

**IEEE Signal Processing Society**  
**Claude Shannon-Harry Nyquist Technical Achievement Award**  
(formerly known as the Technical Achievement Award)

The Technical Achievement Award honors a person who, over a period of years, has made outstanding technical contributions to theory and/or practice in technical areas within the scope of the Society, as demonstrated by publications, patents, or recognized impact on the field.

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| <b>2018</b> | <b>Michael Elad</b> for contributions to sparsity-based signal processing.  |
| <b>2017</b> | <b>Patrick Flandrin</b> , for contributions to the theory and application of nonstationary signal analysis.<br><br><b>Ahmed H. Tewfik</b> , for contributions to digital watermarking, multimedia, and wavelets.  |
| <b>2016</b> | <b>Jelena Kovacevic</b> , for contributions to the theory and practice of signal representations.<br><br><b>Bhaskar D. Rao</b> , for fundamental contributions to array processing and sparsity-based signal processing.  |
| <b>2015</b> | <b>Li Deng</b> , for outstanding contributions to deep learning and to automatic speech recognition.  |
| <b>2014</b> | <b>Moeness G. Amin</b> , for fundamental contributions to signal processing algorithms for communications, satellite navigations, and radar imaging.<br><br><b>Richard G. Baraniuk</b> , for contributions to the Theory and Applications of Sparsity and Compressive Sensing.  |
| <b>2013</b> | <b>Yonina Eldar</b> , for fundamental contributions to sub-nyquist and compressed sampling, convex optimization and statistical signal processing.<br><br><b>Al Hero</b> , for information-theoretic advances in statistical signal processing and machine learning.  |
| <b>2012</b> | <b>Shih-Fu Chang</b> , for pioneering contributions to signal processing for multimedia content analysis and retrieval.<br><br><b>Ali H. Sayed</b> , for fundamental contributions to adaptive and statistical signal processing.   |
| <b>2011</b> | <b>Bernd Girod</b> , for his contributions to the theory and practice of video communications, search and processing.<br><br><b>Björn Ottersten</b> , for contributions in array signal processing and wireless communications.   |
| <b>2010</b> | <b>Aggelos Katsaggelos</b> , for outstanding contributions to the fields of image and video processing.<br><br><b>José M. F. Moura</b> , for fundamental contributions to statistical signal processing.  |
| <b>2009</b> | <b>K. J. Ray Liu</b> , for pioneering and outstanding contributions for the advances of signal processing in multimedia forensics, security, and wireless communications.<br><br><b>Alan S. Willsky</b> , for originality and innovation in stochastic multiresolution modeling in statistical and graphical modeling, and in probabilistic control-driven signal processing. |

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| 2008 | <p><b>Harry L. Van Trees</b>, for fundamental contributions to detection, estimation, and modulation theory, sensor array processing, and Bayesian bounds.</p> <p><b>Michael Unser</b>, for the contributions to the theory and practice of splines and their applications in signal and image processing.</p>   |
| 2007 | <p><b>H. Vincent Poor</b>, for fundamental contributions to statistical signal processing and its applications in wireless communications and related fields.</p>  |
| 2006 | <p><b>Chin-hui Lee</b>, for exceptional contributions to the field of automatic speech recognition.</p> <p><b>Arye Nehorai</b>, for fundamental contributions to sensor array processing with applications to radar, sonar, biomedicine, and the environment.</p>  |
| 2005 | <p><b>Alan Bovik</b>, for broad and lasting contributions to the field of digital image processing.</p> <p><b>Hermann Ney</b>, for contributions to the advancement of the theory and performance of speech and language technology, including language modeling, search algorithms and machine translation.</p>                                       |
| 2004 | <p><b>Edward J. Delp</b>, for sustained and meritorious contributions in the fields of image, video coding and watermarking.</p> <p><b>Stephen J. Young</b>, for outstanding contributions to the advancement of the theory and performance of speech technology, including speech recognition, spoken language understanding, and dialog systems.</p> |
| 2003 | <p><b>Johann Bohme</b>, for contributions to statistical signal and array processing.</p> <p><b>Arogyaswami J. Paulraj</b>, for pioneering contributions to wireless communication systems, with emphasis to smart antenna technology and related signal processing techniques.</p>  |
| 2002 | <p><b>Henrique S. Malvar</b>, for development of lapped transforms and contributions to audio and video coding techniques.</p> <p><b>Michael D. Zoltowski</b>, for fundamental contributions to two-dimensional direction-of-arrival estimation and space-time channel modeling and equalization.</p>  |
| 2001 | <p><b>P. P. Vaidyanathan</b>, for fundamental contributions to filter bank theory and design.</p> <p><b>Martin Vetterli</b>, for technical leadership and fundamental contributions to the fields of multiresolution signal analysis and signal processing, compression, and transmission.</p>   |
| 2000 | <p><b>Rama Chellappa</b>, for contributions to image processing and computer vision.</p> <p><b>Georgios B. Giannakis</b>, for fundamental contributions to non-Gaussian and non-stationary signal analysis, system identification, and equalization of single and multi-user communication systems.</p>  |
| 1999 | <p><b>John R. Treichler</b>, for outstanding contributions and technical leadership in application of signal processing techniques to communication applications.</p> <p><b>Donald W. Tufts</b>, for fundamental contributions in array signal processing and parametric spectrum analysis.</p>  |

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| 1998 | <p><b>Biing-Hwang Juang</b>, for outstanding theoretical contribution and technical leadership in speech processing and neural network signal processing.</p> <p><b>Hugo De Man</b>, for contributions to design automation of digital signal processing systems.</p>                                   |
| 1997 | <p><b>Robert M. Gray</b>, for his seminal contributions to source coding, including work in rate-distortion theory and quantizer design, as well as for his work in medical image processing.</p> <p><b>Boaz Porat</b>, for outstanding contributions to Statistical Signal Processing.</p>             |
| 1996 | <p><b>Petre Stoica</b>, for fundamental contributions to statistical signal processing with applications in time series analysis, system identification, and array signal processing.</p> <p><b>Murat Kunt</b>, for sustained contributions to image sequence processing and coding.</p>                |
| 1995 | <p><b>Sanjit K. Mitra</b>, for fundamental and sustained contributions to signal processing research and graduate education.</p> <p><b>Teuvo Kohonen</b>, for outstanding contributions to the theory and application of associative memories, artificial neural networks, and pattern recognition.</p> |
| 1994 | <p><b>Thomas P. Barnwell, III</b>, for contributions to the areas of speech processing, filter banks and filter design, and multiprocessor architectures.</p> <p><b>Louis L. Scharf</b>, for advances in the theory and application of statistical signal processing.</p>                               |
| 1993 | <p><b>John W. Woods</b>, for significant and sustained contributions to image processing.</p> <p><b>David G. Messerschmitt</b>, for contributions to adaptive filters, VLSI architectures and software, and applications of digital signal processing to communications systems.</p>                    |
| 1992 | <p><b>S. Y. Kung</b>, for contributions to parallel and neural network signal processing algorithms.</p>  |
| 1991 | <p><b>R.A. Roberts.</b></p>   |
| 1990 | <p><b>R. W. Broderon.</b></p>   |
| 1989 | <p><b>B. Friedlander.</b></p>   |
| 1988 | <p><b>T. Kailath.</b></p>   |
| 1987 | <p><b>J.B. Allan and T.S. Huang.</b></p>  |
| 1986 | <p><b>J. H. McClellan.</b></p>  |
| 1985 | <p><b>C. S. Burrus.</b></p>   |
| 1984 | <p><b>B. Liu.</b></p>   |

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| 1983   | L. B. Jackson.                          |
| 1982   | J. Makhoul.                             |
| 1981   | K. Steiglitz.                           |
| 1980   | T. W. Parks.                            |
| 1979   | R. W. Schafer.                          |
| 1978   | L. R. Rabiner.                          |
| 1977   | A.H. Gray, J.F. Kaiser and J.D. Markel. |
| 1976   | A.V. Oppenheim and C. Rader.            |
| 1975   | B.S. Atal and J.W. Cooley.              |
| 1974   | No Recipient.                           |
| 1973   | No Recipient.                           |
| 1972   | B. Gold.                                |
| 1971   | J.L. Flanagan.                          |
| 1970   | W.W. Lang.                              |
| 1969   | H.B. Knowles.                           |
| 1968   | M.S. Corrington.                        |
| 1967   | D. von Recklinghausen.                  |
| 1966   | No Recipient.                           |
| <b>Achievement Award</b> (forerunner of Technical Achievement Award) |   |
| 1965   | H. H. Scott.                            |
| 1964   | C. D. Mee.                              |
| 1963   | D. F. Eldridge.                         |
| 1962   | J. K. Hilliard.                         |

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| 1961 | J. R. MacDonald.                  |
| 1960 | W. B. Snow.                       |
| 1959 | A. B. Bereskin and P.C. Goldmark. |
| 1958 | D.W. Martin.                      |
| 1957 | M. Camras.                        |
| 1956 | H.E. Roys.                        |
| 1955 | H.F. Olson.                       |
| 1954 | B.B. Bauer.                       |