

Curriculum vitae

❖ Personal details:

- **Name** : Diganta Hatiboruah
- **Current Position** : Assistant Professor
Majuli College, Assam
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❖ Education details:

- **2009** : **HSLC**, Jyoti Vidyapith, Teok, Assam
- **2009 - 2011** : **HS**, Cotton College, Guwahati, Assam
- **2012 - 2017** : **Integrated MSc**, Tezpur University, Tezpur, Assam
- **2018 - 2022** : **PhD**, Tezpur University, Tezpur, Assam

❖ Academic Awards:

- **2009** : **Anundoram Borooah Award**, Govt. of Assam
- **2022** : **Lectureship**, SLET-NE in Physics

❖ Others:

- **2013 - 2014** : **Assistant Prefect**, Kanchenjunga Mens' Hostel, Tezpur University, Assam
- **2017-2018** : **Project assistant**, Applied photonics and Nanophotonics Lab, Department of physics, Tezpur University, Assam
- **2022- 2023** : **Assistant Professor** (Contractual), Jagannath Barooah College (Autonomous), Jorhat, Assam

❖ **Marks Sheet:**

SL No	Course	Year	Subjects/ Major/Specialization	Board/ University	Division
1	HSLC	2009	Assamese, English, Social Science, Gen. Science, Gen. Math, Adv. Math	SEBA	1 st
2	HS	2011	Assamese, English, Physics, Chemistry, Mathematics	AHSEC	1 st
3	BSc	2015	Physics	Tezpur University	1 st
4	MSc	2017	Applied Photonics	Tezpur University	1 st
5	PhD	2023	Applied Photonics	Tezpur University	

- **Title of the thesis:** Design of smartphone-based analytical tools for detection and analysis of chemicals, heavy metals and biological contaminants in water.
- **Supervisor:** Prof. Pabitra Nath
- **Department:** Physics
- **Laboratory:** Applied Photonics and Nanophotonics Lab

❖ **Computer Knowledge:**

- Word/Excel/Power Point (ICT101)
- Logo Design
- Computer Aided Designing (ZW3D, Sketch-up)
- Development of Android application (MIT App Inventor-2)

❖ Publications:

- **Hatiboruah, D.**, Das, T., Chamuah, N., Rabha, D., Talukdar, B., Bora, U., Ahamad, K. U., and Nath, P. Estimation of trace-mercury concentration in water using a smartphone. *Measurement*, 154:107507, **2020**.
- **Hatiboruah, D.**, Devi, D. Y., Namsa, N. D., and Nath, P. Turbidimetric analysis of growth kinetics of bacteria in the laboratory environment using smartphone. *Journal of Biophotonics*, 13(4):e201960159, **2020**.
- **Hatiboruah, D.**, Talukdar, B., Ahamad, K. U., and Nath, P. Dual mode smartphone based sensing for accurate estimation of sulphate and chloride in water. *IEEE Sensors Journal*, 21(17):19314–19321, **2021**.
- **Hatiboruah, D.**, Biswas, S., Sarma, D., and Nath, P. A smartphone-based photometric and fluorescence sensing for accurate estimation of zinc ion in water. *Sensors and Actuators A: Physical*, 341:113586, **2022**.
- Chamuah, N., Hazarika, A., **Hatiboruah, D.**, & Nath, P. SERS on paper: an extremely low cost technique to measure Raman signal. *Journal of Physics D: Applied Physics*, 50(48), 485601, **2017**.
- Rabha, D., Biswas, S., **Hatiboruah, D.**, Das, P., Rather, M. A., Mandal, M., and Nath, P. An affordable, handheld multimodal microscopic system with onboard cell morphology and counting features on a mobile device. *Analyst*, **2022**.
- Sarma, D., Biswas, S., **Hatiboruah, D.**, Chamuah, N., and Nath, P. 100 gsm paper as sers substrate for trace detection of pharmaceutical drugs in aqueous medium. *Journal of Physics D: Applied Physics*, **2022**.
- Shukla, S., Sah, A. N., **Hatiboruah, D.**, Ahirwar, S., Nath, P., and Pradhan, A. Design, fabrication and testing of 3d printed smartphone-based device for collection of intrinsic fluorescence from human cervix. *Scientific Reports*, 12(1): 1–9, **2022**.
- Borah, D., Eldiehy, K. S., **Hatiboruah, D.**, Mandal, M., & Deka, D. An Integrated Approach for Simultaneous Monitoring and Data Acquisition on the Culture of Green Microalga *Chlorella homosphaera* Using Different LED Illumination. *BioEnergy Research*, 1-10, **2022**.

❖ Conferences:

- Das, T., **Hatiboruah, D.**, Chamuah, N., Hussain, I., Bora, U., & Nath, P., Accurate estimation of mercury level concentration in water using smartphone. **In Optical Sensing and Detection V**. International Society for Optics and Photonics, Vol. 10680, p. 106801P, (2018, May).
- **Hatiboruah, D.** & Nath, P., A compact smartphone based analytical device with dual spectrometric sensing modes, **National conference on emerging trends in physics**, Tezpur University (June 16 2021).
- Yumnum, M, **Hatiboruah, D.**, Nath, P & Mishra P. , Development of smartphone-based sensor for monitoring fish spoilage during storage at room temperature, **International conference on sustainable approaches in food engineering and technology**, Tezpur university & University of Georgia (US) (24-25 June, 2021).
- Das, P., **Hatiboruah, D.**, Nath, P., Applications of Smartphone Camera-based Sensing Platforms for Environmental Monitoring, **Advances in Physics and its Applications (APA-2021)**, Duliajan College, Duliajan, Dibrugarh (26- 27 November, 2021).

❖ Patents:

- “**Design of a universal holder for sensing and imaging studies in all variant smartphones**”, **Hatiboruah D.**, Rabha D. and Nath P. (Indian Patent application number: 202131060631)
- “**Smartphone based polarized fluorescence spectroscopic device for early detection of cervical cancer**”, Shukla S., Ahiwar S., **Hatiboruah D.**, Nath P. and Pradhan A. (Indian Patent application number : 202111006127)

❖ Research Projects:

- Smartphone Based Instrumentation for water Quality Monitoring with Reference to Resource poor Regions, **BIRAC-SRISTI**, 2017
- Smartphone based analytical platform for reliable estimation of mercury and arsenic level concentration in water, **Tezpur University**, 2019-2020.
- Smartphone assistant bacteria colony-counter using image processing technology, **Tezpur University**, 2020-2021.