BIOGRAPHICAL SKETCH

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NAME: Puneet Juneja

eRA COMMONS USER NAME (credential, e.g., agency login):

POSITION TITLE: Associate Scientist/Core Director

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	Completion Date MM/YYYY	FIELD OF STUDY
Guru Nanak Dev University, India	B.Sc	06/2005	Biotechnology
Himachal Pradesh University, India	M.Sc	06/2007	Biotechnology
University of Konstanz, Germany	Ph.D.	04/2014	Structural Biochemistry/X-ray crystallography
Max Planck Institute of Molecular Physiology, Germany	Postdoctoral	05/2017	Cryo Electron Microscopy
Oak Ridge National Lab, Oak Ridge	Postdoctoral	06/2018	Structural Biochemistry/Single Particle Analysis

A. Personal Statement

I am working as an associate scientist and core director at Robert P. Apkarian Integrated Electron Microscopy Core at Emory University School of Medicine. My interests are in Structural Biology of proteins and biological machineries. I have expertise in Cryo-Electron Microscopy and Structural Biochemistry and have worked in interdisciplinary research in collaboration with many labs. My current position responsibilities are to maintain the Electron Microscopy Core facility and aid Investigators with Cryo EM data collection and analysis and support their research. I also have active collaboration in Emory university, Oak Ridge National Lab and Fredric Cancer Institute where I contribute to Cryo EM structural studies. My current application for NCCAT TP2 training proposal for Cryo EM helps build strength for the assistance I provide to Principle Investigators, support their research and build strong Cryo EM community in Georgia along outside collaborators. It will add to our existing capabilities of the Cryo EM and help build infrastructure and resources.

B. Positions and Honors

2018- Associate Scientist/Core Director Robert P. Apkarian Integrated Electron Microscopy Core, Emory University, Atlanta.

C. Contributions to Science

1. Here we contributed to investigation of the BBSome subcomplex protein complex architecture and its binding to GPCRs and other receptors along studying the effect of mutations. We demonstrated for the very first time the structural organization of the BBsome sub units with Negative Electron Microscopy, which provide insight into shape and functional organization.

a. Björn Udo Klink, Eldar Zent, Puneet Juneja, Anne Kuhlee, Stefan Raunser, Alfred Wittinghofer. (2017). A recombinant BBSome core complex and how it interacts with ciliary cargo. Elife 6.

2. Chorismatase are industrially important enzymes involved in the biosynthesis of the macrocyclic amino acid-linked polyketides FK506 and FK520 which are potent immunosuppressants that prevent T-cell proliferation through initial binding to the immunophilin. Here we solved the first three-dimensional X-ray structure of two different Chorsimatase enzymes and identified the catalytic mechanism using the substrate analogue and inhibitors.

a. Puneet Juneja, Florian Hubrich, Kay Diederichs, Wolfram Welte, Jennifer N. Andexer. (2014) Mechanistic Implications for the Chorismatase FkbO Based on the Crystal Structure, Journal of Molecular Biology, Volume 426, Issue 1, ,105-115.
b. Florian Hubrich, Puneet Juneja, Michael Müller, Kay Diederichs, Wolfram Welte, and Jennifer N. Andexer (2015) Chorismatase mechanisms reveal fundamentally different types of reaction in a single conserved protein fold. Journal of the American Chemical Society, 137(34) 11032-11037

3. We identified and studied the first known Cys loop receptor from a deep-sea hydrothermal vent worm *Alvinella Pomejana* and investigated its pharmacological profile suggesting it is activated by pH and modulated by insecticide Ivermectin which is a potential toxic chemical for humans.

a. Puneet Juneja, Reinhold Horlacher, Daniel Bertrand, Ryoko Krause, Fabrice Marger, Wolfram Welte. (2014) An Internally Modulated, Thermostable, pH-sensitive Cys Loop Receptor from the Hydrothermal Vent Worm Alvinella pompejana. Journal of Biological Chemistry, 289(21) 15130-15140

D. Additional Information: Research Support and/or Scholastic Performance

Conference Talks/Posters
1. Structure and putative mechanism of putative FkBO-chorismatase. (Sept-2013), 27th Rhine-Knee Regional Meeting on Biocrystallography, Schluchsee, Germany.
2. Structure insights into active site of Chorismatase. (March-2013), Department of Pharmaceutical Science, Freiburg. Germany.
3. A pH sensitive Cys loop receptor from a thermophilic worm, Immobilization of Torpedo nAChR and oligomerization behaviour. (June 2012), Annual Neurocypres Meeting. Vienna, Austria.
· Purification and crystallization strategies for GABAA β3 receptor and Torpedo nAChR. (May 2011), Annual Neurocypres Meeting. Bergamo, Italy.
4. Expression and Purification and GABAA β3 receptor and Alpha 7 nAChR. (May 2010), Annual Neurocypres Meeting. Athens, Greece.
POSTERS
5. Presented Poster at 3rd International Workshop on Expression, Structure and Function of Membrane Proteins, (Sept 2012) Florence, Italy.
6. Presented Poster at Bilbao Advance Course on Biophysics- Expression, Purification and Crystallization of Membrane Protein, (July 2012) Bilbao, Spain.
7. Presented Poster at Gordon research Conference -Mechanism of Membrane Transport, (June 2011) Biddeford, USA.