

# The Édouard Lucas Memorial Lecture

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*Mersenne, Fibonacci and Lucas:  
The Mersenne Prime Story and Beyond*

On Dec. 26 of last year, it was announced that the 50th known Mersenne prime had been identified. This is an enormous number of 23,249,425 decimal digits and is currently the largest known prime number. In spite of the size of this number we are able to prove it prime by a simple algorithm that was discovered in 1876 by Édouard Lucas. Lucas discovered this procedure as a result of his examination of the properties of Fibonacci numbers.

In this talk I will briefly discuss the development of the concept of a Mersenne prime and then describe Lucas' ideas concerning how the primality of such numbers can be established. I will also detail some aspects of Lucas' career and conclude with a discussion of his unsuccessful search for a generalization of his technique.

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