

# Curriculum Vitae: Hagit Messer-Yaron

May 2021

## Contacts:

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## Educational Background

From Year	To Year	Institution	Specialization	Degree
1973	1977	Tel Aviv University	Electrical Eng. (EE)	B.Sc.
1977	1979	Tel Aviv University	EE - Signal Processing	M.Sc.
1979	1984	Tel Aviv University	EE - Signal Processing	PhD.
1985	1986	Yale University	EE - Source localization	Post. Doc.

## Major Research Interests

- 1977-present: Statistical signal processing
- 2004-present: **environmental sensor networks**
- 1985-2000: Sensor array processing, passive source localization
- 2000-2010: Signal processing for wireless communication
- 2003-2011: Signal processing for basic science: (a) signal processing in high energy physics; (b) study and modeling of DNA repair mechanism

## Employment History

From Year	To Year	Institution	Type of organization	Title
1986	present	Tel Aviv University	University	- DPO (May 2019-) - The Kranzberg Chair in Signal Processing (2016-) - <b>VP for R&amp;D</b> (2005-8) - Head, the Porter School of Environmental Studies (2003-5) - head of undergraduate EE program (1999-2000 & 2003-4)
2016		Climacell	Start-up company	Co-founder [not active in the company since January 1, 2017]
2013	2016	Council for Higher Education	Regulation	Vice Chair
2008	2013	The Open University	University	President
2000	2003	Ministry of Science	Government	Chief Scientist and head, directorate of science
1996	1999	Public Utilities Authorities - Electricity	Regulation	Commissioner
1985	1986	Yale Univ., USA	Electrical Eng.	Post Doc. Fellow

## International visits and formal collaboration

- Yale Univ. (US) - 1985-6, summer 1994
- NJIT (US) – 1991-2, summer 1994
- ENST (France) – summer 1997
- CERN (CH) – winter 2004, 2005, 2006, 2007, 2009
- ETIS-ENSEA (France) – summer 2014
- Harvard Hi-Lab (US) – summer 2016
- Institute of Atmospheric Physics, Chinese Academy of Sciences – winter 2019
- Columbia Univ. (US) – Fall 2019

## Academic and Professional Awards and Recognition

- The IEEE **Clementina Saduwa Award 2020**
- Finalist in the ICASSP 2020 Best paper award (4/730) **and** Best paper Student Award (8/1170) - coauthor
- **IEEE Life Fellow**, from January 1, 2019
- **PIFI fellow**, Visiting Scientist Award, Chinese Academy of Sciences, President's International Fellowship Initiative (PIFI), 2018
- Member of "The Directors Team (2017)"
- The Kranzberg **Chair** in Signal Processing, TAU, 2016
- **Honorary Fellow** of the Open University, Israel, 2016
- **2011 SPS Signal Processing Magazine Best Column Award**, for Messer, H: "Rainfall Monitoring Using Cellular Networks" [In the Spotlight], IEEE SIGNAL PROCESSING MAGAZINE, Vol. 24, No. 3, May 2007
- **Panelist, United Nations commission on the status of women**, fifty-fifth session, February 2011
- **WIPO (World Intellectual Property Organization) Medal**, 2009, "for the best invention to predict floods using cellular networks" (with N. David and P. Alpert).
- **IEEE Geoscience and Remote Sensing Letters (GRSL) Best Reviewer Recognition for 2009**
- **General co-Chair**, IEEE SAM-2010, IEEE HOS-1999 Workshops
- **Member of the Editorial Board**, Overview Articles in IEEE Signal Processing Transactions (2009-2012)
- **Member of the Editorial Board**, IEEE Journal on Selected Topics in Signal Processing (2006-2010)
- **Fellow of the IEEE (2001):** *for contributions to statistical signal processing, time delay estimation and sensor array processing.*
- **Associate Editor**, IEEE Signal Processing Letters (1996-9)
- **Associate Editor**, IEEE Trans. On Signal Processing (1994-6)
- **Member**, IEEE Signal Processing Society Technical Committees (SPTM, SAM) – 1994-2010.
- **Best Teacher Award**, Faculty of Engineering (1997)
- **Recent plenary/keynotes talks in international conferences:** SPAWC2007, SAM2008, SAM2012, EUCON2013, CEST2017, COMCAS2018, AICT2019, ICASSP2020 (partial list)

## Recent Grants and Contracts

From	To	Title of Project	Source <sup>1</sup>
2021	2023	Extract Rainfall Data from Satellite Communication	Magneton (IIA)
2019	2022	Improving Wireless Networks Robustness via Weather-Sensitive Predictive Management.	BSF-NSF
2018	2020	Opportunistic Sensing of Fog and other Environmental Phenomena	Kamin (IIA)
2014	2019	Integrating Microwave Link Data for Analysis of Precipitation... (IMAP)*	DFG (Germany)
2013	2020	Fog Monitoring*	MoD

<sup>1</sup> \* indicates joint research with other PIs

2011	2015	Improving Rainfall Estimation using Radar & microwave link technologies*	BSF
2009	2012	PROCEAMA*	BMBF (Germany)
2008	2010	Environmental sensor networks using existing wireless communication	ISF
2007	2009	Rehabilitation of a discrete sensory-motor learning function*	ISF (converging tech.)
2007	2010	ReNaChip*	FP7 (EC)

## Patents

- Messer Yaron H, Alpert P, Zinevich A, Goldshtein O, MONITORING AND MAPPING OF ATMOSPHERIC PHENOMENA, WIPO Patent Application WO/2007/007312, 2006
- David Noam, Aplert P, Messer-Yaron Hagit, SYSTEM AND METHOD FOR IDENTIFYING A HYDROMETEOR, US provisionall patent applicationn no. 61/602,156
- David Noam, Cohen, O, Messer-Yaron Hagit, Aplert P. METHOS, SYSTEM AND COMPUTER PROGRAM PRODUCT FOR GENERATING A TWO DIMENSIONAL FOG MAP FROM CELLULAR COMMUNICATION NETWORK INFORMATION, US provisionall patent applicationn no. 62474724
- Ostrometzky Jonathan, Messer-Yaron Hagit, A method to relate rain intensity and dynamic range in commercial microwave links, US provisional patent applicationn no. 62/544,953
- David, N., Gao, H.O., Messer, H., and Alpert, P.: Using commercial microwave links to detect atmospheric temperature inversions, air pollution and fog. Provisional patent application, filed by Cornell IP office, August, 2017.
- J. Ostrometzky, G. Zussmann, H. Messer Yaron, D. Jacoby : "Predictive Communication Network Management Based on Weather", non-Provisional patent application, filed by Columbia University, July 2020.

## Ph.D Students

Dr. Moti Frisch (awarded in 1992)  
 Dr. Joseph Tabrikian (awarded in 1996)  
 Dr. Nadav Bezer (awarded in 2001) – jointly with D. Mudoser  
 Dr. Eran Fishler (awarded in 2001)  
 Dr. Jonathan Friedmann (awarded in 2002)  
 Dr. Itsik Bergel (awarded in 2005)  
 Dr. David Primor (awarded in 2007) – jointly with G. Mikenberg  
 Dr. Lev Smolyar (awarded in 2009)  
 Dr. Artem Zinevich (awarded in 2010) – jointly with P. Alpert  
 Dr. Yair Noam (awarded in 2011)  
 Dr. Dana Lahat (awarded in 2013) – jointly with JF Cardoso  
 Dr. Nir Nossenson (awarded in 2014)  
 Dr. Noam David (awarded in 2014) – jointly with P. Aplert  
 Dr. Jonatan Ostrometzky (awarded 2017)

Also, supervised more than 80 M.Sc. students.

## Recent public service (partial list):

2020- Member, RAMOT's BoD (+TAU Ventures)  
 2020- IEEE Ethics and Member Conduct Committee Member (EMCC)  
 2017- Chair, BASHAAR - Academic Community for Israeli Society  
 2017- Member, Executive Committee, IEEE Global Initiative on Ethics of Autonomous and Intelligent Systems (AIS)  
 2016- Member, COMEST – UNESCO committee for ethics in science and technology  
 2007- Member, BoG, the Center for Educational Technology (CET), Israel  
 2011-16 Member, scientific advisory committee to the Minister of Defense

# LIST OF PUBLICATIONS: HAGIT MESSER-YARON

## Journal papers

### **Total Performance Evaluation of Intensity Estimation after Detection**

T Weiss, T Routtenberg, H Messer  
Signal Processing, Volume 183, June 2021, 108042

### **Quantitative Analysis of the Performance of Spatial Interpolation Methods for Rainfall Estimation Using Commercial Microwave Links**

A Eshel, H Messer, H Kunstmann, P Alpert, C Chwala  
Journal of Hydrometeorology, Published-online: 26 Jan 2021

### **Recurrent Neural Network for Rain Estimation Using Commercial Microwave Links**

H. V. Habi and H. Messer  
IEEE Transactions on Geoscience and Remote Sensing, 2020

### **On the Information in Extreme Measurements for Parameter Estimation**

Ostrometzky, Jonatan, and Hagit Messer  
Journal of the Franklin Institute 357 (1), 748-771, 2020

### **Spatial Reconstruction of Rain Fields from Wireless Telecommunication Networks - Scenario Dependent Analysis of IDW-Based Algorithms**

A Eshel, J Ostrometzky, S Gat, P Alpert and H. Messer  
IEEE Geoscience and Remote Sensing Letters, vol. 17, no. 5, pp. 770-774, 2020

### **Analyzing the ability to reconstruct the moisture field using commercial microwave network data**

N David, O Sendik, Y Rubin, H Messer, HO Gao, D Rostkier-Edelstein,  
Atmospheric Research 219, 213-222, 2019

### **Advancements in the Statistical Study, Modeling, and Simulation of Microwave-Links in Cellular Backhaul Networks**

L Gazit and H Messer  
Environments 2018, 5(7), 75

### **Vertical Precipitation Estimation Using Microwave Links in Conjunction with Weather Radar**

R Raich, P Alpert and H Messer  
Environments 2018, 5(7), 74

### **Capitalizing on Cellular Technology—Opportunities and Challenges for Near Ground Weather Monitoring**

H Messer  
Environments 2018, 5(7), 73

### **Sufficient Conditions for Reconstructing 2-D Rainfall Maps**

Gazit, L. and Hagit Messer  
IEEE Trans. On Geoscience and Remote Sensing, 2018

### **On the potential for reconstructing the moisture field using commercial microwave network data**

N David, O Sendik, H Messer, HO Gao, Y Rubin, D Rostkier-Edelstein, ...  
arXiv preprint arXiv:1806.00833

### **The Wet-Antenna Effect – a Factor to be Considered in Future Communication Networks**

Ostrometzky, J., Raich R., Bao, L., Hansryd, J., & Messer H.  
IEEE Transactions on Antennas and Propagation, 66, no. 1 (2018): 315-322.

### **Dynamic Determination of the Baseline Level in Microwave Links for Rain Monitoring From Minimum Attenuation Values**

J Ostrometzky, H Messer  
IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing, 11, no. 1 (2018): 24-33

### **Comparison of Different Methodologies of Parameter-Estimation From Extreme Values**

Ostrometzky, Jonatan, and Hagit Messer  
IEEE Signal Processing Letters 24.9 (2017): 1293-1297.

### **Robust Spectrum Management with Incomplete Information over Fading Channels**

Y Noam, A Leshem, H Messer  
Journal of the Franklin Institute, 354(2), pp.1066-1086, 2016

### **Meteorology: Mobile networks aid weather monitoring**

P Alpert, H Messer, N David  
Nature 537 (7622), 617-617, 2016

**Parameter estimation from heterogeneous/multimodal data sets**

Fijalkow, Inbar, Elad Heiman, and Hagit Messer  
IEEE Signal Processing Letters 23 (3), 390-393, 2016

**Detection of Stimuli from Multi-Neuron Activity: Empirical Study and Theoretical Implications**

N Nossenson, A Magal, H Messer  
Neurocomputing 174, 822-837, 2016

**Optimal Cognitive Beamforming for Target Tracking in MIMO Radar/Sonar**

Nathan Sharaga, J. Tabrikian and H. Messer  
Selected Topics in Signal Processing, IEEE Journal of 9 (8), 1440-1450, 2015

**The potential of microwave communication networks to detect dew using the GLRT- experimental study,**

Harel, O, David, N., Alpert, P. and Messer, H.,  
*Selected Topics in Applied Earth Observations and Remote Sensing, IEEE Journal of 8.9 (2015): 4396-4404.*

**Improving Rainfall Measurement in gauge poor regions thanks to mobile telecommunication networks**

Gosset, Marielle, Harald Kunstmann, François Zougmore , Frederic Cazenave , Hidde Leijnse , Remko Uijlenhoet , Christian Chwala , Felix Keis , Ali Doumounia , Barry Boubakar , Modeste Kacou , Pinhas Alpert , **Hagit Messer**, Jörg Rieckermann , Joost Hoedjes  
*Bulletin of the American Meteorological Society* 2015 (2015).

**A New Approach to Precipitation Monitoring**

H Messer, O Sendik  
IEEE SIGNAL PROCESSING MAGAZINE 32 (3), 110-122, May 2015

**Accumulated Mixed Precipitation Estimation Using Measurements From Multiple Microwave Links**

Ostrometzky, Jonatan, Dani Cherkassky, and Hagit Messer  
Advances in Meteorology, 2015, 1

**Cellular network infrastructure-the future of fog monitoring?**

N. David, O. Sendik, H. Messer. P. Alpert  
*Bulletin of the American Meteorological Society* 96 (10), 1687-1698, 2015

**New algorithm for integration between wireless microwave sensor network and radar for improved rainfall measurement and mapping**

Y. Liberman, R. Samuels, P. Alpert, and H. Messer  
*Atmospheric Measurement Techniques* 7.10 (2014): 3549-3563

**Blind Separation of Multidimensional Components via Subspace Decomposition: Performance Analysis**

D. Lahat, JF Cardoso and H. Messer  
IEEE Transactions on Signal Processing, Volume: 62 , [Issue: 11](#) , June 2014

**Precipitation Classification Using Measurements from Commercial Microwave Links**

Cherkasky, D. Ostrometzky J. and Messer H:  
IEEE Transactions on Geoscience and Remote Sensing, Volume: 52 , [Issue: 5](#), May 2014

**The potential of commercial microwave networks to monitor dense fog-feasibility study**

N David, P Alpert, H Messer  
Journal of Geophysical Research: Atmospheres 118 (20), 11,750-11,761, Oct. 2013

**Extension of the MFLRT to Detect an Unknown Deterministic Signal Using Multiple Sensors, Applied for Precipitation Detection**

O Harel, H Messer  
Signal Processing Letters, IEEE\_ Volume:20 , Issue: 10 , Oct. 2013

**ADAPTIVE STATISTICAL LEARNING OF CELLULAR USERS BEHAVIOR**

Y Broyde, M Livshitz, H Messer  
Signal Processing, Volume 93, Issue 11, Pages 3151–3158, November 2013

**The potential of cellular network infrastructures for sudden rainfall monitoring in dry climate regions**

David, N; Alpert, P; Messer, H:  
Atmospheric Research Volume 131, Pages 13–21, September 2013

**Second-Order Multidimensional ICA: Performance Analysis**

Dana Lahat, Jean-François Cardoso and Hagit Messer  
IEEE TRANSACTIONS ON SIGNAL PROCESSING Volume: 60 Issue: 9 pp 4598-4610, SEP 2012

**Environmental sensor networks using existing wireless communication systems for rainfall and wind velocity measurements**

Messer, H. ; Zinevich, A. ; Alpert, P.  
Instrumentation & Measurement Magazine, IEEE, Volume: 15, Issue: 2 , pp 32 – 38, April 2012

**Optimal Sequential Detection of Stimuli from Multiunit Recordings Taken in Densely Populated Brain Regions**

Nir Nossenson , Hagit Messer  
Neural Computation, April 2012, Vol. 24, No. 4, Pages 895-938

**The Use of Linear Feature Projection for Precipitation Classification Using Measurements from Commercial Microwave Links**

Dani Cherkassky, Jonatan Ostrometzky and Hagit Messer  
in Latent Variable Analysis and Signal Separation ,Lecture Notes in Computer Science, 2012, Volume 7191/2012, pp 511-519

**Joint Block Diagonalization Algorithms for Optimal Separation of Multidimensional Components**

Dana Lahat, Jean-François Cardoso and Hagit Messer  
in Latent Variable Analysis and Signal Separation, Lecture Notes in Computer Science, 2012, Volume 7191/2012, pp 155-162

**Humidity Measurements using Commercial Microwave Links**

David, N; Alpert, P; Messer, H:  
In Advanced Trends in Wireless Communications, Editor: Mutamed Khatib. InTech, February 2011

**Competitive Spectrum Management with Incomplete Information**

Noam, Y.; Leshem, A.; Messer, H.;  
IEEE Transactions on Signal Processing, Dec. 2010

**Prediction of rainfall intensity measurement errors using commercial microwave communication links**

Zinevich, A; Messer, H; Alpert, P  
Atmospheric Measurement Techniques Atmos. Meas. Tech., 3, Pages: 1385-1402, 2010

**Optimal Performance of Second-Order Multidimensional ICA**

D. Lahat, J-F Cardoso and H. Messer  
Independent Component Analysis and Signal Separation Lecture Notes in Computer Science, Volume 5441/2009, P. 50-57, 2009.

**Unified Approach to Joint Power Allocation and Base Assignment in Nonorthogonal Networks**

Smolyar, L; Bergel, I; Messer, H  
IEEE TRANSACTIONS ON VEHICULAR TECHNOLOGY Volume: 58 Issue: 8 Pages: 4576-4586, 2009

**Frontal Rainfall Observation by a Commercial Microwave Communication Network**

Zinevich, A; Messer, H; Alpert, P  
JOURNAL OF APPLIED METEOROLOGY AND CLIMATOLOGY Volume: 48 Issue: 7 Pages: 1317-1334, 2009

**Notes on the Tightness of the Hybrid Cramer-Rao Lower Bound**

Noam, Y; Messer, H  
IEEE TRANSACTIONS ON SIGNAL PROCESSING Volume: 57 Issue: 6 Pages: 2074-2084, 2009

**Technical Note: Novel method for water vapour monitoring using wireless communication networks measurements**

David, N; Alpert, P; Messer, H  
ATMOSPHERIC CHEMISTRY AND PHYSICS Volume: 9 Issue: 7 Pages: 2413-2418, 2009

**Rain Rate Estimation Using Measurements From Commercial Telecommunications Links**

Goldshstein, O; Messer, H; Zinevich, A  
IEEE TRANSACTIONS ON SIGNAL PROCESSING Volume: 57 Issue: 4 Pages: 1616-1625, 2009

**Estimation of rainfall fields using commercial microwave communication networks of variable density**

Zinevich, A; Alpert, P; Messer, H  
ADVANCES IN WATER RESOURCES Volume: 31 Issue: 11 Pages: 1470-1480, 2008

**Optimization of CDMA Systems with Respect to Transmission Probability, Part II: Signal to Noise Plus Interference Ratio Optimization**

Bergel, I.; Messer, H.;  
Wireless Communications, IEEE Transactions on, Volume 7, Issue 6, June 2008 Page(s):2084 - 2093

**Optimization of CDMA Systems with Respect to Transmission Probability, Part I: Mutual Information Rate Optimization**

Bergel, I.; Messer, H.;  
Wireless Communications, IEEE Transactions on, Volume 7, Issue 6, June 2008 Page(s):2075 – 2083

**Iterative Track Fitting Using Cluster Classification in Multi Wire Proportional Chamber**

Primor, D.; Mikenberg, G.; Etzion, E.; Messer, H.;  
Nuclear Science, IEEE Transactions on, Volume 54, Issue 5, Part 2, Oct. 2007 Page(s):1758 - 1766

**Muon Detection in the ATLAS CSC Detector**

Primor, D.; Mikenberg, G.; Messer, H.;  
Nuclear Science, IEEE Transactions on, Volume 54, Issue 3, Part 2, June 2007 Page(s):635 - 642

**Rainfall Monitoring Using Cellular Networks**

Messer, H.;  
Signal Processing Magazine, IEEE, Volume 24, Issue 3, 2007 Page(s):144 – 142  
**\* 2011 SPS Signal Processing Magazine Best Column Award**

**A novel approach to track finding in a drift tube chamber**

Primor, D., Kortner, O., Mikenberg, G., and Messer, H. .  
*Journal of Instrumentation (JINST)*, P01009, 30/1/2007

**Multi-user sum-rate capacity for ultra-wideband radio**

Smolyar, L.; Bergel, I.; Messer, H.;  
Wireless Communications, IEEE Transactions on, Volume 5, Issue 7, July 2006 Page(s):1818 – 1826

**Environmental monitoring by wireless communication networks**

Messer, H; Zinevich, A; Alpert, P  
**SCIENCE, 312 (5774): 713-713 MAY 5 2006**

**SNR Estimation in time-varying Fading Channels,**

Wiesel, A, J. Goldberg and H. Messer-Yaron,  
IEEE Trans. on Communications, Vol. 54, Issue 5, pages 841-848, May 2006.

**Narrowband Interference Mitigation in Impulse Radio**

Bergel, I.; Fishler, E.; Messer, H.;  
Communications, IEEE Transactions on  
Volume 53, Issue 8, Aug. 2005 Page(s):1278 – 1282

**Determining the Number of Discrete Alphabet Sources from Sensor Data,**

Fishler, E; Grosman, M; Messer, H:  
EURASIP Journal on Applied Signal Processing 2005:1,4–12, JAN 2005.

**Training-based time-delay estimation for CPM signals over time-selective fading channels**

Dabora, R.; Goldberg, J.; Messer, H.;  
Communications, IEEE Transactions on, Volume 52, Issue 7, July 2004 Page(s):1169 – 1177

**Bearing estimation for a distributed source of nonconstant modulus bounds and analysis**

Friedmann, J.; Raich, R.; Goldberg, J.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 51, Issue 12, Dec. 2003 Page(s):3027 – 3035

**General asymptotic analysis of the generalized likelihood ratio test for a Gaussian point source under statistical or spatial mismodeling**

Friedmann, J.; Fishler, E.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 50, Issue 11, Nov. 2002 Page(s):2617 – 2631

**Inherent limitations in data-aided time synchronization of continuous phase-modulation signals over time-selective fading channels**

Dabora, R.; Goldberg, J.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 50, Issue 6, June 2002 Page(s):1470 – 1482

**Consistent CFAR detection of a linear signal based on partially consistent observations**

Friedmann, J.; Messer, H.;  
Signal Processing Letters, IEEE, Volume 9, Issue 8, Aug. 2002 Page(s):237 – 240

**Detection of signals by information theoretic criteria: general asymptotic performance analysis**

Fishler, E.; Grossmann, M.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 50, Issue 5, May 2002 Page(s):1027 - 1036

**Bearing estimation in a Ricean channel .I. Inherent accuracy limitations**

Fuks, G.; Goldberg, J.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 49, Issue 5, May 2001 Page(s):925 – 937

**Underwater source detection using a spatial stationarity test**

Ephraty, A; Tabrikian, J; Messer, H:  
JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA, 109 (3): 1053-1063, MAR 2001.

**Robust mixed-order root-MUSIC**

Gershman, AB; Messer, H:  
CIRCUITS SYSTEMS AND SIGNAL PROCESSING, 19 (5): 451-466 2000.

**On the use of order statistics for improved detection of signals by the MDL criterion**

Fishler, E.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 48, Issue 8, Aug. 2000 Page(s):2242 – 2247

**Source localization in shallow water in the presence of sensor location uncertainty**

Jakoby, A.; Goldberg, J.; Messer, H.;  
Oceanic Engineering, IEEE Journal of, Volume 25, Issue 3, July 2000 Page(s):331 – 336

**Bearing estimation for a distributed source: modeling, inherent accuracy limitations and algorithms**

Raich, R.; Goldberg, J.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 48, Issue 2, Feb. 2000 Page(s):429 – 441

**Detection and parameter estimation of a transient signal using order statistics**

Fishler, E.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 48, Issue 5, May 2000 Page(s):1455 – 1458

**Robust parameter estimation of a deterministic signal in impulsive noise**

Friedmann, J.; Messer, H.; Cardoso, J.-F.;  
Signal Processing, IEEE Transactions on Volume 48, Issue 4, April 2000 Page(s):935 – 942

**Detection of environmental mismatch in a shallow water waveguide**

Tabrikian, J.; Fostick, G.S.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 47, Issue 8, Aug. 1999 Page(s):2181 - 2190

**Order statistics approach for determining the number of sources using an array of sensors**

Fishler, E.; Messer, H.;  
Signal Processing Letters, IEEE, Volume 6, Issue 7, July 1999 Page(s):179 - 182

**Almost efficient estimation of the parameters of a stable distribution using order statistics**

Maymon S; Friedmann J; Messer H ;  
AEU-INTERNATIONAL JOURNAL OF ELECTRONICS AND COMMUNICATIONS 1999, Vol 53, Iss 6, pp 355-363

**Performance of linear MMSE multiuser detection combined with a standard IS-95 uplink**

Zaidel BM; Shitz SS; Messer H  
WIRELESS NETWORKS 1998, Vol 4, Iss 6, pp 429-445.

**Passive time delay estimation in non-Gaussian noise**

Messer, H.; Shor, G.; Schultheiss, P.M.;  
Signal Processing, IEEE Transactions on Volume 47, Issue 9, Sept. 1999 Page(s):2531 - 2534

**On the effect of nuisance parameters on the threshold SNR value of the Barankin bound**

Reuven, I.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 47, Issue 2, Feb. 1999 Page(s):523 - 527

**Lower bound on the achievable DSP performance for localizing step-like continuous signals in noise**

Bartov, A.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 46, Issue 8, Aug. 1998 Page(s):2195 - 2201  
Also in: **Bayesian Bounds for Parameter Estimation and Nonlinear Filtering/Tracking**, Harry L. Van Trees (Editor), Kristine L. Bell (Editor) , ISBN: 978-0-470-12095-8, Wiley-IEEE Press

**Highlights of statistical signal and array processing**

Hero, A.; Messer, H.; Goldberg, J.; Thomson, D.J.; Amin, M.G.; Giannakis, G.; Swami, A.; Tugnait, J.K.; Nehorai, A.; Swindlehurst, A.L.; Cardoso, J.-F.; Lang Tong; Krolik, J.;  
Signal Processing Magazine, IEEE, Volume 15, Issue 5, Sept. 1998 Page(s):21 - 64

**Extracting information from noisy measurements of periodic signals propagating through random media**

Furst, M.; Messer, H.; Shaaya-Segal, I.;  
Signal Processing, IEEE Transactions on Volume 46, Issue 7, July 1998 Page(s):2047 – 2053

**Inherent limitations in the localization of a coherently scattered source**

Goldberg, J.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 46, Issue 12, Dec. 1998 Page(s):3441 – 3444

**Maximum likelihood time delay estimation in non-Gaussian noise**

Schultheiss, P.M.; Messer, H.; Shor, G.;  
Signal Processing, IEEE Transactions on Volume 45, Issue 10, Oct. 1997 Page(s):2571 - 2575

**A Barankin-type lower bound on the estimation error of a hybrid parameter vector**

Reuven, I.; Messer, H.;  
Information Theory, IEEE Transactions on, Volume 43, Issue 3, May 1997 Page(s):1084 – 1093  
Also in: **Bayesian Bounds for Parameter Estimation and Nonlinear Filtering/Tracking**, Harry L. Van Trees (Editor), Kristine L. Bell (Editor) , ISBN: 978-0-470-12095-8, Wiley-IEEE Press

**Robust maximum-likelihood source localization in an uncertain shallow-water waveguide,**

Tabrikian J; Krolik JL; Messer H  
JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA 1997, Vol 101, Iss 1, pp 241-249



**Source localization in a waveguide using polynomial rooting**

Tabrikian, J.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 44, Issue 8, Aug. 1996 Page(s):1861 – 1871

**Simultaneous spatial separation and direction-of-arrival estimation of wideband sources using bootstrapped algorithms**

Messer, H.; Bar-Ness, Y.;  
Circuits and Systems II: Analog and Digital Signal Processing, IEEE Transactions on [see also Circuits and Systems II: Express Briefs, IEEE Transactions on], Volume 43, Issue 4, April 1996 Page(s):316 – 328

**On the achievable DF accuracy of two kinds of active interferometers**

Messer, H.; Singal, G.; Bialy, L.;  
Aerospace and Electronic Systems, IEEE Transactions on, Volume 32, Issue 3, July 1996 Page(s):1158 – 1164

**Three-dimensional source localization in a waveguide**

Tabrikian, J.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 44, Issue 1, Jan. 1996 Page(s):1 – 13

**The potential performance gain in using spectral information in passive detection/localization of wideband sources**

Messer, H.;  
Signal Processing, IEEE Transactions on Volume 43, Issue 12, Dec. 1995 Page(s):2964 - 2974

**On the principal domain of the discrete bispectrum of a stationary signal**

Hinich, M.J.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 43, Issue 9, Sept. 1995 Page(s):2130 - 2134

**Joint DOA estimation and phase calibration of linear equispaced (LES) arrays**

Wylie, M.P.; Roy, S.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 42, Issue 12, Dec. 1994 Page(s):3449 - 3459

**Detection of a known transient signal of unknown scaling and arrival time**

Frisch, M.; Messer, H.;  
Signal Processing, IEEE Transactions on Volume 42, Issue 7, July 1994 Page(s):1859 – 1863

**FEASIBILITY STUDY OF PARAMETER-ESTIMATION OF RANDOM SAMPLING JITTER USING THE BISPECTRUM**

SHARFER I; MESSER H  
CIRCUITS SYSTEMS AND SIGNAL PROCESSING 1994, Vol 13, Iss 4, pp 435-453

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