

(For JSPS Fellow)

Form B-5

Date (日付)

24/2/2014 (Date/Month/Year: 日/月/年)**Activity Report -Science Dialogue Program-**
(サイエンス・ダイアログ事業 実施報告書)

- Fellow's name (講師氏名): Po-Chien Hsiao (ID No. P 12374)
- Participating school (学校名): Fukui Prefectural Koshi High School
- Date (実施日時): 22/2/2014 (Date/Month/Year: 日/月/年)
- Lecture title (講演題目): (in English) Steel Braced Frame Structural Systems for Resisting Earthquake Loads
(in Japanese)
- Lecture summary (講演概要): Please summary your lecture 200-500 words.

Steel braced frame have been widely used as the lateral-force resisting structural system. The brace members as energy dissipaters play a very important role in the steel structural systems to absorb input energy of earthquakes and therefore reduce the vibration amplitude and duration of the building in earthquakes. The concept of hysteretic behavior (or loops) was introduced to describe the energy dissipation due to the plastic axial deformations of the brace members. The energy dissipation of the braces results from the plasticity of the steel material. Buckling behavior of the steel brace member, which would reduce the compressive carrying capacity and energy dissipation of the brace, was also explained. With the appropriate design on the brace members, the braced frame structural systems enable to provide stable seismic performance to minimize the loss of disaster against moderate to large earthquakes. Multiple types of steel braced frame systems currently adopted in the engineering practice were introduced, such as conventional buckling braced (CBB) and buckling restrained braced (BRB) frame systems. My research is focused on development of new types of steel braced frame systems to resist earthquake loads. An innovative design of steel brace named naturally buckling brace (NBB) was developed in my research. The seismic performance of the NBBs was compared with CBB and BRB mentioned previously.

- Language used (使用言語): English
- Lecture format (講演形式):
 - ◆Lecture time (講演時間) 70 min (分), Q&A time (質疑応答時間) 20 min (分)
 - ◆Lecture style (ex.: used projector, conducted experiments)
(講演方法 (例: プロジェクター使用による講演、実験・実習の有無など))

used projector

- ◆ Interpretation (ex.: assistance by accompanied person, provided Japanese explanation by yourself) (通訳 (例: 同行者によるサポート、講師本人による日本語説明))

assistance by accompanied person

- ◆ Name and title of accompanied person (同行者 職・氏名)

Graduate Student (M1) of Kyoto University, Takuma Togo

- ◆ Other note worthy information (その他特筆すべき事項):

none

- Impressions and opinions from accompanied person (同行者の方から、本事業に対する意見・感想等がありましたら、お願いいたします。):

今回 Hsiao 氏に同行した東郷です。事前に打ち合わせの時間を設けて頂いたお陰で、講義の方は滞りなく行えたと思います。またお誘いを頂ければ是非参加したいと思います。