

Bio-Data

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Research Experience:

Position held	From	To	Research Area
INSA- SS	2017	-	Big Data Epilepsy,
DAE-RRF, ACTREC	2013	30-6-2016	Biophysics
Head, Protein Crystallography Section,SSPD	1999	2012	Macromoleculsr Crystallography and drug-design
Wenner-Grenn Fellow, Lund University, Sweden	May, 2001	July, 2001	Structures of viral and malaria proteins
Scientific Officer BARC, Mumbai	1986	1999	Macromolecular Crystallography
Visiting Scientist NCI, USA	January, 1992	July, 1992	Structure – Function studies of viral proteins
Research Associate, Purdue University, West Lafayette, IN, USA	1982	1986	X-ray structure of spherical viruses
Research Associate, University of Wisconsin, Madison, USA	1979	1981	X-ray crystallography of oligonucleotides
Ph.D. Student, Indian Institute of Science, Bangalore – 560012, India.	1973	1979	X-ray crystallography of nucleotide coenzymes and high-energy phosphates.

Academy Fellowships: Fellow, Indian National Science Academy (INSA), New Delhi.

Awards: Martin – Forster Gold Medal from I.I.Sc., Bangalore for the Ph.D. thesis having been judged the best in the Division of Physical Sciences for the year 1979.

“CIPLA Distinguished Fellowship in Pharmaceutical Sciences” award by University Institute of Chemical Technology (UICT), Mumbai.

Co-Chairmanship of International Union of Crystallography Microsymposium 22 held in Madrid, Spain, 22nd -31st August 2011.

Member DBT Expert Committee on Utilisation of Protein Crystallography beamline, BM14, on ESRF (2009 – 2014)

Invitation from The Nobel Committees for Physics and Chemistry, Royal Swedish Academy of Sciences, to nominate scientists for Nobel Prize in Chemistry for the years 2012, 2013, 2014, 2015.

Vice-President, Indian Crystallography Association Bangalore, India.

List of Publications in Journals

Tushar Raskar, Sagar Khavnekar and **Madhusoodan Hosur** (2016) Time-dependent X-ray diffraction studies on urea/hen egg white lysozyme complexes reveal structural changes that indicate onset of denaturation . Scientific Reports 6:32277 DOI:10.1038/srep32277.

Ashwani Kumar, Biplab Ghosh, H. K. Poswal, K. K. Pandey, Jagannath, **M.V.Hosur**, Abhilash Dwivedi, Ravindra D. Makde and Surinder M. Sharma (2015) Protein crystallography beamline (PX-BL21) at Indus-2 Synchrotron. Journal of Synchrotron Radiation **2016; 23(2):629-34. Epub 2016 Feb 13.**

Lumbini R Yadav; Mahamaya N Biswal, **M V Hosur**, Ashok Varma "Structural basis to Characterization of Transactivation domain of BRCA1 "Journal of biomolecular Structure & Dynamics · January 2016, DOI 10.1080/07391102.2015.1136896.

Prashar, V., Bihani, S. C., Ferrer, J.-L. and **Hosur, M. V.** (2015), Structural Basis of Why Nelfinavir-Resistant D30N Mutant of HIV-1 Protease Remains Susceptible to Saquinavir. Chemical Biology & Drug Design, 86: 302–308. doi: 10.1111/cbdd.12494 PMID: 25487655.

Tushar Raskar, Amit Das and **M. V. Hosur** “Drug resistance: Crystallography of drug-resistant HIV-1 protease mutant”, J. Biomol. Struct. Dyn., (2015), 33, 124.

Yadav LR, Rai S, **Hosur MV**, Varma AK. Functional assessment of intrinsic disorder central domains of BRCA1. J Biomol Struct Dyn. 33(11): 2469-78, 2015. PMID : 25616417

Choudhary RK, Vikrant, Siddiqui QM, Thapa PS, Raikundalia S, Gadewal N, Kumar NS, **Hosur MV**, Varma AK. Multimodal approach to explore the pathogenicity of BARD1, ARG 658 CYS, and ILE 738 VAL mutants. J Biomol Struct Dyn. 2015. PMID: 26307947

LR Yadav, MN Biswal, **MV Hosur**, AK Varma (2014) “Tetrameric ZBRK1 DNA binding domain has affinity towards cognate DNA in absence of zinc ions” Biochemical and biophysical research communications 450 (1), 283-288.

M.V.Hosur, R. Chitra, Samarth Hegde, R. R. Chaudhary, Amit Das and R. V. Hosur (2013)

Low Barrier Hydrogen Bonds in Proteins
Crystallography Reviews 19(1), 3 - 50.

Dilip C. Badgajar, Ulka Sawant, Vikrant, Lumbini Yadav, **M. V. Hosur** and Ashok K. Varma, Preliminary crystallographic studies of BRCA1 BRCT–ABRAXAS complex, Acta Cryst. (2013). F69, 1401–1404.

Subhash C. Bihani, Amit Das, Kayzad S. Nilgiriwala, Vishal Prashar, Jean-Luc Ferrer, Shree Kumar Apte, and **M.V. Hosur** (2011)

X-ray structure reveals a new class and provides insight into evolution of alkaline phosphatases. PLoS One 6: e22767.

M. V. Hosur (2010)

Combating HIV/AIDS: Contributions from Crystallography. Lead Article NATL. ACAD. SCI. LETT, Vol 33, 193 – 203.

Vishal Prashar, Subhash C. Bihani, Amit Das, D. R. Rao and **M.V.Hosur** (2010)
Saquinavir Resistance Mechanism: X-ray structure analysis of G48V/C95F tethered HIV-1 protease dimer/saquinavir complex. Biochemical and Biophysical Research Communications **396** (2010) 1018–1023

Amit Das, Vishal Prashar, Subhash Bihani, Smita Mahale, J-L. Ferrer & **M.V.Hosur**

(2010) X-ray snap-shot of HIV-1 protease in action: observation of a tetrahedral intermediate and its SIHB with catalytic aspartates.

Journal of American Chemical Society 132, 6366-6373.

Vishal Prashar, Subhash Bihani, Amit Das, Jean_Luc Ferrer and **M. V. Hosur** (2009)
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Subhash C bihani, Amit Das, Vishal Prashar, Jean-Luc Ferrer, and **M.V.Hosur** (2009)
Resistance Mechanism revealed by Crystal Structures of unliganded nelfinavir-resistant HIV-1 protease non-active site mutants N88D and N88S
Biochem. Biophys. Res. Commun. **389**, 295 - 300.

Kayzad S. Nilgiriwala, Subhash C. Bihani, Amit Das, Vishal Prashar, Mukesh Kumar, Jean-Luc Ferrer, Shree Kumar Apte, and **M.V. Hosur** (2009)
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Mukesh Kumar, Dhanashree D. Jagtap, Smita D Mahale, Vishal Prashar, Ashwani Kumar, Amit Das, Subhash C. Bihani, Jean-Luc Ferrer, **M. V Hosur**, M. Ramanadham (2009)

Crystallization and preliminary X-ray diffraction analysis of human seminal plasma protein, PSP94

Acta Cryst. F **65**, 389 - 391.

Subhash Bihani, Amit Das, Vishal Prashar, J-L. Ferrer & **M.V.Hosur**

X-ray structure of HIV-1 protease *in-situ* product complex

PROTEINS: Structure, Function and Bioinformatics, 2009; **74**:594–602.

M. V. Hosur and Vishal Prashar (2008)

HIV-1 Protease Crystallography at BARC

Journal of the Indian Institute of Science, 88, 95-105.

Amit Das, Dharmaraj Rao and **M. V. Hosur**

X-ray Structure of HIV-1 protease tethered dimer complexed with Ritonavir Protein and Peptide Letters, 2007, **14**, 565 – 568.

Amit Das, Vishal Prashar, Smita Mahale, L. Serre, J-L. Ferrer & **M.V.Hosur**

Crystal structure of HIV1 protease in situ product complex and observation of a Low Barrier Hydrogen Bond between catalytic aspartates

Proc. Natl. Acad. Sci. (USA), (2006) , 103, 18464 – 18469.

Mukesh Kumar, Vishal Prashar, Smita Mahale and **M.V.Hosur**

‘Observation of a tetrahedral reaction intermediate in the structure of HIV-1 protease substrate complex’

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Vishal Prashar and **M.V.Hosur**

‘1.8Å X-ray structure of C95M/C1095F double mutant of tethered HIV-1 protease dimer complexed with acetyl pepstatin’

Biochem. Biophys. Res. Commun., 323, (2004), 1229 – 1235.

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‘Rapid screening for HIV-1 protease inhibitor-leads through X-ray diffraction’

Acta Cryst. (2004), D60, 594-596.

Mukesh Kumar and **M. V. Hosur**

‘Adaptability and flexibility of HIV-1 protease’

Eur. J. Biochem., 270, 1231 – 1239, (2003)

Shveta Bagga, **M.V.Hosur** and Janendra K. Batra

‘Cytotoxicity of ribosome-inactivating protein saporin is not mediated through α 2-macroglobulin receptor’

FEBS Letters 541 (2003) 16-20

N.M.Jetley, K.S.Iyer, **M.V.Hosur**, S.D.Mahale

‘Attempt to map the receptor binding sites of human follicle-stimulating hormone using disulfide peptides of its b-subunit indicates major involvement of regions around the disulfide bonds

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R. Chidambaram, **M.V.Hosur** and R.V.Hosur

‘100 years of X-rays and 50 years of NMR’
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M. V. Hosur, P.Satyamurthy, Bindu Nair, S. Misquith, A. Surolia and K.K.Kannan

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‘Structure of RUBISCO Multienzyme Complex at 3.5Å Resolution’
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A.Seth, R.V.Hosur, G. Govil, **M.V.Hosur**, K.K.Kannan, Z.Tan and H.T.Miles

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P.C.Sehnke, M.Harrington, **M.V.Hosur**, Y.Li, R.Usha, R.C.Tucker, W.Bomu, C.Stauffacher and J.E.Johnson

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‘The Structure of Cowpea Mosaic virus at 3.5A Resolution’ in ‘Crystallography in Molecular Biology’ eds. D.Moras, J.Drenth, B.Strandberg, D.Suck and K.Wilson (1987) Plenum, New York, 293 - 308.

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S.K.Katti, **M.V.Hosur** and M.A.Viswamitra

‘Structure of Monosodium Phosphoenol Pyruvate’
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M.V.Hosur and M.A.Viswamitra

‘The Structure of Monopotassium Phosphoenol Pyruvate’
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R.V.Hosur, G.Govil, **M.V.Hosur** and M.A.Viswamitra

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M.A.Viswamitra, S.K.Katti and **M.V.Hosur**

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M.A.Viswamitra, **M.V.Hosur**, Z.Shakkeed and O.Kennard

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