

Invited Talk

Pushing details into interaction networks

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Many experiments suggest that pairs of proteins are involved in physical interactions, though few give any insights as to the details of how they are mediated. We have worked on inferring details at various levels from interaction networks. I will discuss our attempts to: infer details of interaction strength from purification data (and use this to deduce complexes, ref. 1), model interactions within complexes using three-dimensional structures (2), and identify new modes of domain/peptide recognition involved in mediating interactions (3).

References:

1. Gavin AC, Aloy P, et al, Russell RB, Superti-Furga G. Proteome survey reveals modularity of the yeast cell machinery. *Nature*. 2006 440(7084):631-6.
2. Aloy P, Russell RB. Structural systems biology: modelling protein interactions. *Nat Rev Mol Cell Biol*. 2006 7(3):188-197.
3. Neduva V, Linding R, Su-Angrand I, Stark A, de Masi F, Gibson TJ, Lewis J, Serrano L, Russell RB. Systematic discovery of new recognition peptides mediating protein interaction networks. *PLoS Biol*. 2005, 3(12):e405.