



APPLYING SYSTEMS BIOLOGY IN DRUG DISCOVERY

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Systems Biology has produced some elegant mathematical and computational descriptions of physiological processes. A clear potential application is in the modelling and simulation of disease processes and therapeutic intervention. This talk will describe some of the ways in which we apply these models to decision-making processes in drug discovery at AstraZeneca. This presentation will mostly focus on our work in cancer signaling: in particular using computational modeling to (a) integrate diverse genomic and phenotypic data types and (b) generate and explore hypotheses about mechanisms of resistance and sensitivity to compound treatment. Other examples will be drawn from the areas of metabolism and cardiac safety.