

## Curriculum Vitae

**Prof. Dr. Zahid Husain Khan**E-Mail: [zhkhan1948@yahoo.com](mailto:zhkhan1948@yahoo.com); zhkhan@jmi.ac.inWebsite: <http://www.jmi.ac.in/zhkhan>LinkedIn: <http://www.linkedin.com/in/zahidhusainkhan>

Date of Birth: 27.06.1948  
 Place of Birth: Akrahra, Uttar Pradesh, India  
 Nationality: Indian  
 Languages known: English, Hindi, Urdu (*Mother tongue*), German

**Employment Record**

Job title	From	To
▪ Professor of Physics, Jamia Millia Islamia, New Delhi	11/1994	01/2015
▪ Reader, Jamia Millia Islamia, New Delhi	01/1984	10/1994
▪ Lecturer, Jamia Millia Islamia, New Delhi	01/1976	12/1983

**Past Positions held in Jamia Millia Islamia**

Position	From	To
▪ Honorary Advisor, FTK-Centre for Information Technology	07/2013	11/2014
▪ Director, FTK-Centre for Information Technology	02/1998	06/2013
▪ Dean, Students Welfare	08/2010	10/2011
▪ Registrar, Jamia Millia Islamia	07/2002 05/2009	07/2005 11/2009
▪ Head, Department of Physics	04/1995	02/1998

**Current Affiliation with National/ International Organizations**

Position	From	To
▪ National Node for India for the UNESCO's International Day of Light 2019 (IDL2019)	2019	Continued
▪ Advisor, Zaheer Science Foundation, New Delhi (India)	2023	Continued
▪ Trustee, Buniyaad (India)	2015	---

### Other Past Positions Held

Position	From	To
▪ Member of the Court, Indira Gandhi Delhi Technical University for Women, Kashmere Gate, Delhi (India) [Governor's Nominee]	01/03/2017	28/02/2022
▪ Vice-President, Ibn al-Haytham LHiSA International Society, Paris (France)	01/01/2016	01/01/2020
▪ Member, Anjuman (Court), Jamia Millia Islamia, New Delhi (India)	27/10/2015	26/10/2018
▪ Member, Board of Directors, Maktaba Jamia Limited, New Delhi	06/09/2012	27/09/2018
▪ National Contact for India for the International Day of Light (IDL)	2018	Continued
▪ Member, Executive Council, Khwaja Moinuddin Chishti Urdu, Arabi-Farsi University, Lucknow, Uttar Pradesh (India) - [Governor's Nominee]	02/12/2015	01/12/2017
▪ National Contact for India for the International Year of Light and Light-based Technologies (IYL 2015), UNESCO, Paris (France)	2015	2015
▪ Vice-President, Delhi Education Society, Delhi (India)	19/04/2008	05/11/2015
▪ Member, Governing Body, Dr. Zakir Husain College, University of Delhi (India)	01/04/2014	31/03/2015
▪ Member, Standing Committee, National Mission of Education Through Information Communication Technology (NMEICT), Ministry of Human Resource Development, Government of India	03/2009	11/2014
▪ Honorary Secretary, Delhi Education Society, Delhi (India)	04/05/1998	03/05/2007
▪ Visiting Scientist, Department of Physics, University of Kaiserslautern (Germany)	10/1987	12/1987
▪ Associate, Inter-University Centre for Astronomy & Astrophysics, Pune (India)	07/1992	06/1995

### Post-Doctoral Fellowships / Awards

DAAD Fellow	
Title and Awarding Institution/Organization	Duration
▪ Ludwig Maximilian University, Munich, Germany (For Post-Doctoral Research work)	04/1980 – 03/1981
▪ Free University Berlin, Germany (For Post-Doctoral Research work)	04/1981 – 03/1982
<b>Awards</b>	
▪ Honorary DAAD Advisor (Title awarded by German Exchange Service (DAAD), Germany for "Outstanding Commitment and Leadership in Promoting Indo-German Relations in Education)	2006 – 2009
▪ Rashtriya Shiksha Gaurav Puraskar 2015 (Awarded by Centre for Education Growth and Research (CEGR), New Delhi, for outstanding and exemplary contribution to Education)	2015

## **Academic Qualifications**

<u>Examination</u>	<u>Board/University</u>	<u>Year</u>	<u>Division</u>	<u>Subjects</u>
<b><u>Higher Education</u></b>				
Ph.D. (Doctor of Philosophy)	Aligarh Muslim University	1975	-	Physics
M.Phil. (Master of Philosophy)	Aligarh Muslim University	1971	-	Physics
M.Sc. (Master of Science)	Aligarh Muslim University	1969	First	Physics
B.Sc. (Bachelor of Science)	Aligarh Muslim University	1967	First	Physics, Chemistry, Mathematics and English
<b><u>School Education</u></b>				
P.U.C. (Pre-University Course)	Aligarh Muslim University	1964	First	Physics, Chemistry, Maths & English
High School	U.P. Board, India	1963	First	Science, Biology, Maths, English, Hindi and Urdu
<b><u>Language Certification</u></b>				
Zertifikat Deutsch als Fremdsprache	Goethe-Institut, Rothenburg o.d.T., Germany	1980	-	German
Certifikat de Français élémentaire	Alliance Française de Delhi, New Delhi, India	1978	-	French
Certificate of Proficiency in Language Exam	Aligarh Muslim University, Aligarh, India	1970	First	German

### **Title of Ph.D. Thesis**

“Experimental and Theoretical Investigations on the Electronic Spectra of Aromatic Hydrocarbon Cation Radicals”.

### **Curriculum Development:**

Developed curricula for the following PG and UG courses:

- Laser Physics, Laser Spectroscopy & Modern Optics, Atomic and Molecular Spectroscopy, Advanced Spectroscopy.
- Optics, Atomic & Molecular Physics, Elementary Spectroscopy.

## Teaching:

### **Post-Graduate Courses:**

Laser Physics/ Laser Spectroscopy & Modern Optics/ Atomic and Molecular Spectroscopy.

### **Under-Graduate Courses:**

Atomic & Molecular Physics/ Elementary Spectroscopy/ Optics/ Sound/ Thermal Physics/ Quantum Mechanics.

## Development of Software Packages

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- **IONSP1 : Software Package SAA-019-S90**  
(for open-shell SCF-CI calculation of electronic spectra of conjugated ion-radicals).
- **FEMO : Software Package SAA-020-S90**  
(for calculating electronic spectra of condensed-ring aromatic hydrocarbons and their ion-radicals using the Free Electron MO theory).
- **DCR3:** Computer program to calculate the splitting of the energy levels of  $d^3$  systems (transition metals) in crystal fields.

## Educational Audio-Visual Programs

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Developed three educational TV films in collaboration with Mass Communication Research Centre, Jamia Millia Islamia under the Country-wide Classroom Project of the University Grants Commission, New Delhi:

### **1. Photoelectric Effect - Part I (23 min)**

In this episode, a brief history of the contributions of scientists leading to the discovery of photoelectric effect in 1887 by Heinrich Rudolph Hertz is given, including further works of Wilhelm Hallwachs, Aleksandr Stoletov, and Philipp Lenard. This is followed by the laboratory demonstration of the photoelectric effect experiment and discussion about failure of the wave theory of light in explaining this phenomenon.

### **2. Photoelectric Effect - Part II (18 min)**

This starts with the definition of a 'blackbody' and explanation of the blackbody spectrum by Max Planck in 1900, which forms the basis of the quantum theory. Next it is shown as to how Albert Einstein used the quantum hypothesis given by Planck and, in 1905, he presented an entirely different picture of light as 'stream of particles' and light energy concentrated in small packages or quanta. The sophisticated experiment of Robert A. Millikan is then discussed who, in his ten years effort to disprove the Einstein's photoelectric equation, finally ended up in the verification of the Einstein's theory. The episode ends up with the acknowledgement by Albert Einstein of the Millikan's researches on photoelectric effect and the 1921 Nobel Physics Award to Einstein for this great work.

### **3. Photoelectric Effect - Part III (12 min)**

Further experiments on photoelectric effect due to X-rays carried out in the 1920s are described in this part which include the works of Maurice de Broglie and C.D. Ellis in 1920 and the discovery of the Compton Effect in 1923 by Arthur H. Compton, which finally settled any doubt/controversy about the Einstein's photoelectric equation. This further discusses the 'multiphoton photoelectric effect' (PEE), which is based on the multiphoton absorption – a phenomenon that was predicted back in the early 1920s, but could not be verified due to lack of high intensity light sources. With the advent of the laser in 1960, however, the experimental realization of PEE could be possible and, accordingly, a generalized form of the Einstein's photoelectric equation was given. Thus light intensity can play an important role (as in the case of laser) in changing the threshold frequency of light by  $1/n$ , depending upon the number of  $n$ -photons absorbed simultaneously by an atom.

### Guidance of Ph.D. Research Work

<u>S.No.</u>	<u>Scholar's name</u>	<u>Topic of Ph.D. Thesis</u>	<u>Year of award</u>
1	Mohammad Mudassir Husain	Laser Induced Fluorescence, Optical Absorption and Theoretical Study of Condensed-Ring Aromatics of Astrophysical Interest	1998
2	Nidhi Saxena	Microwave Studies on Ferrites at High Power Levels and Its Substrate Applications in Microstrip Devices	1998
3	Arvind Kumar Sharma	Transfer of radiation Through the Atmosphere Containing Cyclopropenylidene	1999
4	Musheer Ahmad	Electronic Spectroscopy of Quinones Some Experimental and Theoretical Studies	1999
5	Mohd. Shahid Khan	Experimental and Theoretical Investigation of Electronic Spectra of Hydroxy and Amino derivatives of Anthraquinone	2002
6	Khalid Mutashar Oma	Laser processing and Spectroscopic Characterization of Semiconductors Nanomaterials	2004
7	Sonia	Spectroscopic Studies of Buckminster Fullerenes	2004
8	Homdudd Sharma	Application of Spectroscopy for Monitoring PAHs and Their Derivatives in The Urban Atmospheric Environment	2005
9	Khem Singh	Physico Chemical Characterization of Aerosols and Precursor Gases in and around Delhi.	2011
10	K. Jayanthi	Synthesis of ZnO Based Nanophosphors for Applications in Solid State Light Emitting Devices	2012
11	Tho- Alfiqar A. Zaker*	Career Dynamics in Quantum-Well Lasers in Magnetic Field	2012
12	Ausama I. Khudiar	Laser Induced Effects on Semiconductors and Their Spectroscopic Characterization	2012
13	Darakhshan Qaiser	Study of Optical Gain and Relaxation Mechanism of Fullerenes in Solutions	2012
14	Ashok Kumar Sharma	Studies on Enhancement in Optical Absorption and reduction in Minority Carrier recombination in Silicon Solar Cells	2012
15	Sana Zafar*	Structural, Electronic and Spectroscopic Studies of Non-Linear Optical Conjugated Molecules and Organic Dyes	2015

\* Co-Supervised the candidate.

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## Scholarships and Pre-Doctoral Research Fellowships Awarded

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Dec. 1972 - Dec. 1975     **CSIR Senior Research Fellowship**

Awarded by Council of Scientific & Industrial Research, New Delhi, for research work at Aligarh Muslim University, Aligarh.

July/Aug. 1975     **SIDA Fellowship**

Awarded by Swedish International Development Authority (SIDA) for participating in the International Summer Institute in Quantum Chemistry, Solid State Physics and Quantum Biology at the University of Uppsala (Sweden) and Dalseter (Norway)

Oct. 1970 - Dec. 1972     **CSIR Junior Research Fellowship**

Awarded by Council of Scientific & Industrial Research, New Delhi for research work at Aligarh Muslim University, Aligarh.

1963-1965

U.P. Government Merit Scholarship.

## Invited Talks Delivered

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<i>Date</i>	<i>Topic of the Invited Talk</i>	<i>Programme/ Institution/ Place</i>
23 September 2023	Nature of Light, Albert Einstein and the Photon	Webinar organized by Telangana Science Fair Academy, Hyderabad (India).
13 August 2023	Nature of Light, Albert Einstein and the Photon ( <i>in Urdu</i> )	Webinar organized by Anjuman Farogh-e-Science (ANFAROOS) Aligarh (India).
30 August 2022	Quality Education – An Important Sustainable Development Goal and Crisis in Education during Covid-19 Pandemic	Online Workshop on “Disruption of Education during the Covid-19 Pandemic” as part of the International Day of Light 2022 (IDL 2022) Celebration, organized by Zaheer Science Foundation, New Delhi (India).
05 February 2022	Disruption of Education during the Covid-19 Pandemic	CIDA Webinar, organized by Shobhit Institute of Engineering and Technology, Meerut (India).
26 February 2020	Laser: The Amazing Light	Talk delivered as part of the “Laser at 60” and the “International Day of Light 2020 (IDL 2020)” Celebrations in the National Urdu Science Congress, organized by Maulana Azad National Urdu University, Hyderabad (India).
28 November 2019	An ICT Policy for the University System and Some ICT-based Innovations	International Conference on “Innovation driven economic growth in Asia focusing on India”, organized by Zaheer Science Foundation in collaboration with Goa University and in partnership with UNESCO; November 27- 29, 2019. Venue: Goa University, Taleigao Plateau, Goa (India).

<i>Date</i>	<i>Topic of the Invited Talk</i>	<i>Programme/ Institution/ Place</i>
28 February 2019	Roshni ke saath saath (Urdu)	National Urdu Science Congress, organized by Maulana Azad National Urdu University (MANUU), Hyderabad (India) on 28 February – 01 March 2019.
24 March 2017	Some Useful Initiatives and Innovative Practices in the University Administration: Sharing Personal Experiences	International Seminar on Governance of Universities: Issues and Challenges; 23 – 24 March 2017; Organized by Department of Higher and Professional Education, National University of Educational Planning and Administration (NUEPA), New Delhi (India).
15 February 2017	ICT for Administrative Efficiency & Transparency and Enhancing Quality of Education	Training cum Workshop on Science Technology and Innovation Policy of SAARC Countries; 13-17 February 2017; Organized by Zaheer Science Foundation, New Delhi (India) and UNESCO, Paris (France); held at INSA, New Delhi.
29 January 2016	The Journey of Light	Invited lecture delivered as part of the IYL 2015 event “Luminous”, organized by YMCA University of Science and Technology, Faridabad, India; 29-30 January 2016.
21 January 2016	Optics in the Islamic Golden Age of Science	Invited talk delivered in the National Seminar on Photonics and Optical Materials as part of the IYL 2015 Event “Roshni”, organized by Department of Physics, Jamia Millia Islamia, New Delhi, in collaboration with the Society for Semiconductor Devices, New Delhi, India.
30 October 2015	The Story of Light	Invited talk delivered on the Invitation of the National Institute of Technology, Calicut (Kerala) as part of the event “Tathva ’15, organized in collaboration with UNESCO as part of the IYL 2015, at NIT Campus, Calicut, Kerala (India).
14 October 2015	The Arab and Islamic Contributions to Optics, with Special Focus on Ibn al-Haytham	National Seminar on “Life & Contribution of Ibn al-Haytham”, organized by Ibn Sina Academy, Aligarh (India), organized during 14-15 October 2015, in collaboration with UNESCO as part of the IYL 2015.
09 October 2015	IYL 2015: The India Story	On the invitation of the German Physical Society (Deutsche Physikalische Gesellschaft – DPG), delivered the invited talk under the theme “Best Practice Exchange – International Year of Light and Light-based Technologies 2015” at Magnum-Haus Berlin (Germany).
06 August 2015	Optics in the Islamic Golden Age of Science	National Seminar on “Solid State Lighting”; Organized by Al-Falah University, Dhauj, Faridabad, Haryana, India; 06-07 August 2015, as part of the IYL 2015 celebration.

Date	Topic of the Invited Talk	Programme/ Institution/ Place
31 March 2015	Reflections on Light: From Antiquity to the Modern Era	Invited talk delivered in the Technical Session on "Light and Light-based Technologies 2015 (IYL 2015) of the 2 <sup>nd</sup> Atomic, Molecular and Optical Physics (AMOP) Meeting; Al-Jouf University, Saudi Arabia, 31 March – 01 April 2015.
29 November 2014	"Innovations in the Teaching and Learning of Science and Technology in the Digital Age"	Invited talk delivered in the "International Conclave of Scientists on Science, Technology and Innovation Policy: Foresight, Growth, Roadmaps, Sectoral Impact Assessment and Alliances"; organized by Zaheer Foundation and UNSCO, at INSA, New Delhi, 27-29 November 2014.
23 February 2013	"Information Technology in the Learning of Physics."	Refresher Course in Academic Staff college Physics, Aligarh Muslim University, Aligarh.
16 December 2011	"NKN and IT Infrastructure: The Backbone for Empowerment of Education".	7 <sup>th</sup> eINDIA 2011 Conference; 15-17 December 2011; Mahatma Mandir, Gandhinagar, Gujrat.
08 December 2011	"Impact of ICT in Higher Education" in the National Conference on E-Education & Distance Education: Innovative & Creative Models in Higher Education".	Education Leaders Forum – "Impact of Technology in Higher Education"; 08 December 2011, ASSOCHAM House, New Delhi.
28 November 2010	"ICT and the Changing Face of Higher Education"	International Conclave of Scientists on "Regional Cooperation in Science & Technology: Opportunities and Challenges in the Context of Globalization"; 26-29 November 2010 at Indian National Science Academy (INSA), New Delhi.
05 August 2010	"e-Management and Governance of Higher Education Institutions"	"Digital Learning India Conference, eIndia 2010" in the session on "Governance in Higher Education: Role of Technology and Future Trends"; 4-6 August 2010; International Convention Centre, Hyderabad, India.
09 September 2008	"Building Knowledge Communities for Susceptible Rural Future"	Symposium on "Education and Research in Susceptibility," organized by DAAD and IIT Madras, at Indian Institute of Technology, Chennai, India.
14 July 2008	"Challenges and Avenues for the 21 <sup>st</sup> Century Education: The Role of ICT"	Workshop on "e-Content Development" under the First t Three-Week UGC Special Summer Programme in Social Sciences, organized by Academic Staff College, JMI, New Delhi.
02 April 2008	"The Story of Light"	Department of Mathematics and Physics, Qatar University, Doha, Qatar.
01 April 2008	"Web 2.0 in the Teaching and Learning of Science"	School of Education, Qatar University, Doha, Qatar.



Date	Topic of the Invited Talk	Programme/ Institution/ Place
31 March 2008	"Knowledge Utilization – Challenges and Prospects"	Plenary Lecture delivered at the International Conference on "Knowledge Parks", organized by UNESCO Paris and Qatar Foundation at Doha, Qatar.
24 January 2008	"Management and Governance of Universities: The Role of Information Technology".	Orientation Programme for Academic Administrators; organized by the Academic Staff College, JMI.
10 Feb 2007	* Role of Information Technology in University Management. * Information Technology for Teaching and Learning.	Refresher Course in Computer Applications for University and College Teachers, Academic Staff College, Aligarh Muslim University, Aligarh.
10 Jan 2007	ICT Integration for Colleges	NUEPA Orientation Programme on "Planning and Management of Higher Educational Institutions"; National University of Educational Planning and Administration", New Delhi.
21 Nov 2006	ICT Integration in the University System	"NUEPA Orientation Programme for University Registrars", National University of Educational Planning and Administration (NUEPA), New Delhi.
23 Dec 2005	ICTs for Universities	Refresher Course in Computer Science, Academic Staff College, Jamia Millia Islamia, New Delhi.
21 Nov 2005	*Mysteries of Light: The Pre-Laser Era *Mysteries of Light: The Laser Era	Refresher Course in Physics, Academic Staff College, Aligarh Muslim University, Aligarh
02 May 2005	Albert Einstein and the Nature of Light	Orientation Programme, Academic Staff College, Jamia Millia Islamia, New Delhi.
April 2, 2005:	100 Years of the Einstein's Nobel Work	Refresher Course in Physics, Academic Staff College, Aligarh Muslim University, Aligarh.
27 Nov 2004	Laser Applications	Refresher Course in Physics, Academic Staff College, Aligarh Muslim University, Aligarh.
01 Mar 2003	Applications of Computer in University Management	Orientation Programme for Centre for Professional Development in Higher Education, University of Delhi, at Dr. Zakir Husain College, University of Delhi.
30 December 1994	Correlation among Singlet, Doublet and Triplet States of Polycyclic Aromatics	Seminar given at the Spectroscopy Division, Bhabha Atomic Research Centre, Bombay.
22 November 1993	Spectroscopic Studies on Polycyclic Aromatic Hydrocarbon Radical Cations	Seminar given at the Physical Chemical Institute, University of Fribourg, Fribourg (Switzerland).

Date	Topic of the Invited Talk	Programme/ Institution/ Place
12 September 1989	Photoelectron Spectroscopy via Electronic Spectroscopy of Molecular Ions	LAMP Seminar delivered at the International Centre for Theoretical Physics, Trieste (Italy).
6 September 1989	Studies of Radical Cations in Boric Acid Glasses	Seminar given at the Physical Chemical Institute, University of Fribourg, Fribourg (Switzerland).
September 1988	Electronic Spectra of Radical Cations of Polycyclic Aromatic Hydrocarbons and Their Correlation with Photoelectron Spectra	Seminar talk delivered in the Spectroscopy Division, Bhabha Atomic Research Centre, Bombay (India).

### Conferences/Workshops/Seminars Organized

Date(s)	Programme and Place
30 August 2022	Online Workshop on “Disruption of Education during the Covid-19 Pandemic” as part of the International Day of Light 2022 (IDL 2022) Celebration; Zaheer Science Foundation, New Delhi (India).
18-19 Jan. 2013	Workshop on “Modernization of Learning Environment in Higher Education”; held at FTK-Centre for Information Technology, JMI.
15 March 2012	National Conference on “Emerging Trends in Open Source Applications and Cloud Computing”; held at FTK-CIT, JMI.
17 Sep. 2011	Workshop on ERP Mission; held at FTK-CIT, JMI.
21 March 2011	Chairman, Workshop on “Emerging Trends in ICT-based Learning”; Organized jointly by FTK-Centre for Information Technology and Department of Computer Engineering, Jamia Millia Islamia, New Delhi.
26-27 March 2009	Chairman, Conference on “Sustainable Development and Management of Information Technology in Universities & Colleges” (SUDMIT –2009); organized by FTK-Centre for Information Technology, Jamia Millia Islamia, New Delhi.
04 Nov 2008	Chairman, Workshop on “Web 2.0 in Education”, held at FTK-Centre for Information Technology, Jamia Millia Islamia, New Delhi.
15 Jan 2008	Chairman, Workshop on “Multimedia in Education” conducted by Mr. Azyz Sharafy, Washburn University, USA.
31 Oct - 01 Nov 2007	Chairman, Workshop on “IT For All”, FTK-Centre for Information Technology, Jamia Millia Islamia, New Delhi.
26 March 2007	Seminar on “Emerging Technologies for Governance and Empowerment,” at FTK-Centre for Information Technology, Jamia Millia Islamia, New Delhi on 2007.
28-29 July 2004	Chairman, Workshop on “Macromedia Flash for Web designing and e-learning,” organized by FTK-Centre for Information Technology, Jamia Millia Islamia New Delhi.

Date(s)	Programme and Place
27-29 March 2003	Chairman, Conference on "Education: Breaking the Barriers," held at Jamia Millia Islamia, New Delhi.
27-28 Feb 2003	National Workshop on "IT Services and Applications," organized jointly by the Centre for Information Technology and Department of Computer Science, Jamia Millia Islamia New Delhi.
16-20 Oct 2001	Workshop on "Role of Information Technology in University Management," organized in collaboration with the Association of Indian Universities (AIU), New Delhi, held at Jamia Millia Islamia, New Delhi.
18-19 June 2001	Workshop on "Digital Interactivity in Graphic Multimedia and Its Application for Visual Communication," held at Computer Centre, Jamia Millia Islamia, New Delhi.
16-18 Sep.1985	National Seminar on " <i>Spectroscopy and Its Role in the Characterization of Materials</i> ," (sponsored by University Grants Commission, New Delhi); held at Department of Physics, Jamia Millia Islamia, New Delhi.

#### **Participation in Education Leadership Forums/ Brainstorming Sessions/Panel Discussions/Round Table Discussions**

Date(s)	Programme and Place
25-27 March 2015	Participated in the Adobe Education Leadership Forum 2015; Bali, Indonesia; Organized by Adobe Asia Pacific.
19-20 January 2015	Attended the Opening Ceremony of International Year of Light and Light-Based Technologies (IYL 2015), UNESCO HQ, Paris, France, on Invitation of UNESCO, as National Focal Point from India.
18 November 2014	Chaired a Panel Discussion on "Technical Education" in the National Conference on "Higher Education: Ways Ahead"; organized by Centre for Education Growth and Research (CEGR), New Delhi.
09 October 2014	Invited Panelist in the Panel Discussion on "Emerging Cyber Security Threats", during the 3 <sup>rd</sup> International Conference on "Reliability, Infocom Technologies and Optimization (ICRITO'2014); Organized by Amity Institute of Information Technology, Amity University Uttar Pradesh (AUUP) on 09 October 2014.
30 April 2014	Invited member of Round Table Discussion on 'Technology Enhanced Assessment in Education'; Organized by Centre for Assessment, Evaluation and Research (CAER), New Delhi.
30 April 2014	Organized by Information Week, India in association with Huawei at The Oberoi, New Delhi. Round Table on "Technology Enhanced Assessment in Education"; Organized by Centre for Assessment, Evaluation and Research (CAER), New Delhi at CBSE Office, New Delhi.
20-22 March 2013	Adobe Education Leadership Forum 2013, Phuket, Thailand; Organized by Adobe Systems.

<i>Date(s)</i>	<i>Programme and Place</i>
16 November 2011	Brain-Storming Session on the Theme “Envisioning of CEC’s objectives and goals and realigning in the context of Higher Education Policies on ICT and e-Learning”; organized by Centre for Educational Consortium (CEC), New Delhi; held at India Habitat Centre, New Delhi.
15-16 April 2010	Brainstorming Session on “Vision, Philosophy, Academic Architecture, Programme of Studies, Curricular Framework, Campus Layout, Physical Architecture, Phasing and Rollout Plan of the Central University of Himachal Pradesh”; held at Shimla (H.P.).
14 March 2008	DAAD Network Forum India 2008, German Academic Exchange Service, New Delhi, held at Hotel Oberoi Maidens, New Delhi.
18 December 2007	“Oracle Higher Education Forum”, held at Hotel Shangri-La, Connaught Place, New Delhi.

### **Participation in Workshops/ Conferences/ Seminars**

<i>Date(s)</i>	<i>Programme and Place</i>
9-10 August 2018	12th World Education Summit; Organized by Elets Technomedia Pvt Ltd., Noida. The Leela Ambience Convention Hotel, Karkarduma, Delhi (India).
23-24 March 2017	International Seminar on Governance of Universities: Issues and Challenges. Organized by Department of Higher and Professional Education, National University of Educational Planning and Administration (NUEPA), New Delhi (India).
13-17 February 2017	Training cum Workshop on Science Technology and Innovation Policy of SAARC Countries; Organized by Zaheer Science Foundation, New Delhi (India) and UNESCO, Paris (France); held at INSA, New Delhi.
18 November 2014	Chaired the Paper Presentation Session and presented a paper in the National Conference on “Higher Education: Ways Ahead”; organized by Centre for Education Growth and Research (CEGR), New Delhi.
29 April 2014	Chaired the Technical Session: NT-V of the National Conference on “Nanotechnology and Renewable Energy – 2014”; Organized by Department of Applied Sciences and Humanities, Jamia Millia Islamia, New Delhi; April 28-29, 2014.
06 March 2014	India Education Summit. Organized by Business World at Taj Mansingh, New Delhi.
9 November 2013	Indo-Global Education Summit 2013. Organized by the Indus Foundation, Inc., USA and The Indus Foundation, Hyderabad, India. India Habitat Centre, New Delhi.
28-30 October 2013	National Workshop on “Choice-based Credit System”. Organized by the National University of Educational Research and Administration (NUEPA), New Delhi.
23-24 April 2013	World Education Summit 2013 Organized by Elets, Noida at Hotel Le Meridien, New Delhi.

<i>Date(s)</i>	<i>Programme and Place</i>
18 April 2013	National Seminar on “Professional and Technical Education: Meeting demands of Industrial and Knowledge economy”; Organized by Centre for Education Growth & Research (CEGR) at India International Centre, New Delhi.
13-15 July 2011	Digital Learning World Education Summit 2011, Organized by Centre for Science, Development & Media Studies, NOIDA and Indira Gandhi National Open University, New Delhi; held at The Ashok, New Delhi.
28 November 2010	International Conclave of Scientists on “Regional Cooperation in Science & Technology: Opportunities and Challenges in the Context of Globalization”; 26-29 November 2010 at Indian National Science Academy (INSA), New Delhi.
4-6 August 2010	“Digital Learning India Conference, eIndia 2010”, Held at International Convention Centre, Hyderabad. Delivered an invited talk on “e-Management and e-Governance of Higher Education Institutions” in the session on “Governance in Higher Education: Role of Technology and Future Trends”.
6-7 May 2010	Indo-European Conference on “Quality Assurance in Higher Education”, jointly organized by Erasmus Mundas External Cooperation Window 13/15 India, EU-India Study Centre, and University of Delhi; held at University of Delhi.
16-18 November 2009	“Technology Big 3 – IT in Education” Organized by the High Tech Group of the Indian Express, Mumbai; held at Taj Vivanta, Panjim, Goa.
8-9 September 2008	Symposium on “Education and Research in Susceptibility,” Organized by DAAD and IIT Madras, at Indian Institute of Technology, Chennai, India.
5-6 August 2008	“SUN Technovate ‘08 – The Cycles on Balance” Conference organized by Sun Microsystems, at Grand Hyatt, Mumbai.
29-31 March 2008	International Conference & Exhibition on “Knowledge Parks”, Organized by UNESCO and Qatar Foundation, at Doha, Qatar.
15 March 2008	Chaired the Workshop Session VII on “Novel Techniques” Workshop on “Laser Spectroscopy and Nanophotonics”; IIT Delhi.
8-9 February 2008	7 <sup>th</sup> Annual General Meeting of One World South Asia on the theme “Climate Justice for the Realization of MDGs: Southern Perspectives and Voices”, Held at Inter-Continental Hotel, Nehru Place, New Delhi.
14 September 2007	Chaired the Technical Session-V in the Workshop on “National Workshop on Software Security-2007 (NWSS-2007)”; Organized by the Department of Computer Science, JMI.
18-19 Oct. 2005	Digital Learning 2005 - International Conference on “ICT and Education: Challenge and Practice,” Organized by the Centre for Science, Development and Media Studies (CSDMS), NOIDA at Grand Hyatt, New Delhi.
28-29 July 2004	Workshop on “Macromedia Flash for Web Designing and e-Learning,” Organized by FTK-Centre for Information Technology, Jamia Millia Islamia.

<u>Date(s)</u>	<u>Programme and Place</u>
23-25 March 2002	International Conference on "Education Without Borders," Organized by the Winchester Group, UK and Tafcon Group, India.
7 - 8 August 2001	Presented a paper entitled, "Learning Urdu Through Web – An Experiment in Jamia," in the Conference on "E-Learning and E-Learning Technologies (ELELTECH INDIA- 2001), organized by C-DAC Hyderabad.
23-24 August 1996	The Second Discussion Meeting and Seminar on Networking of Laser Spectroscopy Laboratories. Indian Institute of Technology Delhi, New Delhi.
4-6 January 1996	International Conference on Laser Spectroscopy and Its Applications. Held at Bhabha Atomic Research Centre, Bombay.
20-21 January 1995	Discussion Meeting and Seminar on Networking of Laser Spectroscopy Laboratories; Held at Indian Institute of Technology Delhi, New Delhi.
29 Jan. – 1 Feb. 1994	National Laser Symposium on "Lasers and Its Applications". Held at Centre for Advance Technology, Indore.
15-19 November 1993	Second Conference on "Lasers in Chemistry", Held at International Centre for Theoretical Physics (ICTP), Trieste, Italy.
18-20 February 1993	DAAD Follow-up Seminar organized by German Academic Exchange Service New Delhi. Presented a paper on "Some Interesting Features of Electronic Spectroscopy of Condensed-Ring Aromatic Ions."
29-30 December 1992	Dedication Seminar, Held at Inter-University Centre for Astronomy & Astrophysics (IUCAA), Pune.
22-23 January 1992	Indo-French Winter School on "Laser Spectroscopy Applications", Held at Indian Institute of Technology, New Delhi.
9-10 January 1992:	Workshop on "Novel Applications of Lasers", Held at Department of Physics, Jawaharlal Nehru University, New Delhi (India).
12-30 November 1990	International Workshop on "Lasers and Its Applications" (IWOLA'90); Held at Centre for Advanced Technology, Indore (India).
12-17 December 1988	VII National Workshop & Conference on "Atomic and Molecular Physics", Held at Aligarh Muslim University, Aligarh (India).
14-20 March 1988	Seminar on "Applied Technology Related to Material Sciences" for Former DAAD Fellowship Holders, Organized by DAAD New Delhi at IIT Madras in collaboration with German Agency for Technical Cooperation (GTZ), Germany.
12-16 September 1987	National Conference on "Lasers and Its Applications", Held at Atomic Energy Organization of Iran, Tehran. Presented a paper on "Spectroscopy of Radical Cations of Polycyclic Aromatics and the Possible Role of Lasers in Their Investigation."
19-29 January 1987	Indo-U.S. Workshop on "Modern Optics, Lasers and Laser Spectroscopy"; Held at Indian Institute of Technology, Kanpur (India).

<i>Date(s)</i>	<i>Programme and Place</i>
5-10 January 1987	International Conference on "Laser Applications in Spectroscopy and Optics"; Held at Indian Institute of Technology, Madras (India). Presented a paper on "Spectroscopy of Molecular Ions Using Lasers."
19-21 March 1986	Seminar on "Aspects of Environmental Protection in India and the Federal Republic of Germany", Organized by Central Pollution Board and Max Mueller Bhavan, New Delhi.
March 1985	The Third Conference on "Lasers, Atomic and Molecular Physics (LAMP III)"; Held at International Centre for Theoretical Physics, Trieste (Italy). Presented a paper on "A Novel Correlation Between the Photoelectron Spectra of Alternant Aromatic Hydrocarbons and Electronic Spectra of Their Radical Cations."
August 1975	International Symposium in "Quantum Chemistry and Solid State Physics"; held at Dalseter (Norway); Presented a paper on "Electronic Spectra of Ion Radicals."

#### Participations in Summer/ Winter Schools

<i>Date(s)</i>	<i>Programme and Place</i>
8–14 Nov 1993	School on "photochemistry; International Centre for Theoretical Physics, Trieste, Italy.
25 Oct–19 Nov 1993	Second School on "The Use of Synchrotron Radiation in Science & Technology" - John Fuggle Memorial; International Centre for Theoretical Physics, Trieste, Italy.
21 Aug-15 Sep. 1989	Research Workshop in "Condensed Matter, Atomic and Molecular Physics" - International Centre for Theoretical Physics, Trieste (Italy);
21 June - 10 July 1986	Thirteenth International Summer College on "physics and Contemporary Needs" held at Nathiagali (Pakistan);
28 Jan–22 Mar 1985	Winter College on "Lasers, Atomic and Molecular Physics" held at the International Centre for Theoretical Physics, Trieste (Italy);
June– July 1975	International Summer School in "Quantum Chemistry, Solid State Physics and Quantum Biology" held at the University of Uppsala, Sweden and Dalseter, Norway.

#### Membership of Scientific Societies

<i>Membership &amp; Organization</i>	<i>Designation</i>	<i>Life Membership No./Date</i>
<ul style="list-style-type: none"> <li>▪ Ibn al-Haytham LHiSA International Society, Paris, France (LHiSA: Light - History, Science &amp; Application)</li> </ul>	Vice-President	January 2016–December 2019
<ul style="list-style-type: none"> <li>▪ Centre for Education Growth and Research (CEGR), New Delhi, India</li> </ul>	Member	2013–2023
<ul style="list-style-type: none"> <li>▪ Indian Physics Association.</li> </ul>	Life Member	27.05.1988

<i>Membership &amp; Organization</i>	<i>Designation</i>	<i>Life Membership No./Date</i>
▪ Life Member, Indian Laser Association.	Life Member	No. 133; 22.01.1990
▪ Life Member, Astronomical Society of India.	Life Member	20.10.1994
▪ Life Member, Indian Geological Congress.	Life Member	No. 408; 25.01.2002
▪ Life Member, Indian Chapter of International Centre for Theoretical Physics	Life Member	No. 201; 18.04.1996
▪ Member, New York Academy of Sciences.	Member	1995-96 & 1996-97

### **Major Research Projects**

<i>Title of the Project</i>	<i>Duration</i>	<i>Funding Agency</i>
Photophysical Studies of Buckminsterfullerenes.	April 2001 – March 2003	University Grants Commission (UGC), New Delhi
Development of Shpolskii Laser Fluorimetry Set up for High-Resolution Spectroscopic Studies.	April 2000 – March 2002	All India Council for Technical Education (AICTE), New Delhi.
Development of Near IR Optical Instrumentation for Polarized Absorption and Laser-Induced Fluorescence Studies of Some Organic Molecular Systems.	April 1997 – March 1999	AICTE, New Delhi.
Laser Spectroscopy of Radical Ions of Condensed-Ring Aromatic Hydrocarbons.	April 1993 - March 1996	Department of Science & Technology (DST), New Delhi

### **Academic Foreign Visits**

<i>Country</i>	<i>Year</i>	<i>Programme</i>
Italy	2019	To attend the UNESCO – ICTP event on International Day of Light on the theme, “Illuminating Education”, held at the Abdus Salam International Centre for Theoretical Physics, Trieste (Italy) on 16 May 2019.
Germany	2015	To deliver an invited talk on Best Practice Exchange – IYL 2015, organized by the German Physical Society (DPG) on 09 October 2015 at Magnum-Haus, Berlin.
France	2015	To attend the conference on “The Islamic Golden Age of science for today’s knowledge-based society: The Ibn Al-Haytham example”; organized by UNESCO in the framework of the celebration of the 2015 United Nations International Year of Light and Light-based Technologies (IYL2015), UNESCO Headquarters, Paris (France); 14-15 September 2015.
Saudi Arabia	2015	To deliver an Invited Talk in the Technical Session of IYL 2015 of the AMOP (Atomic, Molecular and Optical Physics) Meeting held on 30 March – 01 April 2015 at Al-Jouf University, Saudi Arabia.



<i>Country</i>	<i>Year</i>	<i>Programme</i>
Indonesia	2015	Adobe Education Leadership Forum 2015; Bali, Indonesia; organized by Adobe Systems; 25-27 March 2013.
France	2015	Opening Ceremony of the International Year of Light and Light-based Technologies 2015 (IYL 2015); UNESCO HQ, Paris, France; 19-20 January 2015, <i>and</i> Second Meeting of the International Working Group on Ibn Al-Haytham; UNESCO, Paris; 21 January 2015.
Thailand	2013	Adobe Education Leadership Forum 2013; Held at Phuket, Thailand; Organized by Adobe Systems; 20-22 March 2013.
Hong Kong	2011	Adobe Asia Pacific Education Leadership Forum 2011; Organized by Adobe Systems; 23-24 March 2011.
Canada	1999	45 <sup>th</sup> International Conference on Analytical Sciences and Spectroscopy (ICASS) and the 26 <sup>th</sup> Annual Conference of the Federation of Analytical Chemistry and Spectroscopy (FACSS'99) at Vancouver (Paper presentation).
Switzerland	1989	Seminar Talk at the Physical Chemical Institute (Institut für Physikalische Chemie), University of Fribourg, Fribourg.
	1993	Seminar Talk and Scientific Discussion at the Physical Chemical Institute, University of Fribourg, Fribourg.
Iran	1987	National Conference on "Lasers and Its Applications" Atomic Energy Organization of Iran, Tehran (Invited Lecture).
Pakistan	1986	XIII International Summer College at Nathiagali.
Italy	1993	School and Conference at ICTP, Trieste
	1989	Research Workshop at ICTP, Trieste.
	1985	Winter College at ICTP, Trieste.
Germany	1979-82	<ul style="list-style-type: none"> <li>▪ German Language Course at Rothenburg o.d.T. (12/1979 – 03/1980).</li> <li>▪ DAAD Fellow, Ludwig Maximilian University, Munich (04/1980 – 03/1981).</li> <li>▪ DAAD Fellow, Free University Berlin (04/1981 – 03/1982).</li> </ul>
	1987	Visiting Scientist, University of Kaiserslautern (10/1987 – 12/1987).
Norway	1975	International Summer School at Dalseter.
Sweden	1975	International Summer School at Uppsala University, Uppsala.

## PUBLICATIONS

### [A] Research Publications in Refereed Journals

S.No	Author(s)	Title of Paper and Journal
64.	Homdutt Sharma Vinod Kumar Jain Zahid Husain Khan	Potential Application of Synchronous Fluorescence Spectroscopy to Identification of PAHs in Airborne PM <sub>2.5</sub> . Pollution 2022, 8(2): 637-656.
63.	Sana Zafar <u>Zahid H. Khan</u> Mohd. Shahid Khan	Nonlinear Optical Response of Hydroxy Substituted Anthraquinone/PMMA Thin Films Using Z-Scan Technique Advanced Science Letters, 21[9] (2015) 2775 - 2775. DOI:10.1166/asl.2015.6348.
62.	Sana Zafar Md. Shahzad Khan <u>Zahid H. Khan</u> Mohd. Shahid Khan	Study of Nonlinear Optical Properties of Amino Substituted Organic Dye by Z-Scan Technique Using CW Laser and DFT Calculations Advanced Science Letters, 21[9] (2015) 2734 - 2737. DOI:10.1166/asl.2015.6349.
61.	Khem Singh <u>Zahid H. Khan</u> Prabhat K. Gupta	Temporal Changes in Particulate Matter and Trace Gas Concentrations: A Case Study of Delhi. Open Journal of Atmosphere and Climate Change, 1[2] (2014) 51-59.
60.	Sana Zafar <u>Zahid H. Khan</u> Mohd. Shahid Khan	Study of self-defocusing, reverse saturation absorption and photoluminescence in anthraquinone PMMA nanocomposite film. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 118c (2013) 852-856.
59.	Ausama I. Khudiar, M. Zulfeqar, <u>Zahid H. Khan</u>	Effect of cadmium concentration and laser irradiation on photoconductivity of Cd <sub>x</sub> Se <sub>100-x</sub> thin films. Materials Science in Semiconductor Processing, 16 (2013) 1791-1796. <a href="http://dx.doi.org/10.1016/j.mssp.2013.06.019">http://dx.doi.org/10.1016/j.mssp.2013.06.019</a> .
58.	Sana Zafar <u>Zahid H. Khan</u> Mohd. Shahid Khan	Experimental and Theoretical Investigations of Nonlinear Optical Properties of 1, 4-Diamino-9, 10-Anthraquinone. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 114c (2013) 164-169. <a href="http://dx.doi:10.1016/j.saa.2013.05.001">http://dx.doi:10.1016/j.saa.2013.05.001</a> .
57.	Darakhshan Qaiser Mohd. Shahid Khan R.D. Singh <u>Zahid H. Khan</u>	Time Resolved Spectroscopy and Gain Studies of Fullerenes C <sub>60</sub> and C <sub>70</sub> . Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 113c (2013) 400-407. DOI: 10.1016/j.saa.2013.04.085.
56.	Khem Singh, S. Tiwari, A.K. Jha, Shankar G. Aggarwal, D.S. Bisht, <u>Zahid. H. Khan</u> Prabhat Gupta	Mass-size distribution of PM <sub>10</sub> and its characterization of ionic species in fine (PM <sub>2.5</sub> ) and coarse (PM <sub>10-2.5</sub> ), New Delhi, India. Natural Hazards (Springer), 68 [2] (2013) 775-789. DOI: 10.1007/s11069-013-0652-8.

S.No	Author(s)	Title of Paper and Journal
55.	Homdutt Sharma V. K. Jain <u>Zahid H. Khan</u>	Use of Constant Wavelength Synchronous Spectrofluorimetry for Identification of polycyclic aromatic hydrocarbons in Air Particulate Samples. Spectrochim. Acta Part A: Molecular and Biomolecular Spectroscopy (GB), 108C (2013) 268-273. DOI: 10.1016/j.saa.2013.01.079.
54.	Ausama I. Khudiar M. Zulfequar <u>Zahid H. Khan</u>	Influence of cadmium concentration on the optical and structural properties of cadmium selenide thin films. Materials Science in Semiconductor Processing, 15 [5] (2012) 536-542. <a href="http://dx.doi.org/10.1016/j.mssp.2012.04.003">http://dx.doi.org/10.1016/j.mssp.2012.04.003</a> .
53.	Sana Zafar <u>Zahid H. Khan</u> Mohd. Shahid Khan	Linear and Non-Linear Properties of Electron Donor and Acceptor Pyridine Moiety A Study by Ab Initio and DFT Methods. Canadian Journal of Pure and Applied Sciences, 6 (1) 1827-1835 (2012).
52.	Khem Singh D.P. Singh C.K. Dixit Nahar Singh C. Sharma S. Sahai Arvind K. Jha <u>Z.H. Khan</u> Prabhat K. Gupta	Chemical characteristics of aerosols and trace gas distribution over North and Central India. Environ Monit Assess, 184 [7] (2012) 4553-4564. DOI: 10.1007/s10661-011-2284-3.  (Erratum published in Environ Monit Assess, 184 [10] (2012) 6467).
51.	A.K. Sharma S.N. Singh Nandan S. Bisht H.C. Kandpal <u>Zahid H. Khan</u>	"Determination of minority carrier diffusion length from distance dependence of lateral photocurrent for side-on illumination." Solar Energy Materials and Solar Cells, 100 (2012) 48-52. <a href="http://dx.doi.org/10.1006/j.solmat.2011.04.027">http://dx.doi.org/10.1006/j.solmat.2011.04.027</a> .
50.	A.K. Sharma S.N. Singh Nandan S. Bisht H.C. Kandpal <u>Zahid H. Khan</u>	"Effect of air ambient on surface recombination and determination of diffusion length in silicon wafer using photocurrent generation method".  Solar Energy, 85 [5] (2011) 1137-1143. <a href="http://dx.doi.org/10.1016/j.solener.2011.03.005">doi:10.1016/j.solener.2011.03.005</a>
49.	Ausama I. Khudiar M. Zulfequar <u>Zahid H. Khan</u>	"Laser wavelength effect on structural and optical properties of Cd <sub>34</sub> Se <sub>66</sub> nanocrystalline thin film".  Journal of Non-Crystalline Solids 357 (2011) 1264-1269. <a href="http://dx.doi.org/10.1016/j.jnoncrysol.2010.12.023">doi:10.1016/j.jnoncrysol.2010.12.023</a>
48.	K. Jayanthi Santa Chawla Amish G. Joshi <u>Zahid H. Khan</u> R.K. Kotnala	"Fabrication of Luminescent, Magnetic Hollow Core Nanospheres and Nanotubes of Cr Doped ZnO by Inclusive co Precipitation Method".  J. Phys. Chem. C 114 (43) (2010) 18429-18434.

S.No	Author(s)	Title of Paper and Journal
47.	Darakhshan Qaiser Mohd. Shahid Khan <u>Zahid H. Khan</u> Santa Chawla	Forster's Resonance Energy Transfer between Fullerene C <sub>60</sub> and Coumarin C440. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy, 77 [5] (2010)1065 -1068. <a href="https://doi.org/10.1016/j.saa.2010.08.074">doi:10.1016/j.saa.2010.08.074</a> .
46.	Ausama I. Khudiar Siddhartha M. Zulfequar <u>Zahid H. Khan</u>	Yag:Nd laser - induced effects on the structural and optical properties of nanostructured CdS thin film.  Chalcogenide Letters 7 (5) 361-367 (2010).
45.	Darakhshan Qaiser Mohd. Shahid Khan R.D. Singh <u>Zahid H. Khan</u>	Comparative study of optical parameters of fullerene C <sub>60</sub> film at different temperatures.  Optics Communications (Elsevier), 283, 3437-3440 (2010).
44.	Santa Chawla K. Jayanthi <u>Zahid H. Khan</u> Jyoti Shah R.K. Kotnala	Near UV emission and p-type conductivity in Zn <sub>1-x</sub> Li <sub>x</sub> O and Zn <sub>1-x</sub> Na <sub>x</sub> O nanomaterial system.  Materials and Design (Elsevier), 31, 1666-1670 (2010).
43.	Ausama I. Khudiar M. Zulfequar <u>Zahid H. Khan</u>	Laser Radiation Effects on Optical and Structural Properties of Nanostructure CdSe Thin Film. Radiation Effects and Defects in solids, 164 (9) 551-560 (2009).
42.	Khalid M. Omar <u>Zahid H. Khan</u> R.K. Soni S.C. Abbi	The Effect of Etchant Concentration on Surface Morphology of Porous GaP Produced by Laser-Induced Etching.  Modern Applied Science (Canada), 2 (2) 41-50 (2008).
41.	Homdutt Sharma V. K. Jain <u>Zahid H. Khan</u>	Atmospheric polycyclic aromatic hydrocarbons (PAHs) in the urban air of Delhi during 2003. Environ Monit Assess, 147, 43-55 (2008).
40.	Khalid M. Omar <u>Zahid H. Khan</u> R.K. Soni S.C. Abbi	Temperature Dependence of Raman Spectra of Porous GAP. J. Phys. Sci. 18 (2) 49-57 (2007).
39.	Homdutt Sharma V.K. Jain <u>Zahid H. Khan</u>	Identification of Polycyclic Aromatic Hydrocarbons (PAHs) in Suspended Particulate Matter by Synchronous Fluorescence Spectroscopic Technique. Spectrochim. Acta Part A: Molecular and Biomolecular Spectroscopy (GB) A68 (2007) 43-49.
38.	Homdutt Sharma V.K. Jain <u>Zahid H. Khan</u>	Characterization and Source identification of Polycyclic Aromatic Hydrocarbons (PAHs) in the Urban Environment of Delhi. Chemosphere 66 [2] (2007) 302-310.

S.No	Author(s)	Title of Paper and Journal
37.	Sonia M.S. Khan <u>Zahid H. Khan</u>	Electronic Absorption Spectra of C60 and C70 and their Interpretation Using ZINDO/S. Canad. J. Anal. Sci. Spectrosc. 50 (1) 1-6 (2005).
36.	M.S. Khan <u>Zahid H. Khan</u>	Ab Initio and Semiempirical Study of Structure and Electronic Spectra of Hydroxy-substituted Naphthoquinones Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy (Great Britain) 61 (4) 777-790 (2005).
35.	M.S. Khan <u>Zahid H. Khan</u>	Molecular Modeling for Generation of Structural and Molecular Electronic Descriptors for QSAR Using Quantum Mechanical Semiempirical and ab initio Methods. Genome Informatics, 14, 486-487 (2003).
34.	M.S. Khan <u>Zahid H. Khan</u>	Electronic Absorption Spectra of Amino-substituted Anthraquinones and Their Interpretation using the ZINDO/S and AM1 Methods. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy (Great Britain) A59 (7) 1409-1426 (2003).
33.	M.S. Khan <u>Zahid H. Khan</u>	Electronic Absorption Spectra of Hydroxy-substituted Anthraquinones and Their Interpretation using the ZINDO/S and AM1 Methods. Canad. J. Anal. Sci. Spectrosc. 47 (5) 146-156 (2002).
32.	M.S. Khan M.M. Husain <u>Zahid H. Khan</u>	Electronic Absorption Spectra of Radical Cations of 1-Methyl, 2-Methyl and 9-Methyl Anthracenes. Canad. J. Anal. Sci. Spectrosc. 45 (2) 41-47 (2000).
31.	M.M. Husain M.S. Khan <u>Zahid H. Khan</u>	Electronic Absorption Spectra of 1-Methyl and 2-Methyl Phenanthrenes and Their Radical Cations. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy (Great Britain) A56 (14) 2741-2751 (2000).
30.	M. Ahmed <u>Zahid H. Khan</u>	Electronic Absorption Spectra of Benzoquinone and Its Hydroxy Substituents and Effect of Solvents on Their Spectra. Spectrochimica Acta Part A: Molecular and Biomolecular Spectroscopy (Great Britain) A56, 965-981 (2000).
29.	Z.N. Begum <u>Zahid H. Khan</u>	Some Modifications in the Glauber Theory for Electron-Atom and Electron-Molecule Scattering. Bulgarian J. Phys. 33 (1/2), 27-36 (1996).
28.	A.K. Sharma S. Chandra <u>Zahid H. Khan</u>	New Method for the Evaluation of RKR Potential Integrals for Diatomic Molecules Pramana 47, 65-77 (1996).

S.No	Author(s)	Title of Paper and Journal
27.	M.M. Husain <u>Zahid H. Khan</u> E. Haselbach	Prediction of the Lowest-Energy Non-Koopmans Doublet States and the First Ionization Potentials of Polycyclic Aromatic Systems from Their Triplet-State Energies. Appl. Spectrosc. (USA) <u>349</u> , 1852-856 (1995).
26.	M. Ahmed <u>Zahid H. Khan</u>	Molecular Orbital Studies on Electronic Spectra of Some Substituted Anthraquinone Cation Radicals. Acta Phys. Polon. <u>A87</u> , 939-951 (1995).
25.	<u>Zahid H. Khan</u> M.M. Husain E. Haselbach	On the Correlation Between Electronic Spectra of Alternant Aromatic Hydrocarbons and Their Radical Cations. Appl. Spectrosc. (USA) <u>347</u> , 2140-2144 (1993).
24.	Zahid H. Khan	The Lowest Non-Koopmans State in Radical Cations of Condensed-Ring Aromatics as a Predictor of the Ionization Potentials of Their Neutral Precursors. Canad. J. Appl. Spectrosc. <u>337</u> , 82-88 (1992).
23.	Zahid H. Khan	Electronic Spectra of Radical Cations and Their Correlation with Photoelectron Spectra. VI. A Reinvestigation of Two-, Three-, and Four-Ring Condensed Aromatics. Acta Phys. Polon. <u>A82</u> , 937-955 (1992).
22.	Zahid H. Khan	A Theoretical Study of Electronic Spectra of Radical Cations of Some Dihydroxynaphthalenes. Int. J. Quant. Chem. <u>342</u> , 1717-1735 (1992).
21.	Zahid H. Khan	Open-Shell SCF-CI Calculations for Radical Cations of Dihydroxy-naphthalenes with C <sub>2v</sub> and C <sub>2h</sub> Symmetry. Acta Phys. Polon. <u>A80</u> , 29-46 (1991).
20.	A.K. Sharma <u>Zahid H. Khan</u> Z.H. Zaidi	Calculation of Ionization Potentials of Polycyclic Aromatic Hydrocarbons Using FEMO Theory. Z. Phys. Chemie Leipzig (Germany) <u>327</u> , 1205-1214 (1990).
19.	A.K. Sharma Z.H. Zaidi <u>Zahid H. Khan</u>	Free Electron Molecular Orbital Calculation of Electron Affinities of Conjugated Aromatic Hydrocarbons. Z. Phys. Chem. Leipzig (Germany) <u>327</u> , 837-840 (1990).
18.	Zahid H. Khan	Electronic Spectra of Radical Cations and Their Correlation with Photoelectron Spectra. V. Pyrenes. Spectrochim. Acta (GB) <u>345A</u> , 253-270 (1989).
17.	Zahid H. Khan	Electronic Spectra of Radical Cations and Their Correlation with Photoelectron Spectra. IV. IP(1) - E(A) Correlation. Spectrochim. Acta (GB) <u>344A</u> , 1125-1128 (1988).
16.	<u>Zahid H. Khan</u> Z.U. Khan Z.H. Zaidi	Spectroscopic Study of Radical Cations of Substituted Aromatics. I. 1-Naphthol and 2-Naphthol. Canad. J. Spectrosc. <u>333</u> , 170-174 (1988).

S.No	<u>Author(s)</u>	Title of Paper and Journal
15.	Zahid H. Khan	Electronic Spectra of Radical Cations and Their Correlation with Photoelectron Spectra. III. Perylenes and Coronenes. Spectrochim. Acta (GB) <u>344A</u> , 313-320 (1988).
14.	Zahid H. Khan	Electronic Spectra of Radical Cations and Their Correlation with Photoelectron Spectra. II. Tetraphene and Pentaphenes. Z. Naturforsch. (Germany) <u>342a</u> , 91-96 (1987).
13.	W. Hendel <u>Zahid H. Khan</u> W. Schmidt	Hexa-peri-benzocoronene, a Candidate for the Origin of the Diffuse Interstellar Visible Absorption Bands? Tetrahedron, (GB) <u>342</u> , 1127-1134 (1986).
12.	Zahid H. Khan	Comparison Between Optical and Photoelectron Spectra of Polycyclic Aromatics. Sing. J. Phys. <u>32</u> , 95-103 (1985).
11.	Zahid H. Khan	Electronic Spectra of Radical Cations and Their Correlation with Photoelectron Spectra. I. Dibenzochrysene and Dibenzanthracenes. Z. Naturforsch. A <u>39a</u> , 668-667 (1984).
10.	R. A. Fields E. Haindl C. J. Winscom <u>Z. H. Khan</u> M. Plato K. Möbius	Optical Zeeman Spectroscopy of the Lowest Doublet Excited States of <i>tris</i> (acetylacetonato)chromium(III). Journal of Chemical Physics, <u>80</u> (7) 3082-3086 (1984).
9.	Zahid H. Khan	Optical Spectral Data for Condensed-ring Aromatic Hydrocarbon Radical Cations. Canadian Journal of Spectroscopy, <u>29</u> (3) 63-69 (1984).
8.	Zahid H. Khan	Classification and Nomenclature of Electronic Spectra of Conjugated Ion-Radicals. Canad. J. Spectrosc. <u>328</u> , 57-59 (1983).
7.	Zahid H. Khan	Experimental and Theoretical Studies on the Electronic Spectra of Tetracyclic Aromatic Hydrocarbon Cation Radicals. Canad. J. Spectrosc. <u>323</u> , 8-15 (1978).
6.	<u>Zahid H. Khan</u> B.N. Khanna	A Study of the Electronic Spectrum of 3,4-Benz phenanthrene Cation Radical. Z. Naturforsch (Germany) <u>332a</u> , 796-797 (1977).
5.	<u>Zahid H. Khan</u> B.N. Khanna	Formation of the Radical Cations of Some Tetracyclic Aromatic Hydrocarbons in Boric Acid Glass. Canad. J. Chem. <u>352</u> , 827-828 (1974).
4.	<u>Zahid H. Khan</u> Z.H. Zaidi B.N. Khanna	Absorption Spectra of Naphthalene, Anthracene and Phenanthrene Cations in Boric Acid Glass in the Region 600 - 1400 nm. Ind. J. Pure Appl. Phys. <u>312</u> , 66-68 (1974).

S.No	Author(s)	Title of Paper and Journal
3.	<u>Zahid H. Khan</u> Z.H. Zaidi B.N. Khanna	Molecular Orbital Calculations of the Electronic Spectra of Aromatic Hydrocarbon Mononegative Ions. J. Phys. Chem. (USA) <u>377</u> , 1814-1816 (1973).
2.	<u>Zahid H. Khan</u> B.N. Khanna	Electronic Absorption Spectra of Pyrene and Its Monopositive Ion. J. Chem. Phys. (USA) <u>359</u> , 3015-3019 (1973).
1.	<u>Zahid H. Khan</u> B.N. Khanna	Calculation of Bondlengths in Aromatic Hydrocarbons Using Tight-Binding and Intra-Ring Approximations. Ind. J. Pure Appl. Phys. 310, 563-565 (1972).

### **[B] Publications in Conference Proceedings**

1. Paper entitled: **“Study of Optical Gain for Fullerene C60 and Fullerene C70”**.  
By Darakhshan Qaiser, Mohd. Shahid Khan, R.D. Singh, Zahid H. Khan.  
AIP Conf. Proc. 1391, 112 (2011); <http://dx.doi.org/10.1063/1.3646795>.  
23-25 May 2011, Kerala (India).
2. Paper entitled: **“ICT and the Changing Face of Higher Education”**.  
By Zahid H. Khan  
Proceedings of the World Conclave of Scientists on Regional Co-operation in Science and Technology: Opportunities and Challenges in the Context of Globalization; pp. 172-182;  
Organized by UNESCO South Asia and South East Asia Science and Technology Policy Forum & Zaheer Science Foundation; held at Indian National Science Academy (INSA); 28 November 2010, New Delhi..
3. Paper entitled: **“Laser Crystallization of Nanostructure CdS Thin Film”**.  
By Ausama I. Khudiar, M. Zulfequar and Zahid H. Khan.  
AIP Conf. Proc. 1276, 94 (2010); <http://dx.doi.org/10.1063/1.3504349>.  
9-11 December 2009; Guwahati, Assam (India).



**[C] Published Books**

S.No.	Author(s)	Title of Book/ Book-Chapter and Year of Publication	Publishers
1	Zahid Husain Khan	Book (in Urdu): <b>"Covid-19 ke bohran ke duran Oline Learning aur us ka Mustaqbil"</b> . (ISBN: 978-81-7480-399-3) Year of Publication: 2022	Vigyan Prasar, Ministry of Science and Technology, Government of India, and Scope Secretariat, Central University of Kashmir & University of Kashmir
2	Zahid H. Khan	Book Chapter: <b>"Lecture Preparation Using Open Educational Resources"</b> , in <i>"Higher Education Faculty Career Orientation and Advancement: Curriculum Based on Primary Research"</i> ; M.S. Manna (Editor). (ISBN: 978-81933475-9-1) Year of Publication: 2017	Centre for Education, Growth and Research (CEGR), New Delhi.
3	Zahid Husain Khan	Book: <b>"Experimental and Theoretical Investigations on Electronic Spectra of Aromatic Hydrocarbon Cation Radicals"</b> (ISBN: 978-3-659-87022-4) Year of Publication: 2016	LAP LAMBERT Academic Publishing, Saarbrücken, Germany. Saarbrücken, Germany
4	Ausama I. Khudiar Zahid H. Khan M. Zulfequar	Book: <b>"Laser-induced Effects on Metal Chalcogenide Thin Films"</b> (ISBN: 978-3-659-11085-6) Year of Publication: 2012	LAP LAMBERT Academic Publishing GmbH & Co. KG Saarbrücken, Germany
5	Khalid Omar Zahid H. Khan R.K. Soni	Book: <b>"Laser-Induced Etching and Characterization of Semiconductor Nanomaterials"</b> (ISBN: 978-3-8443-0509-8) Year of Publication: 2011	LAP LAMBERT Academic Publishing GmbH & Co. KG Saarbrücken, Germany

**[D] Published Reports**

S.No.	Authors	Title and Year of Publication
1	Zahid H. Khan, Bishnu Pal and Jaya Ramchandani	<b>“India”</b> , Published in the <b>“International Year of Light and Light-Based Technologies 2015: Final Report”</b> , J. Dudley, J. Niemela, K. Plenkovich and J.R. Gonzalez (Editors); SPIE, Washington, USA; 2016; pp. 126-127.
2	Zahid H. Khan, S.K. Naqvi and A.U. Khan	<b>“Information Technology in Jamia Millia Islamia (2000 – 2004)”</b> ; Published by Fakhruddin T. Khorakiwala Centre for Information Technology, Jamia Millia Islamia, New Delhi; 2004.
3	S.K. Naqvi and Zahid H. Khan	<b>“Information Technology in Jamia: Progress and Achievements (May 2004 – April 2007)”</b> ; Published by FTK Centre for Information Technology, Jamia Millia Islamia, New Delhi; 2007.
4	Zahid H. Khan	Computerization in Jamia: Part – I “The Present Scenario and Future Prospects”; Computer Centre, Jamia Millia Islamia, New Delhi; June 2000.  Computerization in Jamia: Part – II “Financial Details”; Computer Centre, Jamia Millia Islamia, New Delhi; October 2000.

### [E] IT Magazine / Newsletters

S.No.	Editors	Title and Year of Publication
1	Zahid H. Khan ( <i>Editor</i> ) S.K. Naqvi ( <i>Co-Editor</i> ) A.U. Khan ( <i>Assistant Editor</i> )	<b>“CIT Reflections”</b> (An Annual Magazine of FTK Centre for Information Technology); Issue No. 1 (April 2007 – March 2008). Published by FTK Centre for Information Technology, Jamia Millia Islamia, New Delhi; 2008.
2	Zahid H. Khan and S.K. Naqvi	<b>“Information Technology in Jamia: Progress and Achievements (May 2004 – April 2007)”</b> ; Published by FTK Centre for Information Technology, Jamia Millia Islamia, New Delhi; 2007.
3	Zahid Husain Khan ( <i>Editor</i> ) A.U. Khan ( <i>Associate Editor</i> )	<b>“CIT Updates”</b> (A Quarterly Online News letter of FTK Centre for Information Technology); Issue no. 1 (2008) to Issue no. 12 (2010) Published by FTK Centre for Information Technology, Jamia Millia Islamia, New Delhi.

### [F] Popular Science Articles

Author	Title of the Article and the name of the Magazine
Zahid Husain Khan	<b>Ibn Sina: Medicine Man of the Middle East.</b> DREAM 2047, Vol. 23, No. 1, pp. 12-13 (October 2020).
Zahid Husain Khan	<b>The UNESCO International Day of Light and “Trust Science” Pledge.</b> DREAM 2047, Vol. 24, No. 12, pp. 14-16 (December 2021).
Zahid Husain Khan	<b>Dr. Hashima Hasan: The Journey of a Scientist from AMU to NASA.</b> DREAM 2047, Vol. 25, No. 4, pp. 11-13 (April 2022).