SIMBa

Universitat de Barcelona

B:KC Barcelona Knowledge Campus

Seminari Informal de Matemàtiques de Barcelona

Speaker: Nuno Freitas.
Universitat: Dept. Àlgebra i Geometria, Universitat de Barcelona.

Data: dimarts 17 de gener de 2012.
Hora: 17:15, cafè i galetes; 17:30, inici.
Lloc: Aula T2 (al terrat), Facultat de Matemàtiques de la UB.

Títol: From Fermat's Last Theorem to some generalized Fermat equations.

Resum: The proof of Fermat's Last Theorem was initiated by Frey, Hellegouarch, Serre, further developed by Ribet and ended with Wiles' proof of the Shimura-Tanyama conjecture for semi-stable elliptic curves. Their strategy, now called the modular approach, makes a remarkable use of elliptic curves, Galois representations and modular forms to show that $a^p + b^p = c^p$ has no solutions, such that $(a, b, c) = 1$ if $p \geq 3$. Over the last 17 years, the modular approach has been continually extended and allowed people to solve many other Diophantine equations that previously seemed intractable. In this talk we will use the equation $x^p + 2^\alpha y^p = z^p$ as the motivation to introduce informally the original strategy ($\alpha = 0$) and illustrate one of its first refinements (for $\alpha = 1$). Then we will discuss some further generalizations that recently led to the solution of equations of the form $x^5 + y^5 = dz^p$.

Qui som? El SIMBa és un seminari jove organitzat per estudiants de doctorat de matemàtiques. Està dirigit a estudiants de doctorat, de màster i, fins i tot, dels darrers cursos de grau. El nostre objectiu és donar a conèixer la recerca que estem fent, així com adquirir coneixements d'altres àrees de les matemàtiques diferents de la pròpia.

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