

A Message from the Under Secretary for Science

The publication of this, the 7th Volume of the *Journal of Undergraduate Research*, is continuing evidence of the Department of Energy's support of the next generation of scientists and engineers. The body of knowledge contained in this volume of the *Journal* is striking evidence of the creativity and commitment of these young minds. We hope the excitement of discovery they have experienced will keep them in science. Our Nation needs them if we are to remain at the forefront of science and technology, a condition for our continued economic vitality and energy security.

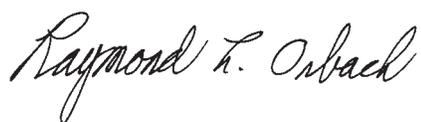
The articles and abstracts contained in this *Journal* are impressive. The disciplines cover science from high energy physics to genomics to nanoscience, and many other leading areas of modern scientific inquiry. The contents display the breadth of support the Department of Energy's Office of Science provides to basic research. The quality of the papers attests to the importance of Office of Science contributions to scientific discovery.

Office of Science supported research enables the U.S. to maintain its competitive edge. It transforms our energy future, supports our national security, and elucidates the fundamentals of matter and energy. The Department of Energy's 17 national laboratories, where all of the research contained in this *Journal* was produced, provide a special and critical resource for our Nation's needs.

For the Department to continue to serve our Nation, extraordinary scientific and technical talent must be nurtured and recruited. This 7th Volume of the *Journal of Undergraduate Research* reflects but one of the Department's ongoing efforts to develop this critical resource.

During 2006, more than 650 undergraduate women and men were awarded research internships at the Department of Energy's national laboratories. This volume of the *Journal* summarizes their achievements, and makes them available to the scientific and lay communities. These contributions demonstrate the skills and accomplishments of these young scientists. They will become the nucleus of our Department's and Nation's scientific and technical workforce of the future.

As Under Secretary for Science, I express my pride in the achievements, contained in this *Journal*, of these extraordinary young minds. I thank them for their dedication to science, and their accomplishments. I wish them well for an exciting future.



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