

(For JSPS Fellow)

Form B-5

Date (日付) 17/06/2015

(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): Tamas Kumar Panda (ID No. P14033)
- Participating school (学校名): Fujishima High School, Fukui Prefecture
- Date (実施日時): 10/06/2015 (Date/Month/Year: 日/月/年)
- Lecture title (講演題目): (in English) Porous Coordination Polymers: Chemistry and Applications

(in Japanese) 多孔性配位高分子:
化学と応用

- Lecture summary (講演概要): Please summary your lecture 200-500 words.

POROUS COORDINATION POLYMER : CHEMISTRY AND APPLICATIONS:

Porous coordination polymers (PCPs) have emerged vast interest in recent decades because of their well design crystal structures and enormous application.¹ PCP held by coordination bonds between metal centers and organic ligand and created various architectural structures. They have been explored for diverse applications, such as gas storage, gas separations, drug delivery, catalysis, luminescence, sensing, and ionic/electronic conductivity. Recently, major emphasis has given to the applications of PCPs as platform of two major aspects (1) for high CO₂ uptake and (2) for fuel cell application. As all of us know that, the coal fire power plant produced CO₂ releases into the atmosphere which causes global warming (so-called greenhouse effect). On the other hand, increasing environmental pollution and energy shortages, clean energy has become the main challenges for the 21st century. The usefulness of proton-exchange membrane fuel cells (PEMFCs) which generate electricity appears to be an attractive option as an alternative clean energy. In principal, membrane materials which can efficiently transport protons from anode to cathode will be the heart of the fuel-cell technology. In my presentation, I will discuss about the potential of PCPs for addressing the issues like high CO₂ storage capacity as well as efficiency in fuel cell application.

- Language used (使用言語): English
- Lecture format (講演形式): English
- ◆Lecture time (講演時間) 50 min (分), Q&A time (質疑応答時間) 30 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, Ball and stic magnet model, synthesized material

◆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))

No assistance with me, I explained to student by myself.

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

No accompany person

◆Other noteworthy information (その他特筆すべき事項):

Not applicable

- 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。): Not applicable