



MANAV RACHNA UNIVERSITY, FARIDABAD

Sector 43, Aravalli Hills, Manav Rachna Campus Rd, Faridabad, Haryana 121004

Dr. Charu Pathak



Designation: Professor and Head

Qualification : Ph.D. in 2006 from Dayalbagh Educational Institute, Agra
Broad Area : Acoustic signal analysis (DSP and Wavelets)
M.Tech in Electronics and Communication Engineering, YMCAUST, Faridabad
M.Sc (sp electronics) , Dayalbagh Educational Institute, Agra.

Email : hodece@mru.edu.in

Experience: 21 Years of Teaching

- Professor, Dept. of ECE, Manav Rachna University, Faridabad (Sept 2013-Present)
- Assistant Professor Gr-III, (Associate Prof.) Dept. of ECE ,Amity University, Noida (Oct 2011- April, 2013)
- Assistant Professor, Dept. of ECE , Galgotias College of Engineering and Technology, Gr.Noida (Oct 2007-Sept, 2011)
- Sr.Lecturer, Dept. of ECE ,Jaypee Institute of Engineering and Technology, Guna(Aug 2004- Sept, 2007)
- Lecturer, Dayalbagh Educational Institute, Agra (part time)(March, 2000-May,2004)

<https://scholar.google.com/citations?hl=en&user=nspIAV8AAAAJ>

Research Interest : Signal Processing, Acoustic Signal analysis, Digital Image Processing, automation using Image Processing

+ Journal Publications:

Aditya Rana, Charu, Wavelets thresholding algorithms for image denoising, Indian Journal of Science and Technology, **Vol 11 (27)**, ISSN (Print): 0974-6846, 2019

Sukriti Sharma, Charu, "Qualitative Spectral Parameter Coding for Hindi and English Speech Signals", **International Journal of Simulation Systems, Science & Technology / (7th International Conf on Computational Intelligence, Communication systems and Networks)**, Volume 16 (**IJSSST V16**) / IEEE DOI 10.1109, **ISBN** 978-1-4799-7411-5

Sukriti Sharma, Charu, Analysis of speech coding algorithms for Hindi Language, IOSR Journal of Electronics and Communication Engineering, Vol 10, issue 4, Ver II, pp42-48, ISSN: 2278-8735,

Sukriti Sharma, Charu, Lossless Linear Predictive Coding For Speech Signals", International Journal of Science, Technology & Management (**IJSTM**), Volume No 04, Special Issue No. 01, March 2015, ISSN (online) 2394-1537

Charu, V.G.Das, V.PremPyara, V.PremKumari, **Sinusoidal Wavelet for Perception of Audio Signals Applied to Indian Classical Music, Journal of Acoustical Society of India**, Vo37, No.4.2010 (pp186-200), ISSN:0253-7257 Refereed

Charu, V.G.Das, V.PremPyara, V.PremKumari, "Note Extraction of Music Signals Using Wavelet Transforms", **International Journal Revista de Acustica**, vol 38, 3-4, year 2007, ISSN 0210-3580

+ Conference Publications:

C.Pathak, S.Vashist, "Low cost portable cold storage for fruits and vegetables during lockdown", ICFCEET2021 (paper accepted)

A. Kansal, C. Pathak and V. Saxena, "Dynamics of Charged Particles in Dual Frequency Paul trap due to Additional External Forces," 2021 6th International Conference for Convergence in Technology (I2CT), 2021, pp. 1-4, doi: 10.1109/I2CT51068.2021.9418223.

Charu, P. Kumar and K. Singh, "Hardware Model for Efficient Edge Detection in Images," 2020 IEEE International Conference on Computing, Power and Communication Technologies (GUCON), 2020, pp. 798-802, doi: 10.1109/GUCON48875.2020.9231156.

Kansal, A., Pathak, C. and Saxena, V., 2020, November. Unequal Amplitudes of Harmonic Terms in Particle Dynamics inside Paul Trap. In *2020 IEEE International Conference for Innovation in Technology (INOCON)* (pp. 1-5). IEEE.

Anuranjan Kansal, Charu Pathak, Varun Saxena, Unequal amplitudes of harmonic terms in particle Dynamics inside Paul Trap, IEEE international conference for innovation in Technology, **Nov 6-8, 2020, IEEE Bangalore Section**

Charu, Pardeep Kumar, Kuldeep Singh, Hardware Modelling for Edge Detection in Images
GUCON2020, **Oct2-3, 2020, Galgotias University, Greater Noida**

Sukriti Sharma, Charu, "Comparative Study of Speech Coding Algorithms Using Hindi and English Speech Signals", Proceedings of **National Conference** on Nascent & Advanced Technologies ,(**NCNAT-2015**), Institution Of Electronics & Telecommunication Engineers (**IETE**).ISSN (online): 2394-1537

Sukriti Sharma, Charu, "Lossless Linear Predictive Coding For Speech Signals", Proceedings of **International Conference** on Recent Trends in Engineering Science and Management(**ICRTESM**),e-ISSN: 2278-2834,p- ISSN: 2278-8735

Charu, V.G.Das, V.PremPyara, V.PremKumari, "*Square Wave Integrated Fourier Transform for Constant Q-Analysis*" in **International IEEE Conference** on Information Technology, Gdansk, Poland, May 18-21, 08 (Accepted)

Charu, V.G.Das, V.PremPyara, V.PremKumari, "*Note Extraction of Music Signals Using Wavelet Transforms*" Proceedings of 19th **International Congress** on Acoustics, MADRID' 2 Sept to 7th Sept, 2007 Vol 1, ISBN: 978-1-61567-707-8

Charu, V.G.Das, V.PremPyara, V.PremKumari, "*Wavelet Design for Music Perception Applied To Indian Classical Music*", Proceedings of **International Conference** on Sounds and Vibrations -14, Cairns July'07 ,ISBN 978 0 7334 2516 5

Charu, V.G.Das, V.PremPyara, V.PremKumari, "*Fractional Fourier Transforms for Spectral Analysis of Music Signals*", Proceedings of **International Conference** on Sounds and Vibrations -14, Cairns July'07 ,ISBN 978 0 7334 2516 5

Charu, D.S.hooda, Sinusoidal Wavelet Transforms for pitch estimation of Music signals, Accepted for "153rd Meeting of Acoustical Society of America", Salt Lake City, Utah, June 5, 2007

Charu, V.G.Das, D.S.Hooda, "Comparison of Speaker Recognition Techniques for Future Trends" Proceedings 15th International conference of the Forum of Interdisciplinary Mathematics " Interdisciplinary Mathematical & Statistical Techniques, Shanghai (**International**), May, 2007.

Charu, V.G.Das, "A Square Wave Based Pitch Estimation Technique for Music Signals, Proceedings of **International conference** on "International Congress on Acoustics -04" , KYOTO, JAPAN, Mo2.C1.1 April4-April9, 2004, ISBN/ISSN: 49901951X 9784990191611

Charu, VGDas, Signal Processing Techniques and their Limitations in Pitch Estimation with context to Indian Classical Music, Proceedings of A National Seminar on IT Enabled Systems organized by Computer Society of India and IETE Gwalior Chapter at MPCT, Gwalior, Jan21-22, 2007

Charu, V.G.Das, "Wavelet Design for pitch estimation of music signals", Proceedings of 11th Annual Conference of GASM and **National Symposium** on Applicable Mathematics to Engineering & Technology, Gwalior, April 22-23, 2006

Charu, V.G.Das, "Comparitive study of DSP Techniques applied to frequency estimation of bandlimited signals", Proceedings of Third **National Conference** on Applicable Mathematics in Wave Mechanics and Vibrations (WMVC-2006) organized by Von Karmen Society for Advanced Study and Reseach, Jalpaiguri, WB, held at Jaypee Institute of Engineering and Technology, GUNA, MP, India, Oct15-17'06,

Charu, V.G.Das, Characterization of Indian Classical Music Using Computers, Proceedings of National Seminar on "Scope and Importance of Research in Indian Classical Music" at Dayalbagh Educational Institute, Agra SIRIM-02, 30-31st January, 2002

+Provisional Patent Filed

Refrigeration Automation System,
Inventors: Prof. Charu Pathak, Prof.Shruti Vashist

+ Administrative Responsibilities:

IQAC co-coordinator
Member, Board of Faculty, Engineering
Member, Academic Council
Chairperson, BOS, ECE
Chairperson, DRC, ECE
Member, International Collaborations Cell
Member, Library Advisory Committee
Member, Innovation and Incubation Cell
Co-coordinator, Sahai Research Labs Excellence Centre.

+ Professional Affiliation:

Life member of The IETE, New Delhi.
Life Member, Acoustical Society of India. Of India.
Honorary Panelist, ECE Vertical, Tata Institute of Social Sciences, Mumbai since July 2017
Associate Member, Paper Moderator, Evaluator at IETE, New Delhi

+ Expert Talk Delivered

Delivered a talk on "Wavelets in signal processing" in a workshop "Applications of Wavelets" organized by Department of Mathematics, Manav Rachna college of Engineering, Faridabad on March 5, 2014.
Delivered a talk on "Notes Extraction of Music Signals" in Faculty development programme held during July7th to July14th, 2009, Galgotias College of Engineering and Technology, Gr.Noida.

+ Awards

Young Scientist Award Grant at ICA 2007, Madrid, Spain