

# OAK RIDGE NATIONAL LABORATORY

MANAGED BY UT-BATTELLE FOR THE DEPARTMENT OF ENERGY

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Jeremy Bennett  
Faculty Search Coordinator  
Department of Biology  
Indiana University  
1001 East 3rd Street  
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Bloomington, IN 47405-3700

Dear Jeremy Bennett:

It is my great pleasure to write a letter supporting **Matthew Fields** for an Associate Professor position in your Department. Matthew came to my lab as a postdoctoral research associate in December 2000 after he accomplished his Ph.D. in microbiology at Cornell University. At that time, I had many applicants and Matthew was the top candidate. His main focus was on using molecular tools to analyze microbial community structure and composition. In May of 2001, Environmental Sciences Division (ESD) had a staff scientist position open, and accepted both national and international applications. Among many top candidates, Matthew was selected and hired as a staff scientist in September 2001. In 2003, he accepted a position as Assistant Professor at Miami University, Oxford, OH. But he is still worked with me on two big Genome to Life projects from Department of Energy (DOE). Also I am a co-PI in one of his projects from DOE. Although he left at ORNL, we have still worked together on several projects, thus I know him very well.

Matthew was trained as a microbial physiologist during his Ph.D. studies at Cornell University. When he joined my laboratory as a postdoctoral researcher, he was interested in using molecular biology tools to understand the microbial community dynamics at the Department of Energy's Field Research Center for Natural and Accelerated Bioremediation Research (NABIR). He isolated many novel denitrifiers and metal-reducing bacteria, and also comprehensively characterized microbial community dynamics at this site using many different molecular techniques. This work was highly rated by DOE program managers as well as by NABIR Principal Investigators.

Since he became a staff scientist at ESD, while he has continued to work on different projects on microbial community characterization, he has helped with the physiological aspects of various multidisciplinary projects with a metal-reducing bacterium. These projects involve more than 50 investigators from more than 10 institutions. He is also aiding with the studies on developing various genomic technologies for environmental studies, in which we are one of the few pioneering groups in the world. In addition, he has developed other research programs by

focusing on community genomics and microbial functional genomics. He obtained funding for three research projects on studying community and ecosystem genomics from sources at Oak Ridge National Laboratory, and funding for a project from the DOE-NABIR program to study the functional genomics of sulfate-reducing bacterium. In addition, he is a Co-PI in a Genomes To Life project with Lawrence Berkeley National Laboratory. This was one of the 5 largest projects funded for 5 years. At Miami University, he has developed a proposal funded by NABIR program and community sequencing projects funded by DOE Joint Genome Institute. Through all of these activities, he has developed expertise in both microbial ecology and genomics beyond physiology, and has good experience in proposal development. I believe that such a broad and diverse background is critical to current biological studies in the genomics era. I am very confident that he has a great promise to become a top class scientist.

Matthew is a diligent scientist, and works very hard. I had more than 30 people working with me, at that time and he was among the few people who work extremely hard and were able to accomplish several projects simultaneously. Although he gained many additional responsibilities after becoming a staff scientist, unlike many other staff here, he had still spent a lot of time doing experiments in the laboratory. He was also very productive. He had three papers in press as a senior author and four other senior author papers submitted or in preparation. He is also a co-author for 7 other papers that have been published, are in press or submitted. These papers are related to broad topics in microbial functional genomics, genomic technology and microbial ecology.

Matthew is an excellent mentor for students and technicians. He is very patient and extremely responsible. For instance, I remember that I had two students and a technician that did not have much training in microbiology, especially anaerobic microbiology. Matthew spent a tremendous amount of time in teaching them proper techniques to ensure they could perform project work properly.

Matthew is very cooperative, friendly and nice. He has excellent interpersonal skills. He is willing to share his knowledge with other students who work on different projects, and offer any assistance if needed. Many people think that he was one of the best persons to work with in the laboratory.

In summary, Matthew has a broad background and expertise in environmental microbial functional genomics, physiology and ecology. He is on the right track to be a top class scientist in both basic and applied microbial functional genomics. I strongly support his application for an associate professor position in your Department. He was exceedingly valuable to my multi-disciplinary programs. I am confident that he will be an extremely valuable asset to your Department if he is offered a position.

If you have any question, please do not hesitate to ask me!

Yours sincerely

Joe (Jizhong) Zhou

Distinguished R&D Staff Scientist at Oak Ridge National Lab  
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