

Anand Srivastava (Ph.D.)

Scientist C
National Institute of Animal Biotechnology (NIAB)
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Area of Specialization/Interest

Parasitology/Biochemistry/Molecular Biology/Entomology

Current position

Jan 2013-till date **Scientist C, NIAB, Hyderabad**

Experience

- Feb 2011-Dec 2012** Post-Doctoral fellow at Institut National de Transfusion Sanguine, Paris
- Mar2008- Jan2011** Post-Doctoral fellow at Institute Pasteur in a European Commission project "**Structural analysis of the CSA binding interactions involved during pregnancy associated malaria**"
- Feb 2002-Sep 2002** Worked as Project Assistant at Indian Institute of Science (IISc), Molecular Biophysics Unit, Bangalore, India.

Education

- Ph.D. 2008** Malaria Research Group, ICGEB, New Delhi, India.
Title of the thesis "**Molecular interactions involved in erythrocyte invasion by Plasmodium falciparum**"
- MBA 2012** Operation management, IGNOU, New Delhi
- M.Sc. 2001**
(Biotechnology) University of Allahabad, India.
Two months training at Indian Institute of Science, Molecular Biophysics Unit, Bangalore
Project "**Purification of lectin from seeds of Dolichos lablab & Isothermal Urea Denaturation Studies of Pea Lectin**".
- B.Sc. 1999** Botany, Zoology and Chemistry, University of Delhi, India.

Other qualification

- 2008** **General Course on Intellectual Property from WIPO** (Online learning program)

Achievements and awards

- June 2003** Qualified joint Agricultural Scientist Recruitment Board (ASRB) National Eligibility Test (NET), India for lectureship.
- June and December 2001** Qualified joint CSIR-UGC National Eligibility Test (NET), India for JRF and lectureship.
- December 1999** Studentship, awarded by the Department of Biotechnology, New Delhi, India.

Fellowship/Scholarship

- 2002-2004 Junior Research Fellowship, CSIR.
- 2004-2007 Senior Research Fellowship, CSIR.
- 2009 Fellowship to attend PHARE workshop, Martina Franca, Italy.
- 2010 Keystone Symposia Scholarship.
- 2011-2012 Postdoctoral fellowship from Fondation pour la Recherche Médicale (FRM) France.

Seminars/Conferences organized:

- Organizing member of International conference on Host –Parasite Interaction held at Hyderabad from 13th -15th July 2014
- Organized the NIAB-Industries interactive meet held on 27th Jan 2014.

Membership

- Society of Biological Chemists, Bangalore (Life member).
- The Indian Society for Parasitology, Lucknow (Life Member).
- Proteomics Society (India) (Life Member)
- Indian society of Cell Biology (Life Member)

Editorial Broad

- [Austin Biotechnology and Bioengineering](#)

Reviewer

- [Plos one](#)

Workshop/Training attended

- 15th -18th Mar 2016** Workshop on advances in proteomics at Institute of Life Science, Bhubaneswar
- 3rd - 5th Feb 2016** Attended workshop on "Multicolour Flow cytometry workshop" held at NIAB, Hyderabad
- 1st -5th April, 2013** Summer School on Genetics & Epidemiology - Study Designs and Statistical Method National Institute of Biomedical Genomics, Kalyani, West Bengal, India.
- 15 May 2011** Workshop on using genomic databases with your research (EuPathDB, GeneDB and VectorBase).
- 20th -22nd April 2009** PHARE workshop: A modular workshop on global Phase Retrieval *Macromolecular crystal structure solution via AB INITIO, SIR-MIR, SAD-MAD and MOLECULAR REPLACEMENT techniques, Martina Franca, Italy.*
- Sep 2004-Dec 2004** Worked at Phylip Universitat, Marburg, Germany and got training in Phage display technology.

Publications

1. Anilkumar K, Reddy GV, Azad R, Yarla NS, Dharmapuri G, **Srivastava A**, Kamal MA, and Reddanna Pallu. Evaluation of Anti-Inflammatory Properties of Isoorientin Isolated from Tubers of Pueraria tuberosa. **Oxidative Medicine and Cellular Longevity** Volume 2017
2. de Moraes LV, Dechavanne S, Sousa PM, Barateiro A, Cunha SF, Nunes-Silva S, Lima FA, Murillo O, Marinho CR, Gangnard S, **Srivastava A**, Braks JA, Janse CJ, Gamain B, Franke-Fayard B, Penha-Gonçalves C. A Murine Model for Pre-Clinical Studies on Var2CSA-Mediated Pathology Associated to Malaria in Pregnancy. **Infect Immun**. 2016 Apr 4. pii: IAI.01207-15.
3. Gangnard S, Lewit-Bentley A, Dechavanne S, **Srivastava A**, Amirat F, Bentley GA, Gamain B. Structure of the DBL3X-DBL4ε region of the VAR2CSA placental malaria vaccine candidate: insight into DBL domain interactions. **Sci Rep**. 2015 Oct 9;5:14868.
4. Dechavanne S, **Srivastava A**, Gangnard S, Nunes-silva S, Dechavanne C, Fievet N, Deloron P, Chêne A, Gamain B The parity-dependent recognition of the DBL1X-3X suggests an important role of the VAR2CSA high affinity CSA-binding region in the development of the humoral response against placental malaria. **Infect Immun**. 2015 Mar 30. pii: IAI.03116-14
5. Gullingsrud J, Milman N, Saveria T, Chesnokov O, Williamson K, **Srivastava A**, Gamain B, Duffy PE, Oleinikov AV. High-Throughput Screening Platform Identifies Small Molecules That Prevent Sequestration of Plasmodium falciparum-Infected Erythrocytes. **J Infect Dis**. 2014 Oct 29. pii: jiu589
6. **Srivastava A**, Gangnard S, Dechavanne S, Amirat F, BentleyGA, Bentley GA and Gamain B Var2CSA minimal CSA binding region is located within the N-terminal region. **PLoS One** 2011 May 11, 6(5):e20270.
7. Rathore S, Jain S, Sinha D, Gupta M, Asad M, **Srivastava A**, Narayanan MS, Ramasamy G, Chauhan VS, Gupta D, and Mohmmmed A. Disruption of a mitochondrial protease machinery in Plasmodium falciparum is an intrinsic signal for parasite cell death. **Cell Death and Disease** 2011 Nov 24;2:e231

8. Avril M, Hathaway MJ, **Srivastava A**, Dechavanne S, Hommel M, Beeson JG, Smith JD, Gamain B. Antibodies to a Full-Length VAR2CSA Immunogen Are Broadly Strain-Transcendent but Do Not Cross-Inhibit Different Placental-Type Parasite Isolates. **PLoS ONE** 2011 Feb 4;6(2):e16622
9. Anjana Pandey, **Anand Srivastava**, Ashutosh Pandey. *Acidithiobacillus ferrooxidans*: A bioleaching bacteria for better iron(II) oxidation ability **International Journal of Innovation in biological and Chemical Sciences**, Vol. 1, 32-37, 2011.
10. **Srivastava A**, Singh S, Dhawan S, Alam MM, Mohmmmed A, Chitnis CE. (**contributed to cover pager image**) Localization of Apical Sushi Protein in Plasmodium falciparum merozoites. **Mol Biochem Parasitol.** 2010 Nov;174(1):66-9
11. **Srivastava A**, Gangnard S, Round A, Dechavanne S, Juillerat A, Raynal B, Faure G, Baron B, Ramboarina S, Singh SK, Belrhali H, England P, Lewit-Bentley A, Scherf A, Bentley GA, Gamain B. Full-length extracellular region of the var2CSA variant of PfEMP1 is required for specific, high-affinity binding to CSA. **PNAS** 2010 Mar 16;107(11):4884-9
12. Mayor A, Rovira-Vallbona E, **Srivastava A**, Sharma SK, Pati SS, Puyol L, Quinto L, Bassat Q, Machevo S, Mandomando I, Chauhan VS, Alonso PL, Chitnis CE. Functional and immunological characterization of a Duffy Binding-Like alpha1 a domain from *Plasmodium falciparum*-erythrocyte membrane protein-1 that mediates resetting. **Infect Immun.** 2009 Sep;77(9):3857-63
13. Korde R, Bhardwaj A, Singh R, **Srivastava A**, Chauhan VS, Bhatnagar RK, Malhotra P. A prodomain peptide of plasmodium falciparum cysteine protease (falcipain-2) inhibits malaria parasite development. **J Med Chem.** 2008 Jun 12;51(11):3116-23.
14. Sivakumar S, Rajagopal R, Raja Venkatesh G, **Srivastava A**, Bhatnagar RK. Knockdown of aminopeptidase-N from *Helicoverpa armigera* larvae and in transfected SF21 cells by RNA interference reveals its functional interaction with *Bacillus thuringiensis* insecticidal protein Cry1Ac. **J Biol Chem.** 2007 Mar 9;282(10):7312-9
15. Kulkarni KA, **Srivastava A**, Mitra N, Sharon N, Surolia A, Vijayan M, Suguna K. Effect of glycosylation on the structure of *Erythrina corallodendron* lectin. **Proteins.** 2004 Sep 1; 56(4):821-7.
16. Jeyaprakash AA, **Srivastav A**, Surolia A, Vijayan M. Structural basis for the carbohydrate specificities of artocarpin: variation in the length of a loop as a strategy for generating ligand specificity. **J Mol Biol.** 2004 May 7; 338(4):757-70.

Book Chapter

1. **Anand Srivastava**, Yves Durocher, and Benoit Gamain Expressing full length PfEMP1 proteins in the HEK293 expression system, *Malaria: Methods and Protocols*, Series Methods in Molecular biology. Ed Robert Menard 2nd ed. 2013;923:307-19. Humana Press (ISBN 978-1-62703-025-0)

Conferences/Meeting

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| 27thFeb-1st March 2017 | Oral presentation in 13th Conference on Vectors and Vector Borne Diseases, Chennai. |
| 7th - 21st Dec 2015 | Participated as resource person in SERB SCHOOL on Insect biology at University of Hyderabad |
| 27th -30th Nov 2015 | Attended 14 th FAOBMB Conference on "Current Exictements in Biochemistry and Molecular Biology for Agriculture and Medicine" at BITS Pilani, Hyderabad |
| 1st -4th Dec 2014 | Attended Conference on "Genome architecture and cell fate regulation" at University of Hyderabad |
| 13-15 July 2014 | Poster: International conference on Host -Parasite Interaction held at Hyderabad |
| 9th -13th Mar 2014 | Young Investigator Meeting (YIM 2014), Hyderabad |
| Jan & Mar 2013 | Participated in two of the Multi-stake holders' consultative workshops on Opportunities, challenges and strategies in animal biotechnology organized by NIAB with help from Agribiotech Foundation at Hyderabad in Jan 2013 and at Karnal in Mar 2013. |
| Mar 2013 | Participated in workshop on "Eradication of Peste Des Petits Ruminants Virus in India" on 4th March 2013 at S. V. Veterinary University, Rajendranagar, Hyderabad |
| Nov 2013 | One-day workshop on Bio-Security and Outbreak Analysis Network held at C. R. Rao AIMSCS, Hyderabad in Nov, 2013. |
| 20th -22nd Nov 2013 | Executive program on IP Management on Pharma and Biotech in association with USPTO and BIRAC from 20-22 Nov 2013 at Hotel Novotel, Hyderabad. |
| 2nd -5th Dec 2013 | 82nd Annual Meeting of Society of Biological Chemists (India) International Symposium on Genomes: Mechanism and Function December 2-5, 2013 School of Life Sciences, University of Hyderabad. |
| 13th Dec 2013 | Brainstorming meeting for Roadmap to Combat Zoonoses in India initiative in New Delhi. |
| 7th -11th Jan 2012 | Young Investigator Meeting (YIM 2012), Lonavala, Maharashtra |

- 16th -18th May 2011** 7th Annual BioMalPar Conference. Biology and Pathology of the Malaria Parasite
Poster: Var2CSA minimal CSA binding region is located within the N-terminal region.
- 11th -16th April 2010** Keystone symposia Malaria: New approach to Understanding Host Parasite interaction.
Poster: A high-affinity CSA specific binding site is formed by a higher-order structure of the var2CSA extracellular region.
- 15th -17th Sep 2010** International symposium on "Role of blood group antigens and associated molecules in red cell biology: from molecular approach to clinical applications" INTS, France
- 18th -22nd Nov 2009** American Society of Tropical Medicine and Hygiene, Washington DC. Functional and structural characterization of the var2CSA vaccine candidate.
- 8th -11th Dec 2009** GTBIO. Poster Full-length extracellular region of the var2CSA variant of PfEMP1 is required for specific, high-affinity binding to CSA extracellular region.
- 6th -11th Sep 2009** Gordon conference on Parasite Biology and Host-Parasite Interactions, Oxford
- 12th -16th Jan 2003** XVII International Symposium on Glycoconjugates, IISc, Bangalore India.
- 28th -30th Sep 2001** All India Biotechnology Association (AIBA), on Conference on Biotechnology, Indian Institute of Technology (IIT), Delhi. Poster: Strain Identification and characterization of Acidothiobacillus ferrooxidases on the basis of presence of insertion sequence (IS T445/IS T2) and I-PCR.

Other activities

- **Animal House –in charge at NIAB**

Presentations

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| 28 Dec 2011 | Regional Center for Biotechnology, New Delhi |
| 5 Jan 2012 | Central Drug Research Institute, Lucknow |
| 27 Jan 2012 | University of Hyderabad, Hyderabad |
| 5 Sep 2012 | National Institute of Malaria Research, New Delhi |
| 14 Sep 2012 | Tata Institute for Fundamental research, Hyderabad |
| 20 Sep 2012 | Banaras Hindu University, Department of Human Genetics, Banaras |

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