Abstract of "Irrationality of infinite sums of rational numbers".

It is well known that $e = \sum_{n=0}^{\infty} \frac{1}{n!}$ is irrational. It was only proved in 1978 that $\zeta(3) = \sum_{n=1}^{\infty} \frac{1}{n^3}$ is irrational and the irrationality of $\zeta(5) = \sum_{n=1}^{\infty} \frac{1}{n^5}$ is still open. Both in the case of the irrationality of e and of $\zeta(3)$ the proof rests on an argument showing that there are infinitely many rational numbers which are 'too close' to the number under investigation. In the lecture other infinite sums are treated by similar techniques. (This concerns mainly joint work with Jaroslav Hancl.)

R. Tijdeman.