Curriculum Vitae

Dr. Abhishek Kumar M.Sc., Ph.D.

Research/Teaching Centre

Postdoctoral Fellow
State Key Laboratory of Precision Spectroscopy. East China Normal University, Shanghai, China
E-mail: ak.ism14@gmail.com
Mobile: +91-7070672201
https://orcid.org/0000-0002-1831-5495
https://scholar.google.co.in/citations?user=HCeHCZoAAAAJ&hl=en

Permanent Address

H.No. 130, Vasudev Nagar, Asrafpur Kichhauchha, Ambedkar Nagar, Uttar Pradesh-224155
India

HIGHLIGHTS OF CV

Ongoing Activity: Assigned as **Physics faculty for B.Sc/M.Sc. Students** Department of Physics & Electronics, Kamala Nehru Institute of Physical and Social Sciences (KNIPSS), Sultanpur, Uttar Pradesh- 228118, India**. Some reseaerch activities also going on.**

Work Experience: **1. Assistant Professor,** , KNIPSS, Kanpur (2023.09 to till date)
2. Assistant Professor, , PSIT, Kanpur (2022.08 to 2023.07)
3. Postdoctoral Fellow, University of Porto, Portugal (2018.9 to 2019.05)

- **Post Ph.D. Experience:** Research: **2.7 year (Postdoctoral)** Teaching: **2 years (Assistant Professor)**
- **Publications: 22** First/Corresponding author: **17** Patent**: 0**
  High Impact Factor: 1. ***Journal of Alloys and Compounds*** 776 (2019) 207-214. **(I.F. 6.5).**
  2. ***Materials Research Bulletin*** 112 (2018) 28-37 **(I.F. 5.5).**
- **Research Project: 2**
  1. University of Porto, Portugal Project Postdoc Fellowship 2018-2019 (Completed)
  2. China National Postdoc Fellowship Grant, 2019-2021 (Completed)
- **Advanced Instrument Training: XPS, AFM, SEM, TEM and XRD** Operation Training Course, University of Porto, Portugal, 2016.
- **Awards:** CSIR Diamond Jubilee Research Internship Award 2011, China Postdoc Award, **Corbon Congress RCG 2017, U Porto, Best Oral Persentation Award**
- **Foreign Visits:** With full Sponsorship from organizers of China & Portugal.
- **Invited Talk: RASE 2016, IIT ISM Dhanbad, Carbon Congress U Porto Portugal 2017 etc.**
- **Additional Responsibility:** Event Organiser in Jamia Physics Association 2008-2009, Science

Olympiyad Foundation Subject Matter Expert for Physics, IIT ISM CSR Organization Karma Jyoti NGO Teacher in 2015.

Academic Qualification

2012, 2014	**IIT-GATE**	Physics	Qualified	Accredited by IIT
2018	**PhD**	Physics	Awarded	IIT ISM Dhanbad
		Title of thesis: *UPCONVERSION LUMINESCENCE STUDIES IN Ho^{3+}/Yb^{3+} DOPED GADOLINIUM BASED OXIDE AND FLUORIDE PHOSPHORS AND THEIR APPLICATIONS*		
2009	**MSc**	Physics(Spectroscopy specialization)		Jamia Millia Islamia (Central University) New Delhi
2007	**BSc**	Physics, Mathematics, Chemistry		Lucknow University, Lucknow

Teaching Experience: 1 Years

1.	Assistant Professor	Department of Basic Sciences and Humanities, Pranveer Singh Institute of Technology, Kanpur, 209305, India	From 19.09.2022
2.	Assistant Professor	Department of Physics & Electronics, Kamla Nehru Institute of Physical and Social Sciences (KNIPSS), Sultanpur, Uttar Pradesh- 228118, India	

Research Experiance

Course	Organization	Supervisor	Tittle of work	Duration	Output
Postdoctoral	East China Normal University, Shanghai, China	**Prof. Dr. Shian Zhang**	Upconversion Lumniscence based nano particles for biomedical applications	2/12/2019 to 1/12/2021	1 Minor Project & 2 SCI papers
Postdoctoral	University of Porto, Portugal	**Prof. Joaquim C.G. Esteves da Silva**	Upconversion nanoparticles attached carbon dots for glucose sensing applications	2/09/ 2018 to 31/12/ 2018 & 1/03/2019 to 31/05/ 2019	2 Minor Project & 4 SCI papers

Ph.D.	IIT ISM Dhanbad	**Prof. Kaushal Kumar**	Upconversion Luminescence Studies in Ho^{3+}/Yb^{3+} doped Gadolinium Based Oxide and Fluoride Phosphors and Their Applications	12/03/2014 to 04/06/2018	11 SCI papers
JRF/SRF-SERB Project	IIT ISM Dhanbad	**Prof. Kaushal Kumar**	Upconversion Nano phosphor based temperature sensor	12/03/2014 to 11/03/2017	

Awards, Fellowship and Honors

1. Two years post-doc. fellowship under the supervision of **Prof. Dr. Shian Zhang** at East China Normal University, Shanghai, China from 02, December 2019 to 1, December 2021.
2. Four months post-doc. fellowship under the supervision of **Prof. Joaquim C.G. Esteves da Silva** at FCUP, University of Porto, Portugal from 01, September 2018 to 31, December 2018.
3. Three months post-doc. fellowship under the supervision of **Prof. Joaquim C.G. Esteves da Silva** at FCUP, University of Porto, Portugal from 01, March 2019 to 30, May 2019.
4. Erasmus-Mobile+ **doctoral credit mobility** fellowship for 10 months at the University of Porto, Portugal from 19, September 2016 to 18, July 2017.

Research Awards

1. Best Oral Presentation Award in First International Seminar about Carbon Dots, Carbon dot society, FCUP, University of Porto, Portugal, 2017-06-28.

Research Experience

1. Ph.D. in the field of Rare Earth doped upconversion nano-phosphor at Deptt. Of Applies Physics, Indian School of Mines, Dhanbad Jharkhand India-826004 12 March 2014- 4 June 2018.
2. Project fellow in DST-SERB New Delhi, India funded project on temperature sensing application of rare-earth-doped upconversion nanoparticles at Deptt. Of Applies Physics, Indian School of Mines, Dhanbad Jharkhand India-826004 12 March 2014- 31 October 2016
3. Research Intern (IJPAP): CSIR-National Institute of Science Communication and Information Resources, India-16 May 2011-30 April 2013.
4. One Year of project work in "Department of Electronics &Communication Engineering and Physics Department of Jamia Millia Islamia University, New Delhi" from June 2008- May 09.
5. **"Bibliometric Study of Research Output on String Theory from India & China"** at CSIR-NISCAIR for six months' project work report from 17 May 2011-to 19 November 2011.

Refresher Course/Workshop/Training

1. A. Kumar, S.P. Tiwari, K. Kumar, and V. K. Rai, "Comparative Upconversion Emission Study on Gd_2O_3: Ho^{3+}/Yb^{3+} Nano-phosphor Synthesized by two Different Routes." DAE-BRNS National Laser Symposium (NLS)-23, December 03-06, 2014, Deptt. Of Physics Sri Venkateswara (SV) University, Tirupati, AP.
2. A. Kumar, S. P. Tiwari, K. Kumar, and V.K. Rai, "Characterization and Up-conversion study on Er^{3+}/Yb^{3+} Co-doped $NaGdF_4$ Nano-Particles." International Conference on Frontiers in Spectroscopy (ICFS)-2015, January 10-12, 2015, Physics Department, Banaras Hindu University (BHU), Varanasi-221005 (Accepted for poster presentation).
3. A. Kumar, S. P. Tiwari, K. M. Krishna, and K. Kumar, "Structural and optical characterization of $NaGdF_4$: Ho^{3+}/Yb^{3+} upconversion nanoparticles for latent fingermark detections". DAE-Solid State Physics Symposium (SSPS-60), December 21-25, 2015, Amity University, Noida, U.P. (Published in AIP conference proceedings).
4. A. Kumar, S. P. Tiwari, S. K. Maurya, K. M. Krishna, K. Kumar, and V.K. Rai, "Non-radiative emission study in LaF_3: Tm^{3+}/Yb^{3+} upconversion nanoparticles for photodynamic therapy application" [Oral Presentation].
5. A. Kumar, Joaquim C.G. Esteves da Silva, K. Kumar, "Upconversion phosphors/carbon dots nanostructure for glucose sensing" RGC congress Porto, Portugal, June 12-23, 2017. [Oral Presentation].
6. Attained summer school on "Development and characterization of Advanced Materials" at physics Department, BHU, Varanasi, India.
7. Attended AICTE-sponsored short-course on "Hybrid Inorganic-Organic Nanocomposites for Photonics, Energy, and Electronic Devices: Industrial Applications", September 01-12, 2014, Material Science Center, IIT Kharagpur, WB.
8. Attended Short Course on "Photonics" organized by Indian Laser Association (ILA), December 01-02, 2014, Deptt. Of Physics Sri Venkateshwara (SV) University, Tirupati, AP.
9. Attended Workshop on "Nano-Science and Life" under UGC networking program, February 26 – March 2, 2015, Dept. of Physics, Banaras Hindu University, Varanasi.
10. Attended seminar on "Scanning Electron Microscopy-SEM, Low Vacuum and Environmental and SEM-ESEM/LVSEM, Low temperature Scanning Electron Microscopy-CryoSEM" on the 4th July 2017 organized by the Materials Center, CEMUP, University of Porto, Portugal.
11. Attended seminar on "X-Ray Microanalysis – EDS, Backscattered Electron Diffraction – E BSD" on the 26th May 2017 organized by the Materials Center, CEMUP, University of Porto,

Portugal.

12. Attended seminar on "Scanning Probe Microscopy – SPM: AFM/MFM/STM, Atomic Force Microscopy – AFM, Magnetic Force Microscopy – MFM, Scanning Tunneling Microscopy - STM" on the 11th July 2017 organized by the Materials Center, CEMUP, University of Porto, Portugal.
13. Attended seminar on "Surface Analysis by Electron Spectroscopy, X-Ray Photoelectron Spectroscopy - XPS" on the 26th April 2017 organized by the Materials Center, CEMUP, University of Porto, Portugal.
14. Attended seminar on "Data Processing and Analysis for X-Ray Photoelectron Spectroscopy - XPS" on the 28th April 2017 organized by the Materials Center, CEMUP, University of Porto, Portugal.
15. Attended 5 days international workshop on Quantum mechanical modeling of Materials by Quantum Expresso (IWQMMM-2023) by IEEE Nano-council PSIT Student Chapter (15th – 19th March 2023)

Scientific Membership

1. Member of India Laser Association (ILA)
2. Member of International Association of Engineers (IAENG)

Acadmic Resposibilities

1. Monitored one M. Sc. student, Mr. Arka Sardar, for his master thesis at IIT (ISM) Dhanbad, India.
2. Paid laboratory and class duties for B. Tech. and M.Sc. students at IIT (ISM) Dhanbad, India.
3. Paid laboratory and class duties for B. Tech. students at PSIT Kanpur, India.

Teaching Intrest

1. Mathematical Physics; Electrodynamics; Classical/quantum mechanics; Condensed Matter Physics; Optics etc.

Social Resposibilities

1. Enrolled in the project Classes without Frontiers, integrated into the municipal educational program Porto de Futuro, in collaboration with the University of Porto, Portugal.
2. Educated school students through Karma Jyoti Non-Govt. Organization in Dhanbad, India.
3. Served as Subject Matter Expert in Science Olympiad Foundation Non-Govt. Organization, New Delhi, India.

Research Interest

Photonics materials; Nanomaterials; Upconversion luminescent materials; Photovoltaic, optical sensing, Security and forensic detection applications; crystallographic analysis; Structural refinement; etc.

Research Experience

1. Ph.D. in the field of Rare Earth doped upconversion nano-phosphor at Deptt. Of Applies Physics, Indian School of Mines, Dhanbad Jharkhand India-826004 12 March 2014- 4 June 2018.
2. Project fellow in DST-SERB New Delhi, India funded project on temperature sensing application of rare-earth-doped upconversion nanoparticles at Deptt. Of Applies Physics, Indian School of Mines, Dhanbad Jharkhand India-826004 12 March 2014- 31 October 2016.
3. Research Intern (IJPAP): CSIR-National Institute of Science Communication and Information Resources, India-16 May 2011-30 April 2013.
4. One Year of project work in "Department of Electronics &Communication Engineering and Physics Department of Jamia Millia Islamia University, New Delhi" from June 2008- May 09.
5. Bibliometric Study of Research Output on String Theory from India & China at CSIR-NISCAIR for six months project work report from 17 May 2011 to 19 November 2011.

Professional Competence

- Fabrication and photonic engineering of Ho/Yb doped Gadolinium based upconversion nanoparticles for various applications
- Researched and performed the innovative applications in field of biomedical, solar energy efficiency enhancement and other fields
- Determined the structural and surface properties of some thin films for better optical device fabrications.
- Profound efficiency in handling of hygroscopic, air sensitive reagents and reactions. Skilled in the use of TEM, XRD, UV, FTIR, and also MS Word, Excel, Power Point, Chemdraw and Chem 3D and expertise in the preparation of research reports, manuscripts.
- Considerable expertise and extensive knowledge of the scientific literature.
- Capable of carrying independent and collaborative research.
- An easy going and friendly interpersonal relationship.

Book Chapter

1. S. P. Tiwari, **A. Kumar,** and K. Kumar, *"Upconversion Phosphor Materials for Beginners: Synthesis and Applications,"* **Research Frontiers in Sciences** (2016), Bhumi Publication, India, ISBN:978-81-931247-1-0.
   https://www.academia.edu/35744654/UPCONVERSION_PHOSPHOR_MATERIALS_FOR_BEGINNER

S_SYNTHESIS_AND_APPLICATIONS

2. S. P. Tiwari, R. S. Yadav, S. K. Maurya, A. Kumar, Vinod Kumar and H. C. Swart, "*Synthesis and potential application of rare earth doped fluoride based host matrices*", CRC Press, Tylor & Francis Group. (2019) eISBN 9780429025334. https://www.taylorfrancis.com/chapters/edit/10.1201/9780429025334-13/synthesis-potential-application-rare-earth-doped-fluoride-based-host-matrices-tiwari-yadav-maurya-kumar-vinod-kumar-swart

Patent (Utility Grant/Publication/Design) Publication

Under preparation for Patent application: 1

Research Publications

Google Scholar Citations: 349
h- index: 12
i10 index: 13
SJR Q1 Ranking publications: 10
SJR Q2 Ranking publications: 11

[J21]	Abhishek Kumara, Lalit Kumar Dwivedi, Kaushal Kumar, Comparative upconversion emission studies in AF3: Tm3+/Yb3+(A=La, Y and Gd) phosphor for latent fingermarks detection, Optical Materials 145 (2023) 114461. 09253467 https://doi.org/10.1016/j.optmat.2023.114461 **IF : 4.2, SJR Ranking Q1**
[J20]	A. Kumar, Joaquim C.G. Esteves da Silva, Surface plasmonic resonance study in polymer composite film of $NaYF_4:Er^{3+}/Yb^{3+}$ upconversion nanoparticles via AuNPs concentration variation, **J. Alloys. and Compounds (2023) in press 171704** https://doi.org/10.1016/j.jallcom.2023.171704 **IF : 6.5, SJR Ranking Q1**
[J19]	Abhishek Kumar, Diana M.A. Crista, Ara Núñez-Montenegro, Joaquim C.G. Esteves da Silva and Santosh Kumar Verma, Annealing assisted optimization in persistency of afterglow of $SrAl_2O_4:Eu^{2+}/Dy^{3+}$ micro particles for forensic detections RSC Advances, 2023,**13**, 28676-28685 ISSN 2046-2069 **IF : 3.4 SJR Ranking Q2**
[J18]	**A Kumar**, Surya Prakash Tiwari, Hendrik C. Swart, Joaquim Carlos Gomes Esteves da Silva, "Infrared interceded YF_3: Er^{3+}/Yb^{3+} upconversion phosphor for crime scene and anti-counterfeiting applications", **Optical Materials** 92, 2019, 347-351.[Impact factor=2.5]0925- 3467 https://www.sciencedirect.com/science/article/abs/pii/S0925346719302800 **IF : 3.754, SJR Ranking Q1**
[J17]	**A. Kumar,** H. Couto and Joaquim C. G. Esteves da Silva, Upconversion Emission Studies in Er^{3+}/Yb^{3+}

	Doped/Co-Doped $NaGdF_4$ Phosphor Particles for Intense Cathodoluminescence and Wide Temperature Sensing Applications, Materials 2022, 15, 6563, 1-13. 19961944 https://www.mdpi.com/1996-1944/15/19/6563/html **IF : 3.748, SJR Ranking Q2**
[J16]	**A. Kumar,** S. P. Tiwari, K. Kumar, and Joaquim C. G. Esteves da Silva, "Multifunctional applications of $NaGdF_4$:Ho^{3+}/Yb^{3+} upconversion phosphor synthesized via two different routes: a comparative study" Mater. Res. Express 6 (2019) 106201-106213. 20531591 https://iopscience.iop.org/article/10.1088/2053-1591/ab399c **IF : 2.025, SJR Ranking Q2**
[J15]	**Abhishek Kumar,** Luís Pinto da Silva, Joaquim C.G.Esteves da Silva, Kaushal Kumar, "Molecular vibration-assisted triplet-triplet annihilation nirupconversion luminescence of fluorescein", **Optical Materials**, 96, 2019, 109286-10290. [Impact factor=2.5] 09253467 https://www.sciencedirect.com/science/article/abs/pii/S0925346719304963 **IF : 3.754, SJR Ranking Q1**
[J14]	**A. Kumar,** Joaquim C.G. Esteves da Silva, K. Kumar, H. C. Swart, S. K Maurya, P. Kumar and S. P. Tiwari, "Improvement in upconversion/downshifting luminescence of Gd_2O_3:Ho^{3+}/Yb^{3+} phosphor through Ca^{2+}/Zn^{2+} incorporation and optical thermometry studies", **Mat. Res. Bull.,**112(2018)28-37,255408 https://www.sciencedirect.com/science/article/abs/pii/S0025540818317938 **IF : 5.5, SJR Ranking Q1**
[J13]	**A. Kumar,** S. P. Tiwari, K. Kumar and Joaquim C.G. Esteves da Silva, "Magnetic tuning in upconversion emission enhanced through Ag^+ ions co-doped in GdF_3: Ho^{3+}/Yb^{3+} phosphor and a real-time temperature sensing demonstration", **J. Alloys. and Compounds,** 776 (2019) 207-214, 09258388 https://www.sciencedirect.com/science/article/abs/pii/S0925838818338301 **IF : 6.5, SJR Ranking Q1**
[J12]	**A Kumar**, M. H. M. Couto, S. P. Tiwari, K. Kumar, and J. C.G. Esteves da Silva, "Effect of pH of precursor on up/downconversion and cathodoluminescence of Gd_2O_3:Ho^{3+}/Yb^{3+} phosphor and magneto-optic studies"**ChemistrySelect** 3 (2018) 10566-10573. [Impact factor=1.5]23656549 https://chemistry-europe.onlinelibrary.wiley.com/doi/10.1002/slct.201801556 **IF : 2.3707, SJR Ranking Q2**
[J11]	**A.Kumar**, S. P. Tiwari, A. Sardar, K Kumar, J C G E da Silva, "Role of Ca^{2+} codopants on structural and optical properties of YF_3: Tm^{3+}/Yb^{3+} upconversion phosphor for improved optical thermometry" **Sensors and Actuators A: Physical** 280 (2018) 179-187.9244247 https://www.sciencedirect.com/science/article/abs/pii/S0924424718306447 **IF : 4.291, SJR Ranking Q1**

[J10]	**A.Kumar**, S. P. Tiwari, Joaquim C.G. Esteves da Silva and K. Kumar, "Security writing application of thermal decomposition assisted $NaYF_4:Er^{3+}/Yb^{3+}$ upconversion phosphor "**Laser Phys. Lett.** 15(2018) 075901-075910.16122011 https://iopscience.iop.org/article/10.1088/1612-202X/aab123 **IF : 1.7, SJR Ranking Q2**
[J9]	**A. Kumar**, S. P. Tiwari, K. Kumar and V. K. Rai, "Structural and optical properties of thermal decomposition assisted Gd_2O_3: Ho^{3+}/Yb^{3+} upconversion phosphor annealed at different temperature," **Spectrochem Acta A Spectroscopy,** 167 (2016) 134-141.13861425 https://www.sciencedirect.com/science/article/abs/pii/S1386142516302542 **IF : 4.831, SJR Ranking Q2**
[J8]	**A. Kumar**, S. P. Tiwari, K. Kumar and A. K. Singh, "Synthesis of Gd_2O_3: Ho^{3+}/Yb^{3+}upconversion nanoparticles for latent fingermark detection on difficult surfaces" **Appl. Phys. B**, 122 (2016) 190-199. 9462171 https://link.springer.com/article/10.1007/s00340-016-6468-y **IF : 1.800, SJR Ranking Q2**
[J7]	**A. Kumar**, S. P. Tiwari, and K. Kumar, "Synthesis and Upconversion of Er^{3+}/Yb^{3+} Doped $NaGdF_4$ Phosphor for Security Applications", **Adv. Sci. Lett.** 21 (2015) 2632, ISSN: 1936-6612. https://www.researchgate.net/signup.SignUp.html?ev=su_requestFulltext **Impact factor: xx**
[J6]	S. P. Tiwari, **A. Kumar**, S. Singh and K. Kumar, "Synthesis, characterization and optical study of $CaYAl_3O_7$: Eu^{3+} phosphors for lighting application" **Vacuum** 146 (2017) 537-540. 0042207X. https://www.sciencedirect.com/science/article/abs/pii/S0042207X17303895 **IF : 4.5, SJR Ranking Q1**
[J5]	S.K. Maurya, S.P. Tiwari, **A. Kumar** and K. Kumar, "Plasmonic enhancement of upconversion emission of $Ag@NaYF_4:Er^{3+}/Yb^{3+}$phosphor",**J. Rare Earths,** 39 (2018) 903-910. 10020721 https://www.sciencedirect.com/science/article/abs/pii/S1002072118302928 **IF : 4.632, SJR Ranking Q1**
[J4]	S. Maurya, R Kushawaha, S Tiwari, **A Kumar,** K Kumar, Joaquim C.G. Esteves da Silva, "Thermal decomposition mediated Er^{3+}/Yb^{3+} codoped $NaGdF_4$ upconversion phosphor for optical thermometry" Materials Research Express, 6 (2019) 086211-086220. 20531591 https://iopscience.iop.org/article/10.1088/2053-1591/ab20b4 **IF : 2.025, SJR Ranking Q2**
[J3]	K.M. Krishna, S.P. Tiwari, **A Kumar,** K Kumar, Up and downconversion emission studies in Er^{3+}/Yb^{3+}: $Ca_3(PO_4)_2$ phosphor for thermometry, Sensors and Actuators A: Physical 315 (2020) 112302.9244247 https://www.sciencedirect.com/science/article/abs/pii/S0924424720310839

	IF : 4.291, SJR Ranking Q1
[J2]	Xingqing Xie, **Abhishek Kumar,** Lian zhong Deng, Jianguo Wanga Dalong Qi, Tianqing Jia Zhenrong Suna, Jianrong Qiu, Shian Zhang, "Suppressing the visible luminescence in GdF3:ErF3 nanoparticles with intermediate magnetic fields", **Journal of Luminescence**, 239, 2021,118353.00222313 https://www.sciencedirect.com/science/article/abs/pii/S0022231321004695 **IF : 4.171, SJR Ranking Q2**
[J1]	S. P. Tiwari, A. Kumar, K. Kumar, M. R. Singh, G. P. Bharti, Alika Khare, H. C.Swart, S. K. Verma, LSPR mediated improved upconversion emission on randomly distributed gold nanoparticles arrays, New Journal of Chemistry (in Press 2020). 13699261.https://pubs.rsc.org/en/content/articlelanding/2020/nj/c9nj06471k **IF : 4.291, SJR Ranking Q2**

Publication in Confrence Procidings

1. **A. Kumar**, S. P. Tiwari, K. M. Krishna, and K. Kumar, "Structural and optical characterization of $NaGdF_4$: Ho^{3+}/Yb^{3+} upconversion nanoparticles for latent fingermark detections," **AIP conference proceeding,**1731 (2016) 050135. https://aip.scitation.org/doi/10.1063/1.4947789
2. S. P. Tiwari, S. Singh, **A. Kumar,** and K. Kumar, "Upconversion study of singly activator ions doped La_2O_3 nanoparticle synthesized via optimized solvothermal method" **AIP Conference Proceedings** 1728 (2016) 020137. https://aip.scitation.org/doi/10.1063/1.4946188
3. S. K. Maurya, S. P. Tiwari, **A. Kumar,** and K. Kumar,"Synthesis and Photoluminescence Studies of Tm^{3+}/Yb^{3+} Codoped Y_2O_3 Phosphors", AIP Conference Proceedings 1953,(2018)060040-060043. https://aip.scitation.org/doi/10.1063/1.5032771
4. S. K. Maurya, S. P. Tiwari, **A. Kumar,** and K. Kumar, "Latent Fingermark Detection for $NaYF_4$:Er^{3+}/Yb^{3+} Upconversion Phosphor Synthesized by Thermal Decomposition Route",AIP Conference Proceedings 1942(2018) 050051-050054. https://aip.scitation.org/doi/abs/10.1063/1.5028682

List of Review Articles

1. S. P. Tiwari,S. K. Maurya, R. S. Yadav, **A. Kumar,**V. Kumar and H. C. Swart "*UC emission exploration in rare earth doped ions-based fluoride phosphors",* **JVST B: Journal of Vacuum Science and Technology**36 (2018) 060801-060815.[Impact factor=0.85] https://avs.scitation.org/doi/full/10.1116/1.5044596

IF : 4.291, SJR Ranking Q2

List of Paper under Submission/Revision

1. Abhishek Kumar, Joaquim C.G. Esteves da Silva and Santosh K Varma, Comparative upconversion emission studies in AF_3: Tm^{3+}/Yb^{3+} (A=La, Y and Gd) phosphor for latent fingermarks detection applications (Under Revision)

2. A Kumar, Joaquim C.G. Esteves da Silva, Santosh K Varma and Kaushal Kumar, Cooperation of Ca^{2+} and Zn^{2+} ion dopantd in Ho^{3+}/Yb^{3+}:GdF_3 phosphors for alteration in upconversion luminescence. (Under revision)

3. A. Kumar, K Kumar, Santosh K Varma and M Malaidurai, Infrared and Uv assisted visible up/down-conversion in Gd_2O_3:Ho^{3+}/Yb^{3+}micro-rods for high efficient photovoltaic performance of dye-sensitized solar cell (Under revision)

4. A Kumar, Joaquim C.G. Esteves da Silva and S K Varma, A critical review on Hydrogen energy storage systems (Under preparation)

International and National Conference Attended

1. A. Kumar, S.P. Tiwari, K. Kumar, and V. K. Rai, "Comparative Upconversion Emission Study on Gd_2O_3: Ho^{3+}/Yb^{3+} Nano-phosphor Synthesized by two Different Routes." DAE-BRNS National Laser Symposium (NLS)-23, December 03-06, 2014, Deptt. Of Physics Sri Venkateswara (SV) University, Tirupati, AP.
2. A. Kumar, S. P. Tiwari, K. Kumar, and V.K. Rai, "Characterization and Up-conversion study on Er^{3+}/Yb^{3+} Co-doped $NaGdF_4$ Nano-Particles." International Conference on Frontiers in Spectroscopy (ICFS)-2015, January 10-12, 2015, Physics Department, Banaras Hindu University (BHU), Varanasi-221005 (Accepted for poster presentation).
3. A. Kumar, S. P. Tiwari, K. M. Krishna, and K. Kumar, "Structural and optical characterization of $NaGdF_4$: Ho^{3+}/Yb^{3+} upconversion nanoparticles for latent fingermark detections". DAE-Solid State Physics Symposium (SSPS-60), December 21-25, 2015, Amity University, Noida, U.P. (Published in AIP conference proceedings).
4. A. Kumar, S. P. Tiwari, S. K. Maurya, K. M. Krishna, K. Kumar, and V.K. Rai, "Non-radiative emission study in LaF_3: Tm^{3+}/Yb^{3+} upconversion nanoparticles for photodynamic therapy application" [Oral Presentation].
5. A. Kumar, Joaquim C.G. Esteves da Silva, K. Kumar, "Upconversion phosphors/carbon dots nanostructure for glucose sensing" RGC congress Porto, Portugal, June 12-23, 2017. [Oral Presentation].
6. Attained summer school on "Development and characterization of Advanced Materials" at physics Department, BHU, Varanasi, India.
7. Attended AICTE-sponsored short-course on "Hybrid Inorganic-Organic Nanocomposites for Photonics, Energy, and Electronic Devices: Industrial Applications", September 01-12, 2014, Material Science Center, IIT Kharagpur, WB.

8. Attended Short Course on "Photonics" organized by Indian Laser Association (ILA), December 01-02, 2014, Deptt. Of Physics Sri Venkateshwara (SV) University, Tirupati, AP.
9. Attended Workshop on "Nano-Science and Life" under UGC networking program, February 26 – March 2, 2015, Dept. of Physics, Banaras Hindu University, Varanasi.
10. Attended seminar on "Scanning Electron Microscopy-SEM, Low Vacuum and Environmental and SEM-ESEM/LVSEM, Low temperature Scanning Electron Microscopy-CryoSEM" on the 4th July 2017 organized by the Materials Center, CEMUP, University of Porto, Portugal.
11. Attended seminar on "X-Ray Microanalysis – EDS, Backscattered Electron Diffraction – E BSD" on the 26th May 2017 organized by the Materials Center, CEMUP, University of Porto, Portugal.
12. Attended seminar on "Scanning Probe Microscopy – SPM: AFM/MFM/STM, Atomic Force Microscopy – AFM, Magnetic Force Microscopy – MFM, Scanning Tunneling Microscopy - STM" on the 11th July 2017 organized by the Materials Center, CEMUP, University of Porto, Portugal.
13. Attended seminar on "Surface Analysis by Electron Spectroscopy, X-Ray Photoelectron Spectroscopy - XPS" on the 26th April 2017 organized by the Materials Center, CEMUP, University of Porto, Portugal.
14. Attended seminar on "Data Processing and Analysis for X-Ray Photoelectron Spectroscopy - XPS" on the 28th April 2017 organized by the Materials Center, CEMUP, University of Porto, Portugal.

Personal Profile

Father's Name	:	Late Mr Rajendra Prasad Kasaudhan
Mother's Name	:	Mrs. Urmila Devi
Date of Birth		May, 4, 1987
Passport No.	:	**Z2891283**
Marital Status	:	Married (with Ms. Minki Gupta)

Referees

Dr. Hendrik Swart

Senior Professor of Physics, Natural and Agricultural Sciences Faculty, University of Free States, Bloemfontein 9300, Republic of South Africa
E-mail: SwartHC@ufs.ac.za
Tel. (+51) 4012926

Joaquim C.G. Esteves da Silva

Professor and Director, (Postdoc-Mentor)
Catedrático Geociências, Ambiente e Ordenamento do Território
Faculity of Science, University of Porto, Rua do Campo Alegre, s/n, 4169-007 Porto, Portugal
Email: jcsilva@fc.up.pt
Tel. (+351) 220402569 | Ext. 30569

Kaushal Kumar (PhD Supervisor)

Associate Professor, (Ph.D.-Mentor)

Physics Department, IIT ISM Dhanbad Jharkhand

E-mail: kumar.bhu@gmail.com
Phone: (+91) -3262235282