

Resume of Abhijit Chakrabarti

Date of Birth : April 13, 1960.

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Education : Bachelors in Chemistry (Presidency College, Ist class)
Masters in Chemistry (University of Calcutta, Ist class))
Ph.D in Biochemistry (Indian Institute of Science, Bangalore).

Positions held :

Research Fellow, I.I.Sc, Bangalore (Aug 1985 – July 1990)

Postdoctoral Research Fellow, Department of Biology, The Johns Hopkins University, Baltimore, MD, USA (Sept 1990 – Jan 1993).

Scientist's Pool, CSIR, India (May 5, 1994 – June 9, 1994).

Lecturer C, Biophysics Division, Saha Institute of Nuclear Physics (June 10, 1994 – July 1996).

Reader D, Biophysics Division (August 1996 – July 1999).

Associate Professor E, Biophysics Division (August 1999 – July 2003).

Professor F, Biophysics Division (August, 2003 – February 2007).

Professor G, Biophysics & Structural Genomics Division (February 2007 – December 2012).

Professor, H, Biophysics & Structural Genomics and Crystallography & Molecular Biology Divisions (January 2013 – June 2016).

Head, Centre for Advanced Research & Education (CARE), SINP, November 2004 – June 2014.

Professor, H+, Crystallography & Molecular Biology Division (July 2016 – April 2020).

Professor & Head, Crystallography & Molecular Biology Division, January 1, 2014 – April 2020.

Professor & Head, Biophysics & Structural Genomics Division, October 1, 2019 – April 2020.

Life Member, Indian Crystallographic Association.

Life Member, Indian Society for Mass Spectrometry.

Member, The National Academy of Sciences, India.

Vice President, The Proteomics Society – India, January 2014 – December 2016.

Member, Board of Governors, National Institute of Technology, Durgapur, September 2011 – September 2014.

Senate Member, National Institute of Technology, Durgapur, September 2009 – February 2015.

Member, West Bengal State Council of Higher Education from October 2012 – November 2015.

Government representative in the Academic Council of Netaji Subhas Open University, September 2011 – December 2015.

External Expert Member, Board of Studies, Department of Integrated Science Education and Research, Shiksha Bhavana (Institute of Science), Visva-Bharati, April 2014 – 2018.

Dean-Academic (Biological & Chemical Sciences), Homi Bhabha National Institute, November 2015 – 2018.

Chairman, Student's Welfare and Anti-ragging Committee, August 2017 – August 2019.

Member, The Proteomics Society – India, January 2016 – December 2021.

Chairman, Academic Standing Committee for Homi Bhabha National Institute (HBNI), November 2018 – April 2020.

Member, Research Fellowship Award & Research Grant Award Committee, Department of Science & Technology, Govt. of West Bengal, October 17, 2016 till date.

Nominee of West Bengal Government & Council of Higher Education, Maharaja Srischandra College, August 2011 till date.

Member, Governing Body of the West Bengal State Council of Biotechnology & Kolkata Biotech Park Committee, October 2011 till date.

Member, Board of Studies (Life Science), Homi Bhabha National Institute, July 2015 till date.

Editor, Journal of Proteins and Proteomics (A PSI Journal from 2016), 2009 till date.

Member, Executive Council of Kalyani University, April 2016 till date.

Member, Internal Quality Assurance Cell (IQAC) of Homi Bhabha National Institute, December 2016 till date.

Balancing Member, Integrated Masters Program, Homi Bhabha National Institute (HBNI), July 2018 till date.

External Expert, Board of Research Study in the Faculty of Science, Vidyasagar University, October 20, 2016 till date.

Member, Board of Research in Nuclear Sciences (BRNS), BRNS-Committees on DAE Programs (CDP-8 for Basic Research & Science Education), October 22, 2018 till date.

Past experience in Management / Organization:

Convener, The Structural and Molecular Biology Group Seminars (Calcutta Chapter) for the year starting May 1995 – April 1996.

Convener, One-day In-house Symposia of the Bioscience Group, SLC SINP, March 27, 1997 and May 6, 1999.

Convener, Golden Jubilee International Symposium on *Trends in Cellular and Molecular Biophysics*, September 5 – 7, 2000.

Member, Teaching Committee (Post M.Sc BioScience), June 1994 – April 2010.

Member, Editor's Team, Annual Report, 1997 – 2005.

Member, Golden Jubilee Celebration Committee, from 1999 – 2001.

Member, Medical Advisory Committee, from Nov 1999 – January 2017.

Member, Committee for restructuring the Contributory Medical Benefit Scheme, from August 2001 – January 2002.

Chairperson, Medical Advisory (Family & Pension) Sub-Committee, from August 2004 – September, 2009.

Chairman, Medical Advisory Committee, from July 2010 – April 2014.

Member, Committee for the preparation of the Xth Five Year Plan project papers of the Institute for submission to the Working Group, Department of Atomic Energy, from May 2000 – 2002.

Member, Publication and Documentation Committee, September 2003 – April 2010.

Convener, Committee to coordinate academic and teaching programs of SINP with HBNI, October 2005 – April 2010.

Convener, CARE Annual School on Genomics & Proteomics for Clinicians, March 2007 – 2010.

Member, XI Plan Project Implementation Committee, July 2009 – May 2012.

Convener, PSI Seminar Series I on “Indian Proteomics: User’s Perspective” from CARE, SINP along with IICB, Kolkata during July 2-3, 2010.

Convener, Committee to organize Institute Colloquia, One-day Colloquia, Saha Memorial Advanced Schools and Outreach Programs, April 2010 – October 2012.

Convener, Committee to reformulate the various HRD programs including Post M.Sc and suggest the various infrastructural requirements / facilities of SINP, February 2008 – April 2010.

Chairman, Committee to Co-ordinate Internal & External Review processes of the SINP faculty members, July 9, 2010 – October 12, 2012.

Member, Committee to develop Meghnad Saha Center for Science Education in Belgachia campus, September 22, 2011 – October 12, 2012.

Convener, International Conference on *Omics Meets Disease* and IIIrd Annual Meeting of the Proteomic Society (India), by SINP, CSIR-IICB and University of Calcutta, Kolkata, December 15-18, 2011.

Convener, IUBMB 10th International Symposium on *Biochemical Roles of Eukaryotic Cell Surface Macromolecules*, by SINP at Fortune Park Panchwati, January 20 – 24, 2014.

Member, Committee to take care of the publications of Research Highlights, News Letter and Annual Report of SINP, March 2010 – January 2013.

Chairman, new Webpage Committee, from March 2011 – January 2013.

Co-ordinator, Post M.Sc (Bioscience) from October 2012 – June 2014.

Project Co-ordinator, Molecular and Structural Aspects of Cellular Regulatory Processes (MSACR) from June 2014 – March 2017.

Project Co-ordinator, CARE, CARE : Phase II and CARE : Phase III from April 2002 – June 2014.

Member, Budget and Planning Committee for DAE and external projects, Feb 2015 – March 2017.

Co-ordinator, Editorial Board for the Annual Report, November 2014 – June 2017.

External Advisor, Committee for monitoring and fostering academic excellence in the Departments of Science & Technology of University of Calcutta, September 2015 – 2018.

Member, Committee to formulate XIIth five year Plan document of SINP, May 2011 – March 2017.

Member, Space Allocation Committee, March 2008 – April 2017.

Member, XII Plan Project Implementation Committee, May 2012 – March 2018.

Member, Faculty Search Committee, August 2014 – December 2018.

Chairman, Faculty Search Committee, January 2019 – April 2020.

Chairman, Committee to prepare report for objectives and achievements of SINP in support of getting Update Allowance, July 2016 – April 2019.

Teaching (Selected) :

Course on Membrane and Cell Biology (BMB 505, 15 lectures) to the M.Sc. Ist year students of the Department of Biophysics and Molecular Biology, University of Calcutta, from 1994 till 2004.

Courses on Membrane Biophysics (25 lectures), Protein folding (10 lectures) and Erythrocyte biology (10 lectures) in the Post MSc. (Biophysical Sciences) courses of Saha Institute of Nuclear Physics, since 1994 till 2015.

Course on Basic Biochemistry (12 lectures), in the Post MSc. (Biophysical Sciences) courses of Saha Institute of Nuclear Physics, since 2010 till December 2016.

Course on *Structure, Folding & Function of Proteins*, Instructor in-charge, designed and taught (15 lectures) along with Drs. G Basu and P Parrack of Bose Institute (42 lectures, 7 tutorials) at the S N Bose National Centre for Basic Science, for the Post-B.Sc Integrated-Ph.D students in Chemical Sciences, January 2 till April 2007.

Organized PSI Seminar Series I on *Indian Proteomics : User's Perspective*, in SINP, Kolkata, July 2-3, 2010.

Seminar/Lectures given on Clinical Proteomics in Hematological Disorders, in PSI Seminars Series II in ACTREC, Mumbai, November 26, 2010 and PSI Seminars Series III, in Aravind Medical Research Foundation, Madurai, April 15, 2011.

Taught in several Refresher courses in past 20 years.

Area of Interest :

Membrane Biophysics (Organization, transbilayer asymmetry and distribution of cell surface membrane proteins and lipids)

Membrane Skeleton (spectrin-based network, spectrin & its recombinant constructs, band 4.1 and its ligand binding, chaperone-activity, interaction with hemoglobin variants, globin chains, implications in hemoglobinopathy)

Fluorescence Spectroscopy, Flow Cytometry and Electron Microscopy (cell biology of red cell membrane proteins, skeletal proteins of Thalassemic red blood cells, platelets and other red cell disorders, glycotyping of red cell surface and platelet glycoconjugates).

Proteomics in Blood Disorders (Red cells, platelet and B cell implicated in haematological disorder using 2DGE, DIGE and MALDI ToF/ToF mass spectrometry).

Thesis awarded for PhD :

1. Molecular basis for the mode of action of aureolic acid group of antibiotics, Sangita Majee, awarded with Ph. D from Jadavpur University, September, 1998 (jointly supervised with Prof. Dipak Dasgupta).
2. Studies on erythroid spectrin and its membrane interaction, Sibnath Ray, awarded with Ph.D from Jadavpur University, April, 2003.
3. Studies of tertiary amine local anesthetics in phospholipid membranes and in membrane-mimetic systems, Mousumi Mandal, awarded with Ph.D from Jadavpur University, October 2003 (jointly supervised with Prof. Soumen Basak).
4. Spectroscopic studies of structural changes in two monomeric proteins : Effects of pH, urea and phospholipids, Dilip Debnath, awarded with Ph.D from Jadavpur University, September 2004 (jointly supervised with Prof. Soumen Basak).
5. Studies on the chaperone activity and hydrophobic ligand binding properties of erythroid spectrin, Malyasri Bhattacharyya, awarded with Ph.D from Jadavpur University, July, 2006.

6. Study of the interaction of hemoglobin and its subunits with erythroid spectrin, Poppy Datta, awarded with Ph.D from Jadavpur University, November, 2007.
7. Role of aminophospholipids, cytoskeletal proteins and hemoglobin on membrane asymmetry of erythrocytes, Sumanta Basu, awarded with Ph.D from Jadavpur University, August, 2009.
8. Proteomics and conformational studies of hemoglobin and other proteins of erythrocytes, Dipankar Bhattacharyya, awarded with Ph.D from Jadavpur University, March, 2011.
9. Fluorescence & NMR Spectroscopic Studies on Structure & Conformation of Transcription Activator Proteins: RFXANK and DNA Binding Domain of RFX5, Madhumita Chakrabarti, awarded with Ph.D from Jadavpur University, May, 2011.
10. Proteomic Study in a Hematological Malignancy: B-cell Acute Lymphoblastic Leukemia, Sutapa Saha, awarded with Ph.D from Homi Bhabha National Institute, August, 2012.
11. Spectroscopic studies of interaction of some biologically important small molecules with proteins, Mousumi Banerjee, awarded with Ph.D from Jadavpur University, March, 2014 (jointly supervised with Prof. Samita Basu).
12. Proteomic studies of erythrocytes in sickle cell disease, erythrocyte membrane skeleton and post translational modifications, Avik Basu, awarded with Ph.D from Calcutta University, June, 2015.
13. Differential Proteomics in Hematological Disorders, Suchismita Halder, awarded with Ph.D from Homi Bhabha National Institute, June, 2015.
14. Differential proteomic studies of platelets in hematological disorders, Shilpita Karmakar, awarded with Ph.D from Calcutta University, July, 2015.
15. Biophysical studies on erythroid and non-erythroid spectrin, Malay Patra, awarded with Ph.D from Calcutta University, February 2016 (Acted as associate supervisor with Prof. Chaitali Mukhopadhyay of CU).
16. Studies on the chaperone potential and phospholipid interactions of brain spectrin, Madhurima Mitra, awarded with Ph.D from Calcutta University, May 2016.
17. Membrane and spectrin interactions of heme and hemoproteins, Debashree Das, awarded with Ph.D from Calcutta University, March 2017.
18. Dipayan Bose defended thesis entitled “Chaperone activity of spectrin : Molecular origin of specificity” on November 5, 2019.

List of published papers :

1. Dipayan Bose & *Abhijit Chakrabarti*. (2019) Chaperone potential of erythroid spectrin : effects of hemoglobin interaction, macromolecular crowders, phosphorylation and glycation. (2019) *BBA Proteins & Proteomics* **1867**(11).
2. Dipayan Bose & *Abhijit Chakrabarti*. (2019) Localizing the chaperone activity of erythroid spectrin. (2019) *Cytoskeleton* **76**(6), 383 – 397.
3. Dipayan Bose & *Abhijit Chakrabarti*. (2019) Probing the chaperone activity of erythroid spectrin. *Biophys J.* **116**(3), 191a.
4. Sauvik Sarkar, Dipayan Bose, Rajendra Giri, Mrinmay Mukhopadhyay & *Abhijit Chakrabarti*. (2019) Effects of GM1 on brain spectrin aminophospholipid interactions. *Biochim Biophys Acta* **1861**, 298 – 305.
5. Sauvik Sarkar, Dipayan Bose, Rajendra Giri, Mrinmay Mukhopadhyay, *Abhijit Chakrabarti*. (2018) Status of membrane asymmetry in erythrocytes : role of spectrin. *Adv. Exp. Ed. Biol.* 1112.
6. RP Giri, Mrinmay K Mukhopadhyay, Uttam K Basak, *Abhijit Chakrabarti*, Milan K Sanyal, B Runge and BM Murphy. (2018) Continuous uptake or saturation - Investigation of concentration and surface-packing-specific hemin interaction with lipid membranes. *J Phys Chem B.* **122**, 7547 – 7554.
7. Debashree Das, Pradip Tarafdar & *Abhijit Chakrabarti*. (2018) Structure-activity relationship of heme and its analogues in membrane damage and inhibition of fusion. *FEBS Lett.* **592**, 2458 – 2465.
8. Sushanta Debnath, Bikram Nath & *Abhijit Chakrabarti*. (2017) Flow cytometric analysis of protein aggregates. *Protein & Peptide Letters* **24**(10), 969 – 973.
9. Kamini Mishra, *Abhijit Chakrabarti* and Puspendu K. Das. (2017) Protein-protein Interaction probed by label-free second harmonic light scattering: hemoglobin adsorption on spectrin surface as a case study. *J Phys Chem B* **121**, 7797 - 7802.
10. Dipayan Bose & *Abhijit Chakrabarti*. (2017) Substrate specificity in the context of molecular chaperones. *IUBMB Life* **69**, 647 – 659.
11. MK Mukhopadhyay, RP Giri, M Mitra, *A Chakrabarti*, MK Sanyal, SK Ghosh, Y Ma, SK Sinha, S Bera & LB Lurio. (2017) Differential adsorption of a membrane skeletal protein, spectrin in phospholipid membranes. *Europhysics Letters* **118**, 58002.
12. Shilpita Karmakar, Debasis Banerjee & *Abhijit Chakrabarti*. (2017) Platelet proteomics in chronic myelogenous leukemia. *Int J Blood Disorders Dis.* **1**, 1-6.

13. Rajendra Giri, *Abhijit Chakrabarti* & Mrinmay Mukhopadhyay. (2017) Cholesterol Induced Structural Changes in Saturated Phospholipid Model Membranes Revealed Through X-Ray Scattering Technique. *J Phys Chem B*. **121**, 4081 – 4090.
14. Dipayan Bose, Malay Patra & *Abhijit Chakrabarti*. (2017) Effect of pH on conformational stability, oligomerization and dynamics of erythroid and nonerythroid spectrin. *BBA Proteins & Proteomics* **1865**, 694 – 702.
15. Anindita Das, *Abhijit Chakrabarti* and Puspendu K. Das. (2017) Enzyme adsorption on nanoparticle surface probed by highly sensitive second harmonic light scattering. *Methods Enzymol*. **590**, 33 – 58.
16. Malay Patra, Manoj Mandal, *Abhijit Chakrabarti* and Chaitali Mukhopadhyay. (2017) Localization and dynamics of the anticarcinogenic Curcumin with GM₁ and other micellar assemblies. *Glycoconjugate J*. **34**, 171 – 179.
17. Debashis Das, Dibyendu Samanta, Arpita Bhattacharya, Arunima Basu, Anindita Das, Jaydip Ghosh, *Abhijit Chakrabarti* & Chanchal Das Gupta. (2017) A possible role of the full length nascent protein in post translational ribosome recycling. *PLoS One* **12(1)**, e0170333.
18. Anindita Das, *Abhijit Chakrabarti* and Puspendu K. Das. (2016) Probing protein adsorption on nanoparticle surface by second harmonic light scattering. *Phys Chem Chem Phys*. **18**, 24325 – 24331.
19. Debashree Das, Ushasi Pramanik, Malay Patra, Mousumi Banerjee & *Abhijit Chakrabarti*. (2016) Differential interactions of imatinib mesylate with the membrane skeletal protein, spectrin and hemoglobin. *RSC Advance* **6**, 55203 – 55210.
20. Tridip Chatterjee, Suchismita Halder, Sudipa Chakravarty, Amit Chakravarty & *Abhijit Chakrabarti*. (2016) A FACS based case study on two HbE- β thalassaemia member of a family, having similar mutational background. *Scientifica* 3181937.
21. *Abhijit Chakrabarti*, Suchismita Halder and Shilpita Karmakar. (2016). Erythrocyte & Platelet Proteomics in Haematological Disorders. *Proteomics Clin Appl*. **10**, 403-414.
22. Shilpita Karmakar, Debashish Banerjee & *Abhijit Chakrabarti*. (2016). Platelet proteomics in thalassemia. Factors responsible for hyperquagulation. *Proteomics Clin Appl*. **10**, 239-247.
23. Madhurima Mitra, Malay Patra & *Abhijit Chakrabarti*. (2015). Fluorescence study of the effect of cholesterol on spectrin-aminophospholipid interactions. *Eur Biophys J*. **44**, 635 – 645.

24. Malay Patra, Chaitali Mukhopadhyay & *Abhijit Chakrabarti*. (2015). Malachite green interacts with the membrane skeletal protein, spectrin. *RSC Advances*. **5**, 91166 – 91176.
25. Avik Basu & *Abhijit Chakrabarti*. (2015). Haemoglobin Interacting Proteins and Implications of Spectrin Haemoglobin Interaction. *J Proteomics* **128**, 469 – 475.
26. Avik Basu, K Speicher, S Sriswasdi, S Harper, E Pesciotta *Abhijit Chakrabarti* & DW Speicher. (2015). Unexpected Red Cell Membrane Skeletal Components and Interactions. *J Proteomics* **128**, 298 – 305.
27. Suchismita Halder, Ranjan Kumar Dey, Anadi Roy Chowdhury, Palash Bhattacharya & *Abhijit Chakrabarti*. (2015) Differential regulation of urine proteins in urothelial neoplasm. *J Proteomics* **127**, 185 – 192.
28. Madhurima Mitra, Arunima Chaudhuri, Malay Patra, Chaitali Mukhopadhyay, *Abhijit Chakrabarti* & Amitabha Chattopadhyay. (2015) Organization and dynamics of tryptophan residues in brain spectrin : Novel insight into conformational flexibility. *J Fluorescence* **25**, 707 – 717.
29. Anindita Das, *Abhijit Chakrabarti* and Puspendu K. Das. (2015) Suppression of protein aggregation by gold nanoparticles : A new way to store and transport proteins. *RSC Advances*. **5**, 38558 – 38570.
30. Debashree Das, Malay Patra, & *Abhijit Chakrabarti*. (2015) Binding of hemin, hemothopyrin and protoporphyrin with erythroid spectrin : fluorescence and molecular docking studies. *Eur Biophys J*. **44**, 171-182.
31. Malay Patra, Chaitali Mukhopadhyay & *Abhijit Chakrabarti*. (2015). Probing conformational stability and dynamics of erythroid and nonerythroid spectrin : Effects of urea and guanidine hydrochloride. *PLoS One* **10(1)**, e0116991.
32. Sumanta Kumar Ghatak, Dipanwita Majumdar, Achintya Singha, Souvik Sen, Debashree Das, *Abhijit Chakrabarti*, Chaitali Mukhopadhyay and Kamalika Sen. (2015). Peanut Protein Sensitivity Towards Trace Iron : A Novel Mode to Ebb Allergic Response. *Food Chemistry*, **176**, 308–313.
33. *Abhijit Chakrabarti* and Malay Patra. (2015). Differential interactions of two local anesthetics with phospholipid membrane and nonerythroid spectrin : localization in presence of cholesterol and ganglioside, GM₁. *Biochim Biophys Acta* **1848**, 821-832.
34. A. Chakrabarti, A. Surolia (eds.), *Biochemical Roles of Eukaryotic Cell Surface Macromolecules*, Springer International Publishing Switzerland 2015; Avik Basu & *Abhijit Chakrabarti*. (2015) Defects in erythrocyte membrane skeletal architecture. *Adv Exp Med Biol* **842**, 41-59.

35. Shilpita Karmakar, Sutapa Saha, Debashish Banerjee & *Abhijit Chakrabarti*. (2014). Differential proteomic study of platelets in asymptomatic constitutional macrothrombocytopenia : Altered levels of cytoskeletal proteins. *Eur J Haematol.* **94**, 43-50.
36. Suchismita Halder, Tridip Chatterjee, Amit Chakravarty, Sudipa Chakravarty, *Abhijit Chakrabarti* (2014) Differential regulation of few plasma proteins between members of a family with homozygous HbE and HbE β -thalassemia. *Thalassemia Reports.* **4(s1)**, 1837-62 – 64.
37. Arup Kumar Bag, Sutapa Saha, Shyam Sundar, Bibhuti Saha, *Abhijit Chakrabarti* & Chitra Mandal. (2014) Comparative proteomics and glycoproteomics of plasma proteins in Indian visceral leishmaniasis. *Proteome Science* **12**: 48.
38. Sutapa Saha, Subrata Banerjee, Debasis Banerjee, Sarmila Chandra & *Abhijit Chakrabarti*. (2014). Identification of Malignant B-lymphoblast Proteome De-regulations in B-cell Acute Lymphoblastic Leukemia. *EuPA Open Proteomics* **3**, 13-26.
39. Malay Patra, Madhurima Mitra, *Abhijit Chakrabarti* & Chaitali Mukhopadhyay. (2014) Binding of polarity sensitive, hydrophobic ligands to erythroid and non-erythroid spectrin : Fluorescence and molecular modeling studies. *J Biomol Struct Dyn.* **32** (6), 852-865.
40. *Abhijit Chakrabarti*, Dipankar Bhattacharya, Sanghamitra Deb and Madhumita Chakraborty. (2013) Differential thermal stability and oxidative vulnerability of the hemoglobin variants, HbA₂ and HbE. *PLOS ONE* **8**(11), e81820.
41. Puspendu K. Das, Anindita Das & *Abhijit Chakrabarti* (2013) Metal nanoparticles as better protein-aggregation prevention agents than chaperones. Abstracts of papers of the American Chemical Society, **246**, Abstract: 144-COLL.
42. Avik Basu, Sutapa Saha, Shilpita Karmakar, Sudipa Chakravarty, Debasis Banerjee, Bisnu Prasad Dash & *Abhijit Chakrabarti*. 2D DIGE based proteomics study of erythrocyte cytosol in sickle cell disease : altered proteostasis & oxidative stress. (2013). *Proteomics* **13**, 3233-3242.
43. SK Ghosh, MK Mukhopadhyay, Y Ma, I Lopez, S Bera, LB Lurio, *Abhijit Chakrabarti*, JE Kim, MK Sanyal & SK Sinha. (2013) Structural studies of lipid-protein interactions on cushioned bilayers. Abstracts of MAR13 Meeting of The American Physical Society. N31.9. <http://meetings.aps.org/link/BAPS.2013.MAR.N31.9>
44. *Abhijit Chakrabarti*, Sumanta Basu, Bisnu Prasad Dash, Sudipa Chakravarty & Debasis Banerjee. (2013). Erythrocyte membrane asymmetry in Thalassemia and Sickle Cell Disease. *Proc. Ind. Acad. Sci.* **79**, 127-138.

45. Mousumi Banerjee, *Abhijit Chakrabarti* & Samita Basu. (2013). Interaction between Hemoglobin A and Merocyanine 540 : A spectroscopic investigation supported by docking. *Dyes & Pigments* **97**, 446-454.
46. Debashis Das, Dibyendu Samanta, Salman Hasan, Anindita Das, Arpita Bhattacharya, Santanu Dasgupta, *Abhijit Chakrabarti*, Pradip Ghorai, Chanchal Das Gupta. (2012). Identical RNA-protein interactions *in vivo* & *in vitro* and a scheme of folding the newly synthesized proteins by ribosomes. *J Biol Chem.* **287**, 37508-37521.
47. Sutapa Saha, Suchismita Halder, Dipankar Bhattacharya, Debashis Banerjee & *Abhijit Chakrabarti*. (2012). Fractional precipitation of plasma proteome by ammonium sulphate : case studies in leukemia and thalassemia. *J Proteomics Bioinformatics* **5**, 163-171.
48. Mousumi Banerjee, *Abhijit Chakrabarti* & Samita Basu. (2012). Oxidative interaction between oxyHb and ATP : A Spectroscopic Study. *J Phys Chem B.* **116**, 6150-6157.
49. Mousumi Banerjee, Uttam Pal, Arijita Subudhhi, *Abhijit Chakrabarti* & Samita Basu. (2012). Interaction of Merocyanine 540 with serum albumins : Photophysical and Binding studies. *J. Photochem. Photobiol. B.* **108**, 23-33.
50. Mousumi Banerjee, *Abhijit Chakrabarti* & Samita Basu. (2011) Binding interaction of photoactive drug Merocyanine 540 with fibre like protein spectrin : A spectroscopic approach. *Ind. J. Chem. Soc.* **88**, 1895-1902.
51. Mousumi Banerjee, Malini Pramanik, Mohini Lahiry, Dipankar Bhattacharya, Samita Basu & *Abhijit Chakrabarti*. (2011). Faster heme loss from hemoglobin E than HbS in acidic pH : effect of phospholipids. *J Biosciences.* **36**, 809-816.
52. Sutapa Saha, Rajeswari Ramanathan, Avik Basu, Sumanta Basu, Debashis Banerjee & *Abhijit Chakrabarti*. (2011). Elevated levels of redox-regulators, membrane bound globin chains and cytoskeletal protein fragments in hereditary spherocytosis erythrocyte proteome. *Eur J Haematol.* **87**, 259-266.
53. Sumanta Basu, Bisnu Prasad Dash, Dilip Kumar Patel, Sudipa Chakravarty, Amit Chakravarty, Debashis Banerjee & *Abhijit Chakrabarti*. (2011). F-cell levels are altered with erythrocyte density in Sickle Cell Disease. *Blood Cells, Molecules & Diseases* **47**, 117-199.
54. *Abhijit Chakrabarti*, Dipankar Bhattacharya, Avik Basu, Sutapa Saha & Suchismita Halder. (2011). Differential expression of red cell proteins in hemoglobinopathy. *Proteomics – Clinical applications.* **5**, 98-108.

55. Suchismita Halder, Sutapa Saha, Debashis Banerjee, Sudipa Chakravarty, Amit Chakravarty & *Abhijit Chakrabarti*. (2010). Plasma Proteomics in Hematological Disorders. *Ind. J. Hematol. Blood Trans.* **26**, 167.
56. Shilpita Karmakar, Sutapa Saha, Debashis Banerjee and *Abhijit Chakrabarti*. (2010). Platelet Proteomics in Haematological Disorders. *Ind. J. Hematol. Blood Trans.* **26**, 168.
57. Sumanta Basu, Debasis Banerjee, Sarmila Chandra & *Abhijit Chakrabarti*. (2010). Eryptosis in hereditary spherocytosis and thalassemia : role of glycoconjugates. *Glycoconj. J.* **27**, 717-722.
58. Mousumi Banerjee, Sourav Maiti, Ipsita Kundu, *Abhijit Chakrabarti* & Samita Basu. (2010). Simultaneous Occurrence of Energy Transfer and Photo Induced Electron Transfer in the Interaction of Hen Egg White Lysozyme with 4-Nitroquinoline-1-Oxide. *Photochem Photobiol.* **86**, 1237-1246.
59. Madhumita Chakraborty, Amitava Sengupta, Dipankar Bhattacharya, Subrata Banerjee & *Abhijit Chakrabarti*. (2010). DNA binding domain of RFX5 : interactions with X-box DNA and RFXANK. *BBA Proteins & Proteomics* **1804**, 2016-2024..
60. Debasis Das, Dibyendu Samanta, Anindita Das, Jaydip Ghosh, Arpita Bhattacharya, Arunima Basu, *Abhijit Chakrabarti* & Chanchal Das Gupta. (2010). Ribosome: The Structure-Function Relation and a New Paradigm to the Protein Folding Problem. *Isr. J. Chem.* **50**, 109-116.
61. Sumanta Basu, Debashis Banerjee, Malay Ghosh & *Abhijit Chakrabarti*. (2010). Erythrocyte membrane defects and loss of asymmetry in paroxysmal nocturnal haemoglobinuria and myelodysplastic syndrome. *Hematology* **15**, 236-239.
62. Madhumita Chakraborty, Dipankar Bhattacharya, Chaitali Mukhopadhyay & *Abhijit Chakrabarti*. (2010). Structure and conformational studies on dityrosine formation in the DNA binding domain of RFX5. *Biophys Chem.* **149**, 92-101.
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Average Impact Factor is 2.5 for 115 papers (IF 2017). h-index is 23 as on October 2019. Total citation is more than 1800.

Attended and presented papers in 115 National / International conferences and delivered 95 invited lectures.

Other Publications in / of Books :

1. *Proceedings of IUBMB 10th International Symposium on Biochemical Roles of Eukaryotic Cell Surface Macromolecules, in Advances in Experimental Medicine & Biology, A. Chakrabarti, A. Surolia (eds.), Biochemical Roles of Eukaryotic Cell Surface Macromolecules, Springer International Publishing Switzerland 2015.*

2. *Labnotebook, book in Bengali, published in January 2010 by Gangchil.*

3. *Labnotebook 2, book in Bengali, published in January 2011 by Gangchil.*

4. *A Fluorescence Quenching Method to Study Interactions of Hemoglobin Derivatives with Erythroid Spectrin, 2009, Reviews in Fluorescence 2007, Ed. C D Geddes, Springer, pp363-378.*

5. *Biology by Lesser Biologists, in SINP Turns Fifty (2001). Saha Institute of Nuclear Physics Golden Jubilee Commemoration Volume (Editor : Atri Mukhopadhyay).*

Visits to other Institutes :

1. Department of Biochemistry, Indian Institute of Science, for the month of December, 1994 working on glycosphinglipids.
2. Centre for Cellular and Molecular Biology, for two weeks in the Feb-March 1997 to work on confocal microscope-based fluorescence photobleaching recovery technique.
3. Proteomics facility of Molecular Biophysics Unit, Indian Institute of Science, for a month in November-December, 2005.
4. Spectroscopy/Analytical Facility, Society for Innovation and Development, Indian Institute of Science, one week during April 4-11, 2010 studying on protein-protein association and self-assembly of proteins using Hyper-Raleigh scattering technique.
5. Photon Factory, KEK, Tsukuba, Japan in Indian Beamline, DST-SINP project, January 28 till February 2nd, 2014 and June 2 – 10, 2015, studying spectrin interactions on DMPC monolayers by X-ray reflectivity measurements.
6. Department of Inorganic & Physical Chemistry, Indian Institute of Science, during August 15-21, 2016 studying on protein-protein association and self-assembly of proteins using Hyper-Raleigh scattering technique.
7. ISIS Facility, Rutherford Appleton Laboratory, Harwell Science & Innovation campus, Didcot OX11 0QX, UK, during March 20 – 28, 2019, performing polarized neutron reflectivity experiment to study lipid protein interactions using recombinant spectrin constructs in collaboration with Dr. Mrinmay Mukhopadhyay and Prof. Milan K Sanyal.