

CURRENT
POSITION

Assistant Professor of Physics
(Since Jan 2020)
Department of Applied Sciences
School of Engineering
Tezpur University

RESEARCH
INTERESTS

- Condensed Matter Physics
- Optical Spectroscopy of Low-dimensional Materials
- Scanning Transmission Electron Microscopy (STEM)
- Electron Energy Loss Spectroscopy (EELS)

RESEARCH
EXPERIENCE

- | | |
|--|-----------------------|
| JSPS Fellow
Nanomaterials Research Institute, AIST, Tsukuba, Japan | Sept 2018 - Jan 2020 |
| Research Fellow
Department of Physics, National University of Singapore, Singapore | April 2016 - Aug 2018 |
| Research Fellow
NUSNNI-NanoCore, National University of Singapore, Singapore | Nov 2013 - Mar 2016 |
| Research Associate
NUSNNI-NanoCore, National University of Singapore, Singapore | Jan 2013 - Oct 2013 |

EDUCATION

- Ph.D. (Physics)**, Sept 2013
National University of Singapore, Singapore
- M.Tech. (Energy Technology)**, June 2007
Tezpur University
- M.Sc. (Physics)**, June 2005
Tezpur University
- B.Sc. (Physics)**, 2003
Cotton College, Guwahati

AWARDS,
FELLOWSHIPS,
SCHOLARSHIPS*Fellowships & Scholarships*

- **JSPS Postdoctoral Fellowship**, AIST, Tsukuba, Japan.
- **NUS Research Scholarship** for PhD in the Department of Physics, NUS, Singapore.
- **Junior Research Fellowship** for PhD in the Department of Physics, IISc, Bangalore.
- **NRE Fellowship**, Ministry of New and Renewable Energy, Govt. of India, during M.Tech.

National Level Examinations Qualified

- **CSIR-UGC NET -JRF** in Physical Sciences, June 2006.
- **GATE** 2006, 2005 Paper - Physics

University Award

- **University Gold Medal** for securing first rank in M.Tech. (Energy Technology), Tezpur University.

Best Poster Awards

- *ICON-2DMAT 2017 Conference*, NTU, Singapore, Dec 11–14, 2017.
- *AOFSRR 2013 Workshop*, Himeji, Japan, Sept 21–24, 2013.

1. P. K. Gogoi*, Y.-C. Lin, R. Senga, H.-P. Komsa, S. L. Wong *et al.*, Layer Rotation-Angle-Dependent Excitonic Absorption in van der Waals Heterostructures Revealed by Electron Energy Loss Spectroscopy, **ACS Nano** **13**(8), **9541** (2019). *Corresponding author
2. P. K. Gogoi*, Z. Hu, Q. Wang, A. Carvalho, D. Schmidt *et al.*, Oxygen passivation mediated tunability of trion and excitons in MoS₂, **Physical Review Letters** **119**, **077402** (2017). *Corresponding author
3. P. K. Gogoi*, D. Schmidt, Temperature-dependent dielectric function of bulk SrTiO₃: Urbach tail, band edges, and excitonic effects, **Physical Review B** **93**, **075204** (2016). *Corresponding author
4. P. K. Gogoi, L. Sponza, D. Schmidt, T. C. Asmara, C. Diao *et al.*, Anomalous excitons and screenings unveiling strong electronic correlations in $SrTi_{1-x}Nb_xO_3$ ($0 \leq x \leq 0.005$), **Physical Review B** **92**, **035119** (2015).
5. P. K. Gogoi, P. E. Trevisanutto, M. Yang, I. Santoso, T. C. Asmara *et al.*, Optical conductivity renormalization of graphene on SrTiO₃ due to resonant excitonic effects mediated by Ti 3d orbitals, **Physical Review B** **91**, **035424** (2015).
6. P. K. Gogoi, I. Santoso, S. Saha, S. Wang, A. H. Castro Neto *et al.*, Optical conductivity study of screening of many-body effects in graphene interfaces, **EPL (Europhysics Letters)** **99**, **67009** (2012).
7. S. H. Yu, P. K. Gogoi, A. Rath, H. Dai, Z. Q. C. Ng *et al.*, In-situ Derived Highly Active NiS₂ and MoS₂ Nanosheets on NiMoO₄ Microcuboids via Controlled Surface Sulfidation for High-current-density Hydrogen Evolution Reaction, **Electrochimica Acta**, **138733** (2021).
8. M. M. Juvaaid, S. Sarkar, P. K. Gogoi, S. Ghosh, M. Annamalai *et al.*, Direct Growth of Waferscale, Transparent, p-type rGO like Thin Films by Pulsed Laser Deposition, **ACS Nano** **14**(3), **3290** (2020).
9. E. Edison, P. K. Gogoi, Y. Zheng, S. Sreejith, S. J. Pennycook *et al.*, Electrochemically induced amorphization and unique lithium and sodium storage pathways in FeSbO₄ nanocrystals, **ACS Applied Materials & Interfaces** **11**(22), **20082** (2019).
10. Y. J. Zheng, Y. Chen, Y. L. Huang, P. K. Gogoi, M. Y. Li *et al.*, Point Defects and Localized Excitons in 2D WSe₂, **ACS Nano** **13**(5), **6050** (2019).
11. Y. F. Lim, K. Priyadarshi, B. Fabio, P. K. Gogoi, X. Cui *et al.*, Modification of Vapor Phase Concentration in MoS₂ Growth Using a NiO Foam Barrier, **ACS Nano** **12**(2), **1339** (2018).
12. I. Santoso, S. L. Wong, X. Yin, P. K. Gogoi, T. C. Asmara *et al.*, Optical and electronic structure of quasi-free-standing multilayer graphene on the carbon face of SiC, **EPL (Europhysics Letters)** **108**, **37009** (2014).
13. T. C. Asmara, A. Annadi, I. Santoso, P. K. Gogoi, A. Kotlov *et al.*, Mechanisms of charge transfer and redistribution in LaAlO₃/SrTiO₃ revealed by high-energy optical conductivity, **Nature Communications** **5**, **3663** (2014).
14. I. Santoso, R. S. Singh, P. K. Gogoi, T. C. Asmara, D. Wei *et al.*, Tunable optical absorption and interactions in graphene via oxygen plasma, **Physical Review B** **89**, **075134** (2014).
15. M. A. Majidi, E. Thoeng, P. K. Gogoi, F. Wendt, S. H. Wang *et al.*, Temperature-dependent and anisotropic properties of layered Pr_{0.5}Ca_{1.5}MnO₄ probed by spectroscopic ellipsometry, **Physical Review B** **87**, **235135** (2013).
16. I. Santoso, P. K. Gogoi, H. B. Su, H. Huang, Y. Lu *et al.*, Observation of room-temperature high-energy resonant excitonic effects in graphene, **Physical Review B** **84**, **081403(R)** (2011).
17. D. Datta, V. Tripathi, P. Gogoi, S. Banerjee, S. Kumar, Ellipsometric studies on thin film CuPC: C60 blends for solar cell applications, **Thin Solid Films** **516**, **7237** (2008).

PUBLICATIONS
SUMMARY

Highlights (overall)

Physical Review Letters (1)
ACS Nano (4)
Nature Communications (1)
Physical Review B (6)
Total publications: 17
First author: 6; Corresponding author: 3
h-index: 12*
Total citations: 522*
*from *Google Scholar* as of October 18, 2021

Highlights (as first author)

Physical Review Letters (1)
ACS Nano (1)
Physical Review B (3)
EPL (Europhysics Letters) (1)

REFeree
SERVICE

- Nature Communications
- ACS Nano
- Nanoscale
- Journal of Applied Physics

PRESENTATIONS *Oral Presentations*

- *12th Asia-Pacific Microscopy Conference (APMC-2020)*, Hyderabad International Convention Centre, Hyderabad, India, Feb 3–7, 2020.
- Invited *9th Prof. Dolan Konwer Memorial Lecture*, Department of Energy, Tezpur University, Assam, India, Jan 20, 2020.
- *2nd Seminar of A3 Japan-China-Korea Foresight Program*, Nanjing, China, Feb 21–23, 2019.
- *1 & 2DM Conference and Exhibition*, Tokyo, Japan, January 29–30, 2019.
- *International Conference on Materials and Advanced Technologies (ICMAT) 2017*, Suntec, Singapore, June 19–23, 2017.
- *HYBRIDPHOTONICS-2015 Workshop*, Department of Physics, Tezpur University, Assam, India, Feb 24–26, 2015.
- Invited lecture in *Workshop on Optical Conductivity of Functional Materials*, Institut Teknologi Bandung (ITB) in Bandung, Indonesia, June 9–11, 2014.
- *Materials Research Society (MRS) 2012 Fall Meeting*, Hynes Convention Center, Boston, Massachusetts, USA, Nov 26–30, 2012.
- *3rd Jogja International Conference on Physics 2012*, Yogyakarta, Indonesia, Sept 18–19, 2012.
- *International Conference on Materials and Advanced Technologies (ICMAT) 2011*, Suntec, Singapore, June 26–July 1, 2011.

Poster Presentations

- *The 3rd International Conference on 2D Materials and Technology, Singapore (ICON-2DMAT) 2017*, NTU, Singapore, Dec 11–14, 2017. (Best Poster Award)
- *International Workshop on Advanced and In-situ Microscopies of Functional Nanomaterials and Devices (IAMNano) 2017*, NUS, Singapore, Nov 12–15, 2017.
- *International Conference on Materials and Advanced Technologies (ICMAT) 2017*, Suntec, Singapore, June 19–23, 2017.
- *International Conference on Materials and Advanced Technologies (ICMAT) 2015*, Suntec, Singapore, June 28–July 3, 2015.
- *DAE-BRNS 7th National Symposium on Pulsed Laser Deposition of Thin Films and Nanostructured Materials (PLD 2013)*, Department of Physics and Meteorology, IIT Kharagpur, Kharagpur, India, Nov 14–16, 2013.
- *AOFSRR 2013 Workshop*, Himeji, Japan, Sept 21–24, 2013. (Best Poster Award)

SCHOOLS, CONFERENCES, WORKSHOPS, BEAMTIMES, VISITS FOR EXPERIMENTS	<i>Schools</i>	
	• <i>International Winterschool of Electronic Properties of Novel Materials (IWEPNM) 2019</i>, Kirchberg, Austria, March 9–16, 2019. • <i>Cheiron School 2013</i>, Hyogo, Japan, Sept 24–Oct 3, 2013. • <i>Modern Topics in Condensed Matter Physics</i>, Nanyang Technological University, Singapore, Jan 28–Feb 8, 2013.	
	<i>Conference</i>	
	• <i>International Conference on Materials and Advanced Technologies (ICMAT) 2013</i>, Suntec, Singapore, June 30–July 5, 2013.	
	<i>Workshop</i>	
	• <i>2-Day Familiarization Workshop on Nanofabrication Technologies</i>, Tezpur University, Assam, India, Apr 25–26, 2015.	
	<i>Visits for Experiments & Synchrotron Beamtimes</i>	
	• Dr. Kazu Suenaga's Lab, National Institute of Advanced Industrial Science and Technology (AIST), Tsukuba, Japan, Feb 7– March 30, 2018. • Beamtime at UVSOR Facility 38 Nishigo-Naka, Myodaiji, Okazaki, Japan, Sept 8–14, 2014. • Beamtime at DESY, Hamburg, Germany, May 28–June 18, 2011. • Department of Physics, University of Hamburg, Hamburg, Germany, Jan 6–Feb 7, 2011.	
EXPERIMENTAL SKILLS	• Scanning transmission electron microscopy & Electron energy loss spectroscopy • Temperature-dependent spectroscopic ellipsometry • Synchrotron based infrared, vacuum ultraviolet (VUV) spectroscopic techniques • UV-VIS and infrared spectroscopy • Raman spectroscopy and Photoluminescence • Electron beam lithography and optical lithography • Pulsed Laser Deposition of thin films	
TEACHING, RESEARCH GUIDANCE	• Lab demonstrator/Teaching Assistant for the undergraduate experimental physics module PC2193 offered by Department of Physics, NUS, Aug 2009 - Apr 2012 (6 semesters). • Teaching Assistant for the module <i>Nanoworld and Synchrotron Radiation</i>, Department of Physics, NUS for 2013/2014 and 2014/2015, Semester 2. • Co-supervised two undergraduate honours students from the Department of Physics, NUS in their final year project (FYP) for the academic year 2013/2014. • Mentored two undergraduate students from the Department of Materials Science and Engineering, NUS in their final year projects (FYP) of 2017/2018 based on scanning transmission electron microscopy (STEM) of 2D materials. • Teaching 1st year B. Tech. students of Tezpur University two physics courses PH103 & PH104 each year since 2020.	
OTHER INFORMATION	Gender:	Male
	Marital Status:	Married
	Language Proficiency:	English, Assamese, Hindi, Japanese (basic)
CONTACT INFORMATION	<u>Correspondence Address</u>	
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REFERENCES

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