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**OAK RIDGE NATIONAL LABORATORY**

MANAGED BY UNIVERSITY OF TENNESSEE-BATTELLE LLC.  
FOR THE U.S. DEPARTMENT OF ENERGY

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November 1, 2005

Jeremy Bennett  
Faculty Search Coordinator  
Department of Biology  
Indiana University  
1001 East 3<sup>rd</sup> Street  
Jordan Hall 127  
Bloomington, IN 47405-3700

Dear Dr. Bennett:

I am writing in regard to your request for information concerning the qualifications of Dr. Matthew Fields for the experimental Systems Biology position offered by your institution. I have known Matthew for about 4 years, during which time I served as his research co-supervisor during his post-doctoral studies at the Oak Ridge National Laboratory (ORNL). Matthew was quickly hired at ORNL after about a year of post-grad studies due to his exceptional abilities as an environmental microbiologist. Matthew left ORNL after three years to pursue a career of both teaching and research in environmental microbiology at Miami University in Ohio. We remain close collaborators on research projects and publications to this day.

Matthew's research over the past four years has focused on the assessment of microbial ecology of contaminated sites at ORNL using both molecular- and culture-based techniques. He is the principal investigator of the microbial portion of a large laboratory and field scale endeavor designed to demonstrate the sustained bioreduction and immobilization of nitrate, uranium, and technetium in contaminated subsurface environments. The project is on-going and is quite complex in that it couples hydrology, geochemistry, and microbiology. Matthew was responsible for the isolation and physiological characterization of novel and unique subsurface microorganisms and in the development of functional community, and metagenomic DNA microarrays. He also was responsible for the coordination of global transcriptomic studies with cellular physiology.

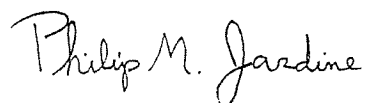
Matthew has developed into a very capable experimental and theoretical environmental microbiologist who is eminently qualified to develop new and innovative research in this area. He has developed the ability to be an independent thinker who can formulate scientific hypotheses, plan the research to resolve the hypotheses, perform the experiments, and write up the research. He also has the remarkable ability to calmly explain the significance of his research findings to others (like me!) that are far outside his field of study. This is very important towards our overall understanding of metal bioreduction in dynamic, heterogeneous subsurface systems such as the one we work in. Matthew has the proven ability to acquire research grants and follow through on the research. He has acquired funds from DOE's NABIR program, Genomes to Life program, Microbial Cell Project, and Community Sequencing program, and ORNL's Laboratory Director Research Program. Each of these funding sources is very competitive and Matthew has done a nice job acquiring funds at such

an early stage of his career. Matthew also does an excellent job with keeping his sponsors abreast of his research activities and they have been very satisfied.

Matthew is well published and is an excellent writer. He already has 30 peer-reviewed publications, with several others pending, in high quality journals. This is quite an accomplishment for such a young scientist and provides a clear indication of his commitment to scientific excellence. Matthew is very organized and well spoken and his presentations are well received by the scientific community. Matthew has also mentored several students during his career at ORNL and currently at Miami University. I am certain that he is an excellent teacher based on my personal observation of his exceptional organization skills and ability to communicate. There is no doubt in my mind that Matthew is a leader on prominent scientific issues in his field and that he can expect an extraordinary future as a scientific researcher. He is a team player with a selfless demeanor towards the people he works with.

Matthew Fields is a productive, motivated, and intelligent young scientist that has significantly enhanced the area of environmental microbiology since his arrival to ORNL ~4 y ago. I feel confident that Dr. Fields is deserving of strong consideration for the posted position and I recommend him highly and without reservation. On a personal note, if your institution passes this guy up, you will be making a huge mistake, trust me! Thank you for the opportunity to recommend an outstanding candidate.

Sincerely,

A handwritten signature in black ink that reads "Philip M. Jardine". The signature is written in a cursive, flowing style.

Philip M. Jardine  
Distinguished Staff Research Scientist  
Hydrology, Geochemistry, Soil Science  
Oak Ridge National Laboratory