Dr Wallman studies the evolution and biology of flies (Diptera), especially blowflies (Calliphoridae). He is also interested in the application of these and other carrion-frequenting insects to forensic science.

Current research addresses these topics:

- Evolutionary relationships of Australian blowflies
- Biogeography of Australian blowflies
- Morphological and molecular methods for identification of carrion-breeding blowflies
- Thermal effects on blowfly development
- Biology of aging in blowflies
- Ecology of carrion in south-eastern Australia