Mechanisms of protein folding and assembly revealed by ribosome profiling

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Cells from bacteria to humans have evolved a multilayered machinery that engages translating ribosomes to promote folding and assembly of newly synthesized proteins. Using ribosome profiling, genetics and protein biochemistry, we want to understand how this machinery guides nascent polypeptides to the native state, and how assembly of oligomeric protein complexes is achieved in pro- and eukaryotes.