

# Biology Seminar

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## Molecular dialogue between insect eggs and *Arabidopsis thaliana*



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**12:00 PM GMT-7**

Insect eggs are not passive structures deposited on leaves. They induce plant defenses that inhibit egg development or attract egg predators. Oviposition by the Large White butterfly

*Pieris brassicae* leads to salicylic acid (SA) accumulation and local cell death in *Arabidopsis*. These responses are activated by a phospholipid elicitor perceived at the cell surface and share molecular similarities with PAMP-triggered immunity (PTI). However, expression of defense genes regulated by the jasmonic acid (JA) pathway are suppressed and larval performance is enhanced. We also discovered that oviposition by *P. brassicae* inhibits growth of bacterial and fungal pathogens through establishment of an intra- and interplant systemic acquired resistance (SAR). Altogether, our results suggest that eggs manipulate plant signaling by inhibiting anti-insect defenses and increasing resistance to pathogens, for the potential benefit of feeding larvae.

