

Name: Shailesh Sharma, PhD.

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Experience:

2017 - Presently continuing as a Scientist D (Bioinformatics) at NIAB Hyderabad.

2012 – 2016: Project Scientist (Bioinformatics) at National Agri-Food Biotechnology Institute (NABI), Department of Biotechnology, Government of India.

2010 - 2011: Post doctoral scientist in "US-India joint research training program" This program is hosted by the Seattle Biomedical Research Institute at the University of Washington in USA and at the International Centre for Genetic Engineering and Biotechnology in New Delhi and it was funded by the Fogarty International Centre, NIH, USA.

Education:

2007 - 2010: International Doctorate in Structural Biology at the Magnetic Resonance Centre, CERM at the University of Florence. This doctorate course is recognized by the Universities of Frankfurt in Germany and Utrecht in Netherlands.

2005 – 2006: Master 1st Level in Bioinformatics from the University of Torino in Italy. This program was under the bilateral education program between India – Italy.

2002 – 2004: M. Sc. In Bioinformatics from the University of Allahabad in India.

1999 – 2002: B. Sc in Biology from the Maharishi Dayanand Saraswati in India.

1998 – 1999: All India Senior School Certificate Examination, 1999. The examination was conducted by Central Board of Secondary Education of India.

1995 – 1996: All India Secondary School Examination 1996. The examination was conducted by Central Board of Secondary Education of India.

Project title: SEQUENCING OF WHOLE-GENOME OF TASAR SILKWORM, *ANTHERAEA MYLITTA*, funded by DBT.

Scholarships, Awards and Selections:

- (1) Winner of “Science, Society Quiz Award 2004”, Post Graduate level, Awarded by Prof. G. K. Mehta, Hon. Vice Ch., University of Allahabad.
- (2) Selected for research project training at the National High field NMR facility for the partial fulfilment of M. Sc degree. The project was titled “The application of

molecular electrostatic potential in drug design” and was under the supervision of Prof. Girjesh Govil at the Department of Chemical Sciences of the Tata Institute of Fundamental Research, Homi-Bhabha Road, Colaba, Mumbai 400 005 India.

- (3) Selected for Italian Government scholarship in Biotechnology for the year 2005-2006 processed by the Ministry Human Recourse and Development of the Government of India and completed a First Level Master in Bioinformatics from University of Turin and Biotechnology Foundation of Turin.
- (4) Selected for the research project entitled “Mapping all Exon Microarray Probes over the human Transcriptome” under the supervision of Prof. Raffaele Calogero from the Genomic-Bioinformatic Unit of the Department of Clinical Science and Biology, Hospital San Luigi – at the University of Torino in Italy. This project was funded by the Italian government and was in partial fulfilment of Master 1st Level in Bioinformatics degree.
- (5) Obtained highest marks and selected for a fellowship from the European Commission and the University of Florence for the International Doctorate in Structural Biology at the Magnetic Resonance Centre of the University of Florence.
- (6) Selected in 10 week visit to Genomics lab of the National institute of Basic Biology in Japan.
- (7) Selected in the "USA-INDIA joint research training program "as a postdoctoral scientist. Funded by the Fogarty International Centre of National institutes of Health, USA.

Chaired a technical session and delivered invited lectures:

- (1) International seminar cum training workshop on "Molecular modelling, protein-protein interactions and computer aided drug design ", March 20-22, 2010. This workshop was held at IIDS, University of Allahabad.

Published articles:

- 1) Survey of high throughput RNA-seq data reveals potential roles for lncRNAs during development and stress response in bread wheat Shumayla, **Shailesh Sharma**, Mehak Taneja, Shivi Tyagi, Kashmir Singh and Santosh K. Upadhyay*. *Front. Plant Sci.* / doi: 10.3389/fpls.2017.01019 **IF 4.49**
- 2) Garima Bhatia, Neetu Goyal, **Shailesh Sharma**, Santosh Kumar Upadhyay and Kashmir Singh (2017) Present Scenario of Long Non-Coding RNAs in Plants. *Non-coding RNAs*.
- 3) Mehak Taneja, Shivi Tyagi, **Shailesh Sharma**, Santosh Kumar Upadhyay. Ca²⁺ / Cation Antiporters (CaCA): Identification, Characterization and Expression Profiling

in Bread Wheat (*Triticum aestivum* L.) *Frontiers in Plant Science*. Nov 2016, Vol. 7. **IF 4.49**

- 4) Shumayla, **Sharma S.**, Pandey A.K., Singh K. and Upadhyay S.K. (2016) Molecular Characterization and Global Expression Analysis of Lectin Receptor Kinases in Bread Wheat (*Triticum aestivum*). *PLoS ONE* 11(4):e0153925.doi:10.1371/journal.pone.0153925. **IF 4.2**
- 5) S, **Sharma S**, Kumar R, Mendu V, Singh K and Upadhyay SK (2016). Genomic dissection and expression profiling revealed functional divergence in *Triticum aestivum* leucine rich repeat receptor like kinases (TaLRRKs). *Front. Plant Sci.* 7:1374. doi: 10.3389/fpls.2016.01374 **IF 4.49**
- 6) Stanzin Angmo, Neha Tripathi, Sheenu Abbat, **Shailesh Sharma**, Shelley Sardul Singh, Avishek Halder, Kamalendra Yadav, Geeta Shukla, Rajat Sandhir, Vikas Rishi, Prasad V. Bharatam, Hariom Yadav, Nitin Kumar Singhal. Identification of Guanosine 5'- diphosphate as Potential Iron Mobilizer: Preventing the Heparin-Ferroportin Interaction and Modulating the Interleukin-6/Stat-3 Pathway Journal Article published 5 Jan 2017 in *Scientific Reports* volume 7 on page 40097. **IF 5.5**
- 7) **Sharma S** (2015) Assemblies of wheat EST sequences and annotation of Affymetrix consensus sequences of wheat transcriptome. *American Journal of Bioinformatics Research*.
- 8) Upadhyay SK, **Sharma S**, Singh H, Dixit S, Kumar J, Verma PC, Chandrashekar K (2015) Whitefly genome expression reveals host-symbiont interaction in amino acid biosynthesis. *PloS One* 10 (5): e0126751 **IF 3.234**
- 9) Upadhyay SK, **Sharma S** (2014) SSFinder: High throughput CRISPR-cas target sites prediction tool. *BioMed Research International* 2014: 742482. **IF 2.706**
- 10) **Sharma S**, Upadhyay SK (2014) Functional Characterization of Expressed Sequence Tags of Bread Wheat (*Triticum aestivum*) and Analysis of CRISPR Binding Sites for Targeted Genome Editing. *American Journal of Bioinformatics Research* 4 (1): 11-22
- 11) Upadhyay SK, Dixit S, **Sharma S**, Singh H, Kumar J, Verma PC, Chandrashekar K (2013) siRNA machinery in whitefly (*Bemisia tabaci*). *PLoS One*. 8 (12): e83692. **IF 3.234**
- 12) **Sharma S**, Cavallaro G, Rosato A (2010) systematic investigation of multiheme c-type cytochromes in prokaryotes. *Journal of Biological Inorganic Chemistry* 15: 559-571. **IF 2.538**
- 13) **Sharma S**, Rosato A (2009) Role of the N-terminal tail of metal-transporting P (1B) -type ATPases from genome-wide analysis and molecular dynamics simulations. *Journal of Chemical Information and Modeling* 49: 76-83 **IF 3.738**

Papers presented in International Conferences:

- (1) Seattle Parasitology Conference, May 5-6, 2011 in Seattle, USA. Abstract title: "Ligand Screening using computational techniques".
- (2) Paper presented at the National Symposium on "Emerging Trends in Agri - Bioinformatics, Dec 16-17 2013 at DWR, Karnal

- (3) Paper presented in C.O.N.I.A.P.S. International Conference held at the University of Allahabad in 2004. The topic of the paper was “Protein Structure Prediction.”
- (4) Indo-US conference at NIPER on “Molecular Modelling and Informatics in Drug Design” on 3rd – 6th November, 2014.. The title of the paper was: Functional Characterization of Expressed Sequence Tags of Bread Wheat (*Triticum aestivum*) and Analysis of CRISPR Binding Sites for Targeted Genome Editing.

Poster presented in International Conferences:

- (1) Gordon Research Conference on Computer Aided Drug Design, July 17-22, 2011, Mount Snow Resort, West Dover, VT, USA.
- (2) NextGen Genomics, Biology, Bioinformatics and Technologies (NGBT), 1-3 October 2015.

Teaching Experience:

I am involve in teaching PhD research scholars during PhD course work. I am doing this at NIAB Hyderabad and earlier at NABI in Mohali I did it for more then 4 years.

Workshops and Meetings attended in India:

- (1) Certified by **Department of Biochemical Engineering and Biotechnology, I.I.T., Delhi** for the training in Bioinformatics: Tools and applications by Prof. V. K. Srivastava, Dean Industrial Research Development (IRD) and By Prof. Saroj Mishra coordinator and Head of the Department of Biochemical Engineering and Biotechnology on 30-31 March 2004.
- (2) Certified by **I.I.T. Kharagpur** in its Continuing Education Program by participating in the short term course on Bioinformatics in Genomics And Proteomics on 24-25 Sept'04. The certificate is from Prof. S. C. Kundu and Prof. S. Dey Coordinators, Department of Biotechnology and Bani Chatterjee Dean, Continuing Education program.
- (3) Certified by **Bioinformatics centre, Birla Institute of Scientific Research, Jaipur** for the Training program in Bioinformatics: Genomics and Proteomics on 18-20th Sept 2003.
- (4) Participated in the national workshop on parallel computing architecture and applications on multi core to many core processing systems (PCAMS - 2014) organized by the CUDA center of excellence, **IIT Bombay and CDAC Pune** during 16th - 20th June 2014 at IIT Bombay.
- (5) I attended a symposium on “RECENT TRENDS IN BIOPHYSICS” held on February 13 - 15, 2010 followed by a Workshop on "Emerging Techniques of Biophysics" on February 16, 2010. This was held at the department of Physics of **the Banaras Hindu University.**

- (6) Intel-CDAC-IISER Mohali workshop on High Performance Computing: July 13, 2015, LH-3, Lecture Hall Complex, IISER Mohali.
- (7) **Intel-CDAC-IISER Mohali** workshop on **High Performance Computing**: July 13, 2015, LH-3, Lecture Hall Complex, IISER Mohali.
- (8) **NPSF, CDAC and IISER Mohali** workshop on **High Performance Computing**, July 14-15, 2015.
- (9) Pre-Conference Hands-on Nextgen Sequencing and Bioinformatics Workshop 24-30th September, 2015, Centre for Cellular and Molecular Biology (CCMB), Hyderabad, INDIA

International meetings and workshops:

- (1) Biobanks and biomedical research in Florence (March 22, 2007)
- (2) A joint workshop of (I3) EU-NMR and (CA) NMR-LIFE in Florence, April 10-12, 2007
- (3) Symposium on: New Challenges in the Life Sciences - Prioritizing European Research in Molecular Systems Biology (October 18-19, 2007)
- (4) 11th Chianti Workshop on Magnetic Resonance METHODS FOR BIOMOLECULAR MAGNETIC RESONANCE Vallombrosa (Florence), Italy June 3 - 8, 2007
- (5) Magnetic Resonance in the Life Sciences: What's New NMR TO LAY THE BRICKS FOR MOLECULAR SYSTEMS BIOLOGY December 14th - 18th, 2008 - Montecatini Terme, Italy.
- (6) A joint meeting of (I3) EU-NMR and (CA) NMR-LIFE Florence, January 18-20, 2007

Extra Curricular activities:

- (1) Certified in “SCAMPI farmers meet cum awareness program” organized by Marine products Export Development Authority, MPEDA in association with satellite Scampi Farming Resource Centre on 22nd July 2003.
- (2) Certified on being successful in “Applied Fisheries Orientation Program” organized by Fish Farmer’s Development Agency, FFDA and University of Allahabad on 4th Feb. 2003.
- (3) Having two fluency certificates in Italian language from both University of Turin and University of Florence.

NAME OF THE REFREES

Prof. Antonio Rosato, Associate Professor of Chemistry Centro di Risonanze Magnetiche - **the Università di Firenze** Via L. Sacconi 6 50019 Sesto Fiorentino, ITALY. E-mail: rosato@cerm.unifi.it

Prof. Girjesh Govil, DAE-BRNS Senior Scientist, **Tata Institute Of Fundamental Research (TIFR)**, Homi Bhabha Road, Mumbai-400 005, INDIA
E-mail: govil@tifr.res.in

Short Bio-Sketch of Shailesh Sharma:

Shailesh Sharma was born in Ajmer in India on 21/05/1980. He post graduated in Bioinformatics (I division) from the University of Allahabad (August 2005). He received the Italian Government scholarship in Biotechnology for the year 2005/2006 processed by the Ministry of Human Recourse and Development of the Government of India and he completed a First Level Master in Bioinformatics at the University of Turin, obtaining 102/110 marks. He completed his PhD in Structural Biology from the Magnetic Resonance Centre of the University of Florence. The PhD. The course was recognized by the Universities of Frankfurt in Germany and Utrecht in Netherlands. The research interests of Shailesh Sharma are in computational biology and during PhD were focused on the investigation of structural, functional and dynamic properties of metalloproteins. He participated in both national and international schools and conferences. He was a postdoctoral scientist at USA -India joint research training program. This program was hosted by Seattle Biomedical Research Institute at the University of Washington in USA, the International Centre for Genetic Engineering and Biotechnology and the Jawaharlal Nehru University in New Delhi and it was funded by Fogarty International Centre of National institutes of health, USA. He was a Project Scientist (Bioinformatics) at National Agri-Food Biotechnology Institute (NABI), Department of Biotechnology, Government of India from Jan 2012 to Dec 2016. From Jan. 2017 he is continuing as a Scientist D (Bioinformatics) at NIAB Hyderabad. His research focuses on protein structure, genome annotation and Molecular Dynamics simulations.