

Twining Activities Report

1. *Personal Information:*

Mr./Ms. **Massimo Tornatore**, faculty member of **Politecnico di Milano, Department of Electronics and Information, Milan, Italy** visited

(name of sending institution, country)

in the period from **23.06.2014** to **28.06.2014** in **Wrocław University of Technology**

(name of the visited institution, country)

order to carry out research and training activities in the field of **computer network optimization**.

(give the area)

2. *Information about Seminar*

The seminar presentation was organized on **26.06.2014**

the date

It was entitled:

The Role of Optical Networks in the Big Data Era

3. *Description of scientific activity in details*

(Please describe value added to the ENGINE project i.e. new knowledge, new skills with respect to the objectives of the project, the assigned common area of future cooperation with the partner, plans for common research, projects, publications and how it could be used in the scope of ENGINE)

During stay of prof. Massimo Tornatore in Wrocław, we discussed potential research cooperation in the following fields

- optimization of elastic optical network,
- physical impairments of optical networks,
- network survivability,
- application of optical networks for new services like cloud computing and content delivery networks, big data processing.

Moreover, during his stay in Wrocław, we worked with prof. Massimo Tornatore and my PhD student Róża Goścień on a research paper "On the Complexity of Routing and Spectrum Assignment in Flexible Grid Networks". Prof. Tornatore received an invitation to submit an extended version of his OFC 2014 paper [M.Tornatore, C. Rottondi, A. Morea, and G. Rizzelli, "Complexity and Flexible Grid Networks", Optical Fiber Communication Conference, San Francisco, California United States, March 9-13, 2014] to be published in OSA/IEEE Journal of Optical Communications and Networking (JOCN). Next, prof. Tornatore invited me to participate in writing the extended paper to a well recognized journal. During his stay in Wrocław we were discussing the paper and writing the final version. The paper was submitted to JOCN journal on July 1, 2014. Now, we wait for the decision.

4. *Information referring to the intellectual property:* the generally binding law in this area in the visited country and procedures of patenting;

5. *Description of the procedure of cooperation between universities and SME in visited country*: how it is organized, the sources of funding, the opinions about drawbacks and strengths of existing solution.

6. Please send this report , a program of the visit and the seminar presentation in electronic version to Scientific Coordinator halina.kwasnicka@pwr.wroc.pl, and to the Project Office engine@pwr.wroc.pl
In this report please respond to the points 1-5 for outgoing visit and points 1-3 for incoming visit.