

# CV format

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Academic Qualification: (M.A/M.Com/M.Sc. onwards)  
M.Sc, PhD.

Teaching Experience: 9 years.

Research Interest and Experience: Optoelectronics, Nonlinear Dynamics and Chaos, and Plasma Physics.

List of Publication: (Last 10 years): 20 papers in International journals and 5 in Seminar/Conferences.

## A. INTERNATIONAL JOURNALS

1. **K Mukherjee**, Frequency encoded optical four-bit adder/subtractor with control input using semiconductor optical amplifiers, Optik-International Journal for Light and Electron Optics 125 (20), 6183-6188.
2. **K Mukherjee**, SEMICONDUCTOR OPTICAL AMPLIFIER BASED FREQUENCY ENCODED LOGIC GATES EXPLOITING NONLINEAR POLARIZATION ROTATION ONLY, Journal of Circuits, Systems, and Computers 23 (09).
3. **K Mukherjee**, ALL OPTICAL FREQUENCY ENCODED COMBINATIONAL LOGIC DEVICES UTILIZING POLARIZATION INDEPENDENT FOUR-WAVE MIXING IN SEMICONDUCTOR OPTICAL AMPLIFIERS, Journal of Circuits, Systems, and Computers 23 (09).
4. **K Mukherjee**, Method of implementation of all optical tri-state logic in frequency encoded format using non-linear material, Optik-International Journal for Light and Electron Optics 124 (17), 2807-2810.
5. **K Mukherjee, P Ghosh**, Alternative method of implementation of frequency encoded N bit comparator exploiting four wave mixing in semiconductor optical amplifiers, Optik-International Journal for Light and Electron Optics 123 (24), 2276-2280,2012..
6. **K Mukherjee, D Kumbhakar**, Simulation of two photon absorption in silicon wire waveguide for implementation of all optical logic gates, Optik-International Journal for Light and Electron Optics 123 (6), 489-493.
7. **K Mukherjee**, Alternative approach to optical frequency encoded flip flops by utilizing semiconductor optical amplifier non linearity, Journal of Optics 41 (1), 16-24.
8. **K Mukherjee, AK Meikap, D Kumbhakar**, Frequency encoded all optical single bit memory unit using difference frequency generation alone, Optical and Quantum Electronics 43 (6-10), 101-107.
9. **K Mukherjee**, All optical read only memory with frequency encoded addressing technique, Optik-International Journal for Light and Electron Optics 122 (16), 1437-1440.
10. **K Mukherjee**, A method of implementation of frequency encoded all optical encryption decryption using four wave mixing, Optik-International Journal for Light and Electron Optics 122 (16), 1407-1411.
11. **K Mukherjee**, A method of implementation of frequency encoded all optical logic gates based on non-linear total reflectional switch at the interface, Optik-International Journal for Light and Electron Optics 122 (14), 1284-1288.

12. **K Mukherjee**, Method of implementation of frequency encoded all optical half adder, half subtractor and full adder based on semiconductor optical amplifiers and add drop multiplexers, Optik-International Journal for Light and Electron Optics 122 (13), 1188-1194.
13. **K MUKHERJEE**, ON THE METHOD OF IMPLEMENTATION OF FREQUENCY ENCODED ALL OPTICAL RECONFIGURABLE LOGIC GATES BASED ON TOTAL REFLECTIONAL OPTICAL SWITCH AT THE INTERFACE, Optics and Photonics Letters 4 (01), 25-34.
14. **K Mukherjee**, A novel frequency encoded all optical logic gates exploiting polarization insesensitive four wave mixing in semiconductor optical amplifier, filtering property of ADD/DROP multiplexer and non-linearity of reflective semiconductor amplifier, Optik-International Journal for Light and Electron Optics 122 (10), 891-895.
15. **K Mukherjee**, Implementation of a novel hybrid encoding technique and realization of all optical logic gates exploiting difference frequency generation alone, Optik-International Journal for Light and Electron Optics 122 (4), 321-323.
16. **K Mukherjee**, P Ghosh, A novel frequency encoded all optical CNOT gate exploiting difference frequency generation and implementation of fast binary adders using frequency encoding and nonlinear dielectric films, Optik-International Journal for Light and Electron Optics 121 (24), 2195-2197.
17. **K MUKHERJEE**, IMPLEMENTATION OF HYBRID ENCODED ALL OPTICAL COMPUTATION USING NONLINEAR MATERIAL BASED DIFFERENCE FREQUENCY GENERATION ALONE, Optics and Photonics Letters 3 (01), 61-71.
18. **K Mukherjee**, P Ghosh, D Kumbhakar, AK Meikap, A method of optical implementation of frequency encoded all optical logic gates based on multiphoton processes in non linear material, Optical and Quantum Electronics 42 (2), 121-128.

#### **B. SEMINARS AND CONFERENCES**

1. **K. Mukherjee**, “All optical frequency encoded multiplexer using polarization independent four wave mixing in semiconductor optical amplifier”, Proceedings of international conference on electronic systems(ICES 2011), NIT, Rourkela, INDIA, 7 to 9<sup>th</sup> January, (2011).
2. **K. Mukherjee**, “Terahertz Optical Asymmetric Demultiplexer (TOAD) based frequency encoded all optical NOT gate”, Proceedings of the international conference on laser, materials, & communication, pp 242 – 244, Burdwan, India, December 7 to 9, 2011, ISBN 983 - 93 - 80813 - 14 - 1.
3. **Kousik Mukherjee**, A novel frequency encoded all optical binary half adder and full adder exploiting four wave mixing in semiconductor optical amplifier and add drop multiplexer, NCETACS, Shillong 9-10 April, 2010, ISBN: 978-81-910147-0-9.
4. Anirban Roy Chowdhury, Ivy Dutta, **Kousik Mukherjee** and DharmadasKumbhakar, “FDTD Simulation of Two Photon Absorption in Silicon Waveguide and realization of All Optical Logic Gates”, XXXVI OSI Symposium on Frontiers in Optics and Photonics (FOP11),Dec 5, 2011.
5. **Kousik Mukherjee**, Alternative method of implementation of all optical 2-to – 4 line decoder of frequency encoded data using difference frequency generation(DFG) only, MDCCT 2012, Feb 6-7, 2012, pp 218 -220, ISBN: 978-93-80663-36-4.

### **Presentation in Seminar/Conference:**

1. (ICES 2011), NIT, Rourkela, INDIA, 7 to 9<sup>th</sup> January, (2011).
2. International conference on laser, materials, & communication, pp 242 – 244, Burdwan, India, December 7 to 9, 2011.
3. NCETACS, Shillong 9-10 April, 2010
4. MDCCT 2012, Feb 6-7, 2012, Burdwan.