

IEEE Signal Processing Society offers free educational content via Connexions

Partnership assures quality of open-access educational materials

HOUSTON -- (Dec. 1, 2010) -- Rice University's Connexions and the IEEE Signal Processing Society (IEEE-SPS) today announced the release of a broad collection of free, high-quality lessons that practicing engineers can use for their own education and career growth and that engineering instructors can mix and match to build customized courses, textbooks and study guides. The free material, all of it peer-reviewed to ensure high quality, is available online via the popular education site Connexions (cnx.org), which attracts more than 2 million visits per month.

A novel aspect of the collaboration is the rigorous peer review of the quality of the materials by experts identified by the IEEE-SPS. Materials found to be of high quality are certified and collected in the IEEE-SPS "lens," which is available at <http://cnx.org/lenses/ieeesps/endorsements>.

"Connexions' lenses adapt the time-tested peer-review process to open-access educational content, thus erasing a major concern for academic authors," said Joel Thierstein, executive director of Connexions.

While the open-education movement has grown rapidly in recent years, critics have questioned how open-access publishers can ensure the quality of freely authored and edited materials. An oft-proposed option is adapting peer review -- the process academic researchers have used for centuries to vet and certify research papers and books.

Founded more than a decade ago, Connexions is among the world's most popular open-education sites. Connexions' repository of free educational content can be employed, adapted and modified by anyone. The number of people using Connexions has grown exponentially in recent years.

"All materials must pass thorough a rigorous quality evaluation before they appear on the IEEE Signal Processing Society's branded portal in Connexions," said Roxana Saint-Nom, chair of the society's Connexions Lens Subcommittee.

"While quality assurance of content was a key issue for us, Connexions offers other tangible benefits for our members," said SPS President Mos Kaveh. "Compared with traditional publishing, Connexions is much faster, has global reach and is perfectly suited for the rapid pace of change in our field."

In Connexions, anyone can create modules or "learning objects." Like Lego blocks, these modules can be assembled and reassembled by users to create an almost endless variety of customized Web courses, textbooks, study guides and curricula.

While Connexions welcomes contributions from anyone, anywhere, it also features filtering layers called lenses. These lenses are what IEEE-SPS and other groups use to certify content. While Connexions supplies the tools, each organization develops its own processes

for certifying contributed materials. In the case of the IEEE-SPS, the society developed a lens with social software features like a keyword tag cloud, discussion areas and tools that allow authors to track the worldwide impact of their contributions. The society's lens can also single out exemplary signal processing-related content.

"Lenses are a key feature that differentiates Connexions from other open-education projects," said Rice engineering professor and Connexions founder Richard Baraniuk, an IEEE-SPS member. "We're glad to see the IEEE Signal Processing Society taking leadership both in establishing peer review for the open-access environment and in encouraging their members to contribute open-access materials to Connexions."

IEEE, the Institute of Electrical and Electronics Engineers Inc., is the world's largest technical professional organization; it has more than 350,000 members worldwide. The IEEE-SPS represents the technical interests of its more than 15,000 members in 148 countries. It is widely known as a publisher of archival journals and sponsor of major conferences across the broad landscape of signal processing science and technology.

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Located in Houston, Rice University is consistently ranked one of America's best teaching and research universities. Known for its "unconventional wisdom," Rice is distinguished by its: size -- 3,279 undergraduates and 2,277 graduate students; selectivity -- 12 applicants for each place in the freshman class; resources -- an undergraduate student-to-faculty ratio of 5-to-1; sixth largest endowment per student among American private research universities; residential college system, which builds communities that are both close-knit and diverse; and collaborative culture, which crosses disciplines, integrates teaching and research, and intermingles undergraduate and graduate work.