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Areas of Interest

Computational Neuroscience, Biomedical Instrumentations, Digital Signal and Image Processing, Computer Vision, Machine Learning, Assistive Technology.

Education

- Ph.D. in Biomedical Engineering from Indian Institute of Technology Delhi (2007-2011), Sponsored candidate, Project PRAKASH, MIT, USA.
- **Thesis title: Behavioral & Neurophysiological Correlates of Object Representation and Evidence of Neural Plasticity.**
- M.Tech. in Bioelectronics from Tezpur Central University, India (2004-2006) with 1st class and Distinction.
- **Thesis title: Electro-oculogram based multimode embedded controller to assist severely disabled.**

Employment

2015

- Asst. Professor, Dept. of Electrical Engineering, IIT Delhi
- Research Affiliate, Massachusetts Institute of Technology, USA

2012-2015:

- Postdoctoral research associate, Dept. of Brain and Cognitive Sciences, MIT, USA

2011:

- Research Associate in 'Project Prakash', MIT, Shroff Charity Eye Hospital, New Delhi (May'11-Jan'12)

Honors

Awards

- NASI-YOUNG SCIENTIST PLATINUM JUBILEE AWARD-2015 by the National Academy of Sciences, INDIA.
- Awarded INSPIRE faculty (2012-2017) in 'Engineering and Technology' Category by Ministry of Science and Technology, Govt. of India, 2012.
- Was selected in 20 members' team by Institute of the future (IFTF), USA for technology forecast in next 25years, 2008.
- Awarded for Best international technical research paper by IEEE at University of Virginia, USA, 2007.
- Won silver medal for best innovation in India International Trade fair held at Pragati Maidan, New Delhi, India, 2006.
- Awarded Best Biomedical Engineering Project in I2Tech contest, held at Indian Institute of Technology, Delhi, by Alumni Association IIT-D, 2006.
- Awarded for best research in "All India students' research contest" held at IT-BHU, 2006.
- Topped in Sambalpur University, Odisha among all U.G, P.G. courses and awarded double gold medal including 'Gangadhar Meher Gold medal' in master degree level (In presence of President of India, Dr. A.P.J Abdul Kalam, Governor of Orissa Mr. M.M.Rajendran & Chief Minister Mr Naveen Pattanayak), 2003.
- Samaj Scholarship at Master Degree level for scholastic achievement in Sambalpur University.
- Various awards in sports, extracurricular activities during School and College level including active volunteer in NSS.

Travel Grants

- Received NIH travel grant to present my research in VSS 2013, USA.
- Received MIT travel grant to present my research in ECVF 2012, Italy.
- Received Asian travel grant for autism research at Psycho-physiological meeting, Portland, USA, 2010.
- Received travel grant from society of neurology to attend ECNS-2010 joint meeting at Istanbul, Turkey, 2010.
- Received full financial support from DST, CSIR, INSA, IITD to participate in various scientific/technical activities abroad, (2007-2011).

Fellowships

- Appointed teaching faculty for MIT-HARVARD Summer school at IIT Delhi, 24th June- 6th July 2013.
- Selected and received advance training on multimodal neuroimaging at MGH-Harvard, 12th-24th May, 2013.
- Received NIH/MIT fellowship for Post-doc research associate at MIT, USA, 2012.
- Received MIT Fellowship for Ph.D.
- Received NIH, USA funding and selected among best 30 candidates in the world to get advanced training on Neuro-Imaging at University of California, LA (UCLA), 2010.

- International Brain Research Organization (IBRO) fellowship for oral presentation in international conference on Neuroscience held at Bodrum, Turkey, 2008.

Publications:

Title	Cited by	Year
The newly sighted fail to match seen with felt R Held, Y Ostrovsky, B de Gelder, T Gandhi, S Ganesh, U Mathur, P Sinha Nature neuroscience 14 (5), 551-553	102	2011
A comparative study of wavelet families for EEG signal classification T Gandhi, BK Panigrahi, S Anand Neurocomputing 74 (17), 3051-3057	71	2011
Classification of EEG signal using wavelet transform and support vector machine for epileptic seizure detection R Panda, PS Khobragade, PD Jambhule, SN Jengthe, PR Pal, TK Gandhi Systems in Medicine and Biology (ICSMB), 2010 International Conference on ...	59	2010
Autism as a disorder of prediction P Sinha, MM Kjelgaard, TK Gandhi, K Tsourides, AL Cardinaux, ... Proceedings of the National Academy of Sciences 111 (42), 15220-15225	55	2014
Expert model for detection of epileptic activity in EEG signature T Gandhi, BK Panigrahi, M Bhatia, S Anand Expert Systems with Applications 37 (4), 3513-3520	54	2010
Development of an expert multitask gadget controlled by voluntary eye movements T Gandhi, M Trikha, J Santhosh, S Anand Expert Systems with Applications 37 (6), 4204-4211	30	2010
Discrete harmony search based expert model for epileptic seizure detection in electroencephalography TK Gandhi, P Chakraborty, GG Roy, BK Panigrahi Expert Systems with Applications 39 (4), 4055-4062	28	2012
Automatic electrooculogram classification for microcontroller based interface design M Trikha, A Bhandari, T Gandhi Proceedings of the IEEE systems and information engineering design symposium ...	18	2007
Development of pattern vision following early and extended blindness A Kalia, LA Lesmes, M Dorr, T Gandhi, G Chatterjee, S Ganesh, PJ Bex, ... Proceedings of the National Academy of Sciences 111 (5), 2035-2039	16	2014
VHDL based electro-oculogram signal classification T Gandhi, M Trikha, J Santosh, S Anand 15th International Conference on Advanced Computing and Communications ...	10	2007
Results of late surgical intervention in children with early-onset bilateral cataracts S Ganesh, P Arora, S Sethi, TK Gandhi, A Kalia, G Chatterjee, P Sinha British Journal of Ophthalmology 98 (10), 1424-1428	8	2014
Immediate susceptibility to visual illusions after sight onset	6	2015

T Gandhi, A Kalia, S Ganesh, P Sinha Current Biology 25 (9), R358-R359		
Measurements of contrast sensitivity functions show recovery from extended blindness A Kalia, L Lesmes, M Dorr, P Bex, T Gandhi, P Swami, G Chatterjee, ... Perception ECVF abstract 41, 154-154	6	2012
Epilepsy Diagnosis Using Combined Duffing Oscillator and PNN Model BKP Tapan Gandhi, Pavel Bhowmik, Animesh Mohapatra Journal of Bioinformatics and Intelligent Control 1, 64-70	6	2012
Chaos based nonlinear analysis of epileptic seizure R Sahu, T Parija, B Mohapatra, B Rout, S Sahu, R Panda, P Pal, T Gandhi Emerging Trends in Engineering and Technology (ICETET), 2010 3rd ...	6	2010
A Screening Computational Tool for Detection of Diabetic Neuropathy and Non-Neuropathy in Type-2 Diabetes Subjects SA R. Periyasamy, T. K. Gandhi, S. R. Das, A. C J. Med. Imaging Health Inf. 2, 222-229	5	2012
A comparative account of modelling seizure detection system using wavelet techniques P Swami, TK Gandhi, BK Panigrahi, M Bhatia, J Santhosh, S Anand International Journal of Systems Science: Operations & Logistics, 1-12	4	2016
Improvement in spatial imagery following sight onset late in childhood TK Gandhi, S Ganesh, P Sinha Psychological science 25 (3), 693-701	4	2014
Restoring vision through “Project Prakash”: the opportunities for merging science and service P Sinha, G Chatterjee, T Gandhi, A Kalia PLoS Biol 11 (12), e1001741	4	2013
A novel embedded approach for the development of wireless electro-oculogram based human-computer interface P Swami, R Singh, T Gandhi, S Anand Parallel Distributed and Grid Computing (PDGC), 2012 2nd IEEE International ...	4	2012
Neural correlates of the food/non-food visual distinction K Tsourides, S Shariat, H Nejati, TK Gandhi, A Cardinaux, CT Simons, ... Biological psychology 115, 35-42	3	2016
Emergence of face-localization abilities following extended congenital blindness TK Gandhi, A Kalia, G Chatterjee, P Sinha Journal of Vision 13 (9), 23-23	3	2013
Feature extraction for evaluation of Muscular Atrophy P Pal, N Mohanty, A Kushwaha, B Singh, B Mazumdar, T Gandhi Computational Intelligence and Computing Research (ICCIC), 2010 IEEE ...	3	2010
Assistive communication system for speech disabled patients based on electro-oculogram character recognition P Swami, TK Gandhi Computing for Sustainable Global Development (INDIACom), 2014 International ...	2	2014

<p>Development of contrast sensitivity following extended congenital blindness A Kalia, L Lesmes, M Dorr, T Gandhi, G Chatterjee, P Bex, P Sinha Journal of Vision 13 (9), 281-281</p>	2	2013
<p>Global motion coherence performance after extended congenital blindness: Stretching the window G Chatterjee, A Kalia, T Gandhi, P Sinha Journal of Vision 13 (9), 22-22</p>	2	2013
<p>A Novel Topology for Design and Development of Wireless Electro-oculogram Biopotential Amplifier P Swami, T Gandhi, SS Ray, S Anand Int. J. Sci. Engg. Res 3 (6), 7-12</p>	2	2012
<p>EEG responses to facial contrast-chimeras T Gandhi, N Suresh, P Sinha Journal of integrative neuroscience 11 (02), 201-211</p>	2	2012
<p>Contribution of brain waves for visual differences in animate and inanimate objects in human brain T Gandhi, BK Panigrahi, J Santhosh, S Anand Journal of Computational and Theoretical Nanoscience 9 (2), 233-242</p>	2	2012
<p>Corrigendum: The newly sighted fail to match seen with felt R Held, Y Ostrovsky, T Gandhi, S Ganesh, U Mathur, P Sinha Nature Neuroscience 14 (9), 1217-1217</p>	2	2011
<p>Configurational imagery experience in sighted and visually impaired children TK Gandhi, A Khurana, J Santhosh, S Anand Journal of the Indian Academy of Applied Psychology 37, 128-133</p>	2	2011
<p>Dynamical neural activation in human brain during face recognition T Gandhi, P Swami, J Santhosh, S Anand International Journal of Biomedical Engineering and Technology 7 (2), 135-147</p>	2	2011
<p>A novel robust diagnostic model to detect seizures in electroencephalography P Swami, TK Gandhi, BK Panigrahi, M Tripathi, S Anand Expert Systems with Applications 56, 116-130</p>	1	2016
<p>Changes in cortical functional organization after initiation of sight in the congenitally blind P Sinha, S Gorlin, T Gandhi Journal of Vision 11 (11), 427-427</p>	1	2011
<p>Enhancement of inter-hemispheric brain waves synchronisation after Pranayama practice T Gandhi, A Kapoor, C Kharya, VV Aalok, J Santhosh, S Anand International Journal of Biomedical Engineering and Technology 7 (1), 1-17</p>	1	2011
<p>Novel approach for Brain computer interfacing T Gandhi, A Jena, AB Pal, D Prusty, P Das, S Pandit, R Panda, P Pal Integrated Intelligent Computing (ICIIC), 2010 First International ...</p>	1	2010
<p>Effects of early visual impairment on spatial encoding of complex pattern in human brain JSSA T. Gandhi, P. Sinha Frontiers in Human Neuroscience</p>	1*	2008
<p>Multiple Channel Electrooculogram Classification using Automata M Trikha, T Gandhi, A Bhandari, V Khare</p>	1	2007

2007 IEEE International Workshop on Medical Measurement and Applications, 1-5		
Design of an Electro-oculogram (EOG) Based Assistive Computer System for the Rehabilitation of Severely Disabled T Gandhi Int. J. Tech., Knowledge Soc 2 (8), 101-106	1	2007
Reduced Habituation to Naturalistic Stimuli in Autism A Cardinaux, H Nejadi, C Rogers, K Tsourides, T Gandhi, M Kjelgaard, ... Journal of Vision 16 (12), 478-478		2016
A possible account of impairments in configural face processing following early visual deprivation S Gilad-Gutnick, E Ehrenberg, S Diamond, R Held, A Kalia, T Gandhi, ... Journal of Vision 16 (12), 1120-1120		2016
Locating ictal activities over human scalp with automated detection using EEG signals P Swami, T Gandhi, BK Panigrahi, M Bhatia, S Anand Signal Processing and Integrated Networks (SPIN), 2016 3rd International ...		2016
Detection of ictal patterns in electroencephalogram signals using 3D phase trajectories P Swami, TK Gandhi, BK Panigrahi, M Bhatia, S Anand 2015 Annual IEEE India Conference (INDICON), 1-6		2015
Application of Photoplethysmography for Man-Machine Interface: A Pilot Study P Swami, S Anand, BK Panigrahi, T Gandhi, J Santhosh Reliability, Infocom Technologies and Optimization (ICRITO)(Trends and ...		2015
susceptibility to visual illusions after sight onset T Gandhi, A Kali, S Ganesh, P Sinha Current Biology 25, R1-R2		2015
Psychological Science TK Gandhi, S Ganesh, P Sinha		2014
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Face recognition using gradient based local feature matching J Nigam, T Gandhi Image Information Processing (ICIIP), 2013 IEEE Second International ...		2013
Do you recognize me? The neural marker to familiar faces 2 PIYUSH SWAMI1, 2*, TAPAN K. GANDHI3 and SNEH Front. Neuroinform.		2013
Early susceptibility to visual illusions after treatment for early-onset blindness P Sinha, T Gandhi, A Kalia, G Chatterjee Perception ECVF abstract 41, 188-188		2012
Early susceptibility to visual illusions after treatment for early-onset blindness AKGC P. Sinha, T. Gandhi J. Perception 188, 154		2012
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ENTROPY BASED DETECTION & EVALUATION OF EPILEPTIC SEIZURE PR Pal, NP Mohanty, T Gandhi International Journal of Applied 4 (1), 73-77		2011
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Impairment in sensory reactivity of children with autism spectrum disorder, SAPS T.Gandhi Int. J. of the Society for Psychophysiological Research 47 (1), pp.23.		2010
Top down processing of faces in human brain: a behavioral study T Gandhi, P Swami, P Sinha, S Anand Methods and Models in Computer Science, 2009. ICM2CS 2009. Proceeding of ...		2009
Haptic and visual defragmentation of shapes Y Ostrovsky, M Moulson, M Meng, K Choi, T Gandhi, P Sinha Journal of Vision 9 (8), 896-896		2009
Interhemispheric interaction and cause of hindrance during handedness activity: An electro-physiological evidence B Ghosh, P Swami, T Gandhi, J Santhosh, S Anand Multimedia, Signal Processing and Communication Technologies, 2009. IMPACT ...		2009
Tutorial 4: Multicores: Architectures, Programming and Beyond K Paul Proceedings of the 15th International Conference on Advanced Computing and ...		2007
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