Information Entropy and Correlations in Prime Numbers

Scientists note a series of physical and biological systems in which prime numbers play an important role.

Kumar Ivanov and Stanley Information Entropy and Correlations in Prime Numbers.
http://arxiv.org/abs/cond-mat/0303110

"Examples range from the periodic orbits of a system in quantum chaos to the life cycles of species. Recent work reports on a potential for which the quantum energy levels of a particle can be mapped onto the sequence of primes. Furthermore, it has been shown that a gas of independent bosons with energies equal to the logarithm of consecutive primes possesses a canonical partition function coinciding with the Riemann function."