IEEE 802 Student Paper Competition

Overview

- IEEE 802 with IEEE standards education jointly sponsor a student paper competition
  - Hosted by 802.24
- Goals
  - Raise interest and awareness of 802 standards
  - Highlight interesting and innovative 802 applications
  - Develop content and collaboration for 802.24 white papers
  - Encourage students to consider standards activities
  - Have fun
- Coordinate with IEEE Standards Education for publicity and support

Proposed plan

- Open to all students worldwide. Original unpublished work only.
- Prizes
  - Top 3 get travel stipend, comp hotel (tbd) and cash award
  - Travel stipend is need based – students first ask if university will sponsor
  - Top 10 are offered presentation and meeting fee waiver
- All finalists have to provide presentation in addition to paper
- Presentations to be held in extra 802.24 slots
- Work with Susan Tatiner to talk to Potentials magazine, Computer Society, Spectrum, Communications Society, et al. to see if we can get the papers published
- Schedule:
  - Contest announced prior to November 2015 plenary meeting
  - Papers Due March 1 2016
  - Papers reviewed March 2016 (Macau)
  - Winners announced in April 2016
  - Papers presented July 2016 (San Diego)

Topic abstracts

- Announce call for topics on 802.24 and 802 EC reflector

- Topic abstracts due End of August
  - Describe what the "judges" will be looking for

- Post topic abstracts to Reflector

- Selection of first competition topic to be made during September meeting

- EC email ballot to approve call for papers and funding

Current topic list

- Regulatory (TVWS, cognitive radio, sensing metrics, etc) (James Gilb)

- Implications of LBT rules in regulatory domains, techniques for spectrum sharing (Ruben S)

- New ideas for standards or amendments (Steve Pope)

- History and implementation of security architecture (Demir)

- Improving Humanity through Technology (Steve Pope)

- Others?

Spectrum sharing and Regulation

- The topic would be Spectrum Sharing and Regulation: How the regulator can and should ensure the best and non-discriminatory use of a shared spectrum.

- Specific topics relevant to IEEE 802 wireless networks are:
  - Comparative information about regulations for wireless networks in the different major areas of the world, Asia Pacific, Europe and Americas.
  - Identify those areas where the regulation imposes static constraints (e.g., Listen Before Talk or Duty cycles) on channel access that could compromise the effective use of the spectral resource.
  - Discuss the use of Channel Sensing to serve regulation: is the complexity added to the implementations necessary or could similar sharing performance be achieved without such constraints.
  - Discuss the use of Duty Cycle schemes to serve regulation: is the complexity added to the implementations necessary or could similar sharing performance be achieved without such constraints.
  - Analyze if and how Transmit Power Management could be used efficiently for Spectrum sharing, with potentially lower complexity impact. Indeed lower power communications would propagate less and would be confined, which allows for better geographical Spectrum re-use.
  - How can spectrum sharing techniques be adapted to the new applications coming from the IoT initiatives?

TVWS

- Compare and contrast the key features of IEEE 802.11af, IEEE 802.15.4m, and IEEE 802.22. Identify strengths and weaknesses of each standards

- How does IEEE 802.19.1 work in conjunction with IEEE TVWS standards (IEEE 802.11af, IEEE 802.15.4m, IEEE 802.22) and other users of the TVWS.

Announcement

- IEEE 802 Student Paper Competition

- IEEE 802 in cooperation with IEEE Standards Education is sponsoring a student paper competition for topics related to IEEE 802 standards.

- Prizes: Prizes will be awarded as shown in the table. One author from each of the top 10 papers will have the meeting fee waived for the IEEE 802 July plenary. Travel stipends and room accommodations will be offered as well to one author for

Fine print

- In the event that there is more than one author of a paper, any cash prize will be divided equally among the authors. Only one travel grant (stipend, meeting fee waiver and hotel room) will be granted per paper. The authors shall specify when the paper is submitted which author will be given the travel grant.

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Funding proposal

Prize Level	Cash Award	Travel Stipend	Meeting Fee Waived	Hotel Room Comp	Presentation	Publication
First Prize	$1000	$500	✔	✔	✔	✔
Second Prize	$500	$500	✔	✔	✔	✔
Third Prize	$250	$500	✔	✔	✔	✔
4th to 10th place	-	-	✔	-	✔	?

- Joint between IEEE SA and IEEE 802
- IEEE SA (Susan Tatiner)
  - Provides funding, promotional support, coordination with publications
- IEEE 802 Funding
  - $3250 plus residual costs of waiver and room comps, minus IEEE SA contribution