# MedImmune Research Summer Intern Program – 2009

Research will be hosting 6 student interns this summer (2 high school – rising senior - and 4 college). This is an outstanding opportunity for students to gain experience and insight into the biotech world of vaccines and infectious diseases. The program will run 6 to 8 weeks starting the end of June. Pay will be based on MedImmune pay scales for high school and college interns ($15/hr high school, $17.25/hr college). Children of employees are welcome to apply although the parent may not be the supervisor.

**The applicant should submit a 1 to 2 page statement of interest and resume of experience (such as classes taken or other work experiences, science fair participation etc) to Ed Mocarski (mocarskijrs@medimmune.com) by April 15th. High school Biology is required.**

**Projects:**

1. **Study vaccine viruses using genomic tools** – It will involve techniques such as viral RNA handling, RT-PCR, sequencing and software tools for data analyses and data mining. **(Genomics Team)**
2. **Participate in broad aspects of molecular virology**. Lab techniques to include amplification of viral RNA by RT/PCR, restriction digestion of DNA, cDNA ligation, transformation of DNA into bacterial cells, plasmid DNA prep and DNA transfection into cells, vaccine virus recovery, amplification and titration and viral protein analyses. **(Molecular Virology Team)**
3. **Investigate viral evasion of host cell antiviral defense** using basic virology and molecular virology techniques. Working with bovine and human parainfluenza virus model systems, the intern will learn basic techniques such as growing cells in tissue culture, titering virus stocks, performing virus growth curves, basic microscopy and designing and generating novel viruses. **(RSV Vaccines Team)**
4. **Study antigen specific human mucosal immune responses** to vaccines and learn how to extend findings from animal models to the human immune response system. Using the modified live intranasal commercial product, Flumist, answer specific questions regarding the immune response in animal systems to elucidate biomarkers of vaccine efficacy**. (Translational Biology Team)**
5. **Work with the *in vivo* support group.** Learn about the essential role animals have in the realm of biological systems investigations and the importance of responsible animal care and use. Using telemetry, understand the body's fever response to influenza infection versus no infection or infection with the attenuated vaccine virus. **(Lab Animal Sciences Team)**