Name of the Faculty: H.L.Yadav

Designation : Associate Professor

Qualification : M.Sc. (IITD)

Ph.D (IITD),1992

Area of the Interest: Holography, Speckle Metrology,

Holographic Optical Element,

Holographic Solar Concentrator

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Present Address: Qr. D-28, NIT JAMSHEDPUR -831014

Educational Qualification:

Sl No	Degree	Board/University	Year	Percentage
1	Ph.D	IIT Delhi	1992	
2	M.Sc	IIT Delhi	1986	7.73 out of 10 point
3	B.Sc	St. Xavier College Ranchi, Ranchi Uni.	1983	60

Ph.D Thesis Topic: Holographic Lenses in Speckle Metrology and Solar Concentration

M.Sc Thesis Topic: Modification of PYE- UNICAME - Spectrometer

Research Interest: Holography, Speckle Metrology, Holographic Optical Element, Holographic Solar Concentrator

Research Awards/ Fellowships Received: 1. Post Doctoral Fellowship of C.S.I.R. New Delhi- (March 1993 ï March 1996).

2. JRF & SRF (GATE- July 1986- June 1991)

Research Publications (With Full Details):

International Refereed SCI/ SCOUPUS Journals:

1. C.Shakher, H.L.Yadav and A.K.Nirala ñDesign and analysis of low f-number imaging system using hololensesò J.Opt.(Paris), vol.20, no.6, 259- 262 (1989).

2. C.Shakher, H.L.Yadav, ñDependence of diffraction efficiency of holographic concentrators on angle of illumination,hologram-thickness and wavelength of illuminating lightò J.Opt.(Paris), vol.21,no. 6, 267-272(1990).

3. C.Shakher, H.L.Yadav ñUse of holographic optical element in specle metrology, part-3: application to fracture mechanicsò Appl. Opt., vol.30, no25, 3607-3611 (1991).

4. H.L.Yadav, S. Ananda Rao, ñDesign and Analysis of Hololenses to obtain appreciable illumination over the entire image of an extended object for its use in speckle metrologyò J.Opt.(Paris), vol.28, 1-5(1997).

5. H.L.Yadav , N. Kumari, R. Bhushan, A. Mallick, B.N.Gupta ñ Fabrication of Double aperture hololens imaging system : applications to Mechanicsò ï Optics and Lasers In Engineering , Elsevier Sc. Ltd., vol. 41, 869-877(2004) .

6. R. Ranjan, A. Ghosh & H. L. Yadav, ñDependence of angular selectivity of thick phase transmission hologram recorded in dichromated gelatin film on processing parameters,ò J. Opt (Springer), vol.41(1), 65ï 69 (2012).

7. A. Ghosh, R. Ranjan, A.K. Nirala and H.L. Yadav, ñDesign and analysis of processing parameters of hololenses for wavelength selective light filters,ò Optik **125**(9), 2191ï 2194, (2014).
8. A. Ghosh, A.K. Nirala and H.L. Yadav, ñDependence of wavelength selectivity of holographic PV concentrator on processing parameters,ò Optik **126** (6), 622ï 625, (2015).
9. R. Ranjan, A.Ghosh, A.K. Nirala and H.L. Yadav, ñTuning of suitable solar spectrum onto photocatalytic materials of matched band gap using optical engineering,òOptica Applicata, **45**(2), 237-247, 2015.
10. A. Ghosh, A.K. Nirala and H.L. Yadav, ñWavelength selective holographic concentrator: Application to concentrated photovoltaics,òOptik **126** (23), 4313ï 4318, (2015).
11. R.K. Jayaswal, H.L. Yadav , P.K. Barhai Design and analysis of modiýed version of double aperture speckle interferometer consisting of holographic optical element: Application to measurement of in plane displacement component,ò Optik **126** 1700ï 1704 (2015).

12. A. Ghosh, A.K. Nirala and H.L. Yadav, ñ Analysis of Fringe Field Formed Inside LDA Measurement Volume Using Compact Two Hololens Imaging Systems,ò *(*Acceped for publication in Optics and Spectroscopy, Issue 3 March 2018)

Paper Submitted in SCI Journals:

1. A. Ghosh, A.K. Nirala and H.L. Yadav, ñDependence of wavelength and angular selectivity of holographic PV concentrator on spatial frequency of fringesò c***ommunicated)***

2. A. Ghosh, A.K. Nirala and H.L. Yadav, ñOptical design and characterization of holographic solar concentrators for Photovoltaic applicationò ***(communicated)***

3. A. Ghosh, A.K. Nirala and H.L. Yadav, ñMicro analysis of fringe field formed inside LDA measurement volume using compact two hololens imaging systems,ò ***(communicated)***

National Conferences:

1. C.Shakher, H.L.Yadav and A.K.Nirala - òDesign and analysis of high-f-number and low f-number imaging system using hololensesò ï Presented at 17th OSI Symposium on optics and optoelectronics, 26-28 April,1989,C.S.I.O, Chandigarh, India.
2. C.Shakher, H.L.Yadav and Avinash Mishra ï ñLaser speckle metrology using two hololens imaging system and its application in fracture mechanicsò, Presented at 18th OSI Symposium on optics and optoelectronics, Indian Institute of Astrophysics Bangalore, India,21-23 March1990.
3. H.L.Yadav, Vinita Sahay andS.Ananda Rao ñUse of double aperture speckle interferometer consisting of four hololenses in photo mechanics(Fracture mechanics)ò Presented at 21st OSI Symposium on optics, organized by department of Physics Indian Institute of Technology Madras, 10-12February1994.
4. H.L.Yadav, S.Ananda Rao, ñDesign and Analysis of Hololenses to obtain appreciable illumination over the entire image of an extended object for its use in speckle metrology,ò Presented at 24th OSI Symposium on optics, organized by department of Applied Physics, Calcutta University, Jan-30-Feb11997.
5. A.K. Chatterjee, H.L.Yadav,S.N.Sinha and B.Choudhary ï ñInternal Flaws detection in Engineering Components using Laser Speckle Techniqueò, Presented at 12th National Convention of Metallurgist and Material Scientist and Seminar on Surface Engineering, Sept 5-6,1997,Jaipur.

6. A.K. Chatterjee, H.L.Yadav,S.N.Sinha and B.Choudhary ñQuantitative assessment of lining wear in L.D.Vessel by laser technology ï A case studyò Presented at 12th National Convention of Metallurgist and Material Scientist and Seminar on Surface Engineering, Sept 5-6,1997, Jaipur.
7. A.K. Chatterjee, H.L.Yadav,S.N.Sinha and B.Choudhary ñHolographic Non-Destructive testing of composit Materialsò , Presented at National seminar on Non-Destructive evaluation for life Extensipnò, Hydrabad,11-13 December-1977.
8. A.K. Chatterjee, H.L.Yadav,S.N.Sinha and B.Choudhary ñMeasurement of crack ï tip deformation using laser speckle methodò Proceeding of workshop on Application of laser in Mechanical Industrd,Calcutta,Dec-21-24.
9. A.K. Chatterjee, H.L.Yadav,S.N.Sinha ñDouble exposure Holographic Non-Destructive Testing of composit materialsò Presented at Workshop on NDT in steel & Alide Industries, Jamshedpur 2-4 April 1998.
10. A.K. Chatterjee, H.L.Yadav,S.N.Sinha , A. Mahato , ñ Use of two hololens imaging system in speckle metrology for the measurement of in-plane translation and in-plane rotationsò, Presented at National seminar in Applied Physics, I.S.M.Dhanbad, 25-26 March-1998.
11. A.K. Chatterjee,P.Kumari,S.Sarkar and H.L.Yadav, ñUse of holographic concentrator for photovoltaic cellsò Presented at National seminar in Applied Physics, I.S.M.Dhanbad, 25-26 March-1998.
12. Abhijit Ghosh, H.L.Yadav ñMeasurement of flow velocity of fluid by LaserDoppler Anemometryò Golden Jubilee National conference on Modellingand Simulation in Heat Transfer and Fluid Flow, 11-12 June, 2010, held at N.I.T Jamshedpur, India.
13. Abhijit Ghosh, A. K. Nirala & H.L. Yadav, ñCompact LDA Optical Setup using HOEs,ò Presented in National Conference on Advances in Laser and Spectroscopy (ALS-2012), held at ISM Dhanbad during 1-3 November 2012, pp. 75.
14. R. Ranjan, Abhijit Ghosh, A.K. Nirala & H.L. Yadav, ñDesign and Analysis of Holographic Wavelength Filterò Presented in National Conference on Advances in Laser and Spectroscopy (ALS-2012), held at ISM Dhanbad during 1- 3 November 2012, pp. 72.
15. A. Ghosh, A.K. Nirala and H.L.Yadav, ñDependence of angular selectivity of holographic solar concentrator on spatial frequencyò, Proceedings of National Seminar on Energy and Environment for sustainability (EES-2013) held at BIT Sindri during 16-17 March, 2013 pp. 335-337.

International Conferences:

Refereed Conference Research Papers

1. C.Shakher, G.V.Rao, H.L.Yadav and B.N.Gupta ï ñLaser Speckle Metrology using holo-lens imaging system and its application in fracture mechanicsò ï Proceeding of 14th Congress of International Commission of optics ,Quebec,Canada, August 24-28, 1987,p-209.

2. C.Shakher, V.Ramamurthy and H.L.Yadav ï ñOptimization of thick phase transmission hologram processing parameters for PV concentrator applicationsò - Proceeding of 9th European PV Solar Energy Conference and Exhibition , 25-27 September 1989, Albert-Ludwing University, Freiburg,Fed.Rep of Germany, p-779.
3. C.Shakher, H.L.Yadav and A.J.Pramila Deniel ï ñSub-Micron Speckle Metrology using hololensesò Proceeding of 2nd International Conference on Ultrapricission in Manufacturing Engineeringò, 27-31 May 1991, Stadthalle,Braunschweing,Fed.Rep of Germany, p-779.
4. C.Shakher, H.L.Yadav and A.J.Pramila Deniel-ñDesign ,analysis and realization of hololens imaging system for Speckle Metrologyò- Proceeding of 3rd International Conference on Holographic System, components and applicationsò, Heriot ï Watt University, U.K, 16-18 September,1991.
5. B.N.Gupta , H.L.Yadav , C.Shakher, ñ Use of Holographic lenses as solar concentrators for photovoltaic applications ñ-World Renewable Energy Congress IV(WREC IV - 1998), Proceedings ï Page 1751-1754 (Elsevier Sc Ltd.)
6. H.L.Yadav, A.K.Chatterjee, S.N.Sinha, B.N.Gupta, C.Shakher, ñ Design fabrication and use of two and four aperture speckle interferometer using compact holographic lensesò Presented at International conference on Optics and Optoelectronics, ICOL-98, 9-12 Dec. 98,IRDE Dehradoon,India.
7. H.L.Yadav, A.K.Chatterjee, C.Shakher, B.N.Gupta, ñ Design Analysis and Fabrication of Holographic solar concentrator for photovoltaic solar cells.ò Presented at 11th International Photovoltaic Science and Engineering conference (PV SEC-11) Sept.-20-24, 1999. Royton Sapporo city, Hokkaido, Japan.
8. A.K.Chatterjee ,H.L.Yadav, B.Ghosh, S.N.Sinha, ñHolographic Concentrators: a Novel method for enhancing the solar electricityò Presented at World congress on sustainable Development: Engineering and technology challenges of 21st Century, held at Calcutta,January20-23, organized by Institution of Engineers(India) ,Sponsored by World Federation of engineering organization.
9. B.N.Gupta , H.L.Yadav ,A.K.Chatterjee, S.N.Sinha, ñOptimization of processing parameters of Holographic Solar concentrator for large acceptance angle with appreciable diffraction efficiency for its use in solar cellsò- World Renewable Energy Congress VI (WREC 2000) , Brighton ,Metropole Hotel , United Kingdom , 1-7 July, 2000 (Appeared in Proceeding of the conference, Elsevier Sc. Ltd)
10. B.N.Gupta , H.L.Yadav ,A.K.Chatterjee, S.N.Sinha, ñDesign, analysis of wavelength selective holographic solar concentrator for its use in different kind of solar cellsò ò-World Renewable Energy Congress VI (WREC 2000) , Brighton ,Metropole Hotel , United Kingdom , 1-7 July, 2000 (Appeared in Proceeding of the conference, Elsevier Sc. Ltd)
11. H.L.Yadav, A.K.Singh, R.Jaiswal, ñDouble- Aperture Speckle Interferometer Using Compact Hololenses: Application To Mechanicsò Proceedings of

Sem.Conference,Volume 1 of 3,1558-1563, 03-06 June 2007, held at Springfield, Monarch Place Hotel, Massasuttes USA (Presented), ISBN no. 978-1-60423-222-6

12. Abhishek kumar, H.L.Yadav, Nirmalendu Deo ñAnalysis of design parameters of Holographic Solar concentrator for large acceptance angle ò Presented at 33 IEEE Photovoltaic specialists conference, San Diego, California, May 11-16, 2008.
13. Abhishek kumar, H.L.Yadav, Nirmalendu Deo ñAnalysis of design parameters for wavelength selective holographic solar concentratorsò Presented at 33 IEEE Photovoltaic specialists conference, San Diego, California, May 11-16, 2008.
14. H.L.Yadav, P.K.Barhai, R.Jaiswal, Nirmalendu Deo ñDesign and analysis of dual aperture imaging configuration using compact holographic lensesò Proceedings of SEM-2008 Fall conference on 60th anniversary of Holography, 27-29 Oct 2008, Springfield, Monarch Palace Hotel, Massasuttes USA.
15. H.L.Yadav, B.Singh, Nirmalendu Deo, P.K.Barhai ñOptimization of processing parameter of thick phase transmission hologram recorded in dichromated gelatin film for maximum data storageò Proceedings of SEM-2008 Fall conference on 60th anniversary of Holography, 27-29 Oct 2008, Springfield, Monarch Palace Hotel, Massasuttes USA.
16. R.Ranjan, A. Khan, N.R Chakraborty, H.L.Yadav ñApplication of holographic lenses recorded in dichromated gelatin for PV concentrator apploication to minimize solar trackingò Proceedings of 4th IASME/WSEAS International conference (EEê09) on energy and environment 24-26 Feb 2009, University of Cambridge, U.K.
17. Abhijit Ghosh, H.L.Yadav, P.K. Barhai ñDesign and analysis of optical system consisting of holographic lenses for Laser Doppler Anemometryò Proceedings of 10TH International Conference on Fibre Optics and Photonics (PHOTONICS 2010) IIT Guwahati, INDIA, 11-15 December 2010, pp. 462 (2010).
18. Abhijit Ghosh, A. Khan, R.Ranjan, N.R Chakraborty, H.L.Yadav ñApplication of holographic optical element as a dispersive concentrating system for Photovoltaic power generationò Proceedings of 10TH International Conference on Fibre Optics and Photonics (PHOTONICS 2010) IIT Guwahati, INDIA, 11-15 December 2010, pp. 463 (2010).
19. Abhijit Ghosh, R. Ranjan, A.K. Nirala & H.L. Yadav, ñDesign and analysis of wavelength selective wide acceptance angle holographic concentrator for PV applicationò, Latest Trends in Renewable Energy and Environmental Informatics, 7th WSEAS **International** Conference on Renewable Energy Sources (RES '13), held at Kuala Lumpur, Malaysia, April 2- 4, 2013 pp. 17.
20. R. Ranjan, Abhijit Ghosh, A.K. Nirala & H.L. Yadav, ñOptimization of Processing Parameters of Holographic Concentrator for Maximum Efficiency Operation in PV System. Latest Trends in Renewable Energy and Environmental Informatics, 7th WSEAS International Conference on Renewable Energy Sources (RES '13), held at Kuala Lumpur, Malaysia, April 2- 4, 2013 pp. 50.
21. A. Ghosh, A.K. Nirala and H.L.Yadav, ñUse of hololenses for generation of speckle correlation fringes in LDA measurement volume,ò Proc. IEEE, International Conference on Microwave and Photonics (ICMAP - 2013) held at Indian School of Mines, Dhanbad during 13-15 December, 2013 pp.1-4.

22. Abhijit Ghosh, A.K. Nirala and H.L. Yadav, ñImprovement of Fringe Quality in LDA Measuring Volume Using Hololens,ò Presented in International Conference on optics & optoelectronics (ICOL-2014) held at IRDE Dehradoon during 05-08, March 2014.
23. R. Ranjan, Abhijit Ghosh, A.K. Nirala & H.L. Yadav, ñDesigning of Holocons for Semiconductor Electrodes of PEC Device,ò Presented in International Conference on optics & optoelectronics (ICOL-2014) will be held at IRDE Dehradoon during 05-08, March 2014.
24. A. Ghosh, A.K. Nirala and H.L. Yadav, ñDependence of wavelength selectivity of holographic PV concentrator on processing parameters,ò Proceedings of International Conference on Energy Efficient LED Lighting and Solar PhotoVoltaic Systems held at IIT Kanpur during 27-29 March, 2014 pp. 24-26.
25. A. Ghosh, A.K. Nirala and H.L. Yadav, ñFringe field quantification of an LDA probe volume,ò Proceedings of International Conference on Optics and Photonics (ICOP-2015) held at University of Calcutta during 20-22 February, 2015 pp. 55.
26. A. Ghosh, A.K. Nirala and H.L.Yadav, ñReal time monitoring of fringe formation inside LDA measuring volume,ò Proc. IEEE, International Conference on Microwave and Photonics (ICMAP - 2015) held at Indian School of Mines, Dhanbad during 11-13 December, 2015 pp.1-2.

Research Projects/ Consultancy Projects:

Title of the Project	Sponsored Agency	Year of Completion	PI/ Co-investigator	Completed/ Ongoing
Design, development and Fabrication of Holographic solar concentrator for Photovoltaic Power Generation (R & D Project)	All India Council for Technical Education	1999	PI	Completed
Design, Development and fabrication of Holospeckle Interferometer for its use in speckle metrology (R & D Project)	MHRD	2002	PI	Completed
Design, Development and fabrication of Holospeckle Interferometer for its use in speckle metrology- Part-II (R & D Project)	MHRD	2003	PI	Completed

Creation of Central Facilities for HNDT and stress- strain Analysis (R & D Project)	MHRD	2000	Co-investigator	Completed
Modernization of Photonics Lab. For Project and training Facilities at UG / PG Level Modernization and Removal of Obsolence	MHRD	2000	PI	Completed

Conference/ Workshop Organized: Workshop on ñMetrology for Engineering Institutionsò

Department of Physics, N.I.T.Jamshedpur,17-19 July 2006

Ph.D Supervised (With Full Details):

Ph.D. Thesis Supervised : **03**		Completed: **02**		On-going: **01**
Title of the Thesis	Research area	Year	Supervisor/ Co-Supervisor	Completed/ On-going
Use of Holographic Optical Elements for Non-Imaging Purposes	Holography	2016	Supervisor	Completed
Optimization of Design Parameters of high efficiency holographic solar concentrators for Photovoltaic Power Generation	Holography	2016	Co-Supervisor	Completed
Study of crack propagation and surface roughness using Laser Speckle Technique.	Laser Speckle metrology	----	Co-Supervisor	On-going

MEMBER OF EDITORIAL BOARD OF THE JOURNALS:

TEACHING EXPERIENCE:

Position Held	**Institution**	**From**	**To**	**Nature of Job**
Lecturer	R.I.T.Jamshedpur	25-03-1996	24-03-2000	Teaching and Research
Sr. Lecturer	R.I.T.Jamshedpur	25-03-2000	26-07-2000	Teaching and Research

Assistant Professer (On lien)	Netaji Subhas Institute of Technology, Delhi	27-07-2000	29-12-2000	Teaching and Research
Sr. Lecturer	R.I.T.Jamshedpur	30-12-2000	24-03-2005	Teaching and Research
Assistant Professor	N.I.T.Jamshedpur	25-03-2005	24-03-2008	Teaching and Research
Associate Professor	N.I.T.Jamshedpur	25-03-2008	Till Date	Teaching and Research

AWARDS, HONOURS & RECOGNITIONS:

REVIEWER OF INTERNATIONAL JOURNALS AND BOOKS:

MEMBER OF PROFESSIONAL ACADEMIC BODIES:

INVITED TALKS/SEMINARS GIVEN:

Lectures on laser applications and holography at applied physics department at IIT-ISM Dhanbad during 2016 and 2017