

一般講演 (口頭発表) G1-01 (Oral presentation)

### **Applying Multi-Region Input-Output Analysis to Global Nitrogen Emission**

\*Oita, A. (1,2) , Malik, A (2) , Lan, J. (2) , Nishijima, S. (1) , Matsuda, H. (1) , Lenzen, M. (2) (1:Yokohama National Univ., 2: Univ. Sydney)

Nitrogen emissions have wide-ranging environmental and ecological impacts, and are currently on the increase globally. In nitrogen emission, the production and consumption of food plays an important role along with other energy use from fossil fuel combustion, and a significant amount of food is now traded internationally.

Although the nitrogen footprint has been introduced as a tool to quantify the integrated nitrogen load, a global analysis has not yet been performed. We establish a global nitrogen footprint model that takes into account international trade. To this end we use Eora, a global multi-region input-output database.

We will present a part of the results from the model analysis, related to food consumption in Japan because our temporal results show that Japan is one of the biggest emission-exporting countries in the world through importing nitrogen-embodied food. We hope that our results will assist in enabling more integrated management of nitrogen loads and subsequent reduction of environmental impacts.