University of Florida
Mathematics Department
Seventh Erdos Colloquium

by

Richard Borcherds[*]

University of California, Berkeley
on

Feynman integrals and the Bernstein polynomial

Date and Time: 4:00 - 5:00pm, Monday, March 7, 2005
Room: LIT 109

OPENING REMARKS
by
Neil Sullivan
Dean of the College of Liberal Arts
and Sciences

Refreshments: after the lecture, in Little 339

Abstract: A Feynman diagram represents a certain integral, which often does not converge. Physicists regularize these integrals using a process such as *dimensional regularization*. Mathematicians regard this as an undefined and completely meaningless operation, and try to ignore the fact that it gives results that agree with experiment to over 10 significant figures. I will describe how Etingof made sense of these integrals using the Bernstein polynomial.

[*] One of the world's most brilliant mathematicians, Professor Richard Borcherds received the Fields Medal in 1998 for his pathbreaking contributions to algebra and number theory. He began his research career at Trinity College, Cambridge, England and joined the University California, Berkeley first as an assistant professor. He has held a professorship at Berkeley since 1993 and also has been the Royal Society Research Professor at Cambridge University since 1996. He was elected Fellow of the Royal Society (FRS) in 1993.

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