

MANY CHEERFUL FACTS

presents

Differential Galois Theory

a talk by Damien Mondragon

2:10–3:00pm on Tuesday, December 9, in 1015 Evans.

So you're holding a session for Math 1B and you put a problem on the board:

Find $\int e^{x^2} dx$.

After a while the students give up and with a smirk you explain that there is no elementary anti-derivative. A student happens to ask why this is true. What now, hot-shot?

Well no worries! Through Damien's Special 5-Step program, you too can learn how to provide responses like: "Because its Galois group isn't diagonalizable."

Join me on this beautiful excursion into Differential Galois Theory and learn a few blithe truths along the way.

*I am the very model of a modern Major General,
I've information vegetable, animal, and mineral,
I know the kings of England, and I quote the fights historical
From Marathon to Waterloo, in order categorical;
I'm very well acquainted, too, with matters mathematical,
I understand equations, both the simple and quadratical,
About binomial theorem I'm teeming with a lot o' news,
With many cheerful facts about the square of the hypotenuse!*

— Gilbert & Sullivan, $P \circ P$

The website for Many Cheerful Facts is
<http://math.berkeley.edu/~mcf/>