

MUHAMMAD KHALID

Date of Birth: May 11, 1958.

Place of Birth: D.I.Khan, N.W.F.P

Marital Status: Married.

Father's Name: Kifayat ullah

Nationality: Pakistani.

Office:

Professor

Department of Physics,

Gomal University,

Dera Ismail Khan, Pakistan.

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Residence: Lala Zar Colony

, D.I. Khan

Ph. +92-966-710104

Home:

Village & P.O. Dhakki,

Tehsil & District **DIKHAN**, NWFP

PAKISTAN

Current/Future Research Interests:

- (a): *Catalytic surface reaction via Monte Carlo Simulation.*
- (b): *Computational Study of Cold and Thermal Plasma for Material Studies and other Technological Applications.*
- (c): *Nano-particles formation and deposition on the substrate.*
- (d): *Modelling of recombining plasma in divertor simulator .*

Qualification:

Ph.D. December 1991 Department of Physics, UMIST, University of Manchester, England

Subject: Plasma Physics & Controlled Fusion/ Computational Physics

Thesis

Title: "Numerical study of drift ballooning mode in UMIST quadrupole"

Supervisor: Prof. M.G. Rusbridge.

M. Sc. 1982-84

Department of Physics, Gomal University, D.I.Khan, Pakistan.

B. Sc. 1979-81

Government College DIKhan. (Gomal University DIKhan)

Research & Teaching Experience:

1st September 1984-16th Sep. 1999

Lecturer

Department of Physics, Gomal University, D.I.Khan. Pak.

Job Responsibilities: Full time Research & Teaching.

17th January 2002 to 3rd December 2008

Assistant Professor

Department of Physics, Gomal University, D.I.Khan. Pak.

Job Responsibilities: Full time Research & Teaching.

4th January 2008 to date

Professor

Department of Physics, Gomal University, D.I.Khan. Pak.

Job Responsibilities: Full time Research & Teaching.

Fellowships & Awards:

1982

Gold Medal

B.Sc Examination

1987-1991

Research Scholarship

Ministry of Science & Technology, Pakistan

Job Responsibilities: Research

1989-1991

ORS Award

UMIST (during Ph. D), England

Jan 2005 to Jan 2006

One Year Postdoctoral Fellow (HEC)

Physics Department, University of Manchester

(June-Sept.) 2004

Short-term Postdoctoral Fellow (S&T)

Plasma Physics Lab. NIE, Nanyang Technological University
Singapore

Research Students Supervised:

Fifty M.Sc. Research Students Thesis (Completed)

one Ph.D Research Students Thesis (Completed)

Two M.Phil Research Students Thesis (Completed)

Four M.Phil Research Students Thesis (Registered)

Four Ph.D. Research Students Thesis (Registered)

Membership of the Scientific (Academic) Societies/Bodies:

Member of the Academic Council, Gomal University, D.I. Khan, Pakistan.

Computer Skills:**Proficiency in:**

Word Processing: CHIWRITE[®], WORDPERFECT, MS-WORD, LATEX, SCIENTIFIC WORK PLACE[®]

Graphic & Images: MS-EXCEL, ORIGIN[®] SIGMA PLOT[®], COREL DRAW[®], ADOBE-ACROBAT[®] etc.

Programming: FORTRAN, MATHLAB[®], MATHCADE[®], MAPLE[®] & MATHEMATICA[®]

Numerical expertise: solving ODEs and PDEs, root Findings, solving coupled equations ODEs and PDEs etc etc

CONFERENCES/WORKSHOPS ATTENDED

- 1- *Recent Advances in Physics and its Applications* (8-10) May, Gomal University, D.I. Khan (1990).
 - 2- *International Conference and Symposium on Quark Matter and Heavy Ions Collisions*, QUMATIC (13-20) January, Gomal University, D. I. Khan (1992).
17th International Nathiagali Summer College (25 June-09 July), Nathiagali, Pakistan (1993).
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RESEARCH PUBLICATIONS

- 1- Crossley F.J., F. Udholm, P. Duccan , Elliot J.A., Khalid M., M.G. Rusbridge., "Saturation and Energy flow of drift waves in steady state plasma" (1989) Proc.Cadarach Workshop on Electrostatic Turbulence, Cadarache Report EUR-CEA-1381, p.39.
- 2- Khalid M. and Rusbridge M.G., (1989) " Sinusoidal Behavior of Drift Ballooning Mode" Proc. Conference on Plasma Physics and Controlled Fusion, Essex.p.112.
- 3- Crossley F.J., F. Udholm, P. Duccan , Elliot J.A., Khalid M.and M.G. Rusbridge., "Experimental Study of Drift-wave saturation in Quadrupole Geometry" (1992) "Plasma Physics and controlled Fusion"Vol. 34, No.2,pp235-262.
- 4- Q.N. Chouhan , Khalid M, & M. Khalid "Preparation and characterization of iron acetyleacetate (FcAA) Thin Films" (1996) GU Research Journal. Res.(B) 15(2) 153.
- 5- Khalid M, A.U. Qaisrani and M. Shafiq "One dimensional numerical study of drift ballooning mode in UMIST quadrupole" ,(1996) GU Research Journal. Res.(B) 14(2) 297
- 6- M.Khalid and A.U.Qaisrani "Numerical Study of Drift Ballooning Mode in UMIST Quadrupole". ,(2002) GU Research Journal. Res. Vol.19. pp 35.
- 7- A.U.Qaisrani, M.Khalid,K.M.Khan,Q.N.Malik and Q.N.Chohan "Computer Simulation of CO-O2 Catalytic Reaction on Body Centered Cubic Lattice:Comparative Study." ,(2002) GU Research Journal. Res. Vol.19. pp 27.
- 8- M Khalid "Comparison of Two-dimensional & Equivalent slab model (ESM) Model of Drift ballooning Mode in UMIST Quadrupole" Journal of Pure and Applied Sciences, Vol.21,No.1. (2002), p. 53.
- 9- A.U.Qaisrani, and M.Khalid, Eley-Rideal Model for monomer-dimer surface catalytic reaction: study of sub-surface effect: The Nucleus 39 (3-4) 2003 127.

- 10- A.U.Qaisrani, M.Khalid, K.M.Khan, Q.N.Malik, Q.N.Chohan "Precursor & Diffusion Mechanism for Monomer-Dimer Catalytic Reaction on Body Centered Cubic Lattice: Comparative Study. Accepted for Publication in G.U.J.R.
- 11- M. Khalid, K.M. Khan, A.U. Qaisrani and Q.N. Malik 'Effect of Ballistic-Type Hot atom adsorption mechanism on the phase diagram of monomer-dimer surface catalytic reaction: A Monte Carlo simulation study' Chinese Physics Letters. Vol. 21, No.6 (2004), 1171
- 12- Qaisrani A.U , K.M. Khan and M. Khalid, Effect of Eley-Rideal process on the phase diagram of surface-subsurface model for monomer-dimer catalytic reaction: A Monte Carlo simulation study. International Journal of Modern Physics C V 15 No 9 (2004) 1215.
- 13- A.U.Qaisrani, M. Khalid and K.M.Khan "Phase diagram study of catalytic oxidation of CO on the surface-subsurface of a body-centred cubic structure with Eley-Rideal process: A Monte-Carlo simulation study. Chinese Physics Letters Vol 21 No.9 (2004), 1838.
- 14- M. Khalid , A.U. Qaisrani and W Ahmad "Non-thermal effects on CO-NO surface catalytic reaction on square surface: Monte Carlo Study Chinese Physics Letters, V 22 No.6 (2005) 1533.
- 15- M. Khalid, A.U. Qaisrani and M K Khan, "CO-NO Catalytic Reaction on Body-Centred Cubic Structure: Monte Carlo Study" International Journal of Modern Physics C Vol 16 No. 8 (2005) 1279.
- 16- M. Khalid, Q.N. Malik , A.U. Qaisrani and M.K. Khan "Effect of experimentally observed hot atom mechanism on the phase diagram of monomer-dimer catalytic reaction on Pt(111). Brazilian Journal of Physics vol.36. no.1 B (2006) 164.
- 17- W. Ahmad, M. Parvez, M. Musa Kaleem Baloach M. Khalid, "The effect of oxygen-oxygen repulsion in the production of water from hydrogen-oxygen reaction on the surface: A computer simulation study. Physica A 365 (2006) 307.
- 18- W. Ahmad, M. Parvez, M. Musa Kaleem, A.U. Qaisrani and M. Khalid, "A non-thermal lattice gas model for a dimer-trimer reaction on a catalytic surface: A computer simulation study (2006) Applied Surface Science, (2006) 601.
- 19- M. Khalid and A. U. Qaisrani "Transient non-thermal mobility of CO for NO Catalytic Reaction on Square Lattice: Computer Simulation" Study Chinese Physics Letters, V 22 No.4 (2008) 600.
- 20- M. Khalid, A.U. Qaisrani " Role of Transient Non-Thermal Mobility of CO for CO-NO Catalytic Reaction on Hexagonal Lattice: computer study" submitted chinese Physics letters.