



Department of Electronics and Telecommunication Engineering

Faculty Profile

Prof.(Dr) D.G. Bhalke

Ph.D. (Electronics & Communication Engineering)

Professor and Head Dept. of E&TC



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Citations: <https://scholar.google.co.in/citations?user=CtoQFicAAAAJ&hl=en>

Linkdin: <https://www.linkedin.com/in/daulappa-bhalke-2054234b/>

Site: <https://sites.google.com/view/dgbhalke/>

ResearchAreas/ Areas of Interest

Audio Signal Processing
Speech Signal Processing
Microwave Communication

Personal Details

Date of Birth : 05/05/1976

Domicile:

Maharashtra

Gender : Male

Blood Group:

B+ve

Contact Details: Trimurti Vihar, Pimple Gurav Pune: 411061

Academic Background

| S. NO. | Qualification | Specialization | University | Class/Grade | Year of Passing |
|--------|---------------|---|------------------------------|-------------|-----------------|
| 1 | Ph.D. | Electronics and Communication Engineering | NIT Warangal | NA | June 2016 |
| 2 | M.E. | Electronics Engineering | Shivaji university, Kolhapur | First Class | March 2005 |
| 3 | B.E. | Electronics & Telecommunication Engineering | Dr BAMU Aurangabad | Distinction | May 1998 |

Work Experience

| S. No. | Type of Experience | Years | Months |
|--------------|--------------------|-----------|-----------|
| 1 | Teaching | 22 | 10 |
| 2 | Research | 04 | 00 |
| 3 | Industry | 00 | 00 |
| 4. | Others | 00 | 00 |
| Total | | 22 | 10 |

Subjects/Courses Taught

| S. No. | Subject | UG/PG | Class (FE/SE/TE/BE/ME) | No of times Subject Taught |
|--------|------------------------------------|-------|------------------------|----------------------------|
| 1 | Radiation and Microwave Techniques | UG | BE (E&TC) | 01 |
| 2 | Signal & Systems | UG | SE(E&TC/EI) | 10 |
| 3 | Optical and Microwave | UG | BE (Electronics) | 02 |

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|----|---------------------------|----|----------|----|
| | Communication | | | |
| 4 | Microcontrollers | UG | TE(E&TC) | 02 |
| 5 | Digital Signal Processing | UG | TE(E&TC) | 02 |
| 6 | Speech Processing | UG | BE(E&TC) | 02 |
| 7. | Speech Processing | PG | ME(E&TC) | 03 |

Research Publications

| | National | International | State | SCI/ Scopus Indexed | UGC Approved |
|--------------------|----------|---------------|-------|---------------------------|-----------------|
| Journals | 01 | 30 | 00 | 03 | 05 |
| Conferences | 01 | 10 | 00 | 12 | -- |

Publication Details (Journals)

| Sr. No | Title | Authors | Year | Source Details | ISBN/ISSN | Publisher |
|--------|---|---|------|--|--|------------------------------|
| 01 | Automatic Musical Instrument classification using Fractional Fourier Transform based-MFCC Features and Counter Propagation Neural Network”, | Bhalke D G , Rama Rao C.B. Bormane D.S | 2016 | Journal of intelligent information system, Vol. 46, No. 3, pp. 425-446, June 2016, DOI: 10.1007/s10844-015-0360-9, | ISSN: 0925-9902 (Print) 1573-7675 (Online), SCI listed | Springer publication |
| 02 | “Hybridisation of Mel frequency Cepstral Coefficient and higher order spectral features for Musical Instruments Classification | Bhalke D G , Rama Rao C.B., Bormane D.S | 2016 | <i>Achieves of Acoustics</i> , Vol. 41, No. 3, 2016, | ISSN: 0137-5075, Online : 2300-262X, (SCI listed) | <i>Achieves of Acoustics</i> |

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|-----------|--|---------------------------------------|-------------|---|---|------------------------------|
| | ” | | | | | |
| 03 | “Automatic Genre Classification of IndianTamil and Western Music using Fractional MFCC”, | Betsy Rajesh, D.G.Bhalke, | 2016 | Journal of Speech Technology | ISSN: 1381-2416 (Print) 1572-8110 (Online), Volume 19, Issue 3 , pp 551–563 (Scopus index) | Springer publication |
| 04 | “Automatic Genre Classification using FrFT based MFCC and Timbral features”, | D.G.Bhalke, Betsy Rajesh, D.S.Bormane | 2017 | <i>Achieves of Acoustics</i> , Vol. 42, No. 2, pp. 231-222, (2017), | ISSN: 0137-5075, Online : 2300-262X, (SCI listed) | <i>Achieves of Acoustics</i> |
| 05 | Speech enhancement using transform domain techniques | Deshmukh P., Bhalke D.G. | 2017 | Advances in Intelligent Systems and Computing Volume 468 | ISSN: 2194-5357 (Scopus) | <i>Springer</i> |
| 06 | Fractional Fourier Transform Based Features for Musical Instrument Recognition Using Machine Learning Techniques | Bhalke D.G., Rao C.B.R., Bormane D.S. | 2014 | Advances in Intelligent Systems and Computing | ISSN: 2194-5357 (SCopuS) | <i>Springer</i> |

Publication Details (Conference)

| Sr. No | Title | Authors | Year | Source Details | Publisher |
|--------|---|-------------------------------------|------|--|-------------|
| 1 | Musical instrument recognition using k-nearest neighbour and Support Vector Machine | Kothe R.S., Bhalke D.G., Gutar P.P. | 2017 | 2016 IEEE International Conference on Advances in Electronics, Communication and | IEEE |

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|---|---|--|------|---|------|
| | | | | Computer Technology, ICAECCT 2016 | |
| 2 | Musical Instrument Information retrieval using Neural Network | Ravi N.D., Bhalke D.G. | 2017 | 2016 IEEE International Conference on Advances in Electronics, Communication and Computer Technology, ICAECCT 2016 | IEEE |
| 3 | Implementation of high speed matrix multiplier using vedic mathematics on FPGA | Mogre S.V., Bhalke D.G. | 2015 | Proceedings - 1st International Conference on Computing, Communication, Control and Automation, ICCUBEA 2015 | IEEE |
| 4 | Musical instrument classification using higher order spectra and MFCC | Kazi F.I., Bhalke D.G. | 2015 | 2015 International Conference on Pervasive Computing: Advance Communication Technology and Application for Society, ICPC 2015 | IEEE |
| 5 | Speaker verification using Gaussian Mixture Model | Jagtap S.S., Bhalke D.G. | 2015 | 2015 International Conference on Pervasive Computing: Advance Communication Technology and Application for Society, ICPC 2015 | IEEE |
| 6 | Musical instrument classification using higher order spectra | Bhalke D.G., Rama Rao C.B., Bormane D.S. | 2014 | 2014 International Conference on Signal Processing and Integrated Networks, SPIN 2014 | IEEE |
| 7 | Stringed musical instrument recognition using fractional fourier transform and linear discriminant analysis | Bhalke D.G., Rao C.B.R., Bormane D.S. | 2014 | Proceedings of the 2014 International Conference on Issues and Challenges in Intelligent Computing Techniques, ICICT 2014 | IEEE |

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|---|--|--|------|--|------|
| 8 | Fractional Fourier Transform Based Features for Musical Instrument Recognition Using Machine Learning Techniques | Bhalke D.G., Rao C.B.R., Bormane D.S. | 2014 | Advances in Intelligent Systems and Computing | IEEE |
| 9 | Dynamic time warping technique for musical instrument recognition for isolated notes | Bhalke D.G., Rama Rao C.B., Bormane D.S. | 2011 | 2011 International Conference on Emerging Trends in Electrical and Computer Technology, ICETECT 2011 | IEEE |

PhD / ME / BE Student Guided for Project

| Level | Ph.D. | M.E. (PG) | B.E. (UG) |
|-----------------------|------------------|-----------|-----------|
| No. of Student guided | 04* (ongoing) | 22 | 20 |

Professional Memberships

| Professional Body | Level (National/ International) | Type (Fellow/Life/Annual) | Membership No. |
|--------------------------|-------------------------------------|------------------------------|----------------|
| Institution of Engineers | National | Fellow | F-1231541 |
| IEEE | International | International | 93963878 |
| IETE | National | National | 247196 |
| IAENG | International | National | 247196 |
| ISTE | National | National | LM59890 |

Patents/IPR Filed/Granted

| S. No | Investigator Details | Title | Year | Status (Filed/Granted) | Details |
|-------|----------------------|--|------|---|--|
| 01 | Dr D G Bhalke | "System and method for recognizing musical instrument sound using frft based mfcc features", Application | 2016 | Published 13/05/2016, Journal No: 20/2016. | No. 201621012767 , Date of Filing: 12/04/2016 |
| 02 | Dr D G Bhalke | "Energy Efficient railway tunnel", Application | 2016 | Published Published on: 13/05/2016, Journal No: 20/2016 | No: 201621020163, Date of Filing: 12/04/2016, |

Books Published

| S. No | Title | Name of the Publisher | ISBN/ISSN Number |
|-------|------------------------------------|-----------------------|-------------------|
| 01 | Signals & Systems | Technical | 978-93-332-1173-4 |
| 02 | Radiation and Microwave techniques | Technical | 978-93-89180-47-3 |

Research Grants Received

| S. No | Program | Duration | Funding Agency | Grant Amount |
|-------|-------------------|----------|------------------|--------------|
| 1. | Research Proposal | 2011-13 | BCUD, SPPU, Pune | INR 2.5 Lacs |

Details of Workshop/STTP/FDP/Seminar / Conferences Organized

| S. No | Title | Type | Duration | Level (State/National/ International) | Sponsoring Agency |
|-------|--|------------|------------------|---------------------------------------|--------------------|
| 01 | One week FDP on, “Quality improvement in professional education” | FDP | 25-29 May 2019 | International | AISSMSCOE |
| 02 | IEEE International conference | Conference | 2-3 Dec 2016 | International | IEEE |
| 03 | National Conference | Conference | 23-24 March 2011 | National | RSCOE |
| 04 | One week FDP on, “Data Science” | FDP | 17-22 June 2019 | National | Shivaji University |

Contribution as Resource Person

| Sr. No. | Place/ Organization | Topic | Level(National/Int/ State/Regional) | Date |
|---------|--|---|---|--------------|
| 01 | NIT Warangal | Audio Signal Processing | National | 30 July 2015 |
| 02 | TPCTs COE OSmanabad | NAAC Process and Review | National | 09 July 2020 |
| 03 | DY Patil University, Ambi | Opportunities and Challenges for E&TC Engineers | National | |
| 04 | Jain College of Engineering, Belgum | Recent trends in Audio Signal Processing | International (Key note talk at IEEE International conference) | June 2020 |
| 05 | NMIT Talegaon | Digital Signal Processing | National | July 2020 |
| 06 | Distinguished Key note speaker at IEEE International Conference 2019 | Musical Instrument Classification | International | Oct 2019 |
| 07 | Key note speaker at IEEE International | Audio Signal Processing | International | Oct 2018 |

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|----|--|-------------------------|---------------|-----------|
| | Conference 2018 | | | |
| 08 | Key note speaker at IEEE International Conference 2017 | Audio Signal Processing | International | June 2017 |

Details of Workshop/STTP/FDP/Conferences Attended

| S. N | Title | Type | Duration | Organizer | Sponsoring Agency |
|------|--|------|-------------------------------|-------------|--------------------|
| 1 | Innovation in ICT enabled teaching learning-A step towards Digital India” at VIT Pune | FDP | Two week (25 Nov-06 Dec 2019) | VIT Pune | AICTE |
| 2 | Machine learning & Its applications at SGGS Nanded | FDP | One week | SGGS Nanded | AICTE |
| 3 | Vision-Mision-PSO-PEO-PO-CO framing, mapping, assessment and attenment at AISSMSCOE Pune | FDP | One week June 10-15, 2019 | AISSMSCOE | ISTE |
| 4 | Applied Biomedical signal processing intitave towards e health | FDPt | Two week 4-15 Nov 2019 | PCCOE Pune | AICTE |
| 5 | Best Practices for Outcome Based Education | FDP | One week 19-24 Dec 2019 | SKNCOE Pune | AICTE |
| 6 | Data Science | FDP | One week June 17-22, 2019 | AISSMS Pune | Shivaji University |

Major Professional Responsibilities Handled

| S. No. | Role and Responsibilities |
|--------|---|
| 01 | NAAC Coordinator (Institute level) |
| 02 | Head of the Department |
| 03 | NAAC Ambassador (under PARAMARSH scheme) |
| 04 | Head, Start up and Innovation Cell |
| 05 | Coordinator, SIH 2019 |
| 06 | NBA Coordinator |

| | |
|----|--|
| 07 | VLAB Coordinator |
| 08 | IEEE branch Councillor |
| 09 | Secretary, ISTE Chapter |
| 10 | Maintanance Incharge at College level |
| 11 | Organisisng secretary, National and Internatioanl conference |

Awards Received

| S. No. | Awards |
|--------|---|
| 01 | Best teacher award, AISSMS Society (2019) |
| 02 | Aloor Ratna award (2019) |
| 03 | Aloor Bhushan award (2019) |

Declaration: I hereby declare that all the statement made above are correct to the best of my knowledge and belief.

Dr. D.G. Bhalke