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Specialization: Semiconductor Devices and Materials

Academic qualifications:

B.Sc (Hons. in Physics, University of Calcutta), M.Sc (in Physics, University of Kalyani), Ph.D (Technology)(in Radio Physics and Electronics, University of Calcutta under the supervision of Professor A.N. Daw)

Distinctions:

- Recipient of Siddhartha Memorial Gold medal for ranking fist in first class in the M.Sc Examination in Physics of the University of Kalyani.
- Awarded Research Scholarship by the Max-Planck-Institut Für Festkörperforschung, Stuttgart, Germany in 1988.
- Awarded Visiting Fellowship by Indian National Science Academy under INSA Visiting Fellowship for 1992-93
- Visiting Fellow of the Jawaharlal Nehru Centre for Advanced Scientific Research under the Visiting Fellowship Programme 1996-97 of the Centre.

Teaching positions held/holding:

Sl. no	Period	Place of Employment	Designation
1	1989-1994	Department of Electronic Science,University of Calcutta	Lecturer
2	1994-1999	Department of Electronic Science, University of Calcutta	Senior Lecturer
3	1999-2003	Department of Electronic Science,University of Calcutta	Reader
4	Since 2003	Department of Electronic Science,University of Calcutta	Professor

Research interests:

- Physics of Schottky Barrier and MIS Diodes, Semiconductor Heterojunctions, Solar Cells and Metal-Semiconductor Field Effect Transistors.
- Electrical methods for device and defects characterization.
- Electrical, optical and structural properties of polycrystalline semiconductors, thin film semiconductor deposition and characterization techniques.

Universities/Institutes where research has been carried out:

- Department of Radio Physics and Electronics, University of Calcutta
- Department of Physics, Indian Institute of Science, Bangalore
- Max-Planck-Institut Für Festkörperforschung, Stuttgart, Germany.
- Department of Electronic Science, University of Calcutta
- Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore

Foreign visit:

Country visited	**Purpose of the visit**
Germany	Post-doctoral research at Max-Planck-Institut Für Festkörperforschung, Stuttgart.
France	To deliver an invited lecture and chair a technical session in **SILICA 98**, an International conference on Silica Science and Technology from S (Synthesis) to A (Applications) held at Mulhouse in 1998 (organized by ICSI-CNRS).

Selected research publications in journals:

Sl. no.	Authors	Title of the paper	Journal	Vol	Year	Page
1.	A.N. Daw and P. Chattopadhyay	Effect of Inversion on the Barrier Height in Metal-SiO_2-Si Tunnel Diode	Solid St- Electronics.	27	1984	1057
2	P.Chattopadhyay and A.N. Daw	Effect of surface states on the barrier height in a MIS-diode in the presence of inversion	Int. J. Electronics	58	1985	775
3	P.Chattopadhyay and A.N.Daw	On the barrier height of a Metal-Semiconductor contact with a thin interfacial layer.	Solid St- Electronics	28	1985	831
4	P.Chattopadhyay and A.N.Daw	On the current transport mechanism in a Metal-Insulator-Semiconductor (MIS) diode	Solid St- Electronics	29	1986	555
5.	P.Chattopadhyay	A novel low resistive Metal-Insulator-Semiconductor (MIS) inversion layer solar cell structure	Solid St- Electronics	31	1988	1641
6.	P.Chattopadhyay and B.Roychaudhuri	A modified conductance technique for the determination of series resistance of MIS-tunnel diodes	Solid St- Electronics	34	1991	1455
7.	P.Chattopadhyay and B.Roychaudhuri	Origin of anomalous peak in the forward capacitance - voltage plot of Schottky barrier diode	Solid St- Electronics	35	1992	875
8.	P.Chattopadhyay and B.Roychaudhuri	New technique for the determination of series resistance of Schottky barrier diodes	Solid St- Electronics	35	1992	1023
9.	P.Chattopadhyay and B.Roychaudhuri	Frequency dependence of foward capacitance-voltage characteristics of Schottky barrier diodes	Solid St- Electronics	36	1993	605
10.	P.Chattopadhyay and K.Das	Effect of deep level impurities on the open circuit voltage of an MIS- solar cell.	Semicon- ductor Science & Technology	8	1993	1605

Sl. no.	Authors	Title of the paper	Journal Vol Year Page
11.	P.Chattopadhyay	High frequency capacitance-voltage characteristics of MOS-tunnel diodes in presence of interface states and fixed oxide charges	Solid St- Electronics 36 1993 1641
12.	P.Chattopadhyay	Functional dependence of open-circuit voltage on interface parameters and doping concentration of MIS-solar cells	Physica Status Solidi (A) 140 1993 587
13.	P.Chattopadhyay	Effect of localized states on the current voltage characteristics of Metal-Semiconductor Contacts with thin interfacial layer.	Solid St- Electronics 37 1994 1759
14.	P.Chattopadhyay	A new technique for the determination of barrier height of Schottky barrier diodes	Solid St- Electronics 38 1995 739
15.	P. Chattopadhyay and S.Sanyal	Capacitance-voltage characteristics of Schottky barrier diodes in the presence of deep level impurities and series resistance	Applied Surface Science 89 1995 205
16.	P. Chattopadhyay and J.Pal	Effect of localized states on the electrical characteristics of Metal-Semiconductor field Effect Transistors	Physica Status Solidi (A) 147 1995 633
17.	P. Chattopadhyay	Effect of inversion on the grain boundary potential of a polycrystalline semiconductor	Journal of Phys . Chem of Solids 56 1995 189
18.	P.Chattopadhyay	The effect of an inversion layer on the current-voltage characteristics of semiconductor grain boundaries.	Semicon- ductor Science & Technology 10 1995 1099
19.	P.Chattopadhyay	The effect of shunt resistance on the electrical characteristics of Schottky barrier diodes.	Journal of Physics D: Applied Physics 29 1996 823

Sl. no.	Authors	Title of the paper	Journal Vol Year Page
20.	P. Chattopadhyay	Capacitance technique for the determination of interface state density of Metal-Semiconductor contact.	Solid St- Electronics 39 1996 1491
21.	P. Chattopadhyay and K .Das	The origin of aging in Al-SiO_2-Si tunnel diodes	Journal of Applied Physics 80 1996 4229
22.	M.Ray and P. Chattopadhyay	Electrical transport in heat treated boron doped CdS film	Indian J Pure and Appl Physics 35 1997 349
23.	P. Chattopadhyay	Interface related substrate effect in Metal-Semiconductor Field Effect Transistors.	Physica Status Solidi (A) 163 1997 87
24.	P. Chattopadhyay	Effect of Ageing on the open -circuit voltage of MIS-solar cell	Applied Surface Science 126 1998 65
25.	P. Chattopadhyay	Aging of Metal-Semiconductor Field Effect Transistors	J. Phys. D: Applied Physics 31 1998 1060
26.	P. Chattopadhyay	The DC characteristics of a Silicon-on-Insulator Metal-Semiconductor Field Effect Transistors	Semicon- ductor Science & Technology 13 1998 1036
27.	P. Chattopadhyay and D.P. Haldar	The DC characteristics of anisotype heterojunction in the presence of interface states and series resistance	Applied Surface Science 143 1999 287
28.	P. Chattopadhyay and D.P. Haldar	Capacitance-voltage Characteristic of anisotype heterojunction in the presence of interface states and series resistance.	Applied Surface Science 171 2001 207
29.	P. Chattopadhyay	Admittance of Metal-Insulator-Semiconductor tunnel contacts in the presence of donor-acceptor mixed interface states and interface reaction	Journal of Applied Physics 89 2001 364

Sl. No	Names of the authors	Title of the papers	Journal Vol Year Page
30.	S.Sanyal and P. Chattopadhyay	Effect of exponentially distributed deep levels on the current and capacitance of a MIS-diode.	Solid St- Electronics 45 2001 315
31.	S. Sanyal and P. Chattopadhyay	Influence of deep level impurities on the conductance technique for the determination of series resistance of a Schottky contact	Applied Surface Science 181 2001 15
32.	P. Chattopadhyay	Aging Characteristics of nickel contact on p-type silicon.	Journal of Applied Physics 94 2003 7149
33.	P. Chattopadhyay and D.P. Haldar	Effect of energy distribution of interface states on the electrical characteristics of semiconductor heterojunction diode.	Applied Surface Science 252 2006 4055
34.	P. Chattopadhyay, J. Pal and K. Das	Optical response of a metal-semiconductor field effect transistor in the presence of interface states and interfacial layer at the gate contact	Journal of Applied Physics 104 2008 044505
35.	P. Chattopadhyay and A. Banerjee	On the voltage-dependent series resistance of a planar Schottky barrier diode	International Journal of Electronics 99 2012 1051
36.	P. Chattopadhyay, B. Karim and S. Guha Roy	On the sub-band gap optical absorption in heat treated cadmium sulphide thin film deposited on glass by chemical bath deposition technique	Journal of Applied Physics 114 2013 243506
37.	P. Chattopadhyay and S. Guha Roy	Effects of annealing and structural phase transformation on the Urbach absorption in thin silver sulphide films.	Journal of Applied Physics 116 2014 13351

Sl. no	Names of the authors	Title of the papers	Journal	Vol	Year	Page
38.	S. Guha Roy and P. Chattopadhyay	Grain boundary potential and charge density at grain boundaries of chemically prepared thin silver sulfide films	Journal of Physics and Chemistry of Solids	85	2015	273
39.	A. Banerjee and P. Chattopadhyay	Effect of Schottky-ohmic separation length on the ac properties of planar Schottky barrier diode	European Physical Journal Applied Physics	80	2017	20101
40.	B. Karim and P. Chattopadhyay	Annealing induced photosensitivity modulation of zinc selenide thin film in the sub-bandgap optical absorption region	Journal of Applied Physics	123	2018	245701
41.	P. Chattopadhyay and B. Karim	Highly UV sensitive polycrystalline zinc selenide thin film grown by chemical bath deposition technique	Materials Science and Engineering B	236-237	2018	56