

Oberlin College
Oberlin, OH

Biochemistry and Geology
Bachelor of Arts, May 2002

**NASA Academy Research
Project:
Charting the History of Earth's
Earliest Microbial Ecosystem**

Principal Investigator: Dr. David Des
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Experience:

My current scientific love is the interaction between biological, chemical, and physical processes within microbial systems throughout geologic time. Not surprisingly, this interdisciplinary interest has grown out of diverse research experiences. I began my study at Oberlin interested in infectious diseases and spent a summer working in Memphis, TN with a group trying to develop a vaccine for Group A *streptococcus*. Soon after, I discovered the thrill of thinking about systems on the scale of geologic time and the fun of studying marine systems, and was hooked. I worked on a project considering the potential of settling patterns of Foraminifera as paleoenvironmental indicators, which led to my involvement with the Shelf and Slope Experimental Taphonomy Initiative (SSETI). With SSETI I traveled to the Bahamas and the Gulf of Mexico and analyzed the taphonomy (including decay and epibiont accumulation) of the modern blue crab, *Callinectes sapidus*. I also participated in experiment collection and deployment via SCUBA and submersible. Most recently I have managed to combine my previous interests in biochemistry and biology with my love of geology and paleontology in my honors research. I am studying the relationships between microbial community, texture, and morphology in the modern stromatolites off of Lee Stocking Island, Bahamas. I was fortunate enough to do the field collection myself and also to spend some time working on this project with Dr. Leslie Prufert-Bebout at NASA Ames. This fall I am excited to begin work on a Ph.D. in Geology at the University of California, Davis focusing on microbial morphology and microbe/sediment interactions in both ancient and modern systems.