Lattice QCD and hadrons

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Quantum chromodynamics will celebrate its 30th anniversary next year since its solid foundation with the discovery of asymptotic freedom in 1973. Lattice QCD is only a year younger than QCD itself, and its numerical simulations have been pursued for over two decades since 1981. I try to review the goals and achievements of lattice QCD at this juncture. The topics shall cover the hadron spectrum and fundamental constants of QCD (strong coupling constant and quark masses), long standing issues of hadron physics, hadronic matrix elements of electroweak operators and the Standard Model, and finite-temperature QCD. Development of supercomputers as a fundamental research tool of lattice QCD is also touched upon.