

Curriculum Vitae

Personal Profile:

Name: Mohammad A. Shaz
Address: Department of Physics
Banaras Hindu University
Varanasi 221005
India
Telephone: +91-9450528614 (mobile)
E-mail: mshaz@bhu.ac.in
mashaaz@gmail.com
Private Address: Ck 46/30 Benia Bagh,
Varanasi 221001
India
Born: November 18, 1968 in Varanasi, India
Nationality: Indian

Professional Career:

- ❖ **Professor (2019-present)**
Department of Physics, Banaras Hindu University, Varanasi-221005, India
- ❖ **Associate Professor (2016 – 2019)**
Department of Physics, Banaras Hindu University, Varanasi-221005, India
- ❖ **Assistant Professor (2004 – 2016)**
Department of Physics, Banaras Hindu University, Varanasi-221005, India.
- ❖ **Post Doctoral Fellow (2002 – 2004)**
 - Laboratory of Crystallography, University of Bayreuth, Bayreuth, Germany, with Prof. Dr. S. van Smaalen (September 2002 – September 2004).
 - Department of Physics, National Cheng Kung University, Tainan, Taiwan, with Prof. Dr. J. C. A Huang (March 3, 2002 – July 31, 2002).

Education:

- ❖ **Doctor of Philosophy (Aug 1994 – Aug 2002)**
Graduated on August 5, 2002 in Solid-state Physics,
Department of Physics, Banaras Hindu University, Varanasi -221005, India
- ❖ **Master of Science in Physics (July 1991 – 1993)**
Specialization: Solid State Physics
Graduated on July 7, 1993
Faculty of Science, Banaras Hindu University, Varanasi-221005, India
- ❖ **Bachelor of Science in Physics (July 1988 – June 1991)**
Graduated on July 7, 1991
Faculty of Science, Banaras Hindu University, Varanasi-221005, India

Publication:

	Publication	Citation	Year	Impact factor
1	Studies on de/rehydrogenation characteristics of nanocrystalline MgH ₂ co-catalyzed with Ti, Fe and Ni RR Shahi, AP Tiwari, MA Shaz, ON Srivastava International Journal of Hydrogen Energy 38 (6), 2778-2784	126	2013	7.139
2	Spin-Peierls transition in TiOCl M Shaz, S van Smaalen, L Palatinus, M Hoinkis, M Klemm, S Horn, ... Physical Review B 71 (10), 100405	126	2005	3.908
3	Fe ₃ O ₄ @ graphene as a superior catalyst for hydrogen de/absorption from/in MgH ₂ /Mg A Bhatnagar, SK Pandey, AK Vishwakarma, S Singh, V Shukla, PK Soni, ... Journal of Materials Chemistry A 4 (38), 14761-14772	110	2016	14.51
4	Studies on dehydrogenation characteristic of Mg (NH ₂) ₂ /LiH mixture admixed with vanadium and vanadium based catalysts (V, V ₂ O ₅ and VCl ₃) RR Shahi, TP Yadav, MA Shaz, ON Srivastava International Journal of hydrogen energy 35 (1), 238-246	78	2010	7.139
5	Effects of mechanical milling on desorption kinetics and phase transformation of LiNH ₂ /MgH ₂ mixture RR Shahi, TP Yadav, MA Shaz, ON Srivastava International journal of hydrogen energy 33 (21), 6188-6194	58	2008	7.139
6	MgH ₂ -ZrFe ₂ Hx nanocomposites for improved hydrogen storage characteristics of MgH ₂ RR Shahi, A Bhatnagar, SK Pandey, V Shukla, TP Yadav, MA Shaz, ... International Journal of Hydrogen Energy 40 (35), 11506-11513	55	2015	7.139
7	High yield synthesis of electrolyte heating assisted electrochemically exfoliated graphene for electromagnetic interference shielding applications P Tripathi, CRP Patel, A Dixit, AP Singh, P Kumar, MA Shaz, R Srivastava, ... RSC advances 5 (25), 19074-19081	49	2015	4.036
8	Investigations on the desorption kinetics of Mm-doped NaAlH ₄ D Pukazhselvan, MSL Hudson, BK Gupta, MA Shaz, ON Srivastava Journal of alloys and compounds 439 (1-2), 243-248	48	2007	6.371
9	Catalytic effect of carbon nanostructures on the hydrogen storage properties of MgH ₂ -NaAlH ₄ composite A Bhatnagar, SK Pandey, V Dixit, V Shukla, RR Shahi, MA Shaz, ... International journal of hydrogen energy 39 (26), 14240-14246	47	2014	7.139
10	Multiple charge-density waves in R ₅ Ir ₄ Si ₁₀ (R= Ho, Er, Tm, and Lu) S van Smaalen, M Shaz, L Palatinus, P Daniels, F Galli, GJ Nieuwenhuys, ... Physical Review B 69 (1), 014103	47	2004	3.908
11	Ternary transition metal alloy FeCoNi nanoparticles on graphene as new catalyst for hydrogen sorption in MgH ₂ S Singh, A Bhatnagar, V Shukla, AK Vishwakarma, PK Soni, SK Verma, ... International Journal of Hydrogen Energy 45 (1), 774-786	45	2020	7.139
12	TiH ₂ as a Dynamic Additive for Improving the De/Rehydrogenation Properties of MgH ₂ : A Combined Experimental and Theoretical	42	2018	4.177

	Mechanistic Investigation A Bhatnagar, JK Johnson, MA Shaz, ON Srivastava The Journal of Physical Chemistry C 122 (37), 21248-21261			
13	Synthesis, characterization and hydrogen storage characteristics of ambient pressure dried carbon aerogel S Singh, A Bhatnagar, V Dixit, V Shukla, MA Shaz, ASK Sinha, ... international journal of hydrogen energy 41 (5), 3561-3570	42	2016	7.139
14	On the synthesis, characterization and hydrogen storage behavior of ZrFe ₂ catalyzed Li-Mg-N-H hydrogen storage material V Shukla, A Bhatnagar, SK Pandey, RR Shahi, TP Yadav, MA Shaz, ... international journal of hydrogen energy 40 (36), 12294-12302	42	2015	7.139
15	Effect of processing parameter on hydrogen storage characteristics of as quenched Ti ₄₅ Zr ₃₈ Ni ₁₇ quasicrystalline alloys RR Shahi, TP Yadav, MA Shaz, ON Srivastava, S van Smaalen International Journal of Hydrogen Energy 36 (1), 592-599	41	2011	7.139
16	Effect of graphene templated fluorides of Ce and La on the de/rehydrogenation behavior of MgH ₂ PK Soni, A Bhatnagar, MA Shaz, ON Srivastava International Journal of Hydrogen Energy 42 (31), 20026-20035	39	2017	7.139
17	Synthesis of high-quality graphene through electrochemical exfoliation of graphite in alkaline electrolyte P Tripathi, C Patel, R Prakash, MA Shaz, ON Srivastava arXiv preprint arXiv:1310.7371	30	2013	
18	Highly efficient field emission properties of radially aligned carbon nanotubes P Tripathi, BK Gupta, A Bhatnagar, CRP Patel, PK Banker, DJ Late, ... Journal of Materials Chemistry C 6 (24), 6584-6590	28	2018	8.067
19	Curious Catalytic Characteristics of Al-Cu-Fe Quasicrystal for De/Rehydrogenation of MgH ₂ SK Pandey, A Bhatnagar, SS Mishra, TP Yadav, MA Shaz, ON Srivastava The Journal of Physical Chemistry C 121 (45), 24936-24944	25	2017	4.177
20	Synthesis and microhardness measurement of Ti-Zr-Ni nanoquasicrystalline phase MA Shaz, NK Mukhopadhyay, RK Mandal, ON Srivastava Journal of alloys and compounds 342 (1-2), 49-52	24	2002	6.371
21	Enhanced hydrogen sorption in a Li-Mg-N-H system by the synergistic role of Li ₄ (NH ₂) ₃ BH ₄ and ZrFe ₂ V Shukla, A Bhatnagar, PK Soni, AK Vishwakarma, MA Shaz, TP Yadav, ... Physical Chemistry Chemical Physics 19 (14), 9444-9456	21	2017	3.676
22	Nanocrystallization and structural correlation in quasicrystalline and crystalline phases during mechanical milling RS Tiwari, TP Yadav, NK Mukhopadhyay, MA Shaz, ON Srivastava Zeitschrift für Kristallographie-Crystalline Materials 224 (1-2), 26-30	21	2009	0.301
23	Hydrogen energy in India: storage to application ON Srivastava, TP Yadav, RR Shahi, SK Pandey, MA Shaz, A Bhatnagar Proc Indian Natl Sci Acad 81 (4), 915-937	20	2015	0.754
24	Studies on the de/re-hydrogenation characteristic of Mg (NH ₂) ₂ /LiH mixture admixed with carbon nanofibres RR Shahi, H Raghubanshi, MA Shaz, ON Srivastava International journal of hydrogen energy 37 (4), 3705-3711	20	2012	7.139
25	Improved hydrogen storage performance of Mg (NH ₂) ₂ /LiH mixture	17	2013	7.139

	by addition of carbon nanostructured materials RR Shahi, H Raghubanshi, MA Shaz, ON Srivastava International journal of hydrogen energy 38 (21), 8863-8871			
26	Formation of quasicrystalline phase in Al ₇₀ - x Ga x Pd ₁₇ Mn ₁₃ alloys TP Yadav, D Singh, RR Shahi, MA Shaz, RS Tiwari, ON Srivastava Philosophical Magazine 91 (19-21), 2474-2481	17	2011	1.948
27	Studies on the de/re-hydrogenation characteristics of nanocrystalline MgH ₂ admixed with carbon nanofibres RR Shahi, H Raghubanshi, MA Shaz, ON Srivastava Applied Nanoscience 2, 195-201	15	2012	3.674
28	Synthesis and characterizations of graphene/Sm doped BiFeO ₃ composites photoanode for efficient photo-electrochemical water splitting AK Vishwakarma, M Hussain, SK Verma, V Shukla, MA Shaz, ... International Journal of Hydrogen Energy 46 (29), 15550-15560	14	2021	7.139
29	Evolution of porous structure on Al-Cu-Fe quasicrystalline alloy surface and its catalytic activities SS Mishra, TP Yadav, SP Singh, AK Singh, MA Shaz, NK Mukhopadhyay, ... Journal of Alloys and Compounds 834, 155162	14	2020	6.371
30	Phase transformations in Al ₇₀ Ni ₂₄ Fe ₆ decagonal system during high energy ball milling TP Yadav, NK Mukhopadhyay, MA Shaz, RS Tiwari, ON Srivastava Philosophical Magazine 86 (3-5), 397-404	14	2006	1.948
31	Development and Demonstration of Air Stable rGO-EC@AB ₅ Type Hydrogenated Intermetallic Hybrid for Hydrogen Fuelled Devices A Bhatnagar, BK Gupta, P Tripathi, A Veziroglu, MSL Hudson, MA Shaz, ... Advanced Sustainable Systems 1 (11), 1700087	12	2017	6.737
32	Enhanced hydrogen absorption and desorption properties of MgH ₂ with graphene and vanadium disulfide SK Verma, MA Shaz, TP Yadav International Journal of Hydrogen Energy	11	2022	7.139
33	Structural correlation of magneto-electric coupling in polycrystalline TbMnO ₃ at low temperature H Agarwal, P Yadav, NP Lalla, JA Alonso, ON Srivastava, MA Shaz Journal of Alloys and Compounds 806, 510-519	11	2019	6.371
34	Synthesis, characterization and hydrogen sorption studies of mixed sodium-potassium alanate A Bhatnagar, SK Pandey, RR Shahi, MSL Hudson, MA Shaz, ... Crystal Research and Technology 48 (8), 520-531	10	2013	1.639
35	Synthesis of MgH ₂ using autocatalytic effect of MgH ₂ A Bhatnagar, MA Shaz, ON Srivastava International Journal of Hydrogen Energy 44 (13), 6738-6747	9	2019	7.139
36	A dual borohydride (Li and Na borohydride) catalyst/additive together with intermetallic FeTi for the optimization of the hydrogen sorption characteristics of Mg (NH ₂) ₂ /LiH V Shukla, A Bhatnagar, S Singh, PK Soni, SK Verma, TP Yadav, MA Shaz, ... Dalton Transactions 48 (30), 11391-11403	9	2019	4.569
37	Synthesis of quasicrystalline film of Al-Ga-Pd-Mn alloy TP Yadav, D Singh, RR Shahi, MA Shaz, RS Tiwari, ON Srivastava Thin Solid Films 534, 265-269	7	2013	2.183
38	Formation and stability of icosahedral phase in Al ₆₅ Ga ₅ Pd ₁₇ Mn ₁₃ alloy	7	2008	1.948

	TP Yadav, MA Shaz, RS Tiwari, ON Srivastava Philosophical Magazine 88 (13-15), 1995-2002			
39	Investigation of transition from decagonal to vacancy ordered phase on replacement of Co by Cu in Al ₇₀ Co ₁₅ -xCu _x Ni ₁₅ TP Yadav, MA Shaz, RS Tiwari, ON Srivastava Zeitschrift für Kristallographie-Crystalline Materials 218 (1), 12-16	7	2003	0.301
40	Dielectric response and alternating current conductivity in (Co, Ni) Al ₂ O ₄ nano-spinel H Agarwal, TP Yadav, ON Srivastava, MA Shaz Ceramics International 43 (18), 16986-16992	6	2017	5.532
41	Improved de/re-hydrogenation properties of MgH ₂ catalyzed by graphene templated Ti-Ni-Fe nanoparticles PK Soni, A Bhatnagar, V Shukla, MA Shaz International Journal of Hydrogen Energy 47 (50), 21391-21402	5	2022	7.139
42	Relaxor ferroelectric phase transition and ac conduction in polycrystalline Gd _{0.55} Ca _{0.45} MnO ₃ at low temperature P Pant, H Agarwal, S Bharadwaj, ON Srivastava, MA Shaz Materials Chemistry and Physics 267, 124586	5	2021	4.778
43	Formation of nano-quasicrystalline decagonal phase in the Al ₇₀ Cu ₁₀ Co ₅ Ni ₁₅ system by high energy ball milling TP Yadav, NK Mukhopadhyay, MA Shaz, RS Tiwari, ON Srivastava Journal of NanoScience and Nanotechnology 9 (9), 5527-5532	5	2009	1.134
44	On the formation of nano-sized quasicrystals in Ti ₅₃ Zr ₂₇ Ni ₂₀ alloy MA Shaz, RK Mandal, ON Srivastava Materials Science and Engineering: A 304, 860-862	5	2001	7.328
45	Magnetization spin reversal and neutron diffraction study of polycrystalline Tb _{0.55} Sr _{0.45} MnO ₃ H Agarwal, JA Alonso, A Munoz, RJ Choudhary, ON Srivastava, MA Shaz Journal of Alloys and Compounds 845, 156355	4	2020	6.371
46	Cation distribution in nanocrystalline (Co, Ni) Al ₂ O ₄ Spinel H Agarwal, TP Yadav, ON Srivastava, MA Shaz Ceramics International 42 (16), 19429-19432	4	2016	5.532
47	Phase Formation in the Rapidly Solidified Al _{70-x} Ga _x Pd ₁₃ Mn ₁₇ Alloys TP Yadav, MA Shaz, NK Mukhopadhyay, RS Tiwari, ON Srivastava Transactions of the Indian Institute of Metals 68, 1145-1149	3	2015	1.391
48	Numerical study on the extinction dynamics of partially premixed meso-scale methane-air jet flames with hydrogen addition B Hou, J Li, A Fan International Journal of Hydrogen Energy 47 (86), 36703-36715	2	2022	7.139
49	Effects of Cr and Fe substitution at Mn-sites of GdMn _{1-x} TxO ₃ (x= 0, 0.10) on its structural and complex dielectric properties P Pant, H Agarwal, S Bharadwaj, MA Shaz Materials Chemistry and Physics 290, 126518	2	2022	4.778
50	Facile synthesis of M ₂ (m-dobdc) (M = Fe and Mn) metal-organic frameworks for remarkable hydrogen storage SK Verma, MA Shaz, TP Yadav Energy Storage 4 (4), e333	2	2022	0.7
51	Achievement of excellent hydrogen sorption through swift hydrogen transport in 1: 2 Mg (NH ₂) ₂ -LiH catalyzed by Li ₄ BH ₄ (NH ₂) ₃ and carbon nanostructures V Shukla, TP Yadav, MA Shaz International Journal of Hydrogen Energy 47 (56), 23679-23693	2	2022	7.139
52	Synergistic effect of CNT bridge formation and spillover mechanism on enhanced hydrogen storage by iron doped carbon aerogel AP Pandey, MA Shaz, V Sekkar, RS Tiwari	2	2022	7.139

	International Journal of Hydrogen Energy			
53	Synthesis characterization and hydrogenation behaviour of as quenched Ti ₄₁ . 5+ XZr ₄₁ . 5-XNi ₁₇ (x= 0, 3.5, 11.5 and 13.5) nano quasicrystalline ribbons RR Shahi, TP Yadav, MA Shaz, ON Srivastava Journal of Physics: Conference Series 809 (1), 012011	2	2017	0.210
54	LOW TEMPERATURE SYNTHESIS AND OPTICAL PROPERTIES OF (Cu, Cr, Fe)Al ₂ O ₄ NANOCRYSTALLINE SPINEL MATERIALS TP Yadav, D Singh, NK Mukhopadhyay, MA Shaz, RS Tiwari, ... International Journal of Nanoscience 10 (04n05), 861-865	2	2011	0.677
55	Low-temperature investigation of conduction mechanism and dielectric properties in polycrystalline Gd _{0.55} Sr _{0.45} MnO ₃ P Pant, H Agarwal, S Bharadwaj, MA Shaz Journal of Materials Science: Materials in Electronics 33 (23), 18871-18883	1	2022	2.779
56	Improved hydrogen storage characteristics of magnesium hydride using dual auto catalysts (MgF ₂ + CsH) R Kesarwani, V Shukla, MSL Hudson, MA Shaz International Journal of Hydrogen Energy 47 (63), 27049-27058	1	2022	7.139
57	Highly efficient catalytic derived synthesis process of carbon aerogel for hydrogen storage application AP Pandey, MA Shaz, V Sekkar, RS Tiwari International Journal of Hydrogen Energy	1	2022	7.139
58	Evolution from sinusoidal to collinear A-type antiferromagnetic spin-ordered magnetic phase transition in Tb _{1-x} Pr _x MnO ₃ solid solution H Agarwal, JA Alonso, Á Muñoz, RJ Choudhary, ON Srivastava, MA Shaz Journal of Physics: Condensed Matter 33 (26), 265802	1	2021	2.745
59	A facile synthesis of alkaline electrolyte based graphene sheets, their functionalization and attachment of some drugs P Tripathi, M Talat, AK Vishwakarma, MA Shaz, P Kumar, BK Gupta, ... Journal of Nanoscience and Nanotechnology 19 (9), 5633-5643	1	2019	1.134
60	Unusual structural modification in the Ti ₆₈ Fe ₂₆ Ni ₁ Si ₅ quasicrystalline phase MA Shaz, NP Lalla, RK Mandal, ON Srivastava Physical Review B 55 (13), 8136	1	1997	3.908
61	Mechanistic understanding of the superior catalytic effect of Al ₆₅ Cu ₂₀ Fe ₁₅ quasicrystal on de/re-hydrogenation of NaAlH ₄ SK Verma, A Bhatnagar, MA Shaz, TP Yadav International Journal of Hydrogen Energy 48 (26), 9762-9775		2023	7.139
63	Enhanced hydrogen properties of MgH ₂ by Fe nanoparticles loaded hollow carbon spheres PK Soni, A Bhatnagar, MA Shaz International Journal of Hydrogen Energy		2023	7.139
67	Synthesis and Stability of Higher-Order Superstructure of Cubic Laves Phase in an Al-Cu-Ta alloy TP Yadav, H Agarwal, MA Shaz, NK Mukhopadhyay Transactions of the Indian Institute of Metals, 1-10		2022	1.391
73	Structural analysis of nanocrystalline spinel synthesized by quasicrystalline precursor H Agarwal, TP Yadav, ON Srivastava, MA Shaz ACTA CRYSTALLOGRAPHICA A-FOUNDATION AND ADVANCES 73, C492-C492		2017	1.960
77	Fe ₃ O ₄ phene as a superior catalyst for hydrogen de/absorption		2016	14.51

	from/in MgH ₂ /Mg A Bhatnagar, SK Pandey, AK Vishwakarma, S Singh, V Shukla, PK Soni, ... Journal of materials chemistry A			
80	Hydrogen storage characteristics of melt spun Ti-45 Zr38Ni17 nano-quasicrystalline alloys MA Shaz, RR Shahi, ON Srivastava ACTA CRYSTALLOGRAPHICA A-FOUNDATION AND ADVANCES 67, C416-C417		2011	1.960
81	Low Temperature Structures of the Metal Oxyhalides MOX: M= Ti, V and X= Cl, Br A Schoenleber, L Palatinus, M Shaz, S van Smaalen ACTA CRYSTALLOGRAPHICA A-FOUNDATION AND ADVANCES 61, C470-C471		2005	1.960
83	Some new structural and electronic characteristics of quasicrystals ON Srivastava, RS Tiwari, NP Lalla, RK Mandal, MA Shaz Bulletin of Materials Science 22, 457-463		1999	1.878
86	Pooja Pant, Harshit Agarwal, Suresh Bharadwaj, Sachin Srivastava, Archana Sagdeo, MA Shaz Structural correlation to enhanced magnetodielectric properties of Pr- doped polycrystalline Gd _{0.55} Pr _{0.45} MnO ₃ at low temperatures Journal of Magnetism and Magnetic Materials		2023	3.097

Professional Recognition/Awards/Fellowships:

- ❖ Junior Research Fellowship by DST, India (1994-1997)
- ❖ Senior Research Fellowship by CSIR, India (1997-2000)
- ❖ Founder Member of International Association for hydrogen Energy (2010)
- ❖ Life Member of Electron Microscopy Society of India
- ❖ Principle Investigator of UGC-DAE CSR, Indore sponsored project (P-29/93)

Research Interest:

I am interested in multiferroics manganites systems at present. It has wonderful structural correlation to its physical properties and having the applications in multiferroics, spintronics, solar cell, supercapacitors. Besides this, I am interested in Hydrogen storage materials, such as complex hydride system which includes Alanates. Amide, imides MgH₂ and some carbon based hydrides. I am also working on bulk metallic glasses, high entropy alloys, and nano quasicrystals.

I have published around 60 research papers in reputed journals. I have already guided seven Ph. D. students, 1 post-doctoral student and six Ph.D. students are currently registered under me.

Projects

No.	Topic of Project	
1.	Physical and structural study of Multiferroic TbMnO ₃ using Low Temperature High Magnetic Field X-Ray Diffraction.	UGC-DAE-CSR
2.	Synthesis and growth of large-area crystalline nanolayer graphene.	DRDO
3.	Hydrogen storage materials: Optimization of known materials developing new materials, and finding exploratory application	DST/TMD/HFC

Dr. Mohammad Abu Shaz
(Professor)

**Institutional
Address:**

Department of Physics,
Institute of Science,
Banaras Hindu
University, Varanasi
221005, India
mshaz@bhu.ac.in
mashaaz@gmail.com

Email:

Post-doctoral project (2002-2004)

I worked as a postdoctoral fellow in the Laboratory of Crystallography, University of Bayreuth, Germany, to study single crystals by X-ray diffraction (both using rotating anode X-rays and synchrotron radiation at Hasylab in Hamburg, Germany) and their subsequent structure determination. The crystals were generally charge density wave and quantum magnetic compounds; specifically $M_5Ir_4Si_{10}$ ($M=Ti, Lu$), Mo_4O_{11} and $TiOCl$ which have incommensurate/commensurate structure below their respective transition temperatures. I have gained considerable amount of experience with synchrotron radiation experiments especially at low temperatures ($\sim 10 - 50$ K). During this project I could establish interesting correlations between CDW and behavior of satellites reflections in $M_5Ir_4Si_{10}$ systems and I discovered a structural change in $TiOCl$ below its phase transition at 66K.

I have worked for a short period in the Department of Physics NCKU, Tainan in Taiwan as a postdoctoral fellow. During this period I worked on thin film deposition using Ion beam in high vacuum systems.

PhD Studies in solid state physics (Aug 1994 – Aug 2002)

For my PhD project I investigated synthesis and structural characterization of Ti-based quasicrystals, ($Ti_{68}Fe_{26}Ni_{11}Si_5$, $Ti_{45}Zr_{38}Ni_{17}$ and $Ti_{53}Zr_{27}Si_{20}$) mainly by Transmission (Scanning) Electron Microscopy. During this I mainly focused on selected area diffraction (SAD) patterns analysis and related microstructure for determining the evolution of quasicrystal from its crystalline counterpart and their effect on the microstructures. I used nano beam electron diffractions for getting the pattern of single nano-crystals. I also studied the mechanical properties of these nano-quasicrystals (e.g. micro-hardness). I could establish interesting property-structure correlation in the nano quasicrystalline phase in $Ti_{53}Zr_{27}Si_{20}$. I helped many of my colleagues for Electron Microscopy of their materials e.g. HT Super Conductors, Carbon nano-tubes, C-60 etc. I was also in-charge of maintenance and operation of our STEM (Philips CM-12).

Place: Varanasi, India