

## Staff Corner

### Noriyoshi Nakajima looks back at the year(1)

Over a year has passed since you were appointed as the IFERC Project Leader. What do you feel in retrospect about the record of the past year?

I am a staff of the National Institute for Fusion Science (NIFS), and has a concurrent position as a director of the Rokkasho Research Centre of NIFS from 2009/12. Thus, I relatively continuously stayed at Rokkasho from the middle of 2010. The main role of the Rokkasho Research Centre is to prepare and to promote the collaboration between BA project performed at Rokkasho and universities including NIFS, which might lead to my present situation. As a result, I am undertaking the IFERC Project Leader (PL) from 2010/9, so that my job has completely changed.



I am, as a PL, responsible for the coordination of the implementation of the three sub-projects and site-related activities. With the dedicated and strong assistance of members of Project Team (PT) consisting of both a Coordination Support comprising experts and technical staff, and some members inside three sub-projects, I could exercise my responsibilities and functions including: preparing the Project Plan, the Work Programme and the Annual/Progress/Summary Reports of the 7<sup>th</sup> to 9<sup>th</sup> IFERC Project Committee (PC) meetings, and submitting them to the 8<sup>th</sup> and 9<sup>th</sup> Steering Committee (SC) with the written procedure of SC for approval after consultation with the PC, accounting of the contribution of each Party, giving consent to Procurement Arrangements (PAs), accepting of in-kind contributions from the parties, and integrating project activities shared with both EU and JA Implementing Agencies (IAs), and so on.

Project Team Meeting (PTM) has been held almost every week, and Extended PTM with F4E in Barcelona has been held almost every two weeks. I believe that those dedicated and strong support by PT and IAs overcame various difficulties brought by the terrible disaster of the large earthquake and severe accidents of the nuclear power plants in Japan and kept the IFERC activities in high level.

You are a theorist in the field of fusion plasma science. What kind of research have you pursued?

At present, my research field is the MHD equilibrium and stability, and the neoclassical theory. In my bachelor course, however, my research target was to theoretically examine collisional effects on a micro-instability in a simple mirror machine. Stimulated by the power of the computer simulations, I have changed my target into electrostatic PIC simulations of the ion-heating and current-drive by the Lower Hybrid wave in a slab-modeled tokamaks in my master course. In order to study the geometrical effects more intensively, I shifted my target to theory and simulations of the MHD instabilities of RFP (Reversed Field Pinch) in my doctor course. Eventually, after getting a job, I again shifted my target to the neoclassical transport theory, especially bootstrap current, MHD equilibrium without nested flux surfaces, and MHD instability, especially ballooning mode, in the planar axis heliotron/torsatron, namely 3 dimensional toroidal configuration. In this way, the geometry treated by me altered from symmetric to asymmetric systems. My recent interest is to construct a new concept of equilibrium applicable to MHD equilibrium with a chaotic magnetic field.

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### Noriyoshi Nakajima looks back at the year(2)

#### How's your Rokkasho life?

I almost continuously stay at Rokkasho except for business trips to NIFS almost once per month. Naturally, I had come to cook by myself. This is another difficulty for me (maybe more difficult than PL's works). At present, my favorite foods I can cook are park saute, baked fish, curry, tofu and fermented soybeans as they are, miso-soup, pasta and etc. I hope I would become a more skilful cooker. Finally, I have to confess that I belong to the threatened or endangered species in a way. Thus, it is very hard for me to live in an ordinary environment except for a highly restricted atmosphere. Fortunately, in the Rokkasho BA site, such a highly restricted atmosphere is prepared in a tiny shack surrounded by beautiful nature.