IEEE Systems Council

Workforce Development Technical Committee

Apr 7, 2016, 12.30pm Eastern

Present: Richard Millham, Roger Oliva

1. Minutes of Previous Meeting Approved
2. Discussion of last year's workshop – ten possible topics, 1 covered (transport) due to personnel issues
3. Syscon Meeting and Workshop

10th Annual IEEE International System Conference April 18-21 in Orlando, Florida, Syscon 2016

http://2016.ieeesyscon.org/technical-committee-meetings

Monday, April 18

5:15 PM - 7:30 PM

Workforce Development Technical Committee Meeting

Room: Poinciana B

The Meeting of the Workforce Development Committee (WDC) (located at http://ieeesystemscouncil.org/content/workforce-development-technical-committee) of the IEEE Systems Council will be held on Monday, April 18, 2016 at 5:15 pm. All those attending the SysCon 2016 conference are invited to attend this meeting, hosted by WDC member Roger Oliva, in order to review and plan the activities of this committee for the upcoming year. The WDC's goal is to improve and refine technical workforce education, at different educational levels, in order to enable this workforce to be able to adapt and develop solutions to future needs. Due to constraints this year, WDC was only able to host a limited number of interactive educational workshops, at the postgraduate and career professional level, but wishes to expand the scope and domain of these workshops, among other educational goals, in the coming year.

- Roger not coming to Syscon until Thurs; need substitute to head meeting (perhaps Frederica?Walt?)
- Goal of meeting is to develop a plan, upcoming goals and recruit more members

Workshop: scheduled for Thurs (to be headed by Roger)

- Multi-disciplinary (10 ideas but allow more if feasible)
- Allow attendees to share ideas, collaborate, propose possible solutions, and analyse possible solutions as per risk analysis to come up with best possible solution(s)
- If further guidance is needed, use ideas with old template

Ten ideas: **Systems Coming Soon**

- **Oil and Gas**
- **Mass Transit**
- **Privacy and Intellectual Property vs. Security**
- **Personalized Medicine**
- **Space Exploration**
- **Surveillance (RADAR and others)**
- **STEM and Focused Education**
- **Embedded Systems**
- **Unnecessary Software Complexity**
- **Electric Vehicles (Ground, Air, Space, and Sea)**
- **Nuclear Energy Safeguards**
- **Engineering Applications from CERN – Dark Matter**
- **Air Traffic Management**
- **Smart Grid**
- **UAV's**
- **Access to Space - $200/pound**
- **Brain – Machine Interface**

    - Template from old workshop
        - Define goal, objectives and focus areas.
        - Each focus area has case studies
        - For each case study, evaluate and refine the comprehensiveness of objectives and ensure that suitable metrics are in place for the evaluation of their analysis. Using this method, analyse future developments in this case study
        - Information from case study informs the enhancement of STEM education

4. Education
    a. Judy Scharman to assist in setting up a living online documents. Public view where anyone can add comments (pending approval); limited view (IEEE membership or restricted view) where pending comments are approved/removed and document is clean
    b. Contact Vincenza Piuri from IEEE Tab to get contacts of 39 tech chairs and committees
    c. Contact chairs with link to living document; request to fill in document with their focus areas and future research/workplace directions within 2 weeks
    d. Consolidate and refine directions and focus areas (perhaps 20 or so)
    e. From focus areas, develop questionnaire and put online
    f. Pilot questionnaire
    g. From pilot results and expert guidance, refine questionnaire
    h. Rollout questionnaire and advertise link to questionnaire to IEEE

        i. Idea of tree of knowledge (Roger) where each branch represents a focus area with related ideas branching out; distinct main branches for focus areas; above root: people contributing to workforce; below root: people in education or people aspiring to be engineers
        ii. In questionnaire, ask focus of education (K-12, undergrad, postgrad, etc) to get better idea of respondents area
    i. Perform analysis on questionnaire and publish results
5. With final exams starting in early May in US, time is of essence. Need to get people involved. If unavailable, Roger offered to find other volunteers
6. Roger's report to System Council on Technical Committees
    a. Request chairs to summarise what they are doing
    b. Insight to future engineering directions?
7. Tasks
    a. Rich:
        i. Contact Judy for document and questionnaire set-up
        ii. Contact Vincenzo for contact info on tech chairs
        iii. Contact Frederica for help on meeting, joining committee, and assisting committee endeavours
        iv. Once contact info obtained, develop email with Roger and Judy to send off to chairs with deadline