



## **Bairagi C. Mallick, Ph.D.**

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### **Education**

Ph.D. (Biophysical Chemistry) : IIT-Bombay, Powai, Mumbai

M.Sc. (Physical Chemistry) : Utkal University, Bhubaneswar

### **Career**

2010 – till date : Lecturer in Chemistry, Ravenshaw University, Cuttack-3

2007 – 2010 : Postdoctoral Researcher, School of Biological Sciences and Institute of Microbiology,  
Seoul National University, Seoul, Republic of Korea

### **Area of Interest**

Biophysical Chemistry and Structural Biology of metalloproteins and drug resistant proteins

### **Research Summary**

My research interests encompass multidisciplinary topics based on the collective understanding of the structure, function and interaction of metalloproteins and drug resistance proteins. The major interest is to answer general questions on protein folding/misfolding, protein/ligand binding, protein/drug or protein/protein interactions. The current focus of interest is to explore the physiological effects of calcium binding protein (CAF-1) during the phase transformation of *Dictyostelium discoideum* cells from growth to differentiation and interaction with the cell-cell adhesive protein DdCaD-1. I am also interested in the x-ray crystallographic structure of CAF-1 and its binding partners.

### **Academic Honors/Awards**

- 2007 : Korean Research Foundation, Brain Korea-21 postdoctoral fellowship, Seoul National University, Republic of Korea
- 2004 : Awarded Senior Research Fellow (SRF) sponsored by Council of Scientific and Industrial Research (CSIR), Govt. of India, New Delhi
- 2002 : Awarded Junior Research Fellow (JRF) sponsored by Council of Scientific and Industrial Research (CSIR), Govt. of India, New Delhi
- 2001 : Qualified National Level Lectureship (LS) sponsored by Council of Scientific and Industrial Research (CSIR), Govt. of India, New Delhi
- 2000 : Graduate Aptitude Test in Engineering (GATE-2000)

## Professional Society Member

- 2006 – Present: Member of Biophysical Society, USA.
- 2005 – Present: Member of Protein Society, USA.

## List of Publications

1. **Bairagi C. Mallick** and Nand Kishore, Partial molar volumes of some alpha-amino acids in aqueous magnesium sulfate solutions at 298.15 K, *J. Solution Chem.*35 (2006) 1441-1451.
2. **Bairagi C. Mallick**, Ji-Sun Kim and Sa-Ouk Kang, Ca<sup>2+</sup>-binding induces conformational stability of CAF-1 from *Dictyostelium discoideum*. (*submitted*)
3. **Bairagi C. Mallick** and Nand Kishore, Stabilization of partially folded states of bovine  $\alpha$ -Lactalbumin by osmolyte. (*submitted*)
4. **Bairagi C. Mallick**, Ji-Sun Kim and Sa-Ouk Kang, Conformational stability of Ca<sup>2+</sup>-dependent cell-cell adhesion molecule DdCAD-1 from *Dictyostelium discoideum* ( *to be submitted*)
5. Han-Bong Ryu, Sung-Hyun Song, Hyung-Soon Yim, **Bairagi C. Mallick**, Min-Kyu Kim, Jin-Won Lee and Sa-Ouk Kang, Sporulation by hydrogen peroxide and manganese ion in *Bacillus subtilis*.(*to be submitted*)
6. **Bairagi C. Mallick** and Sa-Ouk Kang, Crystal Structure of CAF-1 from *Dictyostelium discoideum*. (*manuscript under preparation*)

## Presentation in Conferences and Symposia

1. **Bairagi C. Mallick**, and Nand Kishore, "Thermal stabilization of partially folded states of proteins by osmolytes: Energetics and conformational studies", Professor Ram Chand Paul 1<sup>st</sup> National Annual Symposium on Recent Trends in Chemistry, Department of Chemistry, Panjab University, Chandigarh, February 25-26, 2006.
2. **Bairagi C. Mallick**, and Nand Kishore, "Thermal stabilization of partially folded states of proteins by osmolytes: Energetics and conformational studies", 2<sup>nd</sup> International Symposium on Calorimetry and Chemical Thermodynamics, Estancia de Sao Pedro, SP, Brazil, April 9-13, 2006.
3. **Bairagi C. Mallick**, Ji-Sun Kim, and Sa-Ouk Kang, "Conformational stability and folding of calcium-binding protein from *Dictyostelium discoideum*", 33<sup>rd</sup> FEBS Congress and 11<sup>th</sup> IUBMB Conference, Athens, Greece, June 28- July 3, 2008.
4. **Bairagi C. Mallick**, Ji-Sun Kim, and Sa-Ouk Kang, " Ca<sup>2+</sup>-Binding Protein Calfumirin-1 and the Phase Transition in *Dictyostelium discoideum* Cells from Growth to Differentiation", MSK's 50<sup>th</sup> Anniversary International Symposium on Microbiology 2009, May 28-30, 2009 Jeju Island, Korea.

## Research Guidance

- **Ph.D.** :
- **M.Phil** : 02
- **M.Sc.** : 06