

**IEEE
Information
Theory
Society**



**2022 IEEE International
Symposium on Information Theory
Espoo, Finland**

Awards Ceremony
June 28, 2022



IEEE Medals & Technical Field Awards

2022 IEEE Alexander Graham Bell Medal

Recognizes exceptional contributions to communications and networking sciences and engineering, sponsored by Nokia Bell Labs.

P. R. Kumar

For seminal contributions to the modeling, analysis, and design of wireless networks.

2022 IEEE Richard E. Hamming Medal

Recognizes exceptional contributions to information sciences, systems, and technology, sponsored by Qualcomm.

Madhu Sudan

For fundamental contributions to probabilistically checkable proofs and list decoding of Reed-Solomon codes.

2022 IEEE Jack S. Kilby Signal Processing Medal

Recognizes outstanding achievements in signal processing, sponsored by The Kilby Medal Fund.

David L. Donoho

For groundbreaking contributions to sparse signal recovery and compressed sensing.

2022 IEEE/RSE James Clerk Maxwell Medal

Recognizes groundbreaking contributions that have had an exceptional impact on the development of electronics and electrical engineering or related fields.

Ingo Wolff

For the development of numerical electromagnetic field analysis techniques to design advanced mobile and satellite communication systems.

2022 IEEE Fourier Award for Signal Processing

Recognizes groundbreaking contributions that have an outstanding contribution to the advancement of signal processing, other than in the areas of speech and audio processing, sponsored by Mitsubishi Electric Research Labs (MERL).

Ali H. Sayed

For contributions to the theory and practice of adaptive signal processing.

2022 IEEE Koji Kobayashi Computers and Communications Award

Recognizes outstanding contributions to the integration of computers and communications, sponsored by NEC Corporation.

Muriel Médard

For contributions to the theory and practice of network coding, optical networks, and wireless communications.

2022 IEEE Undergraduate Teaching Award

Recognizes teachers of electrical and electronics engineering and the related disciplines, sponsored by the IEEE Education Society.

Christopher Rose

For innovations in team-oriented signature design and inspiring women and under-represented minority students to pursue engineering.

2022 Claude E. Shannon Award

Recognizes consistent and profound contributions to the field of information theory.



Raymond W. Yeung received the BS, MEng and PhD degrees in electrical engineering from Cornell University in 1984, 1985, and 1988, respectively. He joined AT&T Bell Laboratories in 1988. Since 1991, he has been with CUHK, where he is currently Choh-Ming Li Professor of Information Engineering. A cofounder of the field of network coding, he has been serving as Co-Director of the Institute of Network Coding since 2010. He is the author of the books *A First Course in Information Theory* (Kluwer Academic/Plenum Publishers, 2002) and *Information Theory and Network Coding* (Springer 2008), which have been adopted by over 100 institutions around the world. In spring 2014, he gave on Coursera the first MOOC in the world on information theory that reached over 25,000 students. Since then, the MOOC has been offered regularly on Coursera and other platforms. His research interests are in information theory and network coding. He was a consultant in a project of Jet Propulsion Laboratory for salvaging the malfunctioning Galileo Spacecraft.

Professor Yeung was a member of the Board of Governors of the IEEE Information Theory Society from 1999 to 2001. He has served on the committees of a number of information theory symposiums and workshops. He was the General Chair of the First Workshop on Network, Coding, and Applications (NetCod 2005), a Technical Co-Chair of the 2006 IEEE International Symposium on Information Theory, a Technical Co-Chair of the 2006 IEEE Information Theory Workshop, Chengdu, and a General Co-Chair of the 2015 IEEE International Symposium on Information Theory.

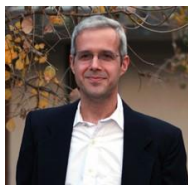
Professor Yeung also has served on the editorial board of a number of academic journals. He was an Associate Editor for Shannon Theory of the IEEE Transactions on Information Theory from 2002 to 2005. He currently serves as an Editor-at-Large of Communications in Information and Systems, an Editor of Foundation and Trends in Communications and Information Theory, an Editor of Foundation and Trends in Networking, and a Senior Editor of IEEE Journal on Selected Areas in Information Theory. He is also on the Steering Committee of IEEE BITS the Information Theory Magazine.

He was a recipient of the Croucher Senior Research Fellowship for 2000/01, the Best Paper Award (Communication Theory) of the 2004 International Conference on Communications, Circuits and System, the 2005 IEEE Information Theory Society Paper Award, the Friedrich Wilhelm Bessel Research Award from the Alexander von Humboldt Foundation in 2007, the 2016 IEEE Eric E. Sumner Award, the 2018 ACM SIGMOBILE Test-of-Time Paper Award, the Gold Medal with Congratulations from the Jury at the 47th International Exhibition of Invention of Geneva (2019), the 2021 IEEE Richard W Hamming Medal, and the 2022 Claude E. Shannon Award. In 2015, he was named an Outstanding Overseas Chinese Information Theorist by the China Information Theory Society.

Professor Yeung was a Changjiang Chair Professor of Xidian University, an Advisory Professor of Beijing University of Posts and Telecommunications, and an Adjunct Professor of the Institute of Interdisciplinary Information Sciences at Tsinghua University. He is currently a Guest Professor of Southeast University and a Huashan Scholar of Xidian University. He is a Fellow of the IEEE, Hong Kong Academy of Engineering Sciences, and Hong Kong Institution of Engineers.

2022 Aaron D. Wyner Distinguished Service Award

Recognizes an individual who has shown outstanding leadership in, and provided long-standing exceptional service to, the Information Theory community.



Alon Orlitsky is the Qualcomm Professor for Information Theory and its Applications at the University of California, San Diego. He received a B.Sc. in Mathematics and Electrical Engineering from Ben Gurion University in 1981, and a Ph.D. in Electrical Engineering from Stanford University in 1986. He was a member of technical staff at Bell Labs from 1986 to 1996 and worked at D.E. Shaw from 1996 to 1997. He joined UCSD in 1997. He has received numerous awards for his technical work, including the Shannon Award in 2021.

2021 Information Theory Society Paper Award

Recognize exceptional publications in the field and to stimulate interest in, and encourage contributions to, fields of interest of the Society.

Shrinivas Kudekar, Santhosh Kumar, Marco Mondelli, Henry D. Pfister Eren Şaçoğlu, Rüdiger L. Urbanke for “Reed–Muller Codes Achieve Capacity on Erasure Channels,” *IEEE Transactions on Information Theory*, Vol. 63, No. 7, pp. 4298-4316, February 2017.



Shrinivas Kudekar obtained his Bachelor’s degree in Electrical Engineering from the Indian Institute of Technology, Bombay in 2003. He was extremely fortunate to join EPFL for his doctoral studies in the School of Computer and Communication Sciences. There, under the guidance of the legendary Ruediger Urbanke and the Einsteinesque Nicolas Macris, he learnt the most important lessons of life: integrity, patience, persistence, quality wins over quantity, and the joy of learning. After obtaining his PhD in 2009, he spent a couple of years at the Los Alamos National Lab, and then a few years at Qualcomm Research where he worked on various projects including the design of LDPC codes for 5G.

The biggest feather in his cap has been, and will always be, his collaborations with Ruediger, be it research, making funny videos or discussing how to send a payload to the moon!



Santhosh Kumar obtained his Ph.D. from the Department of Electrical and Computer Engineering and M.S. from the Department of Mathematics at Texas A&M University, College Station, TX, in 2015 and 2014, respectively. He obtained his B.Tech. from the Department of Electrical Engineering at Indian Institute of Technology Madras in 2009. He was a research assistant at Indian Institute of Science, Bangalore between 2009 and 2010. He is currently with Intel Corporation, Santa Clara, CA.

He received a STOC Best Paper Award in 2016 and was a finalist in the Shannon Centennial Student Competition conducted by Bell Labs in 2016.

His research interests include information and coding theory, wireless communications and statistical inference.



Marco Mondelli (M'13, SM'22) received the B.S. and M.S. degree in Telecommunications Engineering from the University of Pisa, Italy, in 2010 and 2012, respectively. In 2016, he obtained his Ph.D. degree in Computer and Communication Sciences at the École Polytechnique Fédérale de Lausanne (EPFL), Switzerland. He is currently an Assistant Professor at the Institute of Science and Technology Austria (ISTA). Prior to that, he was a Postdoctoral Scholar in the Department of Electrical Engineering at Stanford University, USA, from February 2017 to August 2019. He was also a Research Fellow with the Simons Institute for the Theory of Computing, UC Berkeley, USA, for the program on Foundations of Data Science from August to December 2018. His research interests include data science, machine learning, information theory, wireless communication systems, and modern coding theory. He was the recipient of a number of fellowships and awards, including the Jack K. Wolf ISIT Student Paper Award in 2015, the STOC Best Paper Award in 2016, the EPFL Doctorate Award in 2018, the Simons-Berkeley Research Fellowship in 2018, the Lopez-Loreta Prize in 2019, and Information Theory Society Best Paper Award in 2021.



Henry D. Pfister received his Ph.D. in Electrical Engineering in 2003 from the University of California, San Diego and is currently a professor in the Electrical and Computer Engineering Department of Duke University with a secondary appointment in Mathematics. Prior to that, he was an associate professor at Texas A&M University (2006-2014), a post-doctoral fellow at the École Polytechnique Fédérale de Lausanne (2005-2006), and a senior engineer at Qualcomm Corporate R&D in San Diego (2003-2004). His current research interests include information theory, error-correcting codes, quantum computing, and machine learning.

He received the NSF Career Award in 2008 and a Texas A&M ECE Department Outstanding Professor Award in 2010. He is a coauthor of the 2007 IEEE COMSOC best paper in Signal Processing and Coding for Data Storage, a coauthor of a 2016 Symposium on the Theory of Computing (STOC) best paper, and a recipient of the 2021 Information Theory Society Paper Award. He has served the IEEE Information Theory Society as a member of the Board of Governors (2019-2022), an Associate Editor for the IEEE Transactions on Information Theory (2013-2016), and a Distinguished Lecturer (2015-2016). He was the General Chair of the 2016 North American School of Information Theory and a Technical Program Committee Co-Chair of the 2021 International Symposium on Information Theory.



Eren Şaşoğlu received his BSc from Bogazici University in 2005, and his MSc and PhD from EPFL in 2007 and 2011. He was a postdoctoral researcher from 2012 until 2015, first at UC San Diego and later at UC Berkeley. Between 2015 and 2017 he was at Intel. He is now at Apple. He received the 2009 ISIT Best Student Paper Award, the 2013 EPFL Doctorate Award, and the 2016 ACM STOC Best Paper Award.



Rüdiger L. Urbanke obtained his Dipl. Ing. degree from the Vienna University of Technology, Austria in 1990 and the M.Sc. and PhD degrees in Electrical Engineering from Washington University in St. Louis, MO, in 1992 and 1995, respectively.

He held a position at the Mathematics of Communications Department at Bell Labs from 1995 till 1999 before becoming a faculty member at the School of Computer & Communication Sciences (I&C) of EPFL. He is a member of the Information Processing Group.

His claim to fame is that he was the advisor of Shrinivas Kudekar.

2022 IEEE Communications Society & Information Theory Society Joint Paper Award

Recognizes the author(s) of outstanding papers appearing in any publication of the IEEE Communications Society or the IEEE Information Theory Society in the previous three calendar years.

Vamsi K. Amalladinne, Jean-Francois Chamberland, Krishna R. Narayanan for “A Coded Compressed Sensing Scheme for Unsourced Multiple Access,” *IEEE Transactions on Information Theory*, Vol. 66, No. 10, pp. 6509-6533, October 2020.



Vamsi K. Amalladinne received the B.Tech. degree in electronics and communication engineering from the LNM Institute of Information Technology, Jaipur, India, in 2012, the M.Tech. degree in signal processing and communications from IIT Kanpur, India, in 2014, and the Ph.D. degree in electrical and computer engineering from Texas A&M University, College Station, USA, in 2021. From June 2014 to August 2016, he was employed as a DSP Firmware Developer for CDMA systems with Qualcomm, Hyderabad, India. He is currently employed as a Senior Research Engineer with the Wireless Research and Development Division, Qualcomm, San Diego, USA, where he is contributing to the research and standardization of next-generation Wi-Fi networks. His research interests are in wireless communication, signal processing, error control coding, compressed sensing and machine learning.



Jean-Francois Chamberland is a professor in the Department of Electrical and Computer Engineering at Texas A&M University. He completed a Bachelor of Engineering degree at McGill University, a Master of Science degree at Cornell University, and a

Doctorate at the University of Illinois, Urbana-Champaign. His research interests are in the areas of communications and information theory, statistical inference, computer systems and networks, and learning. Recently, he has been studying the efficient design of wireless systems and the fundamental limits of communication networks. His contributions have been recognized through an IEEE Young Author Best Paper Award from the IEEE Signal Processing Society, and a Faculty Early Career Development (CAREER) Award from the National Science Foundation (NSF). He was invited to present educational innovations at the Frontiers of Engineering Education Symposium. He served as associate department head at Texas A&M University. He recently joined the editorial team for the IEEE Open Journal of Signal Processing, and he was an associate editor for the IEEE Transactions on Information Theory.



Krishna Narayanan received the B.E. degree from Coimbatore Institute of Technology, M.S. degree from Iowa State University and Ph.D. degree in Electrical Engineering from Georgia Institute of Technology in 1998. Since 1998, he has been with the Department of Electrical and Computer Engineering at Texas A&M University, where he is currently the Eric D. Rubin '06 professor. His current research interests are in the design of massive uncoordinated multiple access schemes, coded distributed computing, exploring connections between coding theory and sparse signal recovery and in analyzing data defined on graphs. He was the recipient of the NSF career award in 2001. He also received the 2006 and 2020 best paper awards from the IEEE technical committee for signal processing for data storage. In 2014, he received the Professional Progress in Engineering award given to an outstanding alumnus of Iowa State University. He was awarded a university level distinguished teaching award in 2018 at Texas A&M University. He has served as an associate editor for coding techniques for the IEEE Transactions on Information Theory and as the area editor (and editor) for the coding theory and applications area of the IEEE Transactions on Communications. He was elected as Fellow of the IEEE for contributions to coding for wireless communications and data storage.

2022 James L. Massey Research & Teaching Award for Young Scholars

Recognizes outstanding achievement in research and teaching by young scholars in the information theory community.

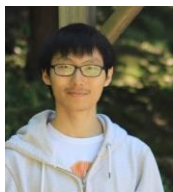


Mary Wootters is an assistant professor of Computer Science and Electrical Engineering at Stanford University. She received a Ph.D. in mathematics from the University of Michigan in 2014, and a B.A. in math and computer science from Swarthmore College in 2008; she was an NSF postdoctoral fellow at Carnegie Mellon University from 2014 to 2016. She works broadly in information theory, theoretical computer science, and applied math; her research interests include error correcting codes and randomized algorithms for dealing with high dimensional data. She is the recipient of an NSF CAREER award and was named a Sloan Research Fellow in 2019 and a Google Research Scholar in 2021; she was named to the Stanford Tau Beta Pi Teaching honor roll in 2018-19, 19-20, and 20-21.

2022 Thomas M. Cover Dissertation Award

Recognizes the author of an outstanding doctoral dissertation contributing to the mathematical foundations of any of the information sciences within the purview of the Society.

Qian Yu for “Coded Computing: A Transformative Framework for Resilient, Secure, Private, and Communication Efficient Large Scale Distributed Computing.”



Qian Yu is a postdoctoral researcher in the Department of Electrical and Computer Engineering at Princeton University. Previously, he was a postdoc researcher in the Department of Electrical and Computer Engineering at University of Southern California (USC) and received a Ph.D. degree from the same department. He received an M.Eng. degree in Electrical Engineering and a B.S. degree in EECS and Physics, both from Massachusetts Institute of Technology (MIT). His interests span information theory, learning theory, distributed computing, and many other problems math-related. Qian is a recipient of the Google PhD Fellowship in 2018 and received the Jack Keil Wolf ISIT Student Paper Award in 2017.

2021 Jack Keil Wolf ISIT Student Paper Award

Recognizes up to three outstanding papers at the ISIT for which a student is the principal author and the presenter. The award is based on the paper's technical contribution as well as the quality of its presentation.

Lekshmi Ramesh for "Multiple Support Recovery Using Very Few Measurements Per Sample," (co-authored with Chandra R. Murthy and Himanshu Tyagi).

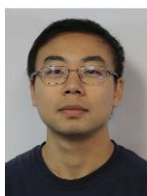


Lekshmi Ramesh obtained her PhD from the Department of ECE at the Indian Institute of Science in 2021. Before joining IISc, she received her MTech degree from DA-IICT, Gandhinagar and her BTech degree from Amrita University, Kollam. Her research interests are in the areas of compressed sensing, information theory, statistics, and privacy. She is currently working as a project scientist at the India Urban Data Exchange program unit at IISc.

Chandra R. Murthy is a Professor in the Department of Electrical Communication Engineering at the Indian Institute of Science, Bangalore, India.

Himanshu Tyagi is an Associate Professor in the Department of Electrical Communication Engineering at the Indian Institute of Science, Bangalore, India.

Hanwen Yao for "A Deterministic Algorithm for Computing the Weight Distribution of Polar Codes," (co-authored with Arman Fazeli and Alexander Vardy).



Hanwen Yao received his B.S. degree in electrical engineering from Shanghai Jiao Tong University in Shanghai, China, in 2016, and his M.S. degree in electrical engineering from the University of California, San Diego (UCSD), in 2018. He is currently a Ph.D. student in the Electrical and Computer Engineering (ECE) Department at UCSD. His research interests include error-correction codes, combinatorics, and algorithm, with a focus on polar codes. He was awarded the Shannon Graduate Fellowship by the Center for Memory and Recording Research, UCSD in 2021.

Arman Fazeli was a Post-Doctoral Scholar and a Lecturer at the University of California at San Diego until 2021. He is currently a Wireless System Engineer at Apple.

Alexander Vardy, deceased, was the Jack Keil Wolf Chair Professor with the Department of Electrical and Computer Engineering and the Department of Computer Science, University of California at San Diego (UCSD).

2022 Padovani Lecturer

The Padovani Lecture will be delivered by an outstanding member of the Information Theory community at one of the ITSoc's Schools of Information Theory, held for the benefit of students and postdoctoral researchers. The Lecturer is selected by the Membership Committee.

Elza Erkip

2022 Goldsmith Lecturer

The Goldsmith Lecture will be delivered by an early-career woman researcher at one of the ITSoc's Schools of Information Theory, held for the benefit of students and postdoctoral researchers. The Lecturer is selected by the Membership Committee.

Shirin Saeedi Bidokhti

2022 Distinguished Lecturers

The Distinguished Lecturers Program aims to promote interest in information theory by supporting chapters who wish to invite prominent information theory researchers to give talks at their events. The Lecturers are selected by the Membership Committee.

Pulkit Grover (2022-2023)

Hamed Hassani (2022-2023)

Parastoo Sadeghi (2022-2023)

Michèle Wigger (2022-2023)

2022 Chapter of the Year Award

The Chapter of the Year Award annually recognizes a chapter that provides their membership with outstanding programs and activities. The prize includes \$1,000 to support local chapter activities.

UK and Ireland Section Chapter

For educational programs, outreach activities, and the promotion of information-theory research.

2022 IEEE Fellows

Petros Boufounos, for contributions to compressed sensing

Anthony Chan Carusone, for contributions to integrated circuits for digital communication

Minghua Chen, for contributions to delay-critical networked systems

Todd Coleman, for contributions to biomedical signal processing and leadership in neuro-engineering

Andrea Conti, for contributions to wireless communication and localization systems

Alexandros G. Dimakis, for contributions to distributed coding and learning

Albert Guillén i Fàbregas, for contributions to the analysis and design of wireless communication systems

Deniz Gündüz, for contributions to the foundations of source-channel coding, cooperative and cache-aided communications

Steve Hranilovic, for contributions to optical wireless communication systems

Michael Langberg, for contributions to the theory and practice of network coding

Amir Leshem, for contributions to multi-channel and multi-agent signal processing

Yingbin Liang, for contributions to information theoretic methods for wireless systems

Devavrat Shah, for contributions to network and information science, inference and machine learning

Kumar Sivarajan, for leadership in optical networking

Sriram Vishwantath, for contributions to information theory and coding for wireless communication systems

Rebecca Willett, for contributions to the foundations of computational imaging and large-scale data science

Jun Zhang, for contributions to dense wireless networks

Recognition of School Organizers

The Information Theory Society recognizes the following individuals, who have been General Chair or Co-Chairs of Schools since the last ISIT:

2021 IEEE East Asian School of Information Theory, KAIST, Daejeon, South Korea

General Chair:

Changho Suh

2021 Croucher Summer Course in Information Theory, Hong Kong

Director:

Pascal Vontobel

Co-director:

Sidharth Jaggi

2022 Joint Telematics Group / IEEE Information Theory Society Summer School in Information Theory, Signal Processing, Telecommunication, and Networking, IIT Mandi, India

General Chair:

Satyajit Thakor

Recognition of Service for the Board of Governors

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

Suhas Diggavi

Member of the Board of Governors (2016-2021)

Stark Draper

Member of the Board of Governors (2019-2021)

Olgica Milenkovic

Member of the Board of Governors (2019-2021)

Prakash Narayan

Member of the Board of Governors (2019-2021)

Recognition of Special Service

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

Emina Soljanin

Second Vice President (2017)

First Vice President (2018)

President (2019)

Junior Past President (2020)

Senior Past President (2021)

Andrea Goldsmith

JSAIT Editor-in-Chief (2019-2021)

P. Vijay Kumar

Conference Committee Chair (2019-2021)

Christina Fragouli

BITS Information Theory Magazine Steering Committee Chair (2019-2021)

Martina Cardone

Student and Outreach Subcommittee Chair (2020-2021)

Recognition of Associate Editors

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

Aminzadeh Gohari

At Large (July 2018 - July 2021)

Sihem Mesnager

Sequences (Sept. 2014 – Aug. 2021)

Milan Mosonyi

Quantum Information Theory (Oct. 2018 – Oct. 2021)

Kai-Uwe Schmidt

Sequences (July 2018 - July 2021)

Lei Ying

Communication Networks (July 2018 - July 2021)

Anne Canteaut

Cryptography (Oct. 2018 – Oct. 2021)

Alekh Agrawal

Machine Learning (Oct. 2020 – Oct. 2021)

Cunsheng Ding

Coding and Decoding (Oct 2021)

Mohammad Ali Maddah-Ali

Communications (July 2019 - March 2022)

Fady Alajaji

Shannon Theory (Feb. 2019 – Feb. 2022)

Oliver Johnson

Probability and Statistics (Feb. 2019 – Feb. 2022)

Mari Kobayashi

Communications (Jan. 2020 – Feb. 2022)

Mark Davenport

Signal Processing (Feb. 2019 – Feb. 2022)

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:

2021 IEEE International Symposium on Information Theory, Melbourne, Victoria, Australia

General Co-Chairs:

Parastoo Sadeghi
Emanuele Viterbo

Technical Program Committee Co-Chairs:

Michael Gastpar
Stephen Hanly
Henry Pfsiter
Emina Soljanin

2021 IEEE Information Theory Workshop, Kanazawa, Japan

General Co-Chairs:

Brian Kurkoski
Tadashi Wadayama
Shun Watanabe

Technical Program Committee Co-Chairs:

Jakob Hoydis
Mitsugu Iwamoto
Krishna Narayanan
Vincent Y. F. Tan



IEEE Information Theory Society 2022 Awards Brochure