

# Dr. Varun Chauhan

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## EDUCATION

**Post Doctoral Fellow (PDF)** (Specialization: Virology)

*Post Graduate Institute of Medical Education and Research (PGIMER), Chandigarh*  
(2017-present)

**Doctor of Philosophy (PhD)** (Specialization: Parasitology)

*Shoolini University, Solan, HP, India.* (2010-2015)

**Master of Science (MSc)** (Specialization: Microbiology)

*The Oxford college of Science, Bangalore University.* (2006-2008)

**Bachelor of Science (BSc)** (Chemistry, Botany, Zoology)

*Meerut College, CCS University* (2003-2006)

## RESEARCH/TEACHING EXPERIENCE

**Post Doctoral Research:** Currently working as a Post-doctoral fellow in Dept. of Virology, PGIMER, Chandigarh since April 2017

**Senior Research Fellow:** 1 year and 7 months research experience as Senior Research Fellow in Dept. of Virology, PGIMER, Chandigarh

**Doctoral Research:** 5.5 years research experience during Ph.D. in Shoolini University  
Worked as a teaching assistant during PhD.

**Post Doctorate Title:** “Development of high resolution pyrosequencing based method for early detection of Ganciclovir (GCV) drug resistance mutations (DRMs) in Human cytomegalovirus (HCMV) infected patients followed by identification of T & B cell epitopes targeting potential vaccine candidate genes using in silico analysis”.

**Post Doctorate Mentor:** Dr. Mini P Singh, Professor, Dept. of Virology, PGIMER

**PhD Thesis Title:** “Prevalence and molecular characterization of Cystic Echinococcosis in Western Himalayas followed by identification of immunodominant peptides for vaccine and diagnostic use and anti-echinococcal assessment of amide based compounds”.

**PhD Guide:** Dr. Umar Farooq, Associate Professor, Faculty of Dentistry, Taif University, KSA; **AND** Professor, Faculty of Applied Sciences and Biotechnology, Shoolini University

## GRANTS RECEIVED

- **EXTRAMURAL:** Received a grant of Rs 18,70,000 by DST-SERB, India to carry out an independent research as Principal Investigator (PI) in Dept. of Virology, PGIMER, Chandigarh.
- **International Travel grant-** by DST-SERB India, to attend an International conference
- **National Travel grant** – in national conference- MICROCON-2016, by PGIMER, dated 22nd -27th November.

## FELLOWSHIPS, AWARDS AND HONOURS

- **1st prize** - best poster presentation in an international conference- INTERVIROCON- on the topic “Designing a multi-epitope based vaccine to combat Human Cytomegalovirus (HCMV) infection: An immunoinformatics analysis” held in PGIMER in November 2018.
- **DST-SERB National Post-Doctoral Fellowship** - (2017-present)
- **Travel grant** - best oral presentation in a national conference- on the topic “Identification of T cell and B cell epitopes against Indian HCV-genotype-3a for vaccine development- An in silico analysis” organized by PGIMER, at MICROCON-2016, dated 22nd -27th November.
- **Senior Research Fellowship-** in Dept. of Virology, PGIMER – in DBT funded project entitled “Study of pathogenesis of HSV-1 induced uveitis in rabbit animal model and development of topical microemulsion of vitamin D as a therapeutic regimen” in Dept. of Virology, PGIMER, Chandigarh in September 2015.
- Qualified Graduate Aptitude Test of Engineering (**GATE**) in June 2011
- **1<sup>st</sup> prize** - for essay writing competition on the topic “BIOSENSORS”, organized by Dayanand Sagar College of Science, at CONEXO-2007, Bangalore on dated 17/04/07.
- **2<sup>nd</sup> prize** for essay writing competition on the topic “BIOTECHNOLOGY IN 2020”, organized by Brindavan College of Science, Bangalore, on dated 6/11/2006

## PUBLICATIONS

1. **Varun Chauhan**, Tripti Rungta, Kapil Goyal, Mini P Singh. Designing a multi-epitope based vaccine utilizing immunoinformatics approach to combat Kaposi Sarcoma. *Scientific reports*. 2019. 9:2517 | DOI:10.1038/s41598-019-39299-8
2. **Varun Chauhan**, Kapil Goyal, Mini P.Singh. Identification of broadly reactive

- epitopes targeting major glycoproteins of Herpes simplex virus (HSV) 1 and 2 - An immunoinformatics analysis. *Infection, Genetics and Evolution*. 2018, 61, 24–35, DOI: :10.1016/j.meegid.2018.03.004.
3. **Varun Chauhan**, Mini P.Singh, Radha K. Ratho. Identification of T cell and B cell epitopes against Indian HCV-genotype-3a for vaccine development- An in silico analysis. *Biologicals*. 2018, 53, 63-71. DOI: 10.1016/j.biologicals.2018.02.003.
  4. **Chauhan V**, Chauhan N, Farooq U. Antiechinococcal assessment of atovaquone—an in silico and in vitro analysis. *Comparative Clinical Pathology*. 2017 Nov 1;26(6):1289-92.. DOI: 10.1007/s00580-017-2525-0.
  5. Dhiman M, Bhatt N, **Chauhan V**, Khan A, Farooq U. Emergence of methicillin resistant *Staphylococcus aureus* (MRSA) isolates from north east India harboring a novel sasX gene: further analyzing its role in biofilm formation. *Annals of medical and biomedical sciences*. 2017; 3 (1):46-50.
  6. Bhatt N, Dhiman M, **Chauhan V**, Khan A, Farooq U. Pathogenesis of pvl positive methicillin resistance *Staphylococcus aureus* isolates on human PBMC. *Journal of microbiology and antimicrobial agents*. 2017; 3 (1): 11-17.
  7. **Chauhan V**, Kaur G, Naveen KG, Sehgal R. Fatty acid binding protein-1 (FABP-1) of *Echinococcus granulosus*-a promising vaccine candidate- an *in silico* analysis. *Indo American Journal of Pharmaceutical Research*. 2016; 6 (8):6445-51.
  8. **Varun Chauhan**, Umar Farooq. Identification of T cell and B cell epitopes derived from eg95 antigen of *Echinococcus granulosus* using in silico approach for therapeutic vaccine development. *Indo-American Journal of Pharmaceutical Research*. 2016;6(03).
  9. **Varun Chauhan**, Kapil Goyal, Mini P Singh. HCV Vaccine: How Far are We?. *Journal of Human Virology and Retrovirology* 3(2): 00084. DOI: 10.15406/jhvr.2016.03.00084.
  10. **Varun Chauhan**, Umar Farooq. Reticulon-4 antigen of *Echinococcus granulosus*- a promising vaccine candidate, an *in-silico* analysis. *Journal of biology, pharmacy and allied sciences*. September, 2015, 4(9): 5781-5791
  11. **Varun Chauhan**, Gurjeet Kaur. Malate dehydrogenase protein of *Echinococcus granulosus*- A promising candidate for diagnosis and subunit vaccine design - an in-silico analysis. *Int. J. Biol. Phar. Allied. Sc.* 2015, 4(8): 5519-5530
  12. Three sequences published in NCBI with accession no's of H1- KJ501684; A1- KJ501686; and A5- KJ501687.
  13. Mohsin Khan, Mh Aftab, Varun Chauhan, Jyotsna Kaushal. “Antimicrobial efficacy of green silver nanoparticles and potential implications for human health and the

environment". *Journal of Chemistry, Environmental Sciences and its Applications*. 2015; 1(2): 81-90.

14. Anis Ahmad Chaudhary, **Varun Chauhan**, Mohsin Khan, Sabbir Ansari. *In vitro* antimicrobial potential of *Coriandrum sativum* against pathogenic microorganisms, *International journal of advanced research* (2014), Vol.2, Issue 1, pp. 208-211.
15. Anis Ahmad Chaudhary, Mohsin Khan, Sabbir Ansari , **Varun Chauhan**. Phytochemical Screening and Antibacterial Efficacy of *Ficus benghalensis* using *in vitro* Models, *Int.J.Pharm.Sci.Rev.Res.*,24(2), Jan-Feb 2014, no 45, 276-279, ISSN 0976-044X.
16. Ragib Ali, **Varun Chauhan**, S Farooq, Azhar Khan, Umar Farooq. *In-vitro* Analysis of Antibacterial Activity of *Ocimum Sanctum* Against Pathogenic Bacteria and Quantification of Ursolic Acid and Oleanolic Acid. *International Journal of Pharmaceutical Sciences Review and Research* 25(2):13-17. 2014.
17. Amit Kumar, Ajay Kumar, Kanchan Sharma, Sandip Patil, **Varun Chauhan**, Amit Pratush, P.C. Sharma. Smear and culture examination of clinical samples from suspected patients for *Mycobacterium tuberculosis*. *Int.J.Pharm.Sci.Rev.Res.* 12(2), February 2012.

#### **Publication under review**

1. Designing a multi-epitope vaccine for Cytomegalovirus- An immunoinformatics approach combined with molecular docking and dynamics simulations- *Scientific Reports*.

#### **Publications under preparation**

1. Designing a multi-epitope based vaccine to combat West Nile virus infection- An immunoinformatics approach combined with molecular docking and dynamics simulations.
2. Identification of novel peptides for immunodiagnosis of Cystic Echinococcosis.
3. Detection and characterization of Drug Resistance Mutations (DRMs) in Cytomegalovirus (CMV) to Ganciclovir (GCV).

#### **PATENTS PUBLISHED/FILED**

1. Farooq U, Chauhan V, Khan MA. (2017). Novel peptide sequences from the parasite *Echinococcus granulosus* for producing anti- cystic Echinococcosis vaccine. Indian Patent Office Journal. Dated 22/12/2017, 4116/DEL/2015. Part 1, Page No. 50407.

2. Farooq U, Chauhan V. Novel Peptides For Diagnosis of Cystic Echinococcosis (4198/DEL/2015, Dated 21/12/15). **(Filed)**
3. Farooq U, Chauhan V. Novel Compounds Possessing Anti-Echinococcal Activity (201611004817, Dated: 10/2/2016). **(Filed)**

### **MEMBERSHIP OF SCIENTIFIC COMMITTEE**

1. Associate Membership of the World Society for Virology (WSV).
2. Membership of Indian Virological Society (IVS).

### **CONFERENCES/ WORKSHOP AND SYMPOSIUM ATTENDED** **(NATIONAL/INTERNATIONAL)**

- Attended 3 days International conference “INTERVIROCON-2018”, organized by Dept. of Virology, PGIMER on dated 11th to 13th November 2016.
- Presented poster entitled “Designing a multi-epitope based vaccine to combat Human Cytomegalovirus” Varun Chauhan, Mini P Singh, Kapil Goyal, in an International conference “INTERVIROCON-2018”, organized by Dept. of Virology, PGIMER on dated 11th to 13th November 2016.
- Presented poster entitled “Clinically significant substitutions for genotype specific Direct acting antiviral” Kanta P, Chauhan V, Singh MP, in an International conference “INTERVIROCON-2018”, organized by Dept. of Virology, PGIMER on dated 11th to 13th November 2016.
- Attended three days workshop on “Computational Drug Design using Molecular Docking and Virtual Screening” organized at Thapar Institute of Engineering and Technology, Patiala, on dated 27<sup>th</sup> to 29<sup>th</sup> April 2018.
- Attended 5 days MICROCON conference organized by PGIMER on dated 22nd to 27th November 2016.
- Attended two days national conference sponsored by ICMR on “Research trends in future drug development: Exploration of Medicinal and Aromatic Flora” organized by Shoolini University, Solan on dated 20<sup>th</sup> – 21<sup>st</sup> June, 2013.
- Attended two days PGI Golden Jubilee Workshop on “Molecular Diagnosis for parasitic diseases: Conventional and Real Time PCR techniques organized by Department of Parasitology, PGIMER, Chandigarh on dated 10<sup>th</sup>-11<sup>th</sup>, September 2012.
- Participated in DST sponsored scheme for Early Attraction of Talents for Science (SEATS) under INSPIRE Programme organized by Shoolini University dated 17<sup>th</sup> to 21<sup>st</sup> Oct, 2011.
- Participated in two days symposium on Breakthrough in Molecular Diagnostics organized by The Oxford College of Science, Bangalore dated 22<sup>nd</sup>-23<sup>rd</sup> March 2007.
- Participated in one day symposium in “CONEXO-07” organized by Dayananda Sagar Institutions, Bangalore dated 16<sup>th</sup> April 2007.
- Participated in three symposium on National Symposium on “Innovations in Biotechnology: Entrepreneurial Opportunities and IPR” organized by Jananajyothi Auditorium, Central College campus, Bangalore on dated 23<sup>rd</sup>-25<sup>th</sup> October 2007.

- Participated in two days Conclave on “Expanding Newer Perspectives in Biotechnology” organized by Brindavan College, Bangalore on dated 7<sup>th</sup> -8<sup>th</sup> November, 2006.
- Participated in one day seminar on “Frontier Areas in Biological Sciences” organized by The Oxford College of Science, Bangalore on dated 16<sup>th</sup> October 2006.

## **REFERENCES**

1. **Dr. Rakesh Sehgal**  
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Dept. of Medical Parasitology  
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2. **Dr. Umar Farooq (PhD Guide)**  
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## **DECLARATION**

I hereby declare that all the above information is correct as per best of my knowledge.

**Date:** 07/04/2018

**Place:** Chandigarh, PGIMER