Memorandum

Date: November 15, 2010

To: NIH Office of Rare Diseases Research

From: Stephen G. Kaler MD

Re: Copper 10 Conference Summary

The purpose of this memo is to summarize the *7th International Meeting on Copper and Interacting Metals in Biology* held in the town of Alghero, on the Italian island of Sardinia, from October 16-20, 2010. The meeting covered broad aspects of copper- and other metals-related research and provided abundant opportunities for personal interactions among bioinorganic chemists, metallo-biologists and clinicians for metal related disorders. The Copper 10 conference was dedicated to presenting the latest breakthroughs in the cell biology of metal transport, trafficking and detoxification. Talks from leaders in the field from multiple disciplines were represented. Topics included imaging and biomonitoring of metals within organelles, metals and oxidative stress, metals in microbial pathogenesis, neurodegeneration and hematopoietic disorders. New discoveries in the mechanisms of metal ion selectivity and metal co-factor assembly were presented. The presentations extended from microbes to humans, and cut across multiple areas of biological importance.

Of special relevance to the mission of the Office of Rare Diseases Research was a session dedicated to Copper-related diseases, which was extremely well received by meeting participants. This session featured discussions on cardiac hypertrophy, ATP7A-related disorders of copper transport, a novel distal motor neuropathy, Alzheimer disease, a possible new disorder of copper metabolism associated with mutation of a copper chaperone, and animal models of Wilson disease and Menkes disease.

The expected goals of this conference were to evaluate new research priorities and encourage the development of research collaborations between attending scientists. It is fully expected that the information exchanges at this conference will facilitate new future discoveries and scientific publications. This international gathering of researchers in metal biology and chemistry represented the premier meeting of its kind, drawing together scientists with diverse interests and expertise from across the world. The success of Copper 10 has already stimulated planning for the next meeting, tentatively scheduled for the Fall of 2012.

Thank you very much for the generous financial support provided by the Office of Rare Diseases Research which contributed to the success of this meeting and which will have a lingering influence on the global research effort in this field.