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At its core is the application of the principles of engineering to bioscience. In essence, this means being able to: define individual components; standardise them; and reconfigure them to produce novel products, which can then be modelled, tested and validated.

One defining feature of Synthetic Biology is the drive towards a 'universal currency' that will allow scientists to assemble and interchange biological components rationally to make new systems – at the level of molecules, cells and tissues. Two approaches are being pursued to provide the fundamental information and understanding about core biological processes. In top-down approaches, elements are systematically removed, with the aim of identifying a minimal core of processes that can be studied and manipulated. In bottom-up approaches, individual components are put together with the aim of constructing functioning entities.

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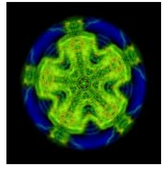

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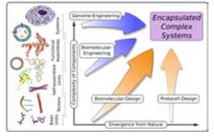


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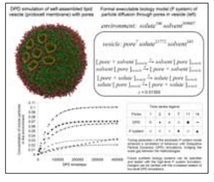

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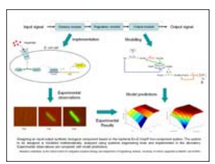

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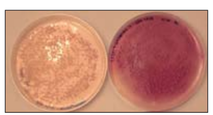

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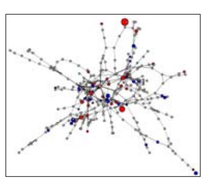

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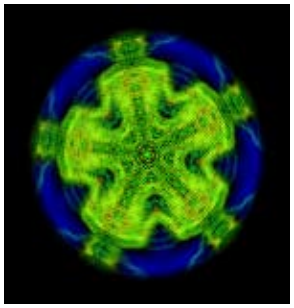

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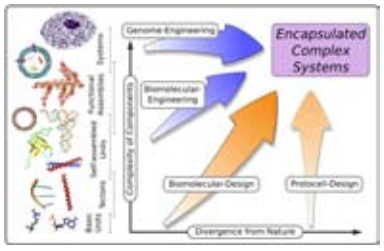


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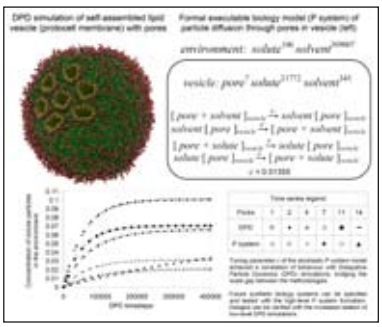

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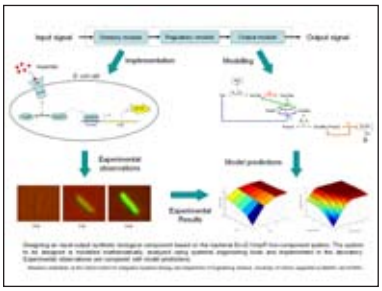

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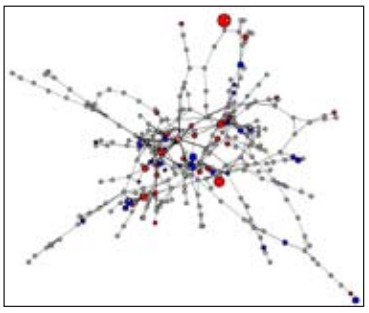

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