PROFILE

Name: Dr. Ajoy Mandal

Date of Birth: 08.12.1991

Designation: Assistant Professor

Service: W.B.E.S.

Date of Joining in W.B.E.S: 22.06.2020

Date of Joining in this College: 22.06.2020

Email Id: ajoymandal989@gmail.com

- **Academic Qualifications**:

Degree	Year	University
Ph.D	2022	IIT Kharagpur
M.Sc	2015	IIT Delhi
B.Sc	2013	University of Kalyani
H.S	2010	W.B.C.H.S.E
M.P	2008	W.B.B.S.E

Teaching Experience: I have joined as an Assistant professor on 22th June 2020 at Government General Degree College, Tehatta, West Bengal, India. During these three years , I have set up two undergraduate labs and taught undergraduate physics subjects such as classical mechanics, quantum mechanics, classical mechanics thermodynamics, electricity and magnetism, optics, sound, basic electronics, etc. In addition, I have been continuing my research work at IIT Kharagpur.

Research Experience: I have completed my Ph.D. program at Organic Electronics Laboratory (OELA), Department of Physics at IIT Kharagpur, India. During my Ph.D. I have developed organic field-effect transistors (OFETs) as sensors for sensing (i) human serum albumin (HSA) proteins in blood samples, (ii) SARS-CoV-2 virus present in saliva samples, and also (iii) blue light sensors. In addition, I have also synthesized perovskite materials and their ferroelectric properties study by PFM technique. Nanogenerators were fabricated based on $CsPbBr_3$ and $CsSnBr_3$ perovskite materials. Light-induced polarization of $CsPbI_3$ and its origin in hysteresis was also explored. In addition, I am expertise in different modes of XRD, Low temperature (10 K) measurement systems, and vacuum systems (10^{-7}mbar).

- **Research Interest**: Fabrication of transistor, nanogenerator, LED, Biosensors, Physical sensor, Perovskite materials and 2D nanomaterials.

CONFERENCES / SEMINARS

Sl No.	Title of the paper presented	Title of Conference/ Seminar	Organized by	Whether International/ National/State/ Regional/College or University level
1	Organic Field Effect Transistors (OFET) Based Ultra-Fast SARS- CoV-2 Sensors Using Angiotensin Converting Enzyme 2 (ACE2) As Receptor Molecules	XXI International Workshop on Physics of Semiconductor Devices	IWPSD, Delhi, India,	International

PUBLICATION

(i)Published Papers in Journals

Sl No.	Title with page no.	Journal	ISSN/eISSN/ ISBN No.	Whether peer reviewed. Impact factor, if any
1	One-pot facile synthesis and electrochemical evaluation of selenium enriched cobalt selenide nanotube for supercapacitor application.	Ceramics International	0272-8842	
2	Nitrogen vacancy and hydrogen substitution mediated tunable optoelectronic properties of g-C3N4 2D layered structures: applications towards blue LED to broad-band photodetection.	Applied Surface Science	1873-5584	
3	Interface engineering of moisture-induced ionic albumen dielectric layers through self-crosslinking of	Nanoscale	2040-3372	

	cysteine amino acids for low voltage, high-performance organic field-effect transistors.			
4	Silver nanodot decorated dendritic copper foam as a hydrophobic and mechano-chemo bactericidal surface.	Langmuir	1520-5827	
5	Atomic-Scale Imaging and Nano-Scale Mapping of Cubic α-CsPbI3 Perovskite Nanocrystals for Inverted Perovskite Solar Cells.	ACS Applied Materials & Interfaces	1944-8244	
6	Diffusion-induced ingress of angiotensin-converting enzyme2 into charge conducting path of pentacene channel for efficient detection of SARS-CoV-2 in saliva samples.	ACS Sensor	2379-3694	
7	Diffusion-Induced Thickness Thinning of Spin-Coated Films in Crystalline Grain Boundaries: A Process of Amorphization	Advance Materials Interfaces	2196-7350	
8	MOF-Assimilated High-Sensitive Organic Field-Effect Transistors for Rapid Detection of a Chemical Warfare Agent.	ACS Applied Materials & Interfaces	1944-8244	

(ii) Articles/ Chapters published in Books

Sl no.	**Title with page no.**	**Book title, editor & Publisher**	**ISSN/ISBN no.**	**Whether peer reviewed**
	N.A	N.A	N.A	N.A

ATTENDED ACADAMIC ENHANCEMENT PROGRAMME

Name of the Course	Mode	Duration	Sponsoring Agency
Faculty Induction Programme (FIP)	Online	28 Days	Calcutta University
Refresher Course on	Online	15 Days	Bardwan University

WORKSHOP/AWARENESS/PROGRAMME

Sl.No	Purpose	Organized by	Date
1	**N.A**	**N.A**	**N.A**

ACTIVITES

1. N.A

I hereby declare that all the statements made above are correct to the best of my knowledge and belief.

Ajoy Mandal
Date: June 2024
Place: West Bengal, India