IEEE Information Theory Society

The 2012 IEEE International Symposium on Information Theory
Cambridge, Massachusetts

Annual Awards Luncheon
July 3, 2012

Recognition of Editors

The Information Theory Society recognizes the contributions of the following individuals whose terms as Associate Editors have ended since the last ISIT:

Mario Blaum
Coding Theory (4/1/2009-3/31/2012)

Elza Erkip
Shannon Theory (1/1/2009-12/31/2011)

Massimo Franceschetti
Communication Networks (5/15/2009-5/15/2012)

Marco Lops
Detection and Estimation (3/1/2009-2/29/2012)

Aris Moustakas
Communications (3/1/2009-2/29/2012)

Matthew G. Parker
Sequences (12/1/2008-11/30/2011)

Erchin Serpedin
Signal Processing (4/1/2009-3/31/2012)

Roy D. Yates
Communication Networks (3/1/2009-2/29/2012)

Nam Yul Yu
Associate Editor At Large (1/1/2009-12/31/2011)

Predrag Spasojevic
Publications Editor (2008-2011)

Recognition of Outgoing Members of the IT Society Board of Governors

The Information Theory Society recognizes the contributions of the following individuals whose service on the Board of Governors has ended since the last ISIT:

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Recognition of Conference Organizers

The Information Theory Society recognizes the following individuals, who have been General Co-Chairs or Program Committee Co-Chairs since and including the last ISIT:

2011 IEEE International Symposium on Information Theory, St. Petersburg, Russia

General Co-Chairs:

Alexander Kuleshov
Vladimir Blinovsky
Anthony Ephremides

Technical Program Committee Co-Chairs:

Bruce Hajek
Simon Litsyn
Boris Ryabko

2011 IEEE Information Theory Workshop Paraty, Brazil

General Co-Chairs:

Amin Shokrollahi
Valdemar C. da Rocha Jr.
Sueli I. R. Costa

Technical Program Committee Co-Chairs:

João Barros
Max H. M. Costa
Jaime Portugheis

Recognition of Special Service

The Information Theory Society recognizes the exceptional service and leadership of the following individuals:

Christina Fragouli
Women in the Information Theory Society (WithITS) Coordinator
2010–2012

Tracey Ho
Newsletter Editor
2009–2011

Nihar Jindal
Treasurer
2010–2011

Giuseppe Caire
President
IEEE Information Theory Society
2011

IEEE Medals

IEEE Richard W. Hamming Medal

(for exceptional contributions to the advancement of communications sciences and engineering, sponsored by Alcatel-Lucent Bell Labs)

Michael G. Luby and Amin Shokrollahi

For the conception, development, and analysis of practical rateless codes.

IEEE Alexander Graham Bell Medal

(for exceptional contributions to information sciences, systems and technology, sponsored by QUALCOMM*, Inc.)*

Leonard Kleinrock

For pioneering contributions to modeling, analysis, and design of packet-switching networks.

IEEE Jack S. Kilby Signal Processing Medal

(For outstanding achievements in signal processing, sponsored by Texas Instruments Inc.)

Clifford Carter

For contributions to the fundamentals of coherence and time-delay estimation and to underwater acoustics signal processing.

IEEE Awards

IEEE Koji Kobayashi Computer and Communications Award

Jean Walrand

For contributions to the theory and algorithms for high-speed switching and network resource allocation.

IEEE Eric E. Sumner Award

Jack H. Winters

For contributions to the theory and application of multiple-antenna systems in wireless communications.

IEEE Kiyo Tomiyasu Award

Mung Chiang

For demonstrating the practicability of a new theoretical foundation for the analysis and design of communication networks.

IEEE Judith A. Resnik Award

Pramod K. Varshney

For contributions to and leadership in the theory and practice of multisensor data fusion for aerospace and bioengineering applications.

IEEE Donald G. Fink Prize Paper Award

Kannan Krishnan

“Biomedical Nanomagnetics: A Spin Through Possibilities in Imaging, Diagnostics and Therapy”, *IEEE Transactions on Magnetics* Vol. 46, No. 7, July 2010, pp. 2523-2558.

2012 Chapter of the Year Award

2012 IEEE Fellows (cont'd)

Eytan Modiano
"for contributions to cross-layer resource allocation algorithms for wireless, satellite, and optical networks."

Jong-Seon No
"for contributions to sequences and cyclic difference sets for communications algorithms."

Jean-Christophe Pesquet
"for contributions to statistical methods for signal recovery."

Konstantinos Plataniotis
"for contributions to the theory and application of statistical adaptive learning."

Wonjong Rhee
"for leadership in dynamic spectrum management systems."

Akbar Sayeed
"for contributions to statistical signal modeling for wireless communication and sensor networks."

Ljubisa Stankovic
"for contributions to time-frequency signal analysis."

Emre Telatar
"for contributions to information theory and coding."

Bane Vasic
"for contributions to coding theory and its applications in data storage systems and optical communications."

Jiangtao Wen
"for contributions to multimedia communication technology and standards."

Guu-Chang Yang
"for contributions to optical code division multiple access."

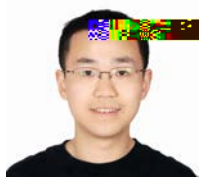
Junshan Zhang
"for contributions to cross-layer optimization of wireless networks."

2011 ISIT Student Paper Awards

This award is given annually for an outstanding paper presented IEEE International Symposium on Information Theory, with a student (or students) making the dominant contribution as well as presenting the paper. The award is based both on the paper's technical contribution as well as the quality of its presentation. The 2011 recipients are:

A. Ingber for "The Dispersion of Infinite Constellations," (co-authored with R. Zamir and M. Feder)

Y. Wu for "Degrees of Freedom of the Interference Channel: A General Formula," (co-authored with S. Shamai and S. Verdú)

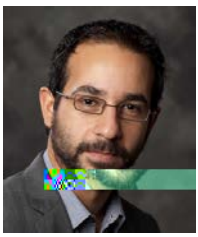


L. Zhang for "Capacity of Gaussian Channels with Duty Cycle and Power Constraints," (co-authored with D. Guo)

2012 IEEE ComSoc/ITSoc Joint Paper Award

The IEEE Communications Society and Information Theory Society Joint Paper Award is given annually to the author(s) of outstanding papers, relevant to both societies, published in any publication of either society during the previous three calendar years. The 2012 award goes to the following two papers:

Alexandros G. Dimakis, P. Brighten Godfrey, Yunnan Wu, Martin J. Wainwright and **Kannan Ramchandran**, "Network Coding for Distributed Storage Systems," *IEEE Transactions on Information Theory*, vol. 56, no. 9, pp. 4539–4551, September 2010.

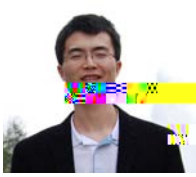


Alexandros G. Dimakis received the Diploma degree in electrical and computer engineering from National Technical University of Athens, Greece, in 2003, and the Ph.D. degree from the University of California, Berkeley (UC Berkeley), in 2008.

He was a Postdoctoral Scholar at the Center for the Mathematics of Information at the California Institute of Technology (Caltech), Pasadena, and he is currently an Assistant Professor at the Viterbi School of Engineering, University of Southern California, Los Angeles. His research interests include communications, coding theory, signal processing, and networking, with a current focus on network coding, message passing algorithms, and sparse graph codes. Dr. Dimakis received the Eli Jury dissertation award in 2008, two outstanding paper awards, a UC Berkeley Regents Fellowship and a Microsoft Research Fellowship.

P. Brighten Godfrey received the B.S. degree from Carnegie Mellon University, Pittsburgh, PA, in 2002, and the Ph.D. degree from the University of California, Berkeley, in May 2009, advised by I. Stoica. He is an Assistant Professor in the Department of Computer Science at the University of Illinois at Urbana-Champaign, Urbana.

His research interests lie in the design and analysis of networked systems.



Yunnan Wu received the Ph.D. degree from Princeton University, Princeton, NJ, in January 2006. From 2005 to 2010, he was a Researcher at Microsoft Corporation (Redmond, WA). Since 2010 he has been a Software Engineer at Facebook.

His research interests include networking, graph theory, information theory, game theory, wireless communications, and multimedia.

Michael Lentmaier, Daniel J. Costello Jr., Arvind Sridharan and **Kamil Sh. Zigangirov**, “Iterative Decoding Threshold Analysis for LDPC Convolutional Codes,” *IEEE Transactions on Information Theory*, vol. 56, no. 10, pp. 5274–5289, October 2010.

Michael Lentmaier received the Dipl.-Ing. degree in electrical engineering from University of Ulm, Ulm, Germany, in 1998, and the Ph.D. degree in

His research interests are in the area of digital communications, with special emphasis on error control coding and coded modulation. He has numerous technical publications in his field, and in 1983, he coauthored a textbook entitled Error Control Coding: Fundamentals and Applications PrenticeâĂŞHall, 2004). Dr. Costello was selected in 1991 as one of 100 Seattle University alumni to receive the Centennial Alumni Award in recognition of alumni who have displayed outstanding service to others, exceptional leadership, or uncommon achievement. In 1999, he received a Humboldt Research Prize from the Alexander von Humboldt Foundation in Germany. In 2000, he was named the Leonard Bettex Professor of Electrical Engineering at Notre Dame. Since 1983, he has been a member of the Information Theory Society Board of Governors, and in 1986 he served as President of the BOG. He has also served as Associate Editor for Communication Theory for the IEEE TRANSACTIONS ON COMMUNICATIONS, Associate Editor for Coding Techniques for the IEEE TRANSACTIONS ON INFORMATION THEORY, and Co-Chair of the IEEE International Symposia on Information Theory in Kobe, Japan (1988), Ulm, Germany (1997), and Chicago, IL (2004). In 2000, the IEEE Information Theory Society selected him as a recipient of a Third-Millennium Medal. He was a corecipient of the 2009 IEEE Donald G. Fink Prize Paper Award, which recognizes an outstanding survey, review, or tutorial paper in any IEEE publication issued during the previous calendar year.

Kamil Sh. Zigangirov was born in the USSR in 1938. He received the M.S. degree in 1962 from the Moscow Institute for Physics and Technology, Moscow, USSR, and the Ph.D. degree in 1966 from the Institute of Radio Engineering and Electronics of the USSR Academy of Sciences, Moscow.

From 1965 to 1991, he held various research positions with the Institute for Problems of Information Transmission of the USSR Academy of Sciences, first as a Junior Scientist, and later as a Main Scientist. During this period, he visited several universities in the United States, Sweden, Italy, and Switzerland as a Guest Researcher. He organized several symposia on information theory in the USSR In 1994, he received the Chair of Telecommunication Theory at Lund University, Lund, Sweden. From 2003 to 2009, he was a Visiting Professor with the University of Notre Dame, Notre Dame, IN, the Dresden Technical University, Dresden, Germany, and with the University of Alberta, Edmonton, AB, Canada. His scientific interests include information theory, coding theory, detection theory, and mathematical statistics. In addition to papers in these areas, he published a book on sequential decoding of convolutional codes (in Russian) in 1974. With R. Johannesson, he coauthored the textbook Fundamentals of Convolutional Coding (Piscataway, NJ: IEEE, 1999). He also published the book, Theory of CDMA Communication (Piscataway, NJ: IEEE, 2004).

2011 Information Theory Society Paper Award

The Information Theory Society Paper Award is given annually for an outstanding publication in the fields of interest to the Society and appearing anywhere during the preceding two calendar years. Its purpose is to recognize exceptional publications in the field and to stimulate interest in, and encourage contribution to, the discipline. The 2011 award goes to the following papers:

Masahito Hayashi, "Information-Spectrum Approach to Second-Order Coding Rate in Channel Coding," *IEEE Transactions on Information Theory*, vol. 55, no. 11, pp. 4947–4966, November 2009.

Masahito Hayashi was born in Japan in 1971. He received the B.S. degree from the Faculty of Sciences, Kyoto University, Kyoto, Japan, in 1994 and the M.S. and Ph.D. degrees in mathematics from Kyoto University, Japan, in 1996 and 1999, respectively.

He was a Research Fellow of the Japan Society of the Promotion of Science (JSPS), Kyoto University, from 1998 to 2000, and worked in the Laboratory for Mathematical Neuroscience, Brain Science Institute, RIKEN, from 2000 to 2003, and in ERATOQuantum Computation and Information Project, Japan Science and Technology Agency (JST) as the Research Head from 2000 to 2006. He also worked in the Superrobust Computation Project Information Science and Technology Strategic Core (21st Century COE by MEXT) Graduate School of Information Science and Technology, The University of Tokyo, as Adjunct Associate Professor from 2004 to 2007. Since 2009, he also has been a Visiting Research Associate Professor at the Centre for Quantum Technologies, National University of Singapore, Singapore. He published the book *Quantum Information: An Introduction* (New York: Springer-Verlag, 2006). In 2007, he joined the Graduate School of Information Sciences, Tohoku University, Sendai, Japan, as Associate Professor. His research interests include quantum information theory and quantum statistical inference. Dr. Hayashi is on the Editorial Board of the *International Journal of Quantum Information and the International Journal on Advances in Security*.

Yury Polyanskiy, H. Vincent Poor and **Sergio Verdú** “Channel Coding Rate in the Finite Blocklength Regime,” *IEEE Transactions on Information Theory*, vol. 56, no. 5, pp. 2307–2359, May 2010.

Sergio Vedú received the Telecommunications Engineering degree from the Universitat Politècnica de Barcelona, Barcelona, Spain, in 1980 and the Ph.D. degree in Electrical Engineering from the University of Illinois at Urbana-Champaign, Urbana, in 1984.

Since 1984, he has been a member of the faculty of Princeton University, Princeton, NJ, where he is the Eugene Higgins Professor of Electrical Engineering. Dr. Verdú is the recipient of the 2007 Claude E. Shannon Award and the 2008 IEEE Richard W. Hamming Medal. He is a member of the National Academy of Engineering and was awarded a Doctorate Honoris Causa from the Universitat Politècnica de Catalunya in 2005. He is a recipient of several paper awards from the IEEE: the 1992 Donald Fink Paper Award, the 1998 Information Theory Outstanding Paper Award, an Information Theory Golden Jubilee Paper Award, the 2002 Leonard Abraham Prize Award, the 2006 Joint Communications/ Information Theory Paper Award, and the 2009 Stephen O. Rice Prize from IEEE Communications Society. He has also received paper awards from the Japanese Telecommunications Advancement Foundation and from Eurasip. He received the 2000 Frederick E. Terman Award from the American Society for Engineering Education for his book *Multiuser Detection* (Cambridge, U.K.: Cambridge Univ. Press, 1998). He served as President of the IEEE Information Theory Society in 1997. He is currently Editor-in-Chief of

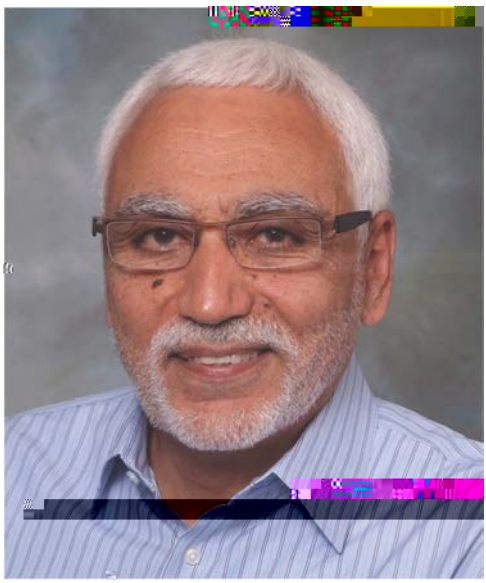
2012 IEEE Information Theory Society Aaron D. Wyner Distinguished Service Award

The Aaron D. Wyner Distinguished Service Award is given annually to an individual who has shown outstanding leadership in—and provided long-standing exceptional service to—the Information Theory community.

Ezio Biglieri was born in Aosta, Italy. He received the Dr. Engr. degree in 1967 in electrical engineering from the Politecnico di Torino, Torino, Italy.

2012 Claude E. Shannon Award

The Claude E. Shannon Award recognizes consistent and profound contributions to the field of information theory.



Abbas El Gamal

Abbas El Gamal (S' 71 - M' 73 - SM' 83 - F' 00) received the B.Sc. (honors) degree in electrical engineering from Cairo University in 1972 and the M.S. degree in statistics and the Ph.D. degree in electrical engineering from Stanford University, Stanford, CA, in 1977 and 1978, respectively. From 1978 to 1980, he was an Assistant Professor in the Department of Electrical Engineering at the University of Southern California (USC). He has been on the Stanford faculty since 1981, where he is currently the Hitachi America Professor in the School of Engineering and the Director of the Information Systems lab in the department of electrical engineering. His research interest and contributions are in the areas of network information theory, wireless communications, digital imaging, and integrated circuit design. He has authored or coauthored over 200 papers and 30 patents in these areas. He is coauthor of the book *Network Information Theory* (Cambridge Press 2011). Dr. El Gamal haswon several honors and awards, including the 2004 Infocom best paper award, the 2009 Padovani lecture, and the 2012 Shannon Award. He has been serving on the Board of Governors of the IEEE IT Society since 2009 and is currently the Second Vice President.

IEEE Information Theory Society 2012 Awards Brochure
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