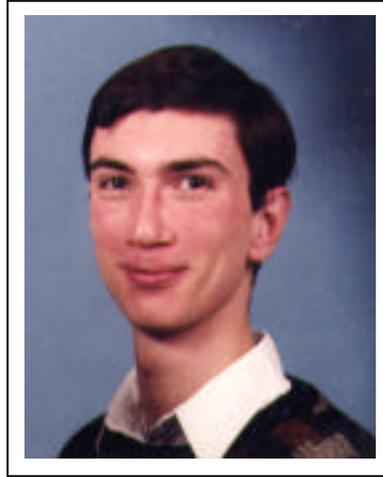


**Johns Hopkins University**  
Baltimore, MD

**Biomedical Engineering**  
Bachelor of Science, March 2002

**NASA Academy Project:  
Detection of Microbial Activity with  
Highly Sensitive Radio Labeling  
Techniques**

Principle Investigator:  
Dr. David P. Summers



email: [stui1@aol.com](mailto:stui1@aol.com)

**Experience:**

Having been an undergraduate at Johns Hopkins University has given me an excellent general background in biomedical engineering. I have had the opportunity to take classes, not only in biology and physiology, but also in all branches of engineering. Although I concentrated in mechanical engineering, I have had significant exposure to electrical and chemical engineering, as well. This engineering background has given me experience in approaching complex problems and methods of how to solve them. I am now looking forward to applying what I have learned to research.

I have had three summer internships in theoretical and experimental physics. Although these internships were not oriented towards biomedical engineering applications, they have given me a unique perspective on the methods of scientific inquiry. It was fascinating to see how scientists approach problems and what techniques they use to maintain the rigorous nature of their work.

Summer 2001 - Princeton Plasma Physics Laboratory (National Undergraduate Fellowship program, with mentor Dr. Masaaki Yamada). I worked on the magnetic reconnection experiment (MRX), and thoroughly enjoyed learning how the MRX worked, both in theoretical terms and in terms of physical hardware. It was fascinating to probe the rapidly changing properties of the evolving plasma. I was able to present a poster of my work at the American Physical Society Division of Plasma Physics meeting earlier this year (October 2001) and won an Undergraduate Student Poster Award for my work.

Summer 2000 - Goddard Space Flight Center (mentor Dr. Peter Wasilewski). I helped develop methods to characterize the ancient magnetic signature of individual bands from iron rich sedimentary rocks. These techniques will be used to characterize the magnetic signatures of Martian rocks returned to Earth by future NASA missions. A poster of my work was presented at the 2000 American Geophysical Union meeting by Gunther Kletetschka. Summer 1999 - Washington State University Physics Department (mentor Dr. Tom Dickinson). I studied the effects of humidity on the adhesive bond between polymers

and soda lime glass. This work helped to characterize the general effect of humidity on fracture mechanics. A paper on this work has been published in the J. Adhesion Sci. Technol. (S. Ibsen, S. Langford, T. Dickinson, "Effect of humidity on the failure of ethylene vinyl acetate/soda lime glass interfaces using small tensile specimens").

I also conducted research in high school on the effects of micro-gravity on crystal growth. I presented my work at three Intel International Science and Engineering Fairs where I won a first place and best of category for chemistry. I also presented at the National Junior Science and Humanities Symposium, sponsored by the military, and won a first place award for the chemistry division

**Extra-Curricular Interests:**

I'm really a huge nature fan and love to go see places. Deserts, rainforest, coral reefs, you name it and I'm there. I also paint landscapes and volunteer time with environmental restoration projects and generally like to hang out.

**Awards**

- Awarded NASA's grand prize at the 1998 International Science and Engineering Fair
- First place and Best of Category Award in the chemistry division at the 1997 International Science and Engineering Fair. Won third place in the chemistry division for the 1996 and 1998 fairs.
- First place in the chemistry division at the 1998 National Junior Science and Humanities Symposium
- Member of Tau Beta Pi (engineering honor society)
- Placed on Dean's list for every semester.