




# CURRICULAM-VITAE



Title	Dr.	First Name	SANJAY	Last Name	KUMAR	Photograph
Designation	ASSISTANT PROFESSOR					
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Educational Qualifications						
Degree	Institution				Year	
<b>B.Sc.</b>	Vardhman College Bijnor (Rohilkhand University, Bareilly), UP, India				<b>1982</b>	
<b>M.Sc. (Physics) with Electronics</b>	Vardhman College Bijnor (Rohilkhand University, Bareilly), UP, India				<b>1985</b>	
<b>Ph.D. (Physics)</b>	Indian Institute of Technology Delhi				<b>1994</b>	
Career Profile						
<b><u>Teaching Experience</u></b> <ul style="list-style-type: none"><li>Working as Assistant Professor (ad hoc) in Physics at Acharya Narendra Dev College since 24.07.2018.</li><li>Also worked as Assistant Professor (ad hoc) in Physics at Acharya Narendra Dev College from 05.01.2015 to 22.05.2015.</li><li>In addition, also worked as Asst. Professor (Ad hoc) in Physics in Kalindi College for two semesters during 2017 - 2018</li><li>Also worked as Assistant Professor (Ad hoc and Guest), Physics Department, Acharya Narendra Dev College, Govindpuri, Kalkaji, New Delhi between January 2016 and May 2017.</li></ul>						
<b><u>Research Experience</u></b> <ul style="list-style-type: none"><li>Worked in Physics Department, I.I.T. Delhi, as Research Associate from 09.03.2012 to</li></ul>						

<p>31.08.2014.</p> <ul style="list-style-type: none"> <li>• Worked as Project Associate/ Senior Project Scientist / Research Associate (Contract Awardee) between 26.03.2010 and 08.03.2012.</li> <li>• In addition, also worked in holographic industry between 01.09. 1995 and 25.03.2010.</li> </ul>
<b>Administrative Assignments</b>
<b>Areas of Interest / Specialization</b>
<ul style="list-style-type: none"> <li>• Waves and Optics</li> <li>• Thermal Physics</li> <li>• Applied Optics</li> <li>• Electrical Circuits and Electronics</li> <li>• Holography and Solar Concentrator</li> </ul>
<b>Subjects Taught</b>
Waves and Optics, Thermal Physics, Elements of Modern Physics, Communication Systems, Electronic Instrumentation, Photonic Devices and Power Electronics, Electrical Circuits and Network Skills (SEC), Basic Instrumentation Skills (SEC).
<b>Research Guidance</b>
<b>Publications Profile</b>
<p><b>RESEARCH PAPERS IN INTERNATIONAL REFEREED JOURNALS</b></p> <ol style="list-style-type: none"> <li>1. <b>Sanjay Kumar</b> and K. Singh, "Bleached phase holograms using Agfa-Gevaert 10E75 NAH plates; Influence of different developers and developer composition on the diffraction efficiency, scattering and stability", <b>Optik 86</b> (1990) 99-103. [ISSN 0030-4026].</li> <li>2. <b>Sanjay Kumar</b> and K. Singh, "Bleached phase holograms exposed on Agfa-Gevaert 10E75 NAH plates", <b>Opt. Laser Technol. 23</b> (1991) 37-41. [ISSN 0030-3992].</li> <li>3. <b>Sanjay Kumar</b> and K. Singh, "Stability improvement in bleached phase holograms", <b>Opt. Laser Technol. 23</b> (1991) 225-227. [ISSN 0030-3992].</li> <li>4. <b>Sanjay Kumar</b> and K. Singh, "Comparative study of diffracted-to-scattered intensity ratio before and after printout effect in bleached holograms", <b>J. Optics (Paris) 22</b> (1991) 22-26. [ISSN 0150-536X/ 2040-8978].</li> <li>5. <b>Sanjay Kumar</b> and K. Singh, "Study of parameters of amplitude and bleached holograms recorded and reconstructed at 442nm using photographic emulsions", <b>Optik 88</b> (1991) 45-49. [ISSN 0030-4026].</li> </ol>

6. **Sanjay Kumar** and K. Singh, "Amplitude and bleached phase holograms recorded and reconstructed at 442nm", **Opt. App. 21** (1991) 49-58. [ISSN 0078-5466].
7. **Sanjay Kumar** and K. Singh, "Bleached phase holograms produced by fixation-free methods for low scattering using Agfa-Gevaert 10E75 NAH plates", **Opt. Appl. 21** (1991) 329-337. [ISSN 0078-5466].
8. **Sanjay Kumar** and K. Singh, "Influence of different developers and bleach processes on the diffraction efficiency and scattering of the holograms", **Opt. Appl. 22** (1992) 195-203. [ISSN 0078-5466].
9. **Sanjay Kumar** and K. Singh, "Comparative study of maximum diffraction efficiency at different read-beam angles using 632.8 nm and 442 nm wavelengths", **Optik 90** (1992) 75-79. [ISSN 0030-4026].
10. **Sanjay Kumar** and K. Singh, "Measurement of diffraction efficiency as a function of relative humidity in bleached holograms at 442 nm wavelength", **Atti. Fond. G. Ronchi, 47** (1992) 101-113. [ISSN 0391-2051].
11. **Sanjay Kumar** and K. Singh, "Effect of relative humidity on the diffraction efficiency of bleached holograms", **Optik 92** (1993) 123-128. [ISSN 0030-4026].
12. **Sanjay Kumar** and K. Singh, "Amplitude and bleached phase holograms recorded with a pulsed Nd:YAG laser at 532 nm wavelength", **Optik 95** (1994) 109-114. [ISSN 0030-4026].

#### RESEARCH PAPERS IN INDIAN REFEREED JOURNALS

1. **Sanjay Kumar** and K. Singh, "Bleached holograms produced by fixation-free method: Recording and reconstruction at 442nm using Kodak 649F plates", **J. Opt. (India) 19** (1990) 108-113.[ISSN 0972-8821].
2. **Sanjay Kumar** and K. Singh, "Diffraction efficiency as a function of exposure using two different construction and reconstruction wavelengths for bleached holograms", **J. Opt. (India) 21** (1992) 1-6. [ISSN 0972-8821].
3. **Sanjay Kumar** and K. Singh, "Holographic optical elements: technology of bleached phase holograms" **Laser News 4** (1993) 6-9.
4. **Sanjay Kumar** and K. Singh, "Photographic phase holograms produced by fixation-free methods: Diffraction efficiency and scattering at 442nm", **Asian J. Phys. 2** (1993) 119-127. [ISSN 0971-3093].
5. **Sanjay Kumar**, K. N. Chopra, Joby Joseph and Kehar Singh, "Advances in Photonic and Microwave Technologies Based on Negative Phase velocity Materials and Related Areas: A Qualitative Bibliographic Review for the year 2007", **Asian J. Phys. 20** (2011) 321-402. [ISSN 0971-3093].
6. K. N. Chopra, **Sanjay Kumar**, Joby Joseph and Kehar Singh, "Advances in Photonic and

Microwave Technologies Based on Negative Phase Velocity Materials, and Related Topics – A Qualitative Bibliographic Review for the Year 2006: Part I”, **Inver. J. Sci. Technol.** **4** (2011) 84-126. [ISSN 2231-3419].

7. K. N. Chopra, **Sanjay Kumar**, Joby Joseph and Kehar Singh, “Advances in Photonic and Microwave Technologies Based on Negative Phase Velocity Materials, and Related Topics – A Qualitative Bibliographic Review for the Year 2006: Part II”, **Inver. J. Sci. Technol.** **4** (2011) 146-187. [ISSN 2231-3419].
8. **Sanjay Kumar**, V. Padmanapan Rao , and Joby Joseph, “Photopolymer Holography: Review and Investigations”, *Asian J. Phys.* **24** (2015) 1449-1464. [ISSN 0971-3093].

#### Conference/ Presentations/Workshops

1. **Sanjay Kumar** and K. Singh, "Bleached phase holograms using Agfa-Gevaert 10E75 NAH plates: diffraction efficiency and scattering ", Presented in **18th OSI Symposium at Bangalore (1990)**.
2. **Sanjay Kumar** and K. Singh, "Influence of different bleached processes and different developers on the stability of bleached photographic phase holograms", Presented in **18th OSI Symposium at Bangalore (1990)**.
3. **Sanjay Kumar** and K. Singh, "Bleached phase holograms exposed on Agfa-Gevaert 10E75 NAH plates: influence of developer composition on the diffraction efficiency, scattering and stability", Presented in **18th OSI Symposium at Bangalore (1990)**.
4. **Sanjay Kumar** and K. Singh, "Bleached phase holograms recorded and reconstructed at 442 nm using Agfa-Gevaert 8E75 HD and Kodak 649F spectroscopic plates”, Presented in **19th OSI Symposium at Lucknow (1991)**.
5. **Sanjay Kumar** and K. Singh, "Amplitude holograms recorded and reconstructed at 442 nm in Agfa-Gevaert and Kodak emulsions”, Presented in **19th OSI Symposium at Lucknow (1991)**.
6. **Sanjay Kumar** and K. Singh, "Reverse-bleached phase holograms recorded and reconstructed at 442 nm using Agfa-Gevaert 8E75 HD and Kodak 649F plates", Presented in **19th OSI Symposium at Lucknow (1991)**.
7. **Sanjay Kumar** and K. Singh, "Measurement of diffracted-to-scattered intensity ratio before and after printout effect in bleached phase holograms", Presented in **19th OSI Symposium at Lucknow (1991)**.
8. **Sanjay Kumar** and K. Singh, "Effect of relative humidity on the diffraction efficiency of bleached holograms using fixation-free methods", Presented in **20th OSI Symposium at SAMEER, Bombay (1992)**.
9. **Sanjay Kumar** and K. Singh, "Diffraction efficiency as a function of relative humidity in bleached holograms using Agfa-Gevaert 10E75 NAH plates”, Presented in **20th OSI Symposium at SAMEER, Bombay (1992)**.
10. **Sanjay Kumar** and K. Singh, "Measurement of diffraction efficiency of bleached holograms recorded with a pulsed laser", Presented in **20th OSI Symposium at SAMEER, Bombay (1992)**.
11. **Sanjay Kumar** and K. Singh, "One-step colour rainbow holograms and colour reproduction", Presented in **21st OSI Symposium at IIT Madras(1994)**.
12. **Sanjay Kumar**, “Investigations on bleached phase holograms; Diffraction efficiency, scattering and stability”, Ph.D. thesis, Presented in **21st OSI Symposium at IIT Madras(1994)**.

13. **Sanjay Kumar**, V. Padmanapan Rao, and Joby Joseph, "Optimization of dye concentration for high diffraction efficiency of hologram recorded in PVA/Acrylamide based photopolymer", Presented in **International Conference on Optics & Optoelectronics (ICOL- 2014)**; 38<sup>th</sup> OSI Symposium at **IRDE, Dehradun (2014)**.
14. V. Padmanapan Rao, **Sanjay Kumar**, and Joby Joseph, "Optimization of Acrylamide Concentration for High Diffraction Efficiency of Hologram using Erythrosine-B Sensitized Photopolymer", Presented in **International Conference on Optics & Optoelectronics (ICOL- 2014)**; 38<sup>th</sup> OSI Symposium at **IRDE, Dehradun (2014)**.
15. Worked as resource person in the workshop on '**Digital Holography**' organized by **Acharya Narendra Dev College from February 15 to February 16, 2011**.
16. Worked as resource person in the workshop on '**Innovative Pedagogies for Modern Optics and Photonics**' organized by **Acharya Narendra Dev College from October 10 to October 11, 2013**.

#### Research Projects (Major Grants/Research Collaboration)

#### Awards and Distinctions

Passed 'Akkikrit Chhartravratti Pariksha 1978' state level Examination of UP.  
Received National Scholarship (Merit Basis) from 1978-1983

#### Association With Professional Bodies

Life Member of 'Optical Society of India'

#### Other Activities

Got specialized training in the premises of M/S Hologram Industries, France, for producing ultra high security holographic masters during May-June 1996