

Avoiding the Valley of Death - Rational Drug Design as a 4th R

Rebecca Wilcox¹

¹University of Melbourne, Rebecca.wilcox@unimelb.edu.au

Keywords: Drug development, biomedical research, 3Rs

This talk discusses the crisis of translation of preclinical research in academia, biotech and pharmaceutical drug development. It provides an overview of drug development from discovery, validation, safety testing, through to entry of a new drug into human clinical trials, outlining the roles of veterinarians along the path.

The talk discusses the factors affecting failure of translation, such as study design, model selection, transparency in reporting, etc., and gives case studies illustrating these. It then proposes rational drug design with lessons from industry as a potential solution, and delineates the roles of the veterinarian in improving translation of preclinical animal data to the clinic, as a 4th R.