Bio-Data

Name : Dr. Surya Kant Tripathi

Designation : Professor

Address : Department of Physics,

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Educational Qualification : M.Sc., Ph.D.

Ph.D. Thesis Title :"Effect of Metallic Additives on the Electrical Properties of Some Glassy Alloys"

Post Doctoral Experience : Department of Physics, I.I.T., Kanpur

Research Publications : In Journals **161** (for details see Scopus etc)
In Conferences **68**

Supervisor : Ph. D. **21** (Completed)
M. Phil. (Project) **05** (Completed)
M. Tech. (Project) **15** (Completed)

Research Experience : **24** Years

Teaching Experience : Dec 1998 to till date (>15 Years) both UG and PG level

Research Projects : Completed **06** (as PI) & **06** (as Co-PI)
On Going **08** (as PI & Co-PI)

Membership/Fellowship of Professional Societies :

1. Disordered Materials Society (India)
2. Semiconductor Society (India)
3. Indian Laser Association (India)
4. Chalcogenide Forum, Romania
5. Indian Association of Physics Teachers (India)
6. Indian Physics Association (India)
7. Indian Thermal Analysis Society (India)

Achievements/Honours:

- ✓ Elected as a member of the International Jury for the Ovshinsky Award for Excellence in Non-Crystalline Chalcogenides for 2003" which had been conferred in Constantsa, Romania.

- ✓ Member of Editorial Advisory Board of "Hybrid Materials" Journal (Germany).
- ✓ Refereed papers of Journals like "Eur. J. of Phys., J.N.C.S., Physica B, Mat. Sci. & Engg. B, Vacuum, Res. Lett. Mat. Sci., Phil. Mag., Phil. Mag. Letts., J. Mat. Sci." etc.
- ✓ Worked as Secretary, Indian Physics Association (IPA) (Chandigarh Chapter) (2004-2006)
- ✓ Evaluated Ph.D. & M.Tech. thesis and conducted viva of different Universities/Institution.
- ✓ Evaluated DST, N. Delhi & C.S.I.R., N. Delhi, project for funding.
- ✓ Delivered several talks & chaired few sessions of International & National Conferences.

Adjunct Faculty at the Centre for NanoScience and NanoTechnology, P.U. Chandigarh. Involved in Interdisplinary research with departments like Bio-Chemistry, Bio-Physics, Pharmacy.

Other Activities/ Responsibilities:

- ✓ Organized "International Conference on Nanotechnology in the Services of Health, Environment & Society (NanoSciTech 2014, Feb. 13-15, 2014 as Treasurer at Panjab University, Chandigarh.
- ✓ Organized "International Conference on Frontiers in Nanoscience, Nanotechnology & their Applications (NanoSciTech-2012), Feb. 16-18, 2012 as Scientific Convener, at P.U., Chandigarh.
- ✓ Organized 6th Chandigarh Science Congress as Sectional Secretary of Physical Sciences at Panjab University, Chandigarh, Feb. 26-28, 2012.
- ✓ Organized "International Conference on Advances in Condensed and Nano Materials (ICACNM-2011) as Co-convener at Department of Physics, P.U. Chandigarh (Feb 22, 23-26, 2011).
- ✓ Member of the National Advisory board of "XV Symposium on Non-Oxide and Optical Glasses (ISNOG)" held at the Department of Physics, Ind. Inst. of Science, Bangalore (April 17-21, 2006)
- ✓ Organising different activities like "Science Exhibition, Lectures etc under IYP-2005".
- ✓ Organized "DAE Symposium on Solid State Physics" held at Panjab University, Chandigarh during Dec. 26-31, 2003.
- ✓ Organised "National Conference on Recent Developments on Disordered Materials" held at Panjab University, Chandigarh during March15-16, 2001.

Book/Proceeding:

- ✓ Disordered Materials by S. Prakash, N. Goyal & **S.K. Tripathi** *(M/S Narosa Publishers, New Delhi) (2003)*
- ✓ International Conference on Advances in Condensed and Nano Materials (ICACNM-2011) by **S.K. Tripathi**, K. Dharamvir, Ranjan Kumar, G.S.S. Saini (AIP, USA) (ISBN:978-0-7354-0693-7) (2011)
- ✓ Innovations in Nanomaterials by R.C. Sobti, Anupama Sharma, B.S. Bhoop, **S.K. Tripathi** (M/s Pearson Publishers, N. Delhi) (2012) (ISBN No.:81-7319-463-7).

Present Research Activities:

Actively involved to find out suitable materials for opto-electronic devices. Presently, different types of materials in thin film forms are prepared and characterized by different methods. In thin film forms, the surface properties can be modified in some way in order to both control material growth and reduce or prevent the charge carriers interacting with the surface. Synthesis and characterization of the following materials are going on:

Semi conducting Nano-crystalline Thin Films: CdSe, ZnSe, CdS etc

Oxide Materials: ZnO, NiO, SnO_2, Al_2O_3 etc

Dye Sensitized Solar Cells: TiO_2, TZO with different dyes.

Organic Semiconducting Thin Films: CuPc, Porphyrin, Rhodamine 6G etc

Carbon materials: Diamond like carbon, Carbon Nanotubes, Graphene

Nanocomposites: Semiconductor/Polymer, Metal/Polymer etc

Core/Shell Structures: CdSe/CdS, ZnSe/ZnS, CdSe/ZnS etc for biological applications.

III-VI layered semiconductors: GaSe, InSe, SbSe etc

GST Phase Change materials: GeSbTe etc for phase change studies

Thermoelectric Materials: PbTe, CdTe, SbTe etc

Glassy Semiconductors: Chalcogenide glasses for optical communication purposes.

Fabrication: Glow Discharge system, CVD system, Cryostats for transport and optical measurements at different temperatures (low as well high).

Applications: Solar Cell, Chemical Sensor, Biological Sensor, Devices like Schottky Diode, MIS/MOS, Memresistors, Memory Devices, Telecommunication etc.