

**AIR POLLUTANTS AND GHGS EMISSION INVENTORY IN EAST ASIA**

**Y. Tonooka<sup>1</sup>**, Y. Ning<sup>2</sup>, A. Kannari<sup>3</sup>, K. Murano<sup>4</sup>, H. Higashino<sup>5</sup>, H. Mu<sup>6</sup>,  
Y. Kondou<sup>6</sup>

<sup>1</sup>*Department of Social Environmental Planning, Faculty of Economics, Saitama University, Saitama City, Japan*

<sup>2</sup>*Graduate School of Economic Science, Saitama University, Saitama City, Japan*

<sup>3</sup>*Environment and Resources Division, Institute of Behavioral Sciences, Tokyo, Japan*

<sup>4</sup>*National Institute for Environmental Studies, Tsukuba City, Japan*

<sup>5</sup>*Research Center for Chemical Risk Management, AIST, Tsukuba City, Japan*

<sup>6</sup>*Institute for Energy Utilization, AIST, Tsukuba City, Japan*

To clarify the atmospheric physics and chemical processes of aerosols it is important to estimate their emissions and precursors from various sources. This study aims to estimate the current state of emissions and future projections of Black Carbon (BC), Organic Carbon (OC) and related air pollutants of PM<sub>fine</sub>, PM<sub>2.5</sub>, TPM, SO<sub>2</sub>, NO<sub>x</sub>, CO, NMVOCs and NH<sub>3</sub> in East Asia for long range transportation modeling of air pollution. The area consists of China, Korea, North Korea Japan and Taiwan area. By emission sources category, furnace types, fuel types and regions. 15' by 15' grid emission maps are drawn. The aim of our emission inventory for East Asia is to develop reliable and detailed emission data with high resolution by region and timescale. The features of our estimates are (1) detailed energy demand sector, (2) inclusion of biomass fuel used in the domestic sector, (3) consideration of boiler or furnace size and type, for emission factor application and energy efficiency assumptions, (4) a reliable and small grid-sized regional resolution, using the polygon data of the population or urban activities distribution.