

CURRICULUM VITAE

of

DR. KHWAJA YALDRAM

CURRICULUM VITAE

(a) PERSONAL

- 1:- Name. : Khwaja Yaldram
- 2:- Father's Name. : Khwaja Masood
- 3:- Date of birth. : 2nd November, 1947
- 4:- Place of Birth. : Rawalpindi (Pakistan)
- 5:- Address. : 12-K, Street No.13, F-7/2, Islamabad
- 6:- Nationality : Pakistani
- 7:- Present position : Professor
Preston Institute of Nano Science
and Technology. Preston University
Islamabad
- 8:- Marital Status: : Married
- 9:- Telephone No. : 051-2652289/0334-5082341
- 10:- e-mail address : kyaldram@gmail.com
- 11:- CNIC No. : 61101-86672455

(b) **ACADEMIC QUALIFICATIONS**

Degree	Year	Institution/University
Intermediate (Science Group)	1965	Gordon College, Rawalpindi
B.Sc.	1967	Gordon College, Rawalpindi.
Tripes (Physics),	1971	Cambridge University, England
Ph.D. (Theoretical Physics)	1977	University Louis Pasteur Strasbourg, France.

(c) **AWARDS AND DISTINCTIONS:**

- 1:- Stood first in B.Sc. Punjab University (1967)
- 2:- All round best student of Gordon College (1967).
- 3:- Awarded the "**Saigol Foundation**" fellowship for doing Tripes at Cambridge University (1968-1971).
- 4:- Awarded the "French Government" scholarship for doing Ph.D. at University of Strasbourg, France (1972-1976).
- 5:- Associate Member ICTP 1983-1989
- 6:- Visiting guest scientist Un. of Mainz (Germany). April-June 1989 and May-July 1990.
- 7:- Director Research, IPCMS, Un. Louis Pasteur, March-Aug. 1993.
- 8:- PINSTECH performance award, Gold Medal 1993.
- 9:- Elected member of the New York Academy of Sciences 1995.
- 10:- National Book Foundation (Govt. of Pakistan) award in **Physics** for the period 1991-93
- 11:- Awarded "**Pride of Performance**" by Government of Pakistan, 1998.
- 12:- Elected fellow of the "**Pakistan Nuclear Society**", 1999.

(d) **EXPERIENCE**

National

Period	Job description	Nature of work
26 th Dec 2009 to date	Professor, PINSAT, Preston University	Teaching
17 th Dec. 2007 to 16 th Dec.2009	Technical Expert, PSF	Providing help to Chairman PSF on Technical matters
2 nd June 2006 to 2 nd Nov 2007	Director General (Technical) , Chairman Secretariat (PAEC)	Technical work at Chairman's secretariat
2 nd Sept 2002 to 2 nd June 2006	Secretary PAEC	Administration, Establishment, Policy Planning, Coordination
1 st Sept 2001 to 31 st Dec 2005	Director General, Planning PAEC	Policy Planning
Nov. 2000 to 30 th Aug. 2001	Chairman, Pakistan Council for Science and Technology/Secretary to National Commission for Science & Technology, Islamabad	Promotion of Science and Technology for Development in the country - policies, programmes and coordination
Nov. 1997 to Nov. 2000	Chief Scientific Officer, Directorate General of Computers & Control, Pakistan Atomic Energy Commission, Islamabad.	Research
April, 1995 to November, 1997	Chief Scientific Officer, Pakistan Institute of Nuclear Science & Technology (PINSTECH), Islamabad	Research
January, 1983 to April, 1995	Principal Scientific Officer, Pakistan Institute of Nuclear Science & Technology (PINSTECH), Islamabad	Research
March 1977 to December, 1982	Senior Scientific Officer, Pakistan Institute of Nuclear Science & Technology (PINSTECH), Islamabad	Research

International

1. Visiting guest scientist at University of Mainz (Germany)
April-June 1989
2. Visiting guest scientist at University of Mainz (Germany)
May-July 1990
3. Appointed Director Research at IPCMS, University Louis Pasteur
Strasbourg (France).
March-Aug 1993
4. Associate Member of ICTP
1983-1990

(e) **FIELD OF INTEREST:** 1. Computer Simulation of Physical Systems.
2. Policy planning in Science and Technology.

(f) **CONFERENCES/** Attended more than 35 workshops/conferences.
WORKSHOPS: Research papers were presented at most
of these.

(g) **PUBLICATIONS:** Published almost 80 research papers and reports
(see attached list).

(h) **IMPACT FACTOR:** Journal Impact Factor **60.38**
Total Citations **211** (includes only those
Papers with Pakistani address)
Source: Scientific Research in Pakistan (PCST
2000)

(i) PUBLICATIONS

1. **Y. Khwaja** and M. Nauciel Bloch "The effect of substitutional Fe impurity on the magnetic properties of antiferromagnetic Fe-Rh alloy". Sol. Stat. Comm. **21** 529 (1977).
2. **Y. Khwaja** and M. Nauciel Bloch "Off stoichiometry effects in antiferromagnetic Fe-Rh alloys". Phys. St. Sol. **83b** 413 (1977).
3. **Y. Khwaja**, M.A. Khan and C. Demangeat "Spin flop transition in non-stoichiometric Fe-Rh alloys". Proc. of Int. Phys. Conf. Ser. No. **55** 299 (1981).
4. M.A. Khan, **Y. Khwaja** and C. Demangeat "Origin of giant moments in non-stoichiometric Fe-Rh alloys". J.de Phys. (Paris) **42** 573 (1981).
5. **Y. Khwaja** and A. Sadiq "Time dependent step-step correlations in a self-avoiding random walk". J. Pol. Sc. (Phys.ed) **19** 499 (1981)
6. A. Sadiq and **Y. Khwaja** "Static step-step correlations in a self-avoiding random walk". Z. Fur. Phys. **42** 163 (1981).
7. **Y. Khwaja** and M. Ahsan Khan "Monte Carlo studies of domain growth in two dimensions" Nucleus **21** 13 (1984)
8. **Y. Khwaja** and A. Sadiq "Critical exponent in irreversible surface-reaction model". Nucleus **24** 3 (1987).
9. A. Sadiq and **K. Yaldram** "Time evolution of an irreversible catalytic recombination process". J. Phys. A **21** L207 (1988).
10. **Y. Khwaja** and A. Sadiq. "Collective and Tracer diffusion coefficients of adsorbed monolayers". Proceedings of symposium on Frontiers in Physics. 26-30 Jan. 1986. Quaid-i-Azam University, Islamabad.
11. **Y. Khwaja** "Monte Carlo studies of a macromolecular chain subject to external constraints". Proceedings of the IVth National conference on Solid State Physics. April 1984, Quaid-i-Azam University. Editors Kamaluddin Ahmed and F.A. Khawaja.
12. M.A. Khan and **K. Yaldram** "Role of sticking Coefficients in Catalytic reactions on a surface". Surface Science. **219** 445 (1989).
13. M.A. Khan and **K. Yaldram** "Catalytic reactions on mono and bi-metallic surfaces". J. of Phys. (Condensed Matter). **1** SB 199 (1989).
14. **Y. Khwaja** and A. Sadiq "Time evolution of catalytic surface reactions: Oxidation of carbonmonoxide". J. Phys. A. **22** L925 (1989).

15. **Y. Khwaja** and K. Binder "Spinodal Decomposition of a two dimensional Model Alloy with mobile vacancies". Acta Metall. Mater, **39**, 707 (1991)
16. **Y. Khwaja** and Kurt Binder "Monte Carlo Simulation of Phase Separation and Clustering in the ABV-Model". J. Stat Phys. **62**, 161 (1991).
17. **Y. Khwaja** and M.A. Khan "NO+CO reaction on square and hexagonal surface". J. of Catal, **131**, 369 (1991)
18. **Y. Khwaja** and K. Binder "Unmixing of binary alloys by a vacancy mechanism of diffusion:A computer simulation". Z. fur Physik, **82**, 405 (1991).
19. M.A. Khan and **Khwaja Yaldram** "Role of sticking coefficients in catalytic reactions". Proceedings of 2nd National Symposium on Frontiers in physics 1990. Quaid-i-Azam University. Editors G. Murtaza and M.A. Baig.
20. A. Sadiq, **K. Yaldram** and M.Dad "Phase Diagram of a dilute binary system" Int. J. Mod. Phys.C, **3**, 297(1992)
21. M.A. Khan and **K. Yaldram** "Surface effect on Steady Reactive State" Surf. Sci; **269/270** , 476(1992)
22. **Y. Khwaja**, N. Ahmad and M.A. Khan "Role of sticking coefficients on kinetic phase transitions in CO-O₂ reaction" Surface Sci; **274** , L515(1992)
23. **Y. Khwaja** and M.A. Khan "Comment on NO-CO reaction" J.of Catalysis, **136** , 279(1992)
24. **Y. Khwaja**, K.M. Khan, N. Ahmed and M.A. Khan "A comment on irreversible saturation transitions in dimer-dimer reaction models of heterogeneous catalysis." J. Phys.A, **26** , 3663(1993)
25. **Y. Khwaja**, K.M. Khan, N. Ahmed and M.A. Khan "A new class of critical exponents in a dimer-monomer catalytic surface reaction." J. Phys. A, **26**, L801 (1993)
26. **Y. Khwaja**, K.M. Khan, N. Ahmed and M.A. Khan "Kinetic phase transitions in a three component NO-CO-O₂ Model for heterogeneous catalysis." J.of Catalysis, **147**, 96 (1994)
27. **Y. Khwaja**, G. Khalil and A. Sadiq "Phase diagram of a dilute binary alloy with annealed vacancies." Sol. St. Com. **87**, 1045 (1993).
28. **Y. Khwaja** and M.A. Khan "Kinetics of a dimer-dimer catalytic surface reaction of the type $AB + C_2 \rightarrow 1/2 A_2 + C_2B$ J.Phys.A, **26**, 6135 (1993).

29. **Y. Khwaja** "Computer simulation study of irreversible catalytic surface reaction models" *The Nucleus*, **30**, 15 (1993).
30. **Y. Khwaja**, V. Pierron-Bohnes, M.C. Cadeville and M.A. Khan "Monte Carlo simulation of LRO kinetics in B₂ phases" *J. Mat. Res.* **10**, 591 (1995).
31. M.A. Khan, **K. Yaldram**, G.K. Khalil and K.M. Khan "NO-CO Surface Reaction on a Square Lattice" *Phys. Rev. E.* **50**, 2156 (1994)
32. **Y. Khwaja** "Monte Carlo Simulation of Catalytic surface reactions" Proc. of 4th National symposium on Frontiers in Physics. p.138(1993).
33. A. Sadiq and **K. Yaldram** "Computer Simulation in physics" *The Nucleus* **33**, 73 (1996).
34. N.M. Butt and **K. Yaldram** "PINSTECH as a role model for development of scientific R&D in the Muslim Ummah". Proc. of conf. on "Science in Islamic Polity in the 21st century 26-30 March 1995, Islamabad.
35. V. Pierron -Bohnes, **K. Yaldram**, E. Kentzinger, M.C. Cadeville and M.A. Khan "Monte Carlo simulation of long range order kinetics in B₂ phases" Proceedings of PTM 94, Pittsburgh (USA), Metals and Materials Society Publications. pp.491-496 (1994).
36. G. K. Khalil, **K. Yaldram** and A. Sadiq "Phase diagram of a dilute binary system with annealed vacancies" Proceeding of COMSTECH workshop on recent advances in materials science. 2 - 6 Dec. 1992, Islamabad. p 178 (1995).
37. **Y. Khwaja** "Computer simulation of physical systems" *The Nucleus* **29**, 91 (1992).
38. J.I. Akhter, **K. Yaldram** and W. Ahmad "Premelting on the low-index faces of Palladium" *Solid St. Comm.* **98**, 1043 (1996).
39. K.M. Khan, J.Khalifeh, **K. Yaldram** and M.A. Khan "Subsurface effects in catalytic surface reactions" *J. Chem. Phys.* **106**, 8890 (1997).
40. G.K. Khalil, **K. Yaldram** and A. Sadiq "Phase diagram of a two dimensional dilute binary alloy" *J. Mod. Phys. C* **8**, 139 (1997).
41. **Y. Khwaja**, G.K. Khalil, S.A. Mujahid and A. Sadiq "Effect of interactions on the phase diagram of a two dimensional binary alloy" Proc. of 4th International Symposium on Advanced Materials (1995), pp.684-690.
42. J.I. Akhter, **K. Yaldram** and W. Ahmad "Molecular Dynamics study of bulk and (111) surface of silver" Proc. of 4th International Symposium on Advanced Materials (1995), pp.691-697.

43. J.I. Akhter and **K. Yaldram** "Molecular Dynamic studies of Palladium" Proceedings of 5th National Symposium on Frontiers in Physics (26-28 Dec. 1995) pp.95-102.
44. K.M. Khan, **K. Yaldram** and M.A. Khan "Role of subsurface oxygen in CO-O₂ catalytic surface reaction" Proceedings of 5th National Symposium on Frontiers in Physics (26-28 Dec. 1995) pp.123-129.
45. Noorullah, J.I. Akhter and **K. Yaldram** "Structures and energies of close packed vacancy clusters in Cu" The Nucleus, **34** 17(1997)
46. J.I. Akhter and **K. Yaldram** "Self diffusion and activation energy of liquid palladium" J. Mod. Phys. C., **8**, 1217(1997)
47. K.M. Khan, **K. Yaldram** and N. Ahmed "Critical behaviour of an irreversible catalytic surface reaction". Proceedings of the 18th International Nathiagali Summer College, (10-17 June 1993) pp.331-335.
48. G.K. Khalil, **K. Yaldram** and A. Sadiq "Quenched and annealed percolation in a two dimensional site dilute Binary alloy". Proceeding of 5th International Symposium on Advanced Materials (1997) pp665-670
49. J.I. Akhter and **K. Yaldram** "Molecular Dynamics study of temperature dependence of self-diffusion coefficient in Palladium". Proceeding of 5th International Symposium on Advanced Materials (1997) pp675-678
50. Noorullah, J.I. Akhter and **K. Yaldram** "Vacancy clusters in Copper" Proceeding of 5th International Symposium on Advanced Materials (1997) pp401-404
51. J. Khalifeh, K.M. Khan, **K. Yaldram** and M.A. Khan "Monomer-dimer surface reaction: Subsurface effect". Proc. Europhysics Conf. Abstracts (editors G.A.M. Kip and H. Wormeester) 21E, Tu P72(1997)
52. K.M. Khan, **K.Yaldram** and N. Ahmed "Critical exponents for a dimer-dimer irreversible surface reaction". J. Chem Phys. **109**, 5054 (1998)
53. K.M.Khan, **K.Yaldram**, N.Ahmad and Qamar ul Haq "Kinetic phase transitions in dimer-dimer irreversible catalytic surface reactions of the type: A₂ + xB₂ ----- 2AB_x" Physica **A 268**, 89(1999)
54. K.M. Khan, **K.Yaldram**, Qamar ul Haq and N. Ahmad "Critical exponents for a dimer-dimer irreversible surface reaction" Physica **A267**, 134(1999)
55. K.M. Khan, **K.Yaldram** and N. Ahmad "Kinetics of a dimer-dimer irreversible catalytic surface reaction" J. Chem. Phys. **109**, 5054 (1998)
56. K.M. Khan and **K. Yaldram** " The effect of subsurface layer on the phase diagram of CO-O₂ catalytic reaction: A computer simulation study" Surface Science: **445**, 186 (2000)

57. K.M. Khan, A. Basit and **K. Yaldram** “The dimer-trimer and monomer- trimer models for heterogeneous catalysis: A phase diagram study” J. Phys.A: Maths and General **33**, L215(2000)
58. K.M. Khan, A.Basit and **K.Yaldram** “ The effect of the ratio of reactants on the phase diagram of heterogeneous catalytic reactions: A Monte Carlo simulation study.” Surface Science: **469**, 65 (2000)
59. K.M. Khan and **K.Yaldram** “Temporal kinetic oscillations in the oxidation of carbon monoxide: A subsurface layer effect.” J. Phys.A **278**, 526 (2000)
60. G.Fang, Y.K.Kwok, K. Yu, Y.Zhu, K.M.Khan, Q ul Haq, N.Ahmed and **K.Yaldram**. “Critical exponents for a dimer-dimer irreversible surface reaction” Physica A**267**,343 (1999)
61. **K. Yaldram**: “Scientific Culture-a prerequisite for sustainable development” S&T Policies and Strategies for Sustainable Development-Editors: Hameed A. Khan M.M. Qureshi and Irfan Hayee , page19 (2008)
62. **K.Yaldram**: “The Water Wars”, Science Vision,**15**, No.1 (Jan-June 2010)

(j) REPORTS

1. **Y. Khwaja**

"Madelung constant of ionic structures : application to pyrite structures".
DEA report, Un. Louis Pasteur, Strasbourg 1974.

2. **Y. Khwaja** and A. Sadiq

"Statistics of single chain polymers".
PINSTECH report No. NPD-21 (TPG) (1981)

3. **K. Yaldram** and M. A. Khan

"Monte Carlo studies of a macromolecular chain subject to external constraints."
PINSTECH report No.NPD-103 (1982)

4. **Y. Khwaja** and M. Ahsan Khan

"Monte Carlo studies of a polymer chain confined to strips: Concentration profile".
ICTP report No. IC/83/72.

5. **Y. Khwaja** and M. Ahsan Khan

"Monte Carlo studies of domain growth in two dimensions".
ICTP report No. IC/82/83.

6. A. Sadiq and **K. Yaldram**

"Phase diagram of Ising Square lattice with unequal nearest and next nearest neighbour interactions".
ICTP report No.IC/85/143.

7. A. Sadiq and **K. Yaldram**

"Time evolution of an irreversible recombination process".
ICTP report No.IC/87/121.

8. **Y. Khwaja** and A. Sadiq

"Kinetics of heterogeneous catalysis: Oxidation of carbonmonoxide".
PINSTECH report No.PINSTECH/NPD-123.(1987)

9. **Y. Khwaja**, A. Sadiq and S. Murad

"Molecular Dynamics: Application to liquid sodium"
PINSTECH internal report No. PINSTECH/NPD-124. (1989)

10. G. Khan, **K. Yaldram** and A. Sadiq

"Steady reactive state in an irreversible surface reaction."
PINSTECH/NPD-127(1990)

11. N. Ahmed and **K. Yaldram**

"Variable Adsorption and Reaction rates in a monomer-dimer model of heterogeneous catalysis."
PINSTECH/NMD-123 (1991)

12. K.M. Khan, M. Nisar and **K. Yaldram**
“NO-CO-O₂ catalytic surface reaction: A Monte Carlo simulation”
PINSTECH/NPD-133 (1992)
13. J.I. Akhter, **K. Yaldram**, W. Ahmad and K.M. Khan
“Molecular Dynamics study of Silver”
Report No. PINSTECH-146.(1995)
14. Anthony Nasir and **Khwaja Yaldram**
“Trends in scientific research in Pakistan: An analysis of research productivity and quality.”
PCST Report No. 4/2001
15. **Khwaja Yaldram** and S.T.K. Naim
“Use and Abuse of Impact Factor and Citation Counts”
PCST Report No. 7/2001
16. M. Munir Ahmed, M. Aamer, Falak Sher, Shakeel Ahmed and **Khwaja Yaldram**
“Contribution of PAEC towards National S&T effort”
Report No. DP-01/2002
17. **Khwaja Yaldram**
“Attrition of senior level S&T manpower in PAEC”
Report No. DP-02/2002
18. **Khwaja Yaldram**
“Financial Discipline: Limitations of Financial Power”
Report No. DP-03/2002
19. **Khwaja Yaldram** and Mohammad Aamer
“Attrition of senior level S&T manpower in PAEC: A five year perspective”
Report No. DP-04/2002
20. **Khwaja Yaldram** and Mohammad Aamer
“ Organizational Structure of PAEC”
Report No. DP-05/2002
21. Khalida Parveen, Mohammad Aamer and **Khwaja Yaldram**
“Restructuring of PINSTECH”
Report No. DP-08/2003
22. M. Munir Ahmed, M. Aamer, Falak Sher, Shakeel Ahmad and **Khwaja Yaldram**
Contribution of PAEC towards National S&T effort
Report No. DP-01/2002

23. K. Yaldram

“Introducing inquiry based science education”. Report submitted to PSF and Embassy of France (Feb. 2010)

(k) BOOKS

1. “Experiencing Mathematics” co-edited with N.M. Butt (2009)
2. “The Excitement of Science” co-edited with N.M. Butt (2009)

(l) PROPOSALS SUBMITTED

Proposals and Reports submitted on various issues, including:

- Proposal for setting up of “National Institute of Computer Engineering and Information Technology”.
- Proposal for setting up of “Management Information System within PAEC”.
- Recommendations of the Committee on “Procurement Procedures”.
- Proposal for setting up of “Directorate of Human Resource at PAEC”.
- Proposal for setting up of “Directorate of Project Assessment and Appraisal at PAEC”.
- Improved criteria for “Civil Awards”.
- Report on “Financial Discipline: Limitations of Financial Powers”.
- “SOPs for security at PAEC establishments”.
- PC-IV for establishment of a Science Museum (2008)
- Proposal for setting up of ECO Science Foundation (2008)
- Proposal regarding “Establishment of R&D infrastructure for nanotechnology and introduction of BS(4 yr) degree course” for financial assistance from IDB was submitted to COMSTECH on 30th June 2010.

- Proposal regarding “ Nanotechnology in South Asia: Building capabilities and governing the technology: a Pakistani perspective” submitted to IDRC in April 2010.

(m) CONFERENCES/WORKSHOPS

1. European Physical Society "Itinerant Electron Magnetism".
Sept. 12-15, 1976. Wadham College, Oxford.
2. First National Conference on Solid State Physics, 11-15 March 1978, PINSTECH.
Paper presented on "Effect of off-stoichiometry on the magnetic properties of antiferromagnetic FeRh alloy".
3. Second National Conference on Solid State Physics, 7-8, Nov. 1979, Punjab University Lahore.
Paper presented on "Dynamics of Polymer Chains".
4. Spring College on Physics of Polymers, liquid crystals and low dimensional solids.
9 April-20 June 1980. ICTP, Trieste.
5. 26th-27th All Pakistan Science conference. Un. of Eng. and Tech., Lahore. 29 Dec. 1979 - 2 Jan. 1980.
Paper presented on "Monte Carlo simulation of SARW: space-time step-step correlations".
6. Conference on the Physics of transition metals. 18-22 Aug. 1980. Leeds, England.
Paper presented on "Spin-Flop transition in non-stoichiometric FeRh alloy".
7. Third National conference on Solid State Physics. 31 Jan.-1 Feb 1981, University of Karachi.
Paper presented on "Step-step correlations in restricted and self avoiding random walks"
8. School on Physics of Mixed Solids.
21-25 Feb. 1981. Quaid-i-Azam University Islamabad.
9. Workshop on condensed matter physics, Trieste, Italy. 20 June - 9 Sept. 1983.
Seminar given on "Kinetics of domain Growth in two dimensions".
10. Joint PAEC/KfK seminar on "Structural Materials for Reactor Technology"
18-22 Nov. 1984, Lahore.

Paper presented on (a) Tracer and collective diffusion in a lattice gas.(b) Phase diagram of a lattice gas system.

11. Fourth National conference on solid State Physics.
14-16 April 1984. Quaid-i-Azam University, Islamabad.
Paper presented on "Monte Carlo studies of constrained polymer chains".
12. Summer Workshop in condensed Matter Physics. ICTP, Trieste. 2 July-15 Aug. 1985.
13. Symposium on Frontiers in Physics, 26-30 Jan 1986. Quaid-i-Azam University, Islamabad.
Paper presented on "Collective and Tracer diffusion coefficients of adsorbed monolayers".
14. Asian Regional Course on Materials Science and Metallurgy.
8-19 Nov. 1986. Quaid-i-Azam University, Islamabad.
15. Spring College on Material Science. 4 May - 2 July 1987. ICTP, Trieste.
Paper presented on "Time evolution of an irreversible catalytic surface reaction".
16. Second National Conference on Frontiers in Physics
26-31 Dec. 1988, Quaid-i-Azam University, Islamabad.
Paper presented on "Role of sticking coefficients in catalytic surface reactions".
17. Thirteenth International Nathiagali Summer College, 1988.
Paper presented on "Computer Simulation of irreversible surface reactions".
18. 11th European Conference on Surface Science, 1-4 Oct. 1990 Salamanca. Spain.
Paper presented on "NO+CO reaction on square and hexagonal surface".
19. Third Symposium on Frontiers in Physics.
26-29 Nov. 1990. Quaid-i-Azam University, Islamabad.
Paper presented on "Role of interactions in unmixing of binary alloys".
20. 12th European conference on Surface Science, 9-12 Sept. 1991 Stockholm.
Paper presented on "Surface effect on Steady Reactive State".
21. 5th National Conference on Solid State Physics,
26-29 Oct. 1991 University of Punjab.
Paper presented on "Phase diagram of a two-dimensional Ising model with quenched site impurities".
22. 4th National Symposium on Frontiers in Physics
15-19 April, 1992, Quaid-i-Azam University, Islamabad
 - (i) Review paper presented on "Monte Carlo Simulation of Catalytic Surface Reactions".

- (ii) Poster presented on "Computer Simulation Study of the reaction NO-CO-O₂ on a Catalytic Surface."
23. Seventeenth International Nathiagali Summer College, 1992
- (i) Poster presented on "NO-CO-O₂ heterogeneous catalytic surface reaction."
 - (ii) Pre College talk given on "Monte Carlo Simulation in Statistical Physics."
24. All Pakistan Science Conference,
16-21 May 1992, Khanaspur.
Invited lecture given on "Monte Carlo simulation in Physics and Chemistry."
25. 17th International Workshop on Condensed Matter Theories
18-24 June 1993. Nathiagali:
- (i) Paper presented on "Phase diagram of a dilute binary alloy with annealed vacancies" (coauthors: G. K. Khalil and A. Sadiq).
 - (ii) Poster presented on "Kinetics of dimer-dimer heterogeneous catalytic surface reaction" (coauthor: G.K. Khalil).
 - (iii) Poster presented on "Computer simulation study of a dimer-dimer heterogeneous catalytic surface reaction." (coauthors: K.M. Khan and N. Ahmed).
26. Pakistan Institute of Physics annual conference. April 1993, Lahore.
Paper presented on "Study of irreversible dimer-dimer heterogeneous catalytic reaction by Monte Carlo simulation." (coauthors: K.M. Khan and N. Ahmed).
27. International conferences on solid → solid phase transformations in inorganic materials,
July 17-22 1994 Pittsburg, Pennsylvania U.S.A.
Paper presented on "Monte Carlo Simulation of long range order kinetics in B2 phases" (coauthors: V. Pierron-Bohnes, M.C. Cadeville and M.A. Khan)
28. Conference on Science in Islamic Polity in the 21st century, March 26-30, Islamabad
Paper presented on "PINSTECH as a role model for development of scientific R&D in the Muslim Ummah" (coauthor: N.M. Butt).
29. Workshop on Defects, Dynamics and Diffusion in Intermetallics, Sept. 1994 Wien (Austria).
Paper presented on "Monte Carlo simulations of long range order kinetics in B2 phases" (coauthors: V. Pierron-Bohnes, E. Kentzinger, M.C. Cadeville and M.A. Khan).
30. CALPHAD XXIV, May 1995 Kyoto (Japan).
Paper presented on "The migration enthalpy of ordering kinetics in B2 intermetallic compounds: a Monte Carlo simulation (coauthor: V. Pierron-Bohnes, E. Kentzinger, M.C. Cadeville and M.A. Khan).

31. Reunion ordre-desordre, Jan., 1995 Paleau (France).
Paper presented on "Simulation Monte Carlo des cinetique d'ordre dans les phases B2". (coauthors: V. Pierron-Bohnes, M.C. Cadeville and M.A. Khan).
32. 38th Colloque de Metallurgie de l'INSTN, June 1995 Saclay (France).
Two papers presented:
 - (i) "Dynamique de reseau et enthalpie de migration dans les alliages Fe-Al"
 - (ii) "Cinetique d'ordre dans les composes intermetalliques B2: une simulation Monte Carlo" (coauthors: E. Kentzinger, M.C. Cadeville, V. Pierron-Bohnes, M.A. Khan, W. Petry and B. Hennion).
33. 4th International Symposium on Advanced Materials, 17 Sept. (1995) Islamabad.
Two papers accepted for presentation:
 - (i) "Effect of interactions on the phase diagram of a two dimensional binary alloy" (coauthors: G.K. Khalil, S. Mujahid and A. Sadiq)
 - (ii) "Molecular Dynamics study of bulk and (111) surface of Ag" (coauthors: J.I. Akhter and W. Ahmad).
34. 5th National Symposium on Frontiers in Physics, 26-28 Dec. 1995. Quaid-i-Azam University Islamabad.
Two papers presented:
 - (i) "Sub-surface effect on catalytic surface reactions" (coauthors: K.M. Khan and M.A. Khan)
 - (ii) "Bulk and surface properties of Pd by Molecular Dynamics technique" (coauthor: J.I. Akhter).
35. 21st International Nathiagali Summer College, 1996
Invited talk on "Computer Simulation studies at PINSTECH"
Posters presented on:
 - (i) Molecular Dynamics studies of bulk and surface properties of Pd (co-author: J.I. Akhter).
 - (ii) Effect of surface to subsurface oxygen diffusion on CO-O₂ catalytic reaction (co-authors: K.M. Khan and M.A. Khan).
 - (iii) Nature of clusters in a quenched binary alloy. (co-authors: G.K. Khalil and A. Sadiq)
36. 22nd International Nathiagali Summer College, 1997
Invited talk given on:
"Fifty years of Condensed Matter Physics in Pakistan".
37. 5th National Symposium on Advanced Materials, 21-25 Sept. 1997, Islamabad.

Poster presented on:

- (i) Quenched and annealed percolation in a two dimensional site dilute binary alloy (coauthors: G.K. Khalil and A. Sadiq).
 - (ii) Molecular Dynamics study of temperature dependence of Self Diffusion Coefficient in Pd. (coauthor: J.I. Akhter).
 - (iii) Vacancy clusters in copper (coauthors: noorullah and J.I. Akhter)
38. 17th European Conference on Surface Science (ECOSS-17), 16-19 Sept. 1997, Enschede, Netherlands.
Paper presented on "Monomer-dimer Surface Reaction: Subsurface Effect".
(coauthors: J. Khalifeh, K.M. Khan, and M.A. Khan)
39. 6th National symposium on Frontiers in Physics, 16-18 Dec.1997, Quaid-i-Azam Un.
Presented paper on " A new technique for the determination of the percolation thresholds" (coauthors: Noorullah, G.K.Khalil and A.Sadiq)
40. Physics Summit (ASEPS), 23-26 March 2010, Osaka, Japan
A paper presented on "Nanotechnology: cooperation between the developing and Advanced countries" by coauthor N.M. Butt
41. Conference organized by the Canadian Academy of Sciences, Ottawa, Canada, 4-6 Aug. 2010
Paper entitled " Need for nanotechnology education for specific undergraduate (BS) Degrees" accepted for presentation (coauthor: N.M. Butt)

(n) MISCELLANEOUS

- 1. Coedited the "Proceedings of the First National Conference on Solid State Physics".
11-15 March 1978, PINSTECH.
- 2. Member, Organizing committee of first National Conference on Solid State Physics.
11-15 March 1978, PINSTECH.
- 3. Member organizing committee 14th International Conference on SSNTD,
2-6 April 1988. Lahore. Pakistan.
- 4. Coordinator of seminars at 13th International Nathiagali Summer College.

5. Associate Member ICTP. 1983-1990.
6. Visited Institute of Physics, Mainz under KfK/PAEC bilateral programme May-June 1989.
7. Visited Institute of Physics, Mainz as guest scientist. May-June 1990.
8. Edited the Progress Report of NPD 1989-1990.
9. External examiner of M. Phil. theses at Quaid-i-Azam University.
10. Member organizing committee 17th International Nathiagali Summer College on Physics and Contemporary needs, 25 June - 9 July 1992, Nathiagali. Pakistan.
11. Member symposium committee Silver Jubilee celebrations of PINSTECH (1992).
12. Member editorial board PNS newsletter (upto Dec. 1997).
13. Member technical committee 18th International Nathiagali Summer College on Physics and Contemporary needs, 10-17 June 1993 Nathiagali. Pakistan.
14. Member of the local organizing committee of 17th International Workshop on Condensed Matter Theories, 18-24 June 1993, Nathiagali. Pakistan.
15. Visited IPCMS, Un. Louis Pasteur, Strasbourg(France) as Director Research, March-Aug. 1993.
16. Editor of proceedings of 17th Nathiagali Summer College 1992.
17. Edited the proceedings of the Silver Jubilee symposium on role of PINSTECH in reactor development and scientific research.
18. Member Technical Committee 22nd International Nathiagali Summer College on Physics and Contemporary Needs, 1997 Nathiagali.
19. Member editorial board PINSTECH news and views (upto Dec. 1997).
20. Elected Fellow of the Pakistan Nuclear Society, 1999.
21. Member of the editorial board of "The Nucleus".
22. Member of the "Management Committee COMSATS" (2007- 2009)
23. Member Board of Governors of Viqar un Nisa Higher Secondary Institute (2010-)
24. Involved in introduction of "Inquiry Based Science Education" in the secondary schools of Pakistan. Programme initiated with the collaboration of French Embassy and LAMAP France.
