



PG Seminar Schedule of Entomology II Sem 2025-26

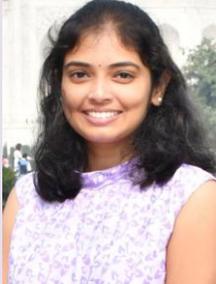
Keladi Shivappa Nayaka University Agricultural and Horticultural Sciences
College of Agriculture, Shivamogga



Speaker details

Seminar description

1



Name : Ananya M R

Date : 04/04/2026

Topic : Precision diets for mass rearing natural enemies

Ms. Ananya, Sr M.Sc (MA1TBD625), will talk about precision diets for mass rearing natural enemies used in biological control. Traditional rearing relies on live host or prey colonies, which are costly and difficult to maintain. Precision diets replace these hosts with scientifically formulated artificial diets. Using biotechnology and multi-omics tools, researchers design diets that meet the nutritional needs of beneficial insects. These diets include key nutrients along with feeding stimulants and stabilizing components. Such an approach can reduce production costs and ensure a reliable supply of natural enemies for sustainable pest management.

2.



Name: Shashank K R

Date: 04/04/2026

Topic: Nonlethal insect sampling

Mr. Shashank K R, Sr. M.Sc (MA1TBD634), discusses the significance of nonlethal insect sampling in modern entomological research and biodiversity conservation. Nonlethal sampling methods allow scientists to study insect populations, behavior, genetics and ecological interactions without killing or permanently harming the organisms. These approaches are particularly important for monitoring rare, endangered or beneficial insect species. By minimizing harm to insects, nonlethal sampling supports ethical research practices and contributes to sustainable biodiversity monitoring and conservation efforts.

3.



Name: Siva subramaniam K R

Date: 11/04/2026

Topic: Insect stewardship for our modern world

Mr. Siva subramaniam, Sr. M.Sc (MA1TBD635), talks about the importance of insect stewardship for our modern world. Insect populations play essential roles in ecosystems and agriculture, they contribute to pollination, biological control of pests and maintaining ecological balance. However, many beneficial insect populations are declining due to habitat loss, climate change, and excessive use of pesticides. Insect stewardship focuses on protecting and managing insect diversity through sustainable practices such as habitat conservation, reduced pesticide use, and promotion of eco-friendly farming methods.

4.



Name: Vinay G N

Date: 11/04/2026

Topic: Insect flight mechanics and aerodynamics

Mr. Vinay G N, Sr. M.Sc (MA1TBD637), talks about the Insect flight mechanics and aerodynamics. Insect flight operates at low Reynolds numbers and relies on unsteady aerodynamic mechanisms generated by flapping wings. Lift and thrust are primarily produced through mechanisms such as leading-edge vortex formation, rotational circulation, wake capture, and the clap-and-fling effect. These mechanisms allow insects to achieve efficient hovering, high lift generation, and remarkable maneuverability. Understanding insect flight mechanics provides insights into biological aerodynamics and supports the development of bio-inspired flapping-wing micro air vehicles.

5.



Name : Chaitanya D

Date : 18/04/2026

Topic: Insects and microplastic pollution : Physiology, functioning Ecology and ecosystem

Ms. Chaitanya D, Sr. M.Sc (MA1TBD627), discusses the impact of microplastic pollution on insects, focusing on their physiology, ecological functioning and ecosystem interactions. Microplastics, now widespread in terrestrial and aquatic environments, can be ingested by insects through contaminated food, water and soil. The presentation highlights how microplastics may affect insect physiology, including digestion, growth, development, reproduction and survival. Understanding the interaction between insects and microplastic pollution is important for evaluating emerging environmental challenges and their potential consequences for insect populations and ecosystem stability.

6.



Name : Shalini T

Date : 18/04/2026

Topic: Insect pest monitoring with camera-equipped traps: Strengths and limitations

Ms. Shalini T, Sr. M.Sc (MA1TBD632), talks about Insect pest monitoring with camera-equipped traps: strengths and limitations. Camera-equipped traps uses imaging sensors, automated image analysis, and wireless communication to monitor insect populations remotely. They enable real-time detection, continuous data collection, and reduce labor compared to manual trap inspection. However, limitations such as high installation cost, power supply and network connectivity, and accurate species identification still restrict their large-scale adoption in agriculture. Understanding these strengths and limitations is essential for improving smart pest monitoring.

7.



Name: Anusha B M

Date: 25/04/2026

Topic: AI smart robotics : Robotics based pest monitoring and management

Ms. Anusha B M, Sr. M.Sc (MA1TBD626), talks about AI smart robotics: Robotics based pest monitoring and management. AI-based smart robotics is an advanced technology used in modern agriculture. These systems use artificial intelligence, sensors, cameras, and autonomous robots or drones to monitor crop fields, detect pest infestations, and analyze plant damage in real time. By using image processing and machine learning, the robots can identify pests early and apply pesticides precisely only in affected areas. This technology reduces excessive pesticide use, lowers labor costs, improves crop protection, and supports sustainable and precision agriculture.

8.



Name : Gayan

Date : 25/04/2026

Topic: Insect immune priming

Mr. Gayan, Sr M.Sc (MA1TBD629) talks about insect immune priming as a critical adaptive feature of innate immunity that allows insects to increase their pathogenic resistance following an initial exposure. This immunological plasticity operates both within an individual's lifespan, including across distinct developmental stages and transgenerationally from parents to offspring. While the underlying molecular mechanisms remain largely unresolved, exploring the role of pathogen recognition receptors, microRNAs, and epigenetics is essential for advancing the understanding of insect immunobiology.

9.



Name : Amrutha S Sasi

Date : 02/05/2026

Topic : Precision guided sterile insect technique

Ms. Amrutha S Sasi, Sr. M.Sc. (MA1TBD624), discusses the Precision-Guided Sterile Insect Technique (pgSIT) as a modern genetic strategy for controlling insect pests and disease vectors. This method integrates CRISPR-based genome editing with the traditional sterile insect technique to produce sterile males by disrupting genes responsible for fertility or sex development. These sterile males mate with wild females, resulting in non-viable offspring and a gradual reduction in pest populations. Compared to irradiation-based sterilization, pgSIT provides improved mating competitiveness and species-specific control. Understanding its mechanisms and ecological implications is important for developing sustainable insect population management strategies.

10.



Name : Sumithra S

Date : 02/05/2026

Topic : Genomics, ecology, global spread and management of *Phthorimaea absoluta*

Ms. Sumithra S, Sr. M.Sc (MA1TBD636), discusses the genomics, ecology, global spread and management of *Phthorimaea absoluta*, a destructive pest of tomato and other solanaceous crops. This highlights how genomic studies help understand the pest's adaptability, insecticide resistance and population dynamics. It also explains the ecological factors that support its rapid establishment and worldwide spread. Understanding its invasion pathways and biology is crucial for developing effective management strategies. Integrated pest management approaches, including biological control, monitoring and sustainable pesticide use, are emphasized to reduce crop losses and manage this invasive pest effectively.

11.



Name : Mr. Manikanta M R,

Date : 09/05/2026

Topic: Nano enabled pheromones in pest management

Mr. Manikanta M R., Sr. M Sc. (MA1TBD630), talks about the nano enabled pheromones in pest management which focuses on improving pheromone delivery using nanotechnology based carriers such as polymeric nanoparticles, nanoemulsions, nanogels and graphene-based nanomaterials. These carriers protect the pheromones from environmental degradation caused by UV light, temperature and oxidation while enabling controlled and slow release over longer periods. This enhances the efficiency of pest monitoring, mating disruption and mass trapping strategies. Nanoformulations also reduce the frequency of pheromone application and minimize environmental impact, making them promising tools for sustainable and precision pest management in modern agriculture.

12.



Name : Mr Manvanth P

Date : 09/05/2026

Topic : Pest fighting dipterans: Importance in mass multiplication and conservation

Mr. Manvanth P, Sr M.Sc (MA1TBD631) talks about Pest-fighting dipterans have larvae that voraciously prey on aphids, thrips, mites, whiteflies, and other soft-bodied pests. Their high predation rates and parasitism on major pests make them valuable contributors to integrated pest management. Conservation biological control promotes their natural populations through habitat provision such as flower strips, hedgerows, and reduced broad-spectrum pesticide applications. Mass multiplication enables augmentative releases, though currently limited to a few commercially viable species. Adults of many species also pollinate crops providing a dual benefit of pest suppression and yield improvement in sustainable agriculture.

13.



Name : Mr. Chethan M,

Date : 16/05/2026

Topic : Insecticide formulations for stored-product and food-industry pest control

Mr. Chethan M., Sr. MSc (MA1TBD628) talks about Stored-product pests causing serious losses in stored grains and processed foods during storage and distribution. Effective management in storage facilities and the food industry depends on appropriate insecticide formulations. Common formulations include dusts, sprays, aerosols, fumigants, and baits that control pests such as beetles, moths, and weevils. These formulations improve insecticide stability, enhance application efficiency, and ensure safer use in food environments. Recent approaches emphasize reduced-risk insecticides and integration with Integrated Pest Management (IPM) strategies to minimize residues, protect food quality, and maintain safe and efficient storage systems.

14.



Name : SHARATRADDI A K

Date : 16/05/2026

Topic : Global review on locust and their management; effect on food security and global warming.

Mr. Sharath Kenchareddy, Sr M.Sc (MA1TBD633), will talk about global review on locusts and their management, with emphasis on their effects on food security and global warming. Locusts are highly destructive migratory pests capable of forming large swarms that cause severe damage to crops and grazing lands across many countries. Their outbreaks are influenced by ecological and climatic factors that favor rapid population growth and migration. Recent changes in climate patterns, including increased rainfall and temperature fluctuations, have been linked to the frequency and intensity of locust outbreaks. This seminar discusses the biology and outbreak dynamics of locusts, their economic impact on agriculture and food systems, and current management strategies such as monitoring, chemical control, biological control, and integrated approaches to mitigate their impact.

15.



Name : Sandeep K,

Date : 23/05/2026

Topic: Climate-smart pest management

Mr. Sandeep K., II PhD (PA1TBD0175), talks about climate-smart pest management, an approach that integrates pest control with climate-resilient agriculture. Climate change alters pest distribution, seasonal dynamics, and outbreak patterns, affecting crop productivity. Climate-smart strategies use climate-based surveillance, predictive modelling, resistant varieties, biological control, and precision agriculture to manage pests sustainably while reducing reliance on chemical pesticides.

16.



Name : Kumuda M Y

Date : 23/05/2026

Topic: Cecidomyiids as pollinators

Ms. Kumuda M Y, II PhD (PA1TBD0174), discusses the role of cecidomyiids as pollinators and their ecological significance in plant-insect interactions. Although commonly known for inducing galls on plants, several cecidomyiid species play an important role in pollination. This highlights their unique life cycles, mutualistic relationships with certain flowering plants and their contribution to maintaining ecosystem biodiversity. Understanding the pollination role of cecidomyiids helps reveal lesser-known pollination networks and emphasizes the importance of conserving diverse insect pollinators in ecosystems.

17.



Name : Yamini M

Date : 30/05/2026

Topic: Reversal gene drives in entomology

Ms. Yamini M., II PhD (PA1TBD0176), talks about reversal gene drives in entomology, genetic safeguards designed to counteract previously released gene drives in insect populations. Gene drives, commonly based on CRISPR-Cas systems, can rapidly spread engineered traits in vectors and agricultural pests. However, concerns about ecological risks and irreversible genetic changes highlight the need for containment strategies. Reversal gene drives aim to disable or overwrite the original drive, making them an important consideration for the safe application of gene drive technologies in insect management.

The schedule of seminars is herewith enclosed for the II semester of 2025-26. The registered Senior M. Sc. and II Ph. D. Students are informed to give their Seminar on the topics mentioned against their names. First Seminar starts at 9.30 AM followed by the second seminar in each day by following the guidelines of PG Academic regulation (Point No 15- Check in KSNUAHS Website).

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Seminar Coordinator

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