



iGEM 2024 team of IISER Kolkata. From left to right: Shamba Chakraborty, Anushka Mishra, Sharanya Chatterjee, Ayantik Kundu, Utkarsh Aryan, Gitanjali Das, Smrutimayee Prusty, Fathima Anjum EC, Sampooran Pandey, Divyanshu Kumar

# Engineering Solutions for Foot Care: IISER-K's E coli-Powered Foot Insole Bags Gold at iGEM

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The IISER Kolkata iGEM 2024 team addresses the widespread problem of foot infections by developing a self-sustaining, GMO-based insole that can both treat and prevent fungal growth. Using engineered E. coli to produce linalool, a natural antifungal and antibacterial compound found in lavender, the insole continuously protects against fungal and bacterial growth, reducing discomfort and leaving a refreshing scent. The team, through complex control systems, such as quorum sensing and cell cycle arrest, ensured the bacteria became effective with time. Their interdisciplinary project won a gold medal and special award nomination for Best Fashion and Cosmetics.