Is $a + b = c$ really a simple equation ?

Jean-Marie De Koninck
Université Laval, Québec, CANADA

In 1985, Masser and Oesterlé conjectured that, given any $\varepsilon > 0$ there exists a positive constant $M = M(\varepsilon)$ such that if a, b, c are three positive integers, with no prime factor in common, satisfying $a + b = c$, then

$$c < M \cdot \prod_{p|abc} p^{1+\varepsilon},$$

where the above product runs over the prime factors of abc. This statement is called the *abc conjecture*. Its validity would have far reaching consequences in several areas of number theory. For instance, it would imply Fermat's Last Theorem for large powers.

We shall discuss several of the implications of the *abc* conjecture regarding the anatomy of the integers.

This talk is accessible to all.