



Dr. Gupteswar Sahu

Ph. D. (NIT, Jamshedpur), M. Tech (IIT, Guwahati), B. Tech (BPUT)

Associate Professor and Dean (R&D)

Department of Electronics and Communication Engineering

Raghu Engineering College (A), Visakhapatnam, 531162, Andhra Pradesh, India

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Interests: Image Processing; Biomedical Signal Processing; Adaptive Signal Processing; Nature Inspired Optimization Techniques; Soft Computing.

Course Taught Previously:

PG:

- DSP Processors and Architecture

UG:

- Signals and Systems
- Digital Signal Processing
- Digital Image Processing
- Microwave Engineering
- Analog Communication

Laboratories Handled:

- Digital Signal Processing Lab.
- Digital Image and Video Processing Lab.
- Electronic Circuit Analysis Lab.
- Microwave Engineering Lab.
- Linear Integrated Circuit Lab.

Publications:

International Journals:

1. **G. Sahu** et al., “A Novel Depth Search Based Light Weight CAR Network for the Segmentation of Brain Tumour from MR Images,” *Neuroscience Informatics, Elsevier*, Vol. 2, Issue 4, 2022.

2. **G. Sahu** et al., “Real Time Retinal Optical Disc Segmentation via Guided Filter and Discrete Wavelet Transform,” *Journal of Physics: Conference series*, Vol. 2312, 2022. (SCOPUS).
3. Sankara Rao Palla, **G. Sahu**, Priyadarsan Parida, “Human gait recognition using firefly template segmentation,” *Computer Methods in Biomechanics and Biomedical Engineering: Imaging & Visualization*, DOI: 10.1080/21681163.2021.2012829, **2021 (SCOUPS/ESCI)**
4. **G. Sahu**, S. Dash “Non-stationary Waveform Detection in Power Quality Signals using Multisynchrosqueezing Transform,” **International Transactions on Electrical Energy Systems**, e13013. <https://doi.org/10.1002/2050-7038.13013> **2021. (SCIE) (Impact Factor: 2.860)**
5. P. Sakar Rao, **G. Sahu**, P. Parida, “A Contemporary Survey on Human Gait Recognition,” *Journal of Information Assurance and Security*, vol. 15, no. 3, pp. 94-106, **2020. (ESCI)**.
6. B. Biswal, V. Eadara, D. K. Bebarta, **G. Sahu**, “Robust Segmentation of Optic Disc and Optic Cup using Statistical Kurtosis Test,” **International Journal of Imaging Systems and Technology**, vol. 30, no. 3, pp. 527-543, **2020. (SCIE) (Impact Factor: 2.00)**
7. **G. Sahu**, S. Dash, B. Biswal, “Time-Frequency Analysis of Power Quality Disturbances Using Synchroextracting Transform,” **International Transactions on Electrical Energy Systems**, vol. 30, no. 4, e12278, **2020. (SCIE) (Impact Factor: 2.860)**
8. IS Amiri, G. Palai, M. Bachute, **G. Sahu**, “Manipulating visible signal with plasmonic-based optical transistor: A new application to amplification,” **International Journal of light and electron optics (Optik)**, ELSEVIER, vol. 193, 163009, **2019. (SCIE) (Impact Factor: 2.443)**
9. **G. Sahu**, B. Biswal, A. Choubey "Non-Stationary Signal Classification via Modified Fuzzy C-Means Algorithm and Improved Bacteria Foraging Algorithm," **International Journal of Numerical Modeling: Electronic Networks, Devices and Fields**, vol. 30, no.2, e2181, **2017. (SCIE) (Impact Factor: 1.296)**
10. **G. Sahu**, A. Choubey, “Time-Frequency Analysis of Non-Stationary Waveforms in Power-Quality via Synchrosqueezing Transform,” **International Journal of Applied Engineering Research**, vol. 12, no.13, pp. 3714-3718, **2017. (SCOPUS)**

Conference Proceedings

1. P. S. Rao, **G. Sahu**, P. Parida, S. Patnaik, “An Adaptive Firefly Optimization Algorithm for Human Gait Recognition,” in *Proceedings of Smart and Sustainable Technologies: Rural and Tribal Development Using IoT and Cloud Computing*, *Advances in Sustainability Science and Technology*. Springer, https://doi.org/10.1007/978-981-19-2277-0_28, 2022.
2. P. S. Rao, **G. Sahu** and P. Parida, “Methods for Automatic Gait Recognition: A Review,” *Innovations in Bio-Inspired Computing and Applications*. IBICA 2019. *Advances in Intelligent Systems and Computing*, vol. 1180. Springer, https://doi.org/10.1007/978-3-030-49339-4_7, 2021.

3. S. Dash and **G. Sahu**, "Retinal Blood Vessel Segmentation by Employing Various Upgraded Median Filters," 2019 **IEEE** International Conference on Intelligent Systems and Green Technology (ICISGT), 2019, pp. 35-354, doi: 10.1109/ICISGT44072.2019.00023.
4. **G. Sahu** and A. Choubey, "Simultaneous Power-Quality Disturbances Analysis Using Modified S-Transform and Evolutionary Approach," *Microelectronics, Electromagnetics and Telecommunications. Lecture Notes in Electrical Engineering*, vol. 471. **Springer**, Singapore. https://doi.org/10.1007/978-981-10-7329-8_31.
5. **G. Sahu**, B. Biswal, A. Choubey, "Analysis of ECG Signals using Advanced Wavelet Filtering Approach," *Computational Intelligence in Data Mining-Volume 2. Advances in Intelligent Systems and Computing*, vol. 411. **Springer**, New Delhi. https://doi.org/10.1007/978-81-322-2731-1_40, 2016.
6. S. K. Tripathy and **G. Sahu**, "Ground state properties of LiNbO₃ from first-principles calculations", **AIP Conference Proceedings** 1675, 020005 (2015) <https://doi.org/10.1063/1.4929163>.
7. K. V. Satya, A. K. Gogoi and **G. Sahu**, "Regressive linear prediction with doublet for speech signals," 2011 **IEEE** International Conference on Control System, Computing and Engineering, 2011, pp. 33-36, doi: 10.1109/ICCSCE.2011.6190491.
8. **G. Sahu**, S. Dandapat, " Spectral Estimation using CLP Model and its application in Speech Processing ", *Proceedings of International Workshop on Image and Signal Processing (WISP' 07)*, IIT, Guwahati, INDIA, Dec- 28-29, 2007.

PhD Supervised:

Name of the student	Area of Research	Remarks
Mr. G. Sunil Kumar	Energy Efficient Clustering Algorithms for Wireless Sensor Networks Using Hybrid Optimization Techniques	Ongoing
Mr. P. Sankara Rao	Human Gait Recognition through Template Segmentation Techniques	Ongoing

Workshops/Conferences/Seminars/Symposiums/FDPs organised:

S. No.	Name of the program	Dates	Role
1	Three days FDP on Recent advances in IoT and Machine Learning: Applications and Hands-on (Online),	Dec. 16-18, 2021	Coordinator
2	R&D Lecture series (Lecture-1) on Innovation and Intellectual Property in R&D & Entrepreneurship in Academia for Self-reliance	May. 19 th , 2022	Coordinator
3	Research Publication Metrics with High Indexing Database” (Online)	Nov. 2 nd , 2022	Coordinator

Seminars, Workshops, FDPs and STTPs Attended:

S. No.	Name of the program	Dates	Sponsored by
1	Two week FDP on Machine Learning in Real Time Embedded & IOT applications organized by E & ICT Academy, NIT Warangal.	May 2 nd -11 th , 2022	Ministry of Electronics and Information Technology (MeitY), GOI
2	Five-Day e-workshop on “Medical Image Analysis using Artificial Intelligence” Jointly Organized by Center For Medical Imaging Studies (CMIS) under Department of Electronics and Communication Engineering, GVP College of Engineering (A), Visakhapatnam in collaboration with Sankar Foundation Eye Hospital.	April 25 th - 29 th , 2022	SERB
3	One week online faculty development programme on “Recent Advances in Biomedical Applications and Communication Networks”	July 13 th -18 th , 2020.	

	Organized by the Department of Electronics and Communication Engineering, GMRIT, Rajam		
4	One week online short term training programme on “Cyber Physical Systems (CPS) design Techniques and Application” organized by the Department of Electronics and Communication Engineering, Kalasalingam Academy of Research and Education, Krishnankoli, Tamilnadu	July 27 th -1 st , 2020	AICTE
5	One week national workshop on “Machine Intelligence in Smart Grid and Communication (MISGC-2019)” Organized by the Department of Electronics and Communication Engineering, GVP College of Engineering	May 6 th -10 th , 2019.	CSIR
6	Two days workshop on “Quality Enhancement in Curriculum Design and Development for Higher Education Institutions” Organized by IQAC, Raghu Engineering College, Visakhapatnam.	Nov 29 th -30 th , 2018	NAAC
7	Three day national workshop on “Biological Inspired Computing & Application” Organized by Department of Computer Science and Engineering, GVP College of Engineering for Women, Visakhapatnam.	March 9 th to 11 th , 2018	DST
8	Six days FDP on “Advances in Practical RF Antenna Design” Organized by Electronics & ICT Academy, NIT, Warangal in association with Raghu Engineering College	May 25 th -30 th , 2017.	Ministry of Electronics and Information Technology (MeitY), GOI
9	Two days workshop on “Crux of Writing Journal Papers Research Project Proposals and Patents” Organized by the Department of Mechanical Engineering, Raghu Engineering College, Visakhapatnam	April 27 th -28 th , 2017	
10	Five day national workshop	March 21 st -25 th ,	DST

	on “Advanced Signal Processing Applications in Electronics and telecommunications (WASET-2K16)”, Organized by the Department of Electronics and Communication Engineering, GMRIT, Rajam	2016	
11	Two day national seminar on “Speech signal processing and its Application”, held at the Department of Electronics and Telecommunication Engineering, BCET, Balasore, Odisha,	Sept. 20 th -21 st , 2013	AICTE
12	Two day national workshop on “Advanced Communication Systems and Networks”, Organized by the Department of Electronics and Communication Engineering, GMRIT, RAJAM	Nov. 18 th -19 th , 2011	
13	QIP sponsored short term course on “Advance Wireless Communication”, Organized by the Department of Electronics and Communication Engineering, IIT, Guwahati	May 22 nd -26 th , 2008	AICTE
14	QIP sponsored short term course on “Fiber Optics: Technology, Components & Application”, Organized by the Department of Physics, IIT, Guwahati,	Dec. 3 rd -7 th , 2007	AICTE
15	QIP sponsored short term course on “Mobile Communications: Systems and Applications”, held at the Department of Electronics and Communication Engineering, IIT, Guwahati.	June 4 th -8 th , 2007	AICTE
16	Two day National workshop on “Use and Deployment of web and Video courses for Enriching Engineering Education”. Under NPTEL, Organized by IIT, Guwahati	May 20 th -21 st , 2007.	AICTE
17	Short term course on “Nanotechnology in Science and Engineering”, Organized by the Department of Electronics and	March 27 th -April 8, 2006	AICTE

	Communication Engineering, National Institute of Science and Technology, Berhampur,		
18	Short term course on “Signal Processing Applications in Communication Engineering”, Organized by the Department of Electronics and Communication Engineering, IIT, Guwahati	May 2005	23 rd -27 th , AICTE

Expert talk/Special Lecture Given:

- Resource person for two day training program on “Digital Image Processing using MATLAB” during 1st – 2nd June 2015 at GMRIT, Rajam.
- Resource person for three days training program on “Basics of MATLAB”, during 19th -21st April 2017 at Raghu Engineering College (A), Visakhapatnam.
- Resource person for two day national workshop on “Embedded System & Signal Processing (NWESSP-2018) during 10th -11th Oct., 2018 at Sanketik Vidya Parishad Engineering College, Visakhapatnam.
- Resource person for webinar on “How to Write a Research Paper” held on 9th Dec, 2020. Organized by Raghu Engineering College, Visakhapatnam.
- Resource person for webinar on “High Resolution Time-Frequency Analysis Methods for Non-Stationary Signal Processing” on 17th Dec, 2020. Organized by IEEE student branch, Raghu Engineering College, Visakhapatnam.
- Resource person for Guest Lecture on “National Innovation and Startup Policy (NISP) for HEIs” on 14th Oct. 2022 at Sanketik Vidya Parishad Engineering College, Visakhapatnam.

Awards and Honors:

- NPTEL online certification course on Digital Image Processing of Remote Sensing Data with score of 84% (Top 5%), 2017.
- Received the Best paper award for the paper titled “An Adaptive Firefly Optimization Algorithm for Human Gait Recognition,” Presented in Springer International Conference on Smart and Sustainable Technologies: Rural and Tribal Development Using IoT and Cloud Computing, ICSST -2021, held at GIET University, Gunupur.
- Appointed as Reviewer for AICTE student learning Assessment (SAL) project by AICTE in the year 2021-22.
- Ratified by JNTU, Kakinada as an Associate Professor in ECE during April 2022.

Reviewer/Session Chair:

- Reviewer for International Conference on Micro-electronics, Electromagnetics and Telecommunications (ICMEET-2018), **Springer Conference**, Organized by GVP College of Engineering, Visakhapatnam, India during Feb. 3-4, 2018.
- Reviewer for International Conference on Computational Intelligence & Sustainable Technologies (ICoCIST-2021) **Springer Conference**, Jointly Organized by NIT Silchar & NIT Sikkim, India during October 28-30, 2021.
- Reviewer for International Conference on Smart and Sustainable Technologies (ICSST-2021) **Springer Conference**, Organized by GIET University, Gunupur, India during Dec. 16th -18th, 2021.
- Acted as session chair in **IEEE** International Conference on Computing, Communications and Power Technology (IC3P-2022), jointly organized by Raghu Institute of Technology and Raghu Engineering College, Visakhapatnam, India during Jan. 7th – 8th, 2022.
- Reviewer for **IEEE** Second International Conference on Computer Science, Engineering and Applications (ICCSEA-2022), Organized by the department of computer science & engineering, GIET University, Gunupur, Odisha, India during 8th September, 2022.

Additional Responsibility:

- Dean, R&D from Oct. 2021 onwards
- UG Project coordinator, Department of ECE 2018-2021
- PG Coordinator, Department of ECE, 2018-2021
- NAAC Coordinator for Criteria-3, 2021-22
- ARIIA Coordinator, 2021-22
- IIC- Institute Ambassador, 2021-22

Membership in Professional Bodies:

- ISTE, Life Member: LM 74301