious professional body that has been certifying engineering educators with the title "Ing.Paed.IGIP," which translates to "IGIP Diploma in Engineering Pedagogy" in English. This title is held by 70 Indian IIEECP certified educators thusfar, and another fifteen IIEECP certified faculty have been selected for the honor this year.

The unusual situation created by COVID-19 in 2020 also impacted the IIEECP. As most colleges were closed, none of the Phase Is (the preliminary three-day, face-to-face workshops) could be held. This resulted in a domino effect, blocking the delivery of the subsequent phases. However, the IIEECP used this time to focus on two important tasks i) to develop a virtual version of Phase I, and ii) to update the IIEECP webpage on the IUCEE website.

The newly developed Virtual Phase I was administered to two batches, each consisting of 20 participants, one from BMU, Manesar and the second from MIET, Jammu. Both iterations were very successful and now that a virtual version of the entire IIEECP is available, it may be the right time to take this program beyond India.

This year, nine faculty leaders will be honored at the International Conference of Transforming India's Engineering Education conference in January, 2021 for their outstanding contribution in transforming engineering education in India.

In the year 2020:
300 Faculty from 10 institutions have compltd the certificate
Total no. of engineering educators certified so far: 762
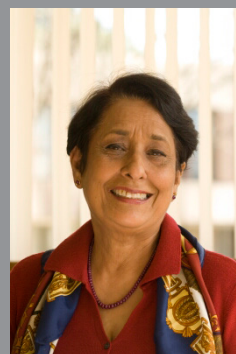
Dr. Veena Kumar, Executive Director IIEECP

The complete program is offered in three phases .
Phase I: Pre-Certification Workshop
Phase II: Online Modules
Phase III: Valedictory Workshop
Faculty Members:
Dr. Veena Kumar,University of Maryland
Dr. Krishna Vedula , UMass Lowell
Dr. S.D. Rajan, Arizona State University

Dr. Claire Komives, San Jose State University
Dr. Archana Mantri, Chitkara University
Dr. Stephanie Farrell, Rowan University
Dr. Neeraj Buch, Michigan State Univertsity
Dr. Sohum Sohoni, Milwaukee School of Engineering
Dr.Prathiba Nagabhushan, Australian Catholic University

Dr. Anil Kulkarni, Penn State University
Dr. Rio D'Souza, St. Joseph Engineering College
Mr. Tom Iwinski, Penn State University

EER: Engineering Education Research

From Year 2019

Article by Dr. Sohum Sohoni
Associate Director IUCEE, Professor Computer Science MSOE

In 2019, IUCEE started offering an year-long course on engineering education research. The first iteration ran from March 2019 to March 2020, and resulted in several research paper drafts from the participants. The course was created and taught by Dr. Sohum Sohoni and Dr. Prathiba Nagabhushan. The instructors reflected on what went well and what could be improved in the course, and came up with version 2.0 which started in September of 2020. Dr. Sohoni and Dr. Nagabhushan wrote a reflection paper about this course which they presented at the Frontiers in Education conference. Details about the course can be found in the paper (cited below), but here is a brief summary.

The EER course is a practical-oriented course where the participants learn about the scientific approach to research and the methods and techniques of academic research in the context of engineering education research. The participants examine and are practically exposed to the significant components of a research framework, which includes problem definition, research design, methods of data collection and analyses, ethical issues in research and report writing. Once equipped with this knowledge, participants undertake research in their chosen area, working in small groups, and prepare a manuscript with their research findings to submit to peer-reviewed journals. In version 2.0 of this course, alternate meetings of the course feature external panel discussion, with each panel being composed of world-renowned researchers in engineering education research.

IUCEE's goal for this course is to build expertise in this area within various institutions in India, so that faculty who are certified through this program can serve as mentors and local experts at these institutions. Rather than try to build capacity at a large scale, we have taken the approach of screening the applications and focusing on faculty who are most likely to serve as mentors. A secondary goal is to establish research collaborations between faculty at different institutions to drive a model of collaborative research. We are happy with the progress made so far, and are looking forward to a successful second round of this course, which has gotten off to a flying start.

S. Sohoni, P. Nagabhushan; "An Introductory Course on Research in Engineering Education- An experiment in training faculty in India" IEEE Frontiers in Education Conference (FIE), Uppsala, Sweden, October 2020

40 participants from 18 institutions for EER course 2019-2020 batch.

- BITS Pilani Goa
- Chitkara University
- CMR College of Eng and Tech
- Hyderabad Inst of Tech and Management
- JN Technical University Kakinada
- Kalasalingam Academy of Research and Education
- KJ Somaiya College of Engineering
- KLE Tech University
- LE College Norbi
- Manipal University of Jaipur
- PSG Inst of Tech
- QIS Inst of Tech
- RV College of Engineering
- Saint Josephs Engineering College
- Saintgits College of Engineering
- Sphoorthy Engineering College
- SR Engineering College
- Thiagarajar College of Engineering

19 Participants from 5 institutes for 2020-2021 batch

- Anurag Groups of Institution, Hyderabad
- College of Engineeering Trivendram
- Hindustan Institue of Technology and Science, Chennai
- MIT Academy of Engineering, Pune
- K.K. Wagh Institute of Engineerign Education and Research, Nashik

IUCEE: EPICS Partnership

From Year 2016

Article by Dr. Krishna Vedula
Executive Director IUCEE

The IUCEE-EPICS Partnership (Engineering Projects in Community Service) was launched in partnership with Purdue University in 2016. The most important aspect is that students working on EPICS projects develop important skills, which are transferable to any other real-world problems, making the engineering graduates much more "employable". Prof. Williams Oakes founded this program at Purdue University almost 20 years ago, and currently runs at over 30 Universities all over the USA. The IUCEE-EPICS Partnership launched in 2016, has now 14 consortium institutions as its members. They are engaged with several community partners with emphasis on Design Thinking and development of Professional Skills while assisting communities on real projects.

The EPICS program was not very active during 2020 due to COVID. The Program will be revived in 2021

As of December 2019, there are 14 EPICS institutions.

- Anurag Group of Institutions, Hyderabad, TS
- C.M.R. College of Engineering and Technology, Hyderabad, TS
- Chitkara University, Chandigarh, Chandigarh
- Hyderabad Institute of Technology and Man-agement, Hyderabad, TS
- KLE Technological University, Hubli, KN
- M.L.R. Institute of Technology, Hyderabad, TS
- Malla Reddy Engineering College, Hyderabad,TS
- Marwadi University, Rajkot, Gujarat
- Nalla Malla Reddy Engineering College, Hyderabad, AP
- S.R. Engineering College, Warangal, TS
- Saintgits College of Engineering, Kottayam Kerala
- Sree Vidyanikethan Engineering College Tirupati, AP
- Thiagarajar College of Engineering, Madurai, TN
- Vardhaman College of Engineering, Hyderabad, TS

IUCEE: Clean and Green Campus Initiative

From Year 2019

Article by Dr. Deepak Waikar
Consultant and visiting professor , Singapor

Conceptualization of a Clean and Green Campus initiative was inspired by a keynote on Solar Energy, Bioenergy, and Social Entrepreneurship by Er. Deepak Gadhia, Chairman, Sunrise CSP, India at the IUCEE Leadership summit in July 2019. Considering the informal response of some of the participants and advice of Prof. Krishna, Dr. Deepak Waikar prepared a white paper in collaboration with Er. Deepak Gadhia on Clean and Green Campus Initiative for the IUCEE member colleges in Sept 2019 and subsequently, the GIAF Committee of IUCEE endorsed the proposal.

To provide detailed information on the proposed Clean and Green Initiative, Er. Deepak Gadhia and Dr. Deepak Waikar conducted a pre-conference workshop at the IUCEE International Engineering Education Conference in the first week of January 2020. Over 50 faculty members attended the workshop.

As a follow-up, a Practice-oriented workshop at the Muni Seva Ashram, Near Vadodara in the last week of January 2020 was organized. Twelve (12) faculty members from IUCEE Member Consortium and 3 participants from other colleges/institutes attended the workshop.

Due to the pandemic situation, Virtual/Online Course on Clean and Green Campus started in August 2020 for about 100 students from 10 Member Colleges. Twenty (20) faculty members are also attending the course. Three industry and two academic experts delivered a series of the webinar on Sustainable Energy, Energy Conservation, Renewable Energy, Waste Management, and Water Resource Management. Prof. Krishna emphasized on design thinking, project management, and report writing aspects. Students in groups presented their potential ideas in consultations with their supervisors. Industry and academic experts provided their comments on their proposals. The phase-1 of the course has concluded in the first week of November 2020. The selected project will be taken up by the students under the supervision of respective faculty members and mentorship of industry and academic experts for phase-2, commencing from the second half of November 2020.

To reach out to more faculty members and member colleges, a workshop at the IUCEE International Engineering Education Conference has been planned during 8-10 January 2021. For taking this initiative to the next level Virtual/Online Faculty Development, Management Development, and student development programs on Clean and Green Campus initiatives are being planned for 2021.

JEET: Journal of Engineering Education and Transformations

From Year 2014

Article by Dr. Sohum Sohoni
Co-Editor in Chief JEET, Professor Computer Science MSOE

Journal of Engineering Education Transformations (JEET) is a scholarly journal committed to the advancement of theory, research and practice in the field of engineering education. Published in India, the world's largest hub of engineering education, JEET is international in its scope inviting scholars and experts from across the globe to share their theoretical insights and innovative practices for the enhancement and transformation of engineering education.

JEET is a peer-reviewed journal made available in both print and Online versions. A double-blind peer-review process performed by experts in the field will ensure the highest standard in scholarship. It is ranked in the top 20 in Google Scholar's Metrics in Engineering Education, with an h5-index of 7 and h5-median of 12 as of November 2020. It is on the UGC-CARE list and is SCOPUS indexed. In 2020, JEET received another distinction by getting listed on the Research in the Engineering Education Network (REEN) website: https://www.reen.co/eer-journals. Keeping up with the trend of the past few years, JEET's popularity has increased further this year, with 593 manuscripts submitted for review this as of November 2020. The total number of registered users on JEET's website is 2385 (959 added this year). Several new Associate Editors were added to the journal, to meet the high volume of submissions that JEET continues to receive. Additionally, Dr. Sandeep Desai was promoted to the position of Review Process Manager, to help the Chief Editors with Associate Editor assignments and other tasks. This year, JEET has begun a mentored reviewer program modelled after a similar program that was run by the Journal of Engineering Education (JEE). One of our new AEs, Dr. Teresa Hattingh was part of JEE's program as a mentor, and she is leading JEET's mentored reviewer program. The first round of this program involved training 14 mentors who are Associate Editors and 15 mentees who are reviewers. Besides providing the actual training for becoming better reviewers, the mentored reviewer program was resounding success in terms of building the JEET AE/ reviewer community. Several participants expressed how the reviewer training helped them grow not just as reviewers but as authors and researchers as well. Prior to starting this program, Dr. Hattingh, Dr. Swaroop Joshi, Dr. Sandeep Desai and Dr. Sohum Sohoni worked on creating new author and reviewer guidelines that are consistent with each other. The author template was also updated to have consistency throughout. The journal continues to seek qualified reviewers. Reviewers receive an automatic email acknowledgement for each review and a certificate upon request.

JEET is ranked in the top 20 in Google Scholar's Metrics in Engineering Education

As of November, 593 manuscripts submitted for review this year

IUCEE: Leadership Summit

From Year 2017

Article by Dr. Krishna Vedula
Executive Director IUCEE
Mr. Jayant Sathe
Director GIAF

IUCEE Leadership Summit was held on July 10, 11 and 12, 2020. Past three years the Leadership Summit was held in Goa. However, this year, with the Pandemic around the world, it was decided to hold this summit in 'Virtual' mode. It is the first time we did it virtually and it was a great success.

The primary objective of the summit is for IUCEE's Leadership to connect with the Senior Leaders of the Consortium member institutions. Traditionally, when we met once a year we tried to a) Share and Learn from the 'Case Studies' of successful Institutional Transformations through good governance and effective leadership and b) Understand the systemic tools and frameworks that can be used to lead the engineering colleges and Universities to achieve excellence and to identify which two or three tools are to be selected for deployment in the next year for each of the participating institution.

This year we decided to try a different approach. To prepare for this year's summit, we connected with the leadership of over 50 Consortium Member Institutions to hear from them what we called 'Voice of the Customer (VoC). In other words, to understand what they are gaining from their association with IUCEE and what other assistance they would like from IUCEE. The response was that the Institutions are seeking IUCEE's assistance to improve their NIRF ranking and therefore, all the components that go into NIRF ranking like, NBA Accreditation, Research funding & publications, Industrial and International Collaborations, etc.

We arranged the Summit agenda to address these questions by having multiple Keynote Speakers followed by Panel Discussions in each of these areas. The highlight of the Summit was the opening day Keynote speech by Dr Anil Sahasrabudhe, AICTE Chief. Over 3 days the Keynotes and the Panel Discussions were broken out into 6 sessions, 2 every day. All the sessions together addressed following areas: NIRF Ranking, Accreditation, Industry Collaboration, Funding and Research, On-line Teaching and Faculty Development. It was important to have people in India present their learnings since they understand the context in which all of us operate. With the exception of 2 International experts, all other keynotes were from Indian Institutions or Industry Leaders, where they presented their Institution's journey and their accomplishments the area they focused on.

Since the whole event was virtual, it started every evening at 6 pm IST and went well past 11 pm IST every evening to accommodate all our Indian and International participants. The response to the Summit was phenomenal. Over 220 people

from 58 Institutions attended. The feedback we received at the conclusion of the Summit was that the attendees appreciated keynotes and Panel Discussions. The Technology Team did a superb job and we did not experience any technology glitches throughout the event.

Based on the learnings from this summit, IUCEE Leadership is staying in on-going contact with the Institutions and their leadership through a newly introduced Member Relationship Coordinator (MRC) program and a periodic meeting with the Institution Leaders. Read about the MRC program elsewhere in this Annual Report.

Keynote Speakers:

- Dr. Anil Sashrabuddhe, AICTE Chairman
- Dr. Ashok Saxena, Provost
- Dr. Michael Milligan, ABET
- Dr. Sushma Kulkarni, RIT
- Dr. Shubha Pandit, K.J.Somaiya
- Dr. K.N Subramanya, R.V. College
- Dr. Samita Maitra, B.M.S College
- Dr. Michale Fors, Boeing

Participating Institutions
Anurag Group of Institutions, Hyderabad: 7
B. M. S. College of Engineering, Banglore: 7
Baba Farid Group of Institutions, Bathinda: 3
BML Munjal University, Gurgaon: 3
BVRIT College of Engineering for Women, Hyderabad: 3
Chitkara University, Chandigarh: 6
CMR College of Engineering and Technology, Hyderabad: 5
College of Engineering Trivandrum: 3
CSMSS CHH. Shauh College of Engineering, Aurangabad: 4
DKTE'S Textile and Engineering Institute, Ichalkaranji: 10
Hindustan Institute of Technology & Science, Chennai: 2
Hyderabad Institute of Technology and Management, Hyderabad: 6
K J Somaiya College of Engineering, Mumbai: 3

K S R M College of Engineering, Kadapa: 2
K.K.Wagh College Of Pharmacy, Nashik: 3
K.K.Wagh Institute of Engineering Education &
Research, Nashik: 3
Kalasalingam Academy of Research
and Education: 5
KL University, Vijayawada: 3
KLE Technological University, Hubbali: 3
Lakireddy Bali Reddy College of Engineering,
Vijayawada: 3
Malnad College of Engineering, Hassan: 6
Mar Baselios College of Engineering and
Technology, Thiruvananthapuram: 3
MIT Academy of Engineering, Pune: 11

MLR Institute of Technology, Hyderabad: 4
Model Institute of Engineering and Technology ,
Jammu: 4
MVGR College of Engineering, Vizianagaram: 1
MVJ College of Engineering, Bangalore: 3
Nalla Malla Reddy Engineering College,
Hyderabad: 9
National Institutue of Technology, Calicut:2
NIE Institute of Technology, Mysore: 3
NITTTR Chennai: 5
PSG Institute of Technology and Applied Research,
Coimbatore: 5
R V College of Engineering, Banglore: 5
Rajarambapu Institute of Technology, Islampur: 6
St Joseph Engineering College, Mangalore, KN:2
Saintgits College of Engineering, Kottayam: 5
SR University, Warangal: 2

Sree Vidyanikethan Engineering College, Tirupati: 6
SRK Institute of Technology, Vijayawada:3
Thiagarajar College of Engineering, Madurai: 3
UKA Tarsadia university, Surat: 1
Vardhaman College of Engineering, Hyderabad: 3
Vasireddy Venkatadri Institute of Technology, Guntur: 2
Vidya Jyothi Institute of Technology, Hyderabad: 4
Vidyavardhaka College of Engineering, Mysore: 3
Vignan's Foundation for Science, Technology and
Research, Guntur: 9
Vignan's Institute of Information Technology (A),
Visakhapatnam: 2
Vishnu Educational Development and Innovation Center,
Hyderabad: 1
Vishwakarma University, Pune:5
VIT-AP Univrsity: 1

IUCEE: Academic Clusters

From Year 2018

Outcome Based Education Cluster (OBE)
-Dilip Chemburkar

Former General Electric USA
and GIAF Member, IUCEE

In 2020, the OBE and Accreditation Collaboration Group continued monthly meetings via webinars. During the Virtual Leadership Summit held in July, Dr. Anil Sahasrabudhe, Chairman of AICTE, gave a keynote address in which he mentioned accreditation requirements for institutions. There was consensus among collaboration group members to expand the focus of the group to include topics related to accreditation of programmes by NBA, and institutions by NAAC. The group continues to discuss various related topics during monthly webinars – led by Prof. Umakant Kulkarni of SDM University, Dharwad. A few of the recent topics that were discussed at the monthly meetings are:

- Higher Order Thinking
- Gaps and Plans to Bridge Gaps
- Project Evaluation using Rubrics
- Self-Assessment report (SAR)
- Preparing for NBA Audit
- Rubrics Development – Validation of POs and PSOs
- Program Articulation Matrix

The group will continue to maintain a schedule of monthly meetings in 2021 and be flexible to adapt to changing interests of its members. Topics are suggested by members.

Project Based Learning Cluster (PBL)
-Dr. Raviprakash R Salagame

Head of Engineering Operations at APTIV (Formerly Delphi) India
and GIAF Member, IUCEE

P)roject (B)ased (L)earning cluster was formed 2 years ago with the goal of creating a collaboration platform among IUCEE institutions and enable each institution to recognize their goals and current gaps. The cluster is used as a platform to enable exchange of information, ideas and best practices from other institutions in the cluster. PBL cluster has been meeting once a month to discuss progress of PBL implementation. The cluster has about 40 colleges with representation from faculty from each college. In 2020, the cluster took a major step in establishing a collaboration platform (https://pbliucee.wixsite.com/home) where information exchange and discussions on projects can take place. One of the active members of PBL cluster, Thiagaraja College of Engineering has developed a curriculum on Systems Engineering and planning to introduce this as a course.

Clean and Green Campus initiative was introduced as an extension of PBL activities in 2020. On this topic, Mr. Deepak Gadhia and Dr. Deepak Waikar conducted a pre-conference workshop at the IUCEE International Engineering Conference in the first week of January 2020. Over 50 faculty members attended the workshop. This was followed by a Practice-oriented workshop at the Muni Seva Ashram, Near Vadodara in the last week of January 2020. Twelve faculty members from IUCEE Consortium and 3 participants from other colleges/institutes attended the workshop. A virtual/Online Course on Clean and Green Campus started in August 2020 for about 100 students from 10 Member Colleges. There are 20 faculty members who are also attending the course. We have also emphasized about design, project management, and report writing. Students in groups presented their potential ideas in consultations with their supervisors. Industry and academic expert provided their comments on their proposals. Selected project will be taken up by the students for phase-2.

IUCEE is also planning to conduct a workshop at the IUCEE International Engineering Education Conference during 8-10 January 2021 on this topic. For taking this initiative to the next level Virtual/Online Faculty Development, Management Development, and student development programmes on Clean and Green Campus are being planned for 2021.

Modern Technology Cluster (MT)
-Dr. Anil K Kulkarni

Professor of Mechanical Engineering
The Pennsylvania State University

In the past year, the cluster on Modern Technology in Engineering Education involved primarily four parts – (i) IIEECP certification course module on Harnessing the Power of Technology in Education, (ii) using advanced

IUCEE: Academic Clusters

technology of Virtual and Remote Laboratories, (iii) a panel discussion at the 2020 IUCEE Annual Leadership Summit on Online Teaching and Faculty Development, and (iv) a module in the Online Teaching Course for IUCEE college faculty.

As we did several times in the past years, we offered a module in the IIEECP certification program on incorporating modern learning-teaching techniques in courses taught by engineering educators. Some of the topics covered were, Recording Effective Instructional Videos, Flipped Classrooms, Online Virtual Labs, and Online Teaching. This module has been very popular and successful. Many instructors have not only used these techniques in their own classrooms they are currently teaching, but also studied them for their effectiveness, as evidenced by several papers published by engineering instructors in the past ICTIEE conferences. The module is evolving to address current use of technology by students and teachers, for example, we no longer teach LMS's because these are now well accepted by most instructors. In the current corona virus pandemic, using modern technology in classrooms has become even more urgent and relevant.

Another part of the cluster on Modern Technology includes introducing the remote laboratory concept in colleges, which entails conducting laboratory exercises remotely, not virtually, by students in colleges that cannot afford to offer hands-on experience in labs. While there are initial setup expenses involved, we feel that this will become a powerful educational technique which is currently not available even in most of the prominent universities in India and abroad. Several institutes in India have so far shown strong interest and commitment for adopting this technique by setting up remote laboratory experiments. The Online Teaching and Faculty Development panel discussion at the Leadership Summit held in July 2020 on was led by Dr. Pandit (K J Somaiya College of Engineering, Mumbai), Dr. Gupta (MIET, Jammu), Dr. Kumar (U Maryland, US), and Dr. Kulkarni (Penn State, US). There was a lively discussion followed by a question and answer session and feedback by several attendees.

Presentations were made on using modern technology in education at the Online Teaching Course. It was attended by over 300 college faculty affiliated with the IUCEE.

First Year Engineering Experience Cluster (FYEE)
- Nishtha Chouhan
CEO and Co-founder, Paledify, USA and GIAF Member, IUCEE
- Dr. Sujata Wadhwa
First Step Overseas Consultant

The FYE Cluster Team was formed after the Leadership Summit in 2019. The Cluster Team has been meeting on a monthly basis since March 2019. Over the past year, 12 Institutions have attended the monthly meetings and 6 of those have had a near perfect attendance record.
The main purpose of FYE cluster is to:
- Share innovative ideas to get students excited about engineering and create problem solvers for society
- Set students for success by providing opportunity and experiences for smooth transition to college life

The focus of the cluster meetings has been to discuss and share ideas and best practice's on following topics:
- Promote activity based teaching and, hands-on projects.
- Sensitize students to community problems and introduce design thinking for problem solving
- Bring collaboration across academic institutions, non-profits and industry
- Discuss importance of life skills and communications skills
- Make Mathematics interesting and relevant for Engineering Students

Every cluster meeting, we had presentation by an expert on one of these topics for idea sharing and driving discussion among participants. Some of the presentation topics included:
- How to Manage Low and Varying Levels of Math Preparedness of Incoming Students
- Neutralizing Assessments by integrating affective Domain
- Activity Based learning and Life Skill development

We also conduct sessions where instead of a guest Speaker the Institutions voluntarily share the learnings from their FYE programs, challenges they faced, things that worked and also things that did not work. This has been a very successful program and some of the presenters have been requested to present Case Studies about their successes in future meetings.

Some of the Institutions that have been very active in the TLC Cluster Team activities are: K J Somaiya College

IUCEE: Academic Clusters

From Year 2018

of Eng., CMR institute, PSG College of Technology, Sphoorthy, RIT. Other Institutions that have attended monthly meetings but less regularly are KLE Tech, Anurag Institute, SREC Warangal, Marwadi Education.

Teaching and Learning Cluster (TLC)
- Jayant Sathe
Former Procter and Gamble, USA
and GIAF Member, IUCEE

The TLC Cluster Team was formed after the Leadership Summit in 2018. The Cluster Team has been meeting on a monthly basis since Feb 2019. Over the past year, 15 Institutions have attended the monthly meetings and 6 of those have had a near perfect attendance record.

As a result of the TLC Cluster Team activities throughout the year, and Dr Claire Komives visiting many Institutions delivering workshops during her 9 months stay in India, many Institutions have started new TLC Centers. Many other institutions have strengthened their existing TLC Centers. Several Institutions have held Faculty Conclaves and have even invited other Institutions to participate in their Faculty Conclaves.

We have instituted two very successful programs in our monthly Cluster Team meetings:
- Dr Claire Komives has been sharing papers and holding discussions on the subjects useful to the participants, e.g.Writing Engineering Education Paper Abstracts, Getting feedback while teaching Online, etc. The team members have said that these discussions have been very useful to them.
- Every quarter we have a 90-minute meeting instead of the normal 60 minutes. In this meeting, the Institutions voluntarily share the learnings from their TLC Center successes, challenges they faced, things that worked and also things that did not work. This has been a very successful program and some of the presenters have been requested to present Case Studies about their successes in future meetings.

In the coming year, we plan to have a TLC Cluster Newsletter under the leadership of Dr. Rio D'Souza of St Joseph Engineering College. This newsletter will give the member Institution an opportunity to publish happenings at their Institution regarding their TLC Center. We also plan to feature one Institution at a time, in each newsletter. Some of the Institutions that have been very active in the TLC Cluster Team activities are: K J Somaiya College of Eng., St Joseph Eng. College, Swarna Andhra, NMR Eng. College, B H Gardi, Sphoorthy, SRK, Kalasalingam. Other Institutions that have attended monthly meetings but less regularly are KLE Tech., Saveetha, Anurag, MLR, MIT Pune, etc,

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International Engineering Educators Certification Program Cluster (IIEECP)
- Dr. Veena Kumar
Executive Director of the IUCEE International Educators' Certification Program
- Anil Pandit
Former General Electric USA and GIAF Member, IUCEE

The IIEECP Cluster was born in April 2019. Cluster meetings are held every last Thursday of the month. On an average 15-16 participants attend the meetings though the total cluster membership is 61. On the whole, the Cluster has been very active in accomplishing its mission which is to provide a platform where the learning community of engineering educators (specially the IIEECP certified educators) can share their pedagogic achievements and concerns, and also, contribute to solve commonly faced problems under the guidance of experts.

The Cluster has 4 specific objectives that include:
1. Promoting inter & Intra Institutional dialogue and interaction
2. Discussing problems specific to Indian engineering education in India, and finding reliable local solutions
3. Sharing innovative practices
4. Undertaking joint studies & research projects

To make the meetings more meaningful, each month a topic (suggested by the participants) is discussed in detail. Short presentations are made by one of the participants or an invited expert. This is followed by a general discussion. Some of the interesting topics covered are:
- Managing Student Motivation
- Planning & Implementing a Flipped Class

IUCEE: Academic Clusters

- Supporting low-Performing Students
- Contribution by Certified Faculty in their Respective Institutions
- Challenges faced in Online teaching
- Designing assessment for Online courses
- Creating short videos using SPARK.

The most important achievement of the IIEECP Cluster has been the development of collaborative research. Two major collaborative research projects have been completed under the active guidance of Dr. Veena Kumar. In the first study - Online Teaching in Engineering Institutions in India During COVID-19, six scholars from six engineering institutions from different regions of the country came together to conduct a formal study to identify the strengths and weaknesses of the practices followed during the Pandemic. The project culminated in a comprehensive research report. The second study addressed the serious issue of demotivation amongst engineering students. Here three scholars from three engineering institutions designed and conducted a research study on "Sustaining Student Motivation by Addressing their Individual Needs". This study resulted in a research paper.

A detailed review of the IIEECP Cluster activities was undertaken in May 2020. Moving ahead, IIEECP plans to continue working on the defined specific objectives and also work on

1. Increasing Cluster membership & participation,
2. Encouraging & assisting IIEECP Certified Faculty to take leadership roles in their Institutions
3. Starting an IIEECP Blog on the IUCEE website.

IUCEE: Annual Student Forum

IUCEE: Student Chapters

IASF (IUCEE Annual Student Forum) 2020 was conducted successfully at Anurag Group of Institutions, Hyderabad from Jan 4 to 7, 2020, in parallel with ICTIEE 2020 (International Conference on Transformations in Engineering Education).

The overall Theme was "Challenge for a Change". The overall objective was to provide an opportunity for engineering students in India to develop leadership skills and to address the grand challenges facing the World. Students participated in designing innovative solutions to the grand challenges facing human beings around the world. The focus was on four tracks: Sanitation, Alternate Energy, Air Pollution and Education Augmentation.

189 students representing 24 institutions from Telangana State, Andhra Pradesh, Tamil Nadu, Karnataka, Kerala, Rajashthan, and Maharashtra participated. All students were provided accommodation and bonded with each other in various social events the three days.

Focus was on working in teams with students from different social and cultural backgrounds, researching critical aspects of one of the themes, exploring their relevance to specific communities, and designing preliminary action plans to address the challenge. Students worked in interdisciplinary teams and were guided by global experts participating in ICTIEE 2020. Teams made presentations on the last day and the best plans were recognized with Awards.

Industry and Academic Global experts who were participating in parallel at ICTIEE 2020 (International Conference on Transformations in Engineering Education) were available to mentor the students and interacted with the students during several sessions. Hans Hoyer (IFEES/GEDC), Michael Milligan (ABET, USA) and Hanno Hortsch (IGIP) were dignitaries during the Inaugural and Valedictory Functions. Awards were given to the best two teams in each track.

189 Students participated from 24 institutions and 7 states across India

IUCEE Student Chapters are a critical part of the vision of IUCEE to improve the quality and global relevance of engineering education in India. Students develop leadership skills, project management skills well as other professional skills by organizing themselves into chapters and working on extra-curricular programs of value to the students. Student chapters are encouraged to form teams and work on community projects relevant to addressing the UN Sustainable Development Goals.

Several of the IUCEE Student Chapters have taken the initiative to form EWB India Student Chapters and become part of the global network of Engineers Without Borders (EWB) which is a strategic partner of IUCEE.

Below are the details of the colleges which are having student chapter through IUCEE. Several others are in the formation stages.

- Thiagarajar College of Engineering, Madurai, TN
- Hyderabad Institute Of Technology And Management, Hyderabad, TS
- Vasireddy Venkatadri Institute of Technology, Guntur, AP
- Sree Vidyanikethan Engineering College, Tirupati, AP
- MLR Institute Of Technology, Hyderabad, TS
- Saintgits College of Engineering, Kottayam, KL
- CMR College of Engineering and Technology, Hyderabad, TS
- Malnad College Of Engineering, Hassan, KN
- Rajarambapu Institute of Technology , Islampur, MH
- B H Gardi College of Engineering and Technology, Rajkot, GJ

IUCEE: Student Leadership Certificate

From Year 2019

Article by Dr. Krishna Vedula
Executive Director IUCEE

A modified version of the 2019 Student Leadership Course was offered online starting February 2020 to EWB India Student Chapters as well IUCEE Student Chapters. The focus on understanding the UN Sustainable Development Goals and working on a project relevant one of these goals.

A major dimension missing from the formal engineering education around the world is the ability to teach engineering graduates to identify problems, to work in teams and use design thinking to find real solutions to industry or societal challenges. Engineering students working on projects in their communities, mentored by industry professionals as well as by trained faculty will acquire the skills of leadership, employability and entrepreneurship needed by the world today. Global experts were identified in some of the following areas related to the UNSD Goals.
1. Clean Water
2. Sanitation and Solid Waste Management
3. Affordable and Clean Energy
4. Rural Education
5. Air Pollution
6. Affordable Housing

250 students from 25 colleges participated were recruited. Colleges were required to assign faculty mentors for their students.

Phase I
During Phase 1 of this Student Leadership Course, 12 weekly webinars were conducted, covering the following topics, during the period Feb 28 to June 26, 2020:
1. Intro to Design Thinking and Forming Teams
2. History of Technology and Innovations
3. NAE Grand Challenges and UN Sustainability Goals
4. Engineering Without Borders USA and India
5. Affordable Housing
6. Clean Water
7. Sustainable Energy
8. Waste Management
9. Education Augmentation
10. Writing Research Papers and Working in Teams
11. Making Presentations
12. Preparing for Presentations
The team of experts who presented these webinars included:
- Dr. S.D. Rajan, Affordable, Arizona State University
- Dr. Raj Rajaram, Clean Water, Chicago

- Dr. Agami Reddy, Sustainable Energy, Arizona State University
- Dr. Prakasam Tata, Waste Management, Chicago
- Dr. Aditya Bhatnagar, Education Augmentation, Chandigarh
- Dr. Lueny Morell, Grand Challenges, Puerto Rico.
- Dr. Ashok Agarwal,
- Mr. Sanjay Gadhalay and
- Mr. Ravi Talluri, EWB India

Students were required to submit Individual and Team Assignments every week on Canvas. These were graded by a team of 20 volunteer faculty from IUCEE colleges. Emphasis was on students developing leadership skills such as innovation, design thinking, critical and analytical thinking, team work and presentation skills. They were required to prepare a research paper on each track by working in teams. The teams made presentations on one track of their choice. Presentations were judged based on i) their Problem Statement and Background Information ii) their Critical Analysis of 2 Most Promising Technical Solutions, iii) their Implementation Steps, iv) their discussion of Implementation Challenges and Overcoming Them and v) their Metrics to Measure Success.

182 of the participating students, representing 23 IUCEE institutions, were awarded certificates of completion for Phase 1 of the Course. The Best Teams were encouraged to implement their proposed solutions in Phase 2. IUCEE and EWB will assist in generating funds for implementation.

Phase II and Phase III
During Phase 2, teams of students were guided to prepare implementation proposals. A template was provided. 38 Implementation Proposals were submitted by 108 students from 20 IUCEE institutions. The IUCEE Team of experts evaluated these proposal and identified 15 proposals which had potential for implementation. Experts worked with each of these teams to assist them in further developing their proposals, so that they could be pursued furthers in Phase 3 of the Course. Following is list of proposals recommended for Phase 3.

These 15 teams will be further mentored for potential funding and implementation of pilot projects on their campuses, during the next semester.

IUCEE: Pilot Programs

Entrepreneurship Education
- Dr. Shalini Gopalkrishnan

- Dr. Ranji Vaidyanathan
Professor, Oklahoma State University, USA

The goal is for teams of Faculty and Students at IUCEE institutions to learn about Entrepreneurship and practice this by Creating a Course or Center for Entrepreneurship. If such a course and center already exists, they can use this course to expand the existing programs on entrepreneurship.

The guidelines of AICTE's recently published "National INNOVATION and STARTUP Policy 2019 for Students and Faculty," is expected to assist the colleges and educational institutions to actively engage students, faculties and staff in innovation and entrepreneurship related activities. Our goal here is to assist IUCEE member institutions to meet the goals of the MHRD Startup policy The IUCEE members and its Entrepreneurship Cluster will collaborate to help the HEI's (IUCEE members) develop methods to promote entrepreneurship and entrepreneurship mindset (through classes) and to mentor faculty and students using a "Lean Launchpad" method and customer discovery process.

Teams of faculty and students go through the IUCEE Course and learn the process of entrepreneurship by creating a 'Start Up' with the goal of offering an "Entrepreneurship Course in MY College" or "Setting up an Entrepreneurship Center in MY College" or something entity related to Entrepreneurship on your campus. The Course is offered in 2 Phases. Phase 1 was a 3 month Online Course offered from August to November, 2020. Topics covered were : Entrepreneurial Mindset; Pitch an idea; Circular Design thinking; Understanding how to get effective customer feedback (using Lean Launchpad method); Iterate using lean startup; Create the minimum value product (MVP) and prototype; and Create the Business Model Canvas and Start selling the idea and negotiation exercises.

Method of instruction for this phase is by live Online webinars as well as PowerPoint, worksheets and practice assignments on the LMS Canvas

Phase 1 Instructors:
- Professor Shalini Gopalkrishnan

Dr. Shalini Gopalkrishnan (Doctor of Business Administration, University of Florida) is an international academician and entrepreneur with 10+ years of experience in Academics, management consulting, entrepreneurial endeavors and training in the private corporate sector. She is an award-winning professor of entrepreneurship with years of corporate and academic experience. Dr. Gopalkrishnan earned her Bachelor of Mathematics/statistics degree from Bombay University, Masters in Business (PGDM) from Indian Institute of Management, Calcutta, India and her Doctoral credentials from University of Florida.

- Professor Ranji Vaidyanathan

Dr. Ranji Vaidyanathan is Varnadow chaired professor of materials science and engineering in the school of materials science and engineering at Oklahoma State University, with several years of entrepreneurial and product development in the composites and additive manufacturing areas. He is focused on assisting student entrepreneurship and venture creation. Previously, he was at Advanced Ceramics Research (ACR) in Tucson, AZ, where he managed over 50 small business innovative research (SBIR/STTR) projects. At Oklahoma State University, he works with several Oklahoma small businesses and student start-ups. Currently, he is working with his 8th student start-up company, assisting them with technical as well as strategic issues in taking their products to the market.

Artificial Intelligence for All
- Dr. Rao Vemuri
University of California, Davis (retd)

This is an introductory course on AI for entering freshmen from any academic discipline. This course can be offered for 1 credit or 2 credits (semester or quarter). The Pilot is offered FREE for paid IUCEE Consortium Members. IUCEE Consortium institutions were invited to identify one faculty member and 20 first year students. The goal is for the faculty member to learn to teach such a course in the future, while mentoring the students as well as grading the assignments during the Pilot course.

IUCEE: Pilot Programs

The webinars give an introduction to AI, exploring the various facets of AI and its impact on modern life, and also talk about some problem-solving techniques. The list of topics for 10 webinars: Pictorial Intro to AI; AI Eco System; Intelligence from Data; Search Engines; Excel Tutorial; Clustering with Excel; Perceptron and Excel; Use Cases in Machine Learning; Building Intelligent Machines and Deep Learning. Students attend webinars on line and do assignments on LMS Canvas. Faculty mentor and grade their assignments. Example Projects: (a) Build a robot that recommends a book that suits your taste, (b) Build a robot that looks at newspapers and extracts and compiles information that suits your interests, (c) build a tool that advises a farmer whether to plant seeds or not during the next week. What the students have to do is to come up with a paper design of what is needed and how to go about it.

The course was taught by Dr. Rao Vemuri, University of California, Davis (retd) (https://web.cs.ucdavis. edu/~vemuri/)

During Fall 2020, xxx students from YYY institutions participated. Zzz students received certificates of completion.

IUCEE Student Summit
- Ms. Sampada Pachauri
GIAF Member, IUCEE
- Dr. Krishna Vedula
Execuitve Director, IUCEE

Every year IUCEE organizes Leadership Summits and its Annual Student Form, likewise this year IUCEE is happy to announce its new Summit i.e., IUCEE Student Summit 2020.The Summit is designed to bring together the students of distinct background and culture who consider themselves responsible for environmental compliance and enforcement through engineering. It is an unprecedented gathering of Global Leaders & faculties with the Students in order for them to discuss, direct and explore available resources and dedicate it to environmental enforcement. Amid the COVID-19 pandemic IUCEE has organized it as a 3-Day Virtual Event. The Event majorly focuses on

"Empowering skills and Enhancing Imagination", which also appears to be the tagline of the event.

Objectives
- Spread awareness about the 17 SDG's (Sustainable Development Goals)
- To bring Environmental discipline among the participants.
- To assist develop the framework for identifying the global priorities & sustainable development.
- Participate in various Discussions, presentations and projects.
- To become a part of the IUCEE Student Chapter Family.

266 students from 56 institutions participated and made presentations. 10 IUCEE Student Chapters gave updates on their progress. The Summit was very well organized by a team of 14 students led by Syed Majeedullah of Hyderabad Institute of Technology, TS, Hyderabad and N. Shravan of Malnad College of Engineering (KN).

15 Best Presentations were recognized from following institutions.
- CBIT (TS)
- BMSCE (KN)
- KJSCE (MH)
- HITAM (TS)
- MCE (KN)
- MITWPU (MH)
- MIET (JK)
- RKU (GJ)
- PGSTech (TN)
- NITTTR (TN)
- SJEC (KN)
- SEC (TN)
- VVCE (KN)
- VJIT (TS)

4 Best IUCEE Student Chapter Presentations were recognized out of 10 presentations
- Vasireddy Venkatadri Institute of Technology, Guntur, AP
- Rajarambapu Institute of Technology, Islampur, MH
- Hyderabad Institute of Technology and Management, Hyderabad, TS
- BH Gardi College of Engineering and Technology, Rajkot, GJ

Global expert speakers were: Dr. Ramiro Jordan, U of New Mexico (Peace Engineering), Dr. Ravi Salagame,

IUCEE: Pilot Programs

From Year 2020

Aptiv (Project Management), Mr. Srikanta Aradhya, Bosch (Industry 4.0), Dr. Claire Komives, San Jose State University (Project Proposal Writing), Dr. Ranji Vaidyanathan, Oklahoma State Univ (Entrepreneurship), Dr. Manu Vora, Center for Business Excellence (Soft Skills), Dr. Veena Kumar (Professional Communications), Dr. John Tharakan (EWB International) Dr. Ashok Agarwal (EWB India) and Dr. Gopalkrishna Joshi (Engineering Explorations). Sponsor Presentations were made by Mr. Ramana Anchuri (MathWorks) and Mr. Amarendar Katkam (SmartBridge). Inspiring valedictory addresses were given by: Dr. Raj Rajaram, Chicago and Dr. Hans J. Hoyer, IFEES, GEDC. Girl Students had a unique session "Girls Speak" sharing their views.
Several talented student provided entertainment.

- Student Chairs - Mr. Syed Majeedullah and Mr. Shravan N are the Student Chairs for this event.
- Technical Team led by Mr. Upendra Vallabhajosyula, Mr. Shaik Naushab Ahmed and Mr. Harsh R. Mishra.
- Editorial Team led by Mr. Tanmay Bhosale
- Social Media Team led by Mr. CV Deepshith.

IUCEE: Online Teaching Course
- Dr. Prathiba Nagabhushan
Australian Catholic University, Canberra, Australia
- Dr. Krishna Vedula
Execuitve Director, IUCEE

We have successfully completed the "IUCEE Online Teaching Course", which was conducted during July to October 2020. The course was a quick response to the urgent need felt by our institutions as result of the COVID crisis. The course was offered for free as part of IUCEE Consortium membership benefits (10 faculty per institution). 452 faculty from 45 IUCEE institutions registered. 304 faculty completed the course including 176 faculty who passed with distinction.
This Course is likely to be offered regularly.

This rigorous course was conducted via 26 live webinars. Assignments and discussions were posted and evaluated using LMS Canvas. A final Capstone Project was required

in the form of a recording of the Online course content developed by participants using the tools that were demonstrated. The course was taught by a highly dedicated voluntary team of 14 experienced faculty members from our own IUCEE Consortium Institutions. 5 members of our international IUCEE voluntary team also participated. Prof. Keith Fernandes of St. Joseph Engineering College provided exceptionally dedicated service as part-time staff coordinator from IUCEE. List of the faculty and topics is given below.

Topics covered included: Pedagogical Framework for Online Teaching; Motivating Students for Online Learning; LMS Overview; LMS (Canvas); LMS Moodle (Gnomio); Google Classroom/Google Meet; Lecture Recording & Virtual Labs Overview; Microsoft PPT Recording, White Board; MS Teams (Live and Recorded); Active Presenter & YouTube Recording; Camtasia & Videoscribe; Screencast-O-Matic & Virtual Labs; Mentimeter, Quizzes, Kahoot; Engaging E-Learners with Interactions; Assessment Overview; MCQ and Open Book Questions; Online Assessment; Remote Labs & UC Remote Labs; Connecting with Students.

The course was taught by a highly dedicated voluntary team of 14 experienced faculty members from our own IUCEE Consortium Institutions. 5 members of our international IUCEE voluntary team also participated. List of the institutions which participated and number certified is given below this email.

IUCEE: Foundation Course in Research Methods
- Dr. Prathiba Nagabhushan
Australian Catholic University, Canberra, Australia
- Dr. John Tharakan
Professor, Howard University, College of Engineering and Architecture, Washington, DC, USA

IUCEE initiated 'The Foundation Course in Research Methods' (FCRM) as a comprehensive 5-month program of fortnightly lectures and assignments. The aim was to provide participants with the fundamental knowledge of the conceptualization and operationalization of the key principles and practices in undertaking a research project.

IUCEE: Pilot Programs

The topics covered in FCRM included reviewing literature, choosing research problems, designing research protocols, implementing research projects, and reporting on research results. The FCRM also emphasized the principled ethical research framework required to conduct thorough, rigorous, systematic and scientifically sound research.
This FCRM is designed to accomplish the following goals by the end of the course:

- To familiarize faculty from any domain of teaching in engineering colleges with the steps involved in taking up a research project.
- To enable the participants to have an overview of the necessary knowledge and understanding of research methods to confidently address a research problem

The course presenters, Dr. Prathiba Nagabhushan from the Australian Catholic University, Canberra, Australia and Dr. John Tharakan (Professor, Howard University, College of Engineering and Architecture, Washington, DC, USA) present two webinars with participants each month for five months, engaging and assessing the participants in terms of their knowledge and understanding of the basic principles of Research Methods. Webinars include internationally recognized guest speakers expert in engineering research. The speakers discuss their own approach related to the topic of discussion, and engage the audience through chat sessions facilitated by the presenters. The program is being presented entirely Online, with Canvas® as the Learning Platform for communication, collaboration and coordination.
The course was launched on October 18, 2020 at 7 am IST and will continue until February 2021.

IUCEE: Soft Skills Development
- Dr. Manu Vora
Illinois Tech University, Chicago US
- Dr. Deepak Waikar
Consultant and visiting professor , Singapore

It has been reported time and again that soft skills like leadership, decision making, teamwork, time management, and project management have played a very significant role in the high performance of the people. More than 700 students, 35 faculty members from our 34 member institutions had an enriching experience during August

2020 to learn from the internationally renowned expert, Dr. Manu Vora of Business Excellence Inc., USA, through a series of six high powered webinars on soft skills. Over a month on Saturdays and Sundays, students watched and listened to webinars, interacted with Dr. Manu Vora, and completed specially prepared assignments to reflect on their learning. The students and the faculty members who attended the webinars have given a strong endorsement for the extraordinary initiative of the IUCEE.
During the closing ceremony held on 25 October 2020, Prof. Krishna, Chairman and Executive Director of the IUCEE, has mentioned that the six webinars covered six key attributes for enhancing employability skills that are especially highlighted in the AICTE, NBA, and NAAC guidelines for evaluating affiliated colleges, autonomous institutions, and deemed universities. The soft skills have now become an integral part of the National Education Policy 2020. The IUCEE is in the process of forming a special interest group on Soft Skills and has launched a Faculty Development Programme to strengthen and enhance the capability of the member institutions.

IUCEE Social Proton Partnership

Social Proton is a platform designed to bring the greatest minds across the globe together to solve the grand challenges faced by the world. Advanced technologies like Internet of Things, Artificial Intelligence, Virtual Reality, 3D printing & Additive manufacturing along with a human centric approach will be crucial in providing answers for the grand challenges. 3Social Proton is designed to connect technology and people beyond the traditional realms.

IUCEE has formed a partnership with Social Proton (https://www.socialproton.com/)
A workshop was offered as 4 sessions of 3 hours each on Oct 17, 24, 31 and Nov 7, 2020.
15 faculty and 50 students from10 IUCEE institutions participated.
Participants worked on one project each from Lab-view and one project form Multisim.

IUCEE Quanser Education Technology Innovation Initiative

IUCEE: Pilot Programs

From Year 2020

This objective of this partnership with IUCEE is to pilot the development of transformational education content for undergraduate engineering programs. Quanser, a global company based in Canada, develops advanced technology platforms for engineering education and research.

Faculty Group Leaders from selected IUCEE Colleges led a team of Quanser Global Interns (QGI) in the design, development, and refinement of groundbreaking new learning resources for undergraduate engineering course. This content was being built on Quanser's unique qdex™ platform that delivers engaging, interactive learning content in technical fields.

Faculty Group Leaders were recruited through an application process from IUCEE Consortium Institutions. 46 faculty applicants from 18 IUCEE institutions applied. Their applications included short videos explaining their background as relevant to the program. 4 faculty from 4 different institutions were selected. The Group Leader communicated and collaborated directly with senior Quanser staff in Canada and guided Student Interns through the development of English language education modules for global use. The training has been a blend of live Web presentations, self-paced review of on-line resources and guides.

Following Faculty Leaders participated in the Program:
- M.K. Kaushik, Vaagdevi College of Engineering (TS) Analog Communications
- Yogesh Deshpande, Vishwakarma University (MH) Statistics
- Shaila H. Kappad, RV College of Engineering (KN) Big Data Analytics
- Namratha M., BMS College of Engineering (KN) Data Structures and Algorithms

4 student interns from each institution did the work for four months under the guidance of these faculty members. Each team worked on developing animations and visualization content for a selected course for several chapters to be used in one semester. Students were from 3rd year UG, 4th year UG and first year PG in the relevant fields. Faculty and students were very happy with the Quanser qdex app and with the animations, visualizations

and quizzes they could develop. They were able to explain complicated concepts using this interface for development. We have potential for the modules from these four teams to be used widely in other IUCEE colleges and perhaps train other faculty and student teams to develop modules in other areas.

IUCEE:Team

IUCEE is organized as two different legal entities in the USA and India.

In USA IUCEE, Inc [Need Legal Name] is a registered 501c3 non-profit organization with a governance structure and purpose. It raises money from donors and sponsors, receives membership contributions from Colleges, applies and receives Grants to support various IUCEE activities such as [capture all the activities towards which the money is spent]. The following is the Organization structure of IUCEE in USA:

Mr. AG Karunakaran
CEO, Multicoreware Inc.

Ms. Shanti Subramanyam
Founder and CEO, Orzota Inc

Mr. Sandeep Shroff
CEO and Co-Founder, myStartUpCFO

In India IUCEE Foundation is a section 8 company with a governance structure and purpose. It receives subscription revenues from institutions, CSR contributions from corporate entities, raises money from donors and sponsors to support IUCC activities in India such as [capture all the activities towards which the money is spent]. The following is the Organization structure of IUCEE in India

Dr. Krishna Vedula
Executive Director, IUCEE

Dr. Ravi Salagame
Head of Engineering Operations at APTIV

Ms. Sampada Pachaury
Founder – Sharpness Simplified

Global Advisory Board

Dr. Michael Milligan
Executive Director and Chief Executive Officer of ABET

Dr. Stephanie Farrell
Rowan University (President-Elect of ASEE)

Late Dr. Lueny Morrell, MS, PE, Ing. Paed.
Founder & Director of InnovaHiEd

Dr. Michael Auer
University of Klagenfurt, Austria

Dr. Anil K. Kulkarni
Pennsylvania State University

Dr. Neeraj Buch
Michigan State University

Dr. Hans Jurgen Hoyer
Secretary General of IFEES, Executive Secretary of the Global Engineering Deans Council.

Dr. Subramanian Dharma Rajan
Arizona State University

Dr. Veena Kumar
Executive Director of the IUCEE International Educators' Certification Program.

Dr. Prathiba Nagabhushan
Australian Catholic University

Dr. Vijay Kanabar
Boston University

Dr. Ashok Saxena
University of Arkansas

Dr. Guru Subramanyam
University of Dayton

Dr. Ranji Vaidyanathan
Oklahoma State University

Dr. William Oakes
EPICS, Purdue University

Dr. Mohan Rao
Tennessee Technological University

IUCEE:Team

Dr. John Tharakan
 Howard University

Dr Gajanan Sabnis
formerly Howard University

Leadership Team: Consortium Institutions

Dr. Archana Mantri
Chitkara University

Dr. Sushma Kulkarni
Rajarambapu Institute of
Technology

Dr. Gopalkrishna Joshi
Advisor, Karnataka State

Dr. Rio D'Souza
St Joseph Engineering College

Dr. Siddharth Jadeja
BH Gardi College of Engineering and Technology

IUCEE: Global Industry Advisory Forum
Article by: Mr. Jayant Sathe

GIAF, Global Industrial Advisory Forum, is made up of IUCEE volunteers that have background in the Industry in India or Internationally. These members are either currently working in the Industry or have worked in the industry in the past.
The group was originally formed in 2016 and was called Industry Teaching Fellows (ITF). It was later renamed, in 2018, as Global Industrial Advisory Forum (GIAF). As its mission, the GIAF group brings successful Industrial practices to IUCEE for helping further IUCEE's Vision and Mission. GIAF's main goal is to advise IUCEE leadership.
GIAF team has been actively bringing best practices from the industry to identify, strategize and execute IUCEE transformation activities. Soon after its formation, the team published a white paper on employability (https://iucee.org/iucee/wp-content/uploads/2017/10/ITF_

Employability-White-Paper-Ver3.1.pdf) which describes background work from IUCEE on identification and potential solutions to employability needs among colleges. The more recent notable contribution of the GIAF team to IUCEE was introduction of Collaborative Cluster Teams as a follow up to the CII (Confederation of Indian Industries) presentation at the 2018 Leadership Summit in Goa. The aim of the Cluster Team is to bring different Institutions together on a monthly basis so that they can learn from each other's experiences and all can advance together. We have formed 7 Cluster teams. They are listed below.

Cluster Teams	Team Leader(s)
Teaching & Learning Center	Jayant Sathe, Dr Claire Komives, Dr Rio D'Souza
Objective Based Education	Dilip Chemburkar
Eng. Educator Certification (IIEECP)	Dr. Veena Kumar, Anil Pandit
Project Based Learning	Dr Ravi Salagame
First Year Engineering	Nishtha Chauhan, Dr Sujata Wadhwa
Engineering Education Research	Dr Prathibha Nagabhushan, Dr Sohum Sohoni
Entrepreneurship	Dr Ranji Vaidyanathan
Engineering 4.0	Dr Anil Kulkarni

The Cluster Team effort has been appreciated by the Consortium Member Institutions.
Recently, the GIAF team introduced the concept of collecting feedback from our customers, the Consortium Member Institutions, on an on-going basis. After IICTEE conference in January 2020, we collected feedback, we called it Voice of the Customer (VoC), from the Institution Leadership and Faculty. The team adopted Six sigma concepts such as QFD to analyze and identify needs from the institutions and we used this feedback to guide us in arranging the agenda for the Leadership Summit in July 2020. This was appreciated by the Member Institutions. To continue to keep the two-way communications open

IUCEE:Team

with the Member Institutions, we have now adopted a concept of Member Relationship Coordinator (MRC) where each active IUCEE volunteer is assigned 2 to 4 Institutions. This way the IUCEE volunteer is in contact with each of their assigned Institution on an on-going basis and no Consortium Member goes unheard and therefore, helped in a timely fashion.

The other initiative is where Dr Krishna Vedula, Executive Director of IUCEE is in a regular contact with the Member Institutions' Leadership. This also has helped in inviting and getting Industrial and Academic Institution Leaders from across India to agree to come to ICTIEE conference in January 2020 as Keynote speakers and Panelists.

In 2020, GIAF group has been actively working on setting up IUCEE as a formal Sec 8 company called IUCEE Foundation in order to set up structure within the organization and improve long term sustainability and success of IUCEE as an organization.

The GIAF group is now working on initiating 2 new programs. These programs are being **developed.**

- 'Business Model Canvas' to better understand what our Customer, IUCEE Consortium Members, wants/needs and how to deliver it sustainably.
- '1st and 2nd Moment of Truth' to better understand how we can deliver to the member Institutions everything we are promising them when they become IUCEE Consortium members.

We expect to see results of these 2 new programs in coming months and years.

If your Institution is currently not participating in our Cluster teams, and if you wish to join the teams, please contact the Cluster Team Leader(s).

If you have Industrial background and wish to contribute to IUCEE's success story by joining GIAF group, please contact Dr Krishna Vedula or Jayant Sathe.

The GIAF team meets on a bi-weekly basis.

GIAF Team

Mr. Jayant Sathe
Formerly Procter and Gamble

Mr. Anil Pandit
Formerly General Electric

Dr. Ravi Salagame
Head of Engineering Operations at APTIV

Mr. Madhu Atre
Formerly LSI, AMAT, AMD

Mr. Dilip Chemburkar
Formerly General Electric

Mr. B. KalyanRam
Electronosolutions

Ms. Nishtha Chouhan
CEO and Co-founder, Paledify

Dr. Sujatha Wadhwa
First Step Overseas Consultant

Mr. Vasant Marathe
Formerly Swifts Pvt Ltd.

Ms. Sampada Pachaury
Founder – Sharpness Simplified

Dr. Deepak Waikar
Tacstra Solutions Pvt Ltd

IUCEE: Global Academic Advisory Forum
Article by: Dr. Sohum Sohoni

Global Academic Advisory Forum (GAAF) was initiated following the Annual ICTIEE Conference in 2020. The GAAF is a group of academicians from around the world who are invested in the improvement of Indian Engineering Education.

The mission of GAAF is to identify and assist with the implementation of IUCEE's academic programs to improve the preparation of graduates from Indian Engineering programs to succeed in industry and engineering graduate programs globally. The GAAF meets biweekly by teleconference. GAAF membership is voluntary.

The vision of GAAF:

- To provide academic input for IUCEE programs, including the ICTIEE annual conference, IIEECP certification program, Global student forum, new

IUCEE:Global Industry Advisory Forum

From Year 2016

and existing IUCEE courses, the Annual Leadership Summit and other programs as needed.

- To serve as members of committees tasked with overseeing IUCEE programs, including ICTIEE annual conference, IIEECP certification program, Global student forum, new and existing IUCEE courses, the Annual Leadership Summit and other programs as needed.
- To serve as instructors for IUCEE educational programs.
- Work with GIAF to help Indian engineering program leadership and faculty to develop networking skills for connecting with industry.
- Provide support to Indian engineering institution's leadership to understand and navigate various regulatory requirements for accreditation by sharing best practices from around the world.
- Help cultivate and nurture a culture of research at engineering institutions in India.
- Help with faculty development and teaching quality improvement initiatives at engineering institutions in India.
- Serve as reviewers/editors for JEET with the mission of improving the quality of published engineering education research in India.
- Provide institutional mentorship by providing volunteers to serve on advisory boards of institutions.

IUCEE: GAAF Team

Dr. Sohum Sohoni
Milwaukee School of Engineering

Dr. Krishna Vedula
Executive Director IUCEE

Dr. Prathiba Nagabhushan
Australian Catholic University

Dr. Veena Kumar
Executive Director of the IUCEE International Educators' Certification Program.

Dr. John Tharakan
Howard University

Dr. Rio D'Souza
St Joseph Engineering College

Dr. Sushma Kulkarni
Rajarambapu Institute of Technology

Dr. Gopalkrishna Joshi
Advisor, Karnataka State

Dr. Anil K. Kulkarni
Pennsylvania State University

Dr. Neeraj Buch
Michigan State University

Dr. Guru Subramanyam
University of Dayton

Dr. Claire Komives
San Jose State University

Dr. Arun Tangirala
IIT Madras

Dr. Venkatesh Uddameri
Texas Tech University

Dr. Raju Dandu
Kansas State University

Dr. Amit Lathigara
R. K. Univeristy

Ms. Sheetal Sohoni
Arizona State University

IUCEE: Staff

Dr. Krishna Vedula
Executive Director, IUCEE

Dr. Sohum Sohoni
Associate Director IUCEE

IUCEE:Team

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Director, IUCEE India Operations

Mr. Sridhar Nori
Manager, IUCEE Virtual Academy

Dr. Claire Komives
Program Consultant

Mr. Surendra Reddy
Staff Assistant, IIEECP program

Dr.Amit Lathigara
Manager Website

Mr. Keith Fernandes

IUCEE: Student Chapter

Mr. Syed Majeedullah
Hyderabad Institute of Technology and Management

Mr. Shravan N
Malnad College of Engineering, Hassan

Ms. Fairy Khimani
B.H.Gardi College of Engineering and Technology

Mr. Tanmay Mahesh Bhosale
Rajarambapu Institute of Technology, MH

Mr. Shaik Naushab Ahmed
Sree Vidyanikethan Engineering College

Mr. Ganta.Meghana
MLR Institute of Technology

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Mr. Harsh R. Mishra
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Ms. Shivang Vadgama
B H Gardi College of Engg & Technology, GJ

Mr. Mohammed Sohel
Hyderabad Inst of Tech And Management, TS

Mr. Ajim Attar
Rajarambapu institute of technology

Ms. Vrinda Padrai
BVRIT Hyderabad College of Engineering for Women

Ms. Pravallika Nakarikanti
K.J.Somaiya College of Engineering

Mr. Vigya Pal Singh Slathia
Model Institute of Engineering and Technology

Mr. Harshit Gusani
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Mr. Vinayak Varsani
B H Gardi College of Engg & Technology, GJ

Mr. Prathamesh Warang
Rajarambapu Institute of Tech, MH

Ms. Aishwarya Patil
AISSMS College of Engineering, MH

Ms. Prisly Mary Jacob
Saintgits College of Engineering, KL

Mr. Abhay P Biju
Saintgits College of Engineering, KL

IUCEE:Communication Channels

Article by Sheetal Sohoni
UX Designer and Consultant

Effective communication is very important for the success of any organization. IUCEE realized this and has designed multiple channels to connect and get information about IUCEE, it's member institutions, programs, and initiatives.

- Membership Relations Coordinator (MRC): This program has started in year 2020. Each member institution is allotted an MRC. MRCs are volunteers working for IUCEE. These volunteers are from different walks of life, from educators to industry experts. The idea is to develop a strong communication channel between the member institution and the executive body of IUCEE. A member institution can get information about IUCEE programs, can ask for help to convey its grievances or concerns through MRCs. If you have not connected with your MRC yet, we highly recommend you to connect with them. A machine works effectively when all parts work in tandem with each other.

- IUCEE E-Newsletter: IUCEE started publishing its newsletter in July 2017. So far, 24 editions with 44 articles have been published in the newsletter. The newsletter is a platform designed to inform its audience about relevant events and programs, featured articles (best practices adapted by institutions, achievements of individuals, and information regarding IUCEE initiatives), and opinion piece by eminent personalities from across the globe. It is great tool to stay connected with the IUCEE family

- IUCEE Website: IUCEE has always believed in providing a well-rounded education to engineering students. So, when the organization decided to redesign its website, it hired student interns from an engineering college to do the work. The website is a great resource to get comprehensive information about the organization, people involved, and various initiatives. The website also provides information about upcoming events and people to contact to gather required information. If you have yet not visited the website, please visit IUCEE.org.

IUCEE values your suggestions and inputs. Please use the above-mentioned channels to connect with us!

Financial Report: Breakdown

IUCEE: Income 2020

IUCEE operates as a non-profit organization. The Table below shows the income of IUCEE in 2020.

Membership Fees	
Consortium Member Fees (50 Members)	Rs. 37,50,000
Program Income	
IIEECP Certification Fees (200 Participants)	Rs. 32,00,000
Leadership Summit Fees (205 Partiticpants)	Rs. 4,10,000
Engineering Education Research Course (20 participants)	Rs. 4,00,000
Research Methods Course (80 Participants)	Rs. 3,20,000
Soft Skills Course (70 Participants)	Rs. 2,10,000
Total Program Income	**Rs. 45,40,000**
Corporate Sponsorships (ICTIEE)	**Rs. 29,50,000**
Total Income	**Rs. 1,12.40,000**

IUCEE: Expenses 2020

The stable source of income for IUCEE has been colleges in India that pay $1000 per year to be Consortium Members. Table in the next section reflects the 2020 expenses of IUCEE. The cost of operations includes two full time employee salaries in India for management of program logistics and for IT requirements for webinars, IIEECP courses and other computer needs. Consultants were hired in 2017 to assist the Executive Director with organization and implementation of expanding initiatives. The program expenses include venue rental, catering, travel of international experts and domestic travel, printing and distribution of JEET, and online tools like GoToMeeting and Dropbox.

IUCEE also spends money in marketing efforts to educate and inform organizations and institutions regarding IUCEE initiatives. Marketing efforts include domestic and international travel of the Executive Director and Indian IUCEE employee, website designing and maintainace, and printing of brochures and other marketing materials.

IUCEE Operations	
Salaries	Rs. 35,50,000
Administration, acct. svcs.	Rs. 2,00,000
GoToMeeting; Dropbox, other tech tools	Rs. 4,50,000
Travel related	Rs. 6,50,000
Total Operation Expenses	**Rs. 48,50,000**
Program Expenses	
Honoraria for Experts	Rs. 33,49,000
ICTIEE Travel Expenses	Rs. 16,00,000
Total Program Expenses	**Rs. 49,49,000**
Marketing Development	Rs.1,50,000
Membership fees IFEES	Rs. 75,000
WEEF Conference	Rs. 26,000
Website development and fees	Rs, 5,50,000
Total Marketing/Development expenses	**Rs. 8,01,000**
Total Expenses	**Rs. 1,06,00,000**
Net Gain	**Rs. 6,40,000**