

## Microsymposium

### MS28.O02

#### *Plasticity and cooperativity of cytokine-receptor assemblies at the cell surface*

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Hybrid approaches in structural biology have had a tremendous impact on our ability to tackle complex biological problems including large and flexible protein-protein assemblies. We have been employing creative combinations of X-ray crystallography, Small-angle X-ray Scattering (SAXS) and electron microscopy in conjunction with molecular interaction studies and cellular interrogation of the systems under study to elucidate the structural and mechanistic principles underlying diverse cytokine-receptor assemblies. Our studies have revealed the unexpected structural diversity of such assemblies, and have established that structural plasticity and molecular cooperativity both at the level of the cytokines and the receptors play critical roles in the assembly of signaling complexes. My presentation will provide a coherent overview of how we have tackled cytokine-receptor signalling complexes in a hypothesis-driven manner with the help of hybrid approaches in structural biology.

**Keywords:** hybrid methods in structural biology, protein-protein interactions, cytokine-receptor complexes