

Experience note

Stay at Tohoku University, August 1st — 30th of September, 2005

I would like to start by thanking " the International COE of Flow Dynamics internship program ", which enabled me to carry out my training at the Laboratory of Intelligent System directed by the Professor Qiu.

Currently, I am PhD student in the Electrical Engineering and Ferroelectricity Laboratory (LGEF) at the National Institute of Applied Science from Lyon (INSA de Lyon). This lab is specialized in piezoelectricity. There are two teams in this laboratory. The first, focuses on materials activities, such as PZT, BT ceramics, PMN-PT and PZN-PT single crystals as well as physical and chemical characterizations. The second part focuses on piezoelectric material application, such as for example energy harvesting, vibration and wave control and piezoelectric transformer. My Thesis subject is Single crystals materials with high piezoelectric activities : "Synthesis, characterisation and application". It is a work which connects the two teams.

This laboratory directed by Professor Guyomar and the Intelligent System Laboratory directed by Professor Qiu have entered in strong relationship since a few years. In LGEF , I worked on PMN-PT ceramics and single crystals, and here in IFS, I synthesized and characterized fibres. With the two studies, I could make a physicochemical and piezoelectric comparison between various shape of the same composition. During my stay in Sendai, I work only on PZN-PZT ceramics and fibres, in order to explain the decrease of properties between ceramic shape and fibre shape.

Once again, I am very grateful to the International COE of Flow Dynamics which gave me the precious opportunity to visit Japan and Prof. Qiu laboratory. The administrative staff of the Program is very attentive towards the foreigner students and very helpful. My stay was very well organized and profitable from the first at the last day. The place of my apartment was extremely convenient, in Sendai city downtown and very close to the university campus. In two months, I lived an interesting scientific experiment, but also on the human level. I really enjoyed my stay in Sendai. Japanese people were always very nice and helpful with me. I was really likely to attend two major event in Sendai: The TANABATA festival and the 15th festival of Jazz. I will try to come back soon, but this time for at least one or two year.

