

8<sup>th</sup> International Conference and Exhibition on

## MATERIALS SCIENCE AND ENGINEERING

May 29-31, 2017 Osaka, Japan

## Preparation of graphene aerogel for absorption radionuclide form Iodine in water

Tanate Suksompong

Kasetsart University, Thailand

Graphene Aerogels (GAs) is one of the most promising nanomaterials leading to several potential applications to capture and sequestration of radionuclides, in this work, the synthesis **Graphene Oxide** (GO) was fabricated based on the modified Hummer's method. **Graphene Oxide** gel (GO gel) prepared by centrifuged graphene solution at 5000 rpm for 20 min then it washed by DI water. In case of graphene aerogel, the dry graphene oxide gel by Freeze Drying (at -10 °C for 300 min). For absorption part we mixed GO gel 0.5 g and GAs 0.5 g with Sodium iodide solution concentration 3.40% (w/v) at room temperature for 24 hours. It was revealed that the type of graphene has impacts to the adsorption iodine particles in water. The results of **Scanning Electron Microscopy** (SEM) showed iodine particles on the surface of GO aerogel more than GO gel. Moreover the results of EDX show percentage of Iodine element inside The GO aerogel have 14.97% it better than the GO gel have 4.82 % of iodine element on the surface.

## Biography

Tanate Suksompong current position is a Scientist and Researcher at Department of Applied Radiation and Isotopes Faculty of Science, Kasetsart University. **Tanate Suksompong** have 4 years experience in radiation detection and nuclear instrument operation i.e. Gamma spectrometer, Liquid scintillation counter and Imaging plate system. Also, **Tanate Suksompong** have an experiences in the design and development of radiation instrument such as development of data storage system for multichannel analyzer by using SD card. **Tanate Suksompong** is also responsible for the academic services in radionuclide measurement in foods imported from Japan.

fscitts@ku.ac.th

Notes: