# Updated Curriculum Vitae (C. V. 2013) of Professor P. D. Sahare

| Title | Prof. | First Name | P D | Last Name | SAHARE |
|---|---|---|---|---|---|
| Designation | | PROFESSOR | | |  |
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## Educational Qualifications

| Degree | Institution | Year |
|---|---|---|
| Ph.D. | RTM NAGPUR UNIVERSITY NAGPUR | 1990 |
| M.Phil. / M.Tech. | RTM NAGPUR UNIVERSITY NAGPUR | 1987 |
| PG | RTM NAGPUR UNIVERSITY NAGPUR | 1985 |
| UG | RTM NAGPUR UNIVERSITY NAGPUR | 1983 |
| Any other qualification | Nagpur Divisional Board, Nagpur XIIth Standad | 1979 |

## Career Profile

| | | | |
|---|---|---|---|
| Department of Physics, Nagpur University, Nagpur | Lecturer | 1986-87 | Teaching and Research |
| University of Massachusetts, Amherst, USA | Post-Doctoral Fellow | 1990-91 | Research |
| Department of Physics, Nagpur University Nagpur | CSIR Research Associate | 1991-92 | Research and Teaching |
| RKN College of Engineering, Nagpur | Lecturer | 1992-93 | Teaching |
| University of Pune | Professor | 2005-07 | Teaching and Research |
| University of Delhi | Professor | Since 1993 | Teaching and Research |

## Administrative Assignments

Member of Equal opportunity Cell

## Areas of Interest / Specialization

Experimental: Spectroscopy, Luminescence, Radiation dosimetry, Laser materials, Detectors and optical sensors

## Subjects Taught

Experimental Methods in Physics, Electronics, Atoms and Molecules, Optics, Lasers, Nuclear Physics

## Research Guidance

*List against each head (If applicable)*

1. *Supervision of awarded Doctoral Thesis*
   - *I) S R Dhakate*
   - *II) Anant Pandey*
   - *III) Vijay Kumar Sharma*
   - *IV) Numan Salah*
   - *V) Ranju Ranjan*
   - *VI) S P Lochab*
   - *VII) J S Bakare*
2. *Supervision of Doctoral Thesis, under progress*
   - *i) Surbhi Kumari*
   - *ii) Surender Kumar*
   - *iii) Vipin Kumar*

iv) *Geeta Rani*
v) *Manveer Singh*
vi) *Nandkumar Mandlik*
vii) *Renuka Bokolia*

3. *Supervision of awarded M. Phil dissertations* ***10***
*(at RTM Nagpur University and at University of Pune)*

4. *Supervision of M. Phil dissertations, under progress*
*Not any (The course in Physics is not running at Delhi University)*

## Publications Profile

1. *Books/Monographs (Authored/Edited)*

*One book entitled "TLD Nanophosphors: Synthesis, Characterization and Applications" under review and publication*

*Nanotechnology and Laser Induced Plasma, Proceedings, IRNANO-2009.*

*Nanomaterials and Nanotechnology, Eds. A. Tiwari and P. D. Sahare, VBRI Press,2011,*
*ISBN: 978-81-920068-3-3.*

2. *Research papers published in Refereed/Peer Reviewed Journals in last five years*

*Luminescence Characteristics of K2Ca2(SO4)3: Eu, Tb phosphor , Radiat. Eff. Defects Solids, 159 (2004) 321*

*Thermoluminescence and photoluminescence characteristics of sol-gel prepared pure and europium doped silica glasses J. Phys. D: Appl. Phys., 37 (2004) 842*

*Pyroelectroluminescence in LiNaSO4: Eu (particle size effect) , J. Phys. D: Appl. Phys., 37 (2004) 2742*
*Modifications in TL characteristics of K2Ca2(SO4)3 : Eu by 7Li MeV ion beam ,*
*J. Phys. D: Appl. Phys. 38 (2005) 3995*

*TL and PL in BaSr(SO4)2:Eu mixed sulphate, phys. stat. solidi (a), 203 (2006) 898*

*The influence of high-energy 7Li ions on the TL response and glow curve structure of CaSO4 :Dy*
*J. Phys. D: Appl. Phys., 39 (2006) 2684*

*Thermoluminescence and photoluminescence study of Ba0.97Ca0.03SO4 : Eu ,*
*J. Phys. D: Appl. Phys., 39 (2006) 1786*

*Thermoluminescence and photoluminescence of LiNaSO4:Eu irradiated with 24 and 48MeV 7Li ion beam,*
*J. Lum., 121 (2006) 497*

*TL and PL studies on $CaSO_4$: Dy nanoparticles, Radiat. Measur., 41 (2006) 40*

*TL, PL and energy transfer in $K_2Ca_2(SO_4)_3$: $Eu^{2+}$, $Ce^{3+}$ , Radiat. Measur., 41 (2006) 665*

*Fluorescence quenching of 7-Diethylamino-4-trifluoromethyl Coumarin in presence of acetone,*
*Proc. SPIE 6405 (2006) 640514*

*Nanocrystalline $MgB_4O_7$: Dy for high dose measurement of gamma radiation,*
*phys. stat. solidi (a), 204 (2007) 2416*

*Effect of high-energy $^{7}Li^{2+}$ ions on the TL behavior of LiF: Mg,Cu,P detectors Radiat. Measur., 42 (2007) 1294*

*$K_3Na(SO_4)_2$ :Eu nanoparticles for high dose of ionizing radiation, P D Sahare, J. Phys. D: Appl. Phys., 40 (2007) 759*

*Thermoluminescence and photoluminescence study of nanocrystalline Ba0.97Ca0.03SO4 : Eu J. Phys. D: Appl. Phys., 40 (2007) 1343*

*Thermoluminescence of Ba0.97Ca0.03SO4:Eu irradiated with 48 MeV $^{7}Li$ ion beam, NIMB, 254 (2007) 231*
*Thermoluminescence of nanocrystalline LiF:Mg, Cu, P, J. Lum., 124 (2007) 357*

*A novel optical sensor for ammonia using a laser grade dye—Stilbene 3, J. Phys. D: Appl. Phys., 40 (2007) 7166*

*Fluorescence quenching of 3-methyl 7-hydroxyl Coumarin in presence of acetone, Spectrochim. Acta: A, 66 (2007) 111*

*Energy transfer studies in binary dye solution mixtures: Acriflavine + Rhodamine 6G and Acriflavine + Rhodamine B, Spectrochimica Acta: A*

*Hydrogen peroxide sensor using laser grade dye Rhodamine B, Proc. SPIE 6830 (2007) 68301D*

*Thermoluminescence of BaSO4:Eu irradiated with 46 MeV $Li^{3+}$ and 150 MeV $Ag^{12+}$ ions, J. Phys. D: Appl. Phys., 41 (2008) 85408*

*Synthesis and Luminescence Properties of Nanocrystalline LiF:Mg,Cu,P Phosphor, J. Lum. 130 (2010) 258*

*Nanocrystalline $MgB_4O_7$: Dy for high dose measurement of gamma radiation, S P Lochab, A Pandey, **P D Sahare**, R S Chauhan, Numan Salah, Ranju Ranjan, phys. stat. solidi (a), 2007, 204, 2416.*

*Effect of high-energy $^{7}Li^{2+}$ ions on the TL behavior of LiF: Mg,Cu,P detectors, Numan Salah, S P Lochab, D Kanjilal, **P D Sahare** and V E Aleynikov, Radiat. Measur., 2007, 42, 1294.*

*TL and PL in $BaSr(SO_4)_2$:Eu mixed sulphate, Numan Salah, **P D Sahare**, Pratik Kumar, phys. stat. solidi (a), 2006, 203, 898.*

*Thermoluminescence and photoluminescence of $LiNaSO_4$:Eu irradiated with 24 and 48MeV $^{7}Li$ ion beam, Numan Salah, **P D Sahare**, Awadhesh Prasad, J. Lum., 121 ( 2006) 497*

*Thermoluminescence and photoluminescence study of $Ba_{0.97}Ca_{0.03}SO_4$ : Eu**,** S P Lochab, **P D Sahare**, R S Chauhan, Numan Salah and A Pandey, J. Phys. D: Appl. Phys., 2006, 39, 1786.*

*The influence of high-energy $^{7}Li$ ions on the TL response and glow curve structure of nanocrystalline $CaSO_4$:Dy, Numan Salah and **P D Sahare,** J. Phys. D: Appl. Phys., 2006, 39, 2684.*

*TL and PL studies on CaSO4: Dy nanoparticles, Numan Salah, **P D Sahare**, S P Lochab, Pratik Kumar, Radiat. Measur., 41 (2006) 40.*

*TL, PL and energy transfer in $K_2Ca_2(SO_4)_3$: $Eu^{2+}$, $Ce^{3+}$, Numan Salah and **P D Sahare**, Radiat. Measur., 41 (2006) 665.*

*$K_3Na(SO_4)_2$ :Eu nanoparticles for high dose of ionizing radiation, **P D Sahare**, Ranju Ranjan, Numan Salah and S P Lochab, J. Phys. D: Appl. Phys., 2007, 40, 759.*

*Thermoluminescence and photoluminescence study of nanocrystalline Ba0.97Ca0.03SO4 : Eu, S P Lochab, **P D Sahare**, R S Chauhan, Numan Salah, Ranju Ranjan and A Pandey, J. Phys. D: Appl. Phys., 2007, 40 1343.*

*Thermoluminescence of $Ba_{0.97}Ca_{0.03}SO_4$:Eu irradiated with 48 MeV $^7$Li ion beam, S P Lochab, Numan Salah, **P D Sahare**, R S Chauhan and Ranju Ranjan, NIMB, 2007, 254, 231.*

*Thermoluminescence of nanocrystalline LiF:Mg, Cu, P, Numan Salah, **P D Sahare**, A A Rupasov, J. Lum., 2007, 124, 357*

*A novel optical sensor for ammonia using a laser grade dye—Stilbene 3, **P D Sahare** and Amitansu Pattanaik, J. Phys. D: Appl. Phys., 2007, 40, 7166*

*Fluorescence quenching of 3-methyl 7-hydroxyl Coumarin in presence of acetone, Vijay Kumar Sharma, D. Mohan and **P D Sahare**, Spectrochim. Acta: A, 2007, 66, 111.*

*Energy transfer studies in binary dye solution mixtures: Acriflavine + Rhodamine 6G and Acriflavine + Rhodamine B, **P D Sahare**, Vijay K. Sharma, D. Mohan and A.A. Rupasov, Spectrochimica Acta: A, doi:10.1016/j.saa.2007.07.003, available online from 10 July 2007.*

*An approach to produce single and double layer graphene from re-exfoliation of expanded graphite, CARBON, 49 (2011)*

*Photoluminescence of Cu doped sponge-like porous ZnO nanoparticles synthesized via chemical route, AIP Conf. Proc. 1393 (2011) 63, doi:10.1063/1.3653610.*

*Novel nanostructured zinc oxide ammonia gas sensor, AIP Conf. Proc. 1393 (2011) 219, doi:10.1063/1.3653688.*

*Synthesis and Luminescent Properties of Li-doped ZnS Nanostructures by Chemical Precipitation Method, AIP Conf. Proc., 1393 (2011) 253.*

*Effect of Surface Defects on Green Luminescence from ZnO Nanoparticles, AIP Conf. Proc. 1393 (2011) 159, doi: 10.1063/1.3653658.*

*Sensitization Of Mesoporous Silica Nanoparticles (MSNs) By Laser Grade Dye Acriflavin, Adv. Mater.Lett., DOI:10.5185 amlett.2012.icnano.172.*

*Photoluminescence Study of Laser Grade POPOP Dye Incorporated into MCM-41, Adv. Porous Mater., 1 (2012) 1.*

*Gas sensing behavior of Fluorescein sodium impregnated MCM-41 for Sulphur dioxide, Sensor lett. 11 (2013) 526, doi:10.1166/sl.2013.2830.*

*Nd doped ZnO as a multifunctional material, J. Rare Earths, 30 (2012) 761, DOI: 10.1016/S1002-0721(12)60126-4*

*Effects of annealing on the surface defects of zinc oxide nanoparticles, Nano, 7 (2012) 1250022, DOI: 10.1142/S1793292012500221*

*Thermoluminescence and Photoluminescence properties of $K_2Ca_2(SO_4)_3$: Cu nanophosphor for gamma radiation dosimetry, Ind. J. Phys. Appl. Phys., 50 (2012) 859.*

*A new approach to produce single and double layer graphene from re-exfoliation of expanded graphite, S.R. Dhakate, N. Chauhan, S. Sharma, J. Tawale, S. Singh, P.D. Sahare, R.B. Mathur, Carbon, 49 ( 2011) 1946.*

*Fluorescence quenching of laser grade dye coumarin 440 in presence of hydrogen peroxide, Ind. J. Phys. 2011, 85, 1775*

*Thermoluminescence and Photoluminescence of $CaSO_4$:Dy Nanophosphor for 6 MeV Energy electron Dosimetry, Radiat. Proct. Environ. 34 (2011) 185, DOI:10.4103/0972-0464.101716.*

*Thermoluminescence study of $K_2Ca_2(SO_4)_3$:Cu nanophosphor for gamma ray dosimetry, NIMB, DOI:10.1016/j.nimb.2013.05.073*

*Effect of phase transition and particle size on thermoluminescence characteristics of nanocrystalline $K_2Ca_2(SO_4)_3$:$Cu^+$ phosphor, Radiat. Measur., 47 (2012) 108, DOI: 10.1016/j.radmeas.2012.10.003*

*Thermoluminescence and Photoluminescence properties of K2Ca2(SO4)3: Cu nanophosphor for gamma radiation dosimetry, Ind. J. Phys. Appl. Phys., 50 (2012) 859.*

*High Energy Radiations Dosimetry in the Space, Editorial, J. Astrophys Arospace Technol 1 (2012) 1*

*Preparation and characterization of short length ZnO nanorods and ZnO@ZnS core–shell nanostructures, Nano Commun. Netw. 3 (2012) 197, doi:10.1016/j.nancom.2012.09.003*

*Elucidation of $Mg^{2+}$ binding activity of adenylate kinase from Mycobacterium tuberculosis $H_{37}$Rv using fluorescence studies, Biotechnol Appl Biochem, 59 (2012) 429, DOI: 10.1002/bab.1043.*

*Effect of phase transition and particle size on thermoluminescence characteristics of nanocrystalline K2Ca2(SO4)3:$Cu^+$ phosphor, Radiat. Measur. 47 (2012) 1083*

*Observation of band gap and surface defects of ZnO nanoparticles synthesized via hydrothermal route at different reaction temperature, Opt. Commun. 285 (2012) 5210, DOI: 10.1016/j.optcom.2012.07.125*

*Redox reactions in Cu-activated nanocrystalline LiF TLD phosphor, NIM B, 289 (2012) 59, DOI: 10.1016/j.nimb.2012.08.003*

*Optical Studies of Fluorescent Mesoporous Silica Nanoparticles, J. Mater. Sci. Technol., 29 (2013) 742*

*Spectroscopy of Nickel-Doped Zinc Sulfide Nanoparticles, Spectrosc. Lett., 46 (2013) 1, DOI:10.1080/00387010.2012.744318.*

*Optical studies of Acriflavin dye in mesoporous nano silica MCM-41, Defence Science Journal, published by DESIDOC , DRDO, (in press)*

*Effect of impurity phases on the TL characteristics of nanocrystalline Mn-doped $CaF_2$, J. Lum. (in Press)*

*Effect of phase transitions on thermoluminescence characteristics of nanocrystalline alumina, NIM B, (in Press).*

*Synthesis and Dosimetry Characteristics of a New High Sensitivity TLD Phosphor$NaLi_2PO_4:Eu^{3+}$, Radiat. Measur. (in Press).*

*3.*

*a) Research papers published in Academic Journals other than Refereed/Peer Reviewed Journals*

*b) Research papers published in Refereed/Peer Reviewed Conferences*

Redox reactions, Thermoluminescence and photoluminescence in europium activated $BaSr(SO_4)_2$ mixed sulphate. Numan Salah and **P. D. Sahare**. Proceedings of National Seminar on Advanced Materials (NSAM – 2004) held on February 1st, 2004 at Kamla Nehru Mahavidyalaya, Nagpur.

Thermoluminescence characteristics of $CaSO_4$: Dy nanoparticles and their optical properties. Numan Salah, **P. D. Sahare**, S. P. Lochab and R. K. Kale. Proceedings of International Conference on Luminescence and its Applications (ICLA – 2004) held at BARC Bombay during 9-12 February 2004. P142.

$Li_5AlO_4$:Cu, A promising TLD material. N. B. Ingle, B. K. Katore, **P. D. Sahare**, S. K. Omanwar and S. V. Moharil. Proceedings of International Conference on Luminescence and its Applications (ICLA – 2004) held at BARC Bombay during 9-12 February 2004. P230.

Thermoluminescence and photoluminescence in K3NaSO4:Eu nanoparticles. **P. D. Sahare**, J. S. Bakare, D. G. Wakade, Numan Salah, Rani Jha and Lalhriatzuala. Proceedings of International Conference on Luminescence and its Applications (ICLA – 2004) held at BARC Bombay during 9-12 February 2004. P345.

Preparation and characterization of nanocrystalline $MgB_4O_7$: Dy for radiation dosimetry using thermoluminescence technique. A. Pandey, **P. D. Sahare**, N. B. Ingle, S. P. Lochab, D. Kanjilal, and S. K. Omanwar. Proceedings of International Conference on Luminescence and its Applications (ICLA – 2004) held at BARC Bombay during 9-12 February 2004. P354.

Thermoluminescence and photoluminescence characteristics of nanocrystalline $BaSO_4$: Dy Phosphor. Numan Salah, **P. D. Sahare**, J. S. Bakare and S. P. Lochab. Proceedings of International Conference on Luminescence and its Applications (ICLA – 2004) held at BARC Bombay during 9-12 February 2004. P357.

Study of TL and PL in LiF:Mg,Cu,P on 24 MeV ion bean irradiation. Numan Salah, Somrendro Singh and P. D. Sahare, Proceedings, NCLA-2005, Bangalore University, Bangalore during 2-4 February, 2005.

Fluorescence quenching of 7-Diethylamino-4-trifluoromethyl Coumarin in presence of acetone, A.Pattanaik, M Nanda & P D Sahare, Proceedings of SPIE -- Multispectral, Hyper spectral, and Ultraspectral Remote Sensing Technology, Techniques, and Applications, William L. Smith, Sr., Allen M. Larar, Tadao Aoki, Ram Rattan, Edits., 6405 (2006) 640514-1.

Hydrogen Peroxide Sensor Using Laser grade Dye Rhodamine B, A.Pattanaik, P D Share & M. Nanda, Proceedings of SPIE –Advanced Sensor Systems and Applications, Chairs: Yun Jiang Rao, Yanbiao Liao, Gang-Ding Peng, Volume 6830 (2007) 68301D-1

Sensor using Coumarin 440, A. Pattanaik, Geeta Rani, P. d. Sahare, Indian Journal of Physics, Vol 85 (2011)
An Optical Chemical Sensor for Ammonia using a laser grade dye- Coumarin 152A, A.Pattanaik & P D Sahare, Page- 336 CONTEMPORARY OPTICS AND OPTOELECTRONICS, Editors: PP Sahu, P Deb, TATA McGraw HILL (2008), ISBN (13 DIGITS)-978-0-07-024888-5

An Optochemical Detection Technique for Potassium Hydroxide, A. Pattanaik & P D Sahare, Page- 339, CONTEMPORARY OPTICS AND OPTOELECTRONICS, Editors: PP Sahu, P Deb, TATA McGraw HILL (2008), ISBN: 978-0-07-024888-5

A Sensor for Acetone using a laser grade dye-Malachite green, A.Pattanaik & P D Sahare, Page-225, Proceedings of the third International Conference on LUMINESCENCE AND ITS APPLICATIONS, Editors: Santa Chawla, Harish Chander, K V R Murthy, Macmillan India (2008),ISBN 13:978-0230-63468-8

An optical sensor for Hydrogen peroxide using a laser grade dye Stilbene – 3, A. Pattanaik & P D Sahare, Page- 303, LUMINESCENCE AND ITS APPLICATIONS, Editors: S Selvasekarapandian, K V R Murthy, V Natarajan, J Malathi, G M Brahmanandhan, D Khanna, Macmillan India (2007), ISBN 13:9780230630543

Concentration effects on Fluorescence yield for some laser grade Coumarin Dye solutions, A. Pattanaik, P D Sahare, M Nanda, Page- 285, LUMINESCENCE AND ITS APPLICATIONS, Editors: S Selvasekarapandian, K V R Murthy, V Natarajan, J Malathi, G M Brahmanandhan, D Khanna, Macmillan India (2007), ISBN 13:9780230630543

Fluorescence quenching of laser grade dye Stilbene – 3 in presence of acetone, A. Pattanaik ,P D Sahare & A Baghel,Page-31, International Conference on Lasers and Nanomaterials (2006), University of Kolkatta, Kolkota

Fluorescence Quenching of 3-(2′-benzothiazolyl)-7-Diethylamino Coumarin in presence of Acetone, A. Pattanaik, P D Sahare, R Ranjan & J Mehra, Page-37, XVI National Conference on Atomic and Molecular Physics (2007), Tata Institute of Fundamental Research, Mumbai

A Chemical Sensor for Ammonia using a laser grade dye – Rhodamine B, A. Pattanaik & P D Sahare, P-7(13.15 abstract), National Laser Symposium (2007), M S University, Vadodara, Gujrat

Fluorescence quenching of 7-diethylamino-4-trifluoromethyl Coumarin in presence of Potassium hydroxide, A.Pattanaik, P D Sahare & M Nanda, Page-60, Topical Conference on atomic and Molecular Physics (2008), Dept.of Physics, Vallabh Vidyanagar, Gujrat

An Optical sensor for Acetone using Fluorescence quenching of 7-amino-4-methyl Coumarin, A.Pattanaik, P D Sahare & J Mehra, Page-61, Topical Conference on atomic and Molecular Physics (2008), Dept. of Physics, Vallabh Vidyanagar, Gujrat

Effect of Concentration of Fluorescence Spectrum of Laser dye –Malachite green, A. Pattanaik & P D Sahare, Page-70, International Conference on luminescence and its Applications-2008, National Physical Laboratory, Delhi

On the transfer of electronic excitation energy in liquids using a laser dye –Rhodamine B, A. Pattanaik, P D Sahare & M Nanda, Page-71, International Conference on luminescence and its Applications-2008,National Physical Laboratory, Delhi

A simulated study of laser induced fluorescence characteristics for Oxygen molecule, A. Pattanaik, P D Sahare& M Nanda, Page-70, International Conference on luminescence and its Applications-2008, National Physical Laboratory, Delhi

Concentration effects on fluorescence yield for laser grade dye Stilbene 420 and Rhodamine B solutions, A. Pattanaik, S.Kumari, S.Kumar, V.Kumar,G Rani & P D Sahare, Page-poster78, National Conference on Luminescence and its applications(2009), CGCRI, Kolkota

Thermoluminescence characteristics of nanocrystalline Zirconium oxide doped with copper, J Mehra, P D Sahare, R Ranjan & A. Pattanaik, Page-109, International Conference on luminescence and its Applications-2008, National Physical Laboratory, Delhi

Thermoluminescence Studies of copper doped nanocrystalline Aluminium Oxide, J Mehra, P D Sahare, R Ranjan & A. Pattanaik,Page-62, Topical Conference on atomic and Molecular Physics (2008), Dept.of Physics, Vallabh Vidyanagar, Gujrat

Thermoluminescence properties of Cu doped nanocrystalline ZnO phosphor, J Mehra, P D Sahare, R Ranjan & A. Pattanaik, Page-53, Indo Australia Symposium on Multifunctional Nanomaterials Nanostructures and Applications (2007), Dept. of Physics and Astrophysics, University of Delhi

Thermo luminescence properties of Cu and P doped $LiNaSO_4$ phosphor, J.Mehra, R Ranjan, N,Salah, S P Lochab, P D Sahare, A. Pattanaik & A Kumar, Page- 86,Conference on 'Accelerators and low level Radiation Safety' (2007), Inter University Accelerator Center, New Delhi

TL study of $CaSr_{1-x}SO_4$: Eu Phosphors, S P Lochab, P D Sahare, N Salah, R S Chauhan, R Ranjan, A Pandey & A Pattanaik, Page-115, 2nd International Conference on Current Developments in Atomic, Molecular & Optical Physics (2006), Dept. of Physics and Astrophysics, University of Delhi

Optical sensor systems for the atmospheric probing of chemical agents in the Vis-IR region, A. Pattanaik & P D Sahare, Page – 5 , ORAL Presentation Abstract book of Winter College on Optics in Environmental Science(2009)

Concentration effects on fluorescence yield for laser grade dye- Acriflavin, A. Pattanaik & P D Sahare, 7th Liquid matter conference (2008), Lund University, Sweden

Laser sensor Systems for the detection of chemical agents in Vis-IR Region, A. Pattanaik & P D Sahare, ORAL Presentation Abstract book of Workshop for young Scientists on 'Lasers, quantum optics and Biophysics, Gif-Sur-Yvette, France (2007)

Stilbene Laser dye incorporated Mesoporous Nano silica as Ammonia Sensor, **Surbhi Kumari** P. D. Sahare, Page 1, Laser and Advanced materials , A proceedings of National Conference on Lasers and Advanced Materials 2012, Editors G.G.Muley ISBN No-978-81-92256-6-1, 29-30 May **2012**.

Concentration Effects On Fluorescence Yield For Laser Grade Dye Stilbene 420 And Rhodamine B Solutions Amitansu Pattanaik, **Surbhi Kumari**, Surender Kumar, Vipin kumar, Geeta Rani and P D Sahare , Page 79, Proceeding of National Conference on Luminescence and its applications , Feb 19-21 **(2009)**, Poster presentation.

Optical Gas Sensor of Sulfur Dioxide using Malachite Green Oxalate Salt, **Surbhi Kumari** , P. D. Sahare, Meenakshi Gupta and J. C. Kapoor , Page 104, Proceedings of International Conference on Sensors and related Networks, Editors J.P.Raina, M.Khalid, Z.C Alex, ISBN NO. 978-81-8424-541-7 (vol I) Dec 8-10, **(2009)** Oral presentations.

Fluorescence Quenching Of Mesoporous Silica Nanoparticles With Ammonia, **Surbhi Kumari** , P.D.Sahare, Meenakshi Gupta, J.C.Kapoor, Page 167, Proceedings of National conference on Phosphors and their Applications, Editors KVR Murthy, B.N.Lakshminarasappa, V.Natrajan, ISBN NO- 978-81-910787-1-8, November 15-16 **(2010)**, Oral presentation.

Optical Gas Sensor of Ammonia using Stilbene 420 dye incorporated alumina porous membrane, **Surbhi Kumari**, P.D. Sahare, Meenakshi Gupta, J.C. Kapoor, Page 157, proceedings of National conference on Safety Technology & Management in Defence, October 27-28 **(2010)**, Oral presentation.

Fluorescence Sensitization Of Mesoporous Nanosilica Particles Using Laser Grade Dye Stilbene–420, **Surbhi Kumari**, P. D. Sahare , Meenakshi Gupta, J. C. Kapoor, page 236, Proceedings of National Conference on Luminescence and its applications, Editors K.Somaiah, Dr,K.V.R.Murthy, Feb. 7-9 **(2011)**, Oral presentation.

Novel Nanostructured Zinc Oxide Ammonia Gas Sensor, **Surbhi Kumari**, P.D.Sahare, Meenakshi Gupta, J.C.Kapoor, page 139, Proceedings of International Conference on Advances in Condensed and Nanomaterials, Editors S.K.Tripathi, Keya Dharambir, Ranjan Kumar, G.S.S.Saini, Feb. 22-26 **(2011)**, Poster presentation.

Sensitization Of Mesoporous Silica Nanoparticles (Msns) By Laser Grade Dye Acriflavin, **S. Kumari**, P.D.Sahare, J.C.Kapoor, M. Gupta, page 91, Proceedings of International Conference on Nanomaterials and Nanotechnology, Editors Ashutosh Tiwari, and P.D.Sahare, ISBN NO- 978-81-920068-3-3, Dec. 18-21 **(2011)**, Oral presentation.

Sensitization Of Mesoporous Silica Nanoparticles (Msns) By Laser Grade Dye Popop, **Surbhi Kumari**, P.D.Sahare, Meenakshi Gupta , Page 513, Proceedings of International Conference and Workshop on

Nanostructured Ceramics and other Nanomaterials, March 13-16,**(2012)**, Oral presentation.
Fluorescence Sensitization Of Mesoporous Silica Nanoparticles (Msns) By Laser Grade Dye Fluorescein Sodium, **Surbhi Kumari**, P.D.Sahare, Proceedings of XIth International Conference on nanostructured materials, Aug. 26 **(2012)**, Oral presentation.

TLD Nanophosphors for Their Applications in TLD and OSL Dosimetry, a Key Note Address at 1st Congress on Advanced Materials during 13-17, May 2011 organized jointly by University of Jinan, Jinan

c) *Research papers Published in Conferences/Seminar other than Refereed/Peer Reviewed Conferences*

**Nanophosphors and Their Applications – A key note address at National Seminar on Recent Trends in Luminescence (NSRTL-2008) organized by Luminescence Society of India (Jabalpur Chapter) and Rani Durgavati University, Jabalpur during 25-26 April 2008. Also chaired a technical session.**

**Nanocrystalline TLD Phosphors, Invited Talk at National Seminar cum Conference on "Emerging Trends in Physics" (NSC-ETP 2007) held during December 17-19, 2007 at R. K. College, Madhubani, 847211 also chaired a technical session.**

4. *Other publications (Edited works, Book reviews, Festschrift volumes, etc.)*

## Conference Organization/Presentations (in the last three years)

*List against each head(If applicable)*

1. *Organization of a Conference*

***National Conference on Luminescence and its Applications 2003 in collaboration with National Physical Laboratory, New Delhi, India***
***International Conference on Luminescence and its Applications 2008 in collaboration with National Physical Laboratory, New Delhi, India***
***Indo-Russian Workshop on Nanotechnology and Laser Induced Plasma at the University of Delhi, Delhi, India in 2009***

2. *Participation as Paper/Poster Presenter*
*Several presentations were made.*

## Research Projects (Major Grants/Research Collaboration)

"Response of TLD Materials to SHI" sponsored by Inter-University Accelerator Centre, New Delhi
"Development of X-ray radiation diagnostics equipment for investigation of the X-ray emission from laser and discharge produced plasma using TLD and X-ray storage phosphors", Indo-Russian ILTP Project sponsored by DST, Delhi and RAS, Moscow.
"TLD Nanophosphors for Ion-Beam dosimetry" sponsored by Inter-University Accelerator Centre, New Delhi
"Development of Nanophosphors for Space Dosimetry" sponsored by ISRO at University of Pune
"Development of Gas Sensors for Polluting and Fire Extinguished Gases" sponsored by CFEES, DRDO, Delhi
"Modifications by SHI Beam in Wide Band Gap Semiconductor Nanoparticles for Their Applications as Multifunctional Materials" sponsored by IUAC, Delhi

## Awards and Distinctions

**National Overseas Scholarship to visit USA.**
**UGC and CSIR Research Ass0ciateships.**
**Distingushed Research Scientist Award -2011, International Association for Advanced Materials (IAAM) URL: www.iiamonline.com**
**Best Editor Award -2011, International Association for Advanced Materials (IAAM) URL: www.iiamonline.com**

## Association With Professional Bodies

1. *Editing*
*Associate Editor, Advanced Materials Letters*
*URL: www.amlett.com*

*Member, Editorial Board,*
*Journal of Astrophysics and Aerospace Technology*
*OMICS Publishing Group, USA*
*URL: http://www.omicsgroup.org/journals/editorialboardJAAT.php*

*Lead Guest Editor, Special Issue,*
*"NanostructuredMaterials: Optical Properties and Applications"*
*Hindawi Publishing Corporation*
*URL: http://www.hindawi.com/*

*Lead Guest Editor, Special Issue,*
*"Luminescent Phosphors and Their Applications",*
*Hindawi Publishing Corporation*
*URL: http://www.hindawi.com/*

*Editor-in-Chief*
*Journal of Luminescence & Applications,*
*Columbia International Publishing,*
URL: http://www.uscip.org/

2. *Reviewing*
*Biologicals*
*IEEE Transactions on Nuclear Science*
*Indian Journal of Applied Physics*
*Journal of Luminescence*
*Journal of Physics and Chemistry of Solids*
*Journal of Physics D: Applied Physics*
*NIM B*
*Radiation Effects and Defects in Solids*
*Radiation Measurements*
*Spectra Chemica Acta*
*Scripta Materialia*
*Wesleyan Journal of Research*
*Biological Chemistry*
*Biotechnology and Applied Biochemistry*

3. *Advisory*
*Member, Governing Body, MG Institute of Technology and Management, Lucknow, UP, India*

4. *Committees and Boards*
*Member, many selection committees of State Public Service Commission, UP and LNM, University, UP*

5. *Memberships*
***Luminescence Society of India***
***International Association of Advanced Materials***
***Indian Physics Association***

6. *Office Bearer*
***President, Luminescence Society of India (Delhi Chapter)***
***President, International Association of Advanced Materials (South Asian Chapter)***

Other Activities

I am also involved in social activities. Presently, President of RWA, Maurice Nagar, Delhi – 110 007

--- P D Sahare

**Representative list of Publications in Journal (last Five year):**

1. Novel Nanostructured Zinc Oxide Ammonia Gas Sensor, Surbhi Kumari, P. D. Sahare, Meenakshi Gupta, and J. C. Kapoor, AIP Conf. proc., 1393,219 (2011).
2. Sensitization Of Mesoporous Silica Nanoparticles (MSNs) By Laser Grade Dye Acriflavin, Surbhi Kumari, P. D. Sahare, Meenakshi Gupta, DOI: 10.5185 amlett.2012.icnano.172.
3. Photoluminescence Study of Laser Grade POPOP Dye Incorporated into MCM-41, Surbhi Kumari, P. D. Sahare, Adv. Porous Mater., American Scientific Publishers, 1 (2012) 1.
4. Optical Studies of Fluorescent Mesoporous Silica Nanoparticles, Surbhi Kumari, P. D. Sahare, *J. Mater. Sci. Technol., 29 (2013) 742*.
5. Gas sensing behavior of Fluorescein sodium impregnated MCM-41 for Sulphur dioxide, Surbhi Kumari, P. D. Sahare, *Sensor lett. 11 (2013) 526, doi:10.1166/sl.2013.2830.*
6. Optical studies of Acriflavin dye in mesoporous nano silica MCM-41, Surbhi Kumari, P. D. Sahare, Defence Science Journal, published by DESIDOC , DRDO, (in Press)
7. Nd doped ZnO as a multifunctional material, Surender Kumar and P. D. Sahare, J. Rare Earths, 30 (2012) 761, DOI: 10.1016/S1002-0721(12)60126-4
8. Effects of annealing on the surface defects of zinc oxide nanoparticles, Surender Kumar and P. D. Sahare, Nano, 7 (2012) 1250022, DOI: 10.1142/S1793292012500221
9. Thermoluminescence and Photoluminescence properties of K2Ca2(SO4)3: Cu nanophosphor for gamma radiation dosimetry, N.T. Mandlik, J.S. Bakare, P.D. Sahare, V.N. Bhoraskar, S.D. Dhole, Ind. J. Phys. Appl. Phys., 50 (2012) 859.
10. Fluorescence quenching of laser grade dye coumarin 440 in presence of hydrogen peroxide, A. Pattanaik, P.D. Sahare, G.Rani, Ind. J. Phys. 2011, 85, 1775, DOI: 10.1007/s12648-011-0194-4.
11. A new approach to produce single and double layer graphene from re-exfoliation of expanded graphite, S.R. Dhakate, N. Chauhan, S. Sharma, J. Tawale, S. Singh, P.D. Sahare, R.B. Mathur, Carbon, 2011, 49, 1946-1954.
12. High Energy Radiations Dosimetry in the Space, P. D. Sahare, Editorial, J. Astrophys Arospace Technol 1 (2012) 1-2
13. Preparation and characterization of short length ZnO nanorods and ZnO@ZnS core–shell nanostructures, Geeta Rani, P.D. Sahare, *Nano Commun. Netw. 3 (2012) 197, doi: 10.1016/j.nancom.2012.09.003*
14. Elucidation of Mg2+ binding activity of adenylate kinase from Mycobacterium tuberculosis H37Rv using fluorescence studies, Laxman S. Meena, Sanjay R. Dhakate, and Purushottam D. Sahare, Biotechnol Appl Biochem *Biotechnol Appl Biochem, 59 (2012) 429, DOI: 10.1002/bab.1043.*
15. Effect of phase transition and particle size on thermoluminescence characteristics of nanocrystalline K2Ca2(SO4)3:$Cu^{+}$ phosphor, P.D. Sahare, J.S. Bakare, S.D. Dhole, Pratik Kumar, Radiat. Measur. 47 (2012) 1083
16. Observation of band gap and surface defects of ZnO nanoparticles synthesized via hydrothermal route at different reaction temperature, Kumar, Surender, Sahare, P. D., Opt. Commun. 285 (2012) 5210 DOI: 10.1016/j.optcom.2012.07.125
17. Redox reactions in Cu-activated nanocrystalline LiF TLD phosphor, Singh, Manveer; Sahare, P. D. NIM B, 289 (2012) 59, DOI: 10.1016/j.nimb.2012.08.003
18. Photoluminescence of Cu doped sponge-like porous ZnO nanoparticles synthesized via chemical route, Vipin Kumar and **P. D. Sahare**, AIP Conf. Proc. 1393, 2011, pp. 63-64; doi:http://dx.doi.org/10.1063/1.3653610.
19. Novel nanostructured zinc oxide ammonia gas sensor, Surbhi Kumari and **P. D. Sahare**, AIP Conf. Proc. 1393, 2011, pp. 219-220; doi:http://dx.doi.org/10.1063/1.3653688.
20. Synthesis and Luminescent Properties of Li-doped ZnS Nanostructures by Chemical Precipitation Method, Geeta Rani and **P. D. Sahare**, AIP Conf. Proc., 2011, 1393, pp. 253.
21. Effect of Surface Defects on Green Luminescence from ZnO Nanoparticles, Surender Kumar & **P. D. Sahare**, AIP Conf. Proc. 1393, 159 (2011); doi: 10.1063/1.3653658.

22. Synthesis and Luminescence Properties of Nanocrystalline LiF:Mg,Cu,P Phosphor, **P.D. Sahare**, J.S. Bakare, S.D. Dhole, N.B. Ingale, A.A. Rupasov J. Lum. 130 (2010) 258
23. Nanocrystalline $MgB_4O_7$: Dy for high dose measurement of gamma radiation, S P Lochab, A Pandey, **P D Sahare**, R S Chauhan, Numan Salah, Ranju Ranjan, phys. stat. solidi (a), 2007, 204, 2416.
24. Effect of high-energy $^7Li^{2+}$ ions on the TL behavior of LiF: Mg,Cu,P detectors, Numan Salah, S P Lochab, D Kanjilal, **P D Sahare** and V E Aleynikov, Radiat. Measur., 2007, 42, 1294.
25. TL and PL in $BaSr(SO_4)_2$:Eu mixed sulphate, Numan Salah, **P D Sahare**, Pratik Kumar, phys. stat. solidi (a), 2006, 203, 898.
26. $K_3Na(SO_4)_2$ :Eu nanoparticles for high dose of ionizing radiation, **P D Sahare**, Ranju Ranjan, Numan Salah and S P Lochab, J. Phys. D: Appl. Phys., 2007, 40, 759.
27. The influence of high-energy $^7Li$ ions on the TL response and glow curve structure of nanocrystalline $CaSO_4$:Dy, Numan Salah and **P D Sahare,** J. Phys. D: Appl. Phys., 2006, 39, 2684.
28. Thermoluminescence and photoluminescence characteristics of nanocrystalline $LiNaSO_4$ :Eu phosphor, A Pandey, **P D Sahare**, J S Bakare, S P Lochab, F Singh and D Kanjilal, J. Phys. D: Appl. Phys., 2003, 36, 2400.
29. Thermoluminescence and photoluminescence study of $Ba_{0.97}Ca_{0.03}SO_4$ : Eu**,** S P Lochab, **P D Sahare**, R S Chauhan, Numan Salah and A Pandey, J. Phys. D: Appl. Phys., 2006, 39, 1786.
30. Thermoluminescence and photoluminescence study of nanocrystalline Ba0.97Ca0.03SO4 : Eu, S P Lochab, **P D Sahare**, R S Chauhan, Numan Salah, Ranju Ranjan and A Pandey, J. Phys. D: Appl. Phys., 2007, 40 1343.
31. Thermoluminescence and photoluminescence of $LiNaSO_4$:Eu irradiated with 24 and 48MeV $^7Li$ ion beam, Numan Salah, **P D Sahare**, Awadhesh Prasad, J. Lum., 2006, 121, 497
32. Thermoluminescence of $Ba_{0.97}Ca_{0.03}SO_4$:Eu irradiated with 48 MeV $^7Li$ ion beam, S P Lochab, Numan Salah, **P D Sahare**, R S Chauhan and Ranju Ranjan, NIMB, 2007, 254, 231.
33. Thermoluminescence of nanocrystalline LiF:Mg, Cu, P, Numan Salah, **P D Sahare**, A A Rupasov, J. Lum., 2007, 124, 357
34. TL and PL studies on CaSO4: Dy nanoparticles, Numan Salah, **P D Sahare**, S P Lochab, Pratik Kumar, Radiat. Measur., 2006, 41, 40
35. TL, PL and energy transfer in $K_2Ca_2(SO_4)_3$: $Eu^{2+}$, $Ce^{3+}$, Numan Salah and **P D Sahare**, Radiat. Measur., 2006, 41, 665.
36. A novel optical sensor for ammonia using a laser grade dye—Stilbene 3, **P D Sahare** and A. Pattanaik, J. Phys. D: Appl. Phys., 2007, 40, 7166
37. Fluorescence quenching of 3-methyl 7-hydroxyl Coumarin in presence of acetone, Vijay Kumar Sharma, D. Mohan and **P D Sahare**, Spectrochim. Acta: A, 2007, 66, 111.
38. Energy transfer studies in binary dye solution mixtures: Acriflavine + Rhodamine 6G and Acriflavine + Rhodamine B, **P D Sahare**, Vijay K. Sharma, D. Mohan and A.A. Rupasov, Spectrochimica Acta: A, doi:10.1016/j.saa.2007.07.003, available online from 10 July 2007.