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**Cover** In this issue, the sequence variation of human telomeres is characterized, and the distribution of both known and novel motifs in proximal telomeric regions described. Evidence for chromosome-specific repeat patterns, as well as a variety of telomeric haplotypes shared both within and between families and human populations, is provided. Illustrated are the three most commonly found motifs—the canonical TTAGGG (green), a motif with a substitution TGAGGG (yellow), and a motif with an insertion TTAGGGG (light blue)—conceptually showing that their localization differs between different chromosomes. (Cover artwork by Sigrid Knemeyer and Su Min Suh, SciStories LLC, www.scistories.com. [For details, see Grigorev et al., pp. 1269–1279.]