Detailed CV

A F M YUSUF **HAIDER**

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Professional Overview

Professor of Physics, since August 1988 & **Selection Grade Professor** of Physics, **University of Dhaka** (top 25 % of all professors) since **1994 (now on LPR)**.

Current areas of **competence: Laser applications with a focus on** Laser-induced Breakdown Spectroscopy (**LIBS**), Laser Raman Spectroscopy (**LRS**), nano-particle fabrication by Laser ablation technique and their spectroscopic and morphological studies.

Have research experience on **experimental nuclear physics** (**M.S**.), on **Solid states Physics** (**Ph. D.**) and on **Lasers and Nonlinear optics** (**Post Doc.** Research).

Adjunct professor of Physics, Daffodil International University (**DIU**) since September, 2009 (Part time).

Peer Reviewer of the following **international journals**:

1. Optics and Laser Technology, Elsevier (The **Netherlands**)
2. IEEE / OSA Journal of Light wave Technology, (**U.S.A.)**
3. Optics and Lasers in Engineering Elsevier (The **Netherlands**)
4. Analytical Methods, RSC Publishing (**U.K.)**
5. Journal of Optical Society of America A (JOSA), (**U.S.A**.)
6. IEEE Journal of Quantum Electronics. (**U.S.A.**)
7. Energy & fuels, ACS (**U.S.A**)
8 Spectroscopy Letters, Taylor & Francis Publications (U.K., U.S.A.)
9. Analytical Methods, RSC Publications (U.K.)

Editor: The Dhaka University (**DU**) Journal of Science, July, 2009 - June, 2011.

My current (May, 2016) Research gate score (RG Score) is 24.67, which is higher than 80% of Research Gate members.

Memberships of Scholarly Societies

Membership :

MEMBER: The **American Physical Society** (APS).

MEMBER: The **American Chemical Society** (ACS)

MEMBER: The **Asiatic Society of Bangladesh**

Life Member: The **Bangladesh Physical Society** (BPS).

Elected Vice President: Bangladesh Physical Society (BPS) July 2009 - June 2011

Elected and Ex-officio member of the **Academic Council, University of Dhaka, 1986-2015.**

Elected **President**, Dhaka University Teachers Association (**DUTA**) for **three terms** for the years 1998, 1999 & 2002.

Elected **Vice President**, Dhaka University Teachers Association (**DUTA**) for the year 1995.

Elected **and** Ex-officio **member of the Syndicate**, **University of Dhaka** from **Nov. 1998 to January 2009**.

Elected **member of the Senate, University of Dhaka,** for a **number of terms** and also **currently**.

Statement of Teaching Involvement (courses):

Taught in the **Physics** Department, **University** of **Dhaka (DU)**, for more than 43 years (**1st Dec 1972 to 30 th June 2016).**

Current courses:

Mechanics, Thermodynamics, Waves & Optics, **Daffodil International University**, **DIU, as Adjunct professor.**

Courses taught:

Courses taken at undergraduate level: Mechanics; Electricity & Magnetism; Thermodynamics; Waves & Optics; Electrical Circuits; Electronics; Atomic & Molecular Physics; Modern Physics; Quantum Mechanics; Solid State Physics; Nuclear Physics; Methods of Experimental Physics; Introductory Course on Optical Fibre; Lasers and Photonics.

Courses taken at postgraduate level: Laser Physics; Solid State Physics.

Courses taught at A level (year 11 and 12): Mechanics, electricity and magnetism, waves, optics, nuclear physics and modern physics. (1984-2002).

Development of Research Laboratories and Research Experience:

To farther the research capability of the University of Dhaka, **a modern research laboratory had been developed** (2005) **as the Centre for Advanced Research in Sciences**, (Centre of Excellence) in the University of Dhaka, with financial support of the Government of the Peoples' Republic of Bangladesh and Japan Debit Cancellation Fund (JDCF) with my initiative and direct supervision **when I was the Pro-Vice Chancellor of the university of Dhaka** .

Established the Modern Optics and Laser laboratory and introduced the courses on laser physics (in 1984) at undergraduate and post graduate levels in the physics department of the University of Dhaka.

Research activities:

The current research interest :

(a) **Laser Spectroscopy**: Laser- induced breakdown spectroscopy (LIBS) using Nd:YAG laser with harmonic generation up to fourth order, Czerney-Turner monochromator and Gated and Intensified CCD.

(b) Laser-induced **plasma characterization** using spectroscopic techniques.

(c) **Laser Raman Spectroscopy (LRS)** and Surface Enhanced Raman Spectroscopy (**SERS**) using HeNe laser, Ar ion Laser, Diode laser, Czerney-Turner monochromator and non-intensified and non-gated CCD and nanoparticles.

(d) **Study of Nanoparticles:** Production of nanoparticles by Laser Ablation Technique and their characterization by UV-Vis Spectroscopy and Scanning Electron Microscopy (SEM).

Major areas of research involvement in the past :

Nuclear Physics: Inelastic scattering of neutrons by ^{165}Ho and ^{89}Y nuclei by using the Dhaka 3 MeV Van de Graaff Accelerator, 512 multi-channel analyser and NaI (Tl) scintillation detector.

Solid-state spectroscopy (both theory and experiment): Electron paramagnetic resonance (EPR) spectroscopy, optical (UV, ViS & IR) and Mossbauer spectroscopy of $3d^n$ ions doped in SrO and $MgTiO_3$ crystals and theoretical and experimental study of Off-Centre behaviour of transition metal ions in SrO. Energy levels of some transition metal ions in different charge states in different crystalline environments were also calculated theoretically.

Ionic thermo-current measurements: Mn Doped NaCl crystals.

Laser Physics: (a) Coherent light generation by lasing: design, fabrication and operation of a moderate power N2 laser, (b) design, fabrication and operation of a dual frequency dye laser oscillator-amplifier system using a XeCl Excimer laser.

Study of Non-linear Optics: (a) Stimulated Raman Scattering (SRS), Four Photon Mixing (FPM), Stimulated Four Photon Mixing (SFPM) in optical fibres using Excimer lasers and Optical Multi-channel Analyser (OMA), (b) SRS in pressurized H_2 gas, (c) Theoretical and Experimental Study of Laser Raman Fibre Oscillator-Amplifier system using Excimer lasers.

Study on Holography: Recording and reconstruction of Holograms (3-D images) using HeNe laser and Diode Lasers.

Study on Optical signal processing: Image processing and character identification using Fourier transform techniques and spatial filters.

Fibre Optics: Optical fibre characterization, refractive index profile measurement by interferometric method and calculation of optical fibre bandwidth and study of elementary optical communication.

Soliton propagation in optical fibres (Theoretical).

Study on Electronic Speckle Pattern Interferometry (ESPI): Measurement of In-Plane motions and micro Rotations and micro deformation of surfaces.

Research Supervision:

Research work of a number of M.S., M.Phil. and Ph.D.(one, thesis not yet submitted) students in different areas of Physics such as:

Experimental solid state Physics: Transport properties.
Design and operation of high power pulsed nitrogen laser.
Coherent optical signal processing by spatial filtering.
Optical fibre characterization.
Soliton propagation in optical fibres and different dispersive media.
ESPI and its applications.
LIBS and its applications.
Laser Raman Spectroscopy (LRS) and its applications.
Fabrication of metal nanoparticles by Laser ablation technique and their characterization.

Core Experience and Skills

More than **43 years of experience in teaching at the post graduate and the undergraduate honours level** in Physics and **research experience** with particular emphasis on :

Experimental Nuclear Physics, Solid State Physics and Laser Physics, non linear optics, laser spectroscopy and have been directly involved in University Research Capacity building activities

Used a variety instruments like:

3 MeV Van de Graaff accelerator, 512 multi-channel analyser and NaI (Tl) scintillation detector.

Electron paramagnetic resonance (**EPR) spectrometer, optical (UV, ViS & IR) spectrometers.**

Design, fabrication and operation of a moderate power N_2 laser,

Design, fabrication and operation of a dual frequency dye laser oscillator-amplifier system using a XeCl Excimer laser and used Optical Multi-Channel Analyser (OMA).

Designed and operated a Laser Raman Fibre Oscillator-Amplifier system using Excimer lasers.

LIBS, LRS and SERS using Nd:YAG laser with harmonic generation up to fourth order, Czerney-Turner monochromator and Gated ICCD, HeNe laser, Ar ion Laser, Diode laser and

non-intensified and non-gated CCD and nanoparticles.

Production of nanoparticles by Laser Ablation Technique and their characterization by UV-Vis Spectrometer and Scanning Electron Microscopy (SEM).

Recent Accomplishments in Research

- Lowest ever (**sub ppm level**) detection limit of **As and Pb in water by LIBS coupled** with **adsorption** technique. This is a very significant improvement of the lowest detection limit of trace elements, particularly in liquids, by LIBS technique.

- **Simultaneous determination of lifetimes of excited atomic/ionic states and atomic excitation temperature decay constant using LIBS** as yet another novel application of LIBS.

- **Determination of ash content in coal without ashing** in a single spectroscopic measurement using LIBS

- Detection of **rare earth** elements i**n beach sands of southern Bangladesh** using **LIBS**.

- **Nano-particle fabrication** by laser **ablation technique** and explanation of different observations by **Frohlick equation (condition).** Until that time different observation regarding nanoparticle fabrication by laser ablation technique was unexplained.

More importantly, all these work was done at the University of Dhaka, Bangladesh, thereby **I developed an excellent experimental laser physics research laboratory in a developing country like Bangladesh**, where resource constraints and lack of infra structure facilities are of main concern.

Education

All through First class from Secondary School Certificate (**S.S.C**.) to **M.Sc.**

B.Sc. (Honours) in Physics, Dhaka University, Bangladesh (D.U., 1969).

M.Sc. in Physics (Nuclear Physics, Thesis Group) D.U. (1970);

Ph.D. in Solid State Physics (spectroscopy) from the Research School of Physical Sciences, the Australian National University, (**A.N.U.**), Canberra, Australia (**March,1976 - August, 1979,** degree awarded on the **annual convocation day in the year 1980**).

Post doctoral research on **Laser Physics and Non-Linear Optics** from the **Institute of Quantum Electronics, Florence,** Italy, under ICTP post-Doc. Fellowship program, **April 1983 to May 1984.**

Thesis/Dissertation

M.S. dissertation: Inelastic scattering of neutrons (n,n',γ) by ^{165}Ho and ^{89}Y nuclei by using the Dhaka 3 MeV Van de Graaff accelerator, 512 multi-channel analyser and NaI (Tl) scintillation detector. Some low lying energy levels of these two nuclei were studied.

Ph.D. dissertation: Solid-state spectroscopy (both theory and experiment): Electron paramagnetic resonance (EPR) spectroscopy, optical (UV, Vis & IR) and Mossbauer spectroscopy of $3d^n$ ions doped in SrO and $MgTiO_3$ crystals and theoretical and experimental study of Off-Centre behaviour of transition metal ions in SrO. Energy levels of some transition metal ions in different charge states in different crystalline environments were also calculated theoretically.

Experience

Teaching:

Professor of physics, University of Dhaka, Bangladesh**.** **August, 1988 to Current**

Associate professor of physics, University of Dhaka, Bangladesh. **May, 1984 to July, 1988**

Assistant professor of physics, University of Dhaka, Bangladesh. **December 1979 to April,1984**

Lecturer in physics, University of Dhaka, Bangladesh. **December 1972 to November, 1979**

Adjunct professor of Physics, Daffodil International University (**DIU**) since September, 2009.

Professor of Physics, since **August 1988** & **Selection Grade Professor of Physics**, University of Dhaka (top 25 % of all Professors) since **1994 (Now on LPR)** .**Teaching** in the **Physics** Department, **University** of Dhaka (DU), **since 1st Dec 1972.**

Experience of Academic Administration:

a. **Director**, Semiconductor Technology Research Centre, University of Dhaka (7 Years: 1994-2001).

b. **Provost,** Surja Sen Hall (student dormitory), University of Dhaka, From Jan 1996 to Feb 2002 (Six years).

c. **Dean, Faculty of Science**, University of Dhaka, 2002.

d .**Pro-Vice Chancellor , University of Dhaka**, from 25 July 2002 to 23 January 2009 (**Six and a half years)**.

e. **Vice Chancellor (Acting),** University of Dhaka, From **1 Aug 2002 to 23 Sept. 2002**.

f. **Treasurer** (additional responsibility), University of Dhaka, from **15 Aug 2003 to 08 Sept. 2003.**

g. Chairman **of Physics**, University of Dhaka, June 30, 2010 to June 29, 2013 (three years).

h. **Coordinator**, Nonlinear optics and laser spectroscopy, Centre for Advanced Research in Sciences, University of Dhaka, Jan. 2009 to Jan 2014.

Academic / Research Infrastructure Development as Pro vice- chancellor of DU

a) Introduced Broadband Internet Network in D.U.

b) Introduced Digital Library / Online Access to Journals for Dhaka University (DU).

c) Optical Fibre Backbone and Digital PABX of the University.

d) Established the centre for advanced Research in Sciences (CARS).

Fellowships and Awards

FELLOW: Bangladesh Physical Society (BPS)

Honours and Achievements:

Celebrated Personality of the World: Enlisted in the WHOs WHO in the world since 1999.

I was invited to submit nominations for the award of the Nobel Prize in Physics for the years 1994 , 2013 by the NOBEL COMMITTEE FOR PHYSICS, Royal Swedish Academy of Sciences.

Two of my published papers (please see my list of publications,) were amongst the Top 25 Hottest Articles as the most read Paper for a number of quarters.

Razzak-Shamsun research award for the year 2009.

Deans award for writing a book chapter in 2011.

Publications

Peer Reviewed Publications in National and International Journals as author/co-author, book chapters, invited talks, conference proceedings (Not exhaustive).

72. Survey of the water bodies for eco-toxic metals by laser-induced breakdown spectroscopy. Environmental Engineering Science, 2015, 32(4), 284-291, (U.S.A.).

71. A quick Method to Determine the Impurity Content of Gold Ornaments By Laser-induced Breakdown Spectroscopy. Photoptics conference Berlin, Germany, March 12-14, 2015.

70. Invited talk on determination of the lifetimes of the excited states of Nitrogen atoms and atomic excitation temperature decay constant using Laser-induced breakdown spectroscopy. ICAP conference, Rajshahi, Bangladesh, April 2015.

69. Laser Raman Spectroscopy with Different Excitation Sources and Extension to Surface Enhanced Raman Spectroscopy. Journal of Spectroscopy, 2014, Volume 2014, Article ID 895317, http: // dx.doi.org/10.1155/2014/895317 (EGYPT).

68. Radiative lifetime measurement of excited neutral nitrogen atom by Time Resolved Laser-induced breakdown spectroscopy. J. Anal. At. Spectrom., 2014, 29 (8), 1385-1392, an RSC publication (U.K.).

67. Detection of Trace Amount of Arsenic in Groundwater by Laser-Induced Breakdown Spectroscopy and Adsorption. Optics and Laser Technology 56, Pages 299-303, 2014, (The Netherlands).

66. Elemental profiling and identification of eco-toxic elements in agricultural soil by Laser-induced Breakdown Spectroscopy. Applied Ecology and Environment 1 (4), 41-44, 2013. (U.S.A.).

65. A book chapter on ‘Fabrication of Silver (Ag) Nanoparticles by Laser Ablation Technique: Their Characterization and Uses', written on invitation for the book titled ‘Silver Nanoparticles: Synthesis, Uses and Health Concerns' published by Nova Science Publishers, Inc., ISBN 978-1-62808-402-3, 2013, (U.S.A.).

64. Determination of the ash content of coal without ashing: A simple technique using laser-induced breakdown spectroscopy. Energy & fuels, 27, 3725-3729, 2013. (U.S.A.).

63. A book chapter on 'Gold nanoparticles: Fabrication by Laser Ablation Technique and their Optical and Morphological studies', written on invitation for the book titled 'Gold Nanoparticles: Synthesis, Optical Properties and Applications for Cancer Treatment' published by Nova Science Publishers, Inc., ISBN 978-1-62257-928-0, 2013, (U.S.A.).

62. Elemental Analyses and Determination of Lead Content in Kohl (Stone) by Laser induced Breakdown Spectroscopy. Applied Spectroscopy, 66(4), 420-425, 2012 (Germany).

61. A book chapter on ‘Generating Near-field Fresnel Diffraction Patterns by Iterative Fresnel Integrals Method: A Computer Simulation Approach for a book on computer Simulation, ISBN 978-1-62257-580-0 to be published by Nova Science Publishers, Inc., 2012 (U.S.A.).

60. Determination of Ca content of coral skeleton by analyte additive method using the LIBS technique. Optics & laser Technology, 44, 1654-1659, 2012, (The Netherlands).

59. Laser-induced Breakdown Spectroscopy and its Applications in Bangladesh'. International Conference on LIBS and its Applications. Luxor, Egypt. 2012.

58. Fabrication of gold in nanoparticles in water by laser ablation technique and their characterization' Appl. Phys A, 105, 487-495, 2011, (Germany).

57. Invited talk on ‘Laser-induced Breakdown Spectroscopy and its Applications in a variety of Studies'. Presented at Asiatic Society of Bangladesh Science Seminar, Dhaka; 28-29 October 2011.

56. Detection of multiple elements in coal samples from Bangladesh by Laser-induced Breakdown Spectroscopy. Optics and Laser Technology, 43, 1405 - 1410, 2011 (The Netherlands) .

55. A book chapter on “Laser-induced breakdown spectroscopy and its applications in mineral and pollution analyses” written on invitation for the book titled “Advances in Laser and Optics Research (Vol. 9)”. ISBN 978-1-61470-940-4, Published by Nova Science Publishers, Inc, 2011, (U.S.A.).

54. Identification of Multiple Rare Earths and Associated Elements in Raw Monazite Sands by Laser-Induced Breakdown Spectroscopy, Optics & Laser Technology, Vol. 43(1), p 45-49, February, 2011 (The Netherlands).

53. Semi quantitative Determination of Chromium Content of riverbed Soil of Buriganga River at Different Locations”, Journal of Bangladesh Academy of Sciences, Vol. 34(2), p 123, December 2010, (Bangladesh).

52. An experimental demonstration of quantum not gate: Transition from classical to quantum regime", IEEE International conference on Electro/Information Technology (E.I.T 2010), Illinois State University, Normal, Illinois U.S.A., May 20-22, 2010 (included in the IEEE X-plore digital library), DOI: 10.1109/E.I.T. 2010.5612122, (U.S.A.).

51. Power dependence of size of laser ablated colloidal silver nanoparticles”, European Physical Journal (EPJ D), Vol. 60, 295-300, 2010, (Germany).

50. Invited talk on “Laser-induced breakdown spectroscopy and its applications”, International conference on recent advances in physics, RAP 2010, March 27-29 2010, University of Dhaka, (Bangladesh).

49. Elemental profiling and determination of Ti content of the beach sand samples of Bangladesh using LIBS technique.” Optics and Laser Technology Vol. 42, 969-974, 2010, (The Netherlands).

48. Temperature measurement of laser-induced plasma as a function of input laser pulse power at two different wavelengths, International conference on recent advances in physics, RAP 2010, March 27-29, 2010, University of Dhaka, (Bangladesh).

47. Elemental Profiling of Surface Water around Dhaka City by Laser Induced Breakdown Spectroscopy. Journal of Bangladesh Academy of Sciences, Vol. 33, No. 2, 209-218, (Dec.) 2009, (Bangladesh).

46. Construction of Laser Raman System Using Diode Laser and Its Performance, Journal of Bangladesh Academy of Sciences, Vol. 33, No. 1, 51-58, (June), 2009, (Bangladesh).

45. Paper as invited talk on ‘Study of Micro-rotations and Micro deformations of surfaces using Electron Speckle pattern Interferometry’ at Visva Bharati University, Santiniketan, Kolkata, India, January, (2009) .

44. Determination of Ratio of Unsaturated to Total Fatty acids in Edible Oils by Laser Raman Spectroscopy. Journal of Applied Sciences, Vol. 9 (8), 1538-1543, April, 2009, Asian Network of Scientific Information (International).

43. Invited talk on “Recent laser physics research activities in Dhaka University ”, International physics conference, Bangladesh Physical Society (BPS), Dhaka, May 15-17, 2009, (Bangladesh).

42 Construction and operation of a dispersive laser Raman spectrograph using interference filter, Journal of Bangladesh Academy of Sciences. Vol. 32, No. 1, 121-129, June, 2008, (Bangladesh).

41. A Non-gated Laser Induced Breakdown System and its Applications in Elemental Analysis of Air and Minerals. Dhaka University Journal of Science, Vol. 55 (2), 171-175, July-2007, (Bangladesh).

40 A paper **written in Bengali** titled ‘Podarthabiggane 2008 shaler nobel purushker bijoy: Bisyabromanda pratishammo vongger rohossho uddghaton’, Dhaka Bisshobiddalaya Patrika , Number 88, Page 129-140, June 2007, (Bangladesh).

39. A book chapter on "Electronic Speckle Pattern Interferometry and Related Techniques using Digital Still Cameras", in the book titled "Lasers, Optics and Electro-Optics Research Trends", ISBN: 10: 1-60021-681-1 published by Nova Science Publishers, Inc, 2007, New York, (U.S.A.).

38. Calculation of the bandwidth of a graded-index optical fibre using experimentally measured quantities. Dhaka University Journal of Science Vol. 55(1), 41-45, January-2007, (Bangladesh).

37. Computer simulation of Fresnel diffraction from rectangular apertures and obstacles using the Fresnel integrals approach. Optics & Laser Technology, Vol. 39, Issue 2, Pages 237-246, 2007, (The Netherlands).

The above paper was included in the list of Top 25 Hottest Articles as the most read paper for a number of quarters

a) (Science Direct, Website: , go to no 17 of the list of 25) for the July-Sept. quarter, 2007.
b) (Science Direct, Website: , go to no 19 of the list of 25) for the July-Sept. quarter, 2008
c) (Science Direct, Website: , go to no 17 of the list of 25) for the April to June quarter, 2008
d) (Science Direct, Website: , go to no 12 of the list of 25) for the Oct. to Dec. quarter, 2009
e) (Science Direct, Website: , go to no 15 of the list of 25) for the Jan. to March quarter, 2009
f) (Science Direct, Website: , go to no 4 of the list of 25) for the Jan. to March quarter, 2010
g) (Science Direct, Website: , go to no 8 of the list of 25) for the April to June quarter, 2010
h) (Science Direct, Website: , go to no 22 of the list of 25) for the July to Sept. quarter, 2010
i) (Science Direct, Website: , go to no 8 of the list of 25) for the October to Dec. quarter, 2010

36. ESPI using a digital still camera and a green ND:YAG LASER. Dhaka University Journal of Science ,Vol. 53 (1), 147-152, 2005, (Bangladesh).

35. Research, Education, and Application of Lasers in Bangladesh, Bangladesh Journal of Physics, Vol. 1 (1), 8-13, 2004, (Bangladesh).

34. Analysis of amplitude and phase characteristics of soliton propagation through optical fibre. Dhaka University Journal of Science ,Vol. 52(1), 69-74, October, 2003, (Bangladesh).

33. Reconstruction of Three-Dimensional Holographic Images by Using Diode Laser, Journal of Bangladesh Academy of Sciences, Vol. 27, 211-214, December, 2003, (Bangladesh).

32. Visible Semiconductor Lasers and Their Application", Dhaka University Journal of Science , Vol. 50(2), 241-247, 2002 , (Bangladesh).

31. Measurement of In-Plane Motions and Rotations Using a Simple Electronic Speckle Pattern Interferometer. Optics & Laser Technology, Vol. 34, 293-298, 2002, (The Netherlands).

30. Pattern or Character Recognition by Complex Spatial Filtering. Journal of Bangladesh Academy of Sciences , Vol. 24, 9-14, 2000, (Bangladesh) .

29. Construction and Operation of a Simple Electronic Speckle Pattern Interferometer and Its Use in Measuring Microscopic Deformations", Optics & Laser Technology, Vol. 32, 323-328, 2000, (The Netherlands).

the above paper was included in the list of Top 25 Hottest Articles as the most read paper. Please go the Science Direct, Website: go to no 15 of the list of 25 for the July-September quarter, 2004.

28. Recording and Reconstruction of Three-Dimensional Images by Transmission Holography and its Applications. Journal of Bangladesh Academy of Sciences, Vol. 23, 133-139, 1999, (Bangladesh).

27. Design and Fabrication of a Triggered Spark Gap Switch, Dhaka University Journal of Science ,Vol. 47(2), 267-271, 1999, (Bangladesh).

26. Coherent optical image processing using Fourier transform and low pass and high pass filters, Dhaka University Journal of Science ,Vol. 46(2), 335-341, 1998, (Bangladesh).

25. Design, Fabrication and Operation of a Transversely-Excited Flowing-Gas Nitrogen Laser, Journal of Bangladesh Academy of Sciences, Vol. 22, 123-128, 1998, (Bangladesh).

24. A study of the Raman Fibre Oscillator-Amplifier system using non-linear optics, Dhaka University Journal of Science , Vol. 45(1), 75-82, 1997, (Bangladesh).

23. Design and Construction of an Analogue Optical Communication System using a Multimode Optical Fibre, Dhaka University Journal of Science, Vol. 44 (2): 269-273, 1996, (Bangladesh).

22. Interferometric Refractive Index Profile Measurement of an Optical Fibre, Microwave and Optical Technology Letters, Vol. 7, 821-23, 1994, (USA).

21. A Book chapter on "Intensifier and Cathode-Ray tube Technologies", page 1-18, in a book titled "Electro-optical displays", ISBN: 0-8247-8695-5, published by Marcell Dekker Inc. Publications. N.Y., 1992, (U.S.A.).

20. A Dual-Frequency Dye Laser Oscillator-Amplifier System". Ind. Journal of Physics , Vol. 62B page 552-555, 1988 , (India).

19. Study of SRS and FPM in Multimode Silica Fibres in the UV Region. Proceeding of the 3 rd Tropical college in Applied Physics, Kuala Lumpur, Malaysia, 1988.

18. EPR of Mn^{2+} and V^{2+} Ions in SrO: Evidence for New Site for Mn in SrO. Indian Journal of Phys., Vol. 62A, page 148-155, 1988, (India). (H Index:10)

17. High Conversion Efficiency Ultraviolet Fiber Raman Oscillator-Amplifier System ". Applied Optics, Vol. 25, No. 7, page 1048-1050. 1986, (U.S.A.).

16. High-Conversion-Efficiency Ultraviolet Fibre Raman Oscillator-Amplifier System, A Theoretical Investigation". Conference on Lasers and Electro-Optics, 21-24 May 1985, Baltimore, Maryland, U.S.A. CLEO 85, Conference Proceedings , page 246-247, 1985 , (U.S.A.).

15. Simple and Efficient H_2 Raman Conversion of a XeCl Laser with a Variable Numerical Aperture Coupling geometry. Optics Communications, Vol. 53, No. 6, page 421-424, 1985, (The Netherlands).

14. Conversione di Frequenza Nella Regione Ultra Violetta per Processi Non Lineari in Guida D ONDA E in Idrogeno". 40 Congresso Nazionale di Elettronica Quantistica e Plasmi, capri, Napoli, 21-23 Maggio, (1984). Conference Proceedings page, 207-211, 1984, (Italy).

13. Continuously Tuneable Multiple-Order Stimulated Four-Photon Mixing in Multimode Silica Fiber, Optics Letters, Vol. 9, 79-81, 1984 , (USA).

12. Frequency Conversion in the UV and Visible Spectral Regions by Stimulated Raman Scattering and Four-Photon mixing in multimode Silica Fibres. OPTO 84, International Conference on Optic Fibers and Lasers. Paris, 15-17 May 1984, Conference Proceedings, Page 185-186, 1984, (France).

11. ITC Measurements of Mn Doped NaCl: Evidence of $MnCl_2$ Precipitates in NaCl. Indian Journal of Physics, Vol. 57A, page 417-421, 1983, (India). (H Index: 10).

10. EPR Study of Trivalent Transition Metal ions in SrO. Nuclear Science and Applications B , Vol. 14 & 15, page 1-7 1983, (Bangladesh).

09. Calculation of Off-Centre Instabilities of Divalent Transition Metal Ions in SrO. Journal of Bangladesh Academy of Sciences, Vol. 6, No. 1 & 2, page 33-51, 1982, (Bangladesh).

08. Trivalent Transition Metal Ions & Off-Centre Effects in SrO. Journal of Phys. C: Solid State Physics, Vol. 15, page L41-L44, 1982, (UK).

07. Spectroscopic Studies of Fe^{3+} Ions in $MgTiO_3$. Indian Journal of Phys. Vol. 56A, page 16-22, 1982, (India).

06. Electron Paramagnetic Resonance Spectra of Fe^{3+} Ion in C_{1h} sites in SrO. Journal of Phys. C: Solid State Physics, Vol. 14, page 5667-5673, 1981, (UK).

05. ESR Study of Transition Metal Ions in Magnesium Titanate, Journal of Physics C: Solid-state Physics, Vol. 13, 6239-6250, 1980, (UK).

04. Effect of Electric Fields on the Spectra of off-Centre Substitutional Defects in SrO. Journal De Physique, Colloquia C6, Supplement Au No. 7, Tome 41 ,page C6-415 – C6-418, 1980, (France).

03. Quadratic Jahn-Teller Coupling and Off-Centre Displacement for Ni^{2+} Ions in SrO. Journal of Magnetism and Magnetic Materials, Vol. 15-18, page 745-746, 1980, (The Netherlands).

02. Electron Paramagnetic Resonance Spectra of Fe^{2+} and Fe^{3+} Ions in SrO: Evidence of Off-centre displacement of Fe^{2+} Ions, Journal of Physics C: Solid-state Physics, Vol. 11, 2595-2605, 1978, (UK).

01. Gamma Rays Following Neutron Inelastic Scattering in Ho165 and Y89. Nuclear Science and Applications, Vol. 6, Series B, Page 32-36, 1973 , (Bangladesh).

Social and co-curricular activities

a) Played important part in introducing the health insurance for teachers and officers as the president of the Dhaka University Teachers' Association (DUTA) and as Pro-Vice Chancellor.

b) Active patronization of debating societies of the University of Dhaka as the chief advisor of DUDS (Dhaka University Debating Society) during the tenure of my office as the Pro-Vice Chancellor.

(A.F.M. Yusuf Haider)
Professor of Physics (LPR),
University of Dhaka.
Bangladeh

May 10, 2016