

Md. Kamrul Hasan, *Ph.D.*



Professor, Department of Electrical & Electronic Engineering,
Bangladesh University of Engineering and Technology (BUET), Dhaka-1000, Bangladesh
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CAREER OBJECTIVE

To work as a Professor of Electrical and Electronic Engineering, supervise quality postgraduate theses, and make a difference in students' lives.

RESEARCH INTEREST

Digital Signal Processing, Speech and Image Processing, Adaptive Filtering, Biomedical Signal Processing, Medical Imaging, Elastography, Quantitative Ultrasound, Deep Learning.

EDUCATION

Chiba University, Chiba, Japan

PhD: March 1997, Obtained highest grade 'A' in all subjects, Sponsor: MONBUSHO SCHOLARSHIP.

Dissertation: Identification of Linear Systems with Unknown Input Signals.

M.Eng.: March 1995, Obtained highest grade 'A' in all subjects, Sponsor: MONBUSHO SCHOLARSHIP.

Bangladesh University of Engineering and Technology (BUET), Dhaka-1000, Bangladesh

M.Sc. Eng in EEE: August 1991

B.Sc.Eng in EEE: December 1989, First Class with Honors.

DATE OF BIRTH

April 15, 1966

EMPLOYMENT

Kyung Hee University, Korea

Professor of International Scholar, Department of Biomedical Engineering (June 2013 - July 2013)

- Conducted research in Medical Imaging (CT, Ultrasound)

Kyung Hee University, Korea

Professor of International Scholar, Department of Biomedical Engineering (Sep. 2012 – Oct. 2012)

- Conducted research in Medical Imaging (CT, Ultrasound)

The University of Tokyo, Japan

Japan Society for the Promotion of Science (JSPS) Invited Research Fellow, Department of Information and Communication Engineering (December 2011 - February 2012)

- Conducted research in Speech Enhancement for the Advanced Man-Machine Communication

Kyung Hee University, Korea

Professor of International Scholar, Department of Biomedical Engineering (June 2011 - July 2011)

- Conducted research in Medical Imaging (CT, Ultrasound)

Kyung Hee University, Korea

Professor of International Scholar, Department of Biomedical Engineering (April 2010 - June 2010)

- Conducted research in Medical Imaging (CT, Ultrasound)

Chiba University, Japan

Invited Research Professor, Department of Information and Computer Sciences (December 24, 2007 – February 16, 2008)

- Conducted research in ECG signal analysis

The University of Tokyo, Japan

Japan Society for the Promotion of Science (JSPS) Invited Research Fellow, Department of Information and Communication Engineering (October 2006 - December 2006)

Imperial College London, UK

Visiting Researcher, Department of Electrical and Electronic Engineering (August 2004 - April 2005)

- Enhancement of Reverberant Speech for Telecommunication Applications

Bangladesh University of Engineering and Technology (BUET)

Department of Electrical and Electronic Engineering (EEE)

Professor (June 2004 - to date), *Associate Professor* (March 2001- June 2004), *Assistant Professor/*

Lecturer (December 1989 – February 2001), Department of Electrical and Electronic Engineering

- Offering post-graduate course on Advanced Digital Signal Processing
- Supervising post-graduate research and undergraduate projects
- Offering undergraduate course related to digital signal processing and communications

Department of Biomedical Engineering, BUET

Professor and Head (March 2016 – March 2018)

- Developed the undergraduate biomedical engineering (BME) curriculum at BUET
- Developed laboratories (Medical Imaging Lab, Biomedical Instrumentation Lab, Biomechanics Lab, Human Physiology Lab, Speech and Hearing Lab, Neural Engineering Lab, Tissue Engineering Lab, Biomaterials Lab) for the BME program
- Developed laboratory teaching materials for the BME program
- Developed infrastructural facilities for the BME department

Chiba University, Japan

Japan Society for the Promotion of Science (JSPS) International Postdoctoral Fellow (November 1997 - April 1998)

Academic Administrative Responsibilities

- *Associate Director (Academic)*, Institute of Information and Communication Technology (IICT), BUET (November 2005 – March 2007)
- *Assistant Provost*, Chattri Hall, BUET (September 1998 – October 2002)
- *Chief Project Organizer*, Bangladesh Telegraph and Telephone Board (BTTB) Billing Project (project worth Taka 20000000/-) done through IICT, BUET (1999 – 2000)

PROFESSIONAL MEMBERSHIP

- **Senior Member, IEEE** (Institute of Electrical and Electronic Engineers, Inc.)

PROFESSIONAL SERVICE

- Associate Editor, 2013-to date, IEEE ACCESS Mega Journal.

IEEE STUDENT COMPETITION

- First Prize, IEEE VIP CUP 2017, Beijing, China, 17 September, 2017.
- Third Prize, IEEE SP CUP 2014, Italy, May, 2014.

PROFESSIONAL AWARDS/HONORS

- JSPS Invited Research Fellow, Japan (December 2011 – February 2012)
- JSPS Invited Research Fellow, Japan (October 2006 – December 2006)
- Research Associate, Imperial College London, UK (2004-2005)
- Regular Associate, ICTP, Italy (2004-2009)
- Best paper award (year 2003) from Research Institute of Signal Processing (RISP), Japan
- JSPS Postdoctoral Fellowship, Japan (1997-1998)
- Monbusho Scholarship, Japan (1991-1997)
- Merit Scholarship, Bangladesh University of Engineering and Technology (1984-1989)
- Education Board Scholarship (1983-1989)

PROFESSIONAL SERVICE

- Associate Editor, 2013-to date, IEEE ACCESS Mega Journal.
- Served as the Chairman of the Technical Committee, “International Conference on Information and Communication Technology (ICICT 2007)”, March 7-9, 2007, Dhaka, Bangladesh, organized by the Institute of Information and Communication Technology (IICT), BUET with IEEE Bangladesh Section as the technical Co-Sponsor.
- Served as the Chairman of the Technical Committee, “International Workshop on Distributed Internet Infrastructure for Education and Research (IWIER 2003)”, December 30-31, 2003- January 01, 2004, Dhaka, Bangladesh, organized by the Institute of Information and Communication Technology (IICT), BUET.
- Served as the member secretary of the Technical Committee, “International Conference on Electrical and Computer Engineering (ICECE 2002)”, December 26-28, 2002, Dhaka, Bangladesh, organized by the Department of Electrical and Electronic Engineering, BUET with the IEEE Bangladesh section as the technical co-sponsor.
- Served as the member secretary of the Organizing Committee, “International Conference on Electrical and Computer Engineering (ICECE 2001)”, January 5-6, 2001, Dhaka, Bangladesh, jointly organized by the Department of Electrical and Electronic Engineering, BUET and the IEEE Bangladesh section.
- Reviewer of technical papers, IEEE Trans. Signal Processing, 2006-date, IEEE Signal Processing Letters, 2002-date, IEEE Trans. Image Processing, 2003-date, IEEE Trans. Circuits and Systems-II, 2005-date, IEE Vision, Image & Signal Processing, 2005-date, Inverse Problems in Science and Engineering Journal (USA), 2005-date, Signal Processing (Elsevier Science B.V.), and reputed International Conference Proceedings.
- Served as the Chairman of the Technical Session on Digital Signal Processing, ICECE 2002, International Conference on Electrical and Computer Engineering, December 26-28, 2002, Dhaka, Bangladesh, organized by the Department of Electrical and Electronic Engineering, BUET with the IEEE Bangladesh section as the technical co-sponsor.
- Served as the Chairman of the Technical Session on Mobile and Wireless Technology I, TENCON 2000, IEEE Region 10 International Conference, September 24-27, 2000, Kuala Lumpur, Malaysia.
- Served as a member of the organizing committee and reviewer of the “International Conference on Computers and Information Technology (ICCIT’98)”, December 14 – 15, 1998, Bangladesh.
- Participated in an Extended Research Workshop on *Mathematical Problems in Image Processing* from September 4-22, 2000 organized by the Abdus Salam International Center for Theoretical Physics (ICTP), Trieste, Italy.
- Participated in an Extended Research Workshop on *Neural Information Processing* from 3 May to 28 May 1999 organized by the Abdus Salam International Center for Theoretical Physics (ICTP), Trieste, Italy.
- Attended Chiba University, Japan as a research student from October 1991 to March 1993. The subject of research was ‘Digital Signal Processing and Its application’. Proposed an extension of the existing overfitting lattice filter algorithm for ARMA parameter estimation from noisy observations.

RESEARCH COLLABORATION

- Professor S. Y. Lee, Department of Biomedical Engineering, Kyung Hee University, Korea.
- Professor Keikichi Hirose, Department of Information and Communication Engineering, The University of Tokyo, Japan (*ended in 2010*).
- Dr. S. K. Alam, Riverside Research Institute, USA (*ended in May 2013*).
- Dr. P. A. Naylor, Communication and Signal Processing Group, Department of Electrical Engineering, Imperial College London, UK (*ended in 2007*).
- Professor Takashi Yahagi, Department of Information and Image Sciences, Chiba University, Japan (*ended in 2007*).

OTHER RESEARCH INSTITUTES & INDUSTRIES VISITED

- Korean Institute for Advanced Science and Technology (KAIST), Korea (2007), SAMSUNG Electronics, Korea (2007), FUJITSU Limited, Japan (2006), OKI Wireless Communications Division, Japan (2006), NEC Corporation, Japan (2006), Cambridge University (Dept. of Engineering), UK (2005), Multimedia University, Malaysia (2000), Hitachi Research Center, Japan (1996), Nippon Steel, Japan (1995).

RESEARCH GRANTS RECEIVED

Organization Offering the Grant	Project Title	Period
University Grants Commission of Bangladesh (Academic Innovation Fund (Supplementary Fund, Round 4), HEQEP Project)	Ultrasound based elasticity imaging system for cancer detection (Tk. 95,00,000/-)	2017-2018
Ministry of Science and Information & Communication Technology, Government of Bangladesh	Laboratory Development for Mobile Health (Tk. 8,00,000/-)	2016-2018
BRTC, BUET (via CASR)	Classification of Breast Lesions Using Ultrasound Elastography and B-Mode Imaging (Tk. 22,09,800/-)	2013-2015
University Grants Commission of Bangladesh (Academic Innovation Fund, HEQEP Project)	Ultrasound based elasticity imaging system for cancer detection (Tk. 96,59,000/-)	2011-2012
Ministry of Science and Information & Communication Technology, Government of Bangladesh	Laboratory Development for Biometric Identification and Imaging Systems (Tk. 400,000/-)	2009-2010
Bangladesh Medical Research Council (BMRE), Dhaka, Bangladesh	Development of a Microcomputer Based Expert ECG Analyzer (Tk. 500,000/-)	2000-2001
Ministry of Science & Technology, Government of Bangladesh	Actively participated in planning and preparation of the laboratory development proposal <i>Modernization of Digital Signal Processing Laboratory</i> of EEE department of BUET (Tk. 20,60,000/-)	2000-2001
Ministry of Science & Technology, Government of Bangladesh	Digitization and Enhancement of Noise Corrupted Speech Signals (Tk. 600,000/-)	1999-2000
BRTC, BUET (via CASR)	Neuro-Fuzzy Model Based Data Compression System for Multimedia (Tk. 1,49,000/-)	1999-2000

POSTGRADUATE THESIS SUPERVISION

Level (Masters/Ph.D.)	Thesis Title	Year
Ph.D.	Robust Strain Estimation and Bi-modal Ultrasound Feature Extraction Methods for Improved Diagnosis of Breast Tumors	2016
M.Sc. Engg.	Average Strain Estimation for Ultrasound Elastography Using Exponentially Weighted Nearest Neighbors	2013
M.Sc. Engg.	3-D Correction of Ring and Radiant Artifacts in Flat Panel Detector Based Cone Beam Volume CT Imaging	2011

M.Sc. Engg.	Detection and Correction of Stripes in the Sinogram for Suppression of Ring Artifacts in CT Imaging	2011
Ph.D.	Multi-microphone Speech Dereverberation With Noise for Hands-Free Communication	2009
M.Sc. Engg.	Improved Eigenfilter Design Method for Channel Shortening Equalizers for DMT Systems	2008
M.Sc. Engg.	Optimal Speech Enhancement Based on Dual Gain Wiener Filters and EMD Domain Post Filtering	2008
M.Sc. Engg.	Design of Delayless Subband Adaptive Filters Using Parallel Kalman Filters	2004
M.Sc. Engg.	Low Distortion Speech Enhancement in the DCT Domain using Optimal Estimate of the <i>a priori</i> SNR	2004
M.Sc. Engg.	Pitch Extraction of Noisy Speech using Dominant Frequency of Autocorrelation Function	2002
M.Sc. Engg.	Improved Wavelet-based Image Denoising Algorithm using Adaptive Center Weighted Median Filter	2002
M.Sc. Engg.	Speech Enhancement by Combined Application of Hard and Soft Thresholding with Bias-compensated Noise Level	2002
M.Sc. Engg.	Identification of Autoregressive Systems at a Very Low SNR using Damped Cosine Model of Autocorrelation Function	2002
M.Sc. Engg.	New Sub-image Block Classification for Channel Adaptive Image Compression using Dynamically Constructive Neural Network	2001
M.Sc. Engg.	Fuzzy Incorporated Noise Compensation Technique for Autoregressive Spectral Estimation	2000

PATENT:

1. S.Y. LEE and M. K. Hasan, "Apparatus for removing ring artifact in an X-ray CT (Computed Tomography) and a removing method thereof capable of revising the pixel value of a defective cell," Korean Patent ID: 1020110125696, 22 Nov. 2011.
2. M. K. Hasan and T. Ahmed, "Apparatus, Methods and Computer Products for Deep Learning Based Shear Wave Imaging," US Patent Application Filed ID: OMB 0651-0032, March 2019.

BOOK CHAPTER:

1. M. K. Hasan and S. R. Ara, Detection and Classification of Breast Lesions Using Ultrasound-based Imaging Modalities, Book title: Encyclopedia of Biomedical Engineering, Elsevier publisher, 2018.

Attenuation estimation of soft tissue with reference-free minimization of system effects

LIST OF PUBLICATIONS (Published/Accepted Papers Only)

- a. Journal Publications (recognized and refereed Journals):

1. U. Kamal, T. S. Tonmoy, S. Das, and **M. K. Hasan**, "Automatic Traffic Sign Detection and Recognition Using SegU-Net and a Modified Tversky Loss Function with L1-Constraint", *IEEE Trans. Intell. Transp. Sys.*, pp.1-13, early access, 2019.
2. M. S. R. Sajal and M. K. Hasan, "HASAN: Highly accurate sensitivity for auto-contrast-corrected pMRI reconstruction", *Magnetic Resonance Imaging*, vol.55, no.1, pp.153-170, 2019.
3. M. S. Tanveer and **M. K. Hasan**, "Cuffless blood pressure estimation from electrocardiogram and photoplethysmogram using waveform based ANN-LSTM network", *Biomed. Signal Process. Contr.*, vol.51, pp.382-392, 2019.
4. M. H. R. Khan and **M. K. Hasan**, "Attenuation estimation of soft tissue with reference-free minimization of system effects", *Biomed. Signal Process. Contr.*, vol.50, pp.121-133, 2019.
5. J. Dey and **M. K. Hasan**, "Ultrasonic tissue reflectivity function estimation using correlation constrained multichannel FLMS algorithm with missing RF data", *Biomed. Phys. Eng. Express*, vol.4, no.4, 2018.
6. N. I. Nizam, S. K. Alam, and **M. K. Hasan**, "EEMD domain AR spectral method for mean scatterer spacing estimation of breast tumors from ultrasound backscattered RF data", *IEEE Trans. Ultrason. Ferroelectr. Freq. Control*, pp.1487-1500, vol. 64, no. 10, 2017.
7. M. S. Islam, M. S.-E Rabbi, A. M. A. Dobaie, and **M. K. Hasan**, "PREHEAT: Precision heart rate monitoring from intense motion artifact corrupted PPG signals using constrained RLS and Wavelets", *Biomedical Signal Processing and Control*, vol. 38, pp. 212-223, 2017.
8. S. R. Ara, S. K. Bashar, F. Alam, and **M. K. Hasan**, "EMD-DWT based transform domain feature reduction approach for quantitative multi-class classification of breast lesions", *Ultrasonics*, vol. 80, pp. 22-33, 2017.
9. M. S.-E Rabbi and **M. K. Hasan**, "Speckle tracking and speckle content based composite strain imaging for solid and fluid filled lesions", *Ultrasonics*, vol. 54, pp. 124-139, 2017.
10. **M. K. Hasan**, M. S. E. Rabbi, and S. Y. Lee, "Blind deconvolution of ultrasound images using l_1 -norm-constrained block-based damped variable step-size multichannel LMS algorithm", *IEEE Trans. Ultrason. Ferroelectr. Freq. Control*, vol. 63, no. 8, 2016.
11. E. Khan, F. A. Hossain, S. Z. Uddin, S. K. Alam, and **M. K. Hasan**, "A robust heart rate monitoring scheme using photoplethysmographic signals corrupted by intense motion artifacts", *IEEE Trans. Biomed. Eng.*, vol. 63, no. 3, pp.550-562, 2016.
12. S. K. Bashar and **M. K. Hasan**, "Empirical mode decomposition based GRAPPA reconstruction algorithm for parallel MRI", *Biomed. Phys. Eng. Express*, **1**, 045006, 2015.
13. M. G. Kibria and **M. K. Hasan**, "A class of kernel based real-time elastography algorithms", *Ultrasonics*, vol.61, pp.88-102, 2015.
14. S. R. Ara, F. Alam, M. H. Rahman, S. Akther, R. Awaal, and **M. K. Hasan**, "Bi-modal multi-parameter based approach for benign-malignant classification of breast tumors", *Ultrasound in Medicine and Biology*, vol.41, no.7, pp.2022-2038, 2015.
15. A. Nahiyani and **M. K. Hasan**, "Hybrid algorithm for elastography to visualize both solid and fluid filled lesions", *Ultrasound in Medicine and Biology*, vol. 41, no.4, pp.1058-1078, 2015.
16. M. K. Molla, K. Hirose, and **M. K. Hasan**, "Voiced/non-voiced speech classification using adaptive thresholding with bivariate EMD", *Pattern Analysis and Application (PAA)*, Springer (UK), DOI 10.1007/s10044-015-0449-3, January, 2015.

17. M. A. Hussain, F. Alam, S. A. Rupa, R. Awaal, S. Y. Lee, and **M. K. Hasan**, "Lesion edge preserved direct average strain estimation for ultrasound elasticity imaging", *Ultrasonics*, vol. 54, no. 1, pp. 137-146, 2014.
18. E. Deger, M. K. I. Molla, K. Hirose, N. Minematsu, and **M. K. Hasan**, "Subband DCT and EMD based hybrid soft thresholding for speech enhancement", *Advances in Acoustics and Vibration*, Hindawai, vol. 2014, <http://dx.doi.org/10.1155/2014/765454>, 2014.
19. M. A. Haque, M. O. Ahmad, M. N. S. Swamy, **M. K. Hasan**, and S. Y. Lee, "Adaptive projection selection for computed tomography", *IEEE Trans. Image Processing*, vol. 22, no. 12, pp.5085-5095, 2013.
20. S. R. Ara, F. Mohsin, F. Alam, S. A. Rupa, R. Awaal, S. Y. Lee, and **M. K. Hasan**, "Phase-based direct average strain estimation for elastography", *IEEE Trans. Ultrason. Ferroelectr. Freq. Control*, vol. 60, no. 11, pp.2266-2283, 2013.
21. **M. K. Hasan**, M. A. Hussain, S. R. Ara, S. Y. Lee, and S. K. Alam, "Using nearest neighbors for accurate estimation of ultrasonic attenuation in the spectral domain", *IEEE Trans. Ultrason. Ferroelectr. Freq. Control*, vol. 60, no. 6, pp.1098-1114, 2013.
22. M. A. Hussain, E. M. A. Anas, S. K. Alam, S. Y. Lee, and **M. K. Hasan**, "Direct and gradient based average strain estimation by using weighted nearest neighbor cross-correlation peaks", *IEEE Trans. Ultrason. Ferroelectr. Freq. Control*, vol. 59, no. 8, pp.1713-1728, 2012.
23. **M. K. Hasan**, E. M. A. Anas, S. K. Alam, and S. Y. Lee, "Direct mean strain estimation for elastography using nearest-neighbor weighted least-squares approach in the frequency domain", *Ultrasound in Medicine and Biology*, vol. 38, no. 10, pp.1759-1777, 2012.
24. M. A. Hussain, E. M. A. Anas, S. K. Alam, S. Y. Lee, and **M. K. Hasan**, "Robust Strain-Estimation Algorithm Using Combined Radiofrequency and Envelope Cross-Correlation with Diffusion Filtering", *Ultrasonic Imaging*, vol. 34, pp.93-109, 2012.
25. S. Rashid, S. Y. Lee, and **M. K. Hasan**, "An improved method for the removal of ring artifacts in high resolution CT imaging", *EURASIP Journal on Advances in Signal Processing*, Elsevier, vol. 2012:93, 2012.
26. E. M. A. Anas, S. Y. Lee and **M. K. Hasan**, "High quality 3-D correction of ring and radiant artifacts in flat panel detector based cone beam volume CT imaging", *Physics in Medicine and Biology*, IOP, vol.56, no.19, pp.6495-6519, 2011.
27. E. M. A. Anas, S. Y. Lee and **M. K. Hasan**, "Comparison of ring artifact removal methods using flat panel detector based CT images", *Biomedical Engineering Online*, **10:72**, doi:10.1186/1475-925X-10-72, 2011.
28. S. K. Roy, K. I. Molla, K. Hirose and **M. K. Hasan**, "Harmonic modification and data adaptive filtering based approach to robust pitch estimation", *International Journal of Speech Technology (IJST)*, Springer, vol. 14, pp.339-349, 2011.
29. M. A. Haque, T. Islam and **M. K. Hasan**, "Robust speech dereverberation based on blind adaptive estimation of acoustic channels", *IEEE Trans. Audio, Speech, Language Process.*, vol.19, no.4, pp.775-787, May 2011.
30. E. M. A. Anas, S. Y. Lee and **M. K. Hasan**, "Classification of ring artifacts for their effective removal using type adaptive correction schemes", *Computers in biology and medicine*, Elsevier, vol. 41, no. 6, pp. 390- 401, 2011.
31. E. M. A. Anas and **M. K. Hasan**, "Exploiting correlation of ECG with certain EMD functions for ventricular fibrillation detection", *Computers in biology and medicine*, Elsevier, vol. 41, pp.110-114, 2011.

32. A. N. M. Ashrafuzzaman, S. Y. Lee and **M. K. Hasan**, "A self-adaptive approach for the detection and correction of stripes in the sinogram: Suppression of ring artifacts in CT imaging", *EURASIP Journal on Advances in Signal Processing*, Elsevier, doi:10.1155/2011/183547, Volume 2011, Jan. 2011.
33. M. A. Arafat, A. W. Chowdhury, and M. K. Hasan, "A simple time domain algorithm for the detection of ventricular fibrillation in electrocardiogram", *Signal, Image and Video Processing (SIViP)*, Springer (UK), vol.5, pp.1-10, 2011.
34. E. M. A. Anas, S. Y. Lee and **M. K. Hasan**, "Removal of ring artifacts in CT imaging through detection and correction of stripes in the sinogram", *Physics in Medicine and Biology*, IOP, vol. 55, pp.6911-6930, 2010.
35. M. Ryyan Khan and **M. K. Hasan**, "A novel model for show-through in scans of duplex printed documents", *in press (published online DOI 10.1007/s11760-010-0192-6)*, *Signal, Image and Video Processing (SIViP)*, Springer (UK), Mar. 2010.
36. E. M. A. Anas and **M. K. Hasan**, "Sequential algorithm for ventricular tachycardia and fibrillation identification based on mean signal strength and low-order EMD functions", *Biomedical Engineering online (UK)*, DOI: 10.1186/1475-925X-9-43, 9:43, 2010.
37. **M. K. Hasan**, M. A. Haque, and T. Islam, "Channel shortening using spectrally constrained least-squares minimization technique", *Journal IET Signal Processing (formerly IEE Proceedings, UK)*, vol.4, no.6, pp.698-707, Dec. 2010.
38. **M. K. Hasan**, F. Sadi, and S. Y. Lee, "Removal of ring artifacts in micro-CT imaging using iterative morphological filter", DOI 10.1007/s11760-010-0170-z, *Signal, Image and Video Processing (SIViP)*, Springer (UK), *Published online*, June, 2010.
39. T. Hasan and **M. K. Hasan**, "MMSE estimator for speech enhancement considering the constructive and destructive interference of noise", *Journal IET Signal Processing (formerly IEE Proceedings, UK)*, vol. 4, no. 1, pp.1-11, Jan. 2010.
40. F. Sadi, S. Y. Lee, and **M. K. Hasan**, "Removal of ring artifacts in computed tomographic imaging using iterative center weighted median filter", vol. 40, no. 1, pp.109-118, *Computers in biology and medicine*, Elsevier, Jan. 2010.
41. M. Ryyan Khan, Hafiz Imtiaz, and **M. K. Hasan**, "Show-through correction in scanned images using joint histogram", *Signal, Image and Video Processing (SIViP)*, Springer (UK), vol.4, pp.337-351, 2010.
42. **M. K. Hasan**, M. S. Apu, and M. K. I. Molla, "A robust method for parameter estimation of AR systems using empirical mode decomposition", *Signal, Image and Video Processing (SIViP)*, Springer (UK), vol. 4, pp.451-461, 2010.
43. M. A. Arafat, J. Sieed, and **M. K. Hasan**, "Detection of ventricular fibrillation using empirical mode decomposition and Bayes decision theory", vol. 39, no. 11, pp.1051-1057, *Computers in biology and medicine*, Elsevier, Nov. 2009.
44. T. Islam and **M. K. Hasan**, "Improved eigenfilter design method for channel shortening equalizers for DMT systems", *IEEE Signal Processing Letters*, vol. 16, no. 5, pp.386-389, May 2009.
45. T. Hasan and **M. K. Hasan**, "Suppression of residual noise from speech signals using empirical mode decomposition", *IEEE Signal Processing Letters*, vol. 16, no. 1, pp.2-5, Jan. 2009.
46. M. A. Haque and **M. K. Hasan**, "Robust multichannel LMS-type algorithms with fast decaying transient for blind identification of acoustic channels", *Journal IET Signal Processing (formerly IEE Proceedings, UK)*, vol. 2, no. 4, pp.431-441, Dec. 2008.

47. M. A. Haque and **M. K. Hasan**, "Noise robust multichannel frequency-domain LMS-type algorithms for blind channel identification", IEEE Signal Processing Letters, pp.305-308, vol.15, 2008.
48. M. A. Haque and **M. K. Hasan**, "Variable step-size multichannel frequency-domain LMS algorithm for blind identification of finite impulse response systems", Journal IET Signal Processing (formerly IEE Proceedings, UK), vol. 1, no. 4, pp.182-189, 2007.
49. M. A. Haque, M. S. A. Bashar, P. A. Naylor, K. Hirose and **M. K. Hasan**, "Energy constrained frequency-domain normalized LMS algorithm for blind channel identification", Signal, Image and Video Processing (SIViP), Springer (UK), pp.203-213, 2007.
50. N. D. Gaubitch, **M. K. Hasan**, and P. A. Naylor, "Generalized optimal step-size for blind multichannel LMS system identification", IEEE Signal Processing Letters, vol. 13, no. 10, October 2006.
51. **M. K. Hasan**, S. Hussain, M. T. H. Setu, and M. N. I. Nazrul, "Signal reshaping using dominant harmonic for pitch estimation of noisy speech", Signal Processing, Elsevier Science B.V., vol. 86, no. 5, pp.1010-1018, 2006.
52. **M. K. Hasan**, N. M. Hossain, and P. A. Naylor, "A novel autocorrelation model-based identification method for ARMA systems in noise", IEE Proc.-Vis. Image Signal Process., vol. 152, no. 5, pp.520-526, October 2005.
53. **M. K. Hasan**, S. Salahuddin, and M. R. Khan, "A modified *a priori* SNR for speech enhancement using spectral subtraction rules", IEEE Signal Processing Letters, vol. 11, no. 4, pp.450-453, 2004.
54. **M. K. Hasan**, S. Salahuddin, and M. R. Khan, "Reducing signal-bias from MAD estimated noise level for DCT speech enhancement", Signal Processing, Elsevier Science B.V., vol. 84, no. 1, pp.151-162, 2004.
55. **M. K. Hasan**, A. K. M. Z. R. Chowdhury, and M. R. Khan, "Identification of autoregressive signals in colored noise using damped sinusoidal model", IEEE Trans. Circuits and Systems-I: Fundamental Theory and Applications, vol. 50, no. 7, pp.966-969, July 2003.
56. **M. K. Hasan**, S. A. Fattah and M. R. Khan, "Identification of noisy AR systems using damped sinusoidal model of autocorrelation function", IEEE Signal Processing Letters, vol. 10, no. 6, pp.157-160, June 2003.
57. S. M. M. Rahman and **M. K. Hasan**, "Wavelet-domain iterative center weighted median filter for image denoising", Signal Processing, Elsevier Science B.V., vol. 83, pp.1001-1012, April 2003.
58. **M. K. Hasan**, M. J. Hossain, and M. A. Haque, "Parameter estimation of multichannel autoregressive processes in noise", Signal Processing, Elsevier Science B.V., vol. 83, no. 3, pp.603-610, Feb. 2003.
59. **M. K. Hasan** and M. R. Khan, "Identification of autoregressive systems at a very low SNR using cosine model based estimation of autocorrelation function", Journal of Signal Processing, vol.7, no. 1, 15-21 January 2003.
60. M. S. A. Zilany, **M. K. Hasan** and M. R. Khan, "Signal-bias compensated noise level for wavelet speech enhancement", Journal of Signal Processing, vol.7, no. 1, pp.41-50, January 2003.
61. S. Salahuddin, S. Z. Al Islam, **M. K. Hasan**, and M. R. Khan, "Soft thresholding for DCT speech enhancement", IEE *Electron. Lett.*, vol.38, no. 24, pp.1605-1607, Nov. 2002.
62. **M. K. Hasan**, M. S. A. Zilany, and M. R. Khan, "DCT speech enhancement with hard and soft thresholding criteria", IEE *Electron. Lett.*, vol.38, no. 13, pp.669-670, June 2002.
63. M. I. H. Bhuiyan, **M. K. Hasan**, N. C. Hammadi and T. Yahagi, "Image compression with neural networks using dynamical construction algorithm", Journal of Signal Processing, vol.5, no.6, pp.445-454, November 2001.

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