

## **2007 Winter Dinner Meeting Review**

By Lida Antonian

The GETA Winter dinner meeting was held at the Hyatt San Francisco Airport on March 1, 2007. The topic was “Delaying (or accelerating) degenerative diseases: DNA Damage.” The meeting was well attended by scientists from industry, government and academic laboratories. Dr. Bruce Ames of Children’s Hospital Oakland Research Institute (CHORI) talked about his current research. His current research relates micronutrient deficiency to DNA breakage and mitochondrial damage. Dr. Ames discussed how deficiencies of certain micronutrients such as B12, B6, folate and minerals iron and zinc cause DNA damage. Dr. Ames’ research has shown that mitochondrial oxidative stress in degenerative diseases of aging, like certain cancers, may be due to oxidants produced during mitochondrial metabolism of acetyl carnitine and lipoic acid. His research in rats has clearly demonstrated that normal mitochondrial function can be restored by feeding rats mitochondrial metabolites, acetyl carnitine and lipoic acid. Dr. Ames put forward a thought provoking hypothesis that micronutrient deficiency triggers a triage response in the organism in favor of short-term survival and at the cost of accelerating degenerative diseases<sup>1</sup>. He believes that an optimum intake of micronutrients and metabolites, which varies with age and genetics, should tune up metabolism and improve health, particularly for the poor, obese, and elderly.

1. Ames, B.N. Low micronutrient intake may accelerate the degenerative diseases of aging through allocation of scarce micronutrients by triage. Proc. Natl. Acad. Sci. USA 2006;103: 17589-17594.