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**Mechanism of RNA Synthesis: Understanding Nucleotide Addition and Selectivity in Multi-subunit RNA Polymerases.** David Bushnell, Dong Wang, Craig Kaplan, Ken Westover, Roger Kornberg, Structural Biology, Stanford University, 299 Campus Dr., Stanford, CA 94305 USA.

Multisubunit RNA polymerases range in size from 4 subunits to more than 18 subunits, with total mass greater than half a megadalton. Until recently structural information on the mechanism of RNA synthesis has been limited to single subunit RNA polymerases, with the assumption that the multi-subunit polymerases were similar. Structural studies of RNA polymerase II (12 subunits, 514 kDal) now reveal a basis of nucleotide entry and selectivity in multi-subunit RNA polymerases very different from that observed in single subunit enzymes.