

THE 5TH ANNUAL HONOURS BIOLOGY &
PHARMACOLOGY PROGRAMME LECTURESHIP

**The Evolution of 'Efficacy' as a Pharmacological
Concept in Drug Discovery**

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6:00 – 7:00pm



Since its inclusion into receptor Pharmacology in 1956, drug 'efficacy' has been treated as a monodimensional 'capacity to excite' type of drug property. This lecture will discuss how the concept of efficacy has completely changed over the last 15 years leading to re-thinking of the concept for therapeutic drug treatment (s). Now efficacy is seen to be 'pluridimensional' (drugs can have many efficacies). In addition, drugs can operate at receptors as microprocessors causing them to activate some signaling pathways in cells and not others (signaling 'bias'): this latter idea is posing problems for predicting activity in therapeutic systems, but also is leading to a tremendous expansion in therapeutic possibilities. Finally, these ideas are best discussed in the context of receptors as allosteric machines and it will be seen that when this is done, new insights into therapeutic application of molecules can result.

