Curriculum Vitae

Dr. Basudeba Behera

Assistant Professor, Dept. of Electronics and Communication Engineering,

Former Associate Dean (Faculty Welfare)

National Institute of Technology, **Jamshedpur**, **India**

Mobile: +91-8812016250, +91-8618814500

Email: basudebbehera@gmail.com, basudeb.ece@nitjsr.ac.in

RESEARCH PROFILES

Orcid ID:	0000-0001-5326-8017
Researcher ID:	M-2421-2016
Scopus Author ID:	57190746228
Google Scholar:	https://scholar.google.co.in/citations?user=qCE8rvYAAAAJ&hl=en&authuser=1
Research Scholar:	https://www.researchgate.net/profile/Basudeba_Behera
Webpage:	https://sites.google.com/view/basudebbehera/about?authuser=1

RESEARCH INTERESTS

Micro/ Nanoelectromechanical Systems (MEMS/NEMS), Piezoelectric devices (Sensors, Actuators), Surface acoustic wave devices/ motors, Internet of Things (IoT).

EXPERIENCES

11/06/2018 – Continue

Assistant Professor at ***National Institute of Technology (NIT), Jamshedpur***

- Teaching the Undergraduate and Postgraduate students, Supervising PhD students
- Conducting research in cutting edge technology based on MEMS Ultrasonic sensors and actuators, SAW Devices, IoT.
- Administrative responsibilities at various departmental and Institute level tasks.

09/08/2016– 08/06/2018

Assistant Professor at ***Indian Institute of Information Technology, Dharwad***

- Teaching the Undergraduate students.
- Conducting research on Ultrasonic Micro/ Nanosensors and actuators, SAW Devices, IoT.

13/08/2015– 05/08/2016

Senior Research Fellow at *Centre for Nanotechnology, IIT Guwahati, India*

- Part of the research team in DeitY, Govt. of India sponsored project to carry out research and develop Centre for Excellence in Nanoelectronics & Theranostic Devices (CENTD).

05/06/2006– 30/06/2007

Graduate Engineer Trainee at ***Time Technoplast Ltd., Daman, India***

- Served as Maintenance Engineer and the task was to attend the breakdown of electronic machineries.

PROFESSIONAL EDUCATION

2010 – 2017 **Doctor of Philosophy (PhD)**

Department of Electronics and Electrical Engineering

Indian Institute of Technology, Guwahati (IITG), India, 28th July 2017.

***Thesis Title**: Modelling, Simulation and Fabrication of Surface Acoustic Wave Motors Employing Dual Friction-drive*

Supervisor: Prof. Harshal Bhalchandra Nemade, Professor, IIT Guwahati

2007 – 2009 **Master of Technology in Electronics and Communication Engineering**

GIET University, Gunupur, Odisha, India, 29th March 2010.

***Thesis Title**: Modelling and simulation of wireless mobile multiple phase transmission protocols using tandem queues with blocking*

Supervisor: Dr. Purna Chandra Mishra, Professor, KIIT University, Odisha

2002 – 2006 **Bachelor of Engineering in Electronics and Instrumentation Engineering**
GIET University, Gunupur, BPUT, Odisha, India, 12th June 2006.

***Thesis Title1**:Automated level Controller using Microprocessor/ Microcontroller*.

Supervisor: Mr. Vinod Kumar

***Thesis Title2**:Location Based Service in Mobile Domain.*

Supervisor: Mr. Pankaj Diwan, Managing Director at Idea Labs.

BASIC EDUCATION

2000 – 2002 **Intermediate in Science**
Kabi Samrat Upendra Bhanja College, Bhanjanagar
Council of Higher Secondary Education (CHSE), Odisha, 31st May 2002.

1999 – 2000 **High School**
Sribatsa High School, Bhanjanagar
Board of Secondary Education (BSE), Odisha on 20th June 2000.

ACHIEVEMENTS

- Graduate Aptitude Test (GATE-2007) with All India Rank (**AIR**) **962** in Instrumentation Engineering.
- Qualified Odisha JEE (OJEE 2002) Test with the rank of **339** in Math, Physics, and Chemistry 2002.

RESEARCH PUBLICATIONS

Patents

1. **B. Behera** and H. B. Nemade, "*Dual drive surface acoustic wave motor and the package*", application no.: 878/KOL/2014, Patent No.-369369, Date of filing: 26th Aug 2014, Published on 26th Sep 2014, Granted on - 15/06/2021, India. **(Granted)**
2. **B. Behera** and H. B. Nemade, "*Dual drive surface acoustic wave linear motor and the package*", application no.: 978/KOL/2014, Date of filing: 24th Sep 2014, published on 24th Oct 2014, India.

Journals

1. S. Mukhopadhyay, J. Kumar, **B. Behera,** "Low Operating Voltage based Piezoelectric Ultrasonic Actuator for Tactile System Applications", with manuscript ID 213403512 accepted to be published in **Taylor & Francis: Ferroelectrics,** vol. 585, pp. 1-15, 2021.
2. B. Turuk, **B. Behera,** "Finite Element Simulation and Characterization of One-Port Hetero Structured Surface Acoustic Wave Resonator", with manuscript ID 219923853 accepted to be published in **Taylor & Francis: Ferroelectrics,** vol. 583, pp. 1-5, 2021. **(SCI IF: 0.60)**
3. **B. Behera,** " Micro Motion of a Piezoelectric Linear Actuator driven by Liquid Interacting with Rayleigh Surface Acoustic Wave," **Elsevier: Sensors and Actuators: A. Physical**, 2021, 112756, pp. 1-3, ISSN 0924-4247, https://doi.org/10.1016/j.sna.2021.112756. **(SCI IF: 3.407)**
4. A. Kumar, **B. Behera**, M. Kumar, S. Jindal, M. Srivastava, "Implementation of All Optical Ripple Down Counter using the Micro-Ring Resonator Structures", **Springer Applied Physics B**, **127,** 14, pp. 1-10, January 2021. https://doi.org/10.1007/s00340-020-07555-9. **(SCI IF: 2.070)**

5. **B. Behera**, "Design and Investigation of a Dual Friction-Drive-Based LiNbO3 Piezoelectric Actuator Employing a Cylindrical Shaft as Slider," in ***IEEE Sensors Journal***, vol. 19, no. 24, pp. 11980-11987, 15 Dec.15, 2019. doi: 10.1109/JSEN.2019.2938246. **(SCI IF: 3.301)**

6. **B. Behera**, H. B. Nemade, "Dual Friction-Drive SAW Motor Utilizing Cylindrical Shaft as External Load Driver," **Taylor & Francis:** ***Ferroelectrics Letters Section***, Volume 45, Issue - 1-3, pp. 8–13, Jan 2019, DOI: 10.1080/07315171.2018.1499359. **(SCI IF: 0.556)**

7. **B. Behera**, H. B. Nemade, "Investigating Translational Motion of a Dual Friction-drive Surface Acoustic Wave Motor through Modelling and Finite Element Simulation," **SAGE Simulation:** ***Transactions of the Society for Modelling and Simulation International,*** Volume 95, Issue - 2, pp. 117–125, Jun 2018, DOI: 10.1177/003754971877877. **(SCI IF: 1.377)**

8. V. B. Semwal, P. Sharma, A. Chauhan and **B. Behera**, "An optimized feature selection technique based on incremental feature analysis for bio-metric gait data classification", **Springer:** ***Multimedia Tools and Applications***, Volume 76, Issue 22, pp 24457–24475, Nov 2016, DOI: 10.1007/s11042-016-4110-y. **(SCI IF: 2.757)**

9. **B. Behera**, H. B. Nemade, "A Review Paper on Recent Developments of Piezoelectric Motors with Diverse Operating Principles," **Springer:** ***ISSS Journal of Micro and Smart Systems***, Volume 6, Issue 2, pp. 173-185, November 2017, DOI: 10.1007/s41683-017-0015-x.

10. **B. Behera**, B. Patnaik, and P. C. Mishra, "Modelling and simulation of wireless mobile multiple phase transmission protocols using tandem queues with BAS blocking," i-manager's Journal on Electronics Engineering (JELE), Vol.1, Issue. 2, p-p.1- 5, Feb. 2011, https://doi.org/10.26634/jele.1.2.1369.

Book Chapter

1. **B. Behera,** U. Gupta, S. Rai, "Forecasting the Damage Caused by COVID-19 Using Time Series Analysis and Study on the Consequence of Preventive Measures for Spread Control", in Book title "Pandemic Detection and Analysis through Smart Computing Technologies", Apple Academic Press, CRC, Taylor and Francis Group, Chapter-5, pp. – 1-22, Hard ISBN: 9781774910320, Feb 2022.
2. **B. Behera,** A. Prakash, U. Gupta, V.B. Semwal, A. Chauhan (2021), "Statistical Prediction of Facial Emotions Using Mini Xception CNN and Time Series Analysis", In: Verma G.K., Soni B., Bourennane S., Ramos A.C.B. (eds) Data Science. Transactions on Computer Systems and Networks. Springer, Singapore, ISSN 2730-7484, ISBN 978-981-16-1680-8, ISBN 978-981-16-1681-5 (eBook). https://doi.org/10.1007/978-981-16-1681-5_25.
3. **B. Behera,** "Development of Dual-friction Drive based Piezoelectric Surface Acoustic Wave Actuator," in Book titled "Smart Sensors, Measurement and Instrumentation", Springer Nature Switzerland, ISSN 2194-8402, ISSN 2194-8410 (electronic), ISBN 978-3-030-62683-9, ISBN 978-3-030-62684-6 (eBook), https://doi.org/10.1007/978-3-030-62684-6, (Scopus Indexed).
4. **B. Behera**, S. Kumari, A. Kumari, A. Kumar, "Application of IoT and Weather Prediction for Enhancement

of Agricultural Productivity", 3rd International Conference on Computational Intelligence, Security & IoT (ICCISIoT) 2020, Dec 2020. Springer Nature Switzerland, ISSN 1865-0929, ISSN 1865-0937 (electronic), ISBN 978-3-030-66762-7, ISBN 978-3-030-66763-4 (eBook), https://doi.org/10.1007/978-3-030-66763-4.

5. **B. Behera**, N. Kumar, M. Ranjan, A. Kumar, "COVID-19 DETECTION USING ADVANCED CNN & X-RAYS" in Book titled "Emerging Technologies during the Era of COVID-19 Pandemic", Springer Nature, ISSN 2198-4182, ISBN 978-3-030-67715-2, ISBN 978-3-030-67716-9 (eBook), https://doi.org/10.1007/978-3-030-67716-9, (Scopus Indexed).
6. **B. Behera**, G. Gupta, R. Yadav, and N. Bharil, "*Automated Street Lighting System using IoT*," published in Springer: Industrial Internet of Things and Smart Manufacturing, 2018, ISBN No. 978-1-912532-06-3.

International/ National Conferences

2020

1. **B. Behera**, R. Mehta, P. Fulzele, R. Sinha, "Regular Self-Health Monitoring and Medicine Reminder System with Emergency Alert Messaging using IoT," ICIA-NITJSR-2020 (International Conference on IoT and its Application-2020), 26th – 27th Dec 2020.
2. **B. Behera**, S. Kumari, A. Kumari, A. Kumar, "Application of IoT and Weather Prediction for Enhancement of Agricultural Productivity", 3rd International Conference on Computational Intelligence, Security & IoT (ICCISIoT) 2020, 29th – 30th Dec 2020. Springer Nature Switzerland, ISSN 1865-0929, ISSN 1865-0937 (electronic), ISBN 978-3-030-66762-7, ISBN 978-3-030-66763-4 (eBook), https://doi.org/10.1007/978-3-030-66763-4.
3. S. Saha, S. Mukhopadhyay, S. Bhokare, **B. Behera**, "Functional Verification of DMA Controller of an Image Processing SoC," NCECC-2020 (National Conference on Electronics, Communication and Computation), 6th Sep 2020.
4. B. Turuk, G. Sahoo, A. Nagmani, **B. Behera**, "Different Parametric Analysis of One Port SAW Resonator using COMSOL", NCECC-2020 (National Conference on Electronics, Communication and Computation), 5th Sep 2020.
5. S. Mahanty, R. Choudhary, A. Kumar, R. Kumar, **B. Behera**, "Implementation of all optical even parity checker using the micro-ring resonator structure," NCECC-2020 (National Conference on Electronics, Communication and Computation), 5th Sep 2020.
6. R. Choudhary, S. Mahanty, A. Kumar, R. Kumar, **B. Behera**, "Design of Micro-Ring Resonator Based All Optical Signal Routers," NCECC-2020 (National Conference on Electronics, Communication and Computation), Sep 2020.
7. **B. Behera**, N. Kumar, M. Mahato, B. Prasad, V. B. Semwal, "Weather Forecasting and Monitoring using Machine learning and Deep Neural Network Models", NCECC-2020 (National Conference on Electronics, Communication and Computation), 5th Sep 2020.

8. G. Sahoo, B. Turuk, **B. Behera** "Investigation to the deflections of micro-cantilever actuator with different piezoelectric materials and structures for the application of micro lenses movement", 1st National Conference on "Materials, Mechanics & Modelling" NCMMM-2020, NIT Jamshedpur, Jharkhand, India, on 29th & 30th August, 2020, AIP Conference Proceedings 2341, 020012 (2021); https://doi.org/10.1063/5.0049918

9. A. Nagmani, B. Turuk, **B. Behera** "Simulation and Optimization of Geometrical Structure of One-port SAW Resonator using FEM", 1st National Conference on "Materials, Mechanics & Modelling" NCMMM-2020, NIT Jamshedpur, Jharkhand, India, on 29th & 30th August, 2020, AIP Conference Proceedings 2341, 020043 (2021); https://doi.org/10.1063/5.0049919.

2019

10. J. Kumar, S. Kumar, A. Kumar, **B. Behera**, "Real-Time Monitoring Security System integrated with Raspberry Pi and e-mail communication link," Confluence 2019 (2019 9th International Conference on Cloud System and Big Data Engineering), Amity University, Noida, India, 10th-11th Jan 2019, **DOI**: 10.1109/CONFLUENCE.2019.8776971. **(SCOPUS)**

2018

11. **B. Behera**, G. Gupta, R. Yadav, and N. Bharil, "Automated Street Lighting System using IoT," International Conference on Industrial Internet of Things and Smart Manufacturing, at Imperial College London, London, United Kingdom, 5th – 6th Sep 2018, ISBN: 978-1-912532-06-3.

2016

12. **B. Behera**, H. B. Nemade, and S. Trivedi, "Modelling and finite element simulation of a dual friction-drive SAW motor using the flat slider," IEEE IUS 2016, Tours, France, p-p. 1- 4, 18th -21st Sep 2016, **Electronic ISSN:** 1948-5727, **DOI:** 10.1109/ULTSYM.2016.7728378. **(SCOPUS)**

13. **B. Behera**, H. B. Nemade, "Finite element simulation of a SAW motor driven by dual friction," ICEMS 2016, JNU Jaipur, India, **Elsevier:** ***Materials Today Proceedings***, Vol. 4, Issue 9, 17th -19th Mar 2016, pp. 10612-10616, ISSN 2214-7853, DOI: 10.1016/j.matpr.2017.06.429. **(SCOPUS)**

2015

14. **B. Behera**, H. B. Nemade, "Modelling and finite element simulation of a surface acoustic wave driven linear motor," 12th ICOVP 2015, IIT Guwahati, India, **Elsevier:** ***Procedia Engineering***, Vol. 144, p-p. 1411 - 1418, 14th -17th Dec 2015, ISSN 1877-7058, DOI:10.1016/j.proeng.2016.05.172. **(SCOPUS)**

15. **B. Behera**, H. B. Nemade, and S. Trivedi, "Finite element simulation of a surface acoustic wave driven linear motor using COMSOL Multiphysics," COMSOL Conference, Pune, India, p-p. 1 - 5, 29th - 30th Oct 2015.

2014

16. **B. Behera**, H. B. Nemade, "Optimizing preload and coefficient of friction for the surface acoustic wave

linear motor," 5th International and 26th AIMTDR 2014, IIT Guwahati, India, Vol- 5, p-p. 1 -5, 12th-14th Dec 2014, ISBN: 978-8-19274-610-4.

17. **B. Behera**, H. B. Nemade, "Simulation of piezoelectric SAW motor using COMSOL Multiphysics," COMSOL Conference, Bangalore, India, p-p. 1 - 5, 13th - 14th Nov 2014.

2009

18. **B. Behera**, M. Panda, P. C. Mishra, "Modelling and simulation of wireless mobile multiple phase transmission protocols using tandem queues with blocking," TICE 2009, Thapar University Patiala, India, p-p. 1 - 5, 29th -30th Oct 2009.

PAPERS UNDER REVIEW

1. M. Srivastava, A. Kumar, **B. Behera**, S. Jindal, M. Kumar, R. Singh, "Compact High Speed All-Optical 4:1 Multiplexer Implementations Employing Micro-Ring Resonator Structures" IOP Journal of Optics, Article reference: JOPT-108424, Feb 2021.
2. S. Mukhopadhyay, A. Rayon, P. Joshi, **B. Behera**, "Recent Advancements of MEMS Devices for Telecommunication Applications- A Brief Review", Submitted to Elsevier Sensors and Actuators B.
3. Saurabh Gajanan Bhokare, Basudeba Behera, "Motion Improvised Miniaturized Dual Focus Lens Module based on Piezoelectric Actuator for the Medical Applications", "IOP: Engineering Research Express (ERX)", June 2021.
4. Gyanabrata Sahoo, Basudeba Behera, "Micro Cylindrical Ultrasonic Motor with Improvised Power and Efficiency", Springer : Microelectronics, June 2021.
5. Shalini Mukhopadhyay, Basudeba Behera, Jayendra Kumar, "Recent Advancements of MEMS Devices for Telecommunication Applications- A Brief Review", "IOP: Engineering Research Express (ERX)", June 2021.

MEMBERSHIP

- IEEE Professional Membership with identity: **90468878**.
- Lifetime member of Indian Society for Technical Education (ISTE): **LM 69559**.

COURSES TAUGHT

- **At Under Graduate Level**

  Theory Courses:
  - Electronics Measurement and Instrumentation, Basic Electronics, Digital Electronics, Microprocessor and Microcontroller, Embedded System, Sensors & IoT.

  Laboratories:
  - Basic Electronics Lab, Digital Electronics Lab, Microprocessor and Microcontroller Lab.
- **At Post Graduate Level**

  Theory Courses:
  - Real-Time Embedded Systems, MEMS & NEMS.

SCHOLARSHIPS AND FINANCIAL GRANTS

- Science and Engineering Research Board (SERB), Govt. of India sponsored Travel grant to present research

paper at 2016 IEEE International Ultrasonic Symposium, France on 18th- 21st Sep 2016.

- Ministry of Human Resource Development, Govt. of India sponsored a scholarship for the PhD program from Jul 2010 - Jun 2015.
- Ministry of Human Resource Development, Govt. of India sponsored a scholarship for the M.Tech program from Aug 2007 - Jun 2009.

ON-GOING PROJECTS

1. **Title**: Proposal for setting up Advanced Internet of Things (IoT) Systems facility for Development of Wireless based CO_2 Gas detection system using IoT
   Sponsoring Agency: TEQIP- III, NIT Jamshedpur.
   Total Budget: 3,00,000 INR, **Co-PI**- Prof. S N Singh
   Duration: Oct 2019 – Oct 2020 (Completed)

SUBMITTED PROJECTS

1. Basudeba Behera

   Title: IoMT based Health Monitoring System for Elderly to Predict the Early Signs of Emergency Through Machine Learning

   Funding Agency: EEQ**,** Science and Engineering Research Board (SERB), Govt. of India

   File No : EEQ/2021/000502, Duration : 36 months

   Total Budget : 19,31,660 INR, Status : Proposal Submitted

2. Basudeba Behera

   Title: Development of an IoT-Based Automated Oxygen Monitor and Control System for Respiration and SpO2 Rates Optimization With Emergency Alert Messaging

   Funding Agency: Short Call on Covid-19**,** Science and Engineering Research Board (SERB), Govt. of India

   File No : CVD/2021/000041, **Duration :** 12 months

   Total Budget : 10,66,500 INR, Status : Accepted for Evaluation

3. Basudeba Behera

   Title: Development of a Surface Acoustic Wave Device Based Biosensor for the Detection of Hepatitis B Surface Antigen in Human Blood

   Funding Agency: CRG**,** Science and Engineering Research Board (SERB), Govt. of India

   File No : CRG/2021/003549, Duration : 36 months

   Total Budget : 33,85,000 INR, Status : Accepted for Evaluation

4. Ajay Kumar, Basudeba Behera, Nagendra Kumar

   Title: Investigation and realization of Multiple Operation optical logic device using the electro-optic effect based Mach-Zehnder Interferometer Structures

   Funding Agency: SUPRA**,** Science and Engineering Research Board (SERB), Govt. of India

   File No.: SPR/2019/000071, **Status :** Accepted for Evaluation

5. Ajay Kumar, Basudeba Behera, Nagendra Kumar,

   Title: “Investigation and realization of Optical Code Converters using the Electro-Optic Effect Based Mach-Zehnder Interferometer Structures,”

File No : CRG/2021/003706,

Funding Agency: CRG**,** Science and Engineering Research Board (SERB), Govt. of India

Duration : 36 months, **Total Budget :** 45,90,000 INR, **Status :** Accepted for Evaluation

INVITED TECHNICAL TALKS

- On "Internet of Things and its Architecture" at Gandhi Institute for Technology, Bhubaneswar, 28th Aug 2021.
- On "MEMS Devices in Real World Applications" on 16th July 2021 for One Week Online Faculty Development Programme on Recent Trends in Electrical Engineering Organized By Department of Electrical & Electronics Engineering in Association with ISTE Students Chapter, Oxford College of Engineering and Technology, Bangalore, 12th-17th July 2021.
- On "Advanced Actuators for wearable devices", on 02nd Feb 2021 for Online Faculty Development Programme sponsored by ATAL FDP, AICTE and Organized By Department of Electronics and Telecommunication Engineering, Shri Vithal Education & Research Institute's, College of Engineering, Pandharpur- 413 304, District: Solapur (Maharashtra), 01st to 5th Feb 2021.
- On "Surface Acoustic Wave based Actuators for Real life Applications", on 02nd Feb 2021 for Online Faculty Development Programme sponsored by ATAL FDP, AICTE and Organized By Department of Electronics and Telecommunication Engineering, Shri Vithal Education & Research Institute's, College of Engineering, Pandharpur- 413 304, District: Solapur (Maharashtra), 01st to 5th Feb 2021.
- On "Importance of ML in IoT" at Raghu Engineering College Vishakhapatnam, Andhra Pradesh, 19th Dec 2020.
- On "Introduction to Convolutional neural Network" at GIET University, Gunupur, Odisha, India on 15th Dec 2020.
- On "Advanced MEMS Actuators in Real Life" at KL University Vijayawada, 14th Dec 2020.
- On "Energy Management Under Large Scale Renewable Integration with Respect to India and Other Countries", at Rajdhani Engineering College, Bhubaneswar on 21st Nov 2020.
- On "Introduction to Convolutional neural Network" at NIT Jamshedpur, India on 05th Sep 2020.
- On "Basics of MEMS and NEMS", NIT Jamshedpur, ATAL FDP on Sensor Technology on 1st to 5th Oct 2020.
- On "Node Red and Arduino" at AICTE sponsored ATAL program on "Short Term Training Program on IoT" at NIT Jamshedpur, India on 10th May 2020.
- On "MEMS Actuators for Robotic Applications" at AICTE sponsored ATAL program on "Short Term Training Program on Robotics" at NIT Jamshedpur, India on 24th December 2019.
- On "Architecture of Internet of Things" at AICTE sponsored ATAL program on "Short Term Training Program on IoT" at NIT Jamshedpur, India on 12th October 2019.
- On "Wireless Saw Based MEMS Devices for IoT Application" for "National Seminar on Advances in Information Communication & Computing", at Government Autonomous College, Rourkela, India on 24th December 2018.
- On "DFD SAW Motors and MEMS Actuators based on piezoelectric substrates" for Institute Lecture Series at NIT Jamshedpur, India, 16th Nov. 2018.
- On "MEMS Actuators: A journey of an Idea to Copyright" as Faulty development program of Patent Filing at GIET University, Odisha, India on 27th Jan 2018.
- On "Internet of Things (IoT): Past, Present and Future" to the students at GIET University, Gunupur, Odisha, India on 27th Jan 2018.
- On "Microelectromechanical Systems (MEMS) Actuators in Real Life" for AICTE sponsored two-day National Seminar on "Data Analytics in Education Management System" at KLS Gogte Institute of

Technology, Belgavi, and Karnataka, India on 31st Oct 2017.

- On "Microelectromechanical Systems (MEMS) Actuators" in research scholar forum organized by Dept. EEE, IIT Guwahati, India on 6th Nov 2014.

SUPERVISING STUDENTS

PhD

- Baruna Kumar Turuk, Development of Gas Sensor using hetero-structured SAW Resonator, 17th Jul 2019- Cont.
- Aditya Nagmani, Development of piezoelectric high temperature sensor using SAW delay line, 17th Jul 2019- Cont.
- Tapish Verma, Investigation to Memeristors, 24th Sep 2018- Cont.

MTech

Continuing

- Piyush Anand, 2020-2021.
- Shrusti Bhatkar, 2020-2021.

Completed

- Gyanabrata Sahoo (2019PGECEM01), *A Cylindrical Micro Ultrasonic Motor with Improvised Power and Efficiency*, 18th Jun 2021, 2019-2021.
- Saurabh Bhokare (2019PGECEM13), *Miniaturised Dual Focus Lens Module Using MEMS Actuator*, 18th Jun 2021, 2019-2021.
- Shalini Mukhopadhyay (2019PGECEM17), *Design of Piezoelectric Ultrasonic Actuator for Tactile Device Applications*, 18th Jun 2021, 2019-2021.
- Shouvik Saha (2019PGECEM05), *Functional verification of DMA controller of an Image processing SoC*, 20th Jun 2020, 2018-2020.
- Saheli Koley (2018PGECEM02), *Post Silicon Validation of Client CPU SoC: Memory Validation and Automation of Test Cases*, 15th Jun 2020, 2018-2020.

BTech

Completed

- Neeraj Kumar Singh (2017UGEC009) and Shubham Kumar Singh (2017UGEC087), "*Stock Price Prediction Using Deep Learning*", 01st May 2021, 2017-2021.
- Piyush Kumar (2017UGEC002) and Shubham Prasad (2017UGEC028), "*Face Mask and Social Distancing Detection using Deep Learning and Temperature Measurement using Raspberry Pi*", 01st May 2021, 2017-2021.
- Mritunjay Kumar (2017UGEC094) and Rahul Kumar (2017UGEC071), "*De-identification of Indian medical data*", 01st May 2021, 2017-2021.
- Nitish Kumar (2016UGEC031), Mukesh Ranjan Mahato (2016UGEC081), Banoth Krishna Prasad (2016UGEC088), *Application of X-ray images in detection of Covid-19 and its symptoms using advanced CNN*, 10th June 2020, 2016-2020.
- Anupam Kumar (2016UGEC039), Asish Kumar (2016UGEC042), *Web App for Pneumonia Detection with Chest X-Ray Images using Deep Learning*, 10th June 2020, 2016-2020.
- Riya Mehta (2016UGEC015), Prachi P. Fulzele (2016UGEC044), *IoT based Self-Health Monitoring and Medicine Reminder System with Emergency Alert Messaging Using Raspberry Pi*, 10th June 2020, 2016-2020.

- Alisha Kumari (2016UGEC048), Smitha Kumari (2016UGEC046), *Application of IoT and Weather Prediction for Enhancement of Agricultural Productivity*, 10th June 2020, 2016-2020.
- Ch. Hema Durga (2015UGEC041), M. V. Hari Chandana (2015UGEC052), R. Jyotsna (2015UGEC071), *Renewal Energy Innovation and Recent Advancements*, 29th Apr 2019, 2015-2019.
- Pravalika Govinda (2015UGEC044), Bhuvana Chandrika Kesireddy (2015UGEC046), *Smart Sprinkling System*, 29th Apr 2019, 2015-2019.

2018 (IIIT Dharwad)

- A. Surya Teja & Mohan Sai, *Automatic Aquarium Monitoring System using IoT, 2017-2018.*
- Gaurav Gupta & Rakshit Yadav, *Automatic Street Lighting System using IoT, 2017-2018.*
- Shivam Kumar & Rajiv Ranjan, *Online Water Can Delivery System using IoT, 2017-2018.*

RESPONSIBLE POSITIONS

Administrative Works

AT NIT JAMSHEDPUR

a. Institute Level:

- Associate Dean (Faculty Welfare) - Taking measures and solving issues for the benefit of Faculties in NIT Jamshedpur 2018-2020.
- Committee Member of NIRF ranking – Taking measures and suggest scopes to improve the NIRF ranking of the Institute.
- Member of Intellectual Property Rights Cell – To look after Intellectual Property Rights Cell of the Institute.
- Member of Admission Committee constituted for UG admission for the year 2019-2020.

b. Department Level:

- Nodal Officer for Dept. Of ECE to keep all updated information of faculty members.
- Faculty Advisor for "Society of Electronics & Communication Engineering (SECE)"
- Departmental Purchase Co-ordinator of Dept. of ECE
- Professor In charge of Microprocessor & Networking Lab.
- Chairman of the committee constituted to verify the installation and demonstration of Software (COMSOL Multiphysics, Microwind 3.8 etc.) purchased for newly set up "Modelling & Simulation Lab."

AT IIIT DHARWAD

- Faculty Co-ordinator in Training and Placement at IIIT Dharwad from Jan 2017 -Jun 2018.
- Faculty Member in Hostel Committee at IIIT Dharwad from Aug 2016 -Jun 2018.
- Coordinator for the "Swachhta Pakhwada" an MHRD, Government of India initiated Clean India program at IIIT Dharwad for a duration of 15 days from 1st - 15thSep 2017.
- Nodal Officer for "Swachh Bharat Summer Internship Programme 2018" at IIIT Dharwad.

AT IIT GUWAHATI

- Election officer for general body election at IIT Guwahati for the year 2012-13 and 2015-16.

Board of Studies

- A member in the Board of Studies in GIET University, Gunupur, Odisha.

Organizer

- The 2nd National workshop on NEMS/MEMS and Theranostic Devices, NWNTD, under the Centre for

Nanotechnology at the IIT Guwahati, from 21st - 22nd Mar 2016.

- The 3rd International Conference on Advanced Nanomaterials & Nanotechnology, Organized by Centre for Nanotechnology, IIT Guwahati, India, 1st – 3rdDec 2013.
- **Drishti Online Contest** under Texas Instruments India University Program.
- Co-Ordinator for **IICDC** 2019 organized by DST and Texas Instruments.

Reviewer for Journal

- IEEE Transaction on Industrial Electronics.
- IEEE Transaction on Ultrasonic, Ferroelectrics, and Frequency Control Society (UFFC).
- National Academy Science Letters
- Applied Physics Letter (AIP)
- Review of Scientific Instruments - AIP Publishing

Technical Program Committee

- The 2nd edition of Conference on Information and Communication Technology (CICT-2018) to be held at PDPM-IIITDM Jabalpur, India on 26th - 28thOct 2018.
- The 3rd IEEE International Conference on Research in Intelligent and Computing in Engineering (RICE 2018) held at Universidad Don Bosco (UDB), El Salvadoron 22nd - 24thAug 2018.
- The 2018 International Conference on Control, Automation and Electrical Systems (ICCAES-2018), held atWuhan, Hubei, Chinaon 20th-22ndApr 2018.
- International Conference on Automation and Computational Engineering (ICACE - 2018), Amity University, Greater Noida, UP, India.
- International Conference on Wireless Sensor Networks, Ubiquitous Computing and Applications 2018 (ICWSNUCA-2018), held at GRIET, Hyderabad, Telangana on 24th- 25th Aug 2018.
- Conference on Information & Communication Technology, (CICT-2017), held at ABV Indian Institute of Information Technology and Management Gwalior, (M. P.). 2017.

CONFERENCES/SEMINARS/WORKSHOPS ATTENDED

- Xilinx FPGA architecture &design flow, at IIT Guwahati, India from 22nd- 23rdNov 2013.
- MEMS/NEMS fabrication at INUP, IISc, Bangalore, India from 16th - 18thApr 2012.
- Embedded system at GIET, Gunupur, India from 6th-7th Sep 2008.
- Advanced Nanomaterials and Nanotechnology (ICANN-2013), IIT Guwahati, 1st- 3rd Dec 2013.
- INUP Familiarization workshop on Electron and Ion Beam Lithography, CENSE, IISc Bangalore, 3rd- 4th Dec 2012.
- National Conference on Recent Advances in Computational Technique in Electrical Engg., SLIET, Longowal, 19th - 20th Mar 2010.
- National Conference on Recent Advances in control and Instrumentation, GIET Gunupur, 8th - 9th Nov 2008.
- National Workshop on Embedded System Design, GIET Gunupur, 6th - 9th Sep 2008.

PERSONAL INFORMATION

- Father's name : Late Abhirama Behera

▪ Mother's Name	:	Prafulla Kumari Behera
▪ Spouse Name	:	Chinmayee Behera
▪ Sex	:	Male
▪ Date of Birth	:	09th May 1985
▪ Nationality	:	Indian
▪ Languages speak	:	English, Hindi and Odiya
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REFERENCES

1. Prof. Harshal B. Nemade (PhD Supervisor), Professor, Dept. of EEE, Core–2, IIT Guwahati, Dist.- Kamrup, Assam, Pin -781039, India, Email: harshal@iitg.ac.in, Phone: +91-361-2582509.
2. Dr. Vijay Bhaskar Semwal, Assistant Professor, Department of Computer Science & Engineering, TA-105, New Teaching Block, MANIT Bhopal, Madhya Pradesh, India, -462003, Email: vsemwal@gmail.com, vsemwal@manit.ac.in, Phone: +91-8874142887.
3. Dr. Ajay Kumar, Assistant Professor, Dept. of ECE, Chamber- G 06/06, Diamond Jubilee Lecture Complex, NIT Jamshedpur, Pin- 831013, India, Email: ajay.ece@nitjsr.ac.in, Phone: +91-8757870464.

DECLARATION

I hereby declare that the above-mentioned information is correct upto my knowledge and I take the responsibility for the correctness of the above-mentioned.

Date:
Place: Basudeba Behera