

LIST OF PUBLICATIONS

Peer-Reviewed Journals

1. **N. Polley***, S. Sardar, P. Werner, I. Gersonde, Y. Kanehira, I. Bald, D. Repp, T. Pertsch and C. Pacholski* “Photothermomechanical nano-pump: A flow-through plasmonic sensor at the fiber tip”, [ACS Nano](#) (IF: 18.03) 17(2023) 1403–1413.
2. **N. Polley**, P. Werner, R. F. Balderas-Valadez, and C. Pacholski “Bottom, top, or in between: combining plasmonic nanohole arrays and hydrogel microgels for optical fiber sensor applications”, [Advanced Materials Interfaces](#) (IF: 6.389) 2102312 (2022) 1-10.
3. **N. Polley**, S. Basak, R. Hass and C. Pacholski “Fiber optic plasmonic sensors: providing sensitive biosensor platforms with minimal lab equipment”, [Biosensors and Bioelectronics](#) (IF: 12.545) 132 (2019) 368-374.
4. **N. Polley**, S. Saha, S. Singh, A. Adhikari, S. Das, B. R. Choudhury and S. K. Pal “Development and Optimization of a Non-contact Optical Device for Online Monitoring of Jaundice in Human Subjects”, [Journal of Biomedical Optics](#) (IF: 3.582) 20 (2015) 067001.
5. **N. Polley**, S. Singh, A. Giri, P. K. Mondal, P. Lemmens and S. K. Pal “Ultrafast FRET at Fiber Tips: Potential Applications in Sensitive Remote Sensing of Molecular Interaction”, [Sensors and Actuators B: Chemical](#) (IF: 9.221) 210 (2015) 381.
6. **N. Polley**, S. Saha, A. Adhikari, S. Banerjee, S. Darbar, S. Das and S. K. Pal “Safe & Symptomatic Medicinal Use of Surface Functionalized Mn₂O₃ Nanoparticles for Hyperbilirubinemia Treatment in Mice” , [Nanomedicine](#) (IF: 5.307) 10 (2015) 2349.
7. **N. Polley**, S. Singh, A. Giri and S. K. Pal “Evanescent field: A potential light-tool for theranostics application”, [Review of Scientific Instruments](#) (IF: 1.843) 85 (2014) 033108.
8. **N. Polley**, P. K. Sarkar, S. Chakrabarti, P. Lemmens and S. K. Pal “DNA Biomaterial Based Fiber Optic Sensor: Characterization and Application for Monitoring in situ Mercury Pollution”, [ChemistrySelect](#) (IF: 2.109) 1 (2016) 2916.
9. A. Adhikari, V. K. Bhutani, S. Mondal, M. Das, S. Darbar, R. Ghosh, **N. Polley**, A. K. Das, S. S. Bhattacharya, D. Pal, A. K. Mallick, S. K. Pal “Chemoprevention of bilirubin encephalopathy with a nanoceutical agent”, [Pediatric Research](#) (IF: 3.75), 1-11 (2023).
10. P. K. Sarkar, S. Pal, **N. Polley**, R. Aich, A. Adhikari, A. Halder, S. Chakrabarti, P. Chakrabarti and S. K. Pal “Development and Validation of a Noncontact Spectroscopic Device for Hemoglobin Estimation at Point-of-Care”, [Journal of Biomedical Optics](#) (IF: 3.17) 22 (2017), 055006-055006.
11. S. Singh, **N. Polley**, A. Mitra and S. K. Pal “Spark spectrometry of toxic smokes: towards a portable, inexpensive, and high-resolution environment monitoring instrument”, [Clean Technologies and Environmental Policy](#) (IF: 3.636) 16 (2014) 1703.

12. M. Zude-Sasse, N. Hashim, R. Hass, **N. Polley** and C. Regen “Validation study for measuring absorption and reduced scattering coefficients by means of laser-induced backscattering imaging”, [Postharvest Biology and Technology](#) (IF: 5.537) 153 (2019) 161-168.
13. P. K. Sarkar, **N. Polley**, S. Chakrabarti, P. Lemmens and S. K. Pal “Nano-Surface Energy Transfer Based Highly Selective and Ultrasensitive “Turn on” Fluorescence Mercury Sensor”, [ACS Sensors](#) (IF: 7.711) 1 (2016) 789.
14. S. Chaudhuri, S. Batabyal, **N. Polley** and S. K. Pal “Vitamin B2 in Nanoscopic Environments under Visible Light: Photosensitized Antioxidant or Phototoxic Drug?”, [Journal of Physical Chemistry A](#) (IF: 2.781) 118 (2014) 3934.
15. P. K Sarkar, A Halder, **N. Polley**, S. K. Pal “Development of Highly Selective and Efficient Prototype Sensor for Potential Application in Environmental Mercury Pollution Monitoring”, [Water, Air, & Soil Pollution](#) (IF:2.520) 228 (2017), 314.
16. P. K. Sarkar, A. Halder, A. Adhikari, **N. Polley**, S. Darbar, P. Lemmens, S. K. Pal “DNA-based fiber optic sensor for direct in-vivo measurement of oxidative stress”, [Sensors and Actuators B: Chemical](#) (IF: 7.460) 255 (2018), 2194-2202.
17. A. Adhikari, **N. Polley**, S. Darbar and S. K. Pal “Therapeutic Potential of Surface Functionalized Mn₃O₄ Nanoparticles Against Chronic Liver Diseases in Murine Model”, [Materials Focus](#) 6 (2017) 1.
18. A. Giri, N. Goswami, C. Sasmal, **N. Polley**, D. Majumdar, S. Sarkar, S. N. Bandyopadhyay, A. Singha and S. K. Pal “Unprecedented catalytic activity of Mn₃O₄ nanoparticles: potential lead of a sustainable therapeutic agent for hyperbilirubinemia”, [RSC Advances](#) (IF: 3.361) 4 (2014) 5075.
19. A. Adhikari, S. Darbar, T.Chatterjee, M. Das, **N. Polley**, M. Bhattacharyya, S. Bhattacharya, D. Pal, S. K. Pal “Spectroscopic Studies on Dual Role of Natural Flavonoids in Detoxification of Lead Poisoning: Bench-to-Bedside Preclinical Trial”, [ACS Omega](#) (IF:3.512) 3 (2018) 15975-15987.
20. P. Pal, A. Halder, P. K. Sarkar, **N. Polley**, P. Basak, S. K. Pal “Development of a Fiber Optic Sensor for Online Monitoring of Thin Coatings”, ADBU [Journal of Engineering Technology](#) 6 (2017), 1.
21. A. Adhikari, **N. Polley**, S. Darbar, D. Bagchi, S. K. Pal “Citrate functionalized Mn₃O₄ in nanotherapy of hepatic fibrosis by oral administration”, [Future Science OA](#) (IF: 2.61) 2 (2016), FSO146.
22. D. Bagchi, A. Ghosh, P.Singh, S. Dutta, **N. Polley**, I.I. Althagafi, R. S. Jassas, S. A. Ahmed and S.K. Pal “Allosteric Inhibitory Molecular Recognition of a Photochromic Dye by Digestive Enzyme: Dihydroindolizine makes a-chymotrypsin Photo-responsive”, [Scientific Reports](#) (IF: 4.379) 6 (2016) 34399.
23. D. Bagchi, S. Chaudhuri, S. Sardar, S. Choudhury, **N. Polley**, P. Lemmens and S. K. Pal “Modulation of Stability and Functionality of a phyto-antioxidant by weakly interacting metal ions: Curcumin in Aqueous Solution”, [RSC Advances](#) (IF: 3.361) 5 (2015) 102516.

Book/Book Chapter

1. **N. Polley**, C. Pacholski “Bottom-up fabrication of plasmonic sensors and biosensors” 2023, Jenny Stanford Publishing Pte. Ltd, [Chapter 13](#) of book entitled “Plasmonics based Optical Sensors and Detectors” 407-450.

Conference Proceedings/Conference Presentation

1. **N. Polley**, C. Pacholski “Plasmonic Lab-on-fiber Sensor: Fabrication and Subsequent Optimization”, [2022 Workshop on Recent Advances in Photonics \(WRAP\)](#) (2022)01-02.
2. **N. Polley**, O. Reich, R. Hass “Fiber optical Photon Density Wave spectroscopy for inlinemonitoring of highly concentrated biogenic liquidmaterials”, Photonics 2018, 12th -15th December, 2018.
3. A. Hartwig, **N. Polley**, R. Hass, “Determination of the optical properties and stability of fruit juices and their characterization by Photon Density Wave Spectroscopy”, IUFOST-World Congress of Food Science and Technology 2018, 23rd-27th October, 2018.
4. **N. Polley**, T. Schiewe, O. Reich, R. Hass, “Photon Density Wave spectroscopy for sensing in highlyconcentrated biotechnical processes”, APOS2018, 28th-31stMay, 2018.
5. **N. Polley**, T. Schiewe, R. Hass “Application of Photon Density Wave spectroscopy for in-line monitoring of biotech processes”, EUROPT(R)ODE 2018, 25th -28thMarch, 2018.
6. **N. Polley**, R. Hass, M. Sandmann, O. Reich “Photonic sensing in highly concentrated biotechnical processes by Photon Density Wave spectroscopy”, Proc. SPIE 10323, [25th International Conference on Optical Fiber Sensors](#), 103232V (23rd April 2017).
7. P. Pal, A. Halder, P. K. Sarkar, **N. Polley**, P. Basak, S. Chakrabarti, S. K. Pal, P. Chakrabarti “Wlight interferometry on human blood film using white light emitting diode”, [2017 2nd International Conference for Convergence in Technology \(I2CT\)](#), (2017) 151-154.
8. **N. Polley** and S. K. Pal “Medical diagnosis and remote sensing at fiber-tip: picosecond resolved FRET sensor”, [Proceedings of SPIE](#) 9702 (2016) 970211-1.