

**Curriculum Vitae of N. Srinivasan**  
(dated 30 Jan. 2018)

**Personal Details:**

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Date of Birth:	1 April 1962
Sex:	Male
Place of Birth:	Madras (Chennai), India
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**Research Interests:**

Computational genomics, bioinformatics and structural biology involving relationship between protein structure, function and interactions. Cellular signal transduction. Protein-protein interactions, biological pathways.

**Educational Qualifications:**

1991	Ph.D Molecular Biophysics Unit, Indian Institute of Science, Bangalore. Thesis: <i>Conformational studies on globular proteins: Data analysis.</i>
1984	First class M.Sc in Biophysics at Dept. of Crystallography and Biophysics, University of Madras, India.
1982	First class B.Sc in Physics, University of Madras, India.

**Positions:**

<b>Post</b>	<b>Funded by</b>	<b>Dates</b>	<b>Educational establishment</b>
Professor	DBT, DST, CSIR New Delhi; Indo-French and Indo-UK collaborative grants	June '10 – Till date	Molecular Biophysics Unit, IISc, Bangalore. India
Associate Professor	DBT and CSIR, New Delhi; Indo-French and Indo-UK collaborative grants	June '04 – June '10	Molecular Biophysics Unit, IISc, Bangalore. India
Assistant Professor & International Senior Fellow of the Wellcome Trust.	The Wellcome Trust, London	June '98-June '04	Molecular Biophysics Unit, IISc, Bangalore. India
Visiting Professor	Reunion University, Reunion islands, France	Yearly visits for a few years since May '04	Biochemistry department, Reunion University, Reunion islands, France
Senior Fellow	Manchester University, UK	March 08 onwards	Biological Sciences, Manchester University,
Honourary Research Fellow	Honourary position	Sep. '98 – Sep. 2000	Dept. Cryst. Birkbeck College, London, U.K.
Postdoctoral – Computing	Wellcome Trust, to Prof. Blundell	Oct '96-May '98	Dept. of Biochem., Univ. Cambridge, U.K.
Postdoctoral - crystallography & computing *	Ludwig Institute for Cancer Res., London, to Prof. Waterfield	Aug '94- Sep '96	Ludwig Institute for Cancer Res., University College, London, U.K.
Postdoctoral - Computing	A grant by Tripos Inc., St. Louis, to Prof. Blundell	Nov '91-July '94	Dept. Cryst. Birkbeck College, London, U.K.
Senior Research Fellow	Dept. of Sci. & Tech. India, to Prof. Balaram	Jan '91-Oct '91	Mol. Biophys. Unit, Indian Inst. of Sci., Bangalore.

\* Honourary visiting research fellow in the laboratory of Prof. Blundell, Birkbeck college, London.

### **Research group:**

Srinivasan's group has an average population of 18 members in the last 6 years with roughly half the number corresponding to PhD students and the other half corresponding to postdoctorals and technicians. So far, 20 students have completed their PhD thesis under his guidance. Several students have done their Masters project with him. He is currently guiding 6 direct students towards their PhDs and he is a joint-guide to another 4 students from Mathematical Biology Programme.

### **Honours and Awards:**

International Senior Fellow of the Wellcome Trust, UK (1999-2005)

National Bioscience Award of DBT, Government of India - 2005

Shanti Swarup Bhatnagar Prize awarded by the Council of Scientific and Industrial Research, Government of India – Highest Science prize in India - 2007

J. C. Bose National Fellowship, Department of Science & Technology, Government of India – from 2014

### **Membership / affiliations in professional bodies**

Elected Fellow of the Indian Academy of Sciences, Bangalore (Since 2007)

Elected Fellow of the National Academy of Sciences, India, Allahabad (Since 2007)

Member of the committee on Affiliates and Special Interests Group, International Society of Computational Biology (ISCB), USA

Visiting Professor of Bioinformatics to Reunion university, France since 2004 involving annual visits for many years

Visiting Professor of Bioinformatics to University of Nantes, France during July 2012

Senior Fellow of the Manchester University, UK in early 2000s.

### **Other professional activities:**

A faculty member in the *Faculty of 1000 in Biology* in the section *Structural Biology – Structural Genomics*.

Member of the Editorial Board of the journals

1. *Bioinformatics* (2005-2015)
2. *PLoS ONE*
3. *F1000 Research*
4. *International Journal of Bioinformatics Research and Applications*
5. *Research & Reviews in Biosciences*
6. *Resonance* (2011-2014)

7. *In Silico Biology*
8. *The Scientific World Journal - Structural Biology*
9. *Biology Direct*
10. *Scientific Reports (Nature Publishing Group)*

Associate Editor of

1. *International Journal of Knowledge Discovery in Bioinformatics*
2. *Bioinformation.*

Acted as a Guest Editor for

1. *PLoS Computational Biology.*
2. *Journal of Biosciences*
3. *Progress in Biophysics & Molecular Biology*
4. *Current Opinion in Structural Biology - Theory and Simulation section*

Member of the programme committee of PRIB 2007 (Pattern Recognition In Biology), an International conference held in Singapore in October 2007.

A speaker in the *Keystone symposium* held in Cambridge, UK in 2006 on *Multi-protein complexes.*

Invited keynote speaker in Asia-Pacific Bioinformatics Conference 2012, Melbourne, Australia

Invited speaker in Albany Conversation 2015

Refereed manuscripts for publication in: *PNAS, J. Mol. Biol., Proteins: Str. Fn. Gen., Prot. Engng., Prot. Sci., Bioinformatics, BMC Bioinformatics, BMC Structural Biology, J. Biomol. Str. Dyn., J. Biosci., Curr. Sci., Trends Biotech., PEDS, Prog. Biophys. Mol. Biol., BMC Genomics, BMC Microbiology, Amer. J. Pharmacogenomics, Nucl. Acids Res., FEBS Letters., PLoS Comp. Biol. J. Struct. Biol., Int. J. Biol. Macromol., J. Bact., Resonance, FEBS Journal, PLoS ONE, IJBRA, Plant Systematics and Evolution, DNA Research, Theory in Biosciences, BBA, Computers in Biology & Medicine, J Mol Recogn* and many more journals.

Refereed grant applications for Department of Biotechnology, New Delhi, Career Development program of the Wellcome Trust, London, HFSP, France, Wellcome Trust's review of progress made by Sanger Centre, UK, Council of Scientific and Industrial Research and Department of Science and Technology, New Delhi, Department of Information Technology, Delhi. Acted as a member of the committee for the promotion of scientists working in CSIR institutions and various awards.

Acted as PhD thesis examiner of thesis submitted from Panjab university, University of Kerala, Central University – Hyderabad, Delhi University, Madurai-Kamaraj University, Jadhavpur university, Anna University, Reunion university, SASTRA and Bharathidasan University, Vellore Institute of Technology, Kuvempu University, Reunion university (France), Macquarie University, Sydney, Australia. J.N. University, Delhi.

Acted as a referee for the promotion of a faculty member of Brigham Young University, USA, for a member of faculty in a South African University and for a faculty member in University of Manchester, UK and a faculty member at Johns Hopkins, USA.

Served as a coordinator of the Integrated PhD programme in Biological Sciences and a member of the core committee on Integrated PhD programmes, Indian Institute of Science.

Coordinator of Under Graduate Programme in Biology at the Indian Institute of Science

Member of the Scientific Advisory Board of Jubilant Biosys.

### **Patents:**

Complete application filed for Novel AAV vectors-

1. INDIA 1714/CHE/2012
2. USA 13/886,241
3. EUROPEAN UNION EP13166332.0

Inventors: G.R. Jayandharan, Dwaipayan Sen, Sangeetha Hareendran, Nishanth Gabriel, Ruchita Selot, Akshaya, K, Balaji B, Alok Srivastava [CMC, Vellore], Sudha Govindarajan, Rupali Gadkari, N Srinivasan [IISc, Bengaluru]

### **General publications**

[1] C.Ramakrishnan, N.Srinivasan & D.Prashanth (1987) Conformation of glycyI residues in globular proteins. *Int. J. Pept. Prot. Res.*, **29**, 629-637.

[2] R.Sowdhamini, N.Srinivasan, B.Shoichet, D.V.Santi, C.Ramakrishnan & P.Balaram (1989) Stereochemical modeling of disulfide bridges: Criteria for introduction into proteins by site-directed mutagenesis. *Prot. Engng.*, **3**, 95-103.

[3] C.Ramakrishnan & N.Srinivasan (1990) Glycyl residues in proteins and peptides - An analysis. *Curr. Sci.*, **59**, 851-861.

[4] N.Srinivasan, R.Sowdhamini, C.Ramakrishnan & P.Balaram (1990) Conformations of disulfide bridges in proteins. *Int. J. Pept. Prot. Res.*, **36**, 147-155.

[5] N.Srinivasan, R.Sowdhamini, C.Ramakrishnan & P.Balaram (1991) Analysis of short loops connecting secondary structural elements in proteins. In *Molecular conformation and biological Interactions*, (Eds. P.Balaram & S.Ramaseshan) Indian Academy of Sciences, Bangalore. pp 59-73.

[6] R.Sowdhamini, N.Srinivasan, C.Ramakrishnan & P.Balaram (1992) Orthogonal  $\beta\beta$  motifs in proteins. *J. Mol. Biol.*, **223**, 845-851.

[7] C.Ramakrishnan & N.Srinivasan (1992) Conformational preference of glycyI residues in proteins. A further confirmation. *Proc. Ind. Natl. Acad. Sci.*, **B59**, 45-54.

- [8] N.Srinivasan (1993) Conformational studies on globular proteins: Data analysis. (A paper on the Ph.D thesis work). *J. Ind. Inst. Sci.*, **73**, 114-120.
- [9] N.Srinivasan & T.L.Blundell (1993) An evaluation of the performance of an automated procedure for comparative modelling of protein tertiary structure. *Prot. Engng.*, **6**, 501-512.
- [10] M.S.Johnson, N.Srinivasan, R.Sowdhamini & T.L.Blundell (1994) Knowledge-based protein modelling. *CRC Crit. Rev. Biochem. Mol. Biol.*, **29**, 1-68.
- [11] J.Emsley, H.E.White, B.P.O'Hara, G.Oliva, N.Srinivasan, I.J.Tickle, T.L.Blundell, M.B.Pepys & S.P.Wood (1994) Structure of pentameric human serum amyloid P component. *Nature*, **367**, 338-345.
- [12] A.C.W.May, M.S.Johnson, S.D.Rufino, H.Wako, Z.-Y.Zhu, R.Sowdhamini, N.Srinivasan, M.A.Rodionov & T.L.Blundell (1994) The recognition of protein structure and function from sequence: adding value to genome data. *Phil. Trans. Roy. Soc. (London)* **344**, 373-381.
- [13] C.M.Topham, N.Srinivasan, C.J.Thorpe, J.P.Overington & N.A.Kalsheker (1994) Comparative modelling of major dust mite allergen *Der p I*. Structure validation using an extended environmental amino acid propensity table. *Prot. Engng.* **7**, 869-894.
- [14] N.Srinivasan, V.S.Anuradha, C.Ramakrishnan, R.Sowdhamini & P.Balaram (1994) Conformational characteristics of asparaginy residues in proteins. *Int. J. Pept. Prot. Res.* **44**, 112-122.
- [15] S.Zarina, C.Slingsby, R.Jaenicke, Z.H.Zaidi, H.Driessen & N.Srinivasan (1994) Three dimensional model and quaternary structure of the human eye lens protein  $\gamma$ -crystallin based on  $\beta$  and  $\gamma$ -crystallin X-ray coordinates and ultracentrifugation. *Prot. Sci.* **3**, 1840-1846.
- [16] N.Srinivasan, H.E.White, J.Emsley, S.P.Wood, M.B.Pepys & T.L.Blundell (1994) Comparative analyses of pentraxins: implications for protomer assembly and ligand binding. *Structure.* **2**, 1017-1027.
- [17] L.E.Donate, E.Gherardi, N.Srinivasan, R.Sowdhamini, S.Aparicio & T.L.Blundell (1994) Molecular evolution and domain structure of plasminogen-related growth factors (HGF/SF and HGF1/MSP). *Prot. Sci.* **3**, 2378-2394.
- [18] R.Sowdhamini, N.Srinivasan, K.Guruprasad, S.D.Rufino, V.Dhanaraj, S.P.Wood, J.Emsley, H.E.White & T.L.Blundell (1995) Protein three-dimensional structure and molecular recognition: A story of soft locks and keys. *Pharmaceutica Acta Helveticae.*, **69**, 185-192.
- [19] S.D.Rufino, N.Srinivasan, R.Sowdhamini, J.Murray-Rust, L.E.Donate, A.C.W.May, K.Guruprasad, V.Dhanaraj, B.L.Sibanda & T.L.Blundell (1995)

Structure-based design of proteins. Learning from evolution by comparative analyses of protein families. In Proceedings of the Annual Symposium on Protein Engineering, September 1994, Oxford, U.K. pp. 1-8.

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[23] N.Srinivasan, M.D.Waterfield & T.L.Blundell (1996) Comparative analysis of the regions binding  $\beta\gamma$ -subunits in  $G\alpha$  and PH domains. *Biochem. Biophys. Res. Commn.*, **220**, 697-702.

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- [33] A.Albert, T.L.Blundell, V.Dhanaraj, L.E.Donate, M.Groves, K.Guruprasad, P.G.Nugent, P.Orprayoon, J.E.Pitts, S.Rufino, N.Srinivasan, M.Williams & J.Wilsher (1998) Protein engineering of aspartic proteinases: Site-directed mutagenesis, biochemical characterisation and X-ray analysis of chymosins with substituted single aminoacid substitutions and loop replacements. *Adv. Exp. Med. Biol.*, **436**, 169-177.
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- [38] A.R.Walker, P.A.Davison, C.Agnese, B-.Winfield, C.M.James, N.Srinivasan, T.L.Blundell, J.J.Esch, M.D.Marks & J.C.Gray (1999) The TTG1 (*Transparent Testa, Glabra1*) locus which regulates trichome differentiation and anthocyanin biosynthesis in Arabidopsis encodes a WD40-repeat protein. *Plant Cell* **11**, 1337-1349.
- [39] N.Srinivasan & V.S.R.Rao (1999) Structural features of protein – carbohydrate interactions in galactose and mannose binding proteins complexes. (in *Perspectives in Structural Biology*. Eds. M.Vijayan, N.Yathindra & A.S.Kolaskar) Indian Academy of Sciences. pp. 355-366.
- [40] L.A.Lindsey-Boltz, G.Chawla, N.Srinivasan, U.Vijayraghavan & M.A.Garcia-Blanco (2000) The Carboxy Terminal WD Domain of the pre-mRNA splicing Factor Prp17p is Critical for Function. *RNA* **6**, 1289-1305.
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of the intracellular domain of the human guanylyl cyclase C receptor provides evidence for a catalytically active homotrimer. *Biochemistry* **36**, 16075-16083.

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[43] S. Balaji, S. Sujatha, S. Sai Chetan Kumar & N. Srinivasan (2001) PALI - A database of Phylogeny and ALignment of homologous protein structures. *Nucleic Acids Res.* **29**, 61-65.

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[50] A. Krupa & N. Srinivasan (2002) Lipopolysaccharide phosphorylating enzymes encoded in the genomes of Gram-negative bacteria are related to the eukaryotic protein kinases. *Prot. Sci.* **11**, 1580-1584.

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See *Nature News India* (March 2003 issue, pp.12) for a news item on this work.

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**The paper mentioned above is listed in Faculty of 1000**

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