

A Brief C.V

1. **Name of the Faculty Member:** Dr. Satyabrata Jit
2. **Designation:** Sr. Lecturer
3. **Name of the Department:** Electronics Engineering, IT-BHU, Varanasi-221005
4. **Qualification:** B.E. (Calcutta Univ.), M.Tech.(IIT Kanpur), Ph.D (IT-BHU),
5. **Year of Teaching Experience :** > 10 Years
5. **Year of Research Experience:** > 07 Years
6. **Field of Specialization (s):** Semiconductor Devices and Circuits, Optoelectronic Devices, and Communication
7. **Publications:**
 - (a) **Books:** 01 (in press)
 - (b) **Papers:**
 - (i) In International Journal: **10** (Details are given on a separate sheet)
 - (ii) In National Journal: **00**
 - (iii) In International Conferences: **16** (Details are given on a separate sheet)
8. **Number of M.E./M.Tech. Guided /Produced During 2000-2005:** 06
9. **Number of Ph.Ds Guided /Produced:** 01
10. **Sponsored Project Completed:** Worked as the Co-investigator in the project entitled, “*Low-Power and Low-Voltage Logic Circuit Design Using E-MESFET’s for VLSI Applications.*” The project was of Rs. 5.00 lacs sponsored by the AICTE under the R&D Scheme during 2002-2004. The Principal Investigator was Prof. B. B. Paul (Retd.), Dept. of Electronics Engineering, IT-BHU.

11. **Patents Awarded:** Nil

12. **Other Awards, Honours, Recognition etc.:**

- (i) **Worked as Reviewer** of the following journals:
 - (a) **IEEE Transactions on Electron Devices** (IEEE Electron Devices Society, USA)
 - (b) **IEEE Journal of Quantum Electronics** (IEEE Electron Devices Society, USA)
 - (c) **Solid State Electronics** (Elsevier Science, UK)
 - (d) **IETE Journal of Research** (IETE, India)
 - (e) **IETE Technical Review** (IETE, India)
- (ii) My name was included in the **Golden List of IEEE T-ED** for the calendar year of 2004 and 2005 (Refs.: *IEEE Trans. Electron Devices*, Vol.51, pp. 1948-1961, Dec. 2004 & Vol.52, pp.2516-2532, 2005).
- (iii). My Biographical Profile has been considered for publication in the *Marquis Who'sWho in the World, 23rd Edition, 2006*.
- (iv) **Membership of Professional Body:** I have been awarded as **Life Member** of the Professional Body "*The Institution of Electronics and Telecommunication Engineers (IETE), India.*"
- (v) Recently I have been selected for the **award of INSA-Visiting Fellowship 2006-2007** to visit Department of Physics and Meteorology, Indian Institute of Technology, Kharagpur-721302.

Papers Published in *International Journals*

1. **S. Jit** and B.B.Pal, “A New Optoelectronic Integrated Device For Light Amplifying Optical Switch”, *IEEE Trans. Electron Devices*, **Vol.48**, No.12, pp.2732-2739, Dec.2001.
2. P. Pandey, B.B.Pal, and **S. Jit** “A New Two-Dimensional Analytical Model for Potential Distribution and Threshold Voltage of Fully Depleted Short - Channel Si-SOI-MESFET’s,” *IEEE Trans. Electron Devices*, **Vol. 51**, No. 2, pp. 246-254, Feb. 2004.

3. **S. Jit**, and B. B. Pal, "New Optoelectronic Integrated Device for Optically Controlled Microwave Oscillators," *IEE Proc.-Optoelectron.*, **Vol.-151**, pp. 177-182, June 2004.
4. **S. Jit**, P. Pandey, and B.B.Pal, "A New Two-Dimensional Model for the Drain-Induced Barrier Lowering of Fully Depleted Short-Channel SOI-MESFET's," *Journal of Semiconductor Technology and Science*, **Vol. 3**, No. 4, pp. 217-222, Dec. 2003.
5. **S. Jit**, and B.B.Pal, "A Simple Analytical Model for the Study of Optical Bistability using Multiple Quantum Well p-i-n Diode Structure," *Journal of Semiconductor Technology and Science*, **Vol. 4**, No. 1, pp. 63-73, March 2004.
6. **S. Jit**, P. Pandey, A. Kumar, and S.K.Gupta, "Modified Boundary Condition at Si-SiO₂ Interface for the Modeling of Threshold Voltage and Subthreshold Swing of Short-Channel SOI-MESFET's," *Solid State Electronics*, **Vol. 49**, pp.141-143, 2005.
7. **S. Jit**, G. Bandhawakar and B.B.Pal, "Analytical Modeling of a DCFL Inverter Using Normally-off GaAs MESFET's Under Dark and Illuminated Conditions" *Solid-State Electronics*, **Vol. 49**, pp. 628-633, 2005
8. **S. Jit** and Neti V. L. Narasimha Murty, "Analytical Study of the Photo-Effects on Common-Source and Common-Drain Microwave Oscillators using High Pinch-Off n-GaAs MESFET's," *Microelectronics Journal*, **Vol.37**, pp. 452-458,2006

9. **S. Jit**, Saurabh Morarka, and Saurabh Mishra, "A 2-D Model for the Potential Distribution and Threshold Voltage of Fully Depleted Short-Channel Ion-Implanted Silicon MESFET's," *Journal of Semiconductor Technology and Science*, **Vol. 5**, pp.69-77, Sept. 2005.
10. Neti V. L. Narasimha Murty, and **S. Jit**, "Analytical Modeling of Photo-Effects on the S-Parameters of GaAs MESFET's," *Microwave and Optical Technology Letters*, Vol.48, pp.150-155, Dec.2005.
11. Neti V.L.Narasimha Murty and **S. Jit**, "A Photo-dependent Capacitance Model of GaAs MESFET's," **Vol. 203**, pp.1005-1017, May 2006
12. Neti V.L.Narasimha Murty and **S. Jit**, "A new semi-empirical model for the backgating effect on the depletion width modulation in GaAs MESFET's," *Semiconductor Science and Technology* (communicated).
13. Neti V.L.Narasimha Murty and **S. Jit**, "Analytical Modeling of Photo-Dependent Capacitances in GaAs MESFET's with Emphasis on the Substrate Related Effects" *Solid-State Electronics* (communicated).
14. Neti V.L.Narasimha Murty and **S. Jit**, "Static I-V Characteristics of Optically Controlled GaAs MESFET's with Emphasis on Substrate-induced Effects," *Journal of Semiconductor Science and Technology* (communicated)

Papers Published in International Conference Proceedings

1. G. Bandhawakar, **S. Jit** and B.B.Pal, “An Analytical Model for Optically Controlled Inverter using Normally-off MESFET’s,” *Proc. SBMO/IEEE MTTs IMOC 2003*, pp.683-688.
2. **S. Jit** and B.B.Pal, “OPFET-LAOS: A New Optoelectronic Integrated Device for Light Amplifying Optical Switch”, *Proc. SPIE, Vol. 4580*, pp.131-140, Nov.2001.
3. **S. Jit**, and B.B. Pal, “Light Source Integrated OPFET (LSI-OPFET): A New Optoelectronic Integrated Device for Optically Controlled Varying Gain Amplifier,” *Proc. SPIE, Vol.4905*, pp.497-507,2002
4. **S. Jit** and B.B.Pal, “Optical Amplification and Switching,” presented in the *Indo Japanese Workshop on Micro-System Technology*, Nov.23-25, 2000, Delhi University, India.
5. **S. Jit**, and B.B.Pal, “Light-Source Integrated OPFET (LSI-OPFET): A New Optoelectronic Integrated Device for Optically Tuned Microwave Oscillators,” *Proc. Photonics-2002*, p.246, TIFR, Mumbai, Dec.16-18, 2002.

6. P. Pandey, B.B.Pal, and **S. Jit**, "A New Two-Dimensional Analytical Model for Threshold Voltage of Fully Depleted Short-Channel Si-SOI-MESFET's," *Physics of Semiconductor Devices (IWPSD-2003)*, Narosa Publishing House, New Delhi, India, pp. 606-608.
7. **S. Jit**, and B.B.Pal, "A Semi-Analytical Model for the Study of Optical Bistability using Multiple Quantum Well p-i-n Diode Structure," *Physics of Semiconductor Devices (IWPSD-2003)*, Narosa Publishing House, New Delhi, India, pp. 941-943.
8. **S. Jit** and B.N. Tiwari, "Optically Controlled Microwave Oscillator using GaAs MESFET's," *Physics of Semiconductor Devices (IWPSD-2003)*, Narosa Publishing House, New Delhi, India, pp. 803-805.
9. P. Pandey, B.B.Pal, and **S. Jit**, "A New Two-Dimensional Analytical Model for the Potential Distribution and Drain-Induced Barrier Lowering of Short-Channel Ion-Implanted Si-SOI-MESFET's," *International Conference on Computers and Devices for Communication (CODEC-04)* held during January 01-03, 2004 in Hyatt Regency Kolkata, Kolkata, India, EDM-3, p.105.
10. **S. Jit**, Saurabh Morarka and Saurabh Mishra, "A New 2-D Model for the Potential Distribution of Ion-Implanted Short-Channel Silicon MESFET's," *2004 Asia - Pacific Microwave Conference (APMC'04)* held during Dec 15-18, 2004, Hotel Ashok, New Delhi, India, p. 968.

11. Prashant Pandey, Saurabh Morarka, Saurabh Mishra, B.B.Pal and **S. Jit**, “A Subthreshold Current Model for Short-Channel Si-SOI MESFET’s,” *2004 Asia-Pacific Microwave Conference (APMC’04)* held during Dec 15-18, 2004, Hotel Ashok, New Delhi, India, 1024.
12. Neti.V.L.Narasimha Murty, and **S. Jit**, “A New Capacitance Model of Optically Controlled GaAs MESFET’s,” *2004 Asia-Pacific Microwave Conference (APMC’04)* held during Dec 15-18, 2004, Hotel Ashok, New Delhi, India, p.1022.
13. Neti V. L. Narasimha Murty, and **S. Jit**, “An Analytical model for the S-parameters of Optically Controlled GaAs MESFET’s,” *2005 Spanish Conference on Electron Devices (IEEE)*, Feb.2-5, 2005, pp. 103-106.
14. Neti V. L. Narasimha Murty and **S. Jit**, “Photo-Effects on Static I-V Characteristics of GaAs MESFET’s: Role of Deep Level Traps and Backgating,” *International Conference on Electronic and Photonic Materials, Devices and Systems (EPMDS-2006)*, to be held during Jan. 2-6, 2006, University of Calcutta, Kolkata, India.
15. **S. Jit** and Ravish Sunny, “A New 2-D Analytical Model for the Potential Distribution and Threshold Voltage of Short-Channel SOI-MOSFET’s,” *International Conference on Electronic and Photonic Materials, Devices and Systems (EPMDS-2006)* held during Jan. 2-6, 2006, University of Calcutta, Kolkata, India.

16. Neti V. L. Narasimha Murty and **S. Jit**, “Analytical Modeling of Photo-Effects on the Frequency-Dependent Output Conductance of GaAs MESFET’s,” *Physics of Semiconductor Devices* (IWPSD-2005), Allied Publishers Pvt. Limited, **Vol. 1**, pp.125-128, 2005 (13th International Workshop on the Physics of Semiconductor Devices, held during Dec. 13-17, 2005, New Delhi, India).

Book Published (in press):

Electronics Devices and Circuits

(Revised Edition)

by

Jacob Millman, Christos C. Halkias, and **S. Jit**,

Tata McGraw-Hill Publishing Company Limited, New Delhi.

The book is about to be published in Nov.2006.