

# Dr. Jitesh Barman

Assistant Professor

Department of Physics, BHU

✉ [jiteshb@bhu.ac.in](mailto:jiteshb@bhu.ac.in); [jiteshb.iitk@gmail.com](mailto:jiteshb.iitk@gmail.com)



## Work Experience

- July 2020 – Till now **Assistant Professor** in the Department of Physics, Institute of Science, Banaras Hindu University.
- December 2019 – July 2020 **Assistant Professor** in Department of Physics, Coochebar College, Coochebhar Panchanan Barma University.
- October 2017 – October 2019 **Postdoctoral Fellow** at South China Academy of Advanced Optoelectronics, South China Normal University, Guangzhou, China.

## Education

- 2011 – 2016 **Ph.D., Indian Institute of Technology Kanpur, Kanpur, India** in Soft Condensed Matter Physics.  
**Thesis title:** *Electric Field Controlled Interfacial Phenomena at Liquid-Solid/Liquid Interfaces.*
- 2009 – 2011 **M.Sc. Physics, Indian Institute of Technology Kanpur, Kanpur, India**  
Score: 7.2/10 (Cumulative Point Index).
- 2006 – 2009 **B.Sc. (Hons.) Physics, A. B. N. Seal College, University of North Bengal**  
Score: 63.5% First Class with Distinction in pass subjects.

## Awards and Achievements

- 2012 **Qualified for Junior research fellowship and Lectureship.** Ranked 315 in CSIR-NET, an all India based admission test for Ph.D.
- 2009 **Qualified Joint Admission Test for M.Sc. in Indian Institute of Technology (IITs)**  
**Ananta Roy Memorial Awards, academic excellence award from A. B. N. Seal College Coochbehar**

## Research Interests

- Wetting and Adhesion, Surface and Interface Physics, Superhydrophobic and Slippery Liquid Infused Porous Surfaces (SLIPS), Wetting Manipulation, Electrowetting (EW) and electrowetting on Conductors (EWOD), Microfluidics and Nanofluidics.**

## Research Publications

### Journal Articles

- 1 Tang, B., Wei, M., Shao, W., Barman, J., Sun, H., Lu, L., Groenewold, J., Wang, Y., & Zhou, G. (2021). Facile fabrication of binary wettability patterned microstructure for microfluidics. *J. Micromech. Microeng.*, 31, 045007. <https://doi.org/https://doi.org/10.1088/1361-6439/abe20a>

- 2 Xu, B., Guo, Y., [Barman, J.](#), Ern , B. H., Zhou, G., & Groenewold, J. (2020). Impedance analysis of oil conductivity and pixel non-uniformity in electrowetting displays. *Results Phys.*, *18*, 103223.  
<https://doi.org/https://doi.org/10.1016/j.rinp.2020.103223>
- 3 Yuan, X., Tang, B., [Barman, J.](#), Groenewold, J., & Zhou, G. (2020). Approximately symmetric electrowetting on an oil-lubricated surface. *RSC Adv.*, *10*, 20257–20263.  
<https://doi.org/10.1039/D0RA02405H>
- 4 Sharma, M., Roy, P. K., [Barman, J.](#), & Khare, K. (2019). Mobility of aqueous and binary mixture drops on lubricating fluid-coated slippery surfaces. *Langmuir*, *35*, 7672–7679.  
<https://doi.org/10.1021/acs.langmuir.9b00483>
- 5 Tang, B., Shao, W., Groenewold, J., Li, H., Feng, Y., Xu, X., Shui, L., [Barman, J.](#), & Zhou, G. (2019). Transition of interfacial capacitors in electrowetting on a graphite surface by ion intercalation. *Phys. Chem. Chem. Phys.*, *21*(3), 26284–26291. <https://doi.org/https://doi.org/10.1039/C9CP04436A>
- 6 [Barman, J.](#), Shao, W., Tang, B., Yuan, D., Groenewold, J., & Zhou, G. (2019). Wettability manipulation by interface-localized liquid dielectrophoresis: Fundamentals and applications. *Micromachines*, *10*, 329.  
<https://doi.org/10.3390/mi10050329>
- 7 Usman, M., Guo, X., Wu, Q., [Barman, J.](#), Su, S., Huang, B., Biao, T., Zhang, Z., & Zhan, Q. (2019). Facile silicone oil-coated hydrophobic surface for surface enhanced raman spectroscopy of antibiotics. *RSC Adv.*, *9*, 14109–14115. <https://doi.org/10.1039/C9RA00817A>
- 8 [Barman, J.](#), Majumder, S. K., Roy, P. K., & Khare, K. (2018). Tunable superoleophobicity via harnessing the surface chemistry of uv responsive titania coatings. *RSC Adv.*, *8*, 13253–13258.  
<https://doi.org/10.1039/C8RA01458B>
- 9 [Barman, J.](#), Pant, R., Nagarajan, A. K., & Khare, K. (2017). Electrowetting on dielectrics on lubricating fluid-infused smooth/rough surfaces with negligible hysteresis. *J. Adhes. Sci. Technol.*, *31*, 159–170.  
<https://doi.org/https://doi.org/10.1080/01694243.2016.1205245>
- 10 [Barman, J.](#), Nagarajan, A. K., & Khare, K. (2015). Controlled electro-coalescence/non-coalescence on lubricating fluid infused slippery surfaces. *RSC Adv.*, *5*, 105524–105530.  
<https://doi.org/10.1039/C5RA21936A>
- 11 [Barman, J.](#), Swain, D., Law, B. M., Seemann, R., Herminghaus, S., & Khare, K. (2015). Electrowetting actuated microfluidic transport in surface grooves with triangular cross section. *Langmuir*, *31*, 1231–1236. <https://doi.org/https://doi.org/10.1021/La504354a>

## Book Chapters

- 1 Pant, R., Dattatreya, S., [Barman, J.](#), & Khare, K. (2018). Ph responsive reversibly tunable wetting surfaces (A. Hozumi, L. Jiang, H. Lee, & M. Shimomura, Eds.). In A. Hozumi, L. Jiang, H. Lee, & M. Shimomura (Eds.), *Stimuli-responsive dewetting/wetting smart surfaces and interfaces. biologically-inspired systems, vol 11*. Springer, Cham.

## References

Available on Request