Dr. Priyanka Kakoty

Assistant Professor (Level-12)

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Educational Qualification:

- Ph. D. from Department of E.C.E, Tezpur University,2020
- M. Tech. (Electronics Design and Technology) from Tezpur University,2011
- B. E. (Electrical Engineering) from Jorhat Engineering College, (Dibrugarh University),2008

Professional Experience:

- Working as Assistant Professor in dept. of ECE, Tezpur university since Sep. 2012.
- Worked as an Assistant Professor in the Department of Electrical Engineering, Girijananda Chowdhury Institute of Management & Technology, Azara, Guwahati (Jan 2009-Sep2012)
- Worked as a GET in Bharat Aluminium Company under Vedanta Resources,Chhattisgarh(July 2008-Dec 2008)

Area of interest:

Gas sensors, Microheaters, Nanomaterial preparation and characterization

Publications:

International Journal:

- **P. Kakoty.;** "Design of a high frequency, low voltage CMOS operational amplifier"; in International *Journal of VLSI design & Communication Systems (VLSICS)* Vol.2, No.1, March **2011**. DOI : 10.5121/vlsic.2011.2107
- **P. Kakoty,** K. Das; "Design of a high frequency and low power successive approximation ADC"; *IJAREEIE*, Vol. 2, Issue 8, Aug. **2013**
- **Kakoty, P.** and Bhuyan, M., **2016**. Fabrication of Micromachined SnO_2 Based MOS Gas Sensor with Inbuilt Microheater for Detection of Methanol. *Sensors & Transducers*, 204(9), p.58.
- **Kakoty, P.,** Bhuyan, M. and Das, K., **2017**. Effect of Annealing and Operating Substrate Temperature on Methanol Gas Sensing Properties of SnO2 Thin Films. *Sensors & Transducers*, 211(4), pp.16-22.
- Singh, K., Malakar, R., Narzary, R., **Kakoty, P.** and Mondal, B., Hydrogen Sensing Properties of Pure and Composites of ZnO and SnO2 Particles: Understanding Sensing Mechanism. *Sensor Letters*, 15(9), pp.771-778, **2017**.
- **Kakoty, P.,** Bhuyan, M. and Das, K., Performance of Pd Doped SnO_2 as Sensing Material for Tea Aromatic Chemicals. *IEEE Sensors Journal*, 18(11), pp.4392-4398, **2018**
- **Kakoty, P.,** Bhuyan, M. and Das, K., **2020**. DRIFT ANALYSIS OF A Pd LOADED SnO_2 BASED LINALOOL SENSOR. *Indian Journal of Engineering and Materials Sciences (IJEMS)*, 27(2), pp.445-451.

- **Kakoty, P.** and Das, K., **2022**, Performance enhancement of linalool sensor with Pt decorated composite of ZnO nanorod and SnO_2. *IEEE Sensors Journal*, vol. 22, DOI: 10.1109/JSEN.2022.3206237

- Karen Das , **Priyanka Kakoty** , Akib Khan , Probin Phanjom , Monmita Das , Arup Khakhlari , Sunandan Baruah & Indrani Dakua "Investigation of bacterial pigment from Serratia nematodiphila as a sensitizer for a nanostructured solar cell" *Indian Journal of Chemical Technology*, Vol. 30, September **2023**, pp. 681-688, DOI: 10.56042/ijct.v30i5.5201

- Chetry, D., Basumatary, P., Das, K. and **Kakoty, P.,** "ZnO Nanorod and rGO based nanocomposite decorated with Au nanoparticles for enhanced UV photodetection". *Journal of the Optical Society of America B*, October, **2023**, Vol. 40 No. 12, DOI: https://doi.org/10.1364/JOSAB.504063

- Sithikraja R, Das, K. and **Kakoty, P., 2024,** "Nano-structured gas sensing materials for ammonia detection with special emphasis on medical applications". *Indian Journal of Engineering and Materials Sciences*, Vol. 31, April 2024, pp. 167-181, DOI: 10.56042/ijems.v31i2.4852

- Karen Das, **Priyanka Kakoty**, "AuNP modified hetero-nanocomposite based chemicapacitive sensor for detection of ascorbic acid", *Materials Science and Engineering: B*, Volume 307, **2024**, 117529, ISSN 0921-5107, https://doi.org/10.1016/j.mseb.2024.117529

National conferences:

- Kaushik Das, P. Kakoty; "Design, Simulation and Performance Evaluation of a High• Temperature and Low Power Consumption Microheater Structure for MOS Gas Sensor"; WACC, 2014.

International conferences:

- P. Kakoty, M. Bhuyan, "SnO_2 based gas sensors: Why it is so popular? ", IEEE ICECCT, pp.1-5., **2015**.
- Ritusmita Malakar, Kirti Singh, Priyanka kakoty, Biplob Mondal ," ZnO-SnO2 nanocomposite with enhanced hydrogen sensing properties" ISSS National Conference on MEMS, Smart Materials, Structures and Systems September 28-30, **2016**, Kanpur, India
- P.Kakoty, M.Bhuyan. "Study of Ag Doped SnO2 Film and Its Response Towards Aromatic Compounds Present in Tea", **2018** IEEE EDKCON
- Tanaya Das, Dhruba Jyoti Sut, Vishal Gupta, Lakhyajit Gohain, Priyanka Kakoty and Nayan M. Kakoty "A Mobile Robot for Hazardous Gas Sensing" IEEE International Conference on Computational Performance Evaluation, July **2020**.
- Dishal Patar, Rajdeep Nath, Karina Bhuyan, Ricky Brahma Hazarika, Pritymala Basumatary, and Priyanka Kakoty, "Glucose Detection System based on Green Synthesized ZnO nanomaterial" in CoDSS, Feb. **2024**
- Pritymala Basumatary, Shyamaljyoti Gogoi, Himanjal Bhattacharyya, Amrit Gogoi, and Priyanka Kakoty,"Green Synthesized ZnO Nanomaterial for PesticideDetection" in CoDSS, Feb. **2024**

Book chapter:

- Das, K. and Kakoty, P., **2015**. Design, Simulation, and Performance Evaluation of a High Temperature and Low Power Consumption Microheater Structure for MOS Gas Sensors. In Advances in Communication and Computing (pp. 221-229). Springer, New Delhi.
- Das, K., Khan, A., Sarkar, A., Baishya, P., Kakoty, P. and Baruah, S., **2021**. Study as Wide of Band TiO_2 Gap ZnO Nanostructures Semiconductor for the Application of Nanotechnology-Based Solar Cells. Emerging Technologies for Smart Cities: Select Proceedings of EGTET 2020, 765, p.77.

Project: (As Co-PI):

- NTRF project entitled ”Identification of Efficient Semiconductor Dopant Combinations for Selective Chemi-adsorption of Tea aroma and Tea pesticides in Metal Oxide Semiconductor (MOS) Sensor” NTRF: 17(322)/2014/5420 (Acceptance letter dated 11 th April 2016) (Duration:4years) Sanctioned amount: Rs. 34,01,680/-
- IKS project entitled ”Exploring Knowledge on Medieval Assam: Multidisciplinary IKS centre at Tezpur University”, F.No. 2-28/IKS Center-2/2022-23/10 (Acceptance letter dated 12/12/2022)(Duration:2 years) Sanctioned amount: Rs. 30,84,000/-

Conferences/Workshop/Summer School/Training /Faculty development programme attended:

1. Two days MHRD workshop on Akash Education organised through A-View by IIT Bombay at Tezpur University in Dec. **2012**
2. One week Coordinators workshop on Analog Electronics(1st to 5th April , **2013**) at IIT Kharagpur, Organised by NMEICT, MHRD.
3. IEEE Workshop on MEMS, Microfluidics & Microsystems with Hands-on Training in device simulation and microfabrication process(4th-6th July **2013**) at IIT Kharagpur).
4. A two week-NMEICT workshop on 'Fluid Mechanics' (online workshop) organised by IIT kharagpur at Tezpur University from 20th to 30th May **2014**.
5. Two week NMEICT workshop on Computer Programming at Tezpur University, organized by IIT Bombay.(20th May to 21st June **2014**)
6. Hands-on training on nanofabrication, organised by INUP at IISc bangalore from 24th June to 3rd July **2014**.
7. Faculty development programme (AICTE-NEQIP sponsored) on Current approaches in teaching and research in science and technology during 15th-27th Dec. **2014**.
8. One day Scilab training organized at Tezpur University on Dec. 26th, **2014** provided by the talk to a teacher project at IIT Bombay.
9. Participated in industry-academia workshop on Instrumentation and control at IOCL Digboi during 19th-20th Feb. **2015**.
10. Participated in Induction cum orientation programme on Professional qualities conducted by Internal quality assurance cell, Tezpur University during 20-21 April, **2015**.
11. A two week-NMEICT workshop on ‘Environmental Studies' (online workshop) organised by IIT Bombay at Tezpur University from 02nd to 12th June **2015**.
12. Faculty Development Programme (AICTE-NEQIP sponsored) on “Recent advancements in electrical engineering” during Jan 29th -2nd Feb. **2018**
13. Faculty Development Programme (AICTE-NEQIP sponsored) on “Sensor and image processing” during 12th -16th Feb. **2018**
14. Faculty Development Programme (AICTE-NEQIP sponsored) on “Advances in Renewable Energy Technologies and Systems” during February 19-24, **2018.**
15. One month long induction programme at Tezpur university, **2019**

16. Weeklong workshop on assessment and evaluation from 16th-21st sep **2019** under PMMMNMTT of MHRD, TLC, Tezpur University
17. Interdisciplinary Refresher course on changing perspectives in pedagogy from 8th -22nd Oct, **2020**
18. Online FDP on Development of E-Module with Four Quadrant Approach organized by Teaching Learning Centre, Tezpur University, from 11 December to 21 December, **2020**
19. One day webinar on Micro/Nano electronic devices and sensors organized by dept. of ECE, Tezpur University on 27th Feb. **2021.**
20. Online Interdisciplinary Refresher Course on Pedagogical Innovations in Higher Education Organized by Teaching Learning centre (TLC), Tezpur University during 06-20 December, **2021**
21. Online interdisciplinary two week Refresher course on Curriculum and Pedagogy, Organized by Teaching Learning centre (TLC), Tezpur University during 7th-20th June, **2023**
22. Short Term Course on NEP Orientation & Sensitization under Malaviya Mission Teacher Training Programme (MM-TTP) of UGC organized by MMTTC, Tezpur University from 18th-30th April **2024**.

Conference/Workshop coordinator/organizer/resource person:

- Worked as workshop coordinator for a two week NMEICT workshop on Analog Electronics from 4th to 14th June **2013** at Tezpur University remote centre, organized by IIT Kharagpur
- Member, organizing committee (Venue committee, Inauguration committee, Valedictory committee), PREMI Dec **2019**
- Resource person in *National workshop on Nanotechnology*, Amazing Nano **2023** for delivering a lecture on "Nanotechnology based sensor design".

Courses taken:

Intelligent sensor systems	**PhD course work**
Network Theory	**U.G**
Basic Electrical Engineering	**U.G**
Basic Electronics	**U.G**
Intelligent instrumentation	**U.G**
Instrumentation	**U.G**
Instrumentation and process control	**U.G**
Digital Communication	**U.G**
Electrical Technology	**U.G**
Instrumentation and control in food processing	**P.G**
Design of Digital Systems	**P.G**

Research group:

1. Sithikraja R., Ph.D. Scholar (Part time)
2. Pritymala Basumatary, Ph.D. Scholar (Full time)
3. Priyanka Choudhury, Ph.D. Scholar (Full time)

M.Tech. project students:

1. 2023-2024: Himanjal Bhattacharyya, Amrit Gogoi and Shyamaljyoti Gogoi
2. 2022-2023: Deepjyoti Chetry and Daisy Daimary
3. 2021-2022:Pritymala Basumatary and Karishma RayChoudhury
4. 2020-2021:Piyush Kumar Thakur and Suvajit Roy

5. 2019-2020:Arun Kumar Ray and Ananya Borkotoky
6. 2018-2019: Ankita P. Borgohain and Rajdeep Borboruah
7. 2017-2018: Manasi Deori and Pronoy Baishya
8. 2015-2016: Ritusmita Malakar and Parag Kalita
9. 2013-2014: Kaushik Das