

The New South Wales Systems Biology Initiative

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The New South Wales Systems Biology Initiative (SBI), established in 2008, is the first research initiative in molecular systems biology in Australia.

The SBI is funded by the New South Wales Office for Science and Medical Research (OSMR) and the University of New South Wales. It is affiliated with the Ramaciotti Centre for Gene Function Analysis, the Australian Proteome Analysis Facility (APAF) and the Bioanalytical Mass Spectrometry Facility (BMSF). It is also a member of Bioplatforms Australia.

The SBI specialises in basic and applied bioinformatics research in genomics and proteomics. We engage in collaborative bioinformatics projects, especially with users of –omics facilities. One focus is in integrative data analysis, combining data from genomics, transcriptomics and proteomics and the contextualisation of this data in pathways and networks. Recent projects have included interactive 3D visualisation and contextual analysis of protein interaction networks (1), assessing genetic variation in biomarker discovery (2), proteome-wide discovery of methylation in the yeast proteome (3) and construction of protein glycosylation pathways in filamentous fungi (4).

Technical expertise includes database development and curation, construction of genetic and protein-protein interaction networks, high dimensionality visualisation using custom and off-the-shelf tools, and the analysis and interpretation of transcriptomic and proteomic (including mass spectrometry) data.

Website: <http://www.systemsbiology.org.au>

References

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