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L. G. de Pillis* (depilllis@hmc.edu), Department of Mathematics, Harvey Mudd College, 301 Platt Boulevard, Claremont, CA 91711. *Modeling Cancer, the Immune System and Treatment.*

Cancer development and the dynamics of the immune system have been a significant focus of mathematical modeling in recent decades. Immunotherapy, a treatment approach that enhances the body's natural ability to fight cancers, is becoming increasingly prevalent in many multi-stage treatment programs that also include chemotherapy, radiation, and surgery. The critical importance of the immune system in combating cancer has been verified both clinically and through mathematical models.

In this talk we will discuss both the biological and mathematical sides of the question of how cancer grows, how the cancer interacts with the immune system, and new treatment approaches that harness the power of the immune system. (Received September 08, 2006)