



# BARASAT GOVERNMENT COLLEGE

## TEACHER'S PROFILE

**MR SARAJIT BISWAS, DEPARTMENT OF PHYSICS**

➤ DESIGNATION	: Assistant Professor (Stage2)
➤ QUALIFICATION	: M.Sc.
➤ DATE OF JOINING THE SERVICE	: May 30, 2009
➤ DATE OF JOINING THE INSTITUTION	: Mar 1, 2019
➤ ADDRESS FOR COMMUNICATION	: Barasat Govt. College, 10 K.N.C Road, Barasat, Kolkata 700124
➤ PHONE NO	: Personal information
➤ EMAIL ADDRESS	: srisabuj.biswas@gmail.com
➤ SPECIALIZATION	: Nuclear Physics
➤ TEACHING EXPERIENCE	: (1) UG courses (B.Sc. Physics Honours and General) from May, 2009 to till date (2) PG courses (M.Sc. Physics)- March, 2019 to till date
➤ COLLEGE SERVED	: (1) Taki Govt. College, Taki, North 24 Parganas (from May, 2009 to February, 2019) (2) Barasat Govt. College, Kolkata-124 (March, 2019 to till date)

➤ <b>ACADEMIC AND ADMINISTRATIVE EXPERIENCE</b>	: Examination Committee (from 2009 to 2020), Hostel Committee (2009 to 2019), Career Counselling and Placement Committee (from 2019 to 2020), PG Admission Committee (2019 to till date),
➤ <b>TOPICS TAUGHT</b>	: Mathematical Physics, Condensed Matter Physics, General Properties of Matter, Electricity and Magnetism, Heat and Thermodynamics, Electronics (Analog and Digital, OPAMPs)
➤ <b>AREA OF RESEARCH &amp; INTEREST</b>	: Structural, Electronic and Magnetic Properties of Transition Metal Oxides using Density Functional Theory (DFT)
➤ <b>ONGOING PROJECT DETAILS</b>	: None
➤ <b>AWARD RECEIVED</b>	: None
➤ <b>PATENT DETAILS</b>	: None
➤ <b>EXTRACURRICULAR ACTIVITIES</b>	: None
➤ <b>CAREER PROFILE</b>	: <i>I received B.Sc. (Physics) and M.Sc. (Physics) degree from University of Calcutta, West Bengal, India in the year 2003 and 2005 respectively. I am pursuing Ph.D (Physics) degree from West Bengal State University, Kolkata-700126, West Bengal, India. My research interest is on the structural, electronic and magnetic properties of transition metal oxides. I usually work on the Hollandite (K<sub>2</sub>Cr<sub>8</sub>O<sub>16</sub>, K<sub>2</sub>V<sub>8</sub>O<sub>16</sub>), Rutile (CrO<sub>2</sub>, VO<sub>2</sub>), ZnO, energy materials such as Mg(AlH<sub>4</sub>)<sub>2</sub>, NaO<sub>2</sub>, KO<sub>2</sub> systems. At present, I am working as an Assistant Professor in Physics at Barasat Govt. College, Barasat, Kolkata-700124, India. I have Published about 14 research papers in inland and foreign journals and has contributed about 10 technical papers in national and internal seminars and conferences.</i>
➤ <b>ACADEMIC LINK</b>	: (1) <a href="https://www.researchgate.net/profile/Sarajit-Biswas">https://www.researchgate.net/profile/Sarajit-Biswas</a>

## PUBLICATION



### JOURNAL PUBLICATION

:

- (1) Sarajit Biswas, 'First-principles investigation of the metal-insulator transition in rutile RuO<sub>2</sub> (<https://doi.org/10.1016/j.tsf.2021.138925>)', Thin Solid Films (<https://www.journals.elsevier.com/thin-solid-films>), October, 2021, ISSN/eISSN: 0040-6090/1879-2731
- (2) Sarajit Biswas and Molly De Raychaudhury, 'Metal-insulator transition in Cr-doped hollandite vanadate K<sub>2</sub>Cr<sub>8</sub>O<sub>16</sub> (<https://doi.org/10.1088/1757-899X/1183/1/012004>)', IOP Conference Series: Materials Science and Engineering (<https://iopscience.iop.org/journal/1757-899X>), September, 2021, ISSN/eISSN: 0965-0393 /1361-651X
- (3) Sarajit Biswas and Molly De Raychaudhury, 'First-principles study of the electronic and magnetic properties of Ti-substituted K<sub>2</sub>Cr<sub>8</sub>O<sub>16</sub> (<https://doi.org/10.1016/j.matpr.2021.06.460>)', Materials Today: Proceedings (<https://www.journals.elsevier.com/materials-today-proceedings>), August, 2021, ISSN: 2352-9407
- (4) Sarajit Biswas, 'A DFT Study of the Electronic, Magnetic and Structural Properties of Rutile VO<sub>2</sub> (<https://doi.org/10.1007/s40010-021-00731-2>)', Proceedings of the National Academy of Sciences, India Section A: Physical Sciences (<https://www.springer.com/journal/40010>), January, 2021, ISSN eISSN: 0369-8203/2250-1762
- (5) Sarajit Biswas, 'First-Principles Investigation of the Structural, Electronic and Magnetic Properties of  $\alpha$ -,  $\beta$ - and  $\gamma$ -Mg(AlH<sub>4</sub>)<sub>2</sub> Complex Hydride (<https://link.springer.com/article/10.1007/s10948-019-05237-y>)', Journal of Superconductivity and Novel Magnetism (<https://www.springer.com/journal/10948>), August, 2019, ISSN/ eISSN: 1557
- (6) Sarajit Biswas, 'First-principles study of the metal-insulator transition in the Ti-substituted rutile CrO<sub>2</sub> (<https://doi.org/10.1016/j.rinp.2019.102539>)', Results in Physics (<https://www.sciencedirect.com/journal/results-in-physics>), December, 2019, ISSN: 2211-3797
- (7) Sarajit Biswas, 'Correlation-induced charge ordering in the metal-insulator transition of Ru-doped tetragonal CrO<sub>2</sub> (<https://doi.org/10.1016/j.mseb.2018.12.019>)', Materials Science and Engineering B (<https://www.sciencedirect.com/journal/materials-science-and-engineering-b>), December, 2018, ISSN/eISSN: 0921-5107/1873-4944
- (8) Sarajit Biswas, 'First-principles study of the electronic, magnetic and structural properties of ZnO and Zn<sub>1-x</sub>Cr<sub>x</sub>O (x = 0.125, 0.25, 0.375, 0.5) in the room temperature wurtzite structure (<https://www.currentscience.ac.in/Volumes/115/08/1504.pdf>)', Current Science (<https://www.currentscience.ac.in/index.php>), October, 2018, ISSN:
- (9) Sarajit Biswas, 'Charge ordering in the metal-insulator transition of V-doped CrO<sub>2</sub> in the rutile structure (<https://link.springer.com/article/10.1007/s00894-018-3647-2>)', Journal of Molecular Modeling (<https://www.springer.com/journal/894>), April, 2018, ISSN/eISSN: 1610-2940/0948-5023
- (10) Sarajit Biswas, 'Metal-Insulator transition in the high pressure cubic CaF<sub>2</sub>-type structure of CrO<sub>2</sub> (<https://doi.org/10.1007/s12034-018-1551-0>)', Bulletin of Material Science (<https://www.springer.com/journal/12034>), March, 2018, ISSN/eISSN: 0250-4707/0973-7669



BOOK PUBLICATION

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