Educational Activities Subcommittee (EASC)   **Manuel Castro**

Goals

The composition of the Subcommittee is well balanced, Manuel Castro (chair), Sohaib Sheikh (Pre- University), Rui Costa (University) and Oscar Martinez Bonastre (Continuous Education). Major challenge for the Subcommittee was the change of the Continuous Education coordinator at the beginning of 2016 for working reasons and the recovery of the ongoing activities to develop.

The goals and strategic vision are well defined as the Education Activities in one of the main areas of IEEE (directed by the Education Activities Board, EAB) but at the time to develop them inside Region 8 and as they are under the umbrella of the Technical Activities some problems arise. Lack of organization application inside the Sections and the large effort to maintain an updated list of Education Activities coordinator at the Section level is a time consuming and a frustration task. As part of the EAB Section Educational Outreach Committee (SEOC) we are preparing webinars and MOOCs oriented to the diffusion of Educational Activities inside the Regions and Sections as well as finishing the study on the results from the present survey on Section Chairs and Section Education Chairs.

As working aligned with the Region 8 strategic areas we might stand out:

- Getting Closer to Industry: the Educational Activities Subcommittee confirmed constant interest with promotion of intensive activity with industry. Concretely, we considered those hot topics of major interest for industry. As evidence, we are organizing a new line of webinars about the Internet of Things (IoT) that will share experience on IoT applications and value creation for industry. We are also promoting mechanisms to attract well-recognized people from industry to give valuable opinions, discuss and stimulate ideas and developing educational tracks of action.
- Students and Young Professionals: about activities and initiatives with Students and Young Professionals, we have been active. Members of Educational Activities Subcommittee were invited to promote educational activities in conferences oriented to students. As evidence, the successful results were published in the top quality worldwide IEEE magazine (issue August 2016, Section Global Communications Letters) and of major interest for academia and industry.
- Section Vitality: we leaded the organization of all Sections during last months. Concretely we have been reaching to section chairs and with intention of update the list of new officers in charge of educational activities as well as bringing new activities to develop best practices.
- Pre-University Activities: in many parts of Europe, Middle East and Africa, there is a trend of less students taking STEM subjects or choosing careers in the field of engineering and sciences. We have a number of programs which help promote STEM education and also provide opportunities for community engagement and betterment. As we remarked particular issues are the lack of support from Section executive committees for education activities. This has been improved in the last few years but there is still room for improvement. We try to resolve this issue by engaging the Sections whenever possible at the member, volunteer and executive committee level to increase their awareness. We are also present at a number of Region 8 and non-IEEE events every year and hold workshops/seminars to introduce our programs to a wider audience. We have also run adhoc training programs to train volunteers in Pre-University activities which has resulted in a substantial increase in our volunteer numbers through the years. Every year we set goals around program awareness, local implementation and impact, which are sent to the OpCom as part of the first EASC report of the year trying to fulfill these goals during the year.
- University Activities: University education is experiencing a rapid evolution due to the penetration of new technologies in the classrooms, new teaching methodologies, and a need to adapt courses to the fast-changing ecosystem. There's a need to keep university students engaged and adapted to the new industry requirements, which are more and more focused in innovation and transformative methods for the development of new technologies. Our goal is to scout new activities that are focused in keeping students innovative, while participating in their community. Our challenge is to keep offering information and the right framework for students to develop themselves to become more and more ready for the new standards of the future, keeping IEEE as a reference in their path from education to industry.

Status and Past Contributions

- Liaised with the SAC team for the Mind the Gap competition, provided guidance on education related items of the competition, reviewed MoU with EPICS-in-IEEE committee and judged it as well.
  Outcome: Mind the Gap competition successfully completed. Based on the Education related guidelines, the competition was able to form an alliance with the EPICS-in-IEEE team to provide funding to winning projects.
- Conducted a Teacher In-Service Program (TISP) Workshop at the R8 SYP in Regensburg, Germany.
  Outcome: The workshop was well attended with participation from volunteers from a number of Sections. Volunteers from at least two participating Sections - Slovenia and Czech Republic plan to hold workshops in the near future.
- We have been working since March this year on a major TISP event with the Sections called IEEE Region 8 TISP Week.
  Outcome: The event will be held in the second week of October 2016 with participation from 15+ Sections and a plan to train around 500 school teachers.
- Promoted IEEE Academic as a university resource for students within Region 8.
  Outcome: 7 new student branches to start having videos published in the platform by year end.
- Working with IEEE Ad-hoc committee for disruptive innovation to create a package for students to apply with projects granting them funding to make their ideas become a reality.
  Outcome: Package is being defined and should be ready to launch by year end.

Outlook

- Focus on engaging the trained TISP volunteers into conducting more teacher training workshops in their localities.

- Promote EPICS-in-IEEE further, especially in Europe and Middle East.
- Engage Sections to understand their concerns around Education Activities and help them.
- Maintain the actions developed and increase a funding program to partially fund local Pre- University activities. This could promote new ideas for programs which increase the awareness about STEM education but also create opportunities for good ideas to be brought forward, tested and perhaps implemented at the Regional or Global scale. All the investment did in the previous years need to be maintained to continue the development and to reach new geographic areas.
- Focus in creating tools to foster innovation within university students in the shape of new programs or materials that help them become more innovative and adapted to the new industry standards.
- Create a program that bridges more students with the local industry, either through internships or shared projects that would privilege their contact with companies to start during their university education.

Points of Concern

- A number of our programs e.g. EPICS-in-IEEE and Tryengineering.org are for university students. Better coordination with R8 SAC and R8 YP committees can help increase the awareness of these programs more and also provide more ways for IEEE members to give back to their communities.
- A deeper contact with industries focusing in creating programs for university students. Creating a network of companies and startups that already have programs for entrepreneurial students would help, but it is required multiple local contacts in liaisons to achieve such programs Region- wide.
- The Education Activities coming from the EAB has sometimes problems of focus in the developing in Region 8. A higher synergy between Region 8 EAS and EAB is needed and this includes a larger budget and implication of the EAS subcommittee members inside the major activities and organization of EAB. The action under development at this moment inside EAB with the implication of one member from each Region (1-10) tries to overcome those problems inside the EAB Section Educational Outreach Committee (SEOC), where the EASC is representing Region 8.