

RESUME



DR. FARHAN SAIF

specialization Nano-Electro-Opto Mechanics, Quantum/Atom optics,
Nonlinear Dynamics, Bose Einstein Condensation
Address: Department of Electronics,
Quaid-i-Azam University,
Islamabad 45320, Pakistan.
Telephone +92 51 9064 2104, +92 51 9064 3148
Cell phone +92 333 5190569
E-mail: farhan.saif@qau.edu.pk, Farhan.saif@fulbrightmail.org
Marital status: Married, two daughters and a son
Date of birth: 16-09-1969
Place of birth: Lahore, Pakistan
Nationality Pakistani

ACADEMIC QUALIFICATION

B.Sc (Physics, Math A&B)	Punjab University	1986-88
M.Sc. (Physics with Gold Medal)	Quaid-i-Azam University	1989-90
M. Phil. (World Lab Fellow)	Quaid-i-Azam University	1991-93
Ph. D. (MOST scholarship)	Ulm University, Germany	1994-98
Post-doctorate	Ulm University, Germany	Jan.–July 99
Sabbatical (Fulbright Fellow)	University of Arizona, USA	2005-06

CURRENT RESEARCH PROJECTS

- Nano electro- opto-mechanical systems
- Matter wave optics
- Quantum optics
- Quantum computation and communication
- Near field matter-wave diffraction
- Bose-Einstein condensation
- Surface scanning microscopy
- Classical and quantum chaos
- Time dependent billiard
- Non-dispersive accelerated atoms

MEMBERSHIPS

- Member, Pakistan Academy of Sciences
- Associate Member, Abdus Salam International Center for Theoretical Physics, Trieste, Italy, (2002-2009).
- Life membership of Pakistan Education Forum
- Life membership of the Pakistan Physical Society

COLLABORATIONS

College of optical sciences, University of Arizona, Tucson, United States of America.
Department of Engineering Sciences, Univ. of Electro-Communication, Tokyo, Japan.
Department of Applied Mathematics, Universidade Estadual Paulista, Rio Claro, Brazil
Abdus Salam International Centre for Theoretical Physics, Trieste, Italy.
Department of Quantum Physics, Universitaet Ulm, Ulm, Germany.
Department of Applied Physics, University of Darmstadt, Darmstadt, Germany.
Department of Physics, University of Camerino, Italy
Department of Physics and Mathematics, Al- Azhar University, Cairo, Egypt
Laboratory for Advanced Studies, Turin Polytechnic University, Tashkent, Uzbekistan.

RESEARCH PROJECTS

- USEFP, USA Research Project
'Evolution of Bose Einstein Condensates in time dependent potentials'
- Pro-Reitoria de Pesquisa-UNESP, Brazil
'Time Dependent Billiards'
- 'Non Linear Dynamics of Atoms in Fermi Accelerator' (2008-09)
Higher Education Commission NRP 20-230
- 'Nano-Devices: Theoretical, Experimental, and Technological Implementations'
Higher Education Commission NRP 20-1374 (2010-11)
- 'Nano-Electro Opto Mechanical Systems', Higher Education Commission,
submitted
- 'Recurrence Tracking Microscope'
Quaid-i-Azam University Research Project

PROFESSIONAL EXPERIENCE

Chairman, Department of Electronics, Quaid-i-Azam University, Islamabad, Pakistan
(January 2013 – to date)

Tenured Professor (November 2013-to date)
Department of Electronics, Quaid-i-Azam University, Islamabad, Pakistan

Professor, Head of the Department of Physics (August 2011- January 2012)
Centre for Advanced Mathematics and Physics,
National University of Sciences and Technology, Islamabad, Pakistan

Tenured Associate Professor (September 2011-November 2013)
Department of Electronics, Quaid-i-Azam University, Islamabad, Pakistan

Associate Professor (Tenure Track, 2007-2011)
Department of Electronics, Quaid-i-Azam University, Islamabad, Pakistan

Sabbatical at the Department of Physics, University of Arizona, Tucson, USA
(September 2005-August 2006)

Assistant Professor (August 1999, June 2007)
Department of Electronics, Quaid-i-Azam University, Islamabad, Pakistan

Post-doctoral Research Assistantship (January-July 1999)
Department of Quantum Physics, Universitaet Ulm, Ulm , Germany

Research Assistantship (1996-97)
Department of Quantum Physics, Universitaet Ulm, Ulm , Germany

Doctorate in Natural Sciences (1994-98)
on 'Dynamical Localization and Quantum Revivals in Driven Systems'
Universitaet Ulm, Ulm, Germany

M. Phil in Electronics (1991-1993)
on 'Bandwidth of Semiconductor Lasers' Quaid-i-Azam University, Islamabad.

Visiting Scientist at the Department of Applied Physics and Chemistry, University of
Electro-Communications, Tokyo, Japan, November (2002)

Visiting Scientist at the Abteilung fuer Quantenphysik, Universitaet Ulm, Ulm,
Germany (2000, 2001).

Visiting Scientist at Abdus-Salam International Center for Theoretical Physics, Trieste,
Italy (2008, 2009).

Visiting scientist at Universidade Estadual Paulista, Rio Claro, Brazil (2010-2011)

Visiting scientist at Department of Physics, University of Camerino, Italy

Principle Investigator, Higher Education Commission National Research Projects
Supervised seven PhD Thesis, 32 MPhil thesis, 10 HEC research fellows
Published 102 research papers in international journals and 3 book chapters
Submitted 10 research papers in international journals
Published 12 research articles in national journals
Total impact factor 170.347, and total citations above 600.

DISTINCTIONS

- Gold Medal in Physics from Pakistan Academy of Sciences 2014
 - Pride of Performance, highest Civil Award from the President of Pakistan 2008.
 - Fulbright Fellowship from United States Educational Foundation, 2005-06
 - Higher Education Commission of Pakistan Postdoctoral Fellowship, 2004-05
 - Pakistan Education Forum, National Education Award, 2003.
(Outstanding services to Science and Technology Education)
 - TWAS Prize from UNESCO 2003
 - Abdus Salam Prize in Physics 2001
 - Ministry of Science and Technology Scholarship, Pakistan, during Ph.D, 1994-97.
 - Quaid i Azam University merit scholarship, during M.Sc., 1989-90
 - Bank of Credit Commerce and Investment (BCCI) Award, 1991.
 - Chancellor Medal, Quaid-i-Azam University, Islamabad,
 - Role of Honor, for securing First Position in M.Sc. Physics.
-
- Principle Organizer of National Conference on ‘Celebrating Light-International Year of Light 2015’ February 2-3 2015, National Centre for Physics, Pakistan
 - Principle Organizer of International Conference on Quantum Technologies, August 10-11, 2014, University of Hazara, Mansehra Pakistan
 - Principle Organizer of First International Conference on Computational Tools’ April 8-12, 2013, National Centre for Physics, Islamabad, Pakistan
 - Member Technical Committee of Conference on Ultra cold atoms, July 1-6, 2013, NathiaGali, Pakistan.
 - Principle Organizer of International Conference and Workshop on Nano Science and Technology, October 1-5, 2012, Islamabad, Pakistan
 - Principle Organizer of Conference on Applications and Methods of Physics, November 21-22, 2011, Islamabad, Pakistan
 - Member, Board of Studies, Department of Physics, COMSATS Institute of Information Sciences, Islamabad, Pakistan
 - Member, Board of Studies, Department of Bio Sciences, COMSATS Institute of Information Sciences, Islamabad, Pakistan
 - External Examiner, Government College University, Lahore, Pakistan
 - External Ph.D Supervisor, Pakistan Institute of Engineering and Applied Sciences, Islamabad.
 - Organizer, 10th National Symposium on Frontiers in Physics, 2004
 - Contributor, National Talent Hunt Scheme, Higher Education Commission, Islamabad
 - Founder and organizer of the registered non-profit scientific organization in Pakistan ‘Enchanting Horizons of Science’ launched in December 2000.
-
- Founding editor of the free-for-all, web-based, international science journal ‘International Journal of Science Echoes’ (www.ScienceEchoes.org, www.PhysicsReviews.org/se/) launched in December 2005.

- Founder and editor of the free-for-all, web-based, international science journal 'Physics Reviews' (www.PhysicsReviews.org) to be launched.
 - Editorial board member of the international Journal of Applied Mathematics and Information Sciences launched in December 2006.
 - Editorial Board member, ISRN Mathematical Physics, Hindawi publishing corporation
 - Editorial Board member, International Scholarly Research Notices, Hindawi publishing corporation.
 - Editorial Board member, PCST Journal of Science, Technology and Development, Islamabad
 - Editorial Board member for special issue of 'Engineering' entitled 'Micro-Electro-Mechanical Systems Research and Application'
-
- General Secretary, Pakistan Physical Society, for World Year of Physics 2005
 - Recipient of research productivity allowance (every year) by PCST, Pakistan.
 - Referee of Higher Education Commission's National Research Projects
 - Certificate in Civil Defense
 - Certificate in German Language, from NUML
-
- Referee, Physics Review A
 - Referee, Physical Review E
 - Referee, Physics Letters A
 - Referee, International Journal of Theoretical Physics
 - Referee, Journal of Optics B
 - Referee, Journal of Physics A
 - Referee, Journal of Physics B
 - Referee, International Journal of Modern Physics D
 - Referee, Acta Physica Slovaca
 - Referee, Russian Journal of Laser Research
 - Referee, Indian Journal of Physics
 - Referee, Bifurcation and Chaos

PROFESSIONAL SERVICES

a) Departmental

Chairman, Department of Electronics, QAU
 PhD admission Committee member 2004-2010
 Library committee member, 2000-2003
 Board of studies member, 2003-2005

b) University

Elected Member of Academic Council, QAU, 2008-2011
 Member of Tenure Track Committee
 Member of Board of Faculty 2005-2010
 Member of University Admission Committee (2013-14)

Member of Technical Committee, QAU (2013)
Member of Sports Committee 2007-2010

RESEARCH STUDENTS

Ph.D. Research students (supervised)

1. Mr. Rameez-ul-Islam: Engineering Entanglement in Cavity Quantum Electrodynamics Systems (2008)
2. Mr. Shahid Iqbal: Quantum Chaos in Driven Power Law Potentials: From Generalized Coherent States to Wave-packet Dynamics (2010)
3. Mr. M. Ayub: Cold Atoms in Driven Optical Lattices (2012)
4. Mr. Tasawer Abbas: SpatioTemporal Wave Packet Dynamics in Fermi-Ulam Accelerator (2013)
5. Mr. Khalid Naseer: Suppressing Dynamical De-localization of Accelerated Material Waves in Fermi Accelerator (2014)
6. Mr. Manzoor Ali: Assessment of chaotic hazards of Gamma emitting radio-active nucleodes (2014)

Ph.D. Research students (thesis submitted)

1. Mr. Inam-ur-Rehman: Coherent Acceleration of matter waves (2014)

Ph.D. Research students (under supervision)

2. Mr. Jameel Hussain, Soft chaos in modulated harmonic oscillator
3. Mr. Mazhar Javed, Quantum informatics in cavity QED
4. Mr. Hayat Ullah Alizei, Recurrence Tracking Microscope
5. Mr. Atta ur Rehman, Opto-mechanics of Quantum Degenerate Gases
6. Mr. Nasir Mehmood, cryptography based on quantum laws
7. Ms. Sara Medhet, Bose Einstein condensation in amplitude modulated BEC

M.Phil Research Students

1. Mr. Kamal Ahmad: Interfacing and Automation (2002)
2. Mrs. Sadaf Saeed: Quantum Recurrences in Kicked Rotor System (2002)
3. Mr. Mazhar Javed, Security Enhancement in Quantum Cryptography (2003)
4. Mr. Mazhar Ali, Quantum Cloning via Bragg Scattering (2003)
5. Mr. Ahmad Shah, Isotopes Separation using the Quantum recurrences (2003)
6. Ms. Mariam Akbar, Data Compression by fractals (2003)
7. Ms. Robila Khalid, Atomic Clock by Quantum Recurrences (2003)
8. Ms. Qurrat-ul-Ann, Quantum Recurrences in Nature (2003)
9. Mr. Shakil Mehfooz, BEC in the presence of random optical fields (2007)
10. Ms. Aarouj, Measurement of Entanglement in Dissipative Environment (2008)
11. Ms. Fauzia Bano, Single Atom Correlated Emission Lasers (2008)

12. Mr. M. Javed, Atomic Bullets: Coherent, Accelerated, Non-Dispersive Evolution in Phase Space (2008)
13. Mr. Umer Farooq, Chaotic evolution of Lasers (2009)
14. Mr. Hayat Ullah, Recurrence Tracking Microscope via BEC (2009)
15. Mr. M. Asjad, Opto-mechanics with Bose-Einstein condensates (2010)
16. Mr. M. Abdul, Two mode ring lasers: Critical Phase Transitions (2010)
17. Mr. Munir, Retrieval of information from quantum systems (2010)
18. Mr. M. Yameen, Scanning a surface with nanometer resolution via evanescent wave trap (2010).
19. Mr. S. Hussain, Isotope separation via dynamical de-localization (2011)
20. Mr. S. Awais Hyder, efficiency enhancement in quantum solar cells (2011)
21. Mr. Kashif Ammar Yasir, Dynamical localization of BEC in a hybrid nano-opto mechanical system (2012)
22. Mr. Farman ullah, Wave packet dynamics in circular and elliptical billiard in the presence of external forcing (2012)
23. Mr. Javed Akram, Complex dynamics of mechanical membrane in opto-mechanical system (2012)
24. Mr. M. Umar, Recurrence Tracking Microscope based on magnetic mirror (2012)
25. Mr. M. Sami, 'Classical versus Quantum Correlations' in progress (2013)
26. Mr. M. Tahir, Entropy in opto mechanics (2014)
27. Mr. M. Saad, Talbot effect for near relativistic matter waves (2014)
28. Mr. Rafaqat Ali, BEC in optical lattice (2014)
29. Mr. M. Miskeen, Engineering Non-Classical State in a Macroscopic System via Photon Subtraction (2015)
30. Mr. M. Naeem Akhtar, Frequency domain analysis of quantum revivals(2015)
31. Ms. Rashda Perveen, Hybrid opto mechanics
32. Ms. Sahar, Gravimeter based on atom interferometer
33. Mr. M. Faheem, Quantum revivals in generalized potentials
34. Mr. Muhib Ullah, Slow and Fast light in electro opto mechanical systems

Higher Education Commission RESEARCH FELLOWS

35. Mr. M. Aqil, Atomic Bragg diffraction
36. Ms. Aarouj, Measurement of Entanglement in Dissipative Environment
37. Ms. Fauzia Bano, Single Atom Correlated Emission Lasers
38. Mr. M. Javed, Atomic Bullets: Coherent, Accelerated, Non-Dispersive Evolution in Phase Space
39. Mr. Umer Farooq, Chaotic Evolution of Lasers
40. Mr. Hayat Ullah, Recurrence Tracking Microscope via BEC
41. Mr. M. Asjad, Opto-mechanics with Bose-Einstein condensates (2010)
42. Mr. M. Abdul, Two mode ring lasers: Critical Phase Transitions (2010)
43. Mr. M. Yameen, Scanning a surface with nanometer resolution via evanescent wave trap (2010).
44. Mr. S. Hussain, Isotope separation via dynamical de-localization (2011)
45. Mr. Kashif Ammar Yasir, Dynamical localization of BEC in a hybrid nano-opto mechanical system (2012)

46. Mr. Farman ullah, Wave packet dynamics in circular and elliptical billiard in the presence of external forcing (2011)
47. Mr. Javed Akram, Complex dynamics of mechanical membrane in opto-mechanical system (2011)
48. Mr. M. Umar, Recurrence Tracking Microscope based on magnetic mirror (2011)

Guest Researches and Research Associates

49. Ms. Ayesha Khalique: Quantum Non-Demolition Measurements of Quantized Cavity Field Using Atom Probe
50. Mr. Arif Zaman: Classical and Quantum Behavior in the Kicked Rotor Model.
51. Mr. Atta ur Rehman, Cooling of atoms using nano-cavities
52. Mr. Abdul, Topological Insulators in atom optics
53. Mr. Javed Akram, Stimulated Raman Processes
54. Mr. M. Tahir, Entanglement in Nano opto Mechanics
55. Mr. Sabir Hussain Sabri, Mach Zehnder interferometer

Thesis Reviewer:

1. Mr. Fakhar-e-Alam, Doctorate thesis on 'Photosensitizer's Dynamics Studies in Different Biological Samples using Laser Irradiation', Pakistan Institute of Engineering and Applied Sciences (PIEAS).
2. Mr. Rahmatullah Doctorate Thesis on 'Single Atom Localization: Moving from one to two dimensional space', Department of Physics, COMSATS Institute of Information Technology, Chak Shahzad, Islamabad, Pakistan
3. Mr. Ziauddin, PhD thesis on 'Goose Henchen Shift' Department of Physics, COMSATS Institute of Information Technology, Chak Shahzad, Islamabad.
4. Mr. Fazal Badshah, PhD Thesis on 'Quantum information using cold atoms' Department of Physics, PIEAS, Islamabad
5. Mr. Mudassar Aqueel Ahmad, Doctorate thesis on 'Quantum Studies of the field in a micro-maser', Pakistan Institute of Engineering and Applied Sciences (PIEAS).
6. Mr. Abdullah Naeem Malik, MS thesis on 'Quantum computation using Bragg diffraction of atoms' Department of Mathematics, COMSATS Institute of Information Technology, Chak Shahzad, Islamabad.
7. Mr. Sheeraz Ahmed, MPhil thesis on 'Quantum Computation' Department of Physics, City University of Science and Technology, Peshawar.

COURSES OFFERED

Six new Ph.D/M.Phil courses were introduced in the department of Electronics, QAU, for teaching and research. These are: (i) Chaos, Stability and Control; (ii) Quantum Information; (iii) Quantum Computation; (iv) Cryptography (v) Nonlinear Quantum Electronics; (vi) Nano-Electro-Opto Mechanical Systems. One course at MSc level was introduced in the Department of information Technology, QAU, as "Introduction to Quantum Information".

Quantum Information
Quantum Computation
Chaos, Stability and Control
Laser I
Laser II
Fiber Optics
Introduction to Quantum Optics
Electromagnetic Theory
Fiber Optics and Lasers
Physical and Quantum Electronics
Communication Theory
Electronics I
Laboratory I

CONFERENCES JOINED

1. 2nd International Workshop on Cold Atoms and Applications, March 2-6, 2015
University of Electro Communications, Chofu, Tokyo, Japan.
2. International Workshop on Cold Atoms and Applications, January 24-Feb 06 2014,
University of Electro Communications, Chofu, Tokyo, Japan.
3. International conference on Dynamics Days in Central Asia, October 10-12, 2013,
Samarkand, Uzbekistan
4. International conference on Complex System Physics, May 21-24, 2013,
Samarkand, Uzbekistan
5. International Conference on Billiard like systems, February 7-11, 2011 Sao Paulo,
Brazil.
6. International conference on quantum information, July 1-4, 2009, Rabat, Morocco.
7. Summer college on Non-equilibrium Physics, July 6-24, 2009, ICTP, Trieste, Italy
8. 2nd International conference and advanced school on Turbulent Mixing and Beyond,
July 27-August 7, 2009, ICTP, Trieste, Italy
9. School and Workshop on Dynamical Systems, June-30-July 18, 2008, ICTP,
Trieste, Italy
10. Mini-Workshop on Strong Correlations in Materials and Atom Trap, August 4-15,
2008, ICTP, Trieste, Italy.
11. International Conference on Mathematics: Trends and Developments, Al-Azhar
University, December 27-30, 2007, Cairo, Egypt.
12. NASA workshop 'From Quantum to Cosmos: Fundamental Research in Space'
International Conference, Airlie center, May 21-24 (2006), Warrenton VA USA.
13. 38th Annual Division of Atomic, Molecular and Optical Physics Meeting
(DAMOP), May 16-20 2006, Knoxville, Tennessee , USA.
14. International conference on Problems with Moving Boundaries, Academy of
Sciences, October 2003, Prague, Czech Republic.
15. International School and Conference on Spatio-Temporal Chaos, Abdus Salam
International center for Theoretical Physics, July 2002, Trieste, Italy.
16. International conference on Entanglement at Nano Scale, Abdus Salam

- International center for Theoretical Physics, October-November 2002, Trieste, Italy.
17. International Conference on Dynamical Localization and Quantum Chaos, Abdus Salam International center for Theoretical Physics September 2001, Trieste, Italy.
 18. Deutsch Physikalische Gesellschaft Tagung (German Physical Society Conference) March 1999, Heidelberg, Germany.
 19. Deutsch Physikalische Gesellschaft Tagung (German Physical Society Conference) March 1998, Constanz, Germany.
 20. German-Israel Conference on Molecular Dynamics, December 1997, Universitaet Ulm, Ulm, Germany.
 21. Winter College of Quantum Optics, March 1997, International Center for Theoretical Physics, Trieste, Italy.
 22. Classical and Quantum Optics, December 1995, Berlin University, Germany.
 19. Conference on Quantum Optics, July 1994, Nathia-Galli, Pakistan.
 20. Computational Physics Conference, September 1999, Quaid-i-Azam University.
 21. International Conference on Physics in Industry, June 2001, PCSIR Laboratories, Karachi.
 22. International Conference on Condensed matter Physics, June 2002, Nathia-Galli.
 23. 9th National conference on Frontiers of Physics, Government College University January 2003, Lahore.
 24. International conference on Models and Methods in Fluid Mechanics COMSATS Institute of Information Technology, June 2003, Abbottabad.
 25. 10th National conference on Frontiers of Physics, Government College University January 2005, Lahore.
 26. 30th International Nathiagali Summer College on Physics and Contemporary Needs June 2005, Nathiagali.
 27. 11th National conference on Frontiers of Physics, Government College University January 2007, Lahore.
 28. 12th National conference on Frontiers of Physics, Government College University January 2009, Lahore.
 29. NUST Conference on Applications and Methods of Physics 2011, National University of Sciences and Technology, November 21-22, Islamabad.
 30. Hands on Workshop on Supercomputer, research Centre for Modeling and Simulations (RCMS), NUST, H/12, January 23-26, Islamabad.
 31. International Conference and Workshop on Nano Science and Technology, October 1-5, 2012, Islamabad, Pakistan
 32. Conference on Ultra cold atoms, July 1-6, 2013, Nathiagali, Pakistan.

CONFERENCE ORGANIZED

Member of Organizing committee of International Scientific Spring, March 16-20 2015, National Centre for Physics, Islamabad, Pakistan

Principle Organizer of National Conference on ‘Celebrating Light-International Year of Light 2015’ February 2-3 2015, National Centre for Physics, Islamabad, Pakistan

Principle Organizer of International Conference on Quantum Technologies, August 10-11, 2014, University of Hazara, Mansehra Pakistan

International Conference on Ultra cold atoms, July 1-6, 2013, Nathiagali, Pakistan.

National Workshop on Mathematical Aspects of Quantum Information Science,, Lahore University of Management Sciences, May 22-23 2013, Lahore, Pakistan.

First National Conference and Workshop on Computational Tools, National Center for Physics, Islamabad, April 8-12, 2013.

International Conference and Workshop on Nano Science and Technology
Department of Electronics, Quaid-i-Azam University, October 1-5, 2012, Pakistan

NUST Conference on Applications and Methods of Physics 2011
Centre for Advanced Mathematics and Physics
National University of Sciences and Technology
November 21-22, H12, Islamabad Pakistan.

SELECTED CONFERENCE SEMINARS

Coherent Non-dispersive Accelerated Matter Waves
2nd International Workshop on Cold Atoms and Applications, March 2-6, 2015
University of Electro Communications, Chofu, Tokyo, Japan.

Light for NanoScopy
National Conference on 'Celebrating Light-International Year of Light 2015' February 2-3 2015, National Centre for Physics, Islamabad, Pakistan

Engineering entanglement in cavity QED
International conference on Trends in Quantum Information, September 12-13, 2014,
Lahore University of Management Sciences, Lahore, Pakistan

Recurrence Tracking Microscope
International Workshop on Cold Atoms and Applications, January 24-Feb 06 2014,
Tokyo, Japan.

Atomic bullets
International conference on Complex System Physics, May 21-24, 2013, Samarkand,
Uzbekistan

'Science and Technology at Nano Scale'
NUST Conference on Appl. and Methods of Physics 2011, Nov. 21-22, Islamabad.

Sensing position at nano scale
International conference on Dynamics Days in Central Asia, October 10-12, 2013,
Samarkand, Uzbekistan

“Localization and Quantum Revivals in Fermi accelerator model”
Winter College of Quantum Optics
March 1997, International Center for Theoretical Physics, Trieste, Italy.

“Dynamical Localization in Gravitational localization”
Deutsch Physikalische Gesellschaft Conference
March 1998, Constanz, Germany.

“Classical and Quantum Chaos in Gravitational Cavity”
Computational Physics Conference
September 1999, Quaid-i-Azam University, Islamabad, Pakistan.

“Quantum Scanning Microscope”
International Conference on Physics in Industry
June 2001, PCSIR Laboratories, Karachi, Pakistan.

“Dynamical Localization”
International School & Conference on Spatio-Temporal Chaos
July 2002, Abdus-Salam ICTP, Trieste, Italy.

“Quantum Recurrences in multi-Dimensional Chaotic Systems”
9th Annual Pakistan Physical Society Meeting
January 2003, Government College University, Lahore.

“Coherence and Decoherence in Space-Time Evolution”
International conference on Models and Methods in Fluid Mechanics
June 2003, COMSATS Institute of Information Technology, Abbottabad.

“Quantum Revivals in Nature”
International conference on Problems with moving Boundaries
October 2003, Academy of Sciences, Prague, Czech Republic.

“Recurrence Tracking Microscope”
30th International Nathiagali Summer College on Physics and Contemporary Needs
June 2005, Nathiagali, Pakistan.

“Chaotic Dynamics in Moving Mirror cavities”
38th Annual Division of Atomic, Molecular and Optical Physics Meeting (DAMOP)
Knoxville, Tennessee , May 16-20 2006

'Nano Devices'
International Conference on Mathematics: Trends and Developments, Al-Azhar
University, December 27-30, 2007, Cairo, Egypt.

'Engineering entanglement in Cavity QED'
International conference on quantum information, July 1-4, 2009, Rabat, Morocco.

'Quantum Dynamics in circular Billiards'
International Conference on Billiard like systems, Feb. 7-11, 2011 Sao Paulo, Brazil.

SELECTED INVITED TALKS

“Measurement of Gravitational Constant, g , using Gravitational Cavities”
August 2000, at the Abdus-Salam International Centre for Theoretical Physics, Italy.

“Dynamical Localization in Fermi Accelerator”
November 2000, at the department of Chemistry, Sophia University, Tokyo, Japan.

“Two Mode Entanglement”
July 2001, at the department of Applied Physics and Chemistry, University of Electro-Communication, Tokyo, Japan.

“Quantum Entanglement and Applications”
October 2001, at the University of Camerino, Camerino, Italy.

“The Work of Einstein and Impact on Latest Technologies”
March 2005, at the department of Physics, Quaid-i-Azam University, Islamabad.

“Dynamical Characteristics of Fermi Accelerator”
March 2006, Department of Physics, University of Arizona, Tucson, USA

“Controlling atoms in optical fields”
December 2007, Department of Physics, Al-Azhar University, Cairo, Egypt

“Principles of Nano-Devices”
July 2008, at department of Physics, Mohammad V university, Rabat, Morocco.

“Recurrence Tracking Microscope: surface scanning at nano scale ”
November 2010, Department of Physics, UNESP, Rio Claro, Brazil

“Near Field matter wave diffraction from a diffraction grating”
December 2011, Centre for Advanced Mathematics and Physics, National University of Science and Technology, Islamabad

“Quantum finance”
February 2012, Centre for Advanced Mathematics and Physics, NUST, Islamabad

PUBLICATIONS

Farhan Saif

M. Phil Thesis on ‘Bandwidth of Semiconductor Lasers’,
Quaid-i-Azam University, Islamabad, Pakistan, (1993).

Farhan Saif

Ph.D Thesis on ‘Dynamical Localization and Quantum Revivals
in Driven Systems’ Universitaet Ulm, Ulm, Germany, (1998).

1998

1. F. Saif, I. Bialynicki-Birula, M. Fortunato, and W.P. Schleich, "Fermi Accelerator in Atom Optics" *Physical Review A* 58, 4779 (1998).

Impact Factor: 2.861

2. I. Marzoli, F. Saif, I. Bialynicki-Birula, O. M. Friesch, A. E. Kaplan, and W. P. Schleich, "Quantum Carpets Made Simple" *Acta Physica Slovaca* 48 (3), 323 (1998). (Special Issue on Quantum Optics and Quantum Information)

Impact Factor: 3.25

1999

3. Farhan Saif, ‘Dynamical Localization and Quantum Revivals in Driven Systems’ (*Hyperthesis Physik*, Lehmanns Press, Berlin 1999).

2000

4. Farhan Saif "Quantum Recurrences: A probe to study Quantum Chaos" *Physical Review E* 62, 6308 (2000).

Impact Factor: 2.352

5. Farhan Saif "Dynamical localization and signatures of phase space" *Physics Letters A*, 274, 98 (2000).

Impact Factor: 1.963

6. Farhan Saif, "Quantum Revivals in Fermi Accelerator", *Journal of Physical Society of Japan*, 69(8) 2363L (2000).

Impact Factor: 2.905

7. F. Saif, G. Alber, V. Savichev, and W.P. Schleich, "Quantum Revivals in Dynamical Systems", *Journal of Optics B* 2, 668 (2000) (the Special Issue).

Impact Factor: 1.902

2001

8. Farhan Saif “Atomic dynamics in driven gravitational cavity” *Chinese Journal of Physics* 39, 311 (2001).

Impact Factor: 0.444

9. F. Saif, Fam Le Kien, and M. S. Zubairy, "Quantum theory of a micromaser operating on the atomic scattering from a resonant standing wave" *Physical Review A* 64 , 043812 (2001).

Impact Factor: 2.861

2002

10. Aeysha Khalique, and Farhan Saif "Quantum non-demolition state measurement via atomic scattering in Bragg regime" *Journal of Physical Society of Japan*, 71(11) 1L (2002).

Impact Factor: 2.905

11. Farhan Saif, and Mauro Fortunato, "Quantum Revivals in Periodically Driven Systems Close to Nonlinear Resonances" *Physical Review A* 65, 013401 (2002).

Impact Factor: 3.11

12. Seiichi Tanabe, Shinichi Watanabe, Farhan Saif, and Michio Matsuzawa "Survival Probability of a Truncated Radial Oscillator Subject to Periodic Kicks" *Physical Review A* 65, 033420 (2002). Impact Factor: 3.11

13. Manzoor Ikram, and Farhan Saif "Engineering entanglement between two modes of cavity field" *Physical Review A* 66, 014304 (2002).

Impact Factor: 3.11

2003

14. Manzoor Ikram, and Farhan Saif "Erratum: Engineering entanglement between two modes of cavity field" *Physical Review A* 67, 069901(E) (2003).

Impact Factor: 3.11

15. Sadaf Saeed and Farhan Saif, "Quantum Recurrences in Delta Kicked Rotor" *Islamabad Journal of Science* 13, 36 (2003). Impact Factor: 0.0

16. Aeysha Khalique, and Farhan Saif "Engineering Entanglement between external degrees of freedom of atoms via Bragg scattering", *Physics Letters A* 314, 37 (2003).

Impact Factor: 1.963

2004

17. Mazhar Javed and Farhan Saif, "Engineering Quantum Computers and Channels in Quantum Electro- dynamical systems" *Islamabad Journal of Science* 14, 62 (2004).

Impact Factor: 0.0

2005

18. Farhan Saif, "Dynamical Recurrences in Periodically Driven Systems", *Journal of Optics B: Quantum Semiclass. Optics* 7, S116-S119 (2005). (Special Issue on the Nonstationary Casimir effect and Quantum Systems with Moving Boundaries).

Impact Factor: 1.902

19. Farhan Saif, 'Classical and Quantum Chaos in Atom Optics', *Physics Reports* 419, 207 (2005).

Impact Factor: 19.438

2006

20. Farhan Saif, 'Corrigendum: Classical and Quantum Chaos in Atom Optics', *Physics Report* 425, 369 (2006).

Impact Factor: 19.438

21. Farhan Saif, "Nature of quantum recurrence in higher dimensional systems", *European Physical Journal D* 39, 87 (2006).

Impact Factor: 1.513

22. Farhan Saif, "Recurrence Tracking Microscope", *Physical Review A* 73, 033618 (2006).

Impact Factor: 2.861

23. Shahid Iqbal, Qurat ul Ann and Farhan Saif, "Quantum Recurrences in Periodically Driven Power Law Potentials", *Physics Letters A* 356, 231 (2006).
Impact Factor: 1.963

24. M. Abdel-Aty, Farhan Saif, "Quantum information of a three-level atom in one-dimensional photonic bandgap", *Laser Physics Letters*, Vol. 3, No. 12, 599-604 (2006).

Impact Factor: 6.01

25. Farhan Saif, "Radiation Pressure Force and Gravitational Wave Interferometer", *Science Echoes*, 3 (2006). www.ScienceEchoes.org (March Issue)

Impact Factor: 0.0

2007

26. Farhan Saif, and Inam ur Rehman, "Coherent acceleration of material wave packet by modulated optical fields", *Physical Review A* 75, 043610 (2007).

Impact Factor: 2.861

27. Farhan Saif, and Pierre Meystre, "Coherent acceleration of material wave packets" NASA Workshop on Quantum to Cosmos: Fundamental Physics Research in Space. *International Journal of Modern Physics D* 16, 2593-2598

(2007). Impact Factor: 1.109

28. Rameez ul Islam, Manzoor Ikram, and Farhan Saif, "Engineering Maximally Entangled N-Photon NOON field States using an Atom Interferometer based on Bragg regime cavity QED" *Journal of Physics B: Atomic Molecular and Optical Physics* 40,1359-1368 (2007).

Impact Factor: 1.902

29. Tasnim Azim, and Farhan Saif, "Quantum Tunneling for separation of atoms and molecules from a mixture", *Journal of Russian Laser Research* 28, 136-141 (2007).

Impact Factor: 0.642

30. Farhan Saif, Rameez ul Islam and Mazhar Javed, "Engineering Quantum Universal Logic Gates in Electromagnetic Field Modes", *Journal of Russian Laser Research* 28, 529-534 (2007).

Impact Factor: 0.642

31. Farhan Saif, M Abdel Aty, M. Javed, and Rameez ul Islam, "Generation of Maximally Entangled states of two cavity field modes", *Applied Mathematics and Information Science* 1, 323-332 (2007).

Impact Factor: 0.642

32. Farhan Saif, R. ul Islam, M. Aqil, and A. Khosa, "Engineering entangled NOON states in cavity QED", *Proceedings of International Conference on Mathematics: Trends and Developments 2007, Cairo Egypt*, Ed. A. S. Obada, Vol. 1, Pp. 247-270 (2007). Impact Factor: 0.0

2008

33. Farhan Saif "Separation of Isotopes via dynamical delocalization", *Chinese Physics Letters* 25, 3660-3662 (2008).

Impact Factor: 1.077

34. Rameez ul Islam, Manzoor Ikram, Ashfaq H. Khosa, and Farhan Saif, "Remote Field and Atomic State Preparation", *International Journal of Quantum Information* 6, 393-402 (2008).

Impact Factor: 0.643

35. Rameez ul Islam, Ashfaq H. Khosa, and Farhan Saif, "Generation of Bell, NOON and W-states via atom Interferometer", *Journal of Physics B: At. Mol. Opt. Phys.* 41, 035505 (2008).

Impact Factor: 1.902

36. Rameez ul Islam, Ashfaq H. Khosa, Hai-Woong Lee, and Farhan Saif, "Generation of field cluster states through collective operation of cavity

QED disentanglement eraser”, European Physics Journal D 48, 271-277 (2008).
Impact Factor: 1.513

37. A. E. Kaplan, I. Marzoli, F. Saif and W. P. Schleich, “Quantum Carpets of a Slightly Relativistic Particle”, Fortschritte der Physik-Progress of Physics 56, 967-992 (2008).

Impact Factor: 1.144

38. Muhammad Aqil, and Farhan Saif, "Atomic beam splitter from a mixture of atoms in the Bragg regime", Journal of Russian Laser Research 29, 587-592 (2008). Impact Factor: 0.642

39. Javed Akram and Farhan Saif, Engineering CNOT gate in a cavity QED scenario", Journal of Russian Laser Research 29, 538-543 (2008). Impact Factor: 0.642

40. Shahid Iqbal and Farhan Saif, "Quantum Computing with particle in a driven square well", Journal of Russian Laser Research 29, 587-592 (2008).

Impact Factor: 0.642

2009

41. Arbab Ali Khan, and Farhan Saif, "Isotope separation via atom optics in Bragg Regime", Journal of Russian Laser Research 30, 82-87 (2009).

Impact Factor: 0.642

42. Rameez ul Islam, M. Ikram, R. Ahmed, A. H. Khosa and Farhan Saif, "Atomic State Teleportation: From internal to external degrees of freedom", Journal of Modern Optics 56 (7), 875-880 (2009).

Impact Factor: 0.988

43. Javed Akram, Khalid Naseer and Farhan Saif, "Controlled accelerated dynamics of quantum bouncer", Journal of Russian Laser Research 30 (2), 157-163 (2009). Impact Factor: 0.642

44. K. Berrada, M. El Baz, Farhan Saif, Y. Hassouni, and S. Mnia, "Beam Splitter and deformed Spin Coherent States", Journal of Physics A: Mathematical and Theoretical 42, 285306 (2009).

Impact Factor: 1.641

45. Farhan Saif, “Optimal Quantum Clocks based on Wave Packet Recurrences”, Journal of Russian Laser Research 30, 242 (2009).

Impact Factor: 0.642

46. Tasawar Abbas, Rameez ul Islam, Ashfaq H. Khosa, and Farhan Saif, “Generation of cavity field cluster and GHZ states using Bragg regime atom

interferometer”, Journal of Russian Laser Research 30, 267 (2009).
Impact Factor: 0.642

47. Rameez ul Islam, Ashfaq H. Khosa, and Farhan Saif, "Atomic Cluster and Graph States: An engineering proposal", Journal of Physical Society of Japan 78, 114401 (2009).

Impact Factor: 2.905

48. Muhammad Ayub, Khalid Naseer, Manzoor Ali, and Farhan Saif, “Atom Optics Quantum Pendulum”, Journal of Russian Laser Research 30, 205 (2009). Impact Factor: 0.642

49. Javed Akram, Khalid Naseer, Inam ur Rehman and Farhan Saif, "Acceleration of material waves in Fermi accelerator" ‘Mathematical Problems in Engineering: Theory Methods and Applications’ volume 2009, Article ID 246438 (2009).

Impact Factor: 0.689

2010

50. Shahid Iqbal, Paula Revere and Farhan Saif, "Space-Time dynamics of Gazeau-Klauder Coherent States in Power Law Potentials", 'International Journal of Theoretical Physics' 49, 2540 (2010).

Impact Factor: 0.67

51. Ashfaq H. Khosa, Rameez ul Islam, and Farhan Saif, 'Remote preparation of atomic and field Cluster states from a pair of tri-partite GHZ states', Chinese Physics B 19, 040309 (2010).

Impact Factor: 1.63

52. Tasawar Abbas and Farhan Saif, “Dynamical Revivals in Spatio-temporal Evolution of Driven one Dimensional Box”, Journal of Mathematical Physics 51, 102107 (2010).

Impact Factor: 1.291

53. Muhammad Aqil, Aarouj, Fauzia Bano and Farhan Saif, "Engineering NOON states in cavity QED", Journal of Russian Lasers Research' 31, 343 (2010).
Impact Factor: 0.642

54. Farhan Saif, Rameez-ul-Islam and Ashfaq H. Khosa, "Engineering two-mode field NOON state in cavity QED", Journal of Physics B: At. Mol. Opt. Phys. 43 015501 (2010).

Impact Factor: 1.902

55. Manzoor Ali, M. Wasim, M. Arif, Jamshed Hussain Zaidi, Yasir Anwar, Farhan Saif “Determination of the Natural and Anthropogenic Radioactivity in the Soil of Gilgit-A Town in the Foothills of Hindukush Range”, Health Physics, 98(2),

S69-S75, (2010).

Impact Factor: 1.207

56. Hayat Ullah and Farhan Saif, "Tracing Bose-Einstein condensates effects in Recurrence Tracking Microscope", *Journal of Russian Lasers Research* 31, 408 (2010).

Impact Factor: 0.642

57. Farhan Saif, Hayat ullah Khan, "Recurrence Tracking Microscope based on Bose Einstein Condensates" Published in the proceedings of "Environment, Development, and Nanotechnology, Seventh International Scientific Conference, Al-Azhar University (ISCAZ 2010). Impact Factor: 0.0

2011

58. A. El Allati, Y. Hassouni, F. Saif, "Deterministic secure communication via atomic momentum state", *Optik: International Journal for Light and Electron Optics* 122, 1965 (2011).

Impact Factor: 0.454

59. A. El Allati, M. El Baz, Y. Hassouni, A. Kassou Ou Ali and F. Saif, "Loss of Atom Interference by Random Phase", *Journal of Russian Lasers Research* 32, 177 (2011).

Impact Factor: 0.642

60. Muhammad Ayub, Khalid Naseer, and Farhan Saif, "Robust Dynamical Recurrences based on Floquet spectrum", *European Physical Journal D* 64, 491-498 (2011).

Impact Factor: 1.513

61. Edson D. Leonel, Juliano A. de Oliveira, Farhan Saif, "Critical exponents for transition from integrability to non-integrability via localization of invariant tori in Hamiltonian systems" *Journal of Physics A: Mathematical and Theoretical* 44(30), 302001 (2011).

Impact Factor: 1.641

62. Shahid Iqbal, Farhan Saif, 'Generalized coherent states and their statistical characteristics in power-law potentials', *Journal of Mathematical Physics* 52, 082105 (2011).

Impact Factor: 1.291

63. Shahid Iqbal, Farhan Saif, "Comment on 'Generalized Heisenberg algebra coherent states for power-law potentials'", *Physics Letters A* 376, 1531-1533 (2012).

Impact Factor: 1.963

2012

64. Shahid Iqbal, Farhan Saif, "Comment on 'Generalized Heisenberg algebra coherent states for power-law potentials'", Physics Letters A 376, 1531-1533 (2012).

Impact Factor: 1.963

65. M. Abdul and F. Saif, 'Synchronized Chaotic Attractor and Spatio Temporal Chaos in Two mode Lasers', Applied Mathematics and Information Science 6, 35 (2012).

Impact Factor: 0.643

66. Muhammad Ayub, Farhan Saif, "Delicate and robust dynamical recurrences of matter waves in driven optical crystals', Physical Review A 85, 023634 (2012).

Impact Factor: 2.861

67. M. Asjad and Farhan Saif, 'Engineering Entanglement mechanically', Physics Letters A 376, 2608-2612 (2012).

Impact Factor: 1.963

68. Farhan Saif,
'Talbot Effect with Matter Waves'
Journal of Laser Physics 22 (12), 1874-1878 (2012).
Impact factor: 3.65

69. F. Saif and M. Yameen, 'Scanning Probe Microscopy based on Matter Wave Surface Trap', Journal of Russian Lasers Research 33(5), 490 (2012)

70. M. Abdul and Farhan Saif "Two-mode ring laser as stable, instable and irregular behaviors in coupled lasers logistic equations", Appl. Math. Inf. Sci. 6, 29-33 (2012).

71. Tasawar Abbas, and Farhan Saif, 'Dynamics Quantum Revivals in Phase Space' Journal of Russian Laser Research, 33(5), 448 (2012).

2013

72. A. H. Khosa, Rameez ul Islam, Farhan Saif and Janos Bergou, 'Generation of atomic cluster and graph states via cavity QED', Quantum Information Processing 12(1) 129-148 (2013). Impact Factor: 2.085

73. M. Ali, M. Wasim, S. Iqbal, M. Arif, and Farhan Saif
'Determination of the risk associated with the natural and anthropogenic radionuclides from the soil of Skardu in Central Karakoram'
Radiation Protection Dosimetry 156(2), 213-22 (2013). Impact Factor: 0.95

74. Shahid Iqbal and Farhan Saif, 'Gazeau-Klauder Coherent States of the Triangular-Well Potential', Journal of Russian Laser Research, 34(1), 77 (2013).

75. F. Saif and M. Yameen, Isotope Separation using Quantum revival phenomenon in Nano-Fibers, *Journal of Russian Lasers Research* 34(4) 255 (2013). Impact Factor: 0.715
76. M. Abdul, U. F. Zubairy and Farhan Saif, "Complexity Beyond Steady State in Coupled Two-mode Lasers" *Journal of Basic and Applied Physics* (2013).
77. F. Saif and M. Umar, 'Recurrence Tracking Microscope based on magnetic mirror', *Journal of Russian Lasers Research* 34, 154 (2013).
78. M. Asjad, M.A. Shahzad, and Farhan Saif, 'Quantum degenerate Fermi Gas Entanglement in Opto-mechanics', *European Phys. J. D* 67; 198 (2013).
79. F. Saif, 'Fermionic Coherent state in Optical Lattice', *Journal of Russian Lasers Research* 34(5), 496 (2013)
80. M. Ali, S. Iqbal, M. Wasim, M. Arif, and Farhan Saif, 'Soil radioactivity levels and radiological risk assessment in the highlands of Hunza, Pakistan' *Radiation Protection Dosimetry* 153, 390-7 (2013).
81. Farhan Saif, I. Rehman, 'Acceleration Modes in Fermi Accelerator', *Journal of Russian Laser Research* 34(6), 515-522 (2013).
82. M. Abdul, Y. F. Zubairy, F. Saif, 'Complexity Beyond Steady State in Coupled Two-mode Lasers' *Journal of Basic and Applied Physics* 2(3), 173 (2013). Impact factor 0.71
83. Sami ul Haq, and F. Saif, 'Extended entanglement to quantum networks', *Optik – International journal of light and electron optic* 124(23), 5914-5917 (2013). Impact factor 0.77

2014

84. M. Ayub, K. Ammar and Farhan Saif, 'Dynamical Localization of Matter Waves in Optomechanics' *International Journal of Laser Physics* 24(11), 115503 (2014). Impact factor (1.03)
85. Tasawar Abbas, Farhan Saif, 'Information Entropy to Probe Revivals in Dynamical Systems', *International Journal of Theoretical Physics* 53, 1961-70 (2014).
86. Hayat Ullah, M. Umar, M. Javed Akram and F. Saif, 'Recurrence Tracking Microscope based on TWO magnetic mirrors', *Journal of Russian Lasers Research* 35(4), 401-407 (2014). Impact factor (0.61)

87. Farhan Saif, K. Naseer, M. Ayub, 'Atomic Bullets: Non-Dispersive, Accelerated Matter-Waves' Euro. Phys. J. D 68(4), 75 (2014).
DOI: 10.1140/epjd/e2014-40415-2, Impact factor 1.51
88. F. Saif and M. Asjad, 'Normal mode splitting in Hybrid BEC-cavity opto-mechanical system' Optik: International journal of light and electron optics 125(19), 5455-5460 (2014). Impact factor 0.77
89. Sami ul Haq, and F. Saif, 'Remote entanglement for quantum networks' Optik: International journal of light and electron optics 125(22), 6616-6619 (2014).
Impact factor 0.77
90. F. Saif, 'Short time dynamics of a Fermionic Coherent state and Schrodinger Cat state in Optical Lattice', submitted for publication in Optik: International journal of light and electron optics
91. K. A. Yasir, M. Ayub, and Farhan Saif, 'Exponential Localization of moving-end mirror in Optomechanics' J. of Modern Optics 61(16), 1318-1323 (2014).
Impact factor 1.17
92. M. Javed Akram and Farhan Saif, "Adiabatic Population Transfer Based on a Double Stimulated Raman Adiabatic Passage", J. Russian Laser Research 35(6), 547-554 (2014).

2015

93. Farman ullah, Davron Matrasulov, and Farhan Saif, Quantum dynamics of circular billiards in the presence of external forcing, submitted to JRLR
94. M. Javed Akram, Fazal Ghafoor and Farhan Saif, "Electromagnetically Induced Transparency and Tunable Fano Resonances in Hybrid Optomechanics" published in Journal of Phys. B: Atm. Mol. Opt. Phys. 48, 065502 (2015).
Impact factor (2.03)
95. M. Javed Akram, and F. Saif, 'Complex Dynamics of Nano-Mechanical Membrane in Cavity Optomechanics' accepted for publication in Nonlinear Dynamics Impact factor 2.42
96. M. Abdul and Farhan Saif, "Synchronized Attractors and entrained Chaos" submitted in International Journal of Engineering Computer Science (2013).
97. M. Javed Akram and Farhan Saif, "Tunable Fast and Slow Light in a Hybrid Opto Mechanical system" submitted for publication in Phys. Rev. A
98. M. Javed Akram, Khalid Naseer and Farhan Saif, "Efficient Tunable Switch from Slow light to Fast light in Quantum Opto-Electro-Mechanics" submitted for publication in Scientific Reports

99. M. Javed Akram and Farhan Saif, “Fano Resonances Control and Slow Light in Opto Mechanics with Bose Einstein Condensates” submitted for publication in Phys. Rev. A
100. Farman ullah, and Farhan Saif, Quantum dynamics of Elliptical billiards in the presence of external forcing, submitted for publication in Optik
101. Farooq, M. Abdul and Farhan Saif, “Discrete Dynamical Laser Equation for Critical Onset of Bistability, Entanglement and Disappearance ”, Submitted in journal of Optik
102. Rafaqat Ali and Farhan Saif, “Chiral Phase Transition and Quantum Revivals in Graphene”submitted for publication
103. M. Miskeen Khan and Farhan Saif, “Single Phonon State of Mechanical Mode via Photon Subtraction in Cavity Opto Mechanics” to be submitted for publication

BOOK CHAPTERS

104. F. Saif, K. Riedel, W.P. Schleich and B. Mirbach
Dynamical Localization and Decoherence
Published in: [‘Lecture Notes in Physics, Decoherence: Theoretical, Experimental, and Conceptual Problems,](#)
Eds.: Ph. Blanchard, D. Giulini E. Joos C. Kiefer and I.-O. Stamatescu,
p. 179-189 (Springer, Heidelberg, 2000).
105. F Saif, P. Meystre
Coherent Acceleration of Material Wavepackets
Published in 'From Quantum to Cosmos: Fundamental Physics Research in Space'
Ed. Slava G. Turyshev, p. 727-732 (World Scientific, London, 2009)
106. F. Saif, 'Quantum Computation'
in 'Quantum Mechanics' by Fayyazuddin and Riazuddin, (World Scientific, London, 2012).

CONFERENCE PROCEEDINGS

107. Farhan Saif and Aeysha Khalique
“Quantum Scanning Microscope”
Published in the proceedings of “International conference on Physics in Industry”,
Eds. Anwar-ul-Haq, Mushtaq Ahmad, Karachi (2001).

108. Farhan Saif and Azhar Rizvi
“Quantum cryptography and entanglement”
Published in the proceedings of “International conference on Physics in Industry”,
Eds. Anwar-ul-Haq, Mushtaq Ahmad, Karachi (2001).
109. Sadaf Saeed and Farhan Saif
“Classical and Quantum Chaos in Delta Kicked Rotor”
Published in the Proceedings of the ninth national symposium on Frontiers in Physics,
Ed. G. Murtaza, N. A. D. Khatak, H. A. Shah, Lahore (2003).
110. Farhan Saif, R. ul Islam, M. Aqil, and A. Khosa
'Engineering entangled N00N states in cavity QED'
Proceedings of International Conference on Mathematics: Trends and Developments 2007, Cairo Egypt, Ed. A. S. Obada, Vol. 1, Pp. 247-270 (2007).
111. Javed Akram, Khalid Naseer, and Farhan Saif
Nano-Bullets: Accelerated and Localized Material Waves
Published in the proceedings of the 12th national symposium on Frontiers in Physics, Ed. G. Murtaza (2009).
112. Farhan Saif
Near field matter wave diffraction from a diffraction grating
Published in Proceedings of 'NUST Conference on Applications and Methods of Physics 2011', Ed. F. Saif and A. Qadir. (2011).
113. M. Abdul and Farhan Saif
Phase entrained chaos and Synchronized Attractors
Published in Proceedings of 'NUST Conference on Applications and Methods of Physics 2011', Ed. F. Saif and A. Qadir. (2011).
114. Farhan Saif
Atomic Bullets: Non Dispersive, Accelerated Atoms
Published in Proceedings of 'International Conference and Workshop on Nano Science and Technology 2013' Ed. F. Saif (2012).
- 114.
115. M. Yameen and Farhan Saif
'Matter wave trapping for nanoscopy' Published in Proceedings of 'NUST Conference on Applications and Methods of Physics 2011', Ed. F. Saif and A. Qadir. (2011).
116. M. Yameen and Farhan Saif
Recurrence Tracking Microscopy based on surface trap' Published in Proceedings of 'International Conference and Workshop on Nano Science and Technology 2013' Ed. F. Saif (2012).

117. M. Abdul and Farhan Saif, “Synchronized Attractors and entrained Chaos” in Proceedings of International Multi-Conference of Engineers and Computer Scientists, 11-14 June, Page No. 90 (2013).

REPORTS AND BOOKS

Farhan Saif,
‘Classical and Quantum Chaos in Atom Optics’
Physics Report **419**, 207 (2005);
(Corrigendum) Physics Report **425**, 369 (2006).
(Listed among top three articles at ScienceDirect: <http://top25sciencedirect.com>)
(Reference Material for Wikipedia in 'Chaos
quantique'http://fr.wikipedia.org/wiki/Chaos_quantique)

Farhan Saif,
‘Dynamical Localization and Quantum Revivals in Driven Systems’
(Lehmans, Berlin 1999).

SCIENTIFIC SEMINARS BY ACTIVE SCIENTISTS ORGANIZED BY DR. FARHAN SAIF AT THE SCIENCE FORUM ‘ENCHANTING HORIZONS OF SCIENCE (ECHOS)*’ from 2001-2010

(* *Enchanting Horizons of Science* ’ is non-profit scientific organization
in Pakistan launched in December 2000 by Dr. Farhan Saif)

1. Title: MEASUREMENT OF ENTANGLED STATES 29-3-2001
Speaker: Dr. Manzoor Ikram
Affiliated Organization: Pakistan Atomic Energy Commission
2. QUANTUM COMPUTATION AND CRYPTOGRAPHY 7-4-2001
Dr. Farhan Saif
Department of Electronics, QAU, Islamabad.
3. PHYSICS AND CHANCE 12-4-2001
Dr. Pervez Hoodbhoy
Department of physics, QAU, Islamabad.
4. CLASSICAL CRYPTOGRAPHY 19-4-2001
Dr. Sarmad Abbasi
Department of Mathematics, QAU, Islamabad.

5. QUANTUM CRYPTOGRAPHY 26-4-2001
Dr. Sajid Qamar
Khan Research Laboratory Rawalpindi
6. ROLE OF PHYSICS ON SOCIETY 10-5-2001
Dr. Khurshid Hasanain
Department of Physics, QAU, Islamabad.
7. QUANTUM SEEING IN DARK 17-5-2001
Dr. Shahid Qamar
PIAS, Islamabad.
8. MYSTERY OF TIME 3-11-2001
Dr. Pervez A. Hoodbhoy
Department of physics, QAU, Islamabad.
9. ART OF COMPUTATION 10-11-2001
Dr. Hafeez R. Hoorani
National Centre for Physics, QAU, Islamabad.
10. DARK ENERGY AND ACCELERATING UNIVERSE 17-11-2001
Dr. Riaz-ud-Din
National Center for Physics, QAU, Islamabad.
11. ELECTRONICS AND ITS IMPACT ON SOCIETY 24-11-2001
Dr. Azhar A. Rizvi
Department of Electronics, QAU, Islamabad.
12. STORY OF COMPUTATION 1-12-2001
Dr. Sermad Abbassi
Department of Mathematics, QAU, Islamabad.
13. ENGINEERING ENTANGLEMENT 8-12-2001
Dr. Farhan Saif
Department of Electronics, QAU, Islamabad.
14. WHY DOES MATTER HAVE MASS 16-2-2002
Dr. Pervez Hoodbhoy
Department of Physics, QAU, Islamabad.
15. PROPERTIES OF ZnTe THIN FILMS 2-03-2002
Dr. Akram K. S. Aqili
Thermal Physics laboratory
Department of Physics, QAU, Islamabad.
16. SURFACE STUDIES USING AFM AND STM 9-03-2002

Dr. Zafar Waqar
F. Ioffe Physical-Technical Institute
Russian Academy of Sciences, Russia

17. ARCHEOLOGICAL DATING BY PHYSICAL METHODS 16-03-2002

Dr. Saeed A. Durrani
Unesco Visiting Professor
Birmingham University, Birmingham, U.K.

18. ART OF COUNTING 20-03-2002

Dr. Sermad Abbassi
Department of Mathematics, QAU, Islamabad.

19. PRINCIPLE OF SUPERPOSITION IN QUANTUM MECHANICS 30-03-2002

Dr. Fayyazuddin
National Center for Physics, QAU, Islamabad.

20. THERMONUCLEAR FUSION CONDITIONS IN
A STAGED PINCH PLASMA 6-04-2002

Dr. Arshad Majid Mirza
Department of Physics, QAU, Islamabad.

21. CONDUCTANCE FROM TRANSMISSION 13-04-2002

Dr. Kashif Sabeeh
Department of Physics, QAU, Islamabad.

22. CERTAINTY OF UNCERTAINTY 20-04-2002

Dr. Farhan Saif
Department of Electronics, QAU, Islamabad.

23. GAMMA RAY SPECTROSCOPY IN NUCLEAR PHYSICS 27-04-2002

Dr. Sajjad Bhatti, Department of Physics, QAU, Islamabad.

24. NEW FRONTIERS IN HIGH TEMPERATURE
SUPERCONDUCTIVITY 04-05-2002

Dr. Nawazish Ali Khan
Department of Physics, QAU, Islamabad.

25. BIO INFORMATICS – WHERE WE ARE HEADING 11-05-2002

Dr. Muhammad Afzal
PASTIC National Centre, QAU, Islamabad.

26. SOLAR ENERGY- ULTIMATE ENERGY SOURCE 18-05-2002

Dr. Lubna Razia Ijaz
University of Illinois, USA.

27. BOSE-EINSTEIN CONDENSATION—A NEW STATE OF MATTER 25-05-2002
 Dr. Nisar Ahmad
 NESCOM, Islamabad.
28. DO THE CONSTANTS OF NATURE CHANGE 12-10-2002
 Dr. Pervez A. Hoodbhoy
 Department of physics, QAU, Islamabad.
29. CONSERVATION LAWS OF A (2+1) SCALAR 19-10-2002
 NON-LINEAR EVOLUTION EQUATION
 Dr. Fazal Mahmood Mahomed
 Department of Applied and Computational Mechanics
 University of Witwatersrand, Johannesburg, South Africa.
30. CONFORMAL COLLINATIONS AND RICCHE INHERITANCE 26-10-2002
 SYMMETRY IN STRING COSMOLOGY
 Dr. Ugur Canci
 Research Institute at Cannakale, Istanbul, Turkey.
31. PHYSICS OF STARS 2-11-2002
 Jameel-un Nabi
 National Center for Physics, QAU, Islamabad
32. NEW DIMENSIONS IN PARTICLE PHYSICS 5-11-2002
 Dr. John Ellis, CERN, Geneva, Switzerland.
33. TRANSMISSION THROUGH A POINT CONTACT 9-11-2002
 Dr. Kashif Sabeeh
 Department of Physics, QAU, Islamabad.
34. GRAVITATIONAL WAVES 16-11-2002
 Dr. Asghar Qadir
 Department of Mathematics, QAU, Islamabad.
35. HISTORY OF SCIENCE 23-11-2002
 Dr. Riaz-ud-Din
 National Center for Physics, QAU, Islamabad.
36. INTRODUCTION TO FRACTIONAL GEOMETRY 8-3-2003
 Dr. Sarmad Abbasi
 Department of Mathematics, QAU, Islamabad.
37. ENGINEERING ENTANGLEMENT IN THE EXTERNAL 12-3-2003
 DEGREES OF FREEDOM
 Dr. Manzoor Ikram
 PINSTECH, Islamabad.

38. GENERALIZED HERTZ PROBLEM 26-3-2003
Dr. Zafar Turkuralov
Institute of Nuclear Physics, Tashkand, Uzbekistan.
39. FIFTY PLUS FIVE YEARS OF MATHEMATICS IN PAKISTAN 29-3-2003
Prof. Dr. Asghar Qadir
Department of Mathematics, QAU, Islamabad
40. FIFTY PLUS FIVE YEARS OF PHYSICS IN PAKISTAN 5-4-2003
Prof. Dr. Riazuddin
National Center for Physics, QAU, Islamabad
41. QUADRUPOLAR VORTEX FORMATION IN ITG-MODES 12-4-2003
Dr. Arshad Majid Mirza
Department of Physics, QAU, Islamabad.
42. POLARIZATION BASED INTEGRATION SCHEME 09-01-2004
Ms. Uzma Khalique
Electrical Engineering Department
Technical University Eindhoven, The Netherlands.
43. PAKISTAN-CENTRAL ASIAN RELATIONS THROUGH HISTORY 26-02-2004
Dr. A. H. Dani
Taxila Institute of Indus Civilizations
QAU, Islamabad.
44. IMPACT OF SCIENCE ON SOCIETY 06-03-2004
Dr. Fayyazuddin
National Center for Physics
Islamabad, Pakistan.
45. PRINCIPLE OF PERTURBATIVE INVARIANCE 18-03-2004
Dr. Asghar Qadir
Islamabad.
46. THE ACCELERATING UNIVERSE 27-03-2004
Dr. Pervez Hoodbhoy
Department of Physics
QAU, Islamabad.
47. STATE OF PHYSICS EDUCATION 10-04-2004
Dr. Abdullah Sadiq
Pakistan Institute of Engineering and Applied Sciences (PIEAS)
Islamabad.
48. WHEN HISTORY REPEATS ITSELF 22-05-2004
Dr. Farhan Saif
Department of Electronics

QAU, Islamabad.

49. SIGNIFICANCE OF IMPULSE RESPONSE 05-06-2004
Dr. Sajid Qamar
Ghulam Ishaq Khan Institute
Topi.
50. QUANTUM COMPUTATION VIA ATOM OPTICS 12-06-2004
Dr. Arbab Ali Khan
Department of Electronics
QAU, Islamabad.
51. ROLE OF MATHEMATICS IN PHYSICAL SCIENCES 27-04-2004
Dr. Riazuddin
National Center for Physics
QAU, Islamabad.
52. CRYPTOGRAPHY: QUANTUM BOUNDS ON PERFORMANCE 04-9-2004
Dr. A. Khaliq
Technical University of Darmstadt
Germany
53. 20th CENTURY: THE CENTURY OF PHYSICS 02-10-2004
Dr. Hafeez Hoorani
National Center for Physics, Islamabad
54. HOW *NMR* ENRICHES QUANTUM COMPUTING?! 26.05.2005
Dr. Sabieh Anwar,
COMSATS Institute of Information Technology, Islamabad.
55. Cosmic Time Machines 10.05.2008
Dr. Asghar Qadir,
Center for Applied Mathematics and Physics, NUST
56. ENTANGLEMENT DYNAMICS IN DISSIPATIVE ENVIRONMENT 31.05.2008
Dr. Manzoor Ikram
COMSTECH Institute of Information Technology, Islamabad
57. Engineering Entanglement in two mode fields 26.04.2009
Dr. Sajid Qamar
COMSTECH Institute of Information Technology, Islamabad
58. Gravitational waves and their Detection 09.05.2009
Dr. Asghar Qadir,
Center for Applied Mathematics and Physics, NUST

59. Origin of Matter 16.05.2009
Mr. Khalid Rashid
Department of Mathematics, Quaid-i-Azam University, Islamabad
60. Science, Society, and Terrorism: Rising Above the Gathering Storm 23.05.2009
(Mathematical modeling, numerical simulations and crisis management)
Dr. Farhan Saif
Department of Electronics, Quaid-i-Azam University, Islamabad
61. Nuclear signatures via exotic atoms in super intense laser fields 30.05.2009
Dr. Atif Shehbaz
Department of Physics, Government College University, Lahore.
62. Islamic Banking and Globalization 21.03.2011
Dr. Munawar A. Anees
Institute of Islamic Banking, University of Management and Technology, Lahore
63. Generation of atto-second pulses 16.05.2012
Dr. Atif Shahbaz
department of Physics, Government College University, Lahore
64. High Performance Computing: Grid computation, theory and applications 14.03.2013
Dr. Syed Nasir Hussain Shah, Khan Research Laboratories
65. Semi-conductor Electronics Devices, 21.03.2013
Dr. Usman Younis, SEECs, NUST, Islamabad
66. Surface Scanning Microscope 28.03.2013
Dr. Farhan Saif, DoE, QAU, Islamabad
67. Surface Scanning Microscope 18.04.2013
Mr. Mohsin Abbas Malik, DoE, QAU, Islamabad
68. Scattering of Electromagnetic waves from buried objects 25.04.2013
Dr. Arshad Fiaz, DoE, QAU, Islamabad
69. Diffraction of EM waves 02.05.2013
Mr. Zeeshan Akbar, DoE, QAU, Islamabad
70. Design and fabrication of Lasers 08.11.2013
Dr. Jahan Akbar, Department of Physics, Hazara University