




HANSRAJ COLLEGE
(UNIVERSITY OF DELHI)
North Campus, Malka Ganj, NEW DELHI - 110007
Faculty Details

Titl e	Dr.	First Name	Yogesh	Last Name	Kumar	Photograph
Designation	Assistant Professor					
Address	Department of Physics Hansraj College, University of Delhi, Kalkaji, New Delhi, India					
Phone No. Office	011-27667747; 011-27667458; 011-27666338					
Residence	RZ-11 E, Street No. 5, Tughlakabad Extension New Delhi-110019					
Mobile	9810480618; 9971072399					
Email	yogesh.du81@gmail.com ; ykumar@hrc.du.ac.in					
Web-Page	Home Page: https://sites.google.com/hrc.du.ac.in/yogeshkumar-physics/home Researchgate: https://www.researchgate.net/profile/Yogesh-Kumar-16 GoogleScholar: https://scholar.google.com/citations?user=U2OIjskAAAAJ&hl=en Inspire-hep: https://inspirehep.net/authors/1056812					
Educational Qualifications						
Degree	Institution					Year
Ph.D. (Awarded)	Department of Physics and Astrophysics, University of Delhi, New Delhi-110007, India					2013
PG	Hansraj College, University of Delhi, New Delhi-110007, India					2006
UG	Acharya Narendra Dev College, University of Delhi, New Delhi-110019, India					2002
Other (B.Ed.)	Jamia Millia Islamia, Central University, Delhi					2004

Career Profile
<ul style="list-style-type: none"> ➤ Currently working as an Assistant Professor at Hansraj College, University of Delhi, North Campus, Malkaganj, New Delhi, India since 22nd, November, 2022 to Till Date. ➤ Worked as an Assistant Professor at Deshbandhu College, University of Delhi, Kalkaji, New Delhi, India since 29th, July, 2015 to 22nd, November, 2022. ➤ Served as an Assistant Professor in different colleges of University of Delhi from 04th, Aug, 2009 to 28th, July, 2015. ➤ Served as an online Tutor at the Manya Education Pvt. Ltd. US based company since Oct, 2006 to May, 2008.
Administrative Assignments
<ul style="list-style-type: none"> • IQAC Team Member, DBC, DU • Equal Opportunity Cell, DBC, DU • Convener/Co-convener for the various subject paper of Physics, DU • Paper setter of various paper related to physics, DU • Member of Physics Science Society 'PHYSICA' of Deshbandhu College, DU. • Executive Council member of Indian Association of Physics Teachers (IAPT, RC-1) 2017-2021, Delhi and Haryana Region. • Final drafting team Member LOCF (CBCS) Undergraduate Physics courses revision 2019 at Department of Physics and Astrophysics, University of Delhi, 2019. • Member of Sub-Committee of Committee of Courses (Hons.) P.G. and Research Studies and the committee of courses (Under-graduate) to appoint external practical examiners and theory paper setting, 2018. • Member of Courses of Committee to revise the undergraduate syllabus (CBCS) of University of Delhi 2018. • Member in the courses of committee for making model test paper of element of modern physics for B.Sc. (Hons) Physics, University of Delhi, session 2020. • Core committee Member of SSR 2021-22. • Member of IQAC Committee signboards 2021-22. • Member in various other college activities. • Member of departmental website Committee. • Member of departmental NAAC Committee.
Areas of Interest/Specialization
<ul style="list-style-type: none"> • High Energy Physics and Quark-Gluon Plasma • Quark-Hadron Phase Structure • Electromagnetic signals from QGP • Strange Quark Matter • Equation of State of QGP • Super-deformed Nuclei • Nuclear Structure properties • Other related fields. • Nanotechnology

- Statistical Mechanics

Subjects Taught

Element of Modern Physics	Thermal Physics	Element of Modern Physics	Solid State Physics
Thermal Physics	Electricity & Magnetism	M.P.-II	E & M
Nuclear Physics	Quantum Mechanics-I	Nuclear Physics	Statistical Mechanics
Mechanics	M.P.-III	Thermal Physics	Digital Electronics

Research Guidance

UG Level

Publications Profile

- “Dilepton from quark-gluon plasma and quark-hadron phase transition”, S. Somorendro Singh, **Yogesh Kumar**, D. S. Gosain, (<http://xxx.lanl.gov>) **hep-ph/0803.1527v1 (2008)**.
- “Effect of Curvature on a Statistical Model of Quark-Gluon-Plasma Fireball in the Hadronic Medium”, S. S. Singh, D. S. Gosain, **Y. Kumar** and A. K. Jha, **Pramana J. Phys. 74 (2010) 27. ISSN (PRINT): 0304-4289.**
- “Dilepton production in finite baryonic quark-gluon plasma”, **Yogesh Kumar** and S. Somorendro Singh, **Can. J. Phys. 90 (2012) 955. ISSN (PRINT): 0008- 4204.**
- “Dilepton emission at temperature dependent baryonic quark-gluon plasma”, S. Somorendro Singh, **Yogesh Kumar**, Presented at the **International Conference on Nucleus-Nucleus Collision on High Energy** held at **San Antonio, USA(2012)**. Pre-print arXiv(<http://xxx.lanl.gov>) **hep-ph/1208.1257v1(2012)**.
- “Dilepton production in thermal-dependent baryonic quark– gluon plasma”, S. Somorendro Singh and **Yogesh Kumar**, **Can. J. Phys. 92 (2013) 31-35. ISSN (PRINT): 0008- 4204.**
- “Dilepton emission at temperature dependent baryonic quark-gluon plasma”, Shougaijam Somorendro Singh and **Yogesh Kumar**, **Journal of Modern Physics 4 (2013) 582-586. ISSN (PRINT): 2153-1196.**
- “Free energy evolution and photon radiation from QGP”, **Yogesh Kumar** and S. Somorendro Singh, **ISRN High Energy Physics, 2013 (2013), Article ID 156747, 8 pages. ISSN: 2090-7427.**
- “Photon Production in High Energy Nuclear Collisions of Quark Gluon Plasma”, S. Somorendro Singh and **Yogesh Kumar**, **International Journal of Modern Physics A 29 (2014) 1450110. ISSN (PRINT): 0217-751X.**
- “Photon Emission from Quark Gluon Plasma at RHIC and LHC”, Poonam Jain and **Yogesh Kumar**, **Journal of Modern Physics 5 (2014) 686. ISSN (PRINT): 2153-1196.**
- “Emission of Thermal Photons in Heavy-Ion Collisions”, Poonam Jain, **Yogesh Kumar** and Deepak Kumar, **Journal of Modern Physics 5 (2014) 792. ISSN (PRINT): 2153-1196.**
- “Free energy and direct photon emission at finite chemical potential”, S. Somorendro Singh and **Yogesh Kumar**, **Journal of Physics: Conf. Ser. 535 (2014) 012002. ISSN (PRINT): 1742-6596.**
- “Direct photon emission from a chemically non-equilibrated quark-gluon plasma at finite chemical potential”, **Yogesh Kumar** and S. S. Singh, **Proceeding of Science (POS) 171 (DIS2014) 2014. ISSN: 1824-8039.**

- “Production of photons from a chemically non equilibrating plasma in relativistic heavy-ion collisions”, **Yogesh Kumar** and Poonam Jain, **Proceeding of Science (POS) 064 (CPOD2014) 2014. ISSN: 1824-8039.**
- “Dilepton emission from heavy ion collision”, S. Somorendro Singh and **Yogesh Kumar**, **Proceeding of Science (POS) 071 (CPOD2014) 2014. ISSN: 1824-8039.**
- “Enhancement in the production of photons from hot and dense matter of quark gluon plasma”, **Y. Kumar** and P. Jain, **Proceedings of the DAE Symp. on Nucl. Phys. 59 (2014).** ISBN: 81-8372-070-6.
- “Direct photon production at finite chemical potential from quark gluon plasma”, S. Somorendro Singh and **Yogesh Kumar**, **International Journal of Modern Physics A 30 (2015) 1550020. ISSN (PRINT): 0217-751X.**
- “Phenomenological modeling of the photon production rate from the QGP at finite quark chemical potential”, **Yogesh Kumar** and Poonam Jain, **International journal of Modern Physics A 30 (2015) 1550196. ISSN (PRINT): 0217-751X.**
- “Photon radiation from hot and dense matter of quark gluon plasma”, **Y. Kumar**, A. Goel and P. Jain, **Journal of Physics: Conf. Ser. 636 (2015) 012018. ISSN (PRINT): 1742-6596.**
- “Free energy droplet formation in ultra-relativistic heavy-ion collision”, **Y. Kumar** and R. A. Bhat, **Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 60 (2015) 832.** ISBN: 81-8372-070-6.
- “Stable droplet formation of quark-gluon plasma in quark-hadron phase transition”, **Yogesh Kumar**, **Journal of Physics: Conf. Ser. 668 (2016) 012110. ISSN (PRINT): 1742-6596.**
- “Dilepton production as a useful probe of quark gluon plasma with temperature dependent chemical potential quark mass”, **Yogesh Kumar** and S. Somorendro Singh, **Int. J. Mod. Phys. E Vol. 25, No. 8 (2016) 165004. ISSN: 0218-30139.**
- “Quark-Hadron phase transition at high chemical potential in relativistic heavy-ion collision”, **Yogesh Kumar** and S. Somorendro Singh, **Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 61 (2016) 846. ISSN: 818372079-X.**
- “Photon emission from quark-gluon plasma at finite chemical potential”, **Yogesh Kumar** and S. Somorendro Singh, **Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 61 (2016) 830. ISSN : 818372079-X.**
- “Evolution of quark-gluon plasma and quark-hadron phase transition”, **Yogesh Kumar** and P. K. Sethy, **Proceeding of AYSS2016, JINR, Dubna, 57 (2016) 300, ISSN:978-5-9530-0416-9.**
- “A study on Quark-Gluon plasma equation of state using thermal quark mass”, **Yogesh Kumar** and S. Somorendro Singh, **Proceeding of EPJ Web of Conferences, 137 (2017) 13008. ISSN: 2100-014X.**
- “Electromagnetic probes in heavy-ion collisions”, **Yogesh Kumar**, **Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 62 (2017) 958.**
- “QGP equation of state at small chemical potential”, **Yogesh Kumar** and S. Somorendro Singh, **Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 62 (2017) 908.**
- “A quasi-particle approach to electromagnetic radiation”, **Yogesh Kumar**, S. Somorendro Singh and P. K. Sethy, **Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 63 (2018) 1012.**
- “Speed of sound in the presence of magnetized QGP”, **Yogesh Kumar**, **Proceedings of the DAE-BRNS Symp. on Nucl. Phys. 63 (2018) 964.**
- “Equation of state of quark-gluon plasma using a simple phenomenological model”, **Yogesh Kumar**, **EPJ Web of Conferences 182, 02070 (2018).** <https://doi.org/10.1051/epjconf/201818202070>.

- “Curvature Effect on QGP Equation of State” , **Yogesh Kumar** and S. Somorendro Singh, XXII DAE High Energy Physics Symposium, **Springer Proceedings in Physics 203 (2018)**, https://doi.org/10.1007/978-3-319-73171-1_211.
- “Effect of magnetic field on QGP equation of state”, **Yogesh Kumar**, **JPS conf. Proc. 26, 024028 (2019)**.
- “Dilepton production rate calculation using MEQM in heavy-ion collision”, P. K. Sethy, **Y. Kumar**, S. S. Singh, **Int. J. Mod. Phys. A 35, 2050115 (2020)**.
- “Photon Emission as a Promising Probe for Quark-Gluon Plasma in Heavy-Ion Collision”, P. K. Sethy, **Y. Kumar**, S. S. Singh, **International Journal of Scientific Research in Physics and Applied Sciences Vol.8, Issue.4, pp.22-26, August (2020)**.
- “Diphoton production rate in relativistic nuclear collision”, **Yogesh Kumar**, S. S. Singh and Poonam Jain, **Physica Scripta, 96, 124060 (2021)**. ISSN: 1402-4896.
- “Effect of Magnetic Field on Dilepton Production Rate in Relativistic Heavy Ion Collisions”, P. K. Sethy, **Y. Kumar**, S. S. Singh, **J. Sci. Res.12 (2), 215-221 (2021)**.
- “A simple model approach to dilepton production rate in relativistic heavy ion collisions”, **Y. Kumar**, P. K. Sethy, S. S. Singh, **Physics of Particles and Nuclei Letters, 18(2), 160-165 (2021)**. DOI:10.1134/S1547477121020096.
- Book Chapter 12, Dilepton emission at temperature dependent baryonic quark-gluon plasma in the **New Insights into Physical Science** by S. Somorendro Singh and **Yogesh Kumar, 2021**.
- “Expansion of free energy in the field of magnetized quark gluon plasma”, **Y. Kumar**, P. Jain, M. S. Khan, conference proceeding book entitled “**Springer Proceeding in Materials**” by **Springer Nature, 14, 149 (2021)**. ISSN: 978-981-16-5970-6.
- “Determination of superdeformed magic numbers using Nilsson potential”, P. Jain, **Y. Kumar**, conference proceeding book entitled “**Springer Proceeding in Materials**” by **Springer Nature, 14, 255 (2021)**. ISSN: 978-981-16-5970-6.
- “Photon production rate calculation from quark-gluon plasma using MEQM in heavy-ion collision”, P. K. Sethy, **Yogesh Kumar**, S. S. Singh, P. Jain, **Modern Physics Letter A, 37(21), 2250132 (2022)**. ISSN: 0217-7323. <https://doi.org/10.1142/S0217732322501322>.
- “Quark Gluon Plasma Fireball Formation in the Environment of Strong Magnetic Field”, **Y. Kumar**, **P. Jain**, **S. Kumar**, **M. Rani**, **Journal of Scientific Research, 14(1), 27 (2022)**. ISSN: 2070-0237.
- “Quark gluon plasma in the early universe expansion with quasi-particle approach”, **Y. Kumar**, R. Sharma, G. Kuksal, P. Jain, V. Kumar and P. Bangotra, **J. Phys.: Conf. Ser. 2349 012016 (2022)**. DOI: 10.1088/1742-6596/2349/1/012016.
- “Systematic Study of Gamma Decay Hindrance Factors”, V. Kumar, Y. Singh, A. Shukla, **Yogesh Kumar**, P. Jain, R. Sapra, R. Bharti, K. Jha, T. Verma, M. Silarski, S. Sharma, **Physics of Particles and Nuclei Letters, (Accepted 2022)**.
- “Role of time varying magnetic field on QGP equation of state”, **Yogesh Kumar**, P. Jain, V. Kumar, D. V. Singh and P. Bangotra (Pre-print-2023).
- “Diphoton Measurement with the Effect of Chemical Potential in Massive Nuclear Collisions” **Y. Kumar**, P. Jain, V. Kumar and P. Bangotra (Communicated-2023).
- "A phenomenological approach to study the diphoton emission using effective mass of quark" **Y. Kumar**, G. Kuksal, P. Jain, V. Kumar and P. Bangotra (Communicated-2023).
- “Influence of collectivity on reduced hindrance factor of k-isomers in tantalum and hafnium isotopes”, Y.P. Singh, V. Kumar, A. Choudhary, A. Shukla, Manoj Kumar Sharma, P.K. Rath, P. Jain, **Y. Kumar**, R. Sapra, K. Jha, M. Silarski, S. Sharma, **Acta Physica Polonica B, Vol 54, 1-A4 (2023)**. ISSN 0587-4254.

- “Thermodynamically Congruous Model of Photon Pair Production”, G. Kuksal, **Y. Kumar**, MD. Kaish, P. Jain, P. Bangotra, and V. Kumar, **Proceedings of the DAE Symp. on Nucl. Phys.**, 66, 998 (2022).
- “A Theoretical Study on Diphotons within a Quasi-Particle Treatment at Finite Chemical Potential”, **Y. Kumar**, R. Sharma, M. S. Khan, P. Jain, P. Bangotra, and V. Kumar, **Proceedings of the DAE Symp. on Nucl. Phys.**, 66, 1046 (2022).
- “A Thermodynamically Congruous Approach for QGP Equation of State in the Early Universe”, G. Kuksal, **Y. Kumar**, MD. Kaish, P. Jain, P. Bangotra, and V. Kumar, **Proceedings of the DAE Symp. on Nucl. Phys.**, 66, 818 (2022).
- “Calculation of Early Universe Expansion of Quark Gluon Plasma with Chemical Potential”, R. Sharma, M. S. Khan, R. Yadav, **Y. Kumar**, P. Jain, P. Bangotra, and V. Kumar, **Proceedings of the DAE Symp. on Nucl. Phys.**, 66, 808 (2022).
- “An exclusive level scheme in ^{193}Pb ”, P. Jain and Y. Kumar, **Proceedings of the DAE Symp. on Nucl. Phys.**, 66, 244 (2022).
- “Study of QGP with particle production of photons in a magnetic eld environment”, **Y. Kumar**, P. K. Sethy and P. Jain, **Proceedings of the DAE Symp. on Nucl. Phys.**, 66, 988 (2022).

Conference: Oral Presentations/Participations/FDPs/Refershers/FIPs

- “Dilepton from quark-gluon plasma and quark-hadron phase transition”, S. Somorendro Singh, **Yogesh Kumar**, D. S. Gosain, Presented at the International Conference on Quark Matter-2008 held at Jaipur, India. Pre-print arXiv (<http://xxx.lanl.gov>) hep-ph/0803.1527v1 (2008).
- “Dilepton production in finite baryonic quark-gluon plasma”, Yogesh Kumar, S. Somorendro Singh, Presented at the International Conference on Ultra-relativistic Nucleus-Nucleus collisions, USA, appers in QM-09 as Proceedings.
- Attended International conference on Light-Cone: Relativistic Hadronic and Particle Physics, 10-15th, Dec, 2012 at University of Delhi, India.
- Attended Workshop on Active Learning Integrating Hands on Experiments and Multimedia Resources, 7-8th, Oct, 2013 at Miranda college, University of Delhi, Delhi.
- Attended Second Annual Convention of IAPT, RC-1, 15th, April, 2014 at Delhi.
- Participated in DAE Symposium on Nuclear Physics, Department of Physics and astrophysics, University of Delhi, 3-7th, Dec, 2012, North Campus, New Delhi, India.
- Participated in 7th International Workshop on Critical Point and Onset of Deconfinement (CPOD), 7 - 11 November, 2011 at Institute of Particle Physics (CCNU).
- Attended International school for High-Energy Nuclear Collisions, Nov-2011, Wuhan, China.
- Attended International Conference on Current Developments in Atomic, Molecular, Optical and Nano Physics with Applications, 14-16th, Dec, 2011 at Department of Physics and Astrophysics, University of Delhi, Delhi, India.
- Attended Preparatory SERC School on Theoretical High Energy Physics held at S.G.T.B. Khalsa College, University of Delhi, September 23rd to October 20th, 2008, Delhi.
- Attended QGP Meet 2012, 5th one in this series, held during 3-6th, July, 2012 in the campus of Variable Energy Cyclotron Centre (VECC), Kolkata, India.
- Participated in International Workshop on critical Point and Onset of Deconfinement (CPOD), 17-21 November, 2014 at Interdisciplinary Research of Bielefeld University, Germany.
- Participated in XXII International Workshop on Deep-Inelastic Scattering and Related Subjects, 28 April- 02 May 2014 at Warsaw, Poland.
- Attended DAE Symposium on Nuclear Physics, 2014 at BHU, Varanasi, India.

- Participated 7th International Conference on Physics and Astrophysics of Quark Gluon Plasma, VECC, ICPAQGP, 2-6 February 2015 at Calcutta, India.
- Attended Fourth National Workshop on Recent Trends in Semiconductor Devices and Technology, September 13-14, 2013 Jointly organized by Deen Dayal Upadhyaya College, University of Delhi and IEEE EDS Delhi Chapter, New Delhi Sponsored by Defence Research and Development Organization (DRDO), Ministry of Defence, Government of India.
- Attended Workshop on 3D Printing at cluster innovation centre, University of Delhi, 28 February, 2015.
- Attended First Professional Development Course from 1st - 5th June, 2015. King's College London (KCL) in collaboration with Amity University and with the support of the U.S. Department of State's Partnership for Nuclear Security will hold the professional development course (PDC) on nuclear security education in Amity University campus, Noida.
- Attended Second Professional Development Course from 24th - 28th August, 2015. King's College London (KCL) in collaboration with Amity University and with the support of the U.S. Department of State's Partnership for Nuclear Security will hold the professional development course (PDC) on nuclear security education in Amity University campus, Noida.
- Attended National Workshop on Radiochemistry and application to radio-isotopes by BRNS - IANCAS (Indian association of nuclear chemist & allied scientist) on 5th-10th, Oct, 2015 at Amity University, Noida.
- **Presented Paper** on Phenomenological modelling of electromagnetic emission from QGP in ultra-relativistic heavy-ion collision, CNT QGP Meet 2015 on 16-20th Nov, 2015 at Kolkata,
- Attended Seminar on Recent Trends in Technical terminology in science, 16-17 Feb, 2016 organized by Commission for Scientific and technical terminology, Ministry of human resource development, department of higher education at Sri Aurobindo College, University of Delhi.
- Participation in the international conference during 15-19th Feb, 2016 on 6th Asian Triangle Heavy-Ion Conference at India International Centre, 40 Max muller marg, New Delhi.
- **Presented paper** on 60th DAE-BRNS Symposium on Nuclear Physics (December 07-11, 2015) at Sri Sathya Sai Institute of Higher Learning Prasanthi Nilayam-515134, AP, India.
- **Presented paper** at 15th International Conference on Strangeness in Quark Matter Dubna, July 6 – 11, 2015.
- Participated in the conference on Heavy Flavor at SINP, Kolkata during 3-5th Feb, 2016.
- Participated and **presented poster** in the XX International Scientific Conference of Young Scientists and Specialists (AYSS-2016), held on 14-18 March 2016 at Joint Institute for Nuclear Research (JINR) Dubna.
- **Oral presentation** in the XX International Scientific Conference of Young Scientists and Specialists (AYSS-2016), held on 14-18 March 2016 at Joint Institute for Nuclear Research (JINR) Dubna.
- **Presented paper** on electromagnetic probe of strongly interacting matter in massive nuclear collisions at ICPAQGP 2015, Kolkata.
- Participated "Dilepton production at finite temperature quark-gluon plasma", S. Somorendro Singh, Yogesh Kumar at the International Symposium on Nuclear Symmetry Energy held at RIKEN, Wako, Japan (2010).
- Participated in National Seminar on "Application of Radioisotopes and Radiation Technology in Industry, Healthcare and Agriculture" at AMITY, Noida on 5th - 6th August, 2016.
- Participated in the 4th annual Convention of IAPT, RC1 held on 23rd July, 2016 at Amity International School, Mayur Vihar, New Delhi.
- Participated in the National Workshop on Skill Development to Build a clean India on "Nuclear Security and Radiological Safety", 07-08, June, 2018 at Deshbandhu College.

- Participated in the Faculty Development Program on Multifunctional Materials for Energy Harvesting and Allied Devices at ARSD College, University of Delhi, Dhaula Kuan, New Delhi on 10th, November 2017.
- Participated in the Faculty Development Program on Applied Physics and Embedded System Design at Rajdhani College, University of Delhi, Raja Garden, New Delhi-15 on 14-15th, December 2017.
- Participated in one day workshop on “Nuclear Physics and its Applications” Organized by Department of Physics and Materials Science & Engineering, IIIT, Noida on 25 March, 2017.
- Participated in Fifth Annual Convention of Indian Association of Physics Teachers (IAPT, RC-I) on 19th, August, 2017.
- Participated in the Training Workshop on “Hands-on-Approach of Teaching Physics” Organized by Indian Association of Physics Teachers, RC-I on 9th, December, 2017, MAAPS, Pitampura, New Delhi.
- Participated in the Faculty Development Program (FDP) cum Workshop on Climate across the curriculum: Resource for integrating climate topics in discipline-specific teaching organized by IQAC, Sri Venkateswara College, University of Delhi, India in collaboration with TROPICSU funded by ICSU & IISER, Pune, India on 13th-14th October, 2018.
- Participated in National Seminar on New Trends in Nanotechnology and Applications-2018 organised under STAR college by ARSD college, University of Delhi during September 27-28th, 2018.
- Participated in one day seminar on Life and works of Prof. M. N. Saha and Prof. S. N. Bose organised by IIIT, Noida, U.P., India on September 15th, 2018.
- Participated and presented oral talk on Effect of magnetic field on QGP equation of state in the 8th International Conference on Quarks and Nuclear Physics (QNP-2018) held on November 13-17th, 2018, Tsukuba, Japan.
- Participated in a theme meeting on "Synchrotron based characterization Techniques" on 4th and 5th September 2018, Amity Institute of Nanotechnology, Amity University, Noida, U.P., India.
- Participated and presented posters in the 8th International Conference on Quarks and Nuclear Physics (QNP-2018) held on November 13-17th, 2018, Tsukuba, Japan.
- Participated in Indo-French Seminar on “Radiation Damage in Nuclear Materials” sponsored by IFCPAR/CEFIPRA held at Amity University during 18-20 February, 2019.
- Participated in Theme Meeting on Synchrotron based characterization techniques on September 4th and 5th 2018 at Amity University, Noida, U.P.
- Participated in NIUS Teacher Development Workshop on Thermal Physics and Statistical Mechanics is organized at HBCSE, Mumbai from December 10 to 13, 2019.
- Attended National Seminar on Basic Sciences help on 03 March, 2021 organized by NSCB Govt. PG College Biaora (Rajgarh) M.P.
- Participated in the webinar on “Introduction to COMSOL Multiphysics” organized by Department of Physics, Deshbandhu College, University of Delhi on 25th March, 2021.
- Participated in the international webinar on Multidisciplinary research on 13 March, 2021 organized by department of chemistry, Chandrapur.
- Participated in Young Scientist Conference organised during 22-24, Dec, 2020, as a part of India International Science Festival-2020 organised by Ministry of Science and Technology, VIBHA, CSIR.
- Participated in the three days workshop on Challenges of Teaching Physics Laboratory Courses in Online mode organised by Kalindi College, DU, Department of Physics and Astrophysics, University of Delhi and NASI Delhi Chapter, 23-25 Jan, 2021.
- Participated in National Webinar On “Recent Trends in Physical Sciences” held on 27th & 28th July, 2020, Jointly organized by Department of Physics, J.N.S. Govt. P.G. College, Shujalpur

(M.P.) and IAPT RC-09 Sponsored by the Department of Higher Education, Govt. of M.P. under MPHEQIP - Academic Excellence.

- Participated in the Webinar on “Search, Research and Publication Ethics” Organized by DBC Library and IQAC, Deshbandhu College, University of Delhi, July 24, 2020.
- Participated in 2020 JETSCAPE Online School Dates: July 13 -24, 2020.
- Completed **One-Week Online Faculty Development** Programme on “Development and Delivery of MOOCs and E-Content” jointly organized by Central University of Haryana, Mahendergarh under the aegis of Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT) and IQAC, Deshbandhu College, University of Delhi, New Delhi, from 26th June, 2020 to 1st July 2020.
- Attended the National Webinar Series jointly organized by the Discipline of Natural Sciences, PDPM Indian Institute of Information Technology, Design & Manufacturing Jabalpur, and Department of Physics, Central University of Rajasthan, 1-8, June, 2020.
- Attended various IAPT online lecture series organized by IAPT and DSSTF, 2020.
- Participated in participating in the online “International Workshop on Space Science”, jointly organized by Space Education and Research Foundation, Ahmedabad and Department of Physics, School of Science, RK University, Rajkot, India during 18-21 May, 2020.
- Participated in National webinar series on experimental & computational tools for materials research National Webinar Series jointly organized by the Discipline of Natural Sciences, PDPM Indian Institute of Information Technology, Design & Manufacturing Jabalpur, and Department of Physics, Central University of Rajasthan on June 01-08, 2020.
- Participant in the One Day National Webinar on “Staying Nourished with Correct Nutrition” held on 29th May 2020.
- Participated in **Faculty Development Program** on 'R' from 16th - 22nd June, 2020.
- Participated in the National Level **Five Day faculty development program** on “Scilab” in Association With IIT-Bombay (Remote Learning Through Spoken Tutorial), from 15th - 19th, June 2020 organized by the Department of Science & Humanities, St. Peter’s Engineering College.
- Attended National Level **Faculty Development Programme** on “LATEX” in association with spoken tutorial IIT-Bombay from 1st June to 5th June, 2020 organized by Department of Science & Humanities, CMR Engineering College.
- Attended **Faculty Development Programme** on “Quality Assurance in Higher Education: Practices and Issues” being organized by Hansraj College, University of Delhi from 4th May to 8th May, 2020.
- Attended E-International Symposium on Synthesis and Characterization of Smart Materials and Their Potential Applications, during 14th-17th June, 2020 using CISCO Webex platform.
- Participated in Webinar on "Staying Mobile with Lifestyle Interventions" by Dr. Sonia Shalini, Fitness Enthusiast & Associate Professor, Physical Education, IGIPESS, University of Delhi, organized by the Department of Physical Education and Sports Sciences, Gargi College, University of Delhi, held on 25th May 2020.
- Participation in our Webinar on "Staying Mobile with Lifestyle Interventions" by Dr. Sonia Shalini, Fitness Enthusiast & Associate Professor, Physical Education, IGIPESS, University of Delhi, organized by the Department of Physical Education and Sports Sciences, Gargi College, University of Delhi, held on 25th May 2020.
- Participated in One day webinar on Role of ICC and Prevention, Prohibition and Redressal of Sexual Harassment of Workmen at Workplace on May 22, 2020.
- Participated in the webinar on “BASICS OF LATEX” organized by the Department of Mathematics on 13.06.2020.
- Attended the International webinar on “Materials for Energy Generation and Storage” on 10th June 2020.

- Attended 8th Annual convention on 10-11, Oct, 2020 organised by IAPT Delhi and Haryana region.
- Participated in National webinar on energy efficient innovations and application organized by department of physics, maitreyi college, university of delhi, New Delhi on 30th, June, 2021.
- Attended International of E-conference on recent advances in chemical, physical, biological sciences organized by Nabira mahavidhyala, katol in association of TIFR, Mumbai on 29th - 30th June, 2021.
- Attended “International Yoga Festival-Yog Mantrana 2021” organized by Deshbandhu College, University of Delhi on 21st June 2021.
- Attended three days online FDP on ICT tool for effective teaching learning organized by Kamla Nehru Mahavidhyalaya, Nagpur on 8-10th June, 2021.
- Participated in the International Conference on “Smart Materials: Application to Devices (ICSMAD - 2021) organized by Kamla Nehru Mahavidhyalaya, Nagpur on 17-18th May, 2021.
- Participated in the national level one-week faculty development programme on Research methodology organized by Kamla Nehru Mahavidhyalaya, Nagpur on 26th april-1st May, 2021.
- Participated in **FDP on Innovation in Scientific Research Methods** organized by Kirori Mal College, University of Delhi, New Delhi-14th -18th October, 2020.
- Attended one day international webinar on recent developments in physics organized by department of physics, RIHS, Bhograi, Odisha, on 13th, Sept, 2021.
- Participated National Webinar On “Recent Trends in Physical Sciences” held on 27th & 28th July, 2020, Jointly organized by Department Of Physics, J.N.S. Govt. P.G. College, Shujalpur (M.P.) and IAPT RC-09 Sponsored by the Department of Higher Education, Govt. of M.P. under MPHEQIP – Academic Excellence.
- Participated in national webinar on the topic: Quality research publications-Hallmark for higher education organized by Birjhora Mahavidhyalaya, Tezpur university on 22nd July 2020.
- Participated in Webinar on “Search, Research and Publication Ethics” Organized by DBC Library and IQAC, Deshbandhu College, University of Delhi on July 24, 2020.
- Participated in the webinar on Emerging Trends in Contemporary Physics organized by Department of Physics, Deshbandhu College, DU on 30th-31st March, 2021.
- **Two Week Refresher Course** in Physics from 17 Feb-13 Mar, 2023 with A+ grade organized by TLC Ramanujan College, University of Delhi.
- Participated in One day National webinar on “Importance of Profession Ready Training in Clinical Research Management” Organized by Industry institution interaction cell & Vijaya College of Pharmacy In Association with Clinic India on 29-03-2023.
- Participated in National Webinar “Science of Imaging: Thousand words on what a picture is worth” as a part of National Webinar series "Omnipresent Physics : An Experiential Approach" under the aegis of The National Academy of Sciences, India (NASI) - Delhi Chapter, Science-Society Program organised by Department of Physics, Kalindi College on 20th October, 2022.
- **One-Week Online National Faculty Development Program** “Python: Essentials, Programming and Analytics” jointly organized by University of Delhi and Guru Angad Dev Teaching Learning Centre, SGTB Khalsa College, University of Delhi under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNTT) of Ministry of Education. This was conducted in online mode with one week’s involvement in a flexible mode. This online FDP is equivalent to face to face one week FDP. The participant has obtained Grade “A+” as required for promotion under CAS of UGC and AICTE during 27 Oct- 03 Nov, 2022.
- **Faculty Induction Program** organized by Mahatma Hansraj Faculty Development Centre, Hansraj College, University of Delhi during 1st Dec- 30th Dec, 2022.
- **Oral talk** on 8th Annual convention of IAPT RC-1 on 10-11, Oct, 2020.

- **Paper presented** on “the Effect of a Strong Magnetic Field on Photon Production of Quark Gluon Plasma”, Yogesh Kumar, P. K. Sethy and S. Somorendro Singh in the International Conference on Physics, Society and Technology, 17-19th January, 2019 at University Conference Hall, University of Delhi organized by Deshbandhu College, D.U., Kalkaji, New Delhi-110019.
- **Paper presented** on “Strangelets in a Strong Magnetic Field using Quasiparticle Model”, Rakesh Kumar Meena and Yogesh Kumar in the International Conference on Physics, Society and Technology, 17-19th January, 2019 at University Conference Hall, University of Delhi organized by Deshbandhu College, D.U., Kalkaji, New Delhi-19.
- **Paper presented** on “Finite Size of QGP Droplet in a Non-Zero Magnetic Field”, Yogesh Kumar and Rakesh Kumar Meena in the International Conference on Physics, Society and Technology, 17-19th January, 2019 at University Conference Hall, University of Delhi organized by Deshbandhu College, D.U., Kalkaji, New Delhi-19.
- **Oral presentation** on Role of Magnetic Field on the signature of Quark Gluon Plasma in LXX International conference "NUCLEUS – 2020. Nuclear physics and elementary particle physics. Nuclear physics technologies".
- **Oral Presentation** in International Conference on “Advanced Functional Materials and Devices” (AFMD-2021) organised by Department of Physics & IQAC, ARSD College, University of Delhi during 03-05th March 2021 via online mode.
- **Oral talk** at the 9th International Conference on New Frontiers in Physics ICNFP 2020 held in Kolymbari (Crete, Greece) on 4-12 September and 1-2 October 2020 and gave a talk entitled “Two-Photon Decays in a Relativistic heavy-ion collisions”.
- **Oral talk** in the IWNT39-International Workshop on Nuclear Theory July 3-9, 2022, Borovets, Bulgaria. Talk title: Thermodynamics of QGP in the early universe.
- **Oral talk** in the LXXII International conference "NUCLEUS-2022: Fundamental problems and applications" July 11 to 16, 2022, Moscow State University, Moscow. Title: Diphoton Production Rate with the Effect of Chemical Potential in Relativistic Heavy-Ion Collisions
- **Oral talk** in the LXXII International conference "NUCLEUS-2022: Fundamental problems and applications" July 11 to 16, 2022, Moscow State University, Moscow. Title: A modified quasiparticle model in the expansion of early universe of quark gluon plasma.
- **Oral talk** in the XXIX International Workshop on Deep-Inelastic Scattering and Related Subjects (DIS2022) Santiago de Compostela, May 02 to May 06, 2022. Title: Equation of state of quark gluon plasma under the strong magnetic field.
- **Oral talk** in the XI International Conference on New Frontiers in Physics (ICNFP 2022), 21 December, 2022. Title: Investigating diphoton mass spectrum from quark gluon plasma.
- **Oral talk** in the XI International Conference on New Frontiers in Physics (ICNFP 2022), 21 December, 2022. Title: Early Universe Quark-Hadron Transition Using a Phenomenological Quasi-Particle Model.
- **Oral talk** at 2nd International Conference on Multidisciplinary Academic Research and Innovation (ICMARI) during January 28-29, 2023 in online mode organized jointly by Amiruddaula Islamia Degree College, Lucknow and Aryabhat Institute of Academics and Research. Title: PROBING DI-PHOTONS AT FINITE CHEMICAL POTENTIAL IN RELATIVISTIC HEAVY ION COLLISIONS.
- **Oral Presentation** in 2nd International Conference on “Advanced Functional Materials and Devices” (AFMD-2023) organised by IQAC & Department of Physics, ARSD College, University of Delhi during 13-15th March 2023 via online mode.
- **Oral presentation** in the International e-Conference ICRACS-2022, organized by Department of Chemistry, Deshbandhu College, University of Delhi on 8-9 April, 2022.
- **Poster Presentation** on topic entitled UV Photodetection Using Zinc Oxide (ZnO) Thin Film For Measuring Germicidal Radiation at online International Conference on Recent Advances

in Functional Materials (RAFM-2022) organized by Department of Physics, IQAC and Star College Scheme (GoI), ARSD College University of Delhi from 14 -16th March 2022.

- **Oral Presentation** on NATIONAL EDUCATION CONCLAVE organized by Hansraj College, University of Delhi on 23-24 March 2023 at Vigyan Bhawan, New Delhi.

Resource Person / Invited Talk

- **Invited talk** on Two-Photon Decays in a Relativistic heavy-ion collisions at NCISRT-2020, 30th -31st, May, 2020.
- **Invited talk** of 1 Hr duration on Tuesday, September 22, 2020, on “Quantum Mechanics”. The lecture has been uploaded on the youtube channel of “NASI Delhi Chapter”. This is Invited talk(s) at an 11-week Course-“Learning Physics with Conceptual and Problem based Approach” organized by National Academy of Sciences India, Delhi Chapter.
- Delivered **2 invited talks** of 1 Hr duration each on Wednesday, September 30, 2020, on “Quantum Mechanics”. The lecture has been uploaded on the youtube channel of “NASI Delhi Chapter”.
- **Invited talk** of 1.5 Hr duration on Friday, October 02, 2020, on “Quantum Mechanics”. The lecture has been uploaded on the youtube channel of “NASI Delhi Chapter”.
- **Invited talk** “Some interesting facts of thermal and statistical physics” for the students of Amity Institute of Applied Sciences at Amity University, on 9th November 2021,
- **Resource Person** in the DU-Pre-Entrance summer school-2018, University of Delhi from 01-06-2018 to 16-06-2018 for imparting training to undergraduate students in the discipline of Physics.
- **Resource person** in DU Pre-Entrance summer school 2017 and 2018 at Department of Physics and Astrophysics, University of Delhi, for imparting training to undergraduate students, in the discipline of Physics.
- **Resource Person** in the DU-Pre-Entrance summer school-2018, University of Delhi from 01-06-2019 to 16-06-2019 for imparting training to undergraduate students in the discipline of Physics.
- **Invited talk** “Thermodynamics observables using a simple statistical model” for the students of Amity Institute of Applied Sciences at Amity University, on 23rd October 2021,
- **Resource person** in the INSPIRE DST Internship Programme in the department of physics, Deshbandhu college, University of Delhi held during 18th- 21st December, 2017 at Kalkaji, New Delhi, India.
- **Resource person** in the INSPIRE DST Internship Programme in the department of physics, Deshbandhu college, University of Delhi held in December, 2019 at Kalkaji, New Delhi, India.
- **Invited Speaker** at the 9th International Conference on New Frontiers in Physics ICNFP 2020 held in Kolymbari (Crete, Greece) on 4-12 September and 1-2 October 2020 and gave a talk entitled “Impact of magnetic field on the evolution of quark gluon plasma”.
- **Invited talk** at AMITY UNIVERSITY, NOIDA, U.P. 21-04-2022. Title: Revealing the Secrets of Quantum Mechanics.
- **Invited talk** at 2nd International Conference on Multidisciplinary Academic Research and Innovation (ICMARI)” during January 28-29, 2023 in online mode organized jointly by Amiruddaula Islamia Degree College, Lucknow and Aryabhat Institute of Academics and Research. Title: Dynamics of quark gluon plasma with highly intense magnetic field.
- **“Invited Lecture”** on topic entitled “Involvement of magnetic field on quark gluon plasma evolution in relativistic heavy-ion collisions” in 2nd International Conference on “Advanced

Functional Materials and Devices” (AFMD-2023) organised by IQAC & Department of Physics, ARSD College, University of Delhi during 13-15th March 2023 via online mode.

Research Projects (Major Grants/Research Collaboration)

1. DBT Star Project: UV photodetection: An urgent requirement for measuring germicidal radiation, Project Investigators: APS Gahlot, Yogesh Kumar, Manju Rani, Aditya Saxena and RK Meena.
2. DBT Star Project: Investigations of highly conducting and transparent Sc doped ZnO films grown by the sol-gel process: A promising highly conducting material for Solar cell fabrications on three different substrates. Project Investigators: Dr. U. P. Tyagi, Dr. Ruchika Joshi, Dr. Yogesh Kumar, Ms. Deepti Goel.
3. International Research Collaborator, Prof. Abdel Nasser Tawfik, Nile University, Egypt and National Collaborators are from NSUT, NPL Delhi, DU, Amity University, IUAC etc.

Awards and Distinctions

- Cleared December -2008 (NET+JRF) conducted by Council of Scientific and Industrial Research (CSIR).
- Called for Shyama Prasad Mukherjee (SPM) fellowship, 2009 from CSIR.
- Received UGC Rajiv Gandhi National Fellowship (RGNF) in 2007.
- Best Presentation Award in the IAPT Regional Competition on Innovative Experiments in Physics- 2019 organised by the IAPT, RC-1, 2019.
- Best Oral Presentation award in three days national conference on Advance Interdisciplinary Research (ICAIR-2021) jointly organized by Shri P. G. College, Lucknow and Science Tech Institute, Lucknow 2021.
- Received/Won 1st Position/Prize in the Regional Competition on Innovative Experiments in Physics- 2022 organised by the IAPT, RC-1 on 24-25 September 2022.
- Best Researcher Award-2021 in three days International Conference on Advance Interdisciplinary Research (ICAIR-2021) jointly organized by Amiruddala Islamia Degree College, Lucknow and Science Tech Institute, Lucknow 31st July, 2021.

Association With Professional Bodies

- Life Time Member (L2322) of Astronomical Society of India, Department of Astronomy, India.
- Life Time Member of IETE, India.
- Life Time Member of IANCAS, India.
- Life Time member of Delhi State Science Teacher Forum (DSSTF), India.
- Life Time Member of IAPT RC-1 (Delhi & Haryana Region), India.
- Life Time Member of Vibha Shakti, India.
- Life Time Member of Indian Physics Association (IPA).

Other Activities/Achievements

- Appointed as an Executive Council member of Indian Association of Physics Teachers (IAPT, RC-1) 2017-2021, Delhi and Haryana Region.
- Organised IAPT RC-1 online lecture series started from 03rd July, 2021 to 31st August, 2021 (Every Saturday).
- Paper setting convener and member for setting the Question paper for different courses of undergraduate courses in the discipline of Physics in University of Delhi, New Delhi-2018.
- Organizing Secretary of the International Conference on Physics, Society and Technology, 17-19th January, 2019 at University Conference Hall, University of Delhi organized by Deshbandhu College, D.U., Kalkaji, New Delhi-110019.
- Convener in the DU-Pre-Entrance summer school-2019, University of Delhi from 01-06-2019 to 16-06-2019 for imparting training to undergraduate students in the discipline of Physics.
- Coordinator in the INSPIRE DST Internship Programme in the department of physics, Deshbandhu college, University of Delhi held during 18th- 21st December, 2017 at Kalkaji, New Delhi, India.
- Written two chapters of Statistical Mechanics for PG students syllabus at Uttarakhand Open University, course code: MSCPH508, 2020.
- Appointed as an Observer in conducting National Standard Examination - 2019 on 24.11.2019 for school students (Class XI & XII) in India.
- Organised seventh annual convention of IAPT, RC-1, Delhi 2019.
- Subject working groups member in designing the syllabus of solid state physics for B.Sc. (Hons) Physics and B.Sc. Physical Sciences students, LOCF (CBCS) Undergraduate Physics courses revision of Delhi University, 2019.
- Final drafting team Member LOCF (CBCS) Undergraduate Physics courses revision 2019 at Department of Physics and Astrophysics, University of Delhi, 2019.
- Paper setter for various Physics papers of B.Sc. (Hons) Physics, May 2020, at Indira Gandhi University, Rewari, Haryana.
- Appointed as chairman of a session of the “Workshop on Physics at FAIR-NICA-SPS-BES/RHIC” and parallel session “Heavy Ion Collisions and Critical Phenomena” during ICNFP-2020 (International Conference).
- Member of Sub-Committee of Committee of Courses (Hons.) P.G. and Research Studies and the committee of courses (Under-graduate) to appoint external practical examiners and theory paper setting, 2018.
- Member of Courses of Committee to revise the undergraduate syllabus (CBCS) of University of Delhi 2018.
- Member in the courses of committee for making model test paper of element of modern physics for B.Sc. (Hons) Physics, University of Delhi, session 2020.
- Organised various IAPT online lecture series for IAPT RC-1 and DSSTF, 2020.
- Organised 8th Annual convention on 10-11, Oct, 2020 for by IAPT Delhi and Haryana region (RC1).
- Organized online IAPT Annual Convention 24-25, September, 2022 conducted by IAPT.
- Organised online 10th Prof. Ved Ratna Memorial Lecture conducted by IAPT RC-1 on 15 April, 2022.
- Organized a Short-term training workshops on Innovative Hands on Experiments with

- Arduino and its Applications on June 18th and 19th 2022 conducted by IAPT RC-1.
- Appointed as a Secretary of Indian Association of Physics Teachers (IAPT, RC-1) 2022-2024, Delhi and Haryana Region.
 - Judge for drama competition at centre level (district north, north west-A & B) on 29th September 2022 organized by directorate of education, New Delhi.
 - Invited as a external examiner for evaluating non-teaching credit courses of UG and PG student of Nanotechnology 2018.
 - Reviewer of reputed journal Physica Scripta (IOP Publishing) having Impact Factor:2.7.
 - Reviewer of reputed journal J. Phys. G: Nuclear and Particle Physics having Impact Factor: 3.5.
 - Editorial Review Board member on Physical and Mathematical & WASET Scientific and Technical Committee of World Academy of Science, Engineering and Technology (WASET) 2021.
 - Coordinator of International Webinar on Title Horizon of High-Energy Physics by Prof. Abdel Nasser Tawfik on 07 January, 2023.
 - Judge for event: Innovation and Entrepreneurship Challenge organizes an Inter-school competition 'Reverberations' every year to promote the spirit of healthy competition among students organized Bal Bharti Public School on October 2021.
 - Editorial Board Member of International Journal of High Energy Physics (IJHEP). ISSN Print: 2376-7405; ISSN Online: 2376-7448 from 2022 to 2024.
 - Organized a Short-term training workshops on Innovative Hands on Experiments with Arduino and its Applications on June 18th and 19th 2022 conducted by IAPT RC-1.
 - Appointment as a Observer in Bal Bhart International School, Sec-12 New Delhi for conducting National Standard Examination-2022 on 26 and 27, November, 2022.
 - Active Participation in the evaluation of reports of the experiments during the prelims round of NAEST-2022 organized by National Anveshika Network of India (NANI) a unit of IAPT in collaboration with SHIKSHA SOPAN.



Yogesh Kumar