

June, 2010

C.V – Dr.N.M.Butt

M.Sc(Punjab),Ph.D(Birmingham),D.Sc(Birmingham)

Current Address:

Dr. N. M. Butt S.I

M.Sc(Punjab), Ph.D(Birmingham), D.Sc(Birmingham)

Preston Professor of Nano Science & Technology &
Chairman,.

Preston Institute of Nano Science & Technology (PINSAT).

Preston University, Sector H-8/1. Islamabad. PAKISTAN

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Home: 0092-51-2652242

Fax: 0092-51-4430648

Chairman [Retd]. 1. Pakistan Science Foundation(PSF) [2005-2008 & 2. National Commission on Nano-Science and Technology (NCNST).[2003-2008].

Scientist Emeritus PAEC,

Home address:

Dr.N.M.Butt, S.I

H.No. 155, Street 15, Sector E-7.

Islamabad. Pakistan.

Email Address: nmbutt36@yahoo.com

Professor Dr. Noor M. Butt did his M. Sc Physics (1957) from Government College, Punjab University, Lahore, Pakistan and his Ph.D (Nuclear/Solid State 1965) and D.Sc (Physics, 1993) from the University of Birmingham, U.K. His classical work (1963) with O'Connor established the confirmation of Waller's theory (1923) of phonons at the Bragg diffraction peaks using diffraction of Mossbauer gamma-rays from LiF single crystals which has been extensively cited for several decades and printed in several books including those of Cambridge University Press (U.K.) and North Holland Publishers. His research interests are:

- i. Crystal Diffraction studies using Mossbauer gamma-rays.
- ii. Neutron Diffraction and Scattering from Solids.
- iii. Research Reactor Utilization
- iv. Correlation of Micro-Macro properties of crystalline materials.
- v. Nanotechnology.

He has published over 160 research papers in the above-mentioned areas. Professor Butt has lectured and presented Research Papers in conferences in over 25 countries in the East and West. He is on the Editorial Boards of several National and International Journals (including J.Nanoparticle Research, JNR ,M/S Springer Verlag, Germany, 2008—todate and J.Nano Education,JNE, USA) and Member of Governing Bodies and Technical Committees of several organizations/Universities. He is Visiting/Honorary Professor at a few Universities in Pakistan.

On the basis of his work on “Structure Properties of Cubic Crystals” the University of Birmingham conferred on him the degree of D.Sc (1993).

Dr. Butt is Fellow of the Pakistan Academy of Sciences and the Islamic Academy of Sciences and has been President of a few Professional Societies of Pakistan. He is the First Joint Winner of International Kharazmi Award(KIA), Iran(1995). He was elected Hon. Member of the World Innovation Foundation (WIF). The WIF has world known Scientific and Engineering Professionals as its elected Members including about 90 Nobel Laureates.

He retired in 1996 as Chief Scientist/ Director General of PINSTECH, Pakistan’s premier research Institute and he was the first to be given the position of Scientist Emeritus (Life-title) of PAEC in view of his outstanding services to the Pakistan Atomic Energy Commission (PAEC).Dr Butt has worked as Lecturer in Government College Lahore(1958-1961) and then worked for Atomic Energy Commission(1966-1996) at its premier research Institute at PINSTECH in various capacities and finally retired as Chief Scientist/Director General of PINSTECH which had over 2000 employees including over 400 professionals. Dr Butt worked as Chairman of Pakistan Science Foundation(2005-2008) .

Dr Butt is the initiator of Nanotechnology in Pakistan. He worked as the Chairman of the National Commission on Nano Science and Technology ,NCNST (2003-2008), Ministry of Science and Technology and as a result , several laboratories in Pakistan are now engaged in Nanotechnology in Pakistan. He has delivered about 60 lectures on Nanotechnology at home and abroad over the last 10 years.

BIO-DATA : DR. N. M. BUTT, S.I

Name	- NOOR MOHAMMAB BUTT
Father's Name	- M. Feroze-ud-Din Butt (Late)
Permanent Address	- House No. 155, St. 15, E-7, Islamabad.
Date of Birth/Place	- 3 June, 1936/SIALKOT CITY [PAKISTAN]
Present Nationality	- Pakistani
Field of Specialization	- PHYSICS (Nuclear / Solid State / Nanotechnology)
Present Position	- Preston Professor of Nano Science & Technology & Chairman, Preston Institute of Nano Science & Technology (PINSAT). Preston University, Sector H-8/1. Islamabad. PAKISTAN Tel Off: 111-707-808, 0092-51-4430597-98 / P.S: Ext: 412 Direct Ext: 409 Tel Res : 0092-51-2652242 , Cell : 0092-3005000513 Fax: 0092-51-4430648 www.presto.edu.pk e-mail: nmbutt36@yahoo.com

Scientist Emeritus, PAEC (Life-Title). 1996-

Former:

- Chief Scientist/Director General (Retd.)
- Pakistan Institute of Nuclear Science and Technology (PINSTECH), Islamabad, [PAKISTAN]
- Chairman, Pakistan Science Foundation (2005-2008)
- & Chairman, National Commission on Nano-Science and Technology (NCNST) 2003-2008.

RECORD

<u>Examination</u>	<u>Year</u>	<u>Division</u>	<u>Institution</u>	<u>Major Subjects</u>
<u>Matric</u>	1951	<u>FIRST</u>	Muslim High School, Sialkot	English, Maths, Science
<u>F. Sc.</u>	1953	<u>FIRST</u>	Murray College, Sialkot (Punjab University)	English, Maths, Physics, <i>Merit Scholarship</i> [Govt. of Punjab. Dept. of Education].
<u>B. Sc.</u>	1955	<u>FIRST</u>	Murray College, Sialkot (Punjab University)	English, Maths, Physics <i>Merit Scholarship in Physics Punjab Univ. Exam.</i> [Govt. of Punjab, Dept. of Education]
		(First in the District Sialkot)		
<u>M. Sc.</u>	1957	<u>FIRST</u>	Govt. College, Lahore (Punjab University)	Physics [First Class First] (Second Position in the Punjab University) Supervisor Nuclear Research: <i>Prof. R. M. Chaudhri.</i>
		(First Class First in Govt College)		
<u>Ph.D.</u>	1965	<u>RESEARCH DEGREE</u>	Univ. of Birmingham, UK (Commonwealth Scholarship)	Physics (Nuclear and Solid State) Research Supervisor: <i>Prof. P. B. Moon, FRS</i> and lecture courses from <i>Prof. W. E. Burchman, FRS</i> , (Nuclear) and <i>Prof. R. E. Peierls, FRS</i> (Solid State).
<u>D. Sc.</u>	1993	<u>RESEARCH DEGREE</u>	Univ. of Birmingham, UK (based on	Physics

(Classified authoritative research)
as Category-
I)

Research Interests

- Neutron Scattering and Diffraction from Solids
- Mossbauer Spectroscopy
- Macro-Micro Property Correlation in Crystals
- Nanotechnology

Publications:

- **117** International and National Research Publications (Journals and Proceedings).
- **28** national and international *research reports*.
- **Over 100** invited seminars in famous laboratories in over 26 foreign countries.
- **About 140** national and international conferences attended (presented over 50 papers including invited papers and chaired several sessions).

Languages:

1. English (Excellent) 2. German (Moderate) 3. Italian (Moderate) 4. Spanish (Nominal)

Opinions:

Appreciative technical opinions on research from : Over **80 Scientists** [includes 2 Nobel Laureates and 3 F.R.S.] of over **20 Countries**, spread on **40 years**.

DR. N. M. BUTT, S.I.

M.Sc. (Govt., College ,Punjab Univ.) Ph.D. (Birmingham) D.Sc. (Birmingham)

SCIENTIST EMERITUS PAEC

E-mail: nmbutt36@yahoo.com

Former Chairman, Pakistan Science Foundation (2005 – 2008), & former Chairman, National Commission on Nano Science and Technology(NCNST) (2003 – 2008).

Degrees:

- **M.Sc. Physics** (1957), Govt. College, Lahore [First Class First] Punjab University, Lahore. Supervisor: **Prof. R.M. Chaudhri F. Inst. P.** [Nuclear Physics].
- **Ph.D. Physics** (1965, Birmingham Univ., U.K.), Supervisor: **Prof. P.B. Moon F.R.S.** [Lecture courses from **Prof. R.E. Peierls F.R.S.** (Solid State Physics – 3 months) and **Prof. W.E. Burcham F.R.S.** Nuclear Physics – one year].
- **D.Sc. Physics** (1993, Birmingham Univ. U.K. Classified Category-I).[Only 3 physicists in Pakistan with this higher doctorate degree].

Positions held:

- **Representative in Pakistan, Council for Nobel Laureates Meetings in Lindau (Germany).**
 - (i) Initiated yearly Participation of 8-10 talented Pakistani students in Nobel Laureates Meetings in Lindau(Germany) [2003---].
 - (ii) Initiated yearly Meeting of Nobel laureates with Pakistani students in Islamabad/Lahore [2006-----].
- **First Chairman, National Commission on Nano-Science and Technology (NCNST), Ministry of Science and Technology, Government of Pakistan, Islamabad (Oct. 2003-----).**Initiated awareness of Nanotechnology in Pakistan.
- **Scientist Emeritus, PAEC** (Life-title Honour on retirement, 1996-----).
- **Director General, Pakistan Institute of Nuclear Science and Technology (PINSTECH), Islamabad (1995-96)** [The Institute with over 2000 employees , over 400 professionals].
- **Director, PINSTECH, Islamabad (1991-95).**
- **Associate Director, PINSTECH, Islamabad (1984-91).**
- **Head, Nuclear Physics Division (NPD), PINSTECH, Islamabad (1978-91)** [NPD with about 100 employees].
- **Group Leader, Neutron Diffraction Group, NPD, PINSTECH, Islamabad (1966-78)** [The group with 10 persons].
- **Scientific Officer, PAEC, PINSTECH, Islamabad. (1961- 1965).**
- **Lecturer, Government College, Lahore (1958 – 1961).**
- **Research Scholar, Nuclear Research Laboratory, Government College, Lahore (1957 – 1958).**

Honours/Awards:

- **Dux Gold Medal** (1955), B.Sc. Murray College Sialkot, Pakistan. [**First Position**]
- **Youngson Gold Medal** (1955), B.Sc. Murray College, Sialkot, Pakistan. [**First Position**]
- **Academic Roll of Honour, (M.Sc.) 1957.** Government College, Lahore. [**First Class First**]
- **U.K. Commonwealth Scholarship Award (1961-65)** Birmingham Univ., U.K. [**c/o Prof. P.B. Moon FRS] – All Pakistan Competition.**
- **Research Fellowship, IAK, KfK, Karlsruhe, Germany (1965-66)** [**c/o Prof. K.H. Beckurts (late) and Prof. W. Glaser**].
- **ICTP (Trieste) Italy award (Oct.-Dec.) 1967** [**C/o Prof. A Salam (late)**]. Short Visit.
- **SIDA (Sweden) Research Award, Royal College of Tech. Stockholm (Jan-Feb 1968)** [**c/o Prof. K.E. Larsson**].
- **Associate ICTP Award (1970-75), Italy** [**C/o Prof. A. Salam (late)**]. Three Short Visits.
- **ICTP-Visiting Scientist, AERE, Harwell (U.K.), 1972, 1974, 1975** [**c/o Prof. B.T.M. Willis, Prof. A.K. Cheetham F.R.S.**]. - Short Visits.
- **Alexander Von Humboldt Foundation (Germany) Senior Fellowship Award (1976-77)** [**c/o Dr. M. Mullner**].

- **Senior Associate ICTP Award** (1979-1989), Italy [c/o **Prof. A Salam** (late)]. Short Visits.
- **Principal Investigator**, IAEA Research Contract, Vienna [1980, 1981, 1982].
- United Nations (IAEA) **Technical Assistance Expert**, Chile [Aug 1981- Feb. 82].
- Royal Society London **Visiting Scientist** at Oxford Univ. [1987, 1993]. Short Visits c/o **Prof. B.T.M. Willis, Prof. N.H. March**.
- **Open Gold Medal** (Physical Sciences), **Pakistan Academy of Sciences** (1990).
- Civil Award, “**Sitara-i-Imtiaz**” (Star of Distinction) by **President of Pakistan** (1992).
- **IAEA** (Vienna) **Consultant**, Research Reactor Utilization (1994). [c/o Physics Section]
- TWNSO (Trieste, Italy) **Expert** in Malaysia (SIRIM, Kuala Lumpur) 1995 [c/o **Prof. M.H.A. Hassan**]
- 8th International **Kharazmi Prize** (First Place Joint Winner), by **President of Iran** (1995). c/o IROST (Iran).
- Elected **Treasurer** (1994-98), Pakistan Academy of Sciences.
- Elected **President** (1995-97), Pakistan Nuclear Society.
- Honorary **Visiting Professor**, B.Z. Univ., Multan [1997-].
- **Scientist Emeritus**, PINSTECH (**Life-title Honour** on retirement) [1996-].
- **Shield of Distinguished Ravian**, Government College, Lahore for meritorious services in Nuclear Science and Technology. (1998)
- **Shield of Honour**, Pakistan Nuclear Society for meritorious services in the field of Nuclear Science and Technology. (1999)
- **Elected President**, Pakistan Chapter – AS International Centre for Theoretical Physics (Trieste) – 2002.
- **Representative in Pakistan**, Committee for Nobel Laureates Meetings in Lindau, Germany (c/o **Prof. L. Feinendegen, vice -President**) [2003-----].

Fellowships:

- **Fellow** (elected) Pakistan Academy of Sciences [1988]. Former, **Treasurer** (1994-98) and **Council Member** (1998-2000).
- **Fellow** (elected) Islamic Academy of Sciences, Jordan [1993].
- **Fellow** (elected) Pakistan Nuclear Society [1997].
- **Fellow** (elected) World Innovation Foundation [2006].

Editorial Boards of Journals: Member:

- “Neutron News”, New York, **USA** [1990-2003] C/o Editor: **G. Lander**
- J. of Advanced Performance Materials, **USA** [1993-97] C/o Editor: **H. Froes**.
- Nucleus, PAEC (**Pakistan**) [C/o **H.A. Khan**, Editor-in-Chief] 1996-.
- Proceedings of Pakistan Academy of Sciences, **Pakistan**. [C/o **M.D. Shami**, Editor-in-Chief] 1997-.
- Pakistan J. of Scientific and Industrial Research, **Pakistan**. [1973-]
- Journal of Nanoparticle Research(JNR), M/S Springer Verlag, Germany [January 2008-----] Editor-in-Chief. Dr.M.Roco
- Journal of Nano Education (JNR), Florida,USA [2009---]. Editor in Chief. Dr.Aldrin E Sweeney.

Member, Professional Societies:

- Pakistan Physical Society, Islamabad (Life Member)[also former **President**].
- Pakistan Inst. of Physics, Lahore (Life Member).
- Pakistan Nuclear Society, Islamabad (Life Member). [also **President & Council Member**].
- Pakistan Society for History and Philosophy of Science, Islamabad.
- Crystallography Society of Pakistan, Islamabad. [**Vice-President**].
- Institute of Physics, London (Formerly).
- American Physical Society, New York (Formerly).
- The Abdus Salam ICTP-Pakistan Chapter, Islamabad [**President – 2003**].

Member, Advisory Committees:

- Technical Evaluation Committee, For research grants, **Pakistan Science Foundation**, Islamabad (1976-1996).
- Selection Board for Professors etc., **Centre for Solid State Physics**, Lahore (1976-to date).
- **Nathiagali Summer College** on Physics and Contemporary Needs, PAEC, Islamabad, 1978.
- Board of Studies in Physics, **AJ&K Univ., Muzaffarabad**, (1985-)
- Frontiers of Physics Conferences, **Q.A. Univ. Islamabad** (1989, 1991, 1993, 1995, 1997, 1998).
- **Expert** in Material Science, **B.Z. Univ, Multan**. (1989 -).
- **Prime Minister’s Special Committee on S&T**, Islamabad (1990-).
- **Member, Pakistan Atomic Energy Council** (1991 – 1994).

- **Board of Governors**, Centre for Solid State Physics, Lahore (1993-to date).
- **President of Pakistan's Committee** on Physics, Islamabad (1995).
- **Board of Trustees**, Pakistan Science Foundation, Islamabad (1996-2005).
- **Technical Advisory committee**, COMSATS (South-South cooperation) (c/o TWAS, Trieste), 1996- .
- **Panel of Experts** Committee on S&T for **Central Asian States**. (1996-).
- Pakistan Institute of Physics conferences, Lahore (Several years).
- **Consultant** EC2000, Leeds (UK). 1997- .
- **Honorary Theme Editor** (HTE) "Encyclopedia of Life Sciences Support (**EOLSS**) Project. UNESCO, Paris (1997-).
- Board of **Studies in Physics**, **Govt. College Lahore** (1997-).
- **Expert**, Selection Board, **Q. A. University, Islamabad** (1998-).
- **International Conference** on HIP (**Beijing**). 1999.
- **Member**, Technical Advisory Committee, "Frontiers in Physics", Pakistan Physical Society (several years).
- **Member**, Board of Governors, **Sir Syed Memorial University, Islamabad** (2001-).
- **Member**, Peer Review committee, **Ministry of Science and Technology**, Government of Pakistan, **Islamabad** (2001-).
- **Member**, Part-time Advisory Panel, **Nuclear Regulatory Authority**, Government of Pakistan, **Islamabad** (2001).
- **Member**, Board of Governors, Preston University, Islamabad (2003-----).
- **Member**, Board of Governors, COMSATS Inst. of Information Technology (CIIT), Islamabad (2004-------).
- **Member**, Board of Governors, Pakistan Agricultural Research Council(PARC). (2005-2008).
- **Member**, Board of Governors, Pakistan Council for Science and Technology (2005-2008).
- **Member**, **Board of Governors, Foundation University. Islamabad. (March 2009----**).

Miscellaneous:

- Course of Lectures on Solid State Physics, Q.A. Univ. Islamabad (1973).
- **Supervisor Ph.D. student**, Q.A. Univ. Islamabad (1990-).
- **Examiner** in Theory papers and Thesis of **M.Sc., M.Phil and Ph.D. students** of (1) Q.A. Univ., Islamabad; (2) Punjab Univ., Lahore and (3) B.Z. University, Multan. [Several years].
- **Secretary, International Seminar** on Solid State Physics, PINSTECH, Islamabad, 1974.
- **Director**, Advance **Course on Materials Science**, Q.A. Univ., Islamabad (1986).
- **Director**, International Course on **Materials Science, COMSTECH, OIC**, Islamabad (1994).
- **RCA** (Regional Cooperative Agreement) National **Counterpart** in Project in Pacific and South Asia on "Application of Nuclear Techniques in Industry", (1978-1996). **IAEA**, Vienna
- **Member** discussion team of "**JIIA (Japan) - Asia Society (USA)**" **Project** on "Cooperation in Nuclear Challenges in South Asia" (1996-98).
- Contribution of articles on S&T in local **News papers** (occasional).
- **Television and Radio** programmes on S&T. (Occasional).
- **Refereed Research papers** for research journals; **Acta Cryst. (U.K.)** and "**The Arabian Journal of Science**" (Saudi Arabia).
- Long Standing efforts for propagation of S&T in Pakistan with dedication and devotion in addition his own regular involvement in **front line research**.
- Continuation of such professional research work after retirement in 1996 as **Scientist Emeritus. (Life-title Honour)** for outstanding contributions to the programme of PAEC. [1996-Life]
- **Visiting Scientist**, Oxford University, UK (under Royal Society, UK and Pakistan Science Foundation sponsorship). 1987, 1993 and 2000.

Lectures/Seminars:

- **Invited Lectures/Seminars in over 100 Laboratories in over 26 countries** like U.K., U.S.A., USSR (former), Germany, France, Italy, Austria, Japan, etc.
- **Numerous Lectures** at Universities and Conferences **in Pakistan** [over several years].

Research Visits:

1. University of Birmingham, U.K. (1961-65): Ph. D, Commonwealth Scholar c/o Prof. P .B. Moon, F.R.S (Supervisor/Head Physics Dept.).
2. Nuclear Research Centre, Karlsruhe, Germany. (1965-66):**Research Fellow** c/o Prof. K. H. Beckurts [Director IAK].
3. Frankfurt University, Inst. of Nuclear Physics. Frankfurt, Germany.

- (1976-1977): **Alexander von Humboldt Senior Fellow**
 c/o Prof. E. Schopper and Dr. M. Mullner.
4. International Centre for Theoretical Physics, Trieste ,Italy.
 (1970-75): **Associate** and (1978-89) **Senior Associate**
 c/o Prof. Abdus Salam F.R.S
 5. A.E.R.E., Harwell, U.K. (1973,75,77): **Visiting Scientist** (short visits).
 c/o Prof. B. T. M. Willis
 6. Stockholm University, Inst. of Reactor Physics, Stockholm, Sweden.
 (Jan.,-Feb., 1968): **Visiting Scientist**
 c/o Prof. K. E. Larsson and U. Dahlborg.
 7. Nuclear Research Centre, La Reina, Santiago, Chile.
 (Aug. 1981 - Feb. 1982): **UN(IAEA) Expert.**
 8. Inst. of Nuclear Research, Beijing, China
 Dec., 1988: **Visiting Scientist.**
 c/o Prof. Sun, Zuzun
 9. Oxford University, Chemical Chemistry Laboratory, Oxford. U.K.
 (1987,1993,2000): **Visiting Scientist**
 c/o Prof. B. T. M. Willis and Prof. A. K. Cheetham
 10. MRL, University of California, Santa Barbara, California. USA.
 : **Visiting Scientist**
 c/o Prof. A. K. Cheetham, F.R.S. (Director MRL) [June, 2000].

Research Publications:

- **Published research papers in Professional Journals/Confs. Proceeding** [Phys. Rev. (USA), Acta. Cryst. (U.K.)
 Phys. Stat. Solidi (Germany) J.Mat.Sci. (U.K.) etc.] = **117**
- **Published Research Reports** (National and International) = **28**
- **Conference papers** (Invited & presentations) = **over 100**
 in local and Foreign conferences.

Book Chapters:

- **“Nuclear Developments in Pakistan”**, Arms Race and Nuclear Development in South Asia. Islamabad Policy Research Institute (2004) ISBN 969-8721-07X pp 44-53
- **“Development of Solid State Physics in Pakistan”** Physics in Developing Countries: Past, Present and Future, COMSATS, Islamabad (2006) pp 37-46
- **“Developing Countries and Scientific Research”** Basic or Applied Research: Dilemma of Developing Countries. COMSATS, Islamabad (2007) **In Press.**

Books Edited / Authored

- **Co-author**, “Waves and Oscillations” **Text Book for B.Sc.**, Punjab Text Book Board, Ghulam Ali & Sons Lahore (Publishers), 1973 [extensively used by thousands of undergraduate physics students].
- **Co-edited: Proc. Int. Seminar on Solid State Physics**, PINSTECH, Islamabad (1974) 617-pp.
- Edited Proceedings of “First National Seminar on Solid State Physics, PINSTECH (1978)
- **“CTBT & Its Implications”** **N.M. Butt**, and S. Sikandar Khan, The Pakistan Nuclear Society, Islamabad, Pakistan (1996) 156-pp.
- **“Young Pakistani Scholars Meet Nobel Laureates in Lindau (Germany)”** **N.M. Butt** & Waqar A. Butt. 2003, Vol-I, ,Printed at ,PASTIC,PSF, Islamabad. No. ISBN 969-8294-03-1
- **“Young Pakistani Scholars Meet Nobel Laureates in Lindau (Germany)”** **N.M. Butt** & Waqar A. Butt. 2004, Vol-II, No. ISBN 969-8294-03-1
- **“Young Pakistani Scholars Meet Nobel Laureates in Lindau (Germany)”** **N.M. Butt** & Waqar A. Butt . 2005, Vol-III, Printed at PASTIC, PSF, Islamabad. No. ISBN 969-8294-03-1
- **“Ist Meeting of Nobel Laureates with Pakistani Students/Young Scholars Islamabad & Lahore”** **N.M. Butt**, Manzoor H. Soomro, M. Aqil Khan and Waqar A. Butt. 2006, Printed at PASTIC,PSF, Islamabad. No. ISBN 978-969-9099-00-7
- **“Young Pakistani Scholars Meet Nobel Laureates in Lindau (Germany)”** **N.M. Butt** & Waqar A. Butt. 2006, Vol-IV, Printed at PASTIC,PSF, Islamabad. No. ISBN 978-8294-04-5
- **“2nd Meeting of Nobel Laureates with Pakistani Students/Young Scholars Islamabad & Lahore”** **N.M. Butt**, M. Aqil Khan and Waqar A. Butt. 2007, Printed at PASTIC, PSF, Islamabad. ISBN 978-969-9099-01-4
- **“Young Pakistani Scholar Meet Nobel Laureates in Lindau (Germany)”** **N.M. Butt** & Waqar A. Butt. 2007, Vol-V, Printed at PASTIC,PSF, Islamabad. ISBN 978-969-8294-05-2

- Five Years of Interaction of Pakistani Students with Nobel Prize Winners in Lindau(Germany), N. M. Butt And Waqar Ahmad, 2003-2007. Printed at PASTIC, PSF, Islamabad. ISBN 978-969-8294-06-9
- “**Young Pakistani Scholar Meet Nobel Laureates in Lindau (Germany)**” N.M. Butt & Waqar A. Butt. 2008, Vol-VI, PASTIC,PSF, Islamabad . ISBN 978-969-8294-07-6
- “**Young Pakistani Scholar Meet Nobel Laureates in Lindau (Germany)**” N.M. Butt & Waqar A. Butt. 2009, Vol-VII,PASTIC,PSF, Islamabad . (in Press).

Invited Lectures:

- Over hundred in over 25 countries.

Citations:

Total Citations upto year 2000 = (Ref: Web of Science, I.S.I., Philadelphia, USA). = **344**

No. of Papers Cited = **40**

Citations Per Paper (C.P.P) = **8.60**

- (i) Research papers have been cited extensively over the past many years. (ii) Particularly his **Pioneering and classic paper** on “*the detection of the inelastic scattering of gamma-rays at crystal diffraction maxima using the Mossbauer Effect*” in Acta Cryst. (1963) has been *cited* in more than 100 papers over a long period of 35 years (1963-98) by other authors from USA, UK, Italy, Germany, Austria, Hungary, Australia, USSR, Japan, etc. (iii) **Particular mention by name of this research has been made in the “100-years history of Physics” of the University of Birmingham (UK) written by the famous Nuclear Physicist Prof. P.B. Moon F.R.S.**
(iv) *Another* of his recent research on “*correlation of micro-macro properties in cubic crystals*” in J. Mat. Sci. (1994) has been extensively cited and has opened a new field of research and has been taken up by other scientists for further research. (v) His papers “The determination of x-ray temperature factors,”, N. M. Butt and D.A.O’ Connor in Proc. Phys. Soc. (London) **90**, 247 – 252 (1967) has been recently **included in the “Historic Archives (1874 – 1994)” by the Inst of Physics (London)** and priced for sale of this article at \$ 30/=.

These areas of his original research thus show a great influence on research at the National and International level.

- **Research included in the books: [Research described in the following books].**

1. **X-Ray Diffractometry**, by A.W. Arnt, and B.T.M. Willis, Cambridge Univ. Press (1966). pp 222-223
2. **Thermal Vibrations in Crystallography**, B.T.M. Willis and A.W. Pryor, Cambridge Univ. Press (1975). pp 162-165 and 241-242
3. **Dynamical Properties of Solids**, Vol.5 Ed. G.K. Horton and A.A. Maradudin, North Holland Published Co., Holland 1984.
4. Thermophysical Properties of Materials by Goran Grimvall, North Holland Publishing Co., **Amsterdam**, 1986.

These citations are a clear indication of the high quality and the importance of his research at the international level.

SCHOLARSHIPS, PRIZES, MEDALS, HONOURS, AWARDS

1. 1953-55 **Government of Punjab Scholarship** on the merit of University Intermediate Examination. [Several thousand students appear in the Exam.] 1953-1955.
2. 1954 **Prize in Paper Reading** contest (Science Society), (Murray College, Sialkot) -1954.
3. 1955 **First Prize**, each in General Proficiency Science, in Physics and in Maths. (General) in B.Sc. Class - (Murray College, Sialkot) 1955.
4. 1955 **Dux Gold Medal** for standing **first** in degree classes in the house examination (Murray College, Sialkot) 1955.
5. 1955 **Youngson Gold Medal** for standing **first** in the B.A. and B.Sc. examination (Murray College Sialkot) 1955. [**First in Sialkot district**].
6. 1955-57 **Government of Punjab Scholarship** on the merit of B.Sc. University Examination [Several thousand students appear in the Exam.].
7. 1957 **Academic Roll of Honour** in M.Sc. (1957). **First Class First**. (Govt. College Lahore).
8. 1957-58 **Post M.Sc. Government Research Scholarship** (1957-58) at High Tension and Nuclear Research Laboratory, Government College, Lahore.
9. 1961-64 **Commonwealth Scholarship** (U.K.) (1961-64) for research in Nuclear Physics for the degree of **Ph.D.** [21 Scholarships including all subjects were awarded in Pakistan in a country-competition in 1961]. Thesis supervisor **Prof. P.B. Moon F.R.S.**
Lecture courses from **Professor R.E. Peierls F.R.S.** (Solid State Theory) and **Prof. W.E. Burcham F.R.S.** (Nuclear Physics).
10. 1965-66 **Post-doctoral Research Fellowship** (Inst. of Applied Neutron Physics, Kernforschungszentrum Karlsruhe, Germany's leading Nuclear Research Centre. Inst. Director: **Prof. K.H. Beckurts**. [Neutron Physicist).
11. Oct.-Dec. 1967 **IAEA award** as Participant (Winter College on Solid State Physics, ICTP, Trieste, Italy) C/o **Prof. A. Salam (Nobel Laureate)**.
12. Jan.-Feb. 1968 **SIDA (Sweden) Research Fellow award**. (Inst. of Reactor Physics, Royal College of Technology, Stockholm, Sweden). Inst. Director: **Prof. K.E. Larsson**. (Reactor Physicist)
13. Jan.-Mar. 1970
 (1970-75) **ICTP award as Participant**, Winter College on Solid State Physics (International Centre for Theoretical Physics, Trieste) C/o **Prof. A. Salam**.
14. April-July 1970 **ICTP award as Associate**: Research Workshop on Solid State Physics (I.C.T.P. Trieste). This competitive award is given to an active **Research Physicist** in a developing country for a period of 5 years for 3 visits each of maximum 3 months and fully financed by ICTP. C/o **Prof. A. Salam**.
15. Mar.-May 1972 **ICTP award** as Associate and Participant, Winter College on Solid State Physics, (I.C.T.P. Trieste) C/o **Prof. A. Salam**.
16. July 1972 **Award** of Italian Physical Society **Scholarship**, Bologna, Italy (July 3-15 1972) Not availed.
17. May-June 1972 **ICTP award** as **Associate** at Atomic Energy Research Establishment (A.E.R.E.), Harwell, U.K. C/o **Prof. B.T.M. Willis**.
18. May-July 1974 **ICTP award** as **Associate** at A.E.R.E., Harwell, U.K. C/o **Prof. B.T.M. Willis**.
19. Aug.-Oct. 1974 Vacation **Associate/Consultant**, A.E.R.E., Harwell, U.K. C/o **Prof. B.T.M. Willis**.
20. Aug.-Oct. 1975 **ICTP award** as **Associate**, Trieste (Sept.-Oct. at AERE, Harwell, U.K.) C/o **Prof. B.T.M. Willis**.
21. Jun. 1976-Sept. 1977 **Alexander Von Humboldt Senior Fellow award** at **Inst. for Nuclear Physics**, Frankfurt Univ. Germany. A prestigious and highly competitive award on world competition basis. C/o Director, **Prof. E. Schopper (Nuclear Physicist)** and **Dr. M. Mullner (Neutron Physicist)**.
22. 1979-1984 **Senior Associateship**, ICTP, Trieste (This award is given to a senior active **Research Physicist** in a developing country for a few short visits to

- ICTP over a period of 5 years. This was the second award in Pakistan, first being given to **Prof. Riazuddin** some years earlier). C/o **Prof. A. Salam**.
23. Aug.1981-Feb.1982 **United Nations** (IAEA) Technical Assistance Expert at the Reactor Center, Santiago in Chile for Neutron Diffraction Studies of Solids.
24. Apr.1980-Feb.1983 **Principal Investigator:** Award of IAEA (Vienna) Research Contract No.2441/RB on Texture Studies of Solids.
25. 1983-1988 Elected **Member**, Pakistan Academy of Science for significant research contributions.
26. 1984-1989 Renewal of **Senior Associateship** award ICTP (Trieste), short visits. C/o **Prof. A. Salam**.
27. Oct. 1987 **Visiting Scientist** (Oxford Univ. U.K.) under Royal Society (U.K.) and Pakistan Science Foundation sponsorship. C/o **Prof. B.T.M. Willis** and **Dr. A.K. Cheetham**.
28. June 1989 Elected for the Award of **Fellowship** of the **Pakistan Academy of Sciences** for outstanding research. (There were at the time only about 50 Fellows of the Academy in the whole of the country).
29. Oct. 1989 **Invited Participant/Senior Associate** at 25th Year Anniversary of ICTP (Trieste), Italy. C/o **Prof. A. Salam** and **Prof. S. Lundquist**.
30. Feb. 1991 Awarded Pakistan Academy of Sciences **Open Gold Medal** (Physical Sciences) 1990 for outstanding research contributions.
31. Aug. 1991 Awarded **"Sitara-i-Imtiaz"** by President of Pakistan in recognition of outstanding research.
32. June 1993 **IAEA Visiting Scientist;** Neutron Scattering Centre (**Sweden**), Inst. for Energie Teknik (**Norway**) and Univ. of Santiago (**Chile**).
33. Dec. 1993 Awarded **"D.Sc. Degree"** the highest academic degree by the Birmingham University, U.K. for authoritative research in physics.
34. Dec. 1993 Elected **"Fellow** of the **Islamic Academy of Sciences"** a prestigious award among scientists of the muslim countries. About 60 Fellows at the time.
35. Dec. 1993 **Visiting Scientist** (Oxford Univ. U.K.) under Royal Society (U.K.) and Pakistan Science Foundation sponsorship. C/o **Prof. B.T.M. Willis** and **Prof. N.H. March**
36. June 1994 **IAEA** (Vienna) **Consultant** on "Enhancement of Research Reactor Utilization, IAEA, Vienna, Austria. C/o **Mr. K.M. Akhtar**, Physics Section.
37. March 1995 **TWANSO (ICTP) Expert** for SIRIM (Malaysia) C/o **Dr. Ahmad Tajuddin Ali**. [one week visit].
38. April 1995 **8th International Kharazmi Prize**, IROST, Iran (By President of Iran for exceptional research in Basic Sciences)
39. June 1996 **Scientist Emeritus**, PINSTECH (PAEC) - **Life-time Honour** in recognition of outstanding services to PAEC [on retirement].
40. July 1996-1999 **Member, COMSATS Technical Advisory Committee, TWANSO**, South-South Cooperation, C/o Prof. S.M.H. Hassan **TWAS**, Trieste (Italy)
41. Oct. 1997 **Honorary Visiting Professor**, B.Z. University, Multan
42. Dec. 1997-April 1999 **Honorary Theme Editor**, EOLSS (Encyclopaedia of Life Sciences Support Systems), UNESCO. Paris.
43. Nov. 1998 **Shield of Distinguished Ravian**, Government College, Lahore for meritorious services in Nuclear Science and Technology.[By Governor of Punjab].
44. May,1995-June,1998 **Member**, Board of Trustees, Pakistan Science Foundation.
45. March, 1999 **Shield of Honour**, Pakistan Nuclear Society for meritorious services in the field of Nuclear Science and Technology.
46. June 2000 **Visiting Scientist**, University of California, Santa Barbara, USA C/O Prof. A. K. Cheetham, F.R.S.
47. March, 2001 **Member**, National Peer Review Committee, Ministry of Science and Technology, Government of Pakistan.

48. April, 2001 **Member**, Board of Governors, Sir Syed Memorial University, Islamabad.
49. April, 2001 **Member**, Advisory Committee, Nuclear Regulatory Authority, Government of Pakistan.
50. January, 2002 **President**, abdu salam International Centre for Theoretical Physics - **Pakistan Chapter**.
51. July, 2002 **Adjunct Professor**, COMSATS Inst. of Information Technology (CIIT), Islamabad.
52. December, 2002 ----- **Representative in Pakistan**, Committee for Nobel Laureates Meeting in Lindau, Lindau, Germany.
53. 2002 ---- **Member**, Board of Governors, Preston University, Islamabad.
54. October, 2003 --- **Chairman**, National Commission on Nano-Science and Technology (NCNST), Ministry of Science and Technology, Islamabad.
55. 2004 ----- **Member**, Board of Governors, COMSATS Inst. of Information Technology (CIIT), Islamabad.
56. Aug, 2005-Aug 2008 **Chairman**, Pakistan Science Foundation
57. 2006..... **Elected Hon. (Member)**, World Innovation Foundation (WIF) [WIF has about 90 Noble Laureates as its Hon. Members]
58. Dec.2007 Selected, **Member Executive Committee of the Asia Pacific Forum** on Science Culture, Seoul, Korea
59. Jan., 2008 ---- Invited as **Member Editorial Board**, Journal of Nanoparticles Research (JNR), published by Famous Publishers M/S Springer Verlag, Germany
(c/o Editor –in-Chief Dr.M.Roco)
60. March. 2009-2012 **Member , Board of Governors, Foundation University. Islamabad.**
61. 18 August , 2009 --- **Member Journal of Nano Education(JNE) USA**
(c/o Editor-in-Chief Dr.A.Sweeney).

DR. N. M. BUTT
PAKISTAN

LIST OF PUBLICATIONS

1. The detection of the inelastic scattering of gamma-rays at crystal diffraction maxima using the Mossbauer Effect. *[cited in over 100 papers over 30 years (1963-1993)]*
D.A.O'Connor and **N.M. Butt**
Phys. Lett., **7**, 233, 1963 (**Holland**).
2. The detection of nuclear resonance using the x-rays from internal conversion
(D.A.O'Connor, **N.M. Butt** and A.S. Chohan
Rev. Mod. Phys. **36**, 361, 1964 (**USA**).
3. The measurement of the inelastic scattering of gamma-rays by single crystals at Bragg diffraction peaks using the Mossbauer Effect.
D.A.O'Connor and **N.M. Butt**
Rev. Mod. Phys. **36**, 462, 1964 (**USA**).
4. The determination of x-ray temperature factors for aluminium and potassium chloride single crystals using the nuclear resonant radiation.
N.M. Butt and D.A.O'Connor
Proc. Phys. Soc., **90**, 247, 1967 (**U.K.**)
5. Anharmonic Non-Gaussian contribution to the Debye-Waller Factor for NaCl.
N.M. Butt and G. Solt.
Acta. Cryst. **A27**, 238, 1971 (**U.K.**)
6. Utilisation of Pakistan's Research Reactor (PARR).
N.M. Butt
Proc. I.A.E.A. Regional Meeting, August 1971, Bandung, pp 41-74,
1971 (**Indonesia**).
7. Anharmonic non-Gaussian contribution to the Debye-Waller Factor for KCl.
G. Solt, **N.M. Butt** and D.A.O'Connor
Acta. Cryst. **A29**, 228, 1973 (**U.K.**)
8. The Debye-Waller Factors of sodium chloride.
N.M. Butt, A.K. Cheetham and B.T.M. Willis
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9. Emission of Plasma and transition radiations by traversal of alpha particles through solids.
R.M. Chaudhri, **N.M. Butt** and M.M. Chaudhri
Proc. 11th Int. Conf. in Ionised Gases, Prague, Czechosl,
pp 63, 1973 (**Czechoslovakia**).
10. Neutron Diffraction studies of the unit cell of Cellulose-I.
M.M. Beg, J. Aslam, Q.H. Khan, **N.M. Butt**, S. Rolandson and A.U. Ahmed
J. Polymer Sci. **12**, 311, 1974 (**USA**).
11. Debye-Waller co-efficient of KCl by the powder neutron diffraction method.
M.M. Beg, J. Aslam, **N.M. Butt**, Q.H. Khan and S. Rolandson.
Acta. Cryst. **A30**, 662, 1974 (**U. K.**)
12. The Debye-Waller Factor of KBr by powder elastic neutron diffraction.
N.M. Butt, N. Ahmed, M.M. Beg, M.A. Atta, J. Aslam and Q.H. Khan.
Acta. Cryst. **A32**, 674, 1976 (**U. K.**)
13. Neutron Diffraction studies of the unit cell of cellulose-II
A.U. Ahmed, N. Ahmed, J. Aslam, **N.M. Butt**, Q.H. Khan and M.A. Atta
J. Polym. Sci. (letters Edition) **14**, 561-564, 1976 (**USA**).
14. Phonons in the mixed crystal $K_{0.5}Rb_{0.5}I$.
J. Aslam, S. Rolandson, M.M. Beg, **N.M. Butt** and Q.H. Khan
Physics Stat. Sol. **B77**, 693, 1976 (**East Germany**)
15. Neutron scattering studies of polymers; Cellulose-I and Cellulose-II
N.M. Butt
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(**Yugoslavia**)
16. Linienform der TDS in NaF.
N.M. Butt and J. Maetz
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17. Elastische and inelastische Streuung von Gamma-Quanten in der ferro-und paraelektrischen Phase von $\text{Pb}_5\text{Ge}_3\text{O}_{11}$.
H. Jex, J. Maetz, M. Mullner and **N.M. Butt**
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Frankfurt Univ., (**Germany**).
18. Kritische Streuung an RbCaF_3 mit einem Mossbauer-Diffraktometer.
J. Maetz, **N.M. Butt**, H. Jex and M. Mullner.
Jahresbericht No.IKF-37 (Page 71) Inst. fur Kernphysik, Frankfurt Univ.,
1977 (**Germany**).
19. Phonons in Mixed Crystals $\text{Rb}_{0.5}\text{K}_{0.5}\text{I}$,
N.M. Butt and B. Renker
Jahresbericht No.IKF-37 (Page 75) Inst. fur Kernphysik, Frankfurt Univ.,
1977 (**Germany**)
20. Temperature Factors of UO_2 and $\text{UO}_{2.11}$ by Elastic Neutron Diffraction
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J. Nucl. Mat. **68**, 365-366, 1977 (**Holland**).
21. Debye-Waller Factors of KBr at 4.2 K.
N.M. Butt, K.D. Rouse, M.W. Thomas and B.T.M. Willis
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22. Debye-Waller Factors of CuBr by Powder Neutron Diffraction at 295 K.
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23. Critical Scattering at the Structural Phase-transition in RbCaF_3 using Mossbauer Diffraction.
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24. Investigation of the Critical Scattering at the Structural Phase transitions in RbCaF_3 .
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25. Concentration dependence of Debye Temperature for the $\text{K}_x\text{Pb}_{1-x}\text{I}$ Systems
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26. Debye-Waller Factors of TlCl .
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27. Concentration Dependence of Debye Temperature for the $\text{K}_x\text{Rb}_{1-x}\text{F}$ Systems
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28. Order-Disorder Transition and Magnetic Transformation of $\text{Fe}_{0.8}\text{Al}_{0.2}$ Alloy.
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29. Order-Disorder Transition and Magnetic Transformation of Fe-Al alloys by Neutron Diffraction
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30. Phonon dispersion in the mixed Crystal $\text{K}_{0.5}\text{Rb}_{0.5}\text{I}$.
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32. Debye-Waller Factor of Niobium
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6-8 August 1984, P.63.
33. Texture studies of Cold Rolled Aluminium and Copper sheets by Neutron Diffraction.
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34. Debye-Waller Co-efficient of Nb by elastic neutron diffraction method.

- J. Bashir, Q.H. Khan and **N.M. Butt**.
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35. Compilation of Temperature Factors of Cubic Materials.
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36. Debye-Waller Co-efficient and Debye Temperature of ZnTe.
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37. Compilation of Temperature Factors of Cubic Elements.
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38. Industrial Applications of Neutron Diffraction
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39. New Materials and Development: How Asia can meet the challenge
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40. Temperature Factors of RbCl by the Powder Elastic Neutron Diffraction Method
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42. Compilation of Temperature Factors of Cubic Compounds
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43. Relation Between Microscopic and Macroscopic Properties of Cubic Compounds
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44. New Trends in Materials
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45. Concentration dependence of Debye Temperature in mixed $K_xRb_{1-x}Cl$
J. Bashir, M.M. Beg, **N.M. Butt**, Q.H. Khan and M. Nasir Khan
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46. Mossbauer Study of Nickel Austenite Inconel - 600
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47. Mossbauer study of corrosion of SS-304 exposed to sea water.
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48. Study of cation distribution in the Mn-Zn ferrites using Mossbauer effect.
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49. Zero resistance of quenched $Bi_{1.5}Pb_{0.4}Sb_{0.1}Sr_2Ca_2Cu_3O_x$ at 140 K.
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50. Determination of the Debye-Waller Factor of Molybdenum by Powder Neutron Diffraction.
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51. New Materials in Defence,

- S. Sikander Khan, Shahid A. Khan and N.M. Butt*
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52. Mossbauer Study of Ni-Cr-Fe Austinites
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53. Contributions of Research Reactors in Science & Technology
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54. Research and Development at PINSTECH
N.M. Butt, M.A. Sheikh and I.E. Qureshi
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55. Effect of Pelletization Pressure on Tc(O) in Pb & Sb doped Bi-Sr-Ca-Cu
oxide superconductor
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56. Mossbauer Effect and its Applications
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57. Compilation of Temperature Factors of Cubic Compounds.
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58. Correlation of temperature factors with physical properties in cubic elements.
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International Livestock and Poultry Congress 2008, Awain-e-Iqbal, **Lahore**, April 22-23, 2008
49. **An Overview of Nanotechnology**
Workshop on Nanomaterials and Regional Meeting of Nanomaterials Forum, **Peshawar**, April 23, 2008

- 50. Applications of Nanotechnology in Botany**
International Conference of Plant Scientists (10th National Meeting of Plant Scientists) University of Agriculture, Faisalabad, April 24, 2008
- 51. Nanotechnology and its Need for Pakistan**
Two-Day Seminar/Workshop on Topics in Semiconductor Materials and Nanodevices, The Islamia University Bahawalpur, Bahawalpur, June 2-3, 2008
- 52. NANOTECHNOLOGY AND DEVELOPING COUNTRIES**
16th IAS-Conference: Science, Technology and Innovation for Sustainable Development in the Islamic World, Kazan, Republic of Tatarstan, 25-28, August, 2008.
- 53. “Nanotechnology As It Shakes The World.”**
Plenary Talk at the “ Ist Junior National Chemistry Symposium , University of AJ&K, Muzafraabad, AJ. October 19-22,2008.
- 54. Nanotechnology and its importance in Industry.**
Invited Talk at the “ Biennial International Conference on Frontiers of Advanced Engineering Matwerials(FAEM-08) ,PCSIR,Lahore. 15-17 December,2008

Lectures 2009

- 55. The Emerging Paradigm of New Technology Development.**
Regional Symposium on Innovation Technology Capacity Building ,Islamabad.
12-14 January 2009
- 56. Some Recent Applications of Nanotechnology**
Plenary Lecture: Pakistan Institute of Physics International Conference- 2009,UET,Lahore. 23-26 February,2009.
- 57. Nanotechnology and its Role in Agriculture.**
National Agriculture Research Centre,PARC,Islamabad. 24th March,2009
(c/o Dr.Zafar Altaf,Chairman PARC).
- 58. Naotechnology: Need for Pakistan.**
Beaconhouse School System,Banigala Campus, Islamabad, March 24, 2009
- 59. NANOTECHNOLOGY and MEDICINE**
PIEAS International Conference on Nuclear Medicine and Oncology,
PIEAS. P.O.Nilore. Islamabad . 21-22 October 2009. (c/o Dr Suhaib Ahamad).
- 60. NANOTECHNOLOGY : Vehicle for Socio-Economic Development**
COMSATS-COMSTech National Meeting on “Challenges for Socio-economic Development in Pakistan;Role of Science and Technology”. COMSTech,Islamabad. 26-28 October,2009
(c/o Dr.Haseebullah).
- 61 . Nanotechnology Overview and it's Impact in Information Communication Technologies**
Bahria University , 5th November, 2009 . Islamabad.
(c/o Engr..Shaftab Ahmad).
- 62. Nanotechnology and the need for OIC.**
17th Science Conference of the Islamic World Academy of Sciences(IAS),
Shah Alam ,Selangar.Malaysia. 14-17 December,2009.
(c/o Engr.Moneef R Zou'bi).

Lectures 2010

- 63. Nanotechnology and Nanomaterials Applications.**
IBCAST-2010,National Centre for Physics(NCP),Q.A.University Campus, Islamabad. 11-14 January,2010
[c/o Brig.Professor Dr.M.Zafar].
- 64. Nanotechnology : some recent and exotic applications**
ISS Conference, National Centre for Physics (NCP), Q.A.Univ.Campus,Islamabad. 1-4 March, 2010
(c/o Dr. Syed Tajummul Hussain)
- 65. Nanotechnology: COOPERATION BETWEEN THE DEVELOPING AND ADVANCED COUNTRIES. : Asia-Europe**
(c/o Prof.M.Nozaki (KEK). **Physics Summit(ASEPS),Tskuba. Japan. 24-26 March 2010.**
- 66. NANOTECHNOLOGY: ITS INDUSTRIAL AND SOCIO-ECONOMIC IMPORTANCE.**

Foundation University, ,FUITEM. ,Rawalpindi. 5th May 2010.

(c/o Professor Aftab Ahmad, Dean and Director).

67. RESPONSIBLE SCIENCE AND ETHICS

COMSTECH ICLS and PAS International Conference on Conduct of Responsible Science , Islamabad. 9th & 10th JUN 2010.

(c/o Dr.M.Anwar Naseem, Adviser Comstech).

SEMINARS GIVEN AT THE FOREIGN LABORATORIES

From 1965-2006, about 101 research seminars concerning the Mossbauer effect applications to crystal diffraction studies and the Neutron Diffraction and Scattering from Solids have been given at the following laboratories in over 28 countries and in about 73 laboratories abroad:- (the scientists who extended the invitations for these seminars are named in parenthesis).

ARGENTINA

1. Atomic Energy Commission, Buenos Aires, (Physics Deptt.)
(C/o Prof. M. Mariscotti). Feb. 1982.

AUSTRIA

2. Physics, Deptt., Vienna University, Vienna/Reactor Centre, Seibersdorf.
(C/o prof. Weinzierel and Dr. O. Eder) 1967, 1970, 1974 and 1989.
3. Summer School, Riezlern, Sept. 1976.
(C/o Dr. M. Mullner, Inst. fur Kernphysik, Frankfurt Univ., Germany).
4. Physics Section, IAEA, Vienna.
(C/o Mr. K.M. Akhtar), April, 1993.
5. Atom Institut, Vienna
(C/o Prof. H. Rauch, Prof. G. Badurek) April 1993.
6. Inst. fur Festkorperphysik, Univ. of Vienna
(C/o Prof. G. Vogl), June, 1994.

AUSTRALIA

7. Australia Nuclear Science and Technology Organisation (ANSTO)
(C/o Dr. Peter Airey) April 1994.

BANGLADESH

8. Bangladesh Physical Society, Bangladesh Atomic Energy Commission,
Dhaka, January 15-19, 1990.

BRAZIL

9. Physics Division, Atomic Energy Inst., Sao Paulo. Feb. 1982.
(C/o Dr. Carlos Parente).

CHILE

10. Deptt. of Crystallography, Univ. of Chile, Santiago
(C/o Prof. Whitke) Nov. 1981.
11. Physics Dept. Catholic Univ. of Santiago, Santiago.
(C/o Dr. F. Claro) 1982.
12. Deptt. of Physics, Univ. of Chile, Santiago.
(C/o Prof. R. Venegas) June 1993.
13. Deptt. of Physics, Univ. of Chile, Santiago.
(C/o Prof. J.R. Morales Pena) June 1993.
14. Nuclear Research Centre, La Reina, Santiago.
(C/o Prof. R. Venegas and Prof. J.M. Moretti) June 1993.

CHINA

15. Inst. of Atomic Energy, Beijing
(C/o Prof. Sun Xuzun) Nov. 1988.
16. UNDP/IAEA/RCA Regional Workshop on Characterisation Methods for New Materials, Beijing
(China) 30 July - 3 August, 1990.
17. Inst. of High Energy Physics (IHEP), Beijing.

(C/o Prof. Xu Shaowang, Vice Director and Prof. Wang, Shu Hong, Linac Deptt.) July, 1990.

DENMARK

18. Atomic Energy Research Centre, Riso,
(C/o Prof. A.R. Mackintosh and Dr. B. Moller) 1968.

Egypt.

FINLAND

19. Physics Deptt., Univ. of Turku, Turku.
(C/o Prof. P. Luova) 1968.
20. Physics Deptt., Technical Univ., Helsinki.
(C/o Prof. E. Tunkello) 1968.

FRANCE

21. Solid State Division, Atomic Energy Research Centre, Saclay.
(C/o Dr. P. Imbert) 1968, 1970.
22. Inst. Lau-Langevin, Grenoble.
(C/o Dr. B. Jacrot and Prof. H. Maeir-Leibnitz) 1970.
23. Solid State Physics Deptt., Univ. of Paris, Orsay.
(C/o Prof. A. Guinier) 1970.

GERMANY

24. Inst. of Applied Physics. Kernforschungszentrum, Karlsruhe.
(C/o Dr. W. Glaser, P. Von Blankenhagen and Dr. O. Meyer) 1965, 1966, 1987.
25. Inst. of Minerology, Crystallographic Lab. Univ. of Frankfurt.
(C/o Prof. O'daniels, Prof. Bartle, Dr. Zigan and Prof. H. Fuess) 1970, 1987.
26. Inst. Kernphysik, Frankfurt Univ.
(C/o Dr. M. Mullner and Dr. Jex) May 1974, Nov. 1975, 1976, 1977).
27. Inst. of Minerology, Crystallography Deptt. Univ. of Karlsruhe.
(C/o Dr. Scheringer and Prof. Wondratshek) 1970.
28. Max Plank Inst. of Solid State Physics, Stuttgart.
(C/o Dr. Mehrer), 1970.
29. Fritz-Haber Inst., Max Plank Gesellschaft, Berlin.
(C/o Prof. R. Hosemann and Dr. Urban) 1970.
30. Mossbauer Inst., Reactor Centre, Garching Munich.
(C/o Prof. R.L. Mossbauer and Dr. Parak). 1970.
31. Physik Dept., Munich Univ. Garching, Munich.
(C/o Dr. G. Vogl, Dr. Steichle) Nov. 1974.
32. Inst. of Crystallography, Univ. of Darmstadt.
(C/o Prof. E. Wolfel, Dr. Gottlicher and Prof. H. Fuess), 1970, 1978.
33. Dept. of Materials Science, Univ. of Darmstadt.
(C/o Prof. H. Fuess), 1989, 1994.
34. Fachhochschule Coburg, University of Applied Sciences, Coburg.
(C/o Prof. Dr. G. Lindener) 4 July, 2006.
35. Max Planck Institute for Polymer Research, Mainz.
(C/o Prof. Dr. Han Jurgen Butt) 5 July, 2006

HUNGARY

36. Central Research Inst. of Physics, Budapest
(C/o Dr. Keasthey) 1970.

INDONESIA

37. Research Reactor Utilization, IAEA Meeting, Bandung, August 1971.
(C/o IAEA)
38. IAEA Meeting on Applied Neutron Scattering, Bandung, Nov. 1979.
(C/o IAEA)
39. Institute of Materials Atomic Energy Centre, Sarpong, Jakarta, Indonesia,
Dec. 1991, Dec. 1995.
(C/o Prof. Mossongkohadi).

IRAN

40. Physics Dept., University of Tehran, Iran
(C/o Prof. A. Zahedi - Moghadam, Prof. N. Vahedi) Nov. 1974.
41. Physics Dept., Arya Meher Univ. Tehran.

- (C/o Dr. Akhavan and Dr. Khushnavisan) Nov. 1974.
 42. Atomic Energy Nuclear Research Centre, Tehran.
 (C/o Dr. F. Family), Oct. 1977.

ITALY

43. Solid State Physics/Neutron Spectrometry Div. Euratom, C.C.R. Ispra.
 (C/o Prof. G. Caglioti and Dr. A. Merlini). 1966, 1968.
 43. International Centre for Theoretical Physics, Trieste
 (C/o Dr. A.M. Hamende, Prof. E. Tossatti) 1967, 1974, 1982, 1989, 1994.
 44. Physics Dept., Univ. of Parma.
 (C/o Dr. Ghezzi, Dr. A. Albanese) 1970.
 45. Solid State Division, Enrico Fermi Polytechnico Milan, Italy.
 (C/o Prof. G. Caglioti) 29 Sept. 1977.

JAPAN

46. International Conference on Applications of Mossbauer Effect, Tokyo.
 (C/o Prof. Fujita), August 1978.
 47. Takasaki Radiation Centre, JAERI, Takasaki
 (C/o Prof. Machi) Feb. 1989.
 48. Nanotechnology: Cooperation between the developing and advanced countries,

ASEPS - ASIA-EU Physics Summit, Tsukuba.25 March 2010

(c/o Professor Norio Nozaki ,KEK,Tsukuba)

MALAYSIA

48. Reactor Centre, Puspati, (near Kaula Lumpur), Malaysia
 (C/o Dr. Tajuddin, Dr. Nahrul Khair B. Alang MD. Rashid and Prof. Ghazzali), Dec. 1983, 1995.
 49. The Standard and Industrial Research Institute of Malaysia (SIRIM)
 (C/o Dr. Tajuddin Ahmad) March 1995.
 50. Malaysian Institute for Nuclear Technology (MINT)
 (C/o Dr. Nahrul Khair B. Alang MD. Rashid) July 1995

NORWAY

51. Atomic Energy Research Centre, Kjeller
 (C/o Dr. T. Riste, Dr. Andresen) 1970.
 52. Inst. fur energiteknikk, Kjeller
 (C/o Prof. T. Riste and Prof. A.T. Skjeltorp) June 1993.

POLAND

53. Physics Dept., Univ. of Warsaw.
 (C/o Prof. B. Buras) 1970.
 54. Atomic Energy Research Centre, Swierk
 (C/o Dr. Blinowski) 1970

SWEDEN

55. Inst. of Reactor Physics, Royal College of Technology, Stockholm.
 (C/o Prof. K.E. Larsson, Dr. U. Dahlborg) 1968, 1970.
 56. Atomic Energy Research Centre, Studsvik
 (C/o Prof. I. Waller and Dr. R. Pauli), 1968, 1970.
 57. Physics Inst., Univ. of Uppsala
 (C/o Prof. O. Beckmann) 1968.
 58. Inst. of Theoretical Physics, Univ. of Goteborg.
 (C/o Dr. G. Grimvall and Prof. S. Lundquist), 1970.
 59. Nobel Research Inst. Stockholm, (1968).
 60. Studsvik neutron Research laboratory, Studsvik.
 (C/o Prof. U. Dahlborg, Prof. I. Ebbsjo and Prof. B. Graneli) June 1993.

SAUDI ARABIA

61. King Abdul Aziz Univ., Jeddah (College of Engg.)
 (C/o Dr. Jamjoom, Dr. Twefki) March, 1982.

SUDAN

62. Islamic Academy of Sciences, Khartoum, Sudan
(C/o Dr. Anwar Bilbeisi) Nov. 1994

TATARSTAN

63. Nanotechnology and Why for Developing Countries: 16th IAS-Conference: Science, Technology and Innovation for Sustainable Development in the Islamic World, KAZAN, REPUBLIC OF TATARSTAN, 25-28 August, 2008
(C/o Engr. Moneef. R. Zou'bi, IAS, Jordan) August 2008

THAILAND

64. Department of Th. Physics, Chollalongkol Univ. Bangkok, Thailand
(C/o Prof. Sayakanit) Dec. 1991.

TURKEY

65. Atomic Energy Research Centre, Istanbul.
(C/o Dr. Ozmere, and Prof. S. Akpinar) 1970.
66. Physics department,, Bilkent University, Bilkent
(c/o Prof.)Nov.2006
67. Dept of Physics,Koc University, Istanbul
(c/o Prof.) Nov.2006

U.K.

66. Physics Dept. University of Birmingham.
(C/o Prof. P.B. Moon and Prof. J. Walker) 1962, 1963, 1964, 1965, 1968.
67. Atomic Energy Research Establishment, Harwell.
(C/o Dr. B.T.M. Willis) 1974.
68. Chemical Crystallography Laboratory, Oxford University
(C/o Dr. A.K. Cheetham) Oct. 1987.

U.S.A.

69. Physics Dept. Univ. of Missouri - Columbia, Columbia.
(C/o Prof. S.A. Werner, Prof. B. DeFacio) June 1993.
70. Physics Dept., Boston University, Boston
(C/o Prof. K.F. Ludwig, Prof. W. Klein) June 1993.
71. Materials Research Laboratory, University of California. Santa Barbara..
(c/o Professor A.K. Cheetham F.R.S).
72. Physics Dept., State University of New York at Albany, USA. Nov.2005
(c/o Professor Sajjad Alam).Nov 2005
73. Berkeley Radiation Laboratory, University of California., Berkeley
Nov 2006
74. Dept of Chemical and Materials Engineering, University of Dayton, Dayton, Ohio
(c/o Professor liming Dai).Oct.2006

U.S.S.R.

75. UN Workshop on Advanced Materials, Technology and Development for Asia and the Pacific, MINSK, USSR 29 May - 2 June 1989
(C/o Prof. Roman) June 1989.

YUGOSLAVIA

76. Inst. Jozef Stefan, Ljubljana
(C/of Prof. R. Blinc, Dr. V. Dimic) 1967
77. Inst. Ruder Boskovic, Zagreb
(C/o Prof. V. Knapp), 1967.
78. IAEA, Advisory Group Meeting on Neutron Scattering in applied Research (Inst. Jozef Stefan, Ljubljana).
(C/o Dr. H. Reijonen, IAEA) 1976.

TECHNICAL OPINIONS OF RENOWNED SCIENTISTS
ON RESEARCH OF N. M. BUTT

Over 70 appreciative technical opinions from 65 famous scientists [includes Two Nobel Laureates and Four F.R.S] of over 20 countries spread over 40 years.

1. UK

1.the degree of D.Sc. was conferred on Dr. N. M. Butt, D.Sc. is a higher doctorate and as such, **the highest academic award that the university can confer. It may be conferred upon who are “judged to have distinguished and established as authorities in their field of study....”**

Prof. Sir M. W. Thompson,
Vice-chancellor, Birmingham University. (February, 1994)

2.his **work was original and of high quality**. He was **one of the best students from Pakistan** who have worked in this laboratory....

Prof. W. E. Burcham, FRS,
Sir Oliver Lodge Professor, Birmingham University. (May, 1968)

3.he **has a very competent grasp of experimental methods and adequate back ground of theory....**

Prof. P. B. Moon, FRS,
Head, Physics Department, Birmingham University. (December, 1968)

4.your temperature factor proposal is **an excellent** one, deserving the support of the commission. [International Union of Crystallagraphy].... (November, 1981)

-your latest paper **fully endorses the opinion of the scientific community in the excellence of your work....** (April, 1991)

- ...your abstract is excellent. I did not realise that you had got so far in this study.... (April, 1990)
- ...an excellent survey of the work on temperature factors will prove to be of inestimable value to solid state physicists, materials scientists and crystallographers.... (January, 1992)
- ...the curves you sent should be published. They are **most impressive**.... (November, 1988)
- ...could you **give me your permission** to use the figure attached. Acknowledgment will be printed....
- ...award of **D.Sc.**.... It was richly deserved, as you have accomplished so many fields of physics.... (September, 1993 Examiner)

Prof. B. T. M. Willis,
Chemical Crystallography Laboratory, University of
Oxford.

5. I should be very grateful if you would send me a copy of the preliminary compilation....
Prof. A. J. C. Wilson, FRS,
University of Cambridge, UK. Editor, International Tables for Crystallography. (October, 1985)
6. I have a high opinion of him as a professional experimental physicist....
Prof. N. H. March,
Head, Department of Theoretical Chemistry, University of Oxford (April, 1972)
7.your data on the Temperature Factors will be very helpful....
Dr. J. A. Leake,
Department of Materials Science, University of Cambridge (March, 1986)
8.data on Temperature Factors, I would be very grateful if you could send me compilation you have published....
Dr. G. E. Bithell,
Department of Materials Science, University of Cambridge. (July, 1985)
9. the work on correlations of **micro-macro properties of cubic materials deals with an important field** of solid state physics....
Prof. G. R. Isaak,
Physics Department, University of Birmingham (October, 1993)
10.D.Sc. degree conferred elegance of his work established reputation as an able research scientist originality of particular papers high regard in which Dr. Butt is held by the international scientific community....
Prof. G. C. Morrison
Head of School, Physics and Space Research, Birmingham University. (January, 1994)
11.thank you for the enclosed interesting work. Their is a real opportunity of theoretical work in the study of correlation between crystallographic thermal parameters and bulk microscopic properties....
Prof. R. Catlow
Royal Institution, London (August, 1994)

2. GERMANY

12. I should be happy to comment on your pioneering work in Mossbauer Diffraction....
Prof. R. L. Mossbauer (Nobel Laureate)
University of Munich (May, 1988)
13. I have been impressed very much by your paper and I want to thank you. I would like to ask you the following....
Prof. H. Wondratschek
University of Karlsruhe (April, 1970)

14.**Dr. Butt has introduced new fields of work** which have **extensively been quoted in literature excellence of his research**....
Prof. H. Fuess
 Director of Department, University of Darmstadt. (January, 1995)
15.**Dr. Butt initiated several research projects**....**Dr. Butt is an internationally recommended expert** in the field of Mossbauer diffraction. We know him as a **competent and enthusiastic scientist** with a particular aptitude **for experimental work** in the field of solid state physics....
Prof. Dr. E. Schopper
 Director, Institute of Nuclear Physics, University of Frankfurt. (April, 1979)
16. I **welcome your compendium which is useful for us** and other people working in the field of lattice structure and lattice dynamics. (December, 1992)
 • I **would like to encourage you to pursue this scientific work** on mean square vibrational amplitudes.... (March, 1994)
Prof. Dr. H. Jex
 Institute of Solid State Physics, University of Ulm.
17.he **independently carried out the neutron crosssection research** in the group. Dr. Butt has always **extraordinarily endeavoured to make a useful contribution to the difficult work** of the group....
Prof. H. Mehrer.
 Nuclear Research Centre, Karlsruhe (August, 1966)
18.Mossbauer Spectroscopic Study of Ni-Mn Ferrites. **This contribution will be of great importance.** (July, 1993) **It is really a loss to the conference that you cannot attend**.... (August, 1993)
Prof. Dr. K. Achterhold,
 Conference Secretary, University of Munich
19.your compilation of mean square vibrational amplitudes and **Debye-temperatures was very useful** for us.... (August, 1993)
 •**interesting is your comparison of temperature factors**.... (August, 1994)
Prof. P. von Blanckenhagen
 Nuclear Research Centre, Karlsruhe.

3. **PAKISTAN**

4.

20.**Dr. Abdus Salam has stated that Dr. N. M. Butt is an experimental Solid State scholar of International repute**....
M. Alauddin Siddiqui
 Vice-Chancellor, Punjab University. (November, 1970)
21.it is an **honour for us to offer you a renewal of your appointment as a Senior Associate** of the International Centre for Theoretical Physics for a five year period....
Prof. Abdus Salam (Nobel Laureate)
 Director, International Centre for Theoretical Physics, Italy (February, 1985)
22. ...Pakistan Academy of Sciences has awarded you its **Open Gold Medal** as a token **of recognition for your outstanding research work** in the subject....
Dr. M. M. Qureshi,

Secretary General, Pakistan Academy of Sciences (Feb. 1991)

23.Pakistan Academy of Sciences electing you as a Member of the Academy in recognition of your valuable contributions to the Advancement of knowledge....

Dr. Raziuddin Siddiqui,
Secretary General, Pakistan Academy of Sciences (June, 1983)

24.I consider him to be one of the best products of the Government College, Lahore....

Prof. Dr. Rafi M. Chaudhri,
Head Physics Department, Government College, Lahore (Dec. 1957)

25.is recommend for award of Hilal-i-Imtiaz in recognition of the honour he has brought to Pakistan through eminence of his scientific research so well appreciated by the international scientific community....

Prof. Dr. F. M. Nazar,
President, Pakistan Institute of Physics. (May, 1994)

26.considering your outstanding contributions to the cause of physics I have the honour of inviting you to be Member Editorial Council of the PIP newsletter....

Dr. Nazir A. Chaudhry,
President, Pakistan Institute of Physics. (May, 1990)

4. USA

27.I had not known of your beautiful work with O' Connor....

Prof. C. Kittel,
University of Berkley, California. (Nov. 1967)

28.your paper is certainly very interesting and encourages me to think....

Prof. A. K. Cheetham, F.R.S.,
Director, MRL, University of California, Santa Barbara (June, 1994)

29.because of your knowledge of the processes/materials arena, not only as a scientist, but also in a broader sense I would like to invite you to become a member of the international editorial board....

Prof. F. H. (Sam) Fores,
Director, Institute of Materials, University of Idaho. (April, 1993)

30. Temperature Factors of Cubic Crystals I think the work is very useful and hope you will continue to expand

Prof. Philip Coppens,
State University of New York, Buffalo. (October, 1989)

31. your report on temperature factors. We will find it very useful....

Dr. R. B. von Dreele,
Los Alamos National Laboratory. (July, 1989)

32.I am aware of your early work on Mossbauer scattering, an area we are pursuing vigorously at this time....

Prof. Dr. William B. Yelon,
Research Reactor, University of Missouri-Columbia. (December, 1981)

33.I am very interested in paragraph headed "Study of Cellulose Structure"....

Dr. W. R. Busing,
Oak Ridge National Laboratory. (January, 1989)

34.these **careful, comprehensive studies are an important contribution** toward one of my favorite problems that of trying to get microscopic information from macroscopic quantities....

Prof. Brian DeFazio,
Prof. of Theoretical Physics, University of Missouri-Columbia. (September, 1983)

35.dear reviewer thank you for **assisting in the review process** for paper submitted to the International Symposium....

Dr. O. K. Harling,
Chairman, International Symposium, M.I.T., Massachusetts. (October, 1983)

5. AUSTRIA

36.your work on $\langle u^2 \rangle$ **will be very interesting and useful to the physics community**....

Prof. Dr. O. J. Eder,
Head, Institute of Physics, Nuclear Research Centre, Seibersdorf. (April, 1989)

37.neutron scattering in applied research. It is aimed that some 15 to 20 **prominent experts could discuss** the various up-to-date applications. **Would you be available for an invitation** to the meeting described....

Prof. Heikki Reijonen,
Physics Section, International Atomic Energy Agency (IAEA), Vienna. (August, 1976)

38.I have had the pleasure of reading **your excellent and comprehensive paper**....

Dr. Leuwkovitz
International Atomic Energy Agency (IAEA),
Vienna.

39.I extend a cordial invitation to participate **your contribution** **would be of great value**

Prof. H. Glubrecht,
Deputy Director General, International Atomic Energy Agency, Vienna. (Oct. 1976)

6. SWEDEN

40.I have earlier been very **interested in reading your papers**....I am still **very interested in this matter**....I am of course **very anxious to meet you and hear about your work**....

Prof. I. Waller,
Member, Nobel Prize Committee, (for Physics), Stockholm. (Aug. 1966)

41.I think it **really is a very important task** you are undertaking. It would be **very kind if you could send a copy of the compilation**

Prof. Ulf Dahlborg,
Department of Reactor Physics, Royal Institute of Technology, Stockholm. (March 1987)

7. IRAN

42.**your work** has been recognised as "**highly exceptional**" in the field of basic sciences.... 8th Kharazmi Festival

Akbar Hashemi Rafsanjani
President, Islamic Republic of Iran. (Jan. 1995)

8. ITALY

43.Mossbauer Spectroscopy.... **I know of course very well your pioneering** work in this field....

Prof. Dr. Antonio Deriu,

University of Parma. (October, 1989)

44.Professor Lundquist has expressed his **deep interest in your joining such workshop**.... (Solid State Physics)....

Prof. P. Budini,

Deputy Director, International Center for Theoretical Physics (ICTP), Trieste, Italy.
(Jan. 1971)

45.**Seminar** on your recent work on "Neutron Diffraction Experiments **could be of interest to a number of persons** here....

Prof. G. Caglioti,

Enrico Fermi Institute, Milan. (July, 1977)

46. it is a pleasure for me to have discussion we are **very interested** on anharmonic contributions....

Prof. C. Ghezzi,

Inst. Of Physics, University of Parma. (May, 1970)

9. CHINA

47.in order **to ensure high standard I have the pleasure to invite you to join the international committee**. if you accept the invitation I would be grateful....

Prof. Chengong Li,

Conference Chairman, International Conference on HIP, Beijing. (Sept. 1997)

10. FRANCE

48.compilation of Temperature Factor. **This work seems worth while** due to many points with **congratulations**....

Dr. A. Delapalme

Atomic Energy Centre, Saclay. (April, 1988)

11. CANADA

49.report on Temperature Factors. **I think it is a worthy task**, and I wish you luck in your endeavours....

Dr. G. Dolling,

Atomic Energy of Canada. (April, 1988)

50.your **work** on temperature factors **is very useful**....

Dr. J. A. Sawicki,

Senior Research Scientist, Atomic Energy of Canada. (April, 1988)

12. NORWAY

51.we would therefore be **very much interested if you could give a seminar** on some of your recent work in this field.... (Temperature Factors)

Prof. T. Riste,

Institute of Atomic Energy,
Kjeller.

52.**we are interested in taking part in your programme** on the compilation of D-W factors. **This is an interesting and important subject**....

Prof. Arne F. Andresen,

Institute of Atomic Energy, Kjeller. (November, 1988)

13. AUSTRALIA

53.your report on Temperature Factors.... **I think it will be very useful both** for the values....

Prof. T. M. Sabine,

University of Sydney. (May, 1988)

54.**I approve of the compilling of lists of high quality temperature factor measurements**....

- I regard as **potentially useful scientific information**....

Prof. E. N. Maslen,
Director, Center of Crystallography, University of. (May, **1988**)

14. **FINLAND**

55.I am very happy to repeat my **invitation for your seminar talk**....

Prof. E. Tunkelo,
Technical University of Helsimki. (February,
1968)

15. **DENMARK**

56.we would be **most interested in measurements** of the Debye-Waller Factors....

Prof. B. Buras,
Research Establishment, RISO(July,
1977)

57.compilation of Temperature Factors **I think the report on temperature factors will be very useful** and hope it can be extended....

Prof. Bente Lebech.
Atomic Energy Centre, RISO. (April,
1988)

58.we would be **grateful if you could lecture to us on "Phonon Frequency Shifts** in Mossbauer Gamma-Rays"....

Prof. A. R. Mackintosh,
The Technical University, Lyngby. (December, **1967**)

16. **BANGLADESH**

59.**I shall be very happy if you could come to Dhaka** on this occasion and **give a couple of talks**....

Dr. M. A. Mannan,
Chairman, Bangladesh Atomic Energy Commission, Dhaka. (Oct. **1989**)

17. **KOREA**

60. ...**the lectures were very impressive to me** and the lecture you gave us on neutron and gamma ray diffraction....

Dr. Thae-Khapp Kang,
Korean Atomic Energy Center, Taejon. (August, **1990**)

18. **YUGOSLAVIA (NOW CROATIA)**

61.**we would be glad to hear you talk** on "Mossbauer Diffraction Studies a **rather interesting topic for us**....

Prof. V. Knapp,
Head Laboratory of Nuclear Spectroscopy, Institute Ruder Boskevie, Zagreb. (Nov. **1967**)

19. **RUSSIA**

62.we were deeply impressed by a series of your interesting publications on correlations of Temperature Factors....

Prof. V. N. Gurin and Dr. M. M. Korsukova,
Russain Academy of Sciences. St. Petersburg. (April,
1995).

20. **EGYPT**

63.**I am pleased to tell you that we have received the text and it** will be published in the proceedings We missed you too much....

Prof. H. F. Aly,
Chairman, Atomic Energy Authority, Cairo. (Sept. **1994**)

21. **HUNGARY**

64.Your activity in Science and Science Education is known also abroad **Therefore we most cordially invite you to II International Education Congress and to present your paper in oral lecture....**

Prof. G. Marx,

Honorary President of Hungarian Physical Society and Fellow Hungarian Academy of Sciences (May 2002)

22. TUNISIA

65. **It is pleasure for our Department of Physics to invite you** to give seminars and courses for our students.... and contribute to the development of research

Prof. Fatma Hila,

President, Department of Physics, University of Tunis, Tunisia (May 2000)

Note: Full text required.of any letter of the 65 scientists listed here would be available when required.
