

Puneet Juneja Ph.D.

Post-Doctoral Research Associate
Large Scale Structures, Neutron Scattering Division
Oak Ridge National Laboratory
1 Bethel Valley Road, Oak Ridge, TN -37830, USA
Email: junejap@ornl.gov, pj.structbiochem@gmail.com, Phone: 865-765-6660

SUMMARY

I am a structural biochemist with experience in Expression and purification of Soluble/Membrane proteins, Cryo Electron Microscopy (Single Particle analysis) and Macromolecular Crystallography.

RESEARCH EXPERIENCE

Postdoctoral Research Associate: July 2017 – present, Large Scale Structures, Neutron Scattering Division and Center for Structural Molecular Biology, Oak Ridge National Lab, Oak Ridge, TN.

Postdoctoral Research Associate: November 2014 – May 2017, Department of Structural Biochemistry, Max Planck Institute of Molecular Physiology, Dortmund, Germany.
Cryo-EM and single particle analysis of protein complexes and membrane proteins involved in membrane trafficking. Protein Expression and Purification.

Postdoctoral Research Associate: May 2014 – October 2014, University of Konstanz, Konstanz, Germany.
Structure determination of Hyg5 chorismatase and Transcription regulator Dnrt using X-ray Crystallography.

Doctoral Researcher: October 2008 – April 2014, University of Konstanz, Konstanz, Germany.
Structural and functional studies on Cysteine loop receptors, Chorismatases and a C-type lectin domain protein.

EDUCATION

Ph.D. June 2014, Department of Biology, University of Konstanz, Konstanz, Germany.
Dissertation: Structural and functional studies on Cysteine loop receptors, Chorismatases and a C-type lectin domain protein, with Prof. Wolfram Welte and Prof. Kay Diederichs.

Masters in Biotechnology, June 2007, Department of Biotechnology, Himachal Pradesh University, Shimla, India.
Thesis: Study of Kinetics of release of L-Asparaginase from *Bacillus brevis* using Bead Beater.

Bachelors in Biotechnology, June 2005. (Guru Nanak Dev University, Amritsar, India)
Thesis: Neural Cell Adhesion Molecular Protein Expression in Rat Brain and C₆ Glioma Cell Line.

TECHNICAL EXPERTISE

- Sample Grid preparation for Cryo-Electron Microscopy using Vitrobot, CP3 plunger.
- Single particle analysis (RELION, SPHIRE, EMAN and other packages).
- Experience working and data analysis on Krios, FEI Tecnai G Spirit, JEOL 1400
- Negative stain Electron Microscopy.
- Protein purification using Affinity, SEC, Ion Exchange, FSEC.
- Experience working with Akta and Biorad Purification system.
- Small to Large scale expression of membrane proteins in Bacterial, Insect, HEK and Yeast.
- Protein characterization using DLS, SEC, Blue Native-PAGE, PAGE.
- Protein Crystallization and X-ray Crystallography (XDS, Phenix, CCP4).
- Project Management, Strong interpersonal, presentation, written and oral communication skills.
- Highly adaptable, Flexible, Independent and team player.

PUBLICATIONS

(1) *Chorismatase mechanisms reveal fundamentally different types of reaction in a single conserved protein fold.*
F Hubrich, **P Juneja**, M Müller, K Diederichs, W Welte, JN Andexer
Journal of the American Chemical Society 137 (34), 11032-11037.

(2) *Mechanistic implications for the chorismatase FkbO based on the crystal structure.*
Juneja P, Hubrich F, Diederichs K, Welte W, Andexer JN.
J Mol Biol. 2014 Jan 9; 426(1):105-15.

(3) *An Internally Modulated, Thermostable, pH-sensitive Cys Loop Receptor from the Hydrothermal Vent Worm Alvinella pompejana.*
Juneja P, Horlacher R, Bertrand D, Krause R, Marger F, Welte W.
J Biol Chem. 2014 Apr 9; 289, 15130-15140.

(4) *Crystallization and preliminary X-ray analysis of the C-type lectin domain of the spicule matrix protein SM50 from Strongylocentrotus purpuratus.*
Juneja P, Rao A, Cölfen H, Diederichs K, Welte W.
Acta Crystallogr F Struct Biol Commun. 2014 Feb;70 (Pt 2):260-2.

(5) *A recombinant BBSome core complex and how it interacts with ciliary cargo.*
Klink BU, Zent E, **Juneja P**, Kuhlee A, Raunser S, Wittinghofer A
eLife 2017;6: e27434

CONFERENCE TALKS/TALKS

- Structure and putative mechanism of putative FkbO-chorismatase. (Sept-2013), 27th Rhine-Knee Regional Meeting on Biocrystallography, Schluchsee, Germany.
- Structure insights into active site of Chorismatase. (March-2013), Department of Pharmaceutical Science, Freiburg. Germany.
- A pH sensitive Cys loop receptor from a thermophilic worm, Immobilization of Torpedo nAChR and oligomerization behaviour. (June 2012), Annual Neurocyprines Meeting. Vienna, Austria.
- Purification and crystallization strategies for GABA_A β3 receptor and Torpedo nAChR. (May 2011), Annual Neurocyprines Meeting. Bergamo, Italy.
- Expression and Purification and GABA_A β3 receptor and Alpha 7 nAChR. (May 2010), Annual Neurocyprines Meeting. Athens, Greece.

POSTERS

- Presented Poster at 3rd International Workshop on Expression, Structure and Function of Membrane Proteins, (Sept 2012) Florence, Italy.
- Presented Poster at Bilbao Advance Course on Biophysics- Expression, Purification and Crystallization of Membrane Protein, (July 2012) Bilbao, Spain.
- Presented Poster at Gordon research Conference -Mechanism of Membrane Transport, (June 2011) Biddeford, USA.

HONOURS AND AWARD

- Ph.D. fellowship 2008, Konstanz Research School Chemical Biology,
- Junior Research Fellowship 2007, Department of Biotechnology (DBT), India.
- Qualified GATE "Graduate Aptitude Test in Engineering" conducted by Indian Institute of Technology India (IIT) in Feb 2006 and secured 86th All India Rank with percentile of 99.13.
- Received Scholarship 2005-2007 during M.Sc. Biotechnology from Department of Biotechnology, Govt. of India.
- Qualified All India Entrance for Masters in Biotechnology 2005, conducted by J.N.U, New Delhi, India.
- Gold medalist in B.Sc. Biotechnology, Guru Nanak Dev University, Amritsar, India.