SEMINARIO MATEMATICA

Martedì 26 febbraio 2013
ore 16:00

Scuola Normale Superiore
Pisa
Aula 2 palazzo Carovana

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Terrà un seminario dal titolo:

*"*A survey of the polynomial Pell equation*"*

Abstract:

In 1826, Abel demonstrated that if an expression of the form $f(X) / \sqrt{D(X)}$ is elementary integrable with primitive $\log\left(p(X) + q(X) \, \sqrt{D(X)}\right)$ where f, D, p, q are polynomials over a field k, then $p^2 - D \, q^2 = \eta$ is constant, i.e. we get a solution of the polynomial Pell(-Fermat) equation, which can in fact be computed from a continued fraction expansion of $\sqrt{D(X)}$; similarly as with the Pell equation over the integers.

His results were later refined by Tchebyshef, Adams, Razar, van der Poorten et alii, for instance the existence of non-trivial solutions (with $q \neq 0$) has been related to torsion divisors on hyperelliptic function fields.

Still, there remains a plethora of open questions, many related to the problem of finding examples where the Pell equation actually admits non-trivial solutions (which happens rarely for higher degrees); and the problem of effectively determining that a given D only has trivial solutions.

Tutti gli interessati sono invitati a partecipare.

Classe di Scienze