Professors Elected to the US National Academy of Sciences and the Royal Society

As the issue was going to print, we heard that Professors Emmanuel Candès, Sergio Verdú, and Bin Yu have been elected members of the National Academy of Sciences. Furthermore, Professor Vincent Poor has been elected as a Foreign Member of the Royal Society. Professors Candes, Poor, Verdu, and Yu are distinguished members of the IT society.

The National Academy of Sciences is a private, nonprofit institution that was established under a congressional charter signed by President Abraham Lincoln in 1863. It recognizes achievement in science by election to membership, and—with the National Academy of Engineering, Institute of Medicine, and National Research Council—provides science, technology, and health policy advice to the federal government and other organizations. Election to the National Academy of Sciences is among the highest professional distinctions accorded to any scientist.

The Royal Society, the UK's national academy of science, is the oldest scientific academy in continuous existence. The Fellowship of the Royal Society is made up of the most eminent scientists, engineers and technologists from the UK and the Commonwealth as well as across the globe. Past Fellows and Foreign Members have included Newton, Darwin and Einstein.

Emmanuel Candès   Sergio Verdú   Bin Yu   Vincent Poor

saving of online-only paper editing can be quite substantial. Subsequently, the BoG passed the resolution "To allow for peer-reviewed online-only supplementary material to be posted together on IEEExplore with each IT Transactions paper." An ad hoc committee chaired by Frank has been charged with working out the implementation details of this resolution. They are expected to report their recommendations at the Honolulu BoG meeting at the end of June.

In my previous column I mentioned the declining membership of our society. The society second Vice President, Alon Orlitsky, has been spearheading an effort to increase our membership to match the healthy growth in our publications, conferences, and schools. We are pursuing several approaches to increasing our membership:

1) Increasing awareness of the benefits of membership, such as the outreach and mentorship programs that are reserved only for members. Also, along with the IEEE, we are considering adding a website service providing career advancement opportunities for society members.

2) Offering lower costs to members. Starting this year, workshop, symposia, and school registration fees will be lower for members. We are also considering imposing Transactions page charges on non-member authors.

3) Inviting members of other IEEE societies (COMSOC, SP, CS) to join our society at reduced initial membership fee.

4) Articulating the importance of membership to the health of the society and to our field.

In closing, I look forward to seeing you at ISIT in Honolulu. This conference promises to be one of our best ever thanks to the excep-

The Historian's Column

Anthony Ephremides

Many of our members often wonder how the venues of our workshops and symposia are chosen. For that matter one could wonder how any one of the multitude of scientific conferences in the world are decided. What criteria are used and who decides? I can offer today to the readers some enlightenment on this subject based on the accumulated wisdom from years in the trenches of the IEEE.

In our Society the decisions are made ultimately by the Board of Governors but mostly after the recommendations of the Committee on Conferences (in each Society this entity has a different

performance within approximately .25 bits per sample (or about 1.5 dB) of the Shannon optimal performance. The good news of the result was that simple techniques were shown (under certain conditions) to provide nearly optimal performance. An unfortunate side effect was the subsequent common interpretation of the result to imply that it was never worth the effort to consider more sophisticated source coding methods since there was so little further performance improvement available. Although this debate still crops up on occasion, the original result is limited to IID Gaussian sources and high bit rates, and often in practice large improvements in compression over simple scalar quantization and entropy coding have been achieved by taking advantage of known structure in the signal and by using more sophisticated distortion measures than squared error (analysis-by-synthesis speech coding is a good example).

Another surprising and signficant result was first published by Tom in his 1965 IT Transactions paper "Theoretical Limitations on the Transmission of Data from Analog Sources" where Tom showed that in some cases no coding at all provides nearly optimal performance. Shannon showed that if an information source has a rate-distortion function R(D) and a noisy channel has a Shannon channel capacity C, then R(D)   C is a necessary condition for the existence of a communication system to achieve average distortion D or less. In other words, if D

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Call for Nominations

**IEEE Communications Society
Data Storage Technical Committee (DSTC)
2013 Best Paper Award and 2013 Best Student Paper Award**

The Data Storage Technical Committee of IEEE Communications Society invites you to nominate or self-nominate papers for the 2013 Best Paper Award and the 2013 Best Student Paper Award.

Eligibility and Requirements:

- r The paper must appear in print in a peer-reviewed journal or a peer-reviewed conference proceeding in 2013, i.e., from January 1, 2013 to December 31, 2013.

- r The specific technical content of the nominated paper is expected to have a clear connection to the general theme of data storage. The nominated paper needs to show substantial mean-

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DATE	CONFERENCE	LOCATION	WEB PAGE	DUE DATE
June 10–14, 2014	**IEEE International Conference on Communications (ICC 2014)**	Sydney, Australia	http://www.ieee-icc.org/	Passed
June 18–21, 2014	**2014 IEEE North American School on Information Theory**	Toronto, Canada	http://www.fields.utoronto.ca/ programs/scientific/13-14/ infotheory/	Passed
June 22–25, 2014	**The 15th IEEE International Workshop on Signal Processing Advances in Wireless Communications (SPAWC)**	Toronto, Canada	www.spawc2014.org	Passed
June 29–July 4, 2014	**2014 IEEE International Symposium on Information Theory (ISIT 2014)**	Honolulu, Hawaii, USA	http://www.isit2014.org/	Passed
August 18–22, 2014	**8th International Symposium on Turbo Codes & Iterative Information Processing**	Bremen, Germany	http://www.jacobs-university. de/turbo-symposium-2014/	Passed
October 1–3, 2014	**52nd Annual Allerton Conference**	Monticello, Illinois, USA	http://www.csl.uiuc.edu/0014 Tm 44 9 00 9 6s2sp://www	