

Meet the Fisher information matrix (FIM)

$$M_F(\Psi, \xi) = -\mathbf{E} \left[\frac{\partial^2}{\partial \Psi \partial \Psi^T} \log L(\Psi; y) \middle| \Psi \right]$$

where

- Ψ is the vector of populations parameters (e.g. THETAS, OMEGAS, and SIGMAS in NONMEM),
- y is the vector of observations,
- ξ is the vector of design variables (e.g. sampling times), and
- $\log L$ is the log-likelihood.



Fisher in winter coat