



## Dr. Gagandeep Singh

Assistant Professor,  
Department of Chemistry,  
Punjabi University College,  
Ghudda, Bathinda, Punjab  
[gdeepchem@yahoo.co.in](mailto:gdeepchem@yahoo.co.in)

### Educational Qualification:

- Postdoctoral fellow (Short-term) at University of Aveiro, Aveiro, Portugal (2010).
- Postdoctoral fellowship funded by EMBO(Short-term), at university of Miguel Hernandez, Alicante (Elche), Spain (2007)
- Ph.D. Applied Chemistry (March 2005), Guru Nanak Dev University, Amritsar 143 005, India.
- M.Sc. Applied Chemistry (Pharmaceuticals) securing top third position in the University (Guru Nanak Dev University, Amritsar) in April 1997.

Exam Passed.	Specialization	Board/Univ ersity	Passing Year	Class/Division	% Marks
<b>1. Matric</b>	Punjabi, Hindi, Science, English, Math, S. Study	P.S.E.B.	March 1989	523/800 First division	65.4%
<b>2. 10+2</b>	Physics, Chemistry, Biology, Eng, Punjabi	P.S.E.B.	March 1992	224/450 Second division	50%
<b>3. B.Sc/</b>	Medical	G.N.D.U. Asr	March 1995	919/1600 Second Division	57.4%
<b>4. M.Sc</b>	Applied Chemistry	G.N.D.U. Asr	March 1996	1435/2350 Ist Division, Third position in university	61.1%
<b>5. Ph. D.</b>	Physical Chemistry	G.N.D.U. Asr	March, 2005		

**Title of Thesis:**

***Investigations of physicochemical properties of some amino acids, peptides and proteins in aqueous solutions.***

**Experience:**

S.No	Name and address of Employer	Post Hold	Pay-Scale	From	To	Brief Description of duties	Reasons for leaving
<b>(i)Teaching</b>							
1	Khalsa College, Amritsar	Lecturer (Adhoc)	3000/- (Fixed)	25.08.1997	31.03.1998	Teaching	Term Completed
2	KC College of Engg and IT, Nawanshahr	Lecturer	8275/- 8000-275- 13500	12.07.2004	3.08.2005	Teaching	Got opportunity in CT Inst.
3	CT Inst. of Pharm. Sci. Jalandhar	Sr. Lecturer	8000-275- 13500 15000/-	04.08.2005	22.07.2006	Teaching	Got opportunity in GNDU
4	GNDU, Amritsar	Lecturer (Adhoc)	8000-275- 13500 14000/-	26.7.2006	14.11.2006	Teaching and Research	Term completed
5	Lyallpur Khalsa college, Jalandhar	Lecturer	8000-275- 13500 8275/	27.06.2007	06.04.2009	Teaching	Salary was not as per norms. Got better opportunity
6	Akal Degree College, Sangrur	Associate Professor & Head of Dept.	37400- 67000 38100/-	8.04.2009	13 <sup>th</sup> July, 2013	Head of Department, Teaching, Research & Admission cell In-charge	Got opportunity in Punjabi university college, Ghudda, Bathinda
7	Punjabi university college, Ghudda, Bathinda	Assistant Professor	15600- 6000- 39100	15 <sup>th</sup> July, 2013	Till date	Head of Department, Teaching UG classes	
<b>(ii) Other than teaching</b>							
1	Unviersity of Aveiro, Aveiro, Portugal	Visiting Fellow	1500 Euros per month	10. 03.2010	10.05.2010	Research work	Completed

2	Institute of molecular and cellular biology, University of Miguel Hernandez, Spain	Short term fellowship	2000 Euros per month, funded by EMBO	15 <sup>th</sup> Jan. 2007	15 <sup>th</sup> March, 2007	Research work	completed
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### Research Grants/Fellowships/Awards:

- *Project fellowship* from May 1998 to October 2000, in the Department of Pharmaceutical Sciences, Guru Nanak Dev University, Amritsar, Punjab, India 143 005.
- *Senior Research Fellowship* funded by CSIR / India, from October 2000 to October 2003, in the Department of Applied Chemistry, Guru Nanak Dev University, Amritsar, Punjab, India 143 005.
- *Postdoctoral fellowship* funded by EMBO from January 2007 to April 2007 in Institute of Molecular and Cellular Biology, University of Miguel Hernandez, Alicante (Elche), Spain.
- *Postdoctoral fellow* at University of Aveiro, Aveiro, Portugal from March 2010 to May 2010.
- *Best poster presentation* award at 6<sup>th</sup> National Conference on Thermodynamics of Chemical and Biological Systems held at MDU, Rohtak from 2-4 Nov., 2011.

### Project Sanctioned:

Major research project entitled, “**Hydration and Protonation Behavior of Amino Acids Under Physiological Conditions**” worth rupees 9.45 Lakhs sanctioned by UGC.

### Extra Curricular Activities:

- In-charge Admission cell at Akal degree college, Mastuana Sahib, Sangrur.
- Convenor Purchase committee for chemicals and equipments
- Coordinator Blood Donation Camp
- Coordinator Medical Camp during Jor Mela at Mastuana Sahib
- Co-coordinator seven days NSS camp held at ACPTE, Mastuana Sahib from 23<sup>rd</sup> dec. to 29<sup>th</sup> Dec. 2012.
- Also introduced new course (M.Sc. Pharmaceutical Chemistry) and set up laboratories.

### Conference/Symposia Organized:

- Organizing Secretary for INSPIRE Internship Camp held at Akal college of pharmacy and technical education, Mastuana Sahib, Sangrur from March 20<sup>th</sup> to 24<sup>th</sup>, 2012.

- Organizing Secretary for INSPIRE Internship Camp held at Akal college of pharmacy and technical education, Mastuana Sahib, Sangrur from March 23<sup>rd</sup> to 27<sup>th</sup>, 2013.
- Member of organizing committee for National conference on, “Thermodynamics of Chemical and Biological Systems”, held at G. N. D. University, Amritsar from 28-30 December 2005.
- Member of organizing committee for National Conference on Recent Advances in Thermodynamics of Chemical and Biological systems held at G. N. D. University, Amritsar from May 7-9, 2001.

### **Special Training:**

Attended GOC (General Orientation Course) held at Academic Staff College at GNDU, Amritsar from 2<sup>nd</sup> May to 29<sup>th</sup> May, 2012.

Attended refresher course in Chemistry at Academic Staff College at GNDU, Amritsar from 28<sup>th</sup> Nov. to 18<sup>th</sup> Dec. 2012.

### **Professional Affiliation:**

Life member of The Indian Thermodynamic Society.

Number of M. Tech students guided / Continuing: Guided 01

Details of Ph D Students guided / Continuing: Continuing 01

S.No	Name of Student	Year	Title of the Dissertation
1	Kuldeep Kaur		

### **Languages Known:**

Fluent in English

### **List of Publications**

**Citations: 351**

**I Index: 11**

**H Index: 11**

**Papers Published In National and International Journals: 19**

**Oral/ Poster presentations in National and International Conferences: 23**

### **Publications in National Journals:**

- 1) T. S. Banipal, **Gagandeep Singh** and B. S. Lark,

Partial molar volumes of transfer of some amino acids from water to aqueous 1,4-dioxane solutions at 298.15 K. *Indian J. Chem.*, 39A, 1011, 2000.

- 2) T. S. Banipal, N. Guleria, B. S. Lark, P. K. Banipal and **Gagandeep Singh**, Volumetric and transport properties of phenol, sodium salicylate and sodium benzoate in aqueous solutions. *Indian J. Chem.* 40A, 275, 2001.
- 3) T. S. Banipal, Damanjit Kaur, **Gagandeep Singh**, B. S. Lark and P. K. Banipal, Partial molar volumes of transfer of some disaccharides from water to aqueous guanidine hydrochloride solutions at 298.15 K. *Indian J. Chem.* 41A, 1131, 2002.
- 4) T. S. Banipal, Ashwani Bhatia, P. K. Banipal, **Gagandeep Singh** and Damanjit Kaur, Partial molar volumes and viscosities of some amino acids in aqueous electrolyte and non-electrolyte solutions. *J. Indian Chem. Soc.* 81, 126, 2004.
- 5) T. S. Banipal and **Gagandeep Singh**, Partial molar adiabatic compressibilities and viscosities of some amino acids in aqueous 1,4-dioxane solutions at 298.15 K. *Indian J. Chem.* 43A, 1156, 2004.
- 6) **Gagandeep Singh** and T. S. Banipal, Partial molar adiabatic compressibilities and viscosities of some amino acids in aqueous glycerol solutions at 25°C. *Indian J. Chem.* 47 A, 1355, 2008.
- 7) J. Singh, G. Singh, N. Chopra, **Gagandeep Singh**, G. Sharma, Structural characterization of fly ash doped lithium borate glasses, *Asian Journal of Chemistry*, Vol. 21, No. 10 (2009), S153-156.

#### **Publications in International Journals:**

- 8) T. S. Banipal, **Gagandeep Singh** and B. S. Lark, Partial molal volumes of transfer of some amino acids from water to aqueous glycerol solutions at 25 C. *J. Soln. Chem.* 30, 657, 2001.
- 9) T. S. Banipal, Damanjit Kaur, Parshotam Lal, **Gagandeep Singh** and P. K. Banipal, Densities and viscosities of glycine, DL-(-alanine, DL-(-amino-4-butyric acid and L-leucine in aqueous 1,2-propandiol solutions at 298.15K. *J. Chem. Eng. Data*, 47, 1391, 2002.
- 10) T. S. Banipal and **Gagandeep Singh**, Densities and Partial molar volumes of some amino acids and diglycine from water to aqueous n-propanol solutions at 298.15K. *J. Soln. Chem.* 32, 997, 2003.
- 11) T. S. Banipal and **Gagandeep Singh**, Thermodynamic study of solvation of some amino acids, diglycine and lysozyme in aqueous and mixed aqueous solutions. *Thermochim. Acta* 412, 63, 2004.

- 12) T. S. Banipal, D. Kaur, P. K. Banipal and **Gagandeep Singh**  
Thermodynamic and transport properties of L-serine and L-threonine in aqueous sodium acetate and magnesium acetate solutions at 298.15K. *J. Chem. Thermodyn.* 39, 371, 2007.
- 13) T. S. Banipal, D. Kaur, P. K. Banipal and **Gagandeep Singh**  
Interactions of some peptides with sodium acetate and magnesium acetate in aqueous solutions at 298.15 K: A volumetric approach. *J. Mol. Liquids*, 140, 54, 2008.
- 14) J. L. Neira, L. M. Contreras, J. Prieto, **Gagandeep Singh**, F. N. Barrera, M. L. Renart and M. Vidal, The Zn finger RYBP/DEDAF is a natively unfolded protein which folds upon binding to DNA, and also, binds to the C-terminal domain of Ring1B, *Biochemistry*, 48(6), 1348, 2009.
- 15) G. sharma, V. Rajendran, K. S. Thind, Gagandeep Singh and A. Singh,  
Structural investigation of bismuth borate glasses under the influence of (-irradiation through ultrasonic studies, *Physica B*, 404, 3371, 2009.
- 16) G. Singh, N. Kansal, A. Singh and S. Thakral  
Formulation and *In Vitro* Evaluation of Metoprolol Succinate Floating Tablets, *Indonesian J. Pharmacy* (In Press).
- 17) T. S. Banipal, H. Singh, P. K. Banipal, Interactions Between Sulpha Drugs and Magnesium Chloride in Aqueous Solutions at T= (288.15K to 318.15K) K: Volumetric and Viscometric Approach, *J. Chem. Eng. Data*, 58, 2013, 2429-2439.
- 18) Poonam Patyar, Gagandeep Singh, Kuldeep Kaur, 'Effect of potassium phosphate buffer on volumetric behavior of glycine in aqueous solutions at different temperatures' *Journal of Molecular Liquids* 213 (2016) 191-200.
- 19) Gagandeep Singh, Poonam Patyar, Tarnveer Kaur, Gurpreet Kaur, 'Volumetric behavior of glycine in aqueous succinic acid and sodium succinate buffer at different temperatures' communicated in *Journal of Molecular Liquids* 232 (2016).

### **Invited talks**

- 1) Solvation behaviour of some amino acids, peptides and proteins in aqueous solutions, Invited talk at Institute of molecular and cellular biology, Miguel Harnandez University, Elche (Alicante), Spain on 21<sup>st</sup> April 2006.
- 2) Non-Covalent Interactions: An insight Into Phenomenon of Life and A Way to Future, at ISF College of Pharmacy, Moga.
- 3) Non-Covalent Interactions: An insight into Phenomenon of Life, at ACPTE, Mastuana Sahib, Sangrur.

## Oral/ Poster presentations:

- 1) T. S. Banipal, **Gagandeep Singh** and B. S. Lark,  
Partial molar volumes of transfer of some amino acids from water to aqueous 1,4-dioxane solutions at 298.15 K. Presented at National Seminar on Recent Trends in Chemical Research held at G. N. D. University, Amritsar March, 1999.
- 2) T. S. Banipal, **Gagandeep Singh** and B. S. Lark,  
Partial molar volumes of transfer of some amino acids and diglycine from water to aqueous n-propanol solutions at 298.15K. Presented at the National Conference on Recent Advances in Thermodynamics of Chemical and Biological systems held at G. N. D. University, Amritsar from May 7-9, 2001.
- 3) T. S. Banipal, Damanjit Kaur, **Gagandeep Singh**, B. S. Lark and P. K. Banipal,  
Partial molar volumes of transfer of some disaccharides from water to aqueous guanidine hydrochloride solutions at 298.15 K. Presented at the National Conference on Recent Advances in Thermodynamics of Chemical and Biological systems held at G. N. D. University, Amritsar from May 7-9, 2001.
- 4) T. S. Banipal, P. Lal, **Gagandeep Singh**, Damanjit Kaur and B. S. Lark,  
Volumetric and transport properties of some amino acids in aqueous 1,2- propandiol solutions at 25 C. Presented at the National Conference on Recent Advances in Thermodynamics of Chemical and Biological systems held at G. N. D. University, Amritsar from May 7-9, 2001.
- 5) T. S. Banipal, **Gagandeep Singh**, Damanjit Kaur, P. K. Banipal and B. S. Lark,  
Densities and viscosities of glycine in aqueous solutions of sodium acetate and ammonium sulphate at 298.15 K, Presented at the National Conference on Recent Advances in Thermodynamics of Chemical and Biological systems held at G. N. D. University, Amritsar from May 7-9, 2001.
- 6) T. S. Banipal and **Gagandeep Singh**,  
Volumetric and Transport Properties of Some Amino Acids in the Presence of aqueous 1,4-Dioxane Solutions at 298.15 K. Presented at 7<sup>th</sup> Punjab Science Congress held at Guru Nanak Dev University, Amritsar from Feb. 7-9, 2004.
- 7) **Gagandeep Singh** and T. S. Banipal  
Thermodynamic studies on solvation of some amino acids and lysozyme in mixed aqueous solutions, Presented at National conference on Thermodynamics of Chemical and Biological Systems, held at G. N. D. University, Amritsar from 28-30 December 2005.
- 8) **Gagandeep Singh**, Damanjit Kaur, Poonam Patyar, Jasbir Kaur, Vaneet Dhir and T. S. Banipal, Interactions of glycine with mixed aqueous electrolyte solutions at 298.15 K, Presented at National conference on Thermodynamics of Chemical and Biological Systems, held at G. N. D. University, Amritsar from 28-30 December 2005.

- 9) T.S. Banipal, K. Singh, **Gagandeep Singh** and P.K. Banipal  
Studies on solvation behavior of some amino acids and lysozyme in mixed aqueous solutions of organic salts, Accepted for presentation in 19<sup>th</sup> IUPAC International Conference on Chemical Thermodynamics & 61<sup>st</sup> Calorimetry Conference to be held at Boulder, Colorado, USA from 30<sup>th</sup> July to 4<sup>th</sup> August, 2006.
- 10) T. S. Banipal, D. Kaur, P. K. Banipal and **Gagandeep Singh**  
Effect of sodium acetate and magnesium acetate on the solution behavior of L-serine and L-threonine in water at 298.15 K, Presented at 2<sup>nd</sup> National Conference on Thermodynamics of Chemical and Biological Systems held at Veer Narmad South Gujarat University, Surat from October 30 to November 1, 2006.
- 11) T. S. Banipal, K. Singh, P. K. Banipal and **Gagandeep Singh**  
Partial molar volumes and expansibilities of L-aspartic acid and L-glutamic acid in aqueous solutions of lithium acetate, magnesium acetate and calcium acetate at 288.15, 298.15, 308.15 and 318.15 K, Presented at 2<sup>nd</sup> National Conference on Thermodynamics of Chemical and Biological Systems held at Veer Narmad South Gujarat University, Surat from October 30 to November 1, 2006.
- 12) Jarnail Singh, Gurmail Singh, Gopi Sharma, Gagandeep Singh and Neetu Chopra,  
Structural changes induced by addition of fly ash to alkali borate glasses: A comparison made with aluminium alkali borate glasses, Presented at National Seminar on Smart Materials: A future prospective on Sept. 19 to Sept. 20, 2008.
- 13) T. S. Banipal, D. Kaur, P. K. Banipal and **Gagandeep Singh**  
Interactions of some peptides in aqueous solutions of sodium acetate and magnesium acetate at 298.15 K, Presented at National Conference on Nanomaterials Synthesis & Applications (NANO-09) held at DAV College, Jalandhar from 6-7 February, 2009.
- 14) J. Singh, G. Singh, G. Sharma, K.S. Thind, N. Chopra, **Gagandeep Singh**  
Optical characterization of sodium borate glasses with different glass modifier, Presented at ISNM-09, held at KMV College Jalandhar, India from 28-29 October 2009.
- 15) N. Kansal, A. Singh and **Gagandeep Singh**  
Formulation and Evaluation of Floating Tablets of Metoprolol Succinate, Presented at National Seminar on Recent Advances In Oral Controlled Drug Delivery System held at ASBASJSM College Of Pharmacy Bela, Punjab, on 1<sup>st</sup> October 2011.
- 16) H. Kaur, R. Verma, R. Sharma and **Gagandeep Singh**  
Phytochemical and Antibacterial Studies on the Leaves of *Quisqualis Indica*, Presented at National Seminar on Recent Advances In Oral Controlled Drug Delivery System held at ASBASJSM College Of Pharmacy Bela, Punjab, on 1<sup>st</sup> October 2011.
- 17) **Gagandeep Singh**, A. Goel and J.M.F. Ferreira, Preparation and Characterization of Jadite Glasses, Presented at 6th National Conference on Thermodynamics of Chemical



and Biological Systems (NCTCBS-2011) held at Rohtak, from 2<sup>nd</sup>-4<sup>th</sup> November, 2011.

- 18) M. Mohit, S. Thakral and **Gagandeep Singh**, Evaluation of Various Disintegrating Methods Reported for Fast Dissolving Tablets, Presented at International Conference on Current & Future Scenarios in Drug Development & Delivery held at Sirsa, from 11-12 August, 2012.
- 19) N. Thakur, S. Thakral and **Gagandeep Singh**, Preparation and Characterization of Carbamazepine Solid Dispersion, Presented at International Conference on Current & Future Scenarios in Drug Development & Delivery held at Sirsa, from 11-12 August, 2012.
- 20) **Gagandeep Singh**, Ashutosh Goel and J.M.F. Ferreira, Sintering Behavior of Jadeite Glass-Ceramics, presented at National Seminar held at Punjabi University Patiala on 13<sup>th</sup> Feb. 2014.
- 21) **Gagandeep Singh**, Ashutosh Goel and J.M.F. Ferreira, Structural Investigation of Jadeite Glass-Ceramics, presented at International Conference on ‘Recent Trends and Challenges in Science and Technology (RTCST-2014)’ held at Pravaranagar, India from 20<sup>th</sup> – 22<sup>nd</sup> August, 2014.
- 22) **Gagandeep Singh**, Poonam Patyar, Kuldeep Kaur, Gurpreet Kaur “Effect of potassium phosphate buffer on volumetric behavior of glycine in aqueous solutions at different temperatures” presented in 8<sup>th</sup> National seminar on “New paradigm in chemical sciences: Synthetic and analytical perspectives-2016” February 04-05, 2016, held at Punjabi University, Patiala.
- 23) Poonam Patyar, **Gagandeep Singh**, Tarnveer Kaur, Omish Sethi, “Volumetric investigations on behavior of glycine in aqueous acidic/basic/neutral solutions of sodium succinate buffer and aqueous succinic acid solutions at 288.15-328.15 K” presented in 8<sup>th</sup> National seminar on “New paradigm in chemical sciences: Synthetic and analytical perspectives-2016” February 04-05, 2016, held at Punjabi University, Patiala.
- 24) Poonam Patyar, Tarnveer Kaur, **Gagandeep Singh**, Kuldeep Kaur, presented paper entitled “Volumetric properties of glycine in aqueous succinic acid solutions at different temperatures” in 7<sup>th</sup> National seminar on “Synergistic aspects of chemical and other sciences” 15-16 February 2015, held at Punjabi University, Patiala.
- 25) Poonam Patyar, Gurpreet Kaur, **Gagandeep Singh**, presented a paper entitled “Solute-solvent interactions of glycine and L-alanine in aqueous citric acid solutions at different temperatures, T = (288.15, 298.15, 308.15, 310.15 and 318.15) K” in 7<sup>th</sup> National seminar on “Synergistic aspects of chemical and other sciences” 15-16 February 2015, held at Punjabi University, Patiala.

#### **Personal Details:**

**Name:** Dr. Gagandeep Singh  
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**(GAGANDEEP SINGH)**