# DISTINGUISH ALUMNI

1. **Dr. Nand Kishore, Ph D, FNASc**
2. **Sh. Sarban Singh, IAS**
3. **Sh. Ramesh Jhakhu, IAS**
4. **Wing Commander, Sushil Kumar**

**DISTINGUISH ALUMNI**

# Nand Kishore, Ph D, FNASc

**Professor, Department of Chemistry, Indian Institute of Technology Bombay, Powai, Mumbai – 400 076**

**1. Education**

| Degree | Year | University/Instt. | Rank |
|---|---|---|---|
| B. Sc. | 1981 | Guru Nanak Dev University, Amritsar | 1st Class 1st |
| M. Sc. (Chemistry) | 1983 | Guru Nanak Dev University, Amritsar | 1st Class 1st with four **outstanding** and all other "A" grades |
| Ph. D. (Chemistry) | 1989 | IIT Delhi | CGPI: 9.33/10 |

**2. Postdoctoral research**

**1989 - 1991** Yale University, U.S.A.
**1991 - 1992** National Institute of Standards and Technology, U.S.A.

**3. Positions held**

| | |
|---|---|
| **1992 - 1994** | Lecturer, Department of Chemistry, IIT Bombay |
| **1994 - 1998** | Assistant Professor, Chemistry Department, IIT Bombay |
| **1997 -1998** | Guest Research Scientist, National Institute of Standards and Technology, U.S.A. |
| **2000 (May - July):** | Guest Resrearch Scientist, National Institute of Standards and Technology, U.S.A. |
| **1998 – March 28, 2005** | Associate Professor, Chemistry Department, IIT Bombay |
| **2005 (May-July)** | Guest Research Scientist, National Institute of Standards and Technology, U.S.A. |
| **March 28, 2005 onwards** | Professor, Department of Chemistry, IIT Bombay |

**4 . Research area**

Biothermodynamics, Biophysical Chemistry (Thermodynamics of protein-folding, protein-solvent interactions and drug-protein binding) using a combination of Isothermal Titration Calorimetry, Differential Scanning Calorimetry, uv-visible, fluorescence and circular dichroism spectroscopies

**5. Teaching**
Physical chemistry courses to B. Tech, M Sc and Ph D students

## 6. Awards and recognition

- Elected Fellow of the National Academy of Sciences, India in the year 2005.
- Invited speaker in various International and National Conferences of India and abroad.

- Reviewer of various international and national journals.
- Associate Editor, Journal of Indian Chemical Society, 2004.
- Secretary and Executive Council member, Indian Chemical Society (Mumbai branch), 2004-2008.
- Affiliate member of IUPAC, 1996.

## 7. SPONSORED PROJECTS UNDERTAKEN

| Sponsoring Agency | Title of the project | Amount/ (Rs. In Lakhs) | Period |
|---|---|---|---|
| **As Principal Investigator** | | | |
| **CSIR** | Quantitative and Mechanistic Aspects of Drug-Protein Interactions: Thermodynamic and spectroscopic Studies. | 14.0 | 2006-2009 |
| **DST** | Regional Facility for Isothermal Titration Calorimetry in Biologically Important Systems | 70.81 | 2004-2009 |
| **DST** | A thermodynamic approach to understand protein-folding and protein-solvent interactions | 8.9064 | 2000-2003 |
| **BRNS** | Volumetric characterizations of the native, molten globule and unfolded states of some globular proteins and their interactions with co-solvents | 4.2378 | 1996-2000 |
| **DST (YS)** | A differential scanning Calormetric investigation of the Thermal unfolding of proteins, effect of co-solvents and characterization of the molten globule intermediates | 2.6150 | 1993-1995 |
| **As Co-Investigator** | | | |
| **DST** | National facility for photo-Labeling and peptide Sequencing in biomolecular Systems, Phase - II | 35.0 | 1999-2004 |
| **DST** | National facility for photo-labeling and peptide sequencing | 76.6032 | 1994-1999 |

## 8. PUBLICATIONS

1. "Calorimetric and Spectroscopic Studies on the Interaction of Methimazole with ovine Serum Albumin", S. K. Singh and N. Kishore, ***J. Pharm. Sci.*** (2007) *In Press*.

2. Equimolar mixture of 2,2,2-Trifluoroethanol and 4-chloro-1-butanol is a stronger inducer of molten globule state: Isothermal titration calorimetric and spectroscopic studies", A. A. Thoppil and N. Kishore, ***The Protein Journal,*** (2007) *In Press*.

3. "Thermodynamics of reactions catalyzed by D-hydantoinase and N-carbamoyl-D-amino acid hydrolase",Y. B. Tewari, N. Kishore, B. E. Lang, and R. N. Goldberg, ***J. Chem. Thermodyn.*** 39 (2007) 689-697.

4. "Cyclodextrin based drug delivery system of protease inhibitor-nelfinavir mesylate", S. J. Torne, J. S. Torne, P. R. Vavia, S. K. Singh and N. Kishore***, J. Inclusion Phenom. Macroc. Chem.*** 57 (2007) 689-697.

5. "Binding of Naproxen and Amitriptyline to Bovine Serum Albumin: Biophysical Aspects", T. Banerjee, S. K. Singh and N. Kishore, ***J. Phys. Chem. B*** 110 (2006) 24147-24156.

6. "Thermodynamic insights into the binding of triton X-100 to globular proteins: A calorimetric and spectroscopic investigation", S. K. Singh and N. Kishore, ***J. Phys. Chem. B*** 110 (2006) 9728-9737.

7. "Elucidating the binding thermodynamics of 8-anilino-1-naphthalene sulfonic acid with the A-state of α-lactalbumin: An isothermal titration calorimetric investigation", S. K. Singh and N. Kishore, ***Biopolymers*** 83 (2006) 205-212.

8. "Binding of 8-anilinonaphthalene sulfonate to Dimeric and Tetrameric Concanavalin A: Energetics and its Implications on Saccharide Binding Studied by Isothermal Titration Calorimetry and Spectroscopy", T. Banerjee and N. Kishore, ***J. Phys. Chem. B,*** 110 (2006) 7022-7028.

9. "Interactions of some amino acids with aqueous osmoprotectant proline at 298.15 K: Volumetric and calorimetric studies", R. Sharma and N. Kishore, ***J. Solution Chem.***, 35 (2006) 231-247.

10. "Interactions of peptides and lysozyme with aqueous tetraethyl ammonium bromide at 298.15 K", T. Banerjee and N Kishore, ***J. Solution Chem.,*** 35 (2006) 1389-1399.

11. "Partial molar volumes of some alpha- amino acids in aqueous magnesium sulfate solutions at 298.15 K", B. C. Mallick and N. Kishore, ***J. Solution Chem.,*** 35 (2006) 1441-1451.

12. "A thermodynamic study of ketoreductase-catalyzed reactions 3. Reduction of 1-phenyl-1-alkanones in non-aqueous solvents", Y. B. Tewari, N. Kishore, J. D. Rozzell, D. J. Vanderah, M. M. Schantz, ***J. Chem. Thermodyn.,*** 38 (2006) 1165-1171.

13. "2,2,2-Trifluoroethanol induced molten globule state of concanavalin A and energetics of ANS binding: Calorimetric and spectroscopic investigation", T. Banerjee and N. Kishore, ***J. Phys. Chem. B,*** 109 (2005) 22655-22662.

14. “Does the anesthetic 2,2,2-trifluoroethanol interact with bovine serum albumin by direct binding or solvent mediated effects? A calorimetric and spectroscopic investigation”, Tuhina Banerjee and Nand Kishore, **Biopolymers** 78 **(2005)** 78-86.

15. "Thermodynamics of α-lactalbumin - DL-α-dipalmitoylphosphatidylcholine interactions and effect of the antioxidant nicotinamide on these interactions", Agnita Kundu and Nand Kishore, **Biophysical Chemistry** 114 (**2005**) 157-167.

16. “Interactions of some amino acids with aqueous tetraethylammonium bromide at 298.15 K: A volumetric approach” Tuhina Banerjee and Nand Kishore, **J Solution Chemistry** 34 (**2005**) 137-153.

17. "1,1,1,3,3,3-Hexafluoroisopropanol induced thermal unfolding and molten globule state of bovine α-lactalbum Calorimetric and spectroscopic studies", Agnita Kundu and Nand Kishore, **Biopolymers** 73 (**2004**) 405-420.

18. "Interaction of 2,2,2-trifluoroethanol with proteins: calorimetric, densimetric and surface tension approach", Agnita Kundu and Nand Kishore, **Biophysical Chemistry** 109 (**2004**) 427-442.

19. "4-chlorobutanol induces unusual reversible and irreversible thermal unfolding of ribonuclease A: Thermodynamic, kinetic and conformational characterization", Ranjana Mehta, Agnita Kundu and Nand Kishore, **Int. J. Biol. Macromol**. 34 (**2004**) 13-20.

20. "A differential scanning calorimetric study on the irreversible thermal unfolding of concanavalin A", Tuhina Banerjee and Nand Kishore, **Thermochimica Acta** 411 (**2004**) 195-201.

21. "Interaction of some amino acids and glycine peptides with aqueous sodium dodecylsulfate and cetyltrimethyl ammonium bromide at T = 298.15 K: A Volumetric Approach", Sreelekha K Singh, Agnita Kundu and Nand Kishore**, J. Chem. Thermodynamics** 36 (**2004**) 7-16.

22. "Volumetric properties of amino acids and hen egg white lysozyme in aqueous triton X-100 at 298.15 K", Sreelekha K. Singh and Nand Kishore, **J. Solution Chemistry** 11 (**2004**) 1411 - 1427.

23. "Apparent molar heat capacities and apparent molar volumes of aqueous 1,1,1,3,3,3-hexafluoroisopropanol at differet temperatures" Agnita Kundu and Nand Kishore, **J. Solution Chemistry** 9 (**2004**) 1085 - 1095.

24. "A Mechanistic Study on the Thermal Unfolding of Cytochrome c in Presence of 4-Chlorobutan-1-ol: Differential Scanning Calorimetric and Spectroscopic Approach ", Ranjana, Agnita Kundu and Nand Kishore, **Phys. Chem. Chem. Phys**. 5 (**2003**) 5514-5522.

25. "Partial molar volumes of transfer of some amino acids and peptides from water to 1 mol dm-3 aqueous sodium acetate, sodium sulfate, and sodium thiocyanate at 25oC, and correlation of the transfer parameters to the thermal stability of hen egg-white lysozyme and a-lactalbumin in the presence of these salts", Sreelekha K. Singh and Nand Kishore, **J. Solution Chemistry** 32 (**2003**) 117-135.

26. "Apparent molar heat capacities and apparent molar volumes of aqueous nicotinamide at different temperatures", Agnita Kundu and Nand Kishore, **J. Solution Chemistry** 32 (**2003**) 703-717.

27. "Volumetric properties of aqueous 2-chloroethanol solutions and volumes of transfer of some amino acids and peptides from water to aqueous 2-chloroethanol solutions", Manoj M Munde and Nand Kishore , **J. Solution Chemistry** 32 (**2003**) 791-802.

28. "Thermodynamics of the interactions of calcium chloride with α-chymotrypsin", K. Kar, B. Alex, and N. Kishore, **J. Chem. Thermodynamics** 34 (**2002**) 319-336.

29. "Volumetric properties of nucleic acid bases and nucleosides in aqueous ethanol, 1,2-ethanediol, 2-propanol and 2-methyl-2-propanol at 25oC", Agnita Kundu and Nand Kishore, **J. Solution Chemistry** 31 (**2002**) 477-498.

30. "Thermal denaturation of ribonuclease A and cytochrome c in the presence of 1,1,1,3,3,3- hexafluoropropan-2-ol", N. Kishore and Ranjana, **J. Chem. Thermodynamics** 33 (**2001**) 1325-1344.

31. "Thermodynamics of reactions catalyzed by PABA Synthase", Yadu B. Tewari, Pia Y. Jensen, Nand Kishore, Martin P.Mayhew, James F. Parsons, Edward Eisenstein, and Robert N. Goldberg, **Biophysical Chemitry** 96 (**2002**) 33-51.

32. modynamic quantities for the ionization reactions of buffers", R. N. Goldberg, N. Kishore and Lennen, R. M., **J. Phys. Chem. Ref. Data** 31 (**2002**) 231-370.

33. "Thermodynamic quantities for the ionization reactions of buffers in water", Robert N. Goldberg, Nand Kishore and Rebecca M. Lennen, **CRC Handbook of Chemistry and Physics,** 83rd Edition, Editor: D. R. Lide, CRC Press, Boca Raton (**2002**) 7-12 to 7-14.

34. "Thermochemistry of the reaction: {phosphoenolpyruvate(aq) + D-erythrose 4-phosphate(aq) +H2O(l) = 2-dehydro-3-deoxy-D-arabino-heptonate 7-phosphate(aq) + phosphate(aq)', Y. B. Tewari, N. Kishore, R. Bauerle, W. R. LaCourse, and R. N. Goldberg, **J. Chem. Thermodynamics** 33 (**2001**) 1791- 1805.

35. "A thermodynamic study of the hydrolysis of L-glutamine to (L-glutamate + ammonia) and of L- asparagine to (L- aspartate + ammonia)', N. Kishore, Y. B. Tewari and R. N. Goldberg, **J. Chem. Thermodyn.** 32 (**2000**) 1077-1090.

36 "Volumetric properties and surface tension of aqueous 3-chloropropan-1-ol and aqueous 3-chloropropan-1,2-diol, and correlation to their effect on protein stability", N. Kishore and R. Marathe, **J.Chem. Thermodynamics** 32 (**2000**) 413-424.

37. "Thermodynamic studies of enzyme-catalyzed reactions," R. N. Goldberg, N. Kishore and Y. B. Tewari, **Chapter in book on "*Chemical Thermodynamics for the 21st Century,*"** (T. Letcher, Editor), Blackwell Science, Oxford, **1999**, pp. 291-300.

38. "A thermodynamic investigation of some reactions involving prephenic acid" N. Kishore, Y. B. Tewari, M. Holden, and R. N. Goldberg, **J. Chem. Thermodynamics**, 31 (**1999**) 211- 227.

39. investigation of the equilibrium of the reaction {L-aspartate(aq) + 2-oxoglutarate(aq) = oxaloacetate(aq) + L- glutamase(aq)}" N. Kishore, Y. B. tewari and R. N. Goldberg, **J. Chem. Thermodyn.** 30 (**1998**) 1373-1384.

40. "An equilibrium and calorimetric study of some transamination reactions" Y. B. Tewari, N. Kishore, T. Luong and R. N. Goldberg, **J. Chem. Thermodyn**. 30 (**1998**) 777-793.

41. "A thermodynamic investigation of reactions catalysed by tryptophan synthase", N. Kishore, Y. B. Tewari, D. L. Akres, E.W. Miles and R. N. Goldberg, **Biophysical Chemistry** 73(**1998**)265-280.

42. "Thermal unfolding of hen egg white lysozyme in the presence of 4-chlorobutan-1- ol", N. Kishore and B. Sabulal, **Pure and Applied Chemistry** 70 (**1998**) 665-670.

43. "Thermodynamics of the interactions of some chloro and fluoro substituted alcohols with bovine α - lactalbumin", N. Kishore and B. Sabulal, **J.Chem. Soc. Faraday Trans.,** 94 (**1998**) 905-911.

44 "Amino acids and short peptides do not always stabilise all globular proteins: A Differential scanning calorimetric study on their interactions with α-lactalbumin",**J. Chem. Soc. Faraday Trans**., B. Sabulal and N. Kishore, 93 (**1997**) 433-436.

45. "Thermodynamics of the interactions of some chlorosubstituted alcohols with hen-egg white lysozyme", B. Sabulal and N. Kishore, **J. Chem. Soc. Faraday Trans.,** 92 (**1996**) 1905-1912.

46. "Thermodynamics of nucleic acids bases and nucleosides in water from 25 to 55oC", S.G. Patel and N. Kishore, **J. Solution Chemistry** 24 (**1995**) 25-38.

47. "A differential scanning calorimetric study of some stabilising amino acids and oligopeptides with hen- egg white lysozyme", B. Sabulal and Nand Kishore, **J. Chem. Soc. Faraday Transactions** 91 (**1995**) 2101-2106.

48. "Thermodynamics of lectin-carbohydrate Interactions. Titration microcalorimetry measurements of the binding of N-linked carbohydrates and ovalbumin to concanavalin A" D. K. Mandal, N. Kishore and C. F. Brewer, **Biochemistry** 33 (**1994**) 1149-1156.

49. "Thermodynamic effects of the reduction of the active-site disulfide of Escheria Coli Thioredoxin explored by Differential Scanning Calorimetry", J. E. Ladbury, N. Kishore, H. W. Hellinga, R. Wynn and J. M. Sturtevant, **Biochemistry** 33 (**1994**) 3688-3692.

50. "Thermodynamics of the hydrolysis of Penicillin G and Ampicillin", N. Kishore, Y. B. Tewari and R. N. Goldberg, **Biophysical Chemistry** 49 (**1993**) 163-174.

51. "Thermochemistry of hydrolysis of L-arginine to (L-citrulline + ammonia) and of the hydrolysis of L-arginine to (L- ornithine + urea)", Y. B. Tewari, N. Kishore, S. A. Margolis, R. N. Goldberg and T. Shibatani, **J. Chem. Thermodynamics** 25 (**1993**) 293-305.

52. “Apparent molar heat capacities and apparent molar volumes of aqueous glucose at temperatures from 298.15 K to 327.01 K”, N. Kishore, R. N. Goldberg and Y. B. Tewari, **J. Chem. Thermodynamics** 25 (**1993**) 847-859.

53. “Partial molar heat capacities and volumes of some nucleic acid bases, nucleosides and nucleotides in aqueous urea solutions at 298.15 K”, N. Kishore and J. C. Ahluwalia, **J. Chem. Soc. Faraday Transactions** 86 (**1990**) 905-910.

54. “Partial molar heat capacities and volumes of transfer of some nucleic acid bases, nucleosides and nucleotides from water to aqueous sodium chloride and calcium chloride solutions at 298.15 K”, N. Kishore and J. C. Ahluwalia, **J. Solution Chemistry** 19 (**1990**) 51-64.

55. “Thermodynamics of some nucleic acid bases and nucleosides in water and aqueous glucose and sucrose solutions at 298.15 K”, N. Kishore, R. Bhat and J. C. Ahluwalia, **Biophysical Chemistry** 33 (**1989**) 227 - 236.

56. “Excess molar volumes, speeds of sound and isentropic compressibilities of binary mixtures of furfural with some aliphatic compounds”, H. Naorem, N. Kishore and S. K. Suri, **Canadian J. Chem**. 66 (**1989**) 648 - 650.

57. “Thermodynamics of some amino acids and peptides from water to aqueous glucose and sucrose solutions at 298.15 K”, R. Bhat, N. Kishore and J. C. Ahluwalia, **J. Chem. Soc. Faraday Transactions I** 84 (**1988**) 2651-2665.

## 9. Other Academic and Administrative Responsibilities

| | |
|---|---|
| **April 2006 onwards:** | Secretary, Department Policy Committee |
| **November 2005 – 2008:** | Member, Department Policy Committee |
| **January 2004 onwards:** | Chairman, Hostel Coordinating Unit |
| **January 2004 onwards:** | Member, Disciplinary Action Committee |
| **2004 onwards:** | Member, Institute committee for purchase of chemicals and glassware |
| **July 2000 - January 2004:** | Warden, Hostel 6 |
| **July 1998 - June 2000:** | Associate Warden, Hostel 6 |
| **2000 - 2003:** | Member, Department Postgraduate Committee |
| **1999 - 2002:** | Member, Department Policy Committee |
| **1996 - 1997:** | Departmental Time table Coordinator |
| **1996:** | Member, Biotechnology Centre, Inter-Disciplinary Programme Committee |
| **1996:** | Secretary, Department Undergraduate Committee |
| **1994 - 1997:** | Secretary, Department Faculty Meetings |
| **1993 - 1996:** | Member, Department Undergraduate Committee |

# DISTINGUISH ALUMNI

1. Name : Sarban Singh
2. Father's Name : Sh. Aroor Singh
3. Date of Birth : 21-12-1954
4. Final Degree from GNDU : M. A. (Economics)
5. Year of Joining/Passing : 1971-1977
6. Department : DAV College, Jalandhar
7. Campus : ~~Amritsar~~/**Jalandhar**/~~Gurdaspur~~/~~Niari~~/~~Mukandpur~~
8. Email ID : sarbansahota@yahoo.co.in
9. Contact Nos. Office : 0172-2711754
   *(with STD Code)* Residence : 0172-2794755
10. Present Position/Occupation : Financial Commissioner & Principal Secretary to Govt. of Haryana,
11. Address i) Office : --As above--
    ii) Residence : H. No. 689, Sector 7-B, Chandigarh-160019
12. Achievements : Joined IES in 1979
    Joined IAS in 1983

# DISTINGUISH ALUMNI

1. Name : Ramesh Jhakhu
2. Father's Name : Sh. Udho Ram
3. Date of Birth : 15-12-1953
4. Final Degree from GNDU : M. A. in Pol. Science
5. Year of Joining/Passing : April 1977
6. Department : Political Science
7. Campus : ~~Amritsar~~/**Jalandhar**/~~Gurdaspur~~/~~Niari~~/~~Mukandpur~~
8. Email ID : rjakhu@hotmail.com
9. Contact Nos. Office : 0172-2714001
   *(with STD Code)* Residence : 0172-2794111
10. Present Position/Occupation : IAS Officer
11. Address i) Office : Room No. 406, Floor 4
    New Secretariat, Haryana
    Sector 17, Chandigarh
    ii) Residence : H. No. 54,
    Sector 7-A,
    Chandigarh-160019
12. Achievements : Joined IAS in 1979

# DISTINGUISH ALUMNI

| | | | |
|---|---|---|---|
| 1. | Name | | : Wing Commander Sushil Kumar |
| 2. | Father's Name | | : Shri Jaidev Singh Suman |
| 3. | Date of Birth | | : 02 March 1951 Fatehgarh Churian District Gurdas Pur, Punjab |
| 4. | Final Degree from GNDU | | : MA (History) |
| 5. | Year of Joining/Passing | | : 1971-1972 |
| 6. | Department | | : Department of History |
| 7. | Campus | | : Jalandhar |
| 8. | Email ID | | : drsushilkumar@yahoo.com |
| 9. | Contact Nos. *(with STD Code)* | Office | : 011-20560824 |
| | | Residence | : |
| | | Mobile | : 09868030910 |
| 10. | Present Position/Occupation | | : Director, Indian Council of Historical Research |
| 11. | Address | i) Office | : 35, Ferozeshah Road, New Delhi-110001 |
| | | ii) Residence | : A-47, JVV, Gurgaon (Haryana) |

12. Academic Achievements : - PhD & MPhil from JNU, New Delhi
- MSc (Defense Studies) from Madras University
- LLB from Agra University,
- PGDHRM & DIM from IGNOU
- BA with Honours in History from Punjab Uni.
- **University Medallist for topping GNDU in MA Previous 1972 Exam and for topping Punjab University in Hon's History Exam 1970.**

13. Membership of Professional and Cultural Associations Clubs : **Member India International Centre** (http://www.iicdelhi.nic.in/), **Member India Habitat Centre** http://www.indiahabitat.org/ **Member CSOI** **http://www.csoi.org.in/** **Member DSOI** **http://www.dsoidelhi.org/member.htm** **Member USSI** **http://wikimapia.org/9072641/United-Service-Institute** **Member Indian History Congress** **Honorary Chairman Association of Historians, Member ISHPSSB Member** **http://www.ishpssb.org/**

**15.** Family : Wife - Manju Issar MA (Political Science), MA (English Literature) Masters in Education, Law Graduate and a registered Advocate in teaching profession. Two Children who are married.

Wing Commander Dr Sushil Kumar
Dated 21 April 2009