

Sumit Vashisth,

Ph.D. Agricultural Entomology

DAV University, Jalandhar,

Punjab, India 144012

E-mail: sumitvashisth_hpau@yahoo.co.in

Phone: (+91) 94-18-355909; (+91) 96-52-733907

Affiliations and Education

Current Position and Affiliation

Assistant Professor – Entomology,

DAV University, Jalandhar, Punjab, 144 012 India (18th Aug., 2016 to till date)

Visiting Scientist – Entomology,

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, Telangana, 502 324 India. (1st Dec., 2015 to 13th Aug., 2016)

Research Associate – Entomology,

International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), Patancheru, Telangana, 502 324 India. (12th Feb., 2015 to 30th Nov., 2015)

Ph.D. (Agricultural Entomology), 2014

(CSK Himachal Pradesh Agriculture University, Palampur, Himachal Pradesh, India.)

M.Sc.(Agricultural Entomology), 2009

(CSK Himachal Pradesh Agriculture University, Palampur, Himachal Pradesh, India.)

B.Sc.(Agriculture), 2007

(CSK Himachal Pradesh Agriculture University, Palampur, Himachal Pradesh, India.)

Ph.D. Thesis title

“Distribution and biocontrol potential of entomopathogenic nematodes against some lepidopterous pests”.

Awards and fellowships

1. ASRB-NET (**Agricultural Scientists Recruitment Board - National Eligibility Test**) in Agricultural Entomology **August, 2013**
2. Postdoctoral Research Associate Fellowship- Entomology, ICRISAT- 2015.
3. SCIENCE & ENGINEERING RESEARCH BOARD (SERB), Department of Science and Technology, Government of India - Young Scientist Fellowship Award 2015-2018 (Independent Research project- INR 2.7 Million as Principal Investigator).
4. **Awarded third position** in poster presentation under the theme Integrated Livelihood Farming and Sustainable Agriculture in National Seminar on **Indian Agriculture: Present Situation, Challenges Remedies and Road Map**. Organized by Youth for Sustainable Development, Shimla in collaboration with CSK Himachal Pradesh Agricultural University, Palampur (H.P.) on August 4-5, 2012.
5. NCC “C” certificate.
6. Awarded “**Best Athlete**” in **Athletic Meet of University (2006-07)**
7. Awarded “**Best Athlete**” in **Athletic Meet of University (2009-10)**

Research experience

Doctoral

1. Senior Research Fellow at CSK HPKV, Palampur, Himachal Pradesh, India from 01.03.2011 to 23.02.2012.
2. Senior Research Fellow at CSK HPKV, Palampur, Himachal Pradesh, India from 24.02.2012 to 27.02.2014.

Postdoctoral

1. Postdoc Research Associate- Entomology, ICRISAT- Feb.12, 2015-November 30, 2015
2. Visiting Scientist-Entomology, ICRISAT- December 1, 2015-till date.

Research Projects

1. Biochemical and Molecular Mechanisms of Resistance to Spotted Stem Borer, *Chilo partellus* in Sorghum (**Principal Investigator, SERB Young Scientist Scheme**).

2. DST-ICRISAT Center of Excellence (CoE) on Climate Change Research for Plant Protection (CCRPP); Climate change mediated plant diseases and insect-pests and their management strategies in grain legumes (**chickpea and pigeonpea**) (**Research Associate**).
3. Impact of climate change on mountain agriculture of Himachal Pradesh (**Senior Research Fellow**).
4. Refinement of integrated approaches for optimization of control strategies against sap feeding insect pests of vegetable crops (**Senior Research Fellow**).

Professional expertise

Insect-plant interactions, host plant resistance, insect ecology, tri-trophic interactions, plant-parasitic nematodes (identification, ecology, distribution), entomopathogenic nematodes (pathogenic behavior, multiplication, etc.), mechanisms of resistance in plants against insect pests, screening of host plant resistance against insect pests in sorghum (*Chilo partellus*, *Atherigona soccata* and *Melanaphis sacchari*), chickpea (*H. armigera* and *Spodoptera exigua*) and pigeonpea (*H. armigera* and *Maruca vitrata*) by various techniques, insect adaptation, induced resistance in plants, plant defensive enzymes, plant secondary metabolites, insect rearing (*H. armigera*, *S. litura*, *S. exigua*, *C. partellus* and natural enemies, *Campoletis chloridae*), insect bioassays (antifeedant activity, repellent activity, oviposition deterrent, etc.), botanical pesticides and oil formulations in insect pest control, isolation of DNA/RNA from plants/insect, agarose gel/SDSPAGE electrophoresis, climate change research in the context of plant protection, field, glasshouse and laboratory experiments.

Publications

Research Papers

1. **Vashisth S**, Chandel YS and Chandel RS. 2016. Biological control potential of Himalayan strains of entomopathogenic nematodes, *Heterorhabditis* spp. against lepidopteran insects infesting cole crops under screen house conditions. ***Biopesticides International* 12** (1): 53-59.
2. **Vashisth S**, Chandel YS and Sunil K. 2012. Biology and damage potential of *Spodoptera litura* Fabricius on some important greenhouse crops. ***Journal of Insect Science* 25** (2): 150-154
3. **Vashisth S**, Chandel YS and Kumar S. 2013. Observations on insect-pest problems of polyhouse crops in Himachal Pradesh. ***Journal of Entomological Research* 37** (3):253-258.
4. **Vashisth S** and Chandel YS. 2013. Morphometrics of *Spodoptera litura* (Fab.) on tomato. ***Indian Journal of Plant Protection* 41** (2): 175-177.

5. **Vashisth S**, Chandel YS and Chandel RS. 2015. Distribution and occurrence of entomopathogenic nematodes in Himachal Pradesh. *Journal of Entomological Research* **39** (1): 71-76.
6. Chandel YS, Kumar S, Jain RK and **Vashisth S**. 2010. An analysis of nematode problem in greenhouse cultivation in Himachal Pradesh and avoidable losses due to *Meloidogyne incognita* in tomato. *Indian Journal of Nematology* **40** (2): 198-203.
7. Pal Y, Sharma PK and **Vashisth S**. 2013. Field efficacy of insecticides against chaffer beetle, *Popillia lucida* Newman infesting paddy. *Oryza* **50** (3): 273-277.
8. Sharma N, **Vashisth S** and Sharma PK. 2013. Diversity and distribution of pests and predators of honey bees in Himachal Pradesh. *Indian Journal of Agricultural Research* **47** (5): 392-401.
9. Pal Y, Sharma PK and **Vashisth S**. 2013. Incidence of *Popillia lucida* Newman on rice in Himachal Pradesh. *Oryza* **50** (4): 417-418.
10. Dadhwal R, Sharma PK and **Vashisth S**. 2014. Insect pest complex of wheat (*Triticum aestivum* L.) in Himachal Pradesh. *Journal of Entomological Research* **38** (2): 147-152.
11. Sharma PK, Verma KS, Sharma PC and **Vashisth S**. 2012. Seasonal abundance of rice hispa (*Di cladispa armigera* Olivier) on weed host, *Panicum dichotomiflorum* Michx. *Insect Environment* **17**(4): 183-185.

Papers Communicated

12. **Vashisth S**, Chandel YS and Chandel RS. 2017. Studies on host invasion and mass production of Himalayan strains of entomopathogenic nematodes. *Indian Journal of Plant Protection* (Unpublished) MS No. 5518.
13. **Vashisth S**, Chandel YS and Chandel RS. 2016. Biological control potential of North West Himalayan strains of heterorhabditid nematodes against cutworm, *Agrotis segetum* (Denis & Schiffermuller). *Indian Journal of Experimental Biology* (Under Review) MS No.: EB160128-6
14. **Vashisth S**, Chandel YS and Chandel RS. 2016. Efficacy of indigenous heterorhabditid nematodes from northwestern Himalayas, India vs *Heterorhabditis indica* against the larvae of *Helicoverpa armigera* (Hubner). *Journal of Invertebrate Pathology* (Under review) MS No.: JIP-16-208.
15. **Vashisth S**, Chandel YS, Chandel RS and Sharma PK. 2016. Pathogenicity of indigenous heterorhabditid nematodes from northwestern Himalayas, India vs *Heterorhabditis indica* against the larvae of *Plutella xylostella* (Linnaeus). *Annales de la Société entomologique de*

France (N.S.) International Journal of Entomology (Under Review) TASE-2016-0076.

16. **Vashisth S**, Chandel YS and Chandel RS. 2016. Pathogenicity of indigenous heterorhabditid nematodes from northwestern Himalayas, India vs *Heterorhabditis indica* against the larvae of *Spodoptera litura* (Linnaeus). (Unpublished).
17. Sharma HC, **Vashisth S**, Pathania M and Sharma SP. 2015. Effect of heat and water stress on expression of resistance to *Helicoverpa armigera* (H.) in chickpea and pigeonpea. Arthropod Plant Interactions (Unpublished).

Review Papers

18. **Vashisth S**, Chandel YS and Sharma PK. 2012. Entomopathogenic nematodes – a review. *Agricultural Reviews* **34** (3): 163-175.
19. Chandel RS, Pathania M, Verma KS, Bhattacharya B, **Vashisth S** and Kumar V. 2015. The ecology and control of potato whitegrubs of India. *Potato Research* **58** (2): 147-164.
20. Chandel RS, Saurbh Soni, **Vashisth S**, Pathania M., Mehta PK and Bhatnagar A. 2016. The potential of entomopathogens for biological control of whitegrubs. (unpublished)

Full research papers published in the proceedings of conference/symposia etc.

- i. Sharma PK and **Vashisth S**. 2012. Wheat aphid – an emerging pest problem of wheat in Himachal Pradesh. **In: Proceedings of National Seminar on Indian Agriculture: Present Situation, Challenges, Remedies and Road Map** : 70-71.
- ii. **Sumit Vashisth**, Jaba Jagdish and Hari C. Sharma. 2016. Pest management in rain-fed crops in the semi-arid tropics: Prospects and problems. *166 Symposium: Integrated Pest Management Components and Packages for Tropical Crops*. **doi: 10.1603/ICE.2016.107357**

Chapters contributed towards books

- i. Sharma HC, Pathania M, War AR, Pavani T, **Vashisth S**. 2015. Climate change effects on pest spectrum and incidence in grain legumes. **In: Pulses: Challenges and Opportunities Under Changing Climatic Scenario** (Eds: Dixit G.P., Singh Jagdish and Singh N.P.) (Proceedings of the National Conference on Pulses: Challenges and Opportunities Under Changing Climatic Scenario, September 29 to October 1, 2014, JNKVV, Jabalpur), Indian Society of Pulses Research and Development, ICAR – Indian Institute of Pulses Research, Kanpur – 208024, UP, India. Pp 124-137.
- ii. Sharma PK, **Vashisth S** and Matharu KS. 2012. Impact of climate change on agricultural pests. **In: Compendium of ICAR short course on “Pest Management in High-Value Crops under Protected Environment** (Eds: Mehta P.K., Sood AK., Sharma P.C. and Banyal D.K.) w.e.f. June 11-20, Deptt. Of Entomology, CSK HPKV, Palampur: 142-147.
- iii. Sharma HC, Jaba J and **Vashisth S**. 2016. Incidence to insect pests in grain legumes: Progress and limitations. (Unpublished).

Popular articles

- i. Sharma PC, Sharma PK, **Vashisth S** and Chaudhary DR. 2015. *Makki ke haani karak keeton ki pehchaan tatha unka prabhandhan. Pravartiya Khetibaari* **34** (3-4): 30-32.

Presentations in International/National Conferences

- i. **Vashisth S**, Chandel YS and Kumar S. 2010. An analysis of insect pest problems in greenhouse crops in Himachal Pradesh. In: *National Symposium on Perspectives and Challenges of Integrated Pest Management for Sustainable Agriculture, Solan, Himachal Pradesh, November 19-21, 2010* p. 1.17.
- ii. Sharma PK and **Vashisth S**. 2012. Wheat aphid – an emerging pest problem of wheat in Himachal Pradesh. *National Seminar Indian Agriculture: Present Situation, Challenges, Remedies and Road Map, Palampur, Himachal Pradesh, Aug 4-5, 2012* p. 61.
- iii. Pal Y, Sharma PK and **Vashisth S**. 2013. Seasonal abundance and evaluation of insecticides and biopesticides against *Popillia lucida* Newman infesting paddy in Himachal Pradesh. In: *International Congress on Insect Science, Bangalore, India, February 14-17, 2013* p.17.
- iv. Sharma PK, Matharu KS and **Vashisth S**. 2013. Influence of weather parameters on pheromone trap catches. In: *International Congress on Insect Science, Bangalore, India, February 14-17, 2013* p.88.
- v. Sharma PK, **Vashisth S** and Matharu KS. 2013. Seasonal abundance of insect-pests of paddy in Himachal Pradesh. In: *International Congress on Insect Science, Bangalore, India, February 14-17, 2013* p. 87.
- vi. Sharma PK, Dhadwal R and **Vashisth S**. 2015. Biology of aphid, *Rhopalosiphum maidis* infesting wheat in Himachal Pradesh. In: *4th Congress on Insect Science, Punjab Agriculture University, Ludhiana, India, April 16-17, 2015* p. 39.
- vii. Hari C. Sharma, Mandeep Pathania, Suraj Sharma, **Sumit Vashisth** and JabaJagdish. 2015. *Potential impact of climate change on pest management in grain legumes*. Brain Storming Meeting on Promotion of Pulses in Indo-Gangetic Plains of India 31st August, 2015. Jointly Organized by Punjab Agricultural University, Ludhiana Indian Society of Pulses Research and Development, Kanpur ICAR-Indian Institute of Pulses Research,

- Kanpur p 63.
- viii. **Vashisth S**, Chandel YS and Chandel RS. 2015. Natural occurrence and bioefficacy of Himalayan strains of *Heterorhabditis* spp. nematodes against major lepidopteran insects. In: **Entomological Society of America's 63rd Annual Meeting**, Minneapolis, Minnesota, USA, November 15-18, 2015 p. 148.
- ix. H C Sharma, **Sumit Vashisth**, Jaba Jagdish, Mandeep Pathania, and Nagaraj. 2016. Climate change effects on pest incidence in pigeonpea. In: Extended Summaries, Conference on **National Priorities in Plant Health Management** February 4-5, 2016, Tirupati, India p. 92.

Trainings/Workshops attended

1. Participated in **Training on Recent Advances in Insect Bioinformatics and its applications in Pest Management** (Duration: 15.02.2016 to 20.02.2016) Under Network Project on Agricultural Bioinformatics & Computational Biology at ICAR – National Bureau of Agricultural Insect Resources, Bengaluru 560 024, India.
2. Participated in **Conference on National Priorities in Plant Health Management** (4 - 5th February 2016, S V Agricultural College, Tirupati - 517 502, Andhra Pradesh, India) organized by Plant Protection Association of India (PPAI), Rajendranagar, Hyderabad – 500 030 and in association with Acharya N G Ranga Agricultural University, Rajendranagar, Hyderabad – 500 030, India.
3. Participated in **Entomological Society of America's 63rd Annual Meeting** (November 15-18, 2015, Minneapolis, Minnesota, USA) organized by Entomological Society of America, USA.
4. Participated in **4th International Conference on Insect Science 2013** (February 14th – 17th 2013, Bangalore, India) organized by Deptt. of Entomology, UAS, GKVK, Bangalore, India and Indian Society for the Advancement of Insect Science (INSAIS) PAU, Ludhiana, Punjab, India.
5. Participated in National Seminar on **Indian Agriculture: Present Situation, Challenges Remedies and Road Map**. Organized by Youth for Sustainable Development, Shimla in collaboration with CSK Himachal Pradesh Agricultural University, Palampur (H.P.) on August 4-5, 2012 at CSK HPKV, Palampur, Himachal Pradesh, India.

6. Participated in workshop on **Intellectual Property and Innovation Management in Agricultural Research** organized by NRDC and CSK HPKV on 15th December, 2012 at CSK HPKV, Palampur, Himachal Pradesh, India.
7. Participated in Hands on Training on **Computers in Computational Biology** (Sponsored by Deptt. of Biotechnology, Govt. of India) on March 16-17, 2009 at CSK HPKV, Palampur, Himachal Pradesh, India.
8. Participated in training workshop on **Personality Development and Public Relations** from 16-2st October, 2003 at CSK HPKV, Palampur, Himachal Pradesh, India.

Affiliation with professional bodies/institutions/societies

- 1) Member of **Plant Protection Association of India (PPAI)**, Rajendranagar, Hyderabad – 500 030
- 2) Member of **The Entomological Society of India**, Division of Entomology, IARI, New Delhi-110 012

Sports and Extra –curricular activities

- 1) Participated in **Insect Photography Contest** organized by Entomological Club, PAU, Ludhiana, 2011.
- 2) Participated in special camps organized by NCC.
- 3) **NCC “C” certificate.**
- 4) Awarded **“Best Athlete” in Athletic Meet of University (2006-07)**
- 5) Awarded **“Best Athlete” in Athletic Meet of University (2009-10)**
- 6) Participated in **North Zone Inter-University in Basketball, Badminton and Cricket Tournaments.**
- 7) Participated in **All India Inter Agriculture University Sports and Games Meet** (2004-05, 2005-06, 2006-07, 2007-08).

Additional Scientific Contributions

Write research proposal for grants, prepare project reports, and assist Ph.D. students and other staff in field, green house and lab experiments. Attend research meetings, provide inputs on research themes. Participation and organization of *Kisan Melas or Agri Fests* for farming communities through club (Agro Club) and department at University level.

Research Interests

Economic Entomology, Plant Parasitic Nematology, Entomopathogenic Nematology, Biochemistry, Plant Pathology, Microbiology and Molecular biology

My Strength

Good team player; Enthusiasm; Hard work, Taking challenges

Personal Profile

Name : Sumit Vashisth
Fathers name : Sh. Jagan Nath Vashisth
Date of Birth : July 31, 1985
Gender : Male
Marital status : Married
Languages known : English, Hindi, and Punjabi
Nationality : Indian
Permanent Address : Vill. Glassin, PO Dabhla, Teh. Ghumarwin, Distt. Bilaspur (H.P.),
India 174 021

References

A) Dr. Y.S. Chandel,
Principal Scientist,
Deptt. of Entomology, CSK HPKV,
Palampur, India
Email: chandel_hpau@rediffmail.com
(Mob. +91 9816619619)

B) Dr. H.C. Sharma,
Principal Scientist - Entomology,
ICRISAT, Hyderabad, India
Email: h.sharma@cigar.org
(Mob.+91 9959036661)

C) Dr. P.K. Mehta,
Director of Extension, CSK HPKV,
Palampur, H.P., India
Email: mehta@hillagric.ac.in
(Mob. +91 9418084359)

D) Dr. Mukesh K. Dhillon,
Senior Scientist - Entomology,
Indian Agricultural Research Institute
(IARI), New Delhi 110 012, India.
E-mail: mukeshdhillon@rediffmail.com
(Mob. +91-9013473641)

Declaration

I hereby declare that all the details furnished above are true to the best of my knowledge and belief.

Place : Jalandhar

Date : **March** 07, 2017

(Sumit Vashisth)