

# **CURRICULUM – VITAE**



## **Dr. Sanjay Tiwari**

M.Sc., M.Phil. Ph.D. AMIETE, PDF, FIETE, MOSA

US Fulbright Fellow, Ex Visiting Academic Cambridge Univ.  
ICTP Italy Senior Associate, UGC Research Awardee  
SAARC Fellow

### **Professor & Head**

**School of Studies in Electronics & Photonics**  
**Course Coordinator: UGC Innovative M.Tech. Program in**  
**Optoelectronics & Photonics**  
**Pt. Ravishankar Shukla University**  
**Raipur (C.G.) 492010**  
**(<http://www.prsu.ac.in/elel.html>)**

**Email : [stiwari @ ieee.org](mailto:stiwari@ieee.org)**

**[stiwari@fulbrightmail.org](mailto:stiwari@fulbrightmail.org)**

**Cell: 09424225771**

**09424227072**

**0771-2263924**

## Curriculum vitae

### Dr. Sanjay Tiwari

M.Sc., M.Phil. Ph.D. AMIETE, PDF, FIETE, MOSA

US Fulbright Fellow, Visiting Academic Cambridge Univ

ICTP Italy Senior Associate, Indian Academy Sum Fellow



### Professor & Head of Electronics (ICT Expert)

I am working as Professor & Head, School of Studies in Electronics & Photonics, Pt. Ravishankar Shukla University, Raipur. I was born in 1963 and obtained my graduation and post-graduation and PhD from Rani Durgavati University Jabalpur and did Post-Doctoral research from renowned Cavendish Lab, University of Cambridge, U.K. I have been at the helm of affairs of many higher education institutions during my career spanning over 26 years. My experiences to the field of science and educational administration are rich and varied.

I act as an active teacher and researcher in the field of Electronics & Photonics, has held post-doctoral and visiting research professor positions in the Universities of Cambridge(U.K.), University of California and International Center of Theoretical Physics (Italy) and Distinguished Visitor at IBM Almaden Research Lab, San Jose California. I have created an internationally renowned research group in the area of Optoelectronics and published extensively (about 60 refereed research publications in high impact factor international journals) in this area. Over 15 doctoral researchers have been guided by me, all of them now occupying leading positions in academia, R&D, and industry in India and abroad. My research publications have received over 200 citations during the last 18 years.

My major research interests are: Physics of problems connected with development, characterization, and applications of electronic and optoelectronic materials, specifically in inorganic and organic semiconductors. I joined SoS in Electronics in 2003 and learnt Physical simulation methodology at **Cavendish Laboratory, University of Cambridge, UK..** I am interested in Modelling & Simulation of Organic Devices (PLED & OPV) & designing characterization experiments for Organic materials and has set up a specialized Laboratory for optical and electrical transient studies. Currently I am also interested in display and electronic applications of polymers and small molecules and simulation of ACTFEL devices. Thematically my research interests are in Computational Condensed Matter Physics with relevance to electronic applications and devices.

I am recipient of USIEF prestigious **Fulbright-Nehru Senior Research Fellowships 2010-2011.** I am **Senior Associate Abdus Salam ICTP Italy and INSA Academy Fellowship.** I got the **National UGC Research Award** of University Grants Commission, New Delhi, **Cambridge University & UKIERI Award** of British Council, **SAARC Fellowship, Best Young Scientist Award** for his research contributions. I have published more than 30 original research papers in International and National Journals of repute and more than 60 research papers in proceedings of International and National conferences. I have delivered invited talks in International and National Conferences/Orientation & Refresher Courses. I have

presented my work at prestigious Imperial College, London ,St John College, Cambridge ,Cavendish Lab, Cambridge, University of California Santa Cruz,IBM Research Center, San Jose, ICTP, Italy, Gwangju Institute of Science &Technology, South Korea .I am author of three books Physics II & III and ACTFEL devices with one of my book on MATLAB is under publication by PHI.

## Work Information

### Head & Professor of Electronics

**Pt Ravishankar Shukla University, Raipur, Chhattisgarh**

### **COURSE COORDINATOR**

M.Tech in Optoelectronics & Laser Technology (UGC Innovative Program)

### **Ex - CHAIRMAN**

Board of Studies in Electronics  
Pt. Ravishankar University,  
Raipur (C.G.) 492010, India

### **Senior Associate (2012-17)**

International Centre for Theoretical Physics Trieste, Italy

### **Visiting Professor (2010-11)**

University of California, Santa Cruz California 95060  
Dr H.S.Gaur University, Saugar (M.P.) since 2008

### **Visiting Academic (2007-08)**

**Cavendish Lab, University of Cambridge, UK**

#### **POSITIONS HELD**

- ✉ Visiting Associate Professor at Department of Physics, University of California, Santa Cruz, USA Dec 2010 to Aug 2011
- ✉ UGC Research Awardee at SoS in Electronics,Pt Ravishankar Shukla University, Raipur(C.G.) July 2009
- ✉ Associate Professor (SoS in Electronics,Pt Ravishankar Shukla University, Raipur(C.G.)2003 to date)
- ✉ Visiting Fellow (Optoelectronics Group Cavendish Laboratory, Department of Physics University of Cambridge, Cambridge March 2007-March 2008)
- ✉ Assistant Professor Govt Model Science College, Jabalpur, July 1990-1999)

**Date of birth** : **19th July. 1963.**

## Professional Qualifications

- **M.Sc. Information Technology**, M.P. Bhoj (Open) University Bhopal, 2005
- AMIETE (Section A & Sec. B) The Institution of Electronics and Telecommunication Engineers, New Delhi 1999
- Post graduate Diploma in Electronics, Rani Durgavati University, Jabalpur 1985
- 25 years of teaching and 23 years of research experience.
- Learnt Physical simulation at Cavendish Lab, University of Cambridge, UK
- Learnt Optical Simulation at IBM Almaden Research Center, San Jose California.

**Field of major scientific interest:** Organic Optoelectronics, Computational Condensed Matter Physics

## Achievements

1. **Awarded** by Indian Academy of Sciences IASc-**INSA**-NASI Summer Research Fellowship 2013
2. **MoU with University of California, Santa Cruz**  
I succeeded in signing of a MoU between Physics Deptt **the University of California, Santa Cruz** and School of Studies in Electronics **Pt Ravishankar Shukla University, Raipur (C.G.) India** on June 21, 2011 to recognize the value of educational, cultural, and scientific exchanges. The students will have an opportunity to have experience in learning out in the upcoming fields and conduct research on state of art equipment's and lab facilities.
3. Started job oriented **M. Tech Programme in Opto-electronics and Laser Technology**: Realizing the rapidly growing need for well-trained manpower in the field of optoelectronics and lasers, I had prepared proposal and after successful presentation University Grants Commission under its Innovative Programme: Teaching and Research in Interdisciplinary and Emerging Areas has sponsored a Two-year **M. Tech Programme in Opto-electronics and Laser Technology** which is jointly run by School of Studies in Electronics and School of Studies in Physics. Rapidly growing potential in research and industrial applications of photonics, make it a critical field for development in India
4. I guided students of M.Tech in Optoelectronics & Laser Technology for their one year project and they are pursuing project at Raja Ramanna Center for Advanced Technology, Indore, NPL New Delhi and after completion they are getting lucrative jobs in Industries, academics and multinational companies.
5. Formed the long demanded alumni association of SoS in Electronics.
6. As Keynote Speaker gave talk on Photonics for Telecommunication at function organized by Institution of Engineers Chhattisgarh Chapter

7. Invited by Vice Chancellor Devi Ahilaya University Indore as Subject Expert for selection of faculty members in Electronics
8. Invited as Subject Expert by Vice Chancellor Indira Kala Sangeet Vishvidyalaya Khairagarh for invited lectures for Pre PhD course scholars .
9. Invited as Expert to a function of Vivekananda Vijnan Mission at Bose Institute Kolkatta on 03.08.13
10. Appointed Member of Committee constituted by Commissioner, Higher Education, Govt of Chhattisgarh for inspection for opening Govt College at Vanachal Gram Rengadabri vide Letter Joint Director, Directorate of Higher Education, Govt of Chhattisgarh No 88/16/Plan/2013 dt 15.05.13.
11. Invited as Subject Expert by Chhattisgarh Council of Science & Technology Raipur for evaluation of Seminar & Workshop proposal.
12. Member Committee Commemoration Volume Golden Jubilee Celebrations of PRSU
13. **Appointed Member UGC Expert Committee** to evaluate Major & Minor research Projects in subject Material Science/Electronics.
14. **Acted Member, Expert Committee** appointed by Chhattisgarh Private University Regulatory Commission for inspection of Private Universities.
15. Member Technical Committee Chhattisgarh Council of Science & Technology.
16. Invited for speech at **Flexible Display Technology. at** BIT's 1<sup>st</sup> Annual World Congress of Emerging InfoTech-2012 (WCEIT-2012) with the theme "Welcome 3rd Wave Revolution of IT/ICT Industry" will be held in Dalian, China.
17. Invited by Indira Sangeet Vishvidyalaya, Khairagarh for delivering lectures on Research Methodology & ICT.
18. Invited to give lecture on frontier area of Physics "Photonics for Tomorrow", at the Department of Physics, Govt. M H College of Home Science & Science for Women Jabalpur under the program "**Guest lectures by Eminent Professors**".
19. Organized as Co-convener **National Conference on Interaction between Traditional and Modern Technologies** Chhattisgarh Council of Science & Technology and Chhattisgarh Vigyan Bharati. Coordinated the Technical Sessions and **Editor of Book of Abstract prepared for Conference.**
20. **Appointed Member UGC Expert Committee** to evaluate Major research Projects in subject Material Science/Electronics at UGC Head Office New Delhi and Minor Research Project at Central Regional Office Bhopal.
21. Invited as Subject Expert by Staff Selection Commission Raipur for selection of Asst Central Intelligent Officer.
22. Appointed **Expert Member** of **Chhattisgarh Ayush and Health Science University,** Raipur and attended a meeting as Expert at CPWD Office to assess the proposals of major construction companies for constructing building of University.

### **Additional Charges:**

- Worked as Founder Incharge Computer Centre (Confidential) (2005-07)
- Incharge Grant Cell of the University for five years

I had established Computer centre with assistance from administration with the aim to prepare results and print mark sheets and Degree in-house and this will be done for the first time by the University since its inception.

- Prepared solely proposal for AICTE approval of M.Tech. program and conducted visit of AICTE.
- Carried out all the administrative and academic duties and responsibilities as Head of Department related to admission, examination, purchase, maintenance of discipline, student related issues necessary for academic growth, development and promotion of department.
- Prepared Commemoration Volume Golden Jubilee Celebrations Report of SoS in Electronics & Photonics.

### **Personal Statement:**

I belong to a set of people who want to "know everything". Since this is impossible in this day and age, for the past seven scientifically conscious years of my life, I have been narrowing down and trying to find the perfect area for myself. In high school I decided to go the technical route because I felt more at home in my math and science classes. In my first years of college, I lucked down on academia because of the idealistic influence of physicists Albert Einstein and Richard Feynman who pledged that understanding the subtle patterns of nature is divinely akin to "Figuring out God's hand " Afterwards, I decided to become a theorist rather than an experimentalist because I enjoy seeing patterns across various formulas and subjects and like to think that I am naturally proficient at seeing those patterns through various other decisions. I have "narrowed down" my choices to condensed matter physics and computational quantum Physics. These two methods are vital to the understanding of everything from solar cells to superconductor. While there is significant overlap, there is unfortunately rather large gap between these two subjects which I would like to try to close.

### **Honours and Awards received:**

- I. **US Fulbright Foundation** administered by the Council for International Exchange of Scholars (CIES) and USIEF awarded **Fulbright-Nehru Senior Research Fellowship for the year 2010-2011 to work at University of California, Santa Cruz and IBM Almaden Research Center, San Jose.**
- II. **International Center for Theoretical Physics** awarded **Senior Associate ship for five Years till 2017**
- III. **Awarded INSA ACADEMY** Summer Fellowship to pursue research at BARC, Mumbai.

- IV. Honoured with **UKIERI Award** of British council under UK-India Education and Research Initiative programme for the year 2007 to work at Cavendish Lab., University of Cambridge, U.K.
- V. Awarded prestigious **SAARC fellowship** from University Grants Commission of Bangladesh for the year 2007-08
- VI. Honoured with **Best Young Scientist Award** of Madhya Pradesh Council of Science & Technology in the year 1994.
- VII. Honoured. with Prestigious "**National UGC Research Award**" of University Grants Commission, New Delhi for the year 1999 and 2009.
- VIII. Elected Associate Member by Third World Academy for Women for Sciences, Trieste, Italy
- IX. Nominated by Govt of India for Commonwealth Academic Staff Fellowship U.K. 2006
- X. Organised as Convener NATIONAL CONFERENCE ON RECENT TRENDS IN PHOTONICS DURING 12-14 MARCH, 2014 jointly with USIEF,UKIERI and VIBHA sponsored by DRDO,DST,CGCOST & UGC.
- XI. Head as Organizing Secretary assisted *12th Chhattisgarh Young Scientist Congress* during 17-19th Feb,2014 under the sponsorship of Chhattisgarh Council of Science and Technology.
- XII. Golden Jubilee Lecture on "New Developments in Organic Solar Cells" by Dr. Suresh Chand Chief Scientist ,Head, Organic and Hybrid Solar Cells Group from CSIR National Physical laboratory New Delhi.
- XIII. Organized Free Open Source Workshop with IIT Mumbai.
- XIV. American Academy USA has selected one of my research paper as one amongst the best six papers in Optoelectronics, for the year 1995 and published in "Optical reports" America"
- XV. Presented paper and chaired a session at 9th International Conference on **Numerical Simulation of Optoelectronic Devices"** (NUSOD) held at the Gwangju Institute of Science and Technology (GIST) in Gwangju, Republic of Korea, from September 14 to September 17, 2009 in Republic of Korea.
- XVI. Visited University of Bremen Germany & University of Amsterdam in April 2014 and presented research paper entitled Light enhancement in PCPDTBT:PC70BM solar cells International CECAM-Workshop "Charge transport in organic materials" at Bremen Center for Computational Materials Science - BCCMS University of Bremen, during March 31<sup>st</sup> - April 4<sup>th</sup>

2014 organised by Bremen Center for Computational Materials Science  
Bremen Germany.

## Theses Supervised:

### (a) PhD

- (a) Numerical Simulation of polymeric Light Emitting Diode Jitendra Sharma, 2013
- (b) Fabrication and Characterization of Polymer Light Emitting Diode, V.K. Jogi, 2013
- (c) Innovative Approaches to the applied aspects of certain Organic Devices ,V.K. Chandra 2006
- (d) Study of Rare Earth Doped Thin Film Electroluminescence Display. D.S. Raghuvanshi 2004
- (e) Preparation, characterization and Simulation of ACTFEL devices ,Nawab Qureshi, 2010
- (f) Characterization and suitability of various doping reagents in Optical fibers. Roli Shukla ,2003
- (g) Simulation , design and testing of band micro strip antenna R.K.Vishwakarma 2013
- (h) Theoretical studies on photo plastic effect in II-VI Semiconductors. Sandeep Jain 2003
- (i) Studies on the pulse induced Mechano -luminescence in colored alkali halide crystals, Namita Rajput 2005
- (j) Theoretical studies on the Kinetics of Chemiluminescence of Organic and Inorganic Materials, Poornima Shrivastav, Awarded in 2004.
- (k) Theoretical studies on the rapidly and slowly decaying photon emission produced during fracture of organic and inorganic materials V.K.Patle 2007
- (l) Preparation and Characterization of ZnCdS based mixed phosphors for mechano-optico transducers .B.K.Sahu 1998

### BOOKS PUBLISHED

1. I am co- author in two books "Physics **Part II**" & " **Physics Part III**" Published by Madhya Pradesh Hindi Granth Academy, Bhopal
2. **Thin Film Electroluminescent Displays**
3. A book Basics of MATLAB is accepted for publication by publishers Prentice Hall of India



4. Computer Fundamentals Two Chapters published by M.P.Bhoj Open University, Bhopal
5. Physical Science in Manas ,Coauthor in book for Diploma program at Pt Sunderlal Sharma Open University and M.P.Bhoj Open University, Bhopal

### (b) M.Phil

Analytical modeling of bimolecular recombination in white-emitting Polymer Light emitting diodes Rajesh Awasthy

### (c) M.Tech Theses Supervised

- i. Experimental and Numerical determination of Optical Constants of thin transparent layers C.K.Sharma
- ii. Simulation of Exciton Diffusion in Organic Light Emitting Diode R K Patel
- iii. Growth & Investigation of Ruthenium doped LinbO3 crystals for Optoelectronic applications (Internal Guide) Vijay Kumar
- iv. Electron beam lithography for Diffractive X Rau Optics Fabrication(Internal Guide)
- v. Effect of Electron Beam Irradiation on Polymethyl Methacrylate Films, Suveer kumar Ravi 2012
- vi. Studies on Thin Film deposition using spray pyrolysis method ,Rajesh Awasthy
- vii. Design of Data Acquisition System for Multiple MEMS sensors ( Jointly with Dr. M.V.N.Prasad Division Head LPSC ISRO) Internal guide Kshama Soni
- viii. Structural Magnetic and transport properties of half doped maganites and optoelectronic applications (joint supervision with Prof. R.K. Singh DG MATS Univ) M Kumar swamy

### PhD Work (in process)

- i. Development of unified model for Charge Carrier Transport in Organic Semiconductor based Devices (R.K.Awasthy)
- ii. Simulation & Modeling of Device Characteristics of Organic Solar Cells (Rashmi Swami)
- iii. Simulation and Modelling of Organic light emitting diodes,( continuing)

### Foreign Visits / Invitation:

- (i) Worked as **Visiting Associate Professor** at Department of Physics, University of California, Santa Cruz, USA under US Fulbright Senior Fellowship.
- (ii) Presented paper and chaired a session at 9th International Conference on “**Numerical Simulation of Optoelectronic Devices**” (NUSOD) held at the Gwangju Institute of Science and Technology (GIST) in Gwangju, Republic of Korea, from September 14 to September 17, 2009 in Republic of Korea

- (iii) Visited ICTP Italy Condensed Matter and Statistical Physics Section for discussion in research area of Quantum Simulations which covers ground-state and time-dependent electronic structure calculations, and Monte Carlo simulations applied to a variety of problems, including electronic transport in organic light emitting diodes
- (iv) Worked at Optoelectronics Group Cavendish Lab University of Cambridge UK under UKIERI Fellowship Programme.
- (v) Invited for paper Presentation at 8th International Conference on Numerical Simulation of Optoelectronic Devices NUSOD '08 held during 1 - 5 September 2008 at University of Nottingham, United Kingdom
- (vi) Presented paper at Conference organized by Imperial College London & Society for Information Display for SID Organic Electronics for Displays UK 2007 and presented research work. Imperial College London has fourth ranking in world
- (vii) Presented research work at renowned St John College, Cambridge, UK during Winter College held between 26-29 Feb,2008
- (viii) Awarded **SAARC FELLOWSHIP** to pursue Post-Doctoral Research at Bangladesh University of Engineering and Technology, Dhaka (Not availed)
- (ix) Participated in the “Workshop on Distributed Laboratory Instrumentation Systems” organized by Abdus Salam International Center for Theoretical Physics: Trieste Italy during 26Nov-21 Dec. 2001.
- (x) Invited for paper Presentation in the “Second International Conference on Inorganic Materials” at University of California, Santa Barbara, USA during 13—16 Sept. 2000.
- (ii) Invited for paper presentation in the 10<sup>th</sup> international conference on luminescence and electron Spin resonance dating held at University of Nevada- Reno, Reno, Nevada USA. During 24-28, June 2002.
- (iii) Invited for paper presentation in the International conference on luminescence and optical spectroscopy of Condensed matter held at Jerusalem, Israel during 25-30 Aug. 2002.
- (iv) Invited for paper presentation in the 12th International Workshop on Inorganic and Organic Electroluminescence & 2004 International Conference on the Science and Technology of Emissive Displays and Lighting held at Toronto, Ontario during September 20 – 23, 2004
- (v) Invited for Oxford Round Table held at Harris Manchester College in the University of Oxford during Jul 3-8, 2005.

**Positions hold in the scientific administration of my Institution or other national Scientific Institutions:**

1. Life member, International Centre for Theoretical Physics Italy Indian Chapter
2. (Membership No.327)
3. Fellow Institution of Electronics & Telecommunication Engineers
4. Member Materials Research Society
5. Member Advisory Network Optical Society of America Washington, D.C. USA

6. Member IEEE **91250932**.✓✓
7. Member International Association of Engineers Hongkong (113455)
8. Life Member Materials Research Society of India (LMB 1235)
9. Associate Member: Institution of Electronics & Telecommunication Engineers, Delhi (Membership No. AM 54675)
10. Life member: Crystal Growth Centre, Chennai (Membership No. 301)
11. Life Member Instrument Society of India (LM 1738)
12. Life member: Indian Association of Physics teachers (Membership No. 1424)
13. Life member, Luminescence Society of India. Secretary Local Chapter
14. Member Society for Information Display
15. Member Board of Studies (Electronics), Rani Durgavati University, Jabalpur.
16. Associate Member by Third World Academy for Women for Sciences, Trieste, Italy
17. Member Board of Studies Electronics & Computer Maintenance ,Govt Science College, Jabalpur
18. Life Member Photonic Society of India

#### REVIEWER

- **Reviewer Journal of Electrical and Electronics Engineering Research**
- Lead Guest Editor for **Special Issues in Advances in Optoelectronics**  
<http://www.hindawi.com/journals/aoe/>
- Reviewer International Journal of Advances in Engineering & Technology (IJAET)
- Reviewer **Journal of Electrical and Electronics Engineering Research**
- Reviewer Journal of Engineering Scientific Research Publishing USA

#### Research Work done:

I am working on the Design and Simulation of Organic Devices for the last six years. My major research interests are: Physics of problems connected with development, characterization, and applications of electronic and optoelectronic materials, specifically in inorganic and organic semiconductors. I am mainly engaged in the studies of optoelectronics materials in view of their importance in technological development of the country as well as their academic importance. I have, thoroughly studied and worked on various techniques of thin film preparations and working in the field of Chalcogenide based **Solar Cells from** the last seventeen years and have published several papers in the journals of National and International repute. One of my research paper entitled "**A novel technique for enhancing efficiency and stability of CdTe based photoelectron chemical Solar Cells; has been cited in the international reviews and selected in optics report which covers recent developments in six major optical fields published in USA.**

I learnt Physical simulation methodology at **Cavendish Laboratory, University of**

**Cambridge, UK and Optical Modeling of Solar Cells at IBM Almaden Research Center, San Jose California.** I am interested in Modeling & Simulation of Organic Devices (PLED & OPV) & designing characterization experiments for Organic materials and has set up a specialized Laboratory for optical and electrical transient studies. Currently I am also interested in display and electronic applications of polymers and small molecules and simulation of ACTFEL devices. Thematically my research interests are in Computational Condensed Matter Physics with relevance to electronic applications and devices.

I have done extensive studies on Polymer Light emitting diodes at **Cavendish Laboratory, University of Cambridge** and developed Simulator **for bilayer Polymer Light Emitting Diode**. I have presented a comprehensive optical and electronic device model which is able to describe the device performance of PLEDs and OLEDs. The electrical part is based on solving the one dimensional continuity equations for holes and electrons. The electric field is obtained from the Poisson equation. The model accounts for drift-and diffusion transport, recombination, trapping and re-emission processes.

The primary goal of our research group is to apply ideas and techniques from nanoscale optics to making solar cells better and cheaper, from a fundamental physical perspective. This entails understanding and developing physical models of absorption enhancement in thin solar cells, and using them to design optically nanostructured solar cell layers that are much better absorbers of light. My group has recently done modeling of PbS/TiO<sub>2</sub> quantum dot solar cells to determine the impact of constructive/destructive interference on the overall photon absorption for collaborative project with Solexant Corp San Jose and developed efficient Transfer matrix simulator for absorption in different layers, Reflection, Generation in device and Electric Field with respect to position in the device. The simulation results are quite close to experimental and helped in modifying the PV structure. The thickness of TiO<sub>2</sub> and active layer PbS was optimized through simulation and results are submitted for publication.

We use a rigorous electromagnetic approach (RCWA) to analyze the fundamental limit of light-trapping enhancement in grating structures and observed 2D gratings provide more enhancement than 1D grating. We started RCWA simulation with GSOLVER /GDCalc and now developing our own simulator.

**Contact Information**

E-mail address : [drsanjaytiwari@gmail.com](mailto:drsanjaytiwari@gmail.com)

stiwari@fulbrightmail.org

Web address [www.prsu.ac.in/elec1.htm](http://www.prsu.ac.in/elec1.htm)

Phone +91- 0771-2263924

Mobile: +91 94242-25771

**Home Address:** PQ-5, Science College Campus, Raipur (C.G.) 4920101 India

**Personal Interests** Good Cinema & Music Philosophy of Science Sociology of Knowledge

**Mission:** My mission is to develop my Institution as one of the centers of excellence of Photonics at the national and international level;

.... To promote the vocational and technical education that would enable the students to face the more competitive and entrepreneurial challenge;

.... To create an environment for promotion of quality teaching and research;

.... To make the students self-reliant, self-esteemed and ethical so as to maintain the sanctity of life and thus contribute to the society.

**Vision:** My vision consisting of three “Es’ that will contribute to qualitative improvement at all the levels of Education, Environment and Economy of this region. Efforts are needed for empowerment of women and tribal of Chhattisgarh through the power of knowledge

### SPONSORED PROJECTS:

UGC under Innovative Scheme approved & sponsored M.Tech programme on Optoelectronics & Laser Technology (UGC Rs.37lacs)

Name of Agency	Title of project	Total Amount	Period of support	Completed/on-going
Defense Research & Development Organization	Electrical & Optical mod Organic Solar cells for efficient solar Spect harvesting	26.10 Lacs	2014-16	Ongoing
University Grants Commission New Delhi	Development of high efficient low cost dye sensitized solar cells	20 Lacs	Three years 2015-18	Selected
University Grants Commission New Delhi [Sanction letter No F.No 34-59/2008 Dt 30.12.2008]	Design and Characteriza Polymer Light Emitting Diodes	Rs 9.71 Lacs	2009-2012	Completed
International Fulbright Commission Washington USA [USIEF 20.10.2010]	Fabrication and modeli of PbS/TiO2 Quantum Dot Photovoltaic device	\$ 32650	2010-11	Completed
Chhattisgarh Council of Science &	Design and Simulation d	2.00	2009- 2011	Ongoing

Technology [ CCOST Endt. No. 939/CCOST /09 dt.21/10 /09]	Organic Electrolumines Devices	Lacs		
National Research Award by UGC[UGC sanction letter No F.30- 119(SC) /2009(SA-II) Dt 02-07-09]	Simulation of Organic Solar Cells	Researc h Grant 3.00 and Salary Grant ~16.00 Lacs	2010-12	Completed
Cavendish Lab University of Cambridge, Cambridge UK & UKIERI [INS/UKIERI/British Council 20.02.2007 ]	Development and Simulation of Device characteristics of Polymer Devices	15000 pounds	2007-08	Completed
UGC under UGC Research Scheme for 3 Year. [Ref .No. -30- 71-98/SA-III dt. 31.3.1999]	Development & Study of Thin Film Electroluminescence Displays"	Researc h Grant 3.00 and Salary Grant	1999-2002	Completed
University Grants Commission Sanction Letter No. F-4-22(8)198 (MRP/CRO)dt. 8.10.98]	Study of high efficiency Electroluminescence devices"	.98 Lacs	1998-99	Completed
University Grants Commission New Delhi for two years. [Ref.No-F-15- 26/92(Minor)/SR- I.dt.17.6.1993	Studies on the Mechanoluminescenc e of gold doped (Zn,Cd)S mixed phosphors	0.30 Lacs	1993-95	Completed
Madhya Pradesh Council of Science and Technology for three Years. [Ref. No. 99/1991 (MAPCOST)]	Preparation of (Zn,Cd) S mixed phosphors for mechano- optical transducers	2.00 Lacs	1991-94	Completed