



Let me introduce myself. I'm the new Director of the Ames Laboratory. I arrived in Ames at the beginning of the year after spending eight years at Purdue University, where I was the Head of the School of Materials Engineering. It has been a tough winter in the Midwest, and the burgeoning signs of spring are even more than usually welcome, but the welcome in Ames has been warm at every level throughout the winter.

I am spending some time during my first months here getting to know the Lab and its staff, and I am very pleased with what is emerging. There is certainly a good dose of "Midwestern modesty" here, and a lot of the work is undersold, but I am finding exciting research and exceptional scientific quality in every corner of the Lab. The more people I talk to, the more great science I find.

Ames Laboratory has a great working climate and a rich collaborative environment in which novel ideas are conceived in fundamental science, tested in theoretical and modeling studies, formed into actual materials that you can hold in your hand, and then measured with high sophistication to prove the original concept.

Welcome to the spring 2008 issue of Inquiry magazine.

You cannot easily find all of those things working together as well as they do at Ames Lab.

As DOE's Office of Basic Energy Sciences came forth with a new set of "scientific grand challenges" for the research community earlier this year, we were pleased to find that the Ames Laboratory was already working on meeting all of them, and in many cases already has great examples to show.

Energy is grabbing the headlines more than it has since the 1970s as gasoline prices keep rising. More and more often we find ourselves challenged to explain how a Department of Energy lab with a large Basic Energy Science commitment is contributing to meeting the obvious needs. Within these pages, you'll find examples of cutting-edge research that has real potential to provide energy solutions for tomorrow – work that is both fundamental and long-term, but has outcomes that enable energy production with lower environmental impact or consumption with greater efficiency. There is no single "fix" for our energy needs, and there is certainly no quick fix. The energy needs of the future will surely be met through a wide variety of different technologies, all of which will emerge from fundamental scientific research of the kind going on at the Ames Laboratory and its sister labs in the DOE complex. History shows how new technologies most often emerge from new materials, and Ames Lab specializes in designing and inventing materials with novel properties.

I'm excited about the science being done at the Ames Laboratory and about the potential it has to contribute to our energy future and our economic security. Read on for some fascinating examples.

A handwritten signature in black ink that reads "Alex King". The signature is written in a cursive, flowing style. Below the signature, the name "Alex King, Director" is printed in a smaller, sans-serif font.

Alex King, Director