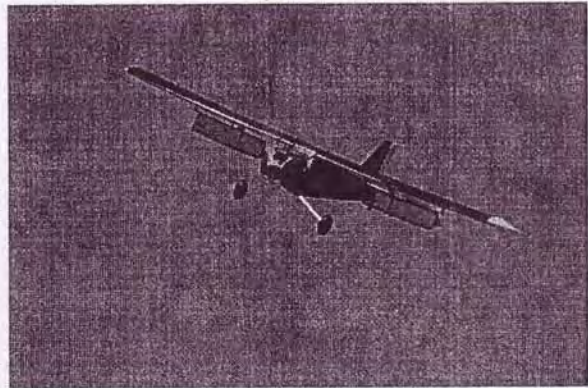
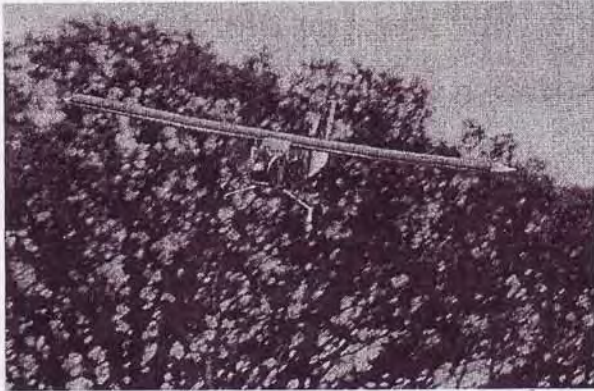


Unmanned Aerial Vehicle Platform for Scientific Remote Sensing

During the summer of 2004, the UND School of Engineering & Mines hosted a National Science Foundation (NSF) Research Experiences for Undergraduates (REU) Site that built a quarter-scale, single-engine, radio-controlled airplane and several custom scientific payloads. The need for the School of Engineering & Mines to own a launch vehicle for environmental sensor development, along with growing research opportunities in homeland security and airborne surveillance, drove the decision to build a UAV platform. The seven undergraduate engineering students (representing the aerospace, computer, electrical, and mechanical engineering disciplines) and two high school science teachers involved in the REU Site enjoyed working on this project – with the variety of tasks available, everyone on the team was able to contribute to the final aircraft and payload deliverables. One of the mechanical engineering students was also an accomplished R/C airplane pilot, and he was responsible for flying the plane.



Upper Left: Albatross Unmanned Aerial Vehicle in flight (3-meter wingspan, capable of carrying payloads in excess of 4-kg). *Upper Right:* Albatross UAV with the BugHunter payload installed, used for controlled mosquito catching above the ground. *Bottom:* 2004 NSF REU Site participants next to the R/C airplane during its construction.