

List of Publications

1. N Chamuah, N Bhuyan, P Pratim Das, N Ojah, A J Choudhury T Medhi and **P Nath** “Gold coated electrospun PVA nanofibers as SERS substrate for detection of pesticides” (under review)
2. I. Hussain, A. J. Bora, D. Sarma, K. U. Ahamad and **P. Nath**, **Design and development of smartphone based optical sensor and mobile application for VIS-NIR spectrophotometric applications**” (under review)
3. N. Chmauah, A.Hazarika D. Hatiboruah and **P. Nath**, “SERS on paper: an extremely low cost technique to measure Raman signal” **Journal of Physics D: Applied Physics** <https://doi.org/10.1088/1361-6463/aa8fef>.
4. N. Chmauah, L.Chetia, N.Zahan, S.Dutta, G.A Ahamad and **P. Nath**, “ A Naturally occurring diatom frustules as SERS substrate for detection and analysis of chemicals” **Journal of Physics D: Applied Physics**, **50**,175103 (2017)
5. I. Hussain, M.Das, K.Ahamad and **P.Nath**, “Water salinity detection using smartphone” **Sensors and Actuators B: Chemical** **239**, 1042-1050 (2017)
6. I Hussain, K.Ahamad and **P.Nath**, “ Low-cost, robust and field portable smartphone platform photometric sensor for detection of fluoride level in drinking water” **Analytical Chemistry** **89**(1), 767-775, (2016)
7. N.Chamuah, G.P.Vaidya, A.M.Joseph and **P. Nath** “Diagonally Aligned Squared Metal Nano-Pillar with increased hotspot density as a highly reproducible SERS substrate” **Plasmonics** DOI: **10.1007/s11468-016-0393-0**
8. S Dutta, D J Sarma, P. Das, B Borah, K. Gupta, T Medhi, M. Mandal and **P. Nath**, “Protein, Enzyme and Carbohydrate Quantification Through Smartphone Using Colorimetric Digitization Techniques: Replacing spectrophotometer” **Journal of Biophotonics** (2016) DOI: **10.1002/jbio.201500329**
9. S. Dutta, K. Saikia and **P. Nath**, "Smartphone based LSPR sensing platform for bio-conjugation detection and quantification", **RSC Advances** vol.6 (26) 21871-21880(2016)
10. I. Hussain, K. U. Ahamed and **P. Nath**, "Water turbidity sensing using a smartphone", **RSC Advances** vol.6(26) 22374-22382 (2016).
11. S.Dutta, A.Patil, D. Sarma and **P.Nath**, “Dye assisted pH sensing using a smartphone” **IEEE, Photonics Technology Letters** vol.27 (22), 2363-2366 (2015).
12. R.Boruah, D.Mahanta, A. Choudhury, **P.Nath**, and G Ahmed, “Surface plasmon resonance based protein bio-sensing using a Kretschmann configured double prism arrangement” **IEEE Sensors Journal** Vol.15,(12), 6791-6796 (2015).
13. I.Husain and **P.Nath**, “Smartphone based platform optical set-up measuring $\pi/256$ optical phase difference in an interference process” **Applied Optics**, vol. 54 (18), 5739-5742 (2015).
14. S.Dutta, D.Sarma and **P.Nath**, “Ground and river water quality monitoring using smartphone based pH sensor” **AIP-Advances**, vol. 5, 057151-9, (2015).
15. N.Chamuah and **P.Nath**, “Periodically varying height in metal nanopillar for enhanced generation of localized surface Plasmon field” **Plasmonics** DOI 10.1007/s11468-015-9926-1(2015)
16. S. Dutta, A. Choudhury and **P.Nath**, “Evanescent wave coupled spectroscopic sensing using smartphone” **IEEE, Photonics Technology Letters** vol. 26 no.6 pp.568-570 (2014)
17. **P. Nath**, I. Hussain and R.Biswas, “Liquid level sensing based on periodic evanescent field absorption from a multimode optical fiber” **Current Science** vol. 106 no. 3 pp.424-427 (2014)
18. **P.Nath**, I.Hussain, S.Dutta and A.Choudhury “Solvent treated paper resistor for filter circuit operation and relative humidity sensing” **Indian Journal of Physics** vol.88 no.10,pp1093–1097(October 2014)
19. R.Biswas and **P.Nath**, “Sensitivity analysis of two-fiber optic sensors” **Indian Journal of Physics**, vol. 88 no. 10, pp1105–1110(2014)
20. I. Husain, A. Choudhury and **P.Nath** “Fiber-optic volumetric sensor based on Beer-Lambert principle” **IEEE Sensors Journal**, vol.13, no. 9 pp.3345-3346 (2013).
21. D Gallegos, K D. Long, H Yu P P. Clark Y Lin S George, **P.Nath** and B T. Cunningham “Label-Free Bio-detection using a Smartphone” **Lab on a Chip**. Vol. 13, pp. 2124-2132, (2013).
22. **P. Nath**. R. Biswas, S. K. Neog and A. Choudhury, “All fiber-optic sensor for monitoring pressure fluctuations in ON/OFF state **IEEE Sensors Journal** vol.13, no. 4, 1148-1152.(2013).

23. **P. Nath**, H K singh, D Tiwari and T Basumatary Fiber-optic liquid level sensor based on coupling optical path length variation **Review of Scientific Instruments**, 83, 055006 (2012).
24. **P. Nath** and M. Buragohain, "Fiber optic sensor for non-intrusive refractive index measurement of reactive chemical solutions" **Pramana-Journal of Physics**, Vol. 79 no. 6, 1525-1532 (2012)
25. R.Boruah, **P.Nath**, D.Mohanta, G.A.Ahmed, A.Choudhury, "Photonic properties of butterfly wing infiltrated with Ag-nanoparticles" **Nano Science and Nanotechnology Letters** 3,(4) 1-5, (2011).
26. R.Boruah, **P.Nath**, D.Mohanta, G.A. Ahmed and A.Choudhury, " Thickness dependent surface Plasmon resonance (SPR) response", **International Journal of Nanotechnology and Applications**, 5(4) 407-412 (2011).
27. **P. Nath**, "A novel- fiber optic sensor probe with enhanced sensitivity" **Current Science**.100 (4), 517-519 (2011).
28. **P.Nath**, "Non-intrusive refractometer sensor" **Pramana-Journal of Physics** 74 (4), 661-668, (2010).
29. **P.Nath**, "Angled tip fiber probe as humidity sensor" **Sensors and Transducers Journal** 116 (5), 131-138 (2010).
30. **P.Nath**, "Enhanced sensitive fiber optic sensor with double pass evanescent field absorption" **Microwave and Optical Technology Letters**., 51(12), 3004-3006, (2009).
31. **P.Nath**, H.K.Singh P Datta, K Ch. Sarma. "All-fiber optic sensor for measurement of liquid refractive index", **Sensors and Actuators: A Physical**, 148, 16-18 (2008).
32. **P.Nath**, P Datta, G Jose, K C. Sarma "Lightwave splitting in two dimensional photonic crystal analogue of directional coupler", **Optics Communications**. 281, 4784–4787(2008).
33. **P.Nath**, H.K.Singh P Datta, K Ch. Sarma "Cobalt Chloride doped polymer film for relative humidity measurement" **Sensors and Transducers Journal** , 91, (4)127-133 (2008).
34. **P.Nath**, P Datta, K Ch. Sarma "All Fiber optic sensor for liquid level measurement" **Microwave and Optical Technology Letters** 50 (7) 1982-1984, July (2008).