

(For JSPS Fellow)
Form B-5
Date: 21/07/2015

Activity Report -Science Dialogue Program

- Fellow's name: **Florian Nicolás Pelupessy** (ID No.**P13760**)
- Participating school: **National Institute of Technology, Akashi College**
- Date:**13/07/2015**
- Lecture title:**Mathematics, logic and unprovability**
- Lecture summary:

Throughout the lecture some facts about my home country were presented.

Mathematics is the science of abstract structures. Examples of such structures are the natural numbers, rational numbers and computer programmes. Being a deductive science, logic plays a large role in developing mathematical theory. The rules of logic form in themselves an abstract structure, so logicians apply mathematics to study logic.

Two major results from logic were presented: the Gödel completeness and incompleteness theorems. The first of those demonstrates the power of predicate logic. The latter one shows the limitations of predicate logic, showing that one cannot have a consistent computable complete theory of mathematics. In my research field we examine concrete examples of incompleteness for several candidates of such theories.

- Language used: **English**
- Lecture format:
 - ◆Lecture time: **80min**, Q&A time: **10min**
 - ◆Lecture style (ex.: used projector, conducted experiments)
Lecture supported by projector and blackboard.
 - ◆Interpretation (ex.: assistance by accompanied person, provided Japanese explanation by yourself)
Assistance by host teacher.