

# Dr. SHANKAR DATTATRAY NAWALE

**Professor & Principal**

N B Navale Sinhgad College of Engineering, Solapur



**& Former I/c Dean, Faculty of Science & Technology,**  
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## PROFILE:

- **Post-Doctoral and Doctoral Research** at **France** and **Italy** respectively, under Erasmus Mundus scholarship, funded by European Commission
- Working as approved **Principal** at NBN Sinhgad College of Engineering, Solapur (Institute Accredited by **NAAC with Grade 'A', CGPA 3.12/4**, in August 2018)
- Former **Dean, Faculty of Science and Technology**, PAH Solapur University, Solapur
- Having **Experience of Academic Administration** in the capacities as Principal, HoD, PG Coordinator, Exam cell Incharge, etc.
- As a **HoD of E&TC Engg.**, at SIT Lonavala, **department got accreditation by NBA**
- **Ability to work with limited resources** to get optimum solution
- A Dedicated **research scholar** in the area of UHF RFID Passive Tag and its applications
- A **highly motivated individual** and always endeavoring to learn and upgrade the skills
- Having **Personal tie-ups with the European Universities**
- Visited Foreign Countries like **Italy, France, Spain, Switzerland, Malaysia**, etc, for the research and symposium work
- Delivered **more than 200 invited talks** at Conferences, Workshops and Lecture series
- Presented as, **Educational counselor and motivational speaker**
- Played key role for developing **Project Based Learning environment** at the college and also delivered expert talks and presentations on these activities
- Has been a **teacher** in area of Microwave Engineering, Antennas, and Wave Propagation
- A **consistent performer with high academic score**, throughout the educational career
- Have **attended more than 30** training workshops and acquired technical skills related to areas of specialization
- Having **Personal Liaisons** with industries like Jio, SAMEER, DRDL, ISRO, Infosys, etc.
- **Sincere, Dedicated and Hardworking** Individual
- Had been a **Reviewer for 8 Ph.D. and 50 Master's Thesis**
- **Reviewer of 20 IEEE** Journal/Conferences Papers

## AREAS OF EXPERTISE:

- ✓ RFID Passive Tags and its applications
- ✓ Microwave Engineering
- ✓ Micro-strip & Smart Antennas
- ✓ Electromagnetic & Wave Propagation
- ✓ Wireless communication
- ✓ Wireless Sensor Network

## EDUCATIONAL QUALIFICATION:

- **Post-Doc Research**, LCIS Lab, ESISAR, Grenoble-INP, Valence, France (Jan-Nov 2014)
- **Ph. D.** (E. & T. C. Engg.), VJTI, Mumbai University, MS, India, (June 2013)
- **M. Tech.** (E. & T. C. Engg.), VJTI, Mumbai University, MS, India, (June 2008) (CPI - 8.2)
- **B. E.** (E. & T. C. Engg.), Dr. BAMU, Aurangabad, MS, India, (June 2000) (70.93%)
- **Diploma** (E. & T. C. Engg.), Govt. Poly. Pune, MS, India, (June 1997) (72.92%)
- **H.S.C.** (M.S.Board, Pune Division), MS, India, (March 1995) (72.83%)
- **S.S.C.** (M.S.Board, Pune Division), MS, India, (March 1993) (83.28%)

## List of Publications

Journals-18, Conferences-14, Books-3, Book Chapter- 03

(<https://scholar.google.co.in/citations?user=8s6G9wYAAAAJ&hl=en>)

(<https://www.scopus.com/authid/detail.uri?authorId=55247696300> )

### **Journals:**

- [1] S. Manzari, C. Occhiuzzi, **S. Nawale**, A. Catini, C. Di Natale, and G. Marrocco, "Humidity Sensing by Polymer-Loaded UHF RFID Antennas", *IEEE Sensors Journal*, Vol. 12, No. 9, Sept. 2012, pp:2851-2859
- [2] G. Andia Vera, S. D. Nawale, Y. Duroc and S. Tedjini, "Read Range Enhancement by Harmonic Energy Harvesting in Passive UHF RFID," in *IEEE Microwave and Wireless Components Letters*, vol. 25, no. 9, pp. 627-629, Sept. 2015, doi: 10.1109/LMWC.2015.2451391.
- [3] **S. Nawale**, G Andia-Vera, Y.Duroc, S. Tedjini, "Exploitation of the nonlinearities in electromagnetic energy harvesting and passive UHF RFID", *Wireless Power Transfer, Cambridge University Press*, Volume 3, Issue 1, March 2016, pp 43-52
- [4] **Shankar Nawale**, G Andia-Vera, Y. Duroc, S. Tedjini, "Non-linear Exploitation in Passive UHF RFID and Energy Harvesting: Power Dependency and Harmonic Generation", *IEEE Transactions on Microwave Theory and Techniques*, Vol. 63, Issue 8, Aug 2015, ISSN: 0018-9480, pp 2672-2679
- [5] **S. D. Nawale**, N.P. Sarwade, D.K. Singh, "Design of UHF Micro-strip Antenna for Passive RFID Tag", *Journal of Advances in Engineering and Sciences*, January-June 2012, ISSN 0973-9041, pp:77-84
- [6] A. Bandal, **S. Nawale**, "RFID Security Using Lightweight Mutual Authentication And Ownership Transfer Protocol", *International Journal of Ad hoc, Sensor & Ubiquitous Computing* Vol.3, No.3, June 2012, pp: 1-11
- [7] S. Shaikh, **S. Nawale**, "Secure Access of RFID System", *International Journal of Scientific & Engineering Research*, Volume 3, Issue 8, August-2012, PP.870-873
- [8] **Shankar D. Nawale**, Gianfranco A. Vera, "Non-linear harmonic utilization of passive UHF RFID tag for Energy Harvesting", *IEEE Microwave and Wireless Components Letters*, Issue 12, Dec.2014, pp: 884-886
- [9] **Shankar D. Nawale**, S. S. Shirgan, Jayendra Kumar, "Design of Compact High Frequency Micro-Strip Antenna", *International Journal of Enhanced Research in Science Technology & Engineering*, Vol.-4, Issue-5, May 2015, pp: 118-122
- [10] **S. D. Nawale**, "UHF RFID Passive Tag for Humidity Sensing and Electromagnetic Energy Harvesting", *Souvenir of Innovative Technologies for Rural Development and Their Commercialization*, February 2017, pp. 44
- [11] S. B. Biradar, **S. D. Nawale**, S. H. Pawar, "Bio-Engineered Silver Nano-particles for controlling oily spots disease of Pomegranate", *Innovative Technologies for Rural Developments (A Compendium of CRTD Events)*, Published by SPSPM, Sinhgad Institutes, Solapur, 2018, ISBN 978--93-5268-900-2
- [12] N. N. Neelamegam, P. S. Madole, A. Y. Negewan, **S. D. Nawale**, "Design of C-Band Microstrip Patch Antenna for RADAR applications", *Journal of Frontiers in Interdisciplinary Research and Technology Development (JFIRTD)*, Sinhgad- Fractol Publication, 2018
- [13] Sudha Surwase, Ravi Yadahalli, **Shankar Nawale**, "PIFA RFID Tag Antenna Design and Simulation using CST Microwave Studio", *International Journal of Science and Research*, (ISSN: 2319-7064), Volume 7 Issue 10, October 2018, pp. 1018-1021
- [14] **Shankar D. Nawale**, Shashikant H. Lamkane, "Active Learning-Teaching Methodologies and Modern Assesment Techniques", *Indian Journal of Research*, (ISSN 2231-6655), Special Volume 5, April 2019, pp 87-93.
- [15] S. J. Nandedkar, **S. D. Nawale** "Design and Performance Analysis of Linear Array", *International Research Journal of Engineering and Technology (IRJET)* (e-ISSN: 2395-0056, p-ISSN: 2395-0072), Volume: 07, Issue: 04, Apr 2020, pp. 33-37

- [16] Sudha Surwase, Ravi Yadahalli, **Shankar Nawale**, "Design of Nested H slot Passive UHF RFID Tag", *International Journal of Engineering and Advanced Technology*, ISSN: 2249-8958, Volume-10, Issue-1, October 2020, pp. 346-349
- [17] Shilpa Nandedkar, **Shankar Nawale**, "Frequency and space-diverse MIMO antenna with enhanced gain", *Journal of Integrated SCIENCE & TECHNOLOGY*, 2023, pp 1-6, J. Integr. Sci. Technol., 2023, 11(2), 482. URN:NBN:sciencein.jist.2023.v11.482, ISSN: 2321-4635
- [18] Shilpa Nandedkar, **Shankar Nawale**, "Compact MIMO Microstrip Antenna for Wireless PAN" *International Journal of Electrical and Electronic Engineering & Telecommunications* Vol. 12, No. 1, January 2023, doi: 10.18178/ijeetc.12.1. pp. 53-59, ISSN: 2319 - 2518

#### Conferences:

- [1] **S. D. Nawale**, N. P. Sarwade, "RFID Vapor Sensor: Beyond Identification", *IEEE 2012 Sixth International Conference on Sensing Technology*, CDAC, Kolkata, India, Dec 18-21, 2012 pp: 248-253
- [2] **S. D. Nawale**, N.P.Sarwade, "Variation in wireless-sensing of UHF-RFID Antennas with insertion of Dielectric material", *Progres in Electromagnetic Research Symposium*, Kaulalumpur, Malasia, March 27-30, 2012, pp: 206-209
- [3] **S. D. Nawale**, N.P.Sarwade "RFID: Beyond Identification", *2012 Proceedings of the 35th International Convention MIPRO*, Croatia, May 21-25, 2012 pp 60-62
- [4] S.Manzari, C. Occhiuzzi, **S. Nawale**, A. Catini, C. Di Natale , and G. Marrocco, "UHF RFID Humidity Sensor Tag Based on Hygroscopic Polymeric Load", *6th IEEE European Conference on Antennas and Propagation (EUCAP)*, Czech Republic, 26-30 March 2012, pp:3030-3033
- [5] S.Manzari, C .Occhiuzzi, **S. Nawale**, A .Catini, C .D iNatale , and G. Marrocco, "Polymer-Doped UHF RFID Tag for Wireless-Sensing of Humidity", *IEEE International Conference on RFID (RFID 2012)*, April 3-5, 2012, Orlando, Florida, USA, pp: 124-129
- [6] **S. D. Nawale**, M.B. Sayyad, N.P. Sarwade, S. L. Nalbarwar, "Telecom Convergence using IP Multimedia Subsystem (IMS)" *Silver Jubilee Conference on Communication Technologies and VLSI Design (CommV 2009)*, VIT University, Tamilnadu, India 8-10/10/2009 pp: 415-416
- [7] **Nawale S. D.**, Bhosale S. J., "Design of Microwave Wideband Inter-digital Filter" *International Conference on Emerging Technologies and Applications in Engineering , Technologies and Sciences*, Saurashtra University, Rajkot, India, 13-14 January,2008.
- [8] G. A. Vera, **S. D. Nawale**, Y. Duroc and S. Tedjini, "Optimum integration of passive UHF RFID tag-rectenna in a single feed dual band antenna," *2014 XXXIth URSI General Assembly and Scientific Symposium (URSI GASS)*, 2014, pp. 1-4, doi: 10.1109/URSIGASS.2014.6929450.
- [9] G. Andia Vera, **S. D. Nawale**, S. Tedjini and Y. Duroc, "Passive UHF RFID backscattering for indoor lighting control," *2014 Annual IEEE India Conference (INDICON)*, 2014, pp. 1-4, doi: 10.1109/INDICON.2014.7030472.
- [10] P. Mhatre, R. Duche, **S. Nawale** and P. Patil, "RF power harvesting system for RFID applications in multiband systems," *2015 6th International Conference on Computing, Communication and Networking Technologies (ICCCNT)*, 2015, pp. 1-5, doi: 10.1109/ICCCNT.2015.7395226.
- [11] Sudha Surwase, Ravi Yadahalli, **Shankar Nawale**, "Design of Passive UHF RFID Tag", *5th IEEE International Conference on Convergence in Technology, (I2CT)*, Pune, March 27-29, 2019
- [12] S. J. Nandedkar, **S. D. Nawale** and A. Kulkarni, "Comparison of Feeding Techniques for EMCP Array Antenna," *2021 IEEE International Conference on Emerging Smart Computing and Informatics (ESCI)*, 2021, pp. 423-426, doi: 10.1109/ESCI50559.2021.9396967.
- [13] **S. D. Nawale** and R. R. Konapure, "Blockchain & IoT based Drugs Traceability for Pharma Industry," *2021 IEEE International Conference on Engineering, Technology and Innovation (ICE/ITMC)*, 2021, pp. 1-4, doi: 10.1109/ICE/ITMC52061.2021.9570251
- [14] R. R. Konapure and **S. D. Nawale**, "Smart Contract System Architecture for Pharma Supply chain," *2022 International Conference on IoT and Blockchain Technology (ICIBT)*, 2022, pp. 1-5, doi: 10.1109/ICIBT52874.2022.9807744.

#### Books:

- [1] S. H. Pawar, **S. D. Nawale**, R. K. Singh, *Innovative Technologies for Rural Developments (A Compendium of CRTD Events)*, Published by SPSPM, Sinhgad Institutes, Solapur, 2018

[2] A. Bandal, **S. Nawale**, *RFID Security Using Lightweight Mutual Authentication And Ownership Transfer Protocol*, Lap Lambert Academic Publishing, International Edition, ISBN: 978-3659218330, August 2012

[3] **S. Nawale**, S. Shaikh, *Secure Access of RFID System*, Lap Lambert Academic Publishing, International Edition, ISBN: 978-3659229398, August 2012

#### **Book Chapter:**

[1] Shilpa Nandedkar, **Shankar Nawale**, and Anirudha Kulkarni, *Parametric Study of electromagnetic Coupled MSA Array for PAN Devices with RF Survey*, 'Advances in Intelligent Systems and Computing Volume 1354, Applied Information Processing Systems Proceedings of ICCET 2021' (6th International Conference on Computing in Engineering and Technology), Aug-21, ISBN 978-981-16-2007-2, ISSN 2194-5357, Springer

[2] Vaishali R Shinde, **Shankar D. Nawale**, Shivaji H. Pawar, *Estimation of Antioxident Capacity of Medicinal Plants by Cyclic Voltametry*, 'Nanotechnology Applications in Medicinal Plants and Their Bionanocomposites: A New Perspective in Ayurvedas' to be published by cambridge scholar press, UK in August 2023

#### **Editor:**

[1] S. H. Pawar, **S. D. Nawale**, I M Chandarki, *Journal of Frontiers in Interdisciplinary Research and Technology Development (JFIRTD)*, Sinhgad- Fractol Publication, 2018

#### **RESEARCH PROJECTS:**

**A) Post-Doctoral research:** At **LCIS Lab, ESISAR, Grenoble-INP, Valence, France** (1<sup>st</sup> Jan-14 to 31<sup>st</sup> Oct-14).

**Credentials:** Received Scholarship from European Commission, under Erasmus Mundus Action 2 "India4EU II" project for Invited research.

**Research Topic:** Electromagnetic Energy Harvesting in Passive UHF RFID tag

**Abstract:** In this research work three attractive concepts are linked together: electromagnetic energy harvesting (EEH), Radio Frequency Identification (RFID) communication, and non-linear exploitation from RF devices. The approach takes advantage of the non-linear nature of rectifying elements in order to maximize the RF-to-DC conversion efficiency of EEH devices and to increase the read range of passive RFID tags. The solution triggers on the design of a RF multi-device system. The design procedure and tests exploit three non-linear phenomena: (1) the impedance power dependency, (2) the harmonic production, and (3) the dependence on the RF waveform.

In this context, two new approaches for RFID-EEH are proposed by means of integrating an RFID tag working at 868 MHz and an EEH device working at a different frequency in the microwave region, both working in a common antenna, and these are:

- An RFID tag-Rectenna with external harvesting that exploits the mutual benefit that a joint operation of RFID chip and a rectifying diode offers.
- An RFID tag-Rectenna with self-harvesting that exploits the wasted energy naturally generated during the rectification process performed by passive RFID chips.

In both approaches, the re-injection of the harvested energy into the RFID chip produces an improvement on the read range of the RFID tag function compared to the case without re-injection.

**B) Ph. D. work:** At **Veer mata Jijabai Technological Institute Mumbai** (Jan-09 to Dec-13)

**Credentials:** Received Scholarship from European Commission, for doing part of research at University of Rome, Tor-Vergata, Italy (From 01/09/2010 to 28/02/2011)

**Research Topic:** Environmental Wireless Sensing based on UHF RFID Passive Tag integrated with Conductive Polymer.

**Abstract:** This work explores for the first time the possibility to integrate polymeric paints into a passive UHF RFID tag with full attention to both communication and sensing issues and

their mutual relationships. Among the different polymers showing sensitivity to humidity, one of the most exploited is poly (3, 4-ethylenedioxythiophene): poly (styrene- sulfonic acid) PEDOT:PSS is used as a sensing material. Such a conducting polymer shows significant and reversible modification in its electrical properties when exposed to the changing humidity. This work also been extended to design the Sensing tag with reduction in size and improved performance in the read range. The basic tag geometry is kept as PIFA with the provision of integrating the sensitive chemical species carved into a folded like patch. Final experiments are carried over for the real time applications and validated the proposed results. This designed prototype at UHF (870 MHz) can be used as a wireless sensor in the environment where the presence of the gases, vapors or moisture can be remotely monitored. Proposed RFID tag has the advantages as simple in construction, small size, reduction in cost, improved read range and enhancement in the realized gain as compare to the passive tags explained in available previous literature.

**C) M. Tech. Project:** At **Veermata Jijabai Technological Institute, Mumbai** (July06-June 08)

**Title:** ‘Design of Microwave Inter-digital Waveguide Filter at S-Band Frequency’

**Abstract:** In this project, we designed the Waveguide Filter of Inter digital type which works on the principle of Periodic structures. The designed filter can be used for S-Band microwave frequency. All the different methods of filter design are explained and typically this method is chosen since it gives better results than others. Waveguide filter with five, six and seven poles and with capacitive and Inductive loading have been considered and finally the comparative study has been presented with different dielectric materials which considers pass-band bandwidth for different conditions.

**D) Sponsored Research Project:** Funded by BCUD, Univrsity of Pune (A.Y. 2011-13)

**Title:** Design and Implementation of Dual Band Miniaturized Microstrip Filter for GSM and CDMA applications.

**Abstract:** Microwave Filters are vital components in a huge variety of electronic systems, including cellular radio, satellite communications and radar. Emerging wireless communication systems demand an efficient utilization of the frequency spectrum and gives challenge to RF/microwave circuits with ever more stringent requirements, including higher performance, smaller size, and lower cost. This creates a great need for miniaturized RF circuits operating in multiple separated frequency bands to dramatically simplify the system architecture. The specifications of these devices are usually severe; often approaching the limit of what is theoretically achievable in terms of frequency selectivity and phase linearity. The design and development of microwave filters proceeds from strong theoretical understanding with readily available theory and software covering such diverse areas as circuit topologies, electromagnetic theory and coupling of EM waves through the transmission lines and the waveguides.

The aim of this research was to design dual band micro strip filter for the GSM and CDMA applications which will be different than other designed filters in following ways:

1. Sharp cutoff for narrowband frequencies by using Coupled resonators circuits.
2. More compact in size by using micromachining techniques.
3. Provide minimum loss by using superconductors at RF frequencies.

#### **CONSULTANCY WORK:**

**Assignment:** To design Course structure and syllabus for B.Tech. Electronics and Telecommunication Engineering.

Sponsoring Authority: Indira Gandhi National Open University (**IGNOU**), Delhi, India in 2009

Grant Received: Rs. 3, 30, 000/-

### Research Achievements:

- Selected for **Scholarship Based Post-Doctoral Research**, under EC Project at 'Grenoble Institute of Technology', Valence, France for Ten Months
- Selected for **Scholarship Based Ph. D. Program**, under EC Fellowship at University of Rome, 'TorVargata', Italy for Six Months
- One of the paper was **awarded with the price of 400 Euro**, in Germany

### WORKSHOPS/CONFERENCES/PROGRAMS ORGANIZED:

- ❖ **Secretary**, Innovative Technologies for Rural Development and their Commercialization (ITRDC-2017) (A Multi-Mega Event) with Emphasis on Renewable Energy and DAE Technologies) organized in Collaboration with, BARC Mumbai, 18<sup>th</sup>-20<sup>th</sup> February, 2017
- ❖ **Organizing Chair** for 12<sup>th</sup> Youth Festival (9<sup>th</sup>-12<sup>th</sup> Oct, 2015) and 15<sup>th</sup> Youth Festival (20<sup>th</sup> – 23<sup>rd</sup> October 2018) of Solapur University, Solapur
- ❖ **Convener** for One day workshop on "Opportunities in Electronics Sector of Design and Manufacturing (ESDM)", in Collaboration with *DiET, Ministry of Information Technology, Govt. of India.*
- ❖ **Convener** of National Level Technical Festival, 'XENOS 2010'
- ❖ **Organized** workshops on Matlab, Funded by *BCUD, University of Pune*
- ❖ **Conducted** workshop on 'Writing Technical Documents using LYX' at SIT, Lonavala
- ❖ **Conducted** Faculty Development program on Advances in the modern instruments, in Collaboration with *Scientech, Pune*
- ❖ **Coordinated** International Conference on Wireless Standardization organized by *GISFI*
- ❖ **Coordinated** the projects on Satellite Image Processing with *Indian Space Research Organization (ISRO), Bangalore.*

### WORKSHOPS/CONFERENCES/PROGRAMS ATTENDED:

- **Represented** LCIS-Grenoble-INP Research lab at Cooperation in Science and Technology (COST) Research Forum in **France**, September, 2014
- **Presented the research work** at URSI Kleinheubacher, **Miltebnberg-Germany**, 1-4 September 2014 and received the price of **Euro 400 as a Best Paper Award**
- **Presented a Paper** at Progres in Electromagnetic Research Symposium, **Kaulalumpur, Malasia**, March 27-30, 2012
- Participated in Personality Development workshop on '**Leadership Development and Managerial Skills**' conducted by *STES, Pune*
- Successfully Completed STTP on **Outcome Based Education and Accreditation** organized by *NITTR Kolkata*
- Participated in Two Weeks workshop on "**Research Methodology**" conducted by *IIT, Mumbai and Funded by HRD, Ministry, Government of India.*
- Actively Participated in the AICTE approved workshop on "**Fundamentals & Recent Advances in RF and Microwave Communication**" arranged by *IIT, Kharagpur*, from 07/12 to 20/12/2009.
- Completed a Two weeks Training Program on "**Electromagnetics I & II**", Organized by *IUCEE*, from 22/06/2009 to 03/07/2009 at *Infosys Training Center, Mysore, India.*
- Participated in One week Short Term Training Program on "**Software Tolls in Electronics and Telecommunication**", Organized by *RGIT, Mumbai*, from 15/12 to 19/12/2008.
- Completed a Training Course on "**Industrial Automation and Control Engineering**" held at 'JRD TATA Automation Training Center', *TATA Honeywell Ltd., Hadapsar, Pune, India* (Duration: One Month)
- Completed a training course of "**Training for Technical Teachers**", conducted by *Technical Teachers Training Institute, Bhopal* and organized by *BVCOE, Navi Mumbai* (Duration: Two Weeks)

- Gone through a training course of “**Industrial Training to Academics**” conducted by *Maharashtra Economic Development Council at Hindustan Aeronautics Ltd., Nashik* (Duration: Two Weeks)
- Completed a course on “**VLSI and FPGA Design**” conducted by ALTERA(Duration: one Weeks)
- Completed workshop on “**Electromagnetic Compatibility**”, Conducted by *Society for Applied Microwave Electronics and Engineering Research (SAMEER), Mumbai* (One week)
- Completed a short term training programme on “**Microwave Antennas**” organized by *Dr. B. A. T. University, Lonere, Raigad, India* (Duration: One week)

#### **INVITED TALK DELIVERED AT:**

- Delivered an Expert Lecture at **VJTI, Mumbai** in AICTE Sponsored One week QIP
- Key Note Speaker, at **Dept. of Technology, Shivaji University**, in the workshop on Microstrip Antennas and their Applications
- Invited as a Chief Guest at **STB College of Engineering, Tuljapur**
- Invited Speaker for STTP at **Thakur College of Engineering and Technology, Mumbai**
- Resource Person for Three Days Workshop **K J College of Engineering, Pune**
- Chief Guest at **WIT, Solapur** for the Valedictory function of Two days’ Workshop on IoT
- Chief Guest at **Swami Vivekanand Institute of Technology, Solapur**
- Invited Speech at **Vidyalankar Institute of Technology, Mumbai.**
- Motivational Speaker and Educational Councilor at **HRM, Institute, Delhi**
- Workshop at **Asia Pacific Institute of Information Technology, Panipat, Hariyana.**
- Session Chair of National Conference at **Sinhgad College of Engineering, Pune**
- Short Term Training Programon “Microwave Engineering” at **Marathwada Institute of Technology, Aurangabad.**
- Chief Guest at Faculty Development Program at **Javahar Institute of Tech., Nashik**
- Short Term Training Program at **Pillai’s HOC College of Engineering, Rasayani**
- National Conference at **Vidyalankar Institute of Technology, Mumbai**
- Faculty Development Program at **Sinhgad Engg. College, Pandharpur**
- National Conference at **Masters in Computer Applications, Pandharpur**
- Educational Councilor at **SNDT, College of BioTechnology, Malegaon**
- Workshop on Lyx, at **Sinhgad Institute of Technology, Lonavala**
- Invited speech at **Bharati Vidyapeet’s College of Engineering at, Navi Mumbai**
- Conference at **Vidya Pratishthan College of Enginnering, Baramati, Pune**
- National Conference at **A.G. Awate College of Engineering, Hadpasar, Pune**
- Invited speech at **Terna College of Enginering, Nerul, Navi Mumbai**
- Invited speech at **Anjuman Islam Polytechnic, Navi Mumbai**
- Invited Speech at **Dream Foundation Career Guidance Program at Solapur**
- Chief Guest at Program held by **Yashwant Shaikshnik Samiti, Solapur**
- KeyNote Speaker at Career Mahayatra organized by **Rotary Club of Beed**
- Speaker at the Program on Career Guidance organized by **Solapur Municipal Corporation, Solapur**
- Invited as a guest at “Coffee with Sakal” organized by **Sakal Media Group, Solapur**
- Chief Guest at **SES Polytechnic, Solapur** on the occasion of Engineers Day
- Chief Guest for the inaugural Function of TechnoSiddh-17, at **SSWP, solapur**
- Guest of Honor and Key Note Speaker at National Conf. at Modern Education Societie’s **Wadia College of Engineering, Pune**
- Chief guest for the inauguration of Project Competition at **SVIT, Solapur**
- Guest at the Principal’s Meet organized by **Sakal Media Group**
- Invited as the Speaker at **Bharati Vidyapeeth’s AKIMSS, Solapur**
- Chief Guest at Installation Ceremony of **CSI Solapur Chapter** at AKIMSS,Solapur

- Inaugural Speaker at **AKIMSS's NSS Activity Camp, Solapur**
- Technical Speaker at the Career Guidance Program, organized by **G. P. Solapur**
- Keynote Speaker for TEQIP Funded Two days Workshop at **Department of Technology, Kolhapur**
- Keynote Speaker at Two Days National Conference on "Innovations & Developments in Computational and Applied sciences" held at **MIT, Alandi**
- ..... And many more

**PROFESSIONAL EXPERIENCE:** (Total- **23.3** Yrs)

**1. N B Navale Sinhgad College of Engineering, Solapur** (13<sup>th</sup> November, 2014 till date)  
**Professor and Principal**

*Approval as a Principal: SUS/TA/117(4)/2016-17/3557 Date: 1<sup>st</sup> June, 2017*

Responsible for the overall development of **Academic, Research, Co-Curricular and Extra-Curricular Activities** of students and staff.

**Achievements of the Institute:**

- ✦ Institute is accredited by **NAAC with Grade 'A' (CGPA 3.12/4)**
- ✦ Institute has received '**A++' Grade (93.33 %)** in AAA by PAH SU Solapur
- ✦ Institute is Recognized by '**Atal Ranking of Institution for Innovation Achievement'** by Govt. of India's Ministry of Education (in band 51-75) in 2020
- ✦ **Institute Innovation Council (IIC)** of the College has received 4.5/5.0 Star Rating by AICTE New Delhi and MoE's Innovation Cell in 2019-20.
- ✦ Received **Best College Award** by PAH Solapur University Solapur in 2023
- ✦ Received **Best Principal Award** by PAH Solapur University Solapur in 2023
- ✦ Received **Copyright** for Students Innovative Project
- ✦ Established **Research Center** for Cloud Physics Research by **IITM Pune, Ministry of Earth Science, Govt. of India**

**Contributions during the Tenure as a Principal at NBNSCOE, Solapur:**

- a) Started the '**Project Based Learning'** (PBL) Environment through the concepts such as 'Lab Innovation', 'Students Presentations', 'Soft Skill Training' and 'Value Addition Program' and Industrial Training
- b) **Improved the overall teaching-learning environment** through well planned academic calendar, 40 hours weekly module, Personality development and soft skill training for all students, Code of Conduct for students to maintain the discipline in the institute, Timely and transparent Continuous Assessment Scheme, Effective Teacher Guardian Scheme, Personal interaction and counseling of students, etc..
- c) Started **Rewarding to meritorious students and Appreciation of Teaching and Non-Teaching staff** to motivate them and to create healthy working environment
- d) Created an atmosphere for **inter disciplinary research & outcome oriented** project and Product Development Cell. Also provided Scholarships for Innovative projects.
- e) **Improved and modified the infrastructure and facilities**, to provide the conducive academic environment and to incorporate PBL Model
- f) **Increased the additional fund** of INR 50 Lakh through consultancy or sharing of infrastructure
- g) **Improved number of admissions** in last two academic years (from 1865 to 2186)
- h) Played **instrumental role** to build the overall positive image of the institute in society and Media, as well.
- i) Started **Entrepreneurship Development** Cell, Alumni Cell, Industry Academia Cell, Quality Circle, Career Guidance and Higher Studies Cell and IQAC Cell



- j) Boosted the confidence of the students through the **well planned activities** through T&P Cell, which has reflected in the placements of the students.
- k) Established the '**Center for Research and Technology Development**' (CRTD), for the inculcating the research culture at the institute
- l) Provided the **exposure** for fifteen teaching staff, as well as seventeen students, to visit the foreign Universities either for teaching purpose or for internship, respectively.
- m) **Boosted the confidence** amongst the students to participate at National Level Co-curricular (Academic and Technical) and extra-curricular competitions (Sports and Cultural). This have been reflected with very good results at all level
- n) Students **won prizes at National Level Technical** competitions such as Go-Cart, Robocon, IIT-Techfest, COEP Project Conclave and different project competitions and shown meritorious performance by winning the prizes, at different level
- o) Major Events Organized by the Institute are:
  - ✓ Hosted '**12<sup>th</sup> and 15<sup>th</sup> Youth Festival**' of Solapur University, Solapur
  - ✓ A Multi-Mega Event on "**Innovative Technologies for Rural Development and Their Commercialization**", (ITRDC-2017) in Collaboration with CRTD and Bhabha Atomic Research Center (**BARC**) from 17<sup>th</sup> to 20<sup>th</sup> Feb, 2017
- p) **Toatal 48 MoU's** Signed with the reputed Industries/Organizations such as:
  - **Indian Institute of Tropical Metrology** (IITM), an Govt. of India initiative under the ministry of Earth Science, for establishing the research Lab in the research of Cloud Physics and received total investment of approximately 10 crore
  - **Reliance Jio**, for establishment of Fiber optic network to provide free Wi-Fi
  - **Tata-Technologies** to provide free training CAD/CAM Software with certificates
  - **SPAN Associates** for placement of the students as future entrepreneurs
  - **K-Watt Solutions**, IIT Mumbai, to train the students on Solar Technologies
  - **Maharashtra Pollution Control Board**, to measure the pollution in Solapur City
  - **Ultratech Cement**, to provide training and placement to Civil Engg. Students

**2. Sinhgad Institute of Technology, Lonavala, Pune** (26<sup>th</sup> June, 2007 to 12<sup>th</sup> Nov,14)

*Approval as Associate Professor: Univ. of Pune CCO/1629 Date: 28<sup>th</sup> May, 2014*

Head (E&TC Engg.)- From 30<sup>th</sup> June 2011 to 31<sup>st</sup> December 2013.

Associate Professor – 1<sup>st</sup> April 2010 to 12<sup>th</sup> Nov. 2014

Asstt. Professor - from June 1<sup>st</sup>, 2009 to March 31<sup>st</sup>, 2010.

Sr. Lecturer – from April 1<sup>st</sup>, 2008 to May 31<sup>st</sup>, 2009.

Lecturer - from June 26<sup>th</sup>, 2007 to March 31<sup>st</sup>, 2008.

- ✚ Held the position of **Head**, Department of E & TC Engg.
- ✚ Represented Department of E & TC Engg. To **National Board of Accreditation** and Received Accreditation for Two Years.
- ✚ Convener for One day workshop on "Opportunities in Electronics Sector of Design and Manufacturing", in Collaboration with **DiET, Govt. of India**.
- ✚ Acted as **M. E.** (ComputerEngg.) **Coordinator**.
- ✚ Convener for the 'National Level Technical Festival', **XENOS 2010**.
- ✚ Member of curriculum structure and syllabus design committee for **IGNOU**
- ✚ Active member of Regional Committee for the **IUCEE**.
- ✚ Member of the committee for Global ICT Standardization Forum for India (**GISFI**)
- ✚ **Guided** two PG students and twenty undergraduate groups for their projects.
- ✚ **Organized** workshops on Matlab, Advances in the modern instruments, etc.
- ✚ Coordinated **Value addition program** on Embedded systems and Linux for the undergraduate students.
- ✚ Coordinated Satellite Image Processing based Projects for **ISRO, Bangalore**.

- ✦ Arranged **Industrial Visit** for Staff at Reliance Communication, Navi Mumbai.
  - ✦ Arranged **Invited talks** from the Industry Experts from the industries like Reliance Communication, DRDL.
  - ✦ Arranged the **industrial Visits** for Final Year students at BARC (Mumbai), Infosys (Pune)
  - ✦ **Motivated** the students for the Paper presentation at different conferences.
  - ✦ Given consistent **progressive results** in the subjects like EDC(94.6%), EWRS(92%)
  - ✦ **Subjects Taught:** Theory (EDC, EWRS, CO, DC, OMC, EME, NA), Practical (DC, ECA, DELD, MIT)
  - ✦ **Single Point of Contact** for Infosys Pune through the campus connect concept of STES 2008-09
- 3. Bharati Vidyapeeth's College of Engineering, Navi Mumbai 24/09/01 to 25/06/07**  
**Lecturer** (Approval No. CONCOL/SA/5885 of 2004, Mumbai-32, Dated: 23/11/2004)
- ✦ Successfully carried over the duties as **Exam Cell In charge** for two years.
  - ✦ Successfully carried over the duties as Student council In charge.
  - ✦ Guided the Final Year students for their University Projects.
  - ✦ Arranged the industrial Visits of the students to the industries like VSES, Arvi.
  - ✦ Subject Taught: Theory(MDC, AWP, EWT, BEE) Practical:(PCom, EDC)
  - ✦ Appointed in the panel of Paper Setter and the Examiner in the University Examinations.
  - ✦ Coordinated the alumni association of the college.
  - ✦ Acted as departmental placement coordinator.
  - ✦ Arranged the annual sports for students and staff.
- 4. ACCEL FRONTLINE Global IT Services, Pune 15<sup>th</sup> June 2000 to 20<sup>th</sup> Sept. 2001**  
✦ Worked as Assistant Manager in Testing and Development
- 5. Government Polytechnic, Pune Visiting Lecturer: 21<sup>st</sup> Jan, 2001 to 19<sup>th</sup> May, 2001**  
✦ Subjects Taught: Theory (Basic Electronics, LIC), Practical (ECA)

**APPOINTMENTS/RESPONSIBILITIES HANDLED AT PROFESSIONAL LEVEL after joining NBNSCoE, Solapur as a Principal:**

1. Membership of Authorities and Bodies of University / Institutions:
- ✦ Former, I/c **Dean, Faculty of Science and Technology** at PAH Solapur University, Solapur (Sept. 2020 to May 2023)
  - ✦ Former Member, **Senate** at PAH Solapur University, Solapur
  - ✦ Former Member, **Academic Council**, PAH Solapur University, Solapur
  - ✦ Former Member, **Management Council**, PAH Solapur University, Solapur
  - ✦ Chairman, **RRC and DRC** in Science and Technology
  - ✦ Member **Shulk Nishiti Samiti** PAH Solapur University, Solapur
  - ✦ Non –official member of **UPSC**, Govt. of India, New Delhi
  - ✦ Former **Chairman, Board of Studies**, Electronics and Telecommunication Engineering, PAH Solapur University, Solapur (**SUS**)
  - ✦ **Member, Board of Studies**, Electronics, E&TC and Biomedical Engineering at Dr. Babasaheb Ambedkar Technological University (**DBATU**), Lonere
  - ✦ **Chairman, Local Inquiry Committee**, Solapur University, Solapur
  - ✦ **Chairman, MahaDBT scholarship verification**, Social Welfare Dept., Solapur

- ✦ Chaired the committee for checking the proposals submitted for starting of New Division/Course/Institution, for PAH **Solapur University, Solapur**
- ✦ Member of “**New Education Policy**” constituted by Hon. Vice Chancellor of **Solapur University, Solapur**
- ✦ Single man Expert Committee for Verifying the Revaluation Result at **Solapur University**, appointed by Hon. Vice Chancellor
- ✦ **Single man Expert Committee** for finding the discrepancies in the Question paper for **Solapur University**
- ✦ Expert Member for the Staff Appraisal presentations and Recommendations at **Vishwanekaten’s IMEET, Khopoli, Raigad**
- ✦ **Chairman, Academic & Research Score** (ARS) Committee at PAH Solapur University, Solapur

2. Research:

- a. **Recognized as Ph. D. Research Guide** in the Subject of Electronics Engineering and E &TC Engineering, by **PAH Solapur University, Solapur**
- b. **Recognized as Ph. D. Research Guide** in the Subject of Electronics Engineering, Under the faculty of Engineering & Technology, **Dr. Babasaheb Ambedkar Marathwada University, Aurangabad**, to guide **Two** Ph.D. Students
- c. **Approved as Co-Supervisor** of the Ph.D. Candidate by **Visvesvaraya Technological University, Belgavi, Karnataka** from June 2015

3. Administrative:

- a. Chaired the position of **Convener of the 12<sup>th</sup> and 15<sup>th</sup> Youth Festival**, of Solapur University, Solapur
- b. Chaired the position of **Secretary for the Multi-Mega Event ITRDC-2017** organized in collaboration with **BARC, Mumbai**
- c. Appointed as a **Principal** at NBN Sinhgad College of Engineering, Solapur **at very young age.**
- d. **Nominated Member** of College Autonomous Committee by UGC and PAHSUS

4. Community Services:

- a. **Donated Ten Books** in the Library of STBCoE, Tuljapur for the students benefit
- b. Donates blood at-least twice a year (Donated **more than 60 times till now**)
- c. **Guides & Motivates students** for their career through different social platforms

5. Awards and Recognition:

- **Best Principal Award** by PAH Solapur University, Solapur on its 19<sup>th</sup> Foundation Day, held on 1<sup>st</sup> August 2023.
- **Best College Award** by PAH Solapur University, Solapur on its 19<sup>th</sup> Foundation Day, held on 1<sup>st</sup> August 2023.
- Recipient of ‘**Young Academic Leadership Award**’ by Institute of Engineers Solapur chapter, in November 2022
- Received **Adarsh Seva Sanman Puraskar** by daily Tufan Kranti on 20/03/2022
- Received **Best Researcher Award** in 7th International Scientist Award on Engineering, Science and Medicine in 2020
- Awarded as ‘**Excellence in Education**’ at Solapur Shikshak Parishad in December 2018
- Awarded with “**Dr. APJ Abdul Kalam Teacher Inspire Award**”, by Dreams Foundation, Solapur on 5<sup>th</sup> Sept, 2015

- Awarded with **Best Participant Award** at IIT, Kharaghpur in 2009
- **One of the four Researchers** from all over India, who have been invited under European Commission Fellowship for Post-Doctoral Research
- Paper was **awarded as a best paper** with the price of 400 Euro, in Germany
- Received **total research grant of Rs. 32 Lakh** from different Funding Agencies

#### **Membership of Professional Bodies/ Associations:**

1. **Member** of Institute of Electrical and Electronics Engineering (**IEEE**), (No. - 91145534)
2. **Life Member** of The Institution of Electronics and Telecommunication Engineers (**IETE**), (No. M-215200)
3. **Life Member** of The Indian Society for Technical Education (**ISTE**), (No. LM 41166)
4. **Member** of Maharashtra State **Green Army** (No. SO/2017/Ind/317028)
5. **Life Member** of Maharashtra Sahitya Parishad, Solapur (30/12/2015)
6. **Member of Governing Council** of Walchand Institute of Technology, Solapur
7. **Member of Academic Council** of K B P Mahavidyalay, Pandharpur

#### **Personal Details:**

Father's name : Shri Dattatray Ramchandra Nawale  
 Date of birth : 25<sup>th</sup> September, 1977  
 Category : Open (Hindu-Maratha)  
 Gender : Male  
 Marital Status : Married  
 Languages Known : English, Marathi, Hindi, Italian and French  
 Correspondence Address : Principal, NBN Sinhgad College of Engineering,  
 Solapur-Pune Highway, Kegaon-Solapur, 413255, (MS), India

#### **References:**

1. Dr. Nisha P. Sarawade (Ph. D. Guide)  
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