Cyclic polytopes

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Starting from dimension 4, there exist polytopes whose combinatorics contradict the usual 3D intuition. These are cyclic polytopes (discovered for the first time by C. Caratheodory and rediscovered many times later). In the talk, we shall discuss their construction (which is based on a simple algebraic trick), combinatorics (Gale's evenness condition) and links to some mostly classical problems (upper bound theorem, ...).