AUROBINDA ROUTRAY

1. Name and full correspondence address

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   Department of Electrical Engineering
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3. Institution

   Indian Institute of Technology, Kharagpur

4. Date of Birth

   26th June 1968

5. Academic Qualification (Undergraduate Onwards)

	Degree	Year	Subject	University/Institution
1	BTech	1989	Electrical Engineering	National Institute of Technology, Rourkela
2	MTech	1991	Electrical Engineering	Indian Institute of Technology Kanpur
3	Ph.D	1999	Electrical Engineering	Sambalpur University
4	Post Doctorate	2004	Electrical Engineering	Purdue University

6. Ph.D. thesis title, Guide's Name, Institute/Organization/University, Year of Award.

Design of Intelligent controllers for HVDC converters, Prof. P. K. Dash, Sambalpur University, 1999

7. Work experience (in chronological order).

	Positions held	Name of the Institute	From	To	Pay Scale
1	Professor	IIT Kharagpur	23/8/2011	Now	HAG Scale
2	Associate professor	IIT Kharagpur	09/08/2004	22/08/2011	
3	Lecturer	N.I.T. Rourkela	1991	1999	

8. Professional Recognition/ Award/ Prize/ Certificate, Fellowship received by the applicant.

	Name of Award	Awarding Agency	Year
1	Young Scientist Award	Orissa Bigyan Academy	2001
2	BOYSCAST Fellow Award	Department of Science and	2003
3	Samsung Global Research Outreach (GRO)	Samsung	2012
4	BioEye 2015 Competition	IEEE	2015
5	NASA HyspIRI Science Symposium 2015, Goddard USA	NASA Goddard Space Centre	2015

Quick links

Publications	Patents	Books/Chapters	Other information

9. Publications *(List of papers published in SCI Journals, in year wise descending order).*

S.No.	Author(s)	Title	Name of Journal	Volume	Page	Year
1	Dasgupta Anirban, Routray Aurobinda	Piecewise empirical mode Bayesian estimation – A new method to denoise electrooculograms	Biomedical Signal Processing and Control	70		2021
2	Vrinda Prajapati ,Rajlakshmi Guha,Aurobinda Routray	Multimodal prediction of trait emotional intelligence–Through affective changes measured using non-contact based physiological measures	PLoS ONE			2021
3	Ruphan Swaminathan, Sanhita Mishra, Aurobinda Routray & Sarat Chandra Swain	A CNN-LSTM-based fault classifier and locator for underground cables	Neural Computing and Applications (2021)			2021
4	Satyajit Nayak, Bingi Nagesh, Aurobinda Routray, Monalisa Sarma	A Human–Computer Interaction framework for emotion recognition through time-series thermal video sequences	Computers & Electrical Engineering	93	107280	2021
5	Rahul Mahadik, Gagandeep Singh, Aurobinda Routray	Multispectral Coherence Analysis for Better Fault Visualization in Seismic Data	IEEE Geoscience and Remote Sensing Letters			2021
6	Laxmi Shaw, Aurobinda Routray	Brain State Classification with Group l1-norm Sparse PDC as Novel Features for EEG	IEEE Sensors Journal	0	0	2021
7	Shubhobrata Bhattacharya, Chirag Kyal, Aurobinda Routray	Simplified Face Quality Assessment (SFQA)	Pattern Recognition Letters	147	108-114	2021
8	A. K. Samanta, A. Routray, S. R. Khare and A. Naha	Minimum Distance-Based Detection of Incipient Induction Motor Faults Using Rayleigh Quotient Spectrum of Conditioned Vibration Signal	IEEE Transactions on Instrumentation and Measurement	70	1-11	2021
9	Gupta, Arvind Kumar, Aurobinda Routray, and VN Achutha Naikan	Detection of Power Theft in Low Voltage Distribution Systems: A Review from the Indian Perspective	IETE Journal of Research (2020)	1	1-18	2020
10	Samanta, Anik Kumar Routray, Aurobinda Khare, Swanand R. Naha, Arunava	Direct estimation of multiple time-varying frequencies of non-stationary signals	Signal Processing	169		2020
11	Das, Samiran Routray, Aurobinda Deb, Alok Kanti	Efficient tensor decomposition approach for estimation of the number of endmembers in a hyperspectral image	Journal of Applied Remote Sensing	14	1	2020

12	Biswas, Rajashree Routray, Aurobinda	A Simple Method to Localize and Monitor the Emissive Sources in a Converter Panel	IEEE Transactions on Industrial Electronics	0	1	2020
13	Bhattacharya, Shubhobrata Dasgupta, Anirban Routray, Aurobinda	Multi-directional local adjacency descriptors (MDLAD) for heterogeneous face recognition	IET Image Processing	14	982-994	2020
14	Biswas, Rajashree Routray, Aurobinda	Application of EMR Signature in Health Assessment and Monitoring of IGBT-Based Converters	IEEE Transactions on Power Electronics	35	1899-1906	2020
15	Anirban Dasgupta; Som Madhab Bhattacharya; Aurobinda Routray	A System for Noncontact Estimation of Cognitive Load Using Saccadic Parameters Based on a Serio-Parallel Computing Framework	IEEE Transactions on Cognitive and Developmental Systems	11	450-459	2019
16	Das, Samiran Chakraborty, Sohom Routray, Aurobinda Deb, Alok Kanti	Library-aided bilinear unmixing of hyperspectral image using subspace clustering and multistep pruning	Journal of Applied Remote Sensing	13	1	2019
17	Pramanik, Meghabriti Routray, Aurobinda Mitra, Pabitra	Accurate Real-Time Estimation of Power System Transients Using Constrained Symmetric Strong Tracking Square-Root Cubature Kalman Filter	IEEE Access	7	165692-165709	2019
18	Subhasmita Sahoo, Aurobinda Routray	Dual estimation based vocal tract shape computation	International Journal of Speech Technology	22	575-584	2019
19	Soumi Chaki, Aurobinda Routray, William K Mohanty	A Novel Preprocessing Method Based on Variational Mode Decomposition for Reservoir Characterization Using Support Vector Regression	IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing		1-10	2019
20	Das, Samiran, Shubhobrata Bhattacharya, Aurobinda Routray, and Alok Kani Deb.	Band Selection of Hyperspectral Image by Sparse Manifold Clustering.	IET Image Processing	13	1625-1635	2019
21	Das, Samiran, Aurobinda Routray, and Alok Kanti Deb.	Sparsity Measure Based Library Aided Unmixing of Hyperspectral Image.	IET Image Processing	13	2077-2085	2019
22	Agarwal, Sumit, Harshit S. Sikchi, Suparna Rooj, Shubhobrata Bhattacharya, and Aurobinda Routray.	Illumination-Invariant Face Recognition by Fusing Thermal and Visual Images via Gradient Transfer.	In Advances in Intelligent Systems and Computing	943	658-670	2019

23	Bhattacharya, Shubhobrata, Suparna Rooj, and Aurobinda Routray.	QDF: A Face Database with Varying Quality.	Signal Processing: Image Communication	74	13-20	2019
24	Chaudhuri, Aritra, and Aurobinda Routray.	Driver Fatigue Detection Through Chaotic Entropy Analysis of Cortical Sources Obtained From Scalp EEG Signals.	IEEE Transactions on Intelligent Transportation Systems		1-14	2019
25	Bhattacharya, Shubhobrata, Gowtham Sandeep Nainala, Suparna Rooj, and Aurobinda Routray.	Local Force Pattern (LFP): Descriptor for Heterogeneous Face Recognition.	Pattern Recognition Letters	125	63-70	2019
26	Das, Samiran, and Aurobinda Routray.	Covariance Similarity Approach for Semiblind Unmixing of Hyperspectral Image.	IEEE Geoscience and Remote Sensing Letters		1-5	2019
27	Mohanty, Ramanarayan, S. L. Happy, and Aurobinda Routray.	A Semisupervised Spatial Spectral Regularized Manifold Local Scaling Cut With HGF for Dimensionality Reduction of Hyperspectral Images.	IEEE Transactions on Geoscience and Remote Sensing	57	1-13	2019
28	Dasgupta, Anirban, Som Madhab Bhattacharya, and Aurobinda Routray.	A System for Non-Contact Estimation of Cognitive Load Using Saccadic Parameters Based on a Serio-Parallel Computing Framework.	IEEE Transactions on Cognitive and Developmental Systems		1-1	2019
29	Shaw, Laxmi, and Aurobinda Routray.	A New Framework to Infer Intra- and Inter-Brain Sparse Connectivity Estimation for EEG Source Information Flow.	IEEE Sensors Journal	18	10134-44	2018
30	Mannepalli, Teja, and Aurobinda Routray.	Certainty Based Reduced Sparse Solution for Dense Array EEG Source Localization.	IEEE Transactions on Neural Systems and Rehabilitation Engineering	27		2018
31	Basu, Anushree, Anirban Dasgupta, Anirud Thyagharajan, Aurobinda Routray, Rajlakshmi Guha, and Pabitra Mitra.	A Portable Personality Recognizer Based on Affective State Classification Using Spectral Fusion of Features.	IEEE Transactions on Affective Computing			2018
32	Shaw, Laxmi, and Aurobinda Routray.	Topographical Assessment of Neurocortical Connectivity by Using Directed Transfer Function and Partial Directed Coherence during Meditation.	Cognitive Processing			2018

33	Shaw, Laxmi, Daleef Rahman, and Aurobinda Routray.	Highly Efficient Compression Algorithms for Multichannel EEG.	IEEE Transactions on Neural Systems and Rehabilitation Engineering	26	957-68	2018
34	Sahoo, Subhasmita, and Aurobinda Routray.	Detecting Aggression in Voice Using Inverse Filtered Speech Features.	IEEE Transactions on Affective Computing	9	217-26	2018
35	Dasgupta, Anirban, Daleef Rahman, and Aurobinda Routray.	A Smartphone-Based Drowsiness Detection and Warning System for Automotive Drivers.	IEEE Transactions on Intelligent Transportation Systems		1-10	2018
36	Chaki, Soumi, Aurobinda Routray, and William K. Mohanty.	Well-Log and Seismic Data Integration for Reservoir Characterization: A Signal Processing and Machine-Learning Perspective.	IEEE Signal Processing Magazine	35	72-81	2018
37	Mohanty, Ramanarayan, S. L. Happy, and Aurobinda Routray.	Spatial-Spectral Regularized Local Scaling Cut for Dimensionality Reduction in Hyperspectral Image Classification.	IEEE Geoscience and Remote Sensing Letters		1-5	2018
38	Samanta, Anik Kumar, Arunava Naha, Aurobinda Routray, and Alok Kanti Deb.	Fast and Accurate Spectral Estimation for Online Detection of Partial Broken Bar in Induction Motors.	Mechanical Systems and Signal Processing	98	63-67	2018
39	Das, Samiran, Aurobinda Routray, and Alok Kanti Deb.	Fast Semi-Supervised Unmixing of Hyperspectral Image by Mutual Coherence Reduction and Recursive PCA.	Remote Sensing	10	1106	2018
40	Mohanty, Ramanarayan, S. L. Happy, and Aurobinda Routray.	A Supervised Geometry-Aware Mapping Approach for Classification of Hyperspectral Images.	IEEE Geoscience and Remote Sensing Letters	15	582-86	2018
41	Swain, Monorama, Aurobinda Routray, and P. Kabisatpathy.	Databases Features and Classifiers for Speech Emotion Recognition: A Review.	International Journal of Speech Technology	21	93-120	2018
42	Chakraborty, Suvodip, Anirban Dasgupta, and Aurobinda Routray.	Localization of Eye Saccadic Signatures in Electrooculograms Using Sparse Representations with Data Driven Dictionaries.	Pattern Recognition LetterS		5043-5048	2017
43	Happy, S. L., Priyadarshi Patnaik, Aurobinda Routray, and Rajlakshmi Guha.	The Indian Spontaneous Expression Database for Emotion Recognition.	IEEE Transactions on Affective Computing	8	131-42	2017

44	Mukherjee, Rashmi, Suman Tewary, and Aurobinda Routray.	Diagnostic and Prognostic Utility of Non-Invasive Multimodal Imaging in Chronic Wound Monitoring: A Systematic Review.	Journal of Medical Systems	41	46	2017
45	Sengupta, Anwesha, Anirban Dasgupta, Aritra Chaudhuri, Anjith George, Aurobinda Routray, and Rajlakshmi Guha.	A Multimodal System for Assessing Alertness Levels Due to Cognitive Loading.	IEEE Transactions on Neural Systems and Rehabilitation Engineering	25	1037-46	2017
46	Shaw, Laxmi, Aurobinda Routray, and Sirin Sanchay.	A Robust Motifs Based Artifacts Removal Technique from EEG.	Biomedical Physics & Engineering Express	3	35010	2017
47	Happy, S. L., and Aurobinda Routray.	Fuzzy Histogram of Optical Flow Orientations for Micro-Expression Recognition.	IEEE Transactions on Affective Computing		1-1	2017
48	Naha, Arunava, Anik Kumar Samanta, Aurobinda Routray, and Alok Kanti Deb.	Low Complexity Motor Current Signature Analysis Using Sub-Nyquist Strategy with Reduced Data Length.	IEEE Transactions on Instrumentation and Measurement	66	3249-59	2017
49	Naha, Arunava, Korada Ravisri Thammayyabbabu, Anik Kumar Samanta, Aurobinda Routray, and Alok Kanti Deb.	Mobile Application to Detect Induction Motor Faults.	IEEE Embedded Systems Letters	9	117-20	2017
50	Chaki, Soumi, Aurobinda Routray, and William K. Mohanty.	A Diffusion Filter Based Scheme to Denoise Seismic Attributes and Improve Predicted Porosity Volume.	IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing	10	5265-74	2017
51	Dasgupta, Anirban, Suvodip Chakraborty, and Aurobinda Routray.	A Two-Stage Framework for Denoising Electrooculography Signals.	Biomedical Signal Processing and Control	31	231-37	2017
52	Mukherjee, Ayan, Aurobinda Routray, and Anik Kumar Samanta.	Method for Online Detection of Arcing in Low-Voltage Distribution Systems.	IEEE Transactions on Power Delivery	32	1244-52	2017
53	George, Anjith, and Aurobinda Routray.	A Score Level Fusion Method for Eye Movement Biometrics.	Pattern Recognition Letters	82	207-15	2016
54	Basu, Anushree, Aurobinda Routray, Rashmi Mukherjee, and Suprosanna Shit.	Infrared Imaging Based Hyperventilation Monitoring through Respiration Rate Estimation.	Infrared Physics and Technology	77	382-90	2016
55	Sahoo, Subhasmita, and Aurobinda Routray.	A Novel Method of Glottal Inverse Filtering.	IEEE/ACM Transactions on Audio Speech and Language	24	1230-41	2016

56	George, Anjith, and Aurobinda Routray.	Fast and Accurate Algorithm for Eye Localization for Gaze Tracking in Low Resolution Images.	IET Computer Vision	10	660-69	2016
57	Naha, Arunava, Anik Kumar Samanta, Aurobinda Routray, and Alok Kanti Deb.	A Method for Detecting Half-Broken Rotor Bar in Lightly Loaded Induction Motors Using Current.	IEEE Transactions on Instrumentation and Measurement	65	1614-25	2016
58	Sahadevan, Anand S., Aurobinda Routray, Bhabani S. Das, and Saquib Ahmad.	Hyperspectral Image Preprocessing with Bilateral Filter for Improving the Classification Accuracy of Support Vector Machines.	Journal of Applied Remote Sensing	10	25004	2016
59	Pradhan, Tapan, Bibek Kabi, Ramanarayan Mohanty, and Aurobinda Routray.	Development of Numerical Linear Algebra Algorithms in Dynamic Fixed-Point Format: A Case Study of Lanczos Tridiagonalization.	International Journal of Circuit Theory and Applications	44	1222-62	2016
60	Sengupta, Anwesha, Subhadeep Datta, Sibsambhu Kar, and Aurobinda Routray.	EEG Synchronization and Brain Networks.	International Journal of Biomedical and Clinical Engineering	4	1-11	2015
61	Happy, S. L., and Aurobinda Routray.	Automatic Facial Expression Recognition Using Features of Salient Facial Patches.	IEEE Transactions on Affective Computing	6	1-12	2015
62	Sengupta, Anwesha, Sibsambhu Kar, and Aurobinda Routray.	Study of Loss of Alertness and Driver Fatigue Using Visibility Graph Synchronization.	Innovative Research in Attention Modeling and Computer Vision		171-93	2015
63	Swain, Monorama, Subhasmita Sahoo, Aurobinda Routray, P. Kabisatpathy, and Jogendra N. Kundu.	Study of Feature Combination Using HMM and SVM for Multilingual Odiya Speech Emotion Recognition.	International Journal of Speech Technology	18	387-93	2015
64	Chaki, Soumi, Aurobinda Routray, and William K. Mohanty.	A Novel Preprocessing Scheme to Improve the Prediction of Sand Fraction from Seismic Attributes Using Neural Networks.	IEEE Journal of Selected Topics in Applied Earth Observations and Remote Sensing	8	1808-20	2015
65	Verma, Akhilesh K., Aurobinda Routray, and William K. Mohanty.	Assessment of Similarity between Well Logs Using Synchronization Measures.	IEEE Geoscience and Remote Sensing Letters	11	2032-36	2014
66	Naha, Arunava, Anik Kumar Samanta, Aurobinda Routray, and Alok Kanti Deb.	Determining Autocorrelation Matrix Size and Sampling Frequency for MUSIC Algorithm.	IEEE Signal Processing Letters	22	1016-20	2014

67	Chaki, Soumi, Akhilesh K. Verma, Aurobinda Routray, William K. Mohanty, and Mamata Jenamani.	Well Tops Guided Prediction of Reservoir Properties Using Modular Neural Network Concept: A Case Study from Western Onshore India.	Journal of Petroleum Science and Engineering	123	155-63	2014
68	Verma, Akhilesh K., Soumi Chaki, Aurobinda Routray, William K. Mohanty, and Mamata Jenamani.	Quantification of Sand Fraction from Seismic Attributes Using Neuro-Fuzzy Approach.	Journal of Applied Geophysics	111	141-55	2014
69	Dasgupta, Anirban, Anjith George, S. L. Happy, and Aurobinda Routray.	A Vision-Based System for Monitoring the Loss of Attention in Automotive Drivers.	IEEE Transactions on Intelligent Transportation Systems	14	1825-38	2013
70	Pradhan, Tapan, Bibek Kabi, Aurobinda Routray, and Gonnabhaktula Anirudh.	Fixed-Point Hestenes SVD Algorithm for Computing Eigen Faces.	International Journal of Circuits, Systems and Signal Processing	7	312-21	2013
71	Kar, Sibsambhu, and Aurobinda Routray.	Effect of Sleep Deprivation on Functional Connectivity of EEG Channels.	IEEE Transactions on Systems, Man, and Cybernetics Part A:Systems and Humans	43	666-72	2013
72	Dasgupta, Anirban, Anjith George, S. L. Happy, Aurobinda Routray, and Tara Shanker.	An On-Board Vision Based System for Drowsiness Detection in Automotive Drivers.	International Journal of Advances in Engineering Sciences and	5	94-103	2013
73	Ghosh, Shrabani, Anirban Krishna Bhattacharyya, Siddhartha Mukhopadhyay, and Aurobinda Routray.	Improved Estimation of Kinematic State of Reentry Ballistic Targets with Modeling of Colored and Nonstationary Seeker Noise.	IEEE Transactions on Aerospace and Electronic Systems	48	3186-3206	2012
74	Mohanty, Mihir Narayan, Aurobinda Routray, Ashok Kumar Pradhan, and Prithviraj Kabisatpathy.	Power Quality Disturbances Classification Using Support Vector Machines with Optimised Time-Frequency Kernels.	International Journal of Power Electronics	4	181	2012
75	Ghosh, Shrabani, Siddhartha Mukhopadhyay, and Aurobinda Routray.	New State and Measurement Models for Endo-Atmospheric Tracking of Ballistic Targets Using Seeker Measurements.	IEEE Transactions on Aerospace and Electronic Systems	48	1192-1209	2012
76	Kar, Sibsambhu, Aurobinda Routray, and Bibhukalyan Prasad Nayak.	Functional Network Changes Associated with Sleep Deprivation and Fatigue during Simulated Driving: Validation Using Blood Biomarkers.	Clinical Neurophysiology	122	966-74	2011

77	Mohanty, Mihir Narayan, Aurobinda Routray, and Prithviraj Kabisatpathy.	Optimisation of Features Using Evolutionary Algorithm for EEG Signal Classification.	International Journal of Computational Vision and Robotics	1	297	2011
78	Senapati, Kedarnath, and Aurobinda Routray.	Comparison of ICA and WT with S-Transform Based Method for Removal of Ocular Artifact from EEG Signals.	Journal of Biomedical Science and Engineering	4	341-51	2011
79	Senapati, Kedarnath, West Bengal, and William Kumar Mohanty.	Blind Deconvolution of Seismic Signals in Time and Frequency Domain : A Study on 2004 Sumatra Earthquake.	International Journal of Signal Processing, Image Processing and Pattern	4	29-47	2011
80	Patil, Dinesh, Niva Das, and Aurobinda Routray.	Implementation of Fast-ICA: A Performance Based Comparison between Floating Point and Fixed Point DSP Platform.	Measurement Science Review	11	118-24	2011
81	Gupta, Supratim, Aurobinda Routray, and Anirban Mukherjee.	A New Method for Edge Extraction in Images Using Local Form Factors.	International Journal of Computer Applications	21	15-22	2011
82	Jenamani, Mamata, Aurobinda Routray, and Vikash Singh.	A Procedure Using Support Vector Data Description and Mutual Information for End Price Assessment in Online C2C Auction.	Electronic Commerce Research		321-40	2011
83	Kar, Sibsambhu, Mayank Bhagat, and Aurobinda Routray.	EEG Signal Analysis for the Assessment and Quantification of Driver's Fatigue.	Transportation Research Part F: Traffic Psychology and Behavior	13	297-306	2010
84	Mohanty, Mihir Narayan, Anurag Kumar, Aurobinda Routray, and Prithviraj Kabisatpathy.	Evolutionary Algorithm Based Optimization for Power Quality Disturbances Classification Using Support Vector Machines.	International Journal of Control, Automation and Systems		1306-12	2010
85	Mohanty, Mihir Narayan, Vinay Kumar, Aurobinda Routray, and Prithviraj Kabisatpathy.	Classification of Power Quality Disturbances Using Parzen Kernels.	International Journal of Emerging Electric Power Systems	11		2010
86	Mohanty, Mihir Narayan, Aurobinda Routray, and Prithviraj Kabisatpathy.	Voice Detection Using Statistical Method.	Int. J. Engg. Techsci 2 (1): 120–24.	1	120-24	2010
87	Mohanty, Mihir, Aurobinda Mishra, and Aurobinda Routray.	A Non-Rigid Motion Estimation Algorithm for Yawn Detection in Human Drivers.	International Journal of Computational Vision and Robotics	1	89	2009

88	Kandali, Aditya Bihar, Aurobinda Routray, and Tapan Kumar Basu.	Cross-Lingual Vocal Emotion Recognition in Five Native Languages of Assam Using Eigenvalue Decomposition.	Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial	5909	519-24	2009
89	Das, Niva, Aurobinda Routray, and Pradipta Kishor Dash.	A Robust H ∞ Learning Approach to Blind Separation of Slowly Time-Varying Mixture of Acoustic Electromechanical Signals.	Mechanical Systems and Signal Processing	23	2049-58	2009
90	Mohanty, S. R., A. K. Pradhan, and A. Routray.	A Cumulative Sum-Based Fault Detector for Power System Relaying Application.	IEEE Transactions on Power Delivery	23	79-86	2008
91	Routray, Aurobinda, and Smarak Swain.	Fast Algorithms for Designing Variable FIR Notch Filters.	Numerical Linear Algebra with Applications	14	673-94	2007
92	Mishra, Chandrabhanu, Aurobinda Routray, and Siddhartha Mukhopadhyay.	A Computationally Efficient Winding Function Method for Calculation of Inductances in an Asymmetric Induction Motor.	Electric Power Components and Systems	35	43-61	2007
93	Mohanty, William Kumar, Aurobinda Routray, and Sankar Kumar Nath.	A New Strategy for Phase Detection in Seismic Signals Using an Adaptive Markov Amplitude Model.	Current Science	93	54-60	2007
94	Das, Niva, A Routray, and PK Dash.	ICA Methods for Blind Source Separation of Instantaneous Mixtures: A Case Study.	Neural Information Process. Letters	11	225-46	2007
95	Pradhan, A. K., A. Routray, and S. Madhan Gudipalli.	Fault Direction Estimation in Radial Distribution System Using Phase Change in Sequence Current.	IEEE Transactions on Power Delivery	22	2065-71	2007
96	Pradhan, A. K., A. Routray, and Banaja Mohanty.	Maximum Efficiency of Flexible AC Transmission Systems.	International Journal of Electrical Power and Energy Systems	28	581-88	2006
97	Pradhan, A. K., A. Routray, and S. R. Mohanty.	A Moving Sum Approach for Fault Detection of Power Systems.	Electric Power Components and Systems	34	385-99	2006
98	Das, Debi Prasad, Swagat Ranjan Mohapatra, Aurobinda Routray, and T. K. Basu.	Filtered-s LMS Algorithm for Multichannel Active Control of Nonlinear Noise Processes.	IEEE Transactions on Audio, Speech and Language Processing	14	1875-80	2006
99	Pradhan, A. K., S. K. Meher, and A. Routray.	Communication Channel Equalization Using Wavelet Network.	Digital Signal Processing: A Review Journal	16	445-52	2006
100	Pradhan, A. K., A. Routray, and Abir Basak.	Power System Frequency Estimation Using Least Mean Square Technique.	IEEE Transactions on Power Delivery	20	1812-16	2005

101	Pradhan, Ashok Kumar, and Aurobinda Routray.	Applying Distance Relay for Voltage Sag Source Detection.	IEEE Transactions on Power Delivery	20	529-31	2005
102	Pradhan, A. K., A. Routray, S. Pati, and D. K. Pradhan.	Wavelet Fuzzy Combined Approach for Fault Classification of a Series-Compensated Transmission Line.	IEEE Transactions on Power Delivery	19	1612-18	2004
103	Pradhan, A. K., A. Routray, and B. Biswal.	Higher Order Statistics-Fuzzy Integrated Scheme for Fault Classification of a Series-Compensated Transmission Line.	IEEE Transactions on Power Delivery	19	891-93	2004
104	Routray, Aurobinda, Ashok Kumar Pradhan, and K. Prahallad Rao.	A Novel Kalman Filter for Frequency Estimation of Distorted Signals in Power Systems.	IEEE Transactions on Instrumentation and Measurement	51	469-79	2002
105	Dash, P. K., Aurobinda Routray, and Sukumar Mishra.	Neural Network Based Feedback Linearizing Controller for HVDC Links.	Electric Power Systems Research	50	125-32	1999
106	Dash, P. K., A. Routray, and A. C. Liew.	Design of an Energy Function Based Fuzzy Tuning Controller for HVDC Links.	International Journal of Electrical Power and Energy System	21	337-47	1999
107	Dash, P.K., D.P. Swain, A. Routray, and A.C. Liew.	An Adaptive Neural Network Approach for the Estimation of Power System Frequency.	Electric Power Systems Research	41	203-10	1997
108	Routray, Aurobinda, P. K. Dash, and Sanjeev K. Panda.	A Fuzzy Self-Tuning PI Controller for HVDC Links.	IEEE Transactions on Power Electronics	11	669-79	1996
109	Dash, P. K., A. C. Liew, and A. Routray.	Design of Robust Controllers for HVDC Links in AC-DC Power Systems.	Electric Power Systems Research	33	201-9	1995
110	Dash, P. K., A. Routray, and A. Mahapatra.	Design of a Variable Structure Current Regulator for Weak AC/DC Systems.	Electric Power Systems Research	27	49-59	1993

10. Detail of Patents. (⬆)

S.No	Patent Title	Name of Applicant(s)	Patent No.	Award Date	Agency/Country	Status
1	A System for Real Time Assessment of Level of Alertness	Aurobinda Routray	634/KOL/2014	2014	India	Granted
2	An Electromagnetic Device based system for Fault Detection and Identification in Rotating Mechanical Components	Aurobinda Routray	803/KOL/2005	2005	India	Granted
3	Event-Driven Data Mining Method for Improving Fault Code Settings and Isolating Faults	Aurobinda Routray	US 2012/0035803 A1	2012	USA	Granted

4	A Real-Time System for Object Detection and Recognition With Machine Learning	Aurobinda Routray	647/KOL/2013	2013	India	Filed
5	Real-time on Board Driver Drowsiness Monitoring System	Aurobinda Routray	660/KOL/2010	2010	India	Filed
6	Fatigue Monitoring system	Aurobinda Routray	201711043780 A	2019	India	Granted
7	A System and method for Spark/Arc Detection in Low Voltage Electrical Distribution System	Aurobinda Routray	924/KOL/2013	2013	India	Under review
8	System and method for monitoring drowsiness of one or more operator individuals of industrial equipment/means/process and like	Aurobinda Routray	IN201831004156	2019	India	Granted
9	A system for assessment of multiple faults in induction motors	Aurobinda Routray	201831003744 A	2019	India	Granted
10	An apparatus for classifying the state of alertness of a locomotive pilot	Aurobinda Routray	201831003743 A	2019	India	Granted
11	Method for suppressing noise from 3d stacked time domain seismic cube	Aurobinda Routray	202111022114	2021	India	Filed

11. Books/Reports/Chapters/General articles etc. (⬆)

S.No	Title	Author's Name	Publisher	Year of Publication
1	Alertness Monitoring System for Vehicle Drivers using Physiological Signals	Sengupta, Anwesha,George, Anjith Dasgupta, Anirban Chaudhuri, Aritra Kabi, Bibek Routray, Aurobinda	IGI Global	2016
2	Online Condition Monitoring of Traction Motor	Samanta, Anik Kumar and Naha, Arunava and Basu, Devasish and Routray, Aurobinda and Deb, Alok Kanti	IGI Global	2016
3	Study of Loss of Alertness and Driver Fatigue Using Visibility Graph Synchronization	Sengupta, Anwesha Kar, Sibsambhu Routray, Aurobinda	IGI Global	2015
4	Comparative Evaluation of Symmetric SVD Algorithms for Real-Time Face and Eye Tracking	Pradhan, Tapan Routray, Aurobinda Kabi, Bibek	Springer	2012
5	Numerical Linear Algebra in Signals, Systems and Control	Van Dooren, P. Bhattacharyya, S.P., Chan, R.H., Olshevsky, V, Routray, A. (Eds.)	Springer	2011

12. Any other Information (maximum 500 words)

Founder of the following startups at STEP IIT Kharagpur for human monitoring
   www.humosys.com
   www.sleepdoc.ai (mbreath)
   www.aurma.ai