

ANSUMAN BISWAS

Indian Institute of Science, Bangalore

Summary

- 8 years research experience in Structural Biology, Protein Biochemistry and Data Mining on protein sequence and structure
- Successfully collaborated in interdisciplinary research across multiple departments and institutes, leading to
 - 4 conference presentations (3 international, 1 national)
 - 8 international publications
- Mentored juniors and project students in the laboratory
- Interested in pursuing cutting-edge research in Structural and Computational Biology to probe challenging biological questions, and in igniting curiosity in young minds about these interdisciplinary fields through teaching.

Education

- Post Doctoral Research (Computational and Experimental Cell Biophysics, NCBS-TIFR, ongoing)
- PhD (Structural biology, Protein Biochemistry and Bio-informatics), Department of Physics, Indian Institute of Science, Bangalore (CGPA: 7.2/8.0 in course work)
- M.Sc. (Physics), Department of Physics, Jadavpur University, Kolkata (74.6%, University Rank 13th, 2009)
- B.Sc. (Physics), Department of Physics, Jadavpur University, Kolkata (73.3%, University Rank 10th, 2007)
- Higher Secondary (Std. 12), West Bengal Board (89.8%, Ranked within first 250 out of ~3 lakh students, 2004)
- Secondary (Std. 10), West Bengal Board (91.8%, 2002)

Thesis title

Structural studies on thymidylate kinase - evolution, specificity and catalysis.

Publication

- *Role of sequence evolution and conformational dynamics in the substrate specificity and oligomerization mode of thymidylate kinases.* **Biswas A**, Jasti S, Jeyakanthan J, Sekar K. J Biomol Struct Dyn. 2017 (impact factor: 3.107)
- *Crystal structures of an archaeal Thymidylate kinase from *Sulfolobus tokodaii* provide insights into the role of a conserved active site Arginine residue.* **Biswas A**, Shukla A, Vijayan RS, Jeyakanthan J, Sekar K. J Struct Biol. 2017 (impact factor: 3.489)
- *Characterizing active site dynamics from structural studies on the Intermediates along the reaction coordinate of a hyperthermophilic Thymidylate Kinase.* **Biswas A**, Shukla A, Chaudhary SK, Santhosh R, Jeyakanthan J Sekar K. FEBS Journal. 2017 (impact factor: 4.530)
- *Alkyl chain substituted 1,9-pyrazoloanthrones exhibit prominent inhibitory effect on c-Jun N-terminal kinase (JNK).* Prasad KD, Trinath J, **Biswas A**, Sekar K, Balaji KN, Guru Row TN. Org Biomol Chem. 2014 (impact factor: 3.423)

- *Anthrapyrazolone analogues intercept inflammatory JNK signals to moderate endotoxin induced septic shock*. Prasad KD, Trinath J, **Biswas A**, Sekar K, Balaji KN, Guru Row TN. Sci Rep. 2014 (impact factor: 4.609)
- *Structure determination of contaminant proteins using the MarathonMR procedure*. Hatti K, **Biswas A**, Chaudhary S, Dadireddy V, Sekar K, Srinivasan N, Murthy MR. J Struct Biol. 2017 (coverpage article, impact factor: 3.489)
- *Opioid receptor modulators with a cinnamyl group*. Ravilla L, Nuthalapati V S N, Dogra S, Umrao D, Yadav P, **Biswas A**, Michael D, Sekar K, Kuppusamy N. J Med Chem. 2017 (impact factor: 6.253)
- *Structural and biological evaluation of halogen derivatives of 1,9-pyrazoloanthrones towards the design of specific potent inhibitor of c-Jun-N-terminal kinase (JNK)*. Ganduri R, Singh V, **Biswas A**, KD Prasad, K. Sekar, Balaji KN and Guru Row TN. New Journal of Chemistry 2018 (impact factor: 3.269)

Skills

- Biochemistry: Cloning, Expression, Purification, Enzyme Kinetics using UV spectrophotometer, high temperature Coupled enzyme assay, Micro-Scale Thermophoresis, Differential Scanning Fluorimetry, Circular Dichroism, Surface Plasmon Resonance
- Structural biology: X-ray crystallography, Crystal structure solution (iMOSFLM, CCP4, Phenix)
- Computation: Mathematical Modeling in Cell Biology, Analysis of protein sequences (co-evolution analysis), structures and residue interaction network, exploring multiple conformations in high resolution data using qFit, Molecular modelling and docking (AutoDock), Molecular dynamics simulations (Gromacs 4.5.3)
- Languages: Fortran 90, Python
- Platforms: Linux, Windows
- Collaborated extensively with different research groups, and have successfully contributed in team work

Awards

- DBT-RA fellowship (2018), Department of Biotechnology, Govt. of India
- Travel Grant (2014), Indian Council of Medical Research, Govt. of India
- Best Oral Presentation Award, 2013, Indian Crystallographic Association, 42nd National Seminar on Crystallography, New Delhi
- Travel Grant (2012), Awarded by Riken SPring 8, Japan for X-Ray data collection
- CSIR-NET Fellowship for PhD, 2010, Council of Scientific and Industrial Research, Govt. of India

Conferences

- Oral Presentation, 13th Conference of the Asian Crystallographic Association, Kolkata, India (2015)
- Poster Presentation, Gordon Research Conference, Bates College, ME, USA (2014)
- Oral presentation, 42nd National Seminar on Crystallography, New Delhi (2013)
- Poster Presentation, International Conference on Bio-molecular forms and functions, IISc, Bangalore (2013)