

## Profile

Name : Dr. (Mrs). Judith Justin

Qualification : B.E (I&C), M.Tech.(BME), Ph.D (Information & Communication Engineering)

Department : Biomedical Instrumentation Engineering

Designation : Professor & Head

Address for Communication

Official Address : Professor & Head,  
Department of Biomedical Instrumentation Engineering,  
School of Engineering,  
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### 1. Projects implemented and ongoing

| S.No | Investigator / Co-Investigator | Title of the Project                                  | Funding Agency                             | Amount and Duration                       |
|------|--------------------------------|---|--|---|
| 1.   | Principal Investigator         | Blood vessel segmentation by Fuzzy C means clustering | Indian Council for Medical Research (ICMR) | 20.56 L<br>May 2015-May 2018<br>Completed |
| 2.   | PI                             | MODROB  | AICTE                                      | 8.5 L<br>Ongoing                          |

Academic Qualification:

| S.No | Degree   | Year | Subject                                      | University/Institution   | % of marks |
|------|----------|------|--|--|------------|
| 1.   | B.E.     | 1989 | Instrumentation & Control Engineering        | Bharathiar University/<br>Government College of<br>Technology, Coimbatore-13 | 70         |
| 2.   | PGDMIT   | 1993 | Medical Instrumentation<br>Technology        | Bharathiar University/<br>Coimbatore Institute of<br>Technology, Coimbatore  | 74         |
| 3.   | M. Tech. | 2002 | Biomedical Engineering                       | Indian Institute of Technology,<br>IIT- Madras, Chennai-36                   | CGPA: 9.25 |
| 4.   | Ph.D.    | 2015 | Information and<br>Communication Engineering | Anna University/<br>PSG College of Technology,<br>Coimbatore-14              | CGPA: 8.00 |

Experience

| S. No. | Positions held                                     | Place of work  | Duration |           | Areas of work          |
|--------|--|--|----------|-----------|------------------------|
| 1.     | Professor & Head                                   | Avinashilingam Institute<br>for Home Science and<br>Higher Education for<br>Women, Coimbatore-<br>641108 | 01.8.07  | Till date | Teaching &<br>Research |
| 2.     | Assistant Professor<br>& Head                      |  | 01.7.04  | 01.08.07  | Teaching               |
| 3.     | Lecturer (Senior Scale)<br>& Head (since 1.7.2002) |  | 01.8.01  | 01.07.04  | Teaching               |
| 4.     | Lecturer   |  | 09.8.96  | 01.08.01  | Teaching               |
| 5.     | Associate Lecturer                                 | The Indian Engineering<br>College,<br>Vadakkangulam,<br>Tirunelveli Dt.                                  | 25.8.89  | 26.07.90  | Teaching               |

Publications:

| S. No | Author(s)   | Title  | Name of Journal   | Volume               | Page      | Year       |
|-------|---|--|---|----------------------|-----------|------------|
| 1.    | Pavithra S.<br>Vanithamani R.<br><b>Justin J.</b>                           | Computer Aided Breast Cancer Detection using Ultrasound Images   | Materials Today: Proceedings, Elsevier                                      | In Press             | In Press  | 2020       |
| 2.    | Mahalakshmi A.<br><b>Judith Justin</b>                                      | Electrocardiograms based electrodes, advantages, disadvantages, challenges, and limitations: a methodological review   | Journal of Advanced Research in Dynamic Systems & Controls, ISSN: 1943-023X | Vol.12, Iss.7        | 409-418   | Sept. 2020 |
| 3.    | Susithra, R.<br>Mahalakshmi, A.<br><b>Judith Justin</b>                     | A Robust Adaptive Multi-Scale Superpixels Segmentation in SEM Image  | International Journal of Recent Technology and Engineering (IJRTE)          | Volume-7, Issue-5S3, | 161-166   | 2019       |
| 4.    | Susithra.R<br><b>Judith Justin</b>  | Design of Real Time Health Monitoring System using Surface Mount Device  | Journal of Applied Sciences and Computations                                | Vol.6                | 2621-2624 | 2019       |
| 5.    | Renee Christina R,<br><b>Judith Justin,</b><br>Minda Daniel                 | Automated POLYP detection in colon capsule endoscopy using SVM classifiers   | International Journal of Control Theory and Applications (IJCTA)            | Vol.8                | 1887-1892 | 2015       |
| 6.    | Dhivya R.,<br><b>Judith Justin,</b><br>M.Arnikar                            | Quality Estimation of Alaryngeal speech  | International Journal of Engineering and Technology                         | Vol.5                | 4643-4650 | 2014       |
| 7.    | <b>Judith Justin,</b><br>IlaVennila   | Enhancement of Speech Signals Using Weighted Mask and Neuro-Fuzzy Classifier   | International Review on Computers and Software                              | Vol. 8               | 2704-2717 | 2013       |
| 8.    | <b>Judith Justin,</b><br>IlaVennila   | A Hybrid speech recognition system with hidden Markov Model and Radial Basis Function Neural Network                   | American Journal of Applied Sciences  | Vol.10.              | 1148-1153 | 2013       |
| 9.    | Annu N,<br><b>Judith Justin</b>   | Automated Classification of Glaucoma images by Wavelet Energy Features   | International Journal of Engineering and Technology                         | Vol.5                | 1716-1721 | 2013       |
| 10.   | C.Vijayaraghavan,<br>K.Balakumar,<br>N.Tamilselvan,<br><b>Judith Justin</b> | Evaluation of a novel, natural badam gum as a sustained release and muco-adhesive component of atenolol buccal tablets | International Journal of Pharmacy and Pharmaceutical Sciences               | Vol.4                | 85-91     | 2012       |

|     |                                      |  |  |        |       |      |
|-----|--------------------------------------|--|--|--------|-------|------|
| 11. | <b>Judith Justin,</b><br>Ila Vennila | Performance of<br>Speech Recognition<br>using Artificial<br>Neural Network and<br>Fuzzy<br>Logic | European Journal of<br>Scientific Research | Vol.66 | 41-47 | 2011 |
|-----|--------------------------------------|--|--|--------|-------|------|

Books/Reports/Chapters/General articles etc.

| S. No        | Title  | Author's Name        | Publisher   | Year |
|--------------|--|----------------------|---|------|
| <b>Books</b> |  |                      |   |      |
| 1.           | Hybrid Models for Speech Recognition, Enhancement and Quality Analysis | <b>Judith Justin</b> | LAP LAMBERT<br>Academic<br>Publishing,<br>Germany | 2018 |

| <b>Book Chapters</b> |   |  |   |   |
|----------------------|---|--|---|---|
| S. No                | Title   | Author's Name  | Book & Publisher  | ISBN Number & Year  |
| 1.                   | Breast Cancer Detection using Random Forest Classifier  | Pavithra Suchindran,<br>Vanithamani R.<br><b>Judith Justin</b> | Handbook of<br>Research on Deep<br>Learning-Based<br>Image Analysis<br>Under Constrained<br>and Unconstrained<br>Environments<br>IGI Global                   | <b>ISBN:</b> 978179<br>9866923<br><b>Year:</b> 2020         |
| 2.                   | Computer-aided diagnosis of knee osteoarthritis from radiographic images using Random Forest Classifier | Pavithra D.<br>Vanithamani R.<br><b>Justin Justin</b>          | Handbook of<br>Research on<br>Engineering,<br>Business, and<br>Healthcare<br>Applications of<br>Data Science and<br>Analytics (pp. 384-<br>400)<br>IGI Global | <b>ISBN:</b><br>97817998305<br>42<br><b>Year:</b> 2020      |
| 3.                   | Speech Enhancement using Neuro fuzzy Classifier   | <b>Judith Justin</b><br>Vanithamani R.                         | Handbook of<br>Research on<br>Automated Feature<br>Engineering and<br>Advanced<br>Applications in<br>Data Science.<br>IGI Global                              | <b>ISBN:</b> 978179<br>9866619<br><b>Year:</b> 2021         |
| 4.                   | Role of Deep Neural Network in Speech Enhancement: A Review   | Hepsiba.D<br><b>Judith Justin</b>                              | Communications in<br>Computer and<br>Information<br>Science, Vol. 890,<br>pp. 103-112<br>Springer   | <b>ISBN:</b> 978-<br>981-13-9129-<br>3<br><b>Year:</b> 2019 |

|    |  |  |  |   |
|----|--|--|--|---|
| 5. | Video Based Silent Speech Recognition  | Sangeetha.V<br><b>Judith Justin</b><br>Mahalakshmi.A | Data Engineering and Communications Technologies, Vol. 31 pp. 269-277, Springer                    | <b>ISBN :</b> 978-3-030-24643-3<br><b>Year:</b> 2020  |
| 6. | Assessment of Speech De-noising using a Perceptual Measure-PESQ                | R.Dhivya,<br><b>Judith Justin</b>                    | Advances in Intelligent Systems and Computing book series (AISC, volume 614), pp. 270-278 Springer | <b>ISBN:</b> 978-3-319-60618-7<br><b>Year:</b> 2017   |
| 7. | Performance evaluation of a speech enhancement technique using wavelets        | R.Dhivya,<br><b>Judith Justin</b>                    | Advances in Intelligent Systems and Computing book series (AISC, volume 397), pp. 637-646 Springer | <b>ISBN :</b> 978-3-319-60618-7<br><b>Year :</b> 2016 |
| 8. | Estimation of paralinguistic features and quality analysis of Alaryngeal voice | <b>Judith Justin,</b><br>IlaVennila                  | Advances in Intelligent Systems and Computing book series (AISC, volume 397)pp. 270-278 Springer   |   |

**Full paper published in the proceedings of Conference / Seminars / Symposia, etc**

| S.No. | Paper Details  | ISBN No.                       |
|-------|--|--------------------------------|
| 1.    | Priyadharshini V and J. Justin, "Quantification of non-deterministic events in pathological PCG signals using Continuous and Packet Wavelet Transforms," 2014 IEEE International Conference on Communication and Signal Processing, Melmaruvathur, 2014, pp. 1419-1423, doi: 10.1109/ICCSP.2014.6950083. | <b>ISBN:</b> 978-1-4799-3358-7 |
| 2.    | R. Dhivya and J. Justin, "Assessment of acoustic parameters of prosthetic voice and comparison with a normal voice," 2014 International Conference on Green Computing Communication and Electrical Engineering (ICGCCEE), Coimbatore, 2014, pp. 1-4, doi: 10.1109/ICGCCEE.2014.6922434.                  | <b>ISBN:</b> 978-1-4799-4982-3 |
| 3.    | R.Dhivya, <b>Judith Justin</b> , Wavelet thresholding techniques in speech signal denoising, , IET Digital Library, pp.1-4, 2016   | <b>ISBN:</b> 978-1-78561-786-7 |
| 4.    | <b>J. Justin</b> , R. Vanithamani and R. R. Christina, "Comparative study of retinal vessel segmentation methods," 2015 IEEE International Conference on Computational Intelligence and Computing Research (ICCIC), Madurai, 2015, pp. 1-3,  | <b>ISBN:</b> 978-1-4799-7849-6 |

|    |   |                                    |
|----|---|------------------------------------|
|    | doi: 10.1109/ICCIC.2015.7435658.  |                                    |
| 5. | R. Nishanthini, Judith Justin, “Automatic Detection of macular Degeneration”, National Conference on Recent Innovations in Healthcare Technologies, (NCRIHT'17) | <b>ISBN No:</b> 978-93-80-769-90-5 |

**Patent Filed:**

| S. No | Patent Title   | Name of Applicant (s)                                      | Patent No.     | Award Date | Agency/ Country | Status            |
|-------|--|--|----------------|------------|-----------------|-------------------|
| 1.    | Device and method of an Infrared Camera to detect dental caries and its image is captured and stored in a computer / mobile phone for further processing or Second Opinion | Renee Christina,<br><b>Judith Justin,</b><br>R.Vanithamani | 201741015393 A |            | India           | Examination stage |