

Society for Vector Ecology Indian Region

Inaugural International Conference

Hotel Fidalgo, Panaji, Goa, India February 13 – 16, 2019

'Lab to public health setting: Control of vectors for elimination of vector borne diseases'

Scientific Programme

Day-1

Wednesday – February 13, 2019

14:00 – 16:00	Registration Hotel Fidalgo
15:00 – 15:45	High tea Courtesy Vestergaard Frendsen
16:00 – 17:00	Inauguration: Grand Hall, Hotel Fidalgo
	Guests of Honour:
	Dr Nicole Simone Seguy, Communicable Diseases Team Leader, WHO Country Office, New Delhi, India
	Dr Lyle Petersen, Director, Division of Vector-Borne Diseases, Center for Disease Control and Prevention, USA
	Prof R. C. Mahajan, Emeritus Professor, PGIMER, Chandigarh
	Dr Major Singh Dhillon, Executive Director, Society for Vector Ecology, USA
	Dr O. P. Singh, Director-In-Charge, ICMR-National Institute of Malaria Research, New Delhi
17.00 – 17:30	Conference Key Note Address: Global status of arboviral diseases. Dr Lyle Petersen, Director, Division of Vector-Borne Diseases, Center for Disease Control and Prevention, USA
17.30 – 20:00	Award ceremony and oration lectures
17.30	Potential of vector control to reduce disease and deaths: Dr Rajpal Singh Yadav , Scientist, WHO, NTD, Geneva, Switzerland
18.00	Award presentation: Padmabhushan Dr V. P. Sharma award to Dr R. S. Yadav
18.10	Future of biological control of vectors — Dr Norbert Becker: Director, German Vector Control Association, University of Heidelberg, Germany
18.40	Award presentation: Prof Mir Mulla award to Dr Norbert Becker

18.50	Malaria remains unshaken; and the mighty mosquito remains unbeaten: Dr P. K. Rajagopalan (Govt. of India-'Padmashree' awardee), Former Director, ICMR-Vector Control Research Centre, Puducherry, India
19.20	Award presentation: Dr T. R. Rao award to Dr P. K. Rajagopalan (Padmashree)
19.30	Challenges & Perspectives for Dengue Control in Urban areas and way forward for Civic Bodies: A Case Study of Delhi: Dr (Capt.) Naveen Rai Tuli , Assistant Director and Deputy Health Officer, New Delhi Municipal Corporation
20.00	Award presentation: Mr P. B. Deobhankar award to Dr Naveen. Rai Tuli
20.10	Dr Sushil Kumar Dasgupta Award for rendering dedicated services (health) in rural area: Dr Ashoka Pais, Medical Officer, Voluntary Health Association of Goa
20.15	Special Award for Journalism on Science and Vector Borne Diseases reporting: Mr Shashwat Gupta Ray , Editor Gomantak Times, Panaji, Goa, India
20.30	Inaugural dinner, Hotel Fidalgo hosted by V.K.A. Polymers Pvt. Limited, Kurur, Tamil Nadu
	Day-2
	Thursday – February 14, 2019
9:00 – 10:45	Symposium-1: Vector Taxonomy, Bio-ecology and Control Moderators: Dr Major S Dhillon, Dr Kailash Chandra and Dr Norbert Becker Sponsors: Valent BioSciences
09.00	Key Note Address: Microbial Control of Mosquitoes – Exploiting the nature for vector control: Dr Norbert Becker, German Mosquito Control Association (KABS), Speyer & University of Heidelberg, Heidelberg, Germany
09.15	Vector Control in California: Dr Major S. Dhillon , Northwest Mosquito Control District, Corona, California, USA and Executive Director SOVE.
09.30	Big Data and Drones in Mosquito Control: Dr Spiros Mourelatos , Director, Ecodevelopment S.A. Greece
09.45	Key Note Address: Debug Fresno: Implementing <i>Wolbachia</i> to Control <i>Aedes aegypti</i> In Fresno County, California: Dr Steve Mulligan , District Manager, Consolidated Mosquito Abatement District, California, USA
10.00	Sounds: a novel way to identify mosquitoes: Dr Devi Shankar Suman, Zoological Survey of India, New Alipore, Kolkata, India – 700053
10.15	Urban mosquito vectors and challenges for their control in a metropolitan city- Chennai, India. Dr Alex Eapen , ICMR-National Institute of Malaria Research, Field Unit, Chennai, India

10:30 Laboratory,	Disease control using genetically modified mosquitoes. Dr Hanno Schmidt, Vector Genetics
	Department of Pathology, Microbiology and Immunology, UC Davis, California, USA
10.45	Tea break
11:15	Announcements: Dr Ashwani Kumar, Director, SOVE (Indian Region)
11:20 – 12:20	Symposium-2: Malaria, Filariasis and Kala Azar Elimination. <u>Sponsors: WHO country office India</u>
	Moderators: Dr Nicole Simone Seguy, Chief Division of Communicable Diseases, WHO Country Office and Dr Lyle Petersen, Director CDC, Division of Vector Borne Diseases Control and Prevention, USA
11.20	Key Note Address: WHO malaria technical updates and WHO initiatives for malaria elimination in India. Dr Roop Kumari , WHO country office, New Delhi, India
11.35	Lymphatic filariasis elimination in India: How to achieve goal: Dr P. K. Srivastava, formerly Joint Director, National Vector Borne Diseases Control Rogramme, New Delhi, India
11.50	When to stop IRS for Visceral Leishmaniasis: Dr R. K. Dasgupta , formerly Joint Director, National Vector Borne Diseases Control Programme, New Delhi, India
12.05	Challenges of urban malaria elimination in India: Dr R. S. Sharma , formerly Additional Director, National Vector Borne Diseases Control Programme, New Delhi, India
12.20-13.10	Symposium – 3: Vector Control in Disease Elimination Settings: Capacity building and response – Modertors: Dr P. K. Sen, Dr R. S. Yadav and Dr P.K. Srivastava Sponsors: National Vector Borne Diseases Control Programme (NVBDCP), Govt. of India
12.20	Piloting of an entomological surveillance planning tool to improve entomological intelligence for evidence-based vector control decision-making towards malaria elimination: Dr Neil Lobo, Research Professor, University of Notre Dame, Indiana, USA
12.30	Ecologic and socio-demographic impact of dengue and its management in India. Dr Kalpana Baruah , Joint Director, NVBDCP, New Delhi, India
12.40	Vector surveillance and control at points of entry in the context of expanding distribution of disease vectors and outbreaks of vector borne diseases in new areas: Dr Ashwani Kumar , Scientist G, ICMR–National Institute of Malaria Research, Goa, India
12.50	How Kerala Government is tackling dengue, malaria and other vector borne diseases, A policy analysis: Mr Tharamel Appunny Arvind , Post graduate and research Department of Zoology, Govt. College, Madappally, Vatakara, Kerala, India
13.00	Lunch Hosted by Valent BioSciences
14:00 – 14:45	Symposium 4: Emerging Vector Borne Diseases Moderators: Prof. B. C. Mohoion, Pr.S. L. Hoti and Dr. Boule Bimonto



Moderators: Prof R. C. Mahajan, Dr S. L. Hoti and Dr Paulo Pimenta

14:00	Key Note Address: Characterization of vector competence, co-infection, viral interference and transovarial transmission of Zika and Dengue virus by Brazilian <i>Aedes aegypti</i> and <i>Aedes albopictus</i> populations: Dr Paulo Pimenta, Fiocruz, Belo Horizonte, Minas Gerais, Brazil
14.15	Molecular tools for mosquito borne disease diagnosis in the context of zika fever infection. Dr Embalil Mathachan Aneesh , Communicable Diseases Research Laboratory, Dept. of Zoology, St. Joseph College, Irinjalakkuda, Calicut, Kerala
14.30	Dengue outbreaks in tribal, rural and urban settings of Khammam district. A case study: Dr Ayyadevera Rambabu , Dy Director, NVBDCP, Hyderabad, Telangana State, India
14.45	Ecological undercurrents of <i>Aedes albopictus</i> driven dengue in Kerala, India. Dr P. K. Sumodan . Post Graduate and Research Department of Zoology, Government College, Madappally, Kerala-673102, India
15.00	Threats of three medically important <i>Aedes</i> species in the context of changing environment, time for a reality check: Dr Sajal Bhattacharya , Head post graduate department of Zoology, Ashutosh College, Kolkatta, India
Теа	15.15
15:30 – 16:45	Symposium 5: Impact of Climate Change on Vectors and Vector Borne Diseases Moderators: Dr R. C. Dhiman, Prof Jagbir Singh and Dr Roop Kumari
15.30	Key Note Address: Changing climatic and ecological conditions affecting spatio-temporal distribution of vector borne diseases in India: Dr R. C. Dhiman , DST-Centre of Excellence on Climate Change, ICMR-National Institute of Malaria Research, New Delhi, India
15.45	Impact of climate change on expansion of vectors and vector-borne diseases in Baltic countries: Prof Algimantas Paulauskas . Faculty of Natural Sciences, Vytautas Magnus University, Vileikos 8, Lt-44404 Kaunas, Lithuania
16.00	Impact of ecological changes on Culicidae diversity in Punjab: Prof Jagbir Singh , Punjabi University Patiala, Punjab, India
16.15	Role of climatological factors on dengue transmission in India. Dr Sreenivasa Rao Mutheneni . Applied Division CSIR-Indian Institute of Chemical Technology, Tarnaka, Hyderabad, Telangana, India
16.30	Timing of vector emergence and bird movement on malaria transmission with climate change. Dr Farah Ishtiaq , Centre for Ecological Sciences, Indian Institute of Science, Bangalore-560012, India
16:45 – 17:45	Symposium-6: Vector Repellents Moderators: Dr Dan Kline and Prof. Larry Goodyer
16.45	Recent Progress in the development of passive spatial repellent delivery devices: Dr Dan Kline , USDA Florida, USA

- 17.00 Development of prolonged action PMD (lemon eucalyptus oil) botanical formulations to provide 12 hours protection against the *Aedes aegypti* mosquito vector. **Professor John E. Moses**, La Trobe Institute for Molecular Science, Bundoora, Australia
- 17.15 Characterisation of mosquito repellents by dose/response curve as measured by time to first bite: **Dr Larry Goodyer**, Professor of Pharmacy Practice, De Montfort University, Leicester, UK
- 17.30 Effective pest management in agriculture and vector control using repellents: **Dr Agenor Mafra-Neto**, ISCA Technologies, Inc., Riverside, California, USA

17.45-19.00 Poster Session – 1 (Posters 1-15)

- **P-1** The effect of Climatic factors on the mosquito species of Tribe *Aedini* in Chandigarh and its surrounding areas: **Ms Sandeep Kaur** Entomology Laboratory, Department of Zoology, Panjab University, Chandigarh.
- **P-2** Studies on Seasonal impact of JE vectors with respect to various meteorological parameters in different ecological habitats of Chandigarh: **Ms Ranjana Rani**, DST-SERB Research Lab, Department of Zoology, DAV College Sec-10, Chandigarh, India
- **P-3** Molecular ecology of *Aedes aegypti* in India: elucidating genetic structure, dispersal potential and connectivity among populations: **Dr Bhavana Gupta**, ICMR-Vector Control Research Center, Medical Complex, Indira Nagar, Puducherry, India
- **P-4** Antimalarial activity of biosynthesized silver nanoparticles using *Jussiaea repens* leaf extract against malarial parasite, *Plasmodium falciparum*: **Dr Kalimuthu Kovendan**, Division of Vector Biology, Department of Zoology, Annamalai University, Annamalainagar, Tamil Nadu
- **P-5** The toxic effects of *Persicaria hydropiper* prompted free radicals against the dengue fever vector *Aedes aegypti* (Diptera, Culicidea): **Dr A. N. Anoopkumar**, Department of Zoology, Christ College, Irinjalakuda, Kerala, India
- **P-6** Analyzing the diversity of mosquito vectors of medical importance using mitochondrial COI sequence: **Dr Aneesh Embalil Mathachan**, Communicable Disease Research Laboratory (CDRL), Department of Zoology, St. Joseph's College (Autonomous), Irinjalakuda, Thrissur, Kerala, India
- **P-7** Zinc oxide nanoparticlesan ecofriendly arsenal to prevent dengue vector proliferation: **Mr Sreedev Puthur**, Communicable Disease Research Laboratory (CDRL), Department of Zoology, St. Joseph's College (Autonomous), Irinjalakuda, Thrissur, Kerala, India
- P-8 To assess the efficacy of commercially available different mosquito repellents against Aedes aegypti: Dr Deshmukh Madhuri, BJS Arts, Science and Commerce College, Wagholi, Pune Maharashtra
- **P-9** A Smart Internet of Things Trap for Mosquito Vector Control: **Dr S. R. Pandian**, Department of Electronics and Communication Engineering, Indian Institute of Information Technology Design and Manufacturing-Kancheepuram, Melakkottaiyur, Chennai 600127 (TN)
- **P-10** Dengue epidemics attaining Himalayan foothill district Bilaspur of Himachal Pradesh: **Dr Narayani Prasad Kar**, National Institute of Malaria Research, Indian Council of Medical Research, Sector-8, Dwarka, New Delhi-110077, India

- **P-11** Vulnerability assessment of dengue outbreak and transmission suitability in Kangra district, Himachal Pradesh, India: **Ms Manisha Prajapati**, National Institute of Malaria Research, Indian Council of Medical Research, Sector-8, Dwarka, New Delhi-110077, India
- **P-12** Insecticidal activity of Nanoemulsion formulation from essential oil against *Culex quinquefasciatus* Say (Diptera:Culicidae): **Dr Marimuthu Ramar**, Division of Entomology, Department of Zoology, School of Life Sciences, Bharathiar University, Coimbatore, Tamil Nadu 641046, India
- **P-13** Field testing and evaluation of the efficacy of VectoMax FG as a mosquito larvicide in Goa, India: **Dr Hemanth Kumar**, ICMR-National Institute of Malaria Research, Field Unit, Panaji-403001, Goa, India
- **P-14** Study of larvicidal activity of Brahmi: **Ms M. Shet**, Department of Pharmacognosy, Goa College of Pharamcy, Panaji, Goa, India
- **P-15** Integrated approach in Malaria Vector control: **Dr Tirthankar Basu**, Hindustan insecticide Limited, New Delhi-110003, India
- 18:00 18:30 Board meeting in the Board room of Hotel Fidalgo
- 18.30 19:30 General body meeting SOVE (Indian Region) in Grand Hall, Fidalgo

Sponsored dinner: hosted by Bio-tech International Ltd. at Hotel Fidalgo

Day-3

Friday – February 15, 2019

8:00-12.00	Field Ecology Tour (Assemble in Hotel Fidalgo Lobby)
13:00	Lunch: hosted by Goizper West Asia

13.00 – 15:00 **Poster Session-2 (Posters 16-29)**

- **P-16** Use of Information, Education, Communication (IEC) and community perception study in Vector-Borne disease Management: **Ms Sanchita Bhattacharya**, Department of Communicative English, Asutosh College (University of Calcutta), Kolkata, India.
- **P-18** A Review on Larvicidal Activity of Phytoextracts against the Major Dengue Fever Vector, *Aedes aegypti*: **Ms Lakshmi Kalarikkal Venugopalan**, Department of Zoology, Christ College, Irinjalakuda, Kerala, India
- **P-19** Larvicidal efficacy of *Catharanthus roseus* and characterization of possible bioactive compounds against *Aedes aegypti*, a potential Dengue fever vector: **Ms Lekshmi Jayakrishnan**, Communicable Disease Research Laboratory (CDRL), Department of Zoology, St. Joseph's College (Autonomous), Irinjalakuda, Thrissur, Kerala, India

- **P-20** Knowledge, Attitude and Practice of Lymphatic Filariasis Disease among ASHAs in Warangal District (Erstwhile) of Telangana state: **Dr M. Lakshman**, Filaria Consultant ROHFW, Govt. of India, Hyderabad, India
- **P-21** Assessment of knowledge about malaria among community: **Ms Urvi Hariyani**, Vector Borne Disease Control Department, Surat Municipal Corporation, Surat, Gujarat, India
- **P-22** Molecular characterization of Glutathione–S-Transferases epsilon 4 gene of *Anopheles stephensi:* **Dr D. Jha**, National Institute of Malaria Research, Indian Council of Medical Research, Sector-8, Dwarka, New Delhi-110077, India
- **P-23** Molecular characterization and identification of *Anopheles sundaicus* from Myanmar: **Ms A. Sindhania**, National Institute of Malaria Research, Indian Council of Medical Research, Sector-8, Dwarka, New Delhi-110077, India
- **P-24** Spatial distribution of *Haemaphysalis* species ticks and human Kyasanur Forest Disease cases along the Western Ghats of India, 2017-2018: **Mr Naren Babu** N, Manipal Centre for Virus Research, (Regional Reference Laboratory for Influenza viruses & ICMR Virology Network Laboratory-Grade-I), Manipal Academy of Higher Education, Manipal-576104, Karnataka State, India
- **P-25** Malaria Control in Kozhikode District of Kerala: **Dr Anju K. Viswan**, Entomology Consultant, DVC Unit, Kozhikode, Kerala, India
- **P-26** Epidemiological trends in Malaria occurrence; A Retrospective study through Kerala Sectors: **Mr Nidhish Lekha Girish**, Biopesticides and Toxicology Lab, Dept. of Zoology, University of Calicut, Malappuram, Kerala-673635, India
- **P-27** Upregulation of carboxylesterase gene (COE) in Deltamethrin resistant *Anopheles stephensi*: **Ms S Mishra**, National Institute of Malaria Research, Indian Council of Medical Research, Sector-8, Dwarka, New Delhi-110077, India
- **P-28** Development of multilocus neutral DNA marker in an Indian *Anopheles culicifacies* sibling Species: **Ms S. Kale**, National Institute of Malaria Research, Indian Council of Medical Research, Sector-8, Dwarka, New Delhi-110077, India
- **P-29** Biocontrol of *Aedes aegypti* larvae by the fungus *Penicillium citrinum*.
- **Dr Deeparani K. Prabhu,** ICMR-National Institute of Malaria Research (ICMR), DHS Building, Campal, Panaji, Goa 403001, India
- **P-30** Targeting vector salivary proteins for combating disease: A Computational Biology Approach: **Dr. Tammanna Sahrawat**, Centre for Systems Biology and Bioinformatics, UIEAST, Panjab University, Chandigarh.
- 15:00 16.00 Symposium–7: Proteogenomics of Disease Vectors. Moderators: Prof. Keshava Prasad and Prof. Col. Rakhi Dhawan
- 15.00 **Key Note Address:** Proteogenomic approaches to investigate mosquitoes: **Prof Keshava Prasad**, Centre for Systems Biology and Molecular Medicine, Yenepoya (Deemed to be University) Mangalore, India

15.15	Tissue specific splicing events in Indian malaria vector <i>An. stephensis</i> . Dr Sreelakshmi K Sreenivasamurthy, Center for Molecular Medicine, Neurobiology Research Centre, NIMHANS, Bangalore, India
15.25	Proteins associated with host response in <i>Anopheles stephensi</i> to infection with <i>Plasmodium berghei</i> : Dr Ajeet Kumar Mohanty , ICMR–National Institute of Malaria Research, Goa, India
15.35	Midgut and salivary gland proteogenomics of <i>Aedes aegypti</i> , protein-protein interactions, involement in various pathways: Dr Coln. Rakhi Dhawan , Prof. Department of Preventive and Social Medicine, Armed Forces Medical College, Pune, India
15.45	Uncovering genetic relationship of mosquito-microbe-parasite interactions and malaria transmission in Indian malarial vectors: Dr Rajnikant Dixit , Scientist D, ICMR-National Institute of Malaria Research, New Delhi
16.00	Теа
16.15-17.45	Symposium-8: Vector control tools by industry: Moderators Dr R. S. Sharma. Dr P. K. Srivastava and Dr R. K. Dasgupta Presenters: Sponsors (8 minutes each) 1. Valent BioSciences 2. V.K.A. Polymers Pvt. Ltd. 3. MGH Labs Private Limited 4. Clarke-UPL 5. Molbio Diagnostics Pvt. Ltd. 6. Hindustan Insecticides Limited (HIL India Ltd) 7. Goizper Spraying (Goizper West Asia) 8. Syngenta India Ltd. 9. Ross Life Sciences Ltd. 10. Foggers India Ltd.
17.45 – 18.30	Symposium-9: Vector Resistance and its Management/IVM – Moderators Dr O. P. Singh and Dr K. Gunasekaran
17.45	Key Note Address: Insecticide resistance in Indian <i>Aedes aegypti</i> : Dr O. P. Singh , Scientist G and Director-In-Charge, ICMR-National Institute of Malaria Research, Dwarka, New Delhi-110077
18.00	Key Note Address: Insecticide resistance and its management - Current and future perspectives: Dr K. Gunasekaran Scientist-G, Vector Control Research Centre, Pudducherry
18.15	Strategies on insecticide resistance management: Dr. Tirthankar Basu, Manager (Product Development) Hindustan Insecticides Limited (A Government of India Enterprise), New Delhi-110 003, India
19.30	Banquet Dinner at Ritz Classic at Campal Gymkhana Co-hosted by Clarke-UPL and SOVE (Indian region)

Day -4

Saturday – February 16, 2019

09.00-10.00 Symposium-10 (A Panel Discussion): Women of Vector Science: Challenges and Opportunities Moderators: Dr Roop Kumari, Coln. Rakhi Dhawan & Dr Kalpana Baruah

Panelists:

12.15

- 1. Dr Deeparani Prabhu (Professor)
- 2. Dr Shailja Singh (Scientist)
- 3. Dr Nandini Korgaonkar (NVBDCP, Goa)
- 4. Ms Joleen Almeida (Research Scholar)
- 5. Ms Minisha Periera (Research Scholar)

Attendees: All women delegates

of Bioinformatics, Bangalore, India

10:00 – 11:30 Symposium-11: Vector Control Tool Development and Deployment, Household Pest/Vector **Management Industry and Community Engagement** Moderator: Mr William Van Dyke, Dr Kedar Deobhankar, Mr Raju Parulkar and **Dr Sarang Sawalekar** 10.00 Public education and vector control: educate, empathize and engage: Mr. William Van Dyke, District Manager, Northwest Mosquito Control District, Corona, California, USA 10.15 Vector control products and technologies of DRDO in protecting Indian armed forces from arthropod vectors. Dr Devanathan Sukumaran, Defence Research Development Establishment, Gwalior, MP, India. 10.30 Advancing Public Health and Well Being with Better Vector Management. Mr Jitender Gaude 10.45 Role and support of IPCA in vector management: Mr Raju Parulkar, Mumbai, India 11.00 Tea Symposium-12: Gen-Next & Young Scientists' award session 11.30 - 12.45Moderators: Ms Joleen Almeida and Mr Charles Reuben DeSouza 11.30 Sourcing and evaluation of the efficacy of mosquitopathogenic bacilli from coastal environment in Goa, India: Ms Joleen Almeida, ICMR-National Institute of Malaria Research, Panaji, Goa, India 11.45 Role of gene duplication in insecticide resistance in Anopheles stephensi. Ms Gunjan Sharma ICMR-National Institute of Malaria Research, New Delhi, India 12.00 Are vector habitats source of gut microbiota? Ms Minisha Pereira, ICMR-National Institute of Malaria Research, Panaji, Goa, India

Identification of mosquito-Plasmodium associations using Proteogenomics: Dr Gourav Dey, Institute

16:30	High Tea (hosted by Syngenta India Ltd.)
	Guest of Honour: Dr P. K. Srivastava, Former Joint Director, NVBDCP, New Delhi, India
	Guest of Honour: Dr R. S. Sharma, Former Additional Director, NCDC and NVBDCP, New Delhi, India
	Guest of Honour: Prof. Paulo Pimenta, Fiocruz, Belo Horizonte, Minas Gerais, Brazil
	Heidelberg, Germany
	Guest of Honour: Dr Norbert Becker, Director, German Vector Control Association, University of
	Guest of Honour: Mr William Van Dyke, Additional Executive Director, SOVE, USA
	Guest of Honour: Dr Major S. Dhillon, Executive Director SOVE, USA
	Chief Guest: Prof. R. C. Mahajan, Emeritus Prof. PGIMER, Chandigarh, India
15:00	Valedictory Function
13.00	Lunch hosted by MolBio Diagnostics Pvt. Ltd.
	National Institute of Malaria Research, Sector 8, Dwarka, Delhi-110077, India
12.45	Climatic and ecological attributes of Kyasanur Forest Disease in India. Ms Poonam Singh , ICMR-
12.50	India: Mr Charles Reuben DeSouza , ICMR-National Institute of Malaria Research, Panaji, Goa, India
12.30	Assessing the diversity, evenness and infectivity of mosquitoes in closely situated city zones in Goa

We shall meet again