

# Contents

<b>An In-Silico Structural Analysis of the Interactions of SoxY and SoxZ from Moderately Thermophilic Betaproteobacterium, <i>Hydrogenophilus thermoluteolus</i> in the Global Sulfur Oxidation Cycle. . . . .</b>	<b>1</b>
Sujay Ray and Angshuman Bagchi	
<b>The Effect of T192M Mutation in Stability of Alpha Dystroglycan: Study with Molecular Dynamics Simulation . . . . .</b>	<b>11</b>
Simanti Bhattacharya, Amit Das, Rakhi Dasgupta and Angshuman Bagchi	
<b>Intermolecular Interaction Study of Dissimilatory Sulfite Reductase (DsrAB) from Sulfur Oxidizing Proteobacteria <i>Allchromatium vinosum</i> . . . . .</b>	<b>19</b>
Semanti Ghosh and Angshuman Bagchi	
<b>Structural Bioinformatic Approach to Understand the Molecular Mechanism of the Interactions of Small Heat Shock Proteins IbpA and IbpB with Lon Protease . . . . .</b>	<b>29</b>
Sanchari Bhattacharjee, Rakhi Dasgupta and Angshuman Bagchi	
<b>Computer Based Self-Pacing Instructional Design Approach in Learning with Respect to Gender as a Variable . . . . .</b>	<b>37</b>
Santoshi Halder, Sanju Saha and Soumita Das	
<b>Use of Machine Learning Features to Detect Protein-Protein Interaction Sites at the Molecular Level . . . . .</b>	<b>49</b>
Angshuman Bagchi	

<b>Mutual Interaction Study Between DnaK-GroEL-FtSH with Heat Shock Regulator <math>\sigma</math>32 to Explain Prokaryotic Heat Shock Regulation</b> . . . . .	55
Sourav Singha Roy, Monobesh Patra, Rakhi Dasgupta and Angshuman Bagchi	
<b>Molecular Structure and Packing Analysis of Two Nematogenic Fluoro-Phenyl Compounds in the Crystalline Phase</b> . . . . .	63
Sripada Haldar, Pradip Kumar Mandal and Wolfgang Haase	
<b>Fractal Image Compression with Adaptive Quadtree Partitioning and Lossless Encoding on the Parameters of Affine Transformations</b> . . . . .	73
Utpal Nandi and Jyotsna Kumar Mandal	
<b>EMD Based Features for Discrimination of Focal and Non-focal EEG Signals</b> . . . . .	85
Manish Gehlot, Yogit Kumar, Harshita Meena, Varun Bajaj and Anil Kumar	
<b>HHT Based Features for Discrimination of EMG Signals</b> . . . . .	95
Gaurav Sahu, Nishant Chaurasia, Prem Prakash Suwalka, Varun Bajaj and Anil Kumar	
<b>Understanding the Interaction of Human Formin Binding Protein 4 with Formin FMN1.</b> . . . .	105
Amit Das, Simanti Bhattacharya, Angshuman Bagchi and Rakhi Dasgupta	
<b>In-Silico Structural Analysis of SoxF Protein Through Molecular Modelling and Protein-Protein Docking from <i>Hydrogenophilus thermoluteolus</i>: An Approach to Understand the Molecular Mechanism of Thiosulfate Oxidation</b> . . . . .	115
Sujay Ray and Angshuman Bagchi	
<b>Structural Analyses of the Mode of Binding Between AANAT Protein with 14-3-3 Protein Involved in Human Melatonin Synthesis.</b> . . . .	127
Ananya Ali, Sanchari Bhattacharjee and Angshuman Bagchi	
<b>Development of E-Learning System in Grid Environment</b> . . . . .	133
Sajal Mitra, Ajanta Das and Sarbani Roy	

<b>A Weighted Concept Map Approach to Generate Learning Guidance in Science Courses . . . . .</b>	143
Anal Acharya and Devadatta Sinha	
<b>Fingerprint Recognition by Divide and Conquer Method. . . . .</b>	153
Samayita Bhattacharya and Kalyani Mali	
<b>Nonlocal Speckle Denoising Model Based on Non-linear Partial Differential Equations . . . . .</b>	165
Arundhati Bagchi Misra and Hyeona Lim	
<b>Optimal Multilevel Image Threshold Selection Using a Novel Objective Function . . . . .</b>	177
V. Rajinikanth and M.S. Couceiro	
<b>Molecular Docking Analysis of AHL Molecule on Plant Protein ARR10 . . . . .</b>	187
Anamika Basu and Anasua Sarkar	
<b>A Remote Login Password Authentication Scheme Using Row Vector with Biometric . . . . .</b>	195
Shipra Kumari and Hari Om	
<b>A Symmetric Key Cryptosystem Using DNA Sequence with OTP Key . . . . .</b>	207
Asish Aich, Alo Sen, Satya Ranjan Dash and Satchidananda Dehuri	
<b>Text Localization in Camera Captured Images Using Adaptive Stroke Filter . . . . .</b>	217
Shauvik Paul, Satadal Saha, Subhadip Basu and Mita Nasipuri	
<b>Dynamic Modeling of Three Link Finger Manipulator . . . . .</b>	227
Neeta Sahay and Sanjoy Das	
<b>Dynamic Reconfigurable Architectures—A Boon for Desires of Real Time Systems . . . . .</b>	235
Kevin Kansagara, K V Shravya and S Sivanantham	
<b>A Real Time Gesture Recognition with Wrist Mounted Accelerometer . . . . .</b>	245
Debjyoti Chowdhury, Soumya Jyoti Banerjee, Krishnendu Sanyal and Madhurima Chattopadhyay	

<b>Effectiveness of Proximity-Based Outlier Analysis in Detecting Profile-Injection Attacks in E-Commerce Recommender Systems . . . . .</b>	<b>255</b>
Parthasarathi Chakraborty and Sunil Karforma	
<b>Novel Approach of Multiplier Design Using Ancient Vedic Mathematics . . . . .</b>	<b>265</b>
Angshuman Khan and Rupayan Das	
<b>Supply Chain Model for Deteriorating Items with Imperfect Production Process Under Budget Constraint . . . . .</b>	<b>273</b>
Urvashi Chaudhary, S.R. Singh and Upendra Chaudhary	
<b>Line-Level Script Identification for Six Handwritten Scripts Using Texture Based Features . . . . .</b>	<b>285</b>
Pawan Kumar Singh, Ram Sarkar and Mita Nasipuri	
<b>Single Sensor Color Filter Array Interpolation Algorithms . . . . .</b>	<b>295</b>
C. RajaRao, Mahesh Boddu and Soumitra Kumar Mandal	
<b>Region Based Image Retrieval Using Integrated Color, Texture and Shape Features. . . . .</b>	<b>309</b>
Nishant Shrivastava and Vipin Tyagi	
<b>Automatic Generation of Web Service Composition Templates Using WSDL Descriptions . . . . .</b>	<b>317</b>
S. Sowmya Kamath, Suresh Alse, Prajwal Prasad and Abhay R. Chennagiri	
<b>Poisson Noise Removal from Mammogram Using Poisson Unbiased Risk Estimation Technique . . . . .</b>	<b>327</b>
Manas Saha, Mrinal Kanti Naskar and Biswa Nath Chatterji	
<b>A Proposed Systematic User-Interface Design Framework for Synchronous and Asynchronous E-Learning Systems. . . . .</b>	<b>337</b>
Syaamantak Das and Rajeev Chatterjee	
<b>Differential Power Analysis: Attacks and Resisting Techniques . . . . .</b>	<b>349</b>
Hridoy Jyoti Mahanta, Abul Kalam Azad and Ajoy Kumar Khan	
<b>Health-System Evaluation: A Multi-attribute Decision Making Approach . . . . .</b>	<b>359</b>
Debashree Guha and Bapi Dutta	

<b>Analysis and Evaluation of Image Quality Metrics . . . . .</b>	<b>369</b>
Tina Samajdar and Md. Iqbal Quraishi	
<b>Comparative Analysis of Color Image Encryption Using 2D Chaotic Maps. . . . .</b>	<b>379</b>
Shubhendu Kumar, Bhavna Sinha and Chittaranjan Pradhan	
<b>Automatic Model Extraction from C Code—Abstracter and Architecture . . . . .</b>	<b>389</b>
Debapriyay Mukhopadhyay	
<b>Remote Sensing Image Registration Based on Particle Swarm Optimization and Mutual Information . . . . .</b>	<b>399</b>
Reham Gharbia, Sara A. Ahmed and Aboul ella Hassanien	
<b>Enzyme Function Classification Based on Sequence Alignment . . . . .</b>	<b>409</b>
Mahi M. Sharif, Alaa Thrwat, Islam Ibrahim Amin, Aboul Ella and Hesham A. Hefeny	
<b>A Novel Biometric Fingerprint Template Based Method for Stream Cipher Design . . . . .</b>	<b>419</b>
Musheer Ahmad and Bashir Alam	
<b>A Non-linear Diffusion Based Partial Differential Equation Model for Noise Reduction in Images . . . . .</b>	<b>429</b>
Subit K. Jain and Rajendra K. Ray	
<b>A Pixel Based Segmentation Scheme for Fingerprint Images . . . . .</b>	<b>439</b>
Debashis Das and Susanta Mukhopadhyay	
<b>Distance Similarity as a CBR Technique for Early Detection of Breast Cancer: An Egyptian Case Study. . . . .</b>	<b>449</b>
Heba Ayeldeen, Olfat Shaker, Osman Hegazy and Aboul Ella Hassanien	
<b>Modified PCT on Variable Cipher Block Chaining Mode . . . . .</b>	<b>457</b>
Manas Paul, Jyotsana Kumar Mandal and Moirangthem Marjit Singh	
<b>A Fast and Efficient Mesh Smoothing Algorithm for 3D Graphical Models Using Cubic B-Splines . . . . .</b>	<b>467</b>
Rishabh Roy, Kireeti Bodduna, Neha Kumari and Rajesh Siddavatam	

<b>Text Extraction from Scene Images Through Local Binary Pattern and Business Features Based Color Image Segmentation . . . . .</b>	<b>475</b>
Ranjit Ghoshal, Anandarup Roy, Bibhas Ch. Dhara and Swapan K. Parui	
<b>Age Group Classification of Facial Images Using Rank Based Edge Texture Unit (RETU) . . . . .</b>	<b>483</b>
Ch Rajendra Babu, E. Sreenivasa Reddy and B. Prabhakara Rao	
<b>Writer Identification from Handwritten Devanagari Script . . . . .</b>	<b>497</b>
Chayan Halder, Kishore Thakur, Santanu Phadikar and Kaushik Roy	
<b>Quality Estimation of MT-Engine Output Using Language Models for Post-editing and Their Comparative Study . . . . .</b>	<b>507</b>
Kuldeep Kumar Yogi, Nishith Joshi and Chandra Kumar Jha	
<b>Genetic Algorithm with Improved Mutation Operator for Multiple Sequence Alignment . . . . .</b>	<b>515</b>
Rohit Kumar Yadav and Haider Banka	
<b>Analysis of Induced Color for Automatic Detection of ROI in Multipose AVSR System . . . . .</b>	<b>525</b>
Amarsinh Varpe, Prashant Borde, Sadhana Sukale, Pallavi Perdeshi and Pravin Yannawar	
<b>Conditional Spatial Fuzzy C-means Clustering Algorithm with Application in MRI Image Segmentation. . . . .</b>	<b>539</b>
Sudip Kumar Adhikari, Jamuna Kanta Sing, Dipak Kumar Basu and Mita Nasipuri	
<b>Advancement in Guard Zone Computation Through Detection and Exclusion of the Overlapped Regions. . . . .</b>	<b>549</b>
Ranjan Mehera, Arpan Chakraborty, Piyali Datta and Rajat Kumar Pal	
<b>Design of a Mixer for Performing Efficient Mixing to Reduce Overall Assay Response Time . . . . .</b>	<b>559</b>
Debasis Dhal, Piyali Datta, Arpan Chakraborty and Rajat Kumar Pal	
<b>Remotely Functional-Analysis of Mental Stress Based on GSR Sensor Physiological Data in Wireless Environment . . . . .</b>	<b>569</b>
Ramesh Sahoo and Srinivas Sethi	

<b>Dynamic Software Metrics for Object Oriented Software: A Review</b> . . . . .	579
Anjana Gosain and Ganga Sharma	
<b>Big Data Analytics and Its Prospects in Computational Proteomics</b> . . .	591
Sagnik Banerjee, Subhadip Basu and Mita Nasipuri	
<b>The Future ICT Education in India—A Pilot Study on the Vision of Ubiquitous Learning in Higher Education</b> . . . . .	599
Parag Chatterjee and Asoke Nath	
<b>Study of Various Feature Extraction and Selection Techniques for Drought Prediction in Precision Agriculture</b> . . . . .	611
Nikhil Gaikwad, Gaurav Chavan, Hemant Palivela and Preeja Ravishankar Babu	
<b>Automatic Segmentation of Spoken Word Signals into Letters Based on Amplitude Variation for Speech to Text Transcription</b> . . . .	621
Anik Roy and Santanu Phadikar	
<b>Logically Organised Sensor Based Prototype Model for Automatic Control of Process Temperature</b> . . . . .	629
Sandip Das	
<b>Investigations into the Goodness of Posts in Q&amp;A Forums—Popularity Versus Quality</b> . . . . .	639
Deepa Anand and Sushma Ravichandran	
<b>Color Video Compression Based on Fractal Coding Using Quadtree Weighted Finite Automata</b> . . . . .	649
Shailesh D. Kamble, Nileshsingh V. Thakur, Latesh G. Malik and Preeti R. Bajaj	
<b>BIG Data Analysis for Indian e-Governance Projects—A Proposed Framework to Improve Real Time Reporting</b> . . . . .	659
Manas Kumar Sanyal, Sudhangsu Das and Sajal Bhadra	
<b>Role of Team Leaders in Employee Faith in the Performance Appraisal Practices: An Exploratory Study on the Software Professionals in Some Selected IT Companies in West Bengal (India)</b> . . . . .	669
Manas Kumar Sanyal and Soma Bose Biswas	

<b>Automatic Bus Fare Collection System in India</b> . . . . .	681
Prerit Datta, Namandeep Kaur and Naveen Garg	
<b>Secure e-Learning Framework (SeLF)</b> . . . . .	691
Nikhilesh Barik and Sunil Karforma	
<b>Embedding an Extra Layer of Data Compression Scheme for Efficient Management of Big-Data.</b> . . . . .	699
Sayan Pal, Indranil Das, Suvajit Majumder, Amit Kr. Gupta and Indrajit Bhattacharya	
<b>Automatic Gesture Recognition for Health Care Using ReliefF and Fuzzy <math>k</math>NN</b> . . . . .	709
Sriparna Saha, Monalisa Pal, Amit Konar and Diptendu Bhattacharya	
<b>Volume Cutting of Medical Data Using Deformable Surfaces Modeled with Level Sets</b> . . . . .	719
V.R. Bindu and K.N. Ramachandran Nair	
<b>Improved DB-SCAN for Detecting Zonal Followers for Small Regions on Twitter</b> . . . . .	727
Nidhi Jain, Basant Agarwal and Mukesh Kumar Gupta	
<b>Cooperative Revocation of Misbehaving Vehicles from VANET.</b> . . . .	735
Sulata Mitra	
<b>Identification and Recognition of Defects in Civil Structures Using Non-destructive Technique</b> . . . . .	747
Devansh Gaur, Shalini Saxena, Dhiraj Sangwan and Jagdish Lal Raheja	
<b>Efficient Knowledge Transformation for Incremental Learning and Detection of New Concept Class in Students Classification System</b> . . . . .	757
Roshani Ade and Prashant Deshmukh	
<b>A Software Project Risk Analysis Tool Using Software Development Goal Modeling Approach.</b> . . . . .	767
Shruti Patil and Roshani Ade	
<b>Modeling Agility in Internet of Things (IoT) Architecture</b> . . . . .	779
Priyanka Upadhyay, Gurpreet Matharu and Naveen Garg	



<b>Authentication in Higher Region of Convergence of Z Transform Domain (AHRocZ) . . . . .</b>	<b>787</b>
Suman Mahapatra, J.K. Mandal and Madhumita Sengupta	
<b>Bilateral Filtering in Wavelet Domain for Synthesis of Flash and No-Flash Image Pairs. . . . .</b>	<b>797</b>
Abhijeet Kumar Sinha, Vikrant Bhateja, Anand Sharma and S.C. Satapathy	
<b>Simulation Tool for Assignment Model: ASSOLVE. . . . .</b>	<b>807</b>
Pratiksha Saxena, Shabana Urooj, Abhinav Chaudhary, Sanchit Kumar and Satyavan Singh	
<b>Pharmaco-Informatics: An Interaction Study of Herbal Compounds with Receptors Implicated in ADHD . . . . .</b>	<b>815</b>
Preenon Bagchi, R.S. Manasa, K.S. Shwetha, S.C. Harshitha, M. Mahesh and R. Somashekhar	
<b>Restoration Algorithm for Gaussian Corrupted MRI Using Non-local Averaging. . . . .</b>	<b>831</b>
Aditya Srivastava, Vikrant Bhateja, Harshit Tiwari and S.C. Satapathy	
<b>Multi-objective Optimization Based Software Testing Using Kansei Quality Approach. . . . .</b>	<b>841</b>
Shilpa and Kavita Choudhary	
<b>Prediction of Occurrence of Heart Disease and Its Dependability on RCT Using Data Mining Techniques . . . . .</b>	<b>851</b>
Pinky Bajaj, Kavita Choudhary and Renu Chauhan	
<b>An Artificial Neural Networks Model by Using Wavelet Analysis for Speaker Recognition . . . . .</b>	<b>859</b>
Kanaka Durga Returi and Y. Radhika	
<b>Author Index . . . . .</b>	<b>875</b>

Information Systems Design and Intelligent Applications  
Proceedings of Second International Conference INDIA  
2015, Volume 2

Mandal, J.K.; Satapathy, S.C.; Kumar Sanyal, M.; Sarkar,  
P.P.; Mukhopadhyay, A. (Eds.)

2015, XXX, 877 p. 337 illus., Softcover

ISBN: 978-81-322-2246-0