

2nd Asian Nuclear Fuel Conference (ANFC)

The Asian Nuclear Fuel Conference (ANFC) is the tri-annual international meeting, which provides an international and academic forum for fundamental aspects of nuclear fuels, with collaborations among atomic energy societies of Japan, Korea and China. It successfully proceeded 18-19 September 2014 at Tohoku University. A total number of presented papers was 83. 100 people from 12 countries participated to this conference. ICC-IMR supported a portion of the financial support for the guest speakers from oversea countries to this conference.

Nuclear fuels such as cladding materials (Zr-base alloys) and inert fuel pellets (UO_2) are the key materials for nuclear reactors, and therefore mostly severe requirements are applied for safe operations. The Fukushima Dai-ichi nuclear accidents raised new fields of research and development in nuclear technology. For fuels, the investigations on reactor accidents are requested such as interactions between Zr and high temperature steam, mechanism of fuel melting process, and so on. Not only the investigations on accidents themselves, but also development of materials is requested as well as the plant designs both of which ensure higher safe performance. Especially for fuels scientifically reasonable and logical descriptions (mechanisms) are necessary.

Asian Nuclear Fuel Conference (ANFC) provides an international and academic forum for fundamental researches on all aspects of nuclear fuels. Following the successful 1st ANFC meeting 2012 in Osaka organized by Fuel Division of Atomic Energy Society of Japan (AESJ), 2nd ANFC meeting was held on 18 - 19 September 2014, Sendai, Japan. This meeting focused on establishing Asian communities in academic area, especially interaction among young researchers of universities and research institutions. Not only the fundamental researchers, but utilities and authorities shared the knowledge.

Total number of attendees were 100, including 28 students, from Japan (64), Korea (18), China (4), US (4), Taiwan (2), France (2), Germany (1), Switzerland (1), Russia (1), Sweden (1), Norway (1) and India (1). 30 Oral presentations, including 9 invited lectures, covered the following topics; Nuclear reactor accident analysis, Materials science and engineering in nuclear fuels and cladding in light-water reactors, fast breeder

reactors and innovative reactors, as well as Spent fuel management and related chemistry. 41 poster presentations covered the above topics and others like severe accident code development. Student and young researchers' session was also held during the conference to develop new relationships in the community.

Through the above activities, the 2nd ANFC was successful to demonstrate the advanced activities in these fields. Development of advanced materials for anti-accident technology, atomic-level analysis by state-of-the-art microscopic technique and mechanical property measurement, advanced reprocessing technology and others were introduced and discussed thoroughly especially for the applications to Fukushima and accident-less reactor design.

The selected papers will be published in 2015 October issue of Journal of Nuclear Science and Technology [1].

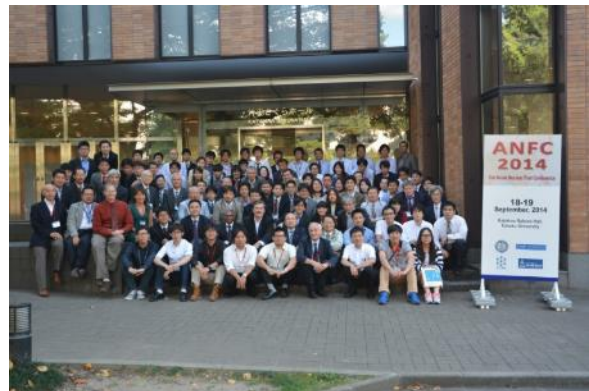


Fig.1 Conference photo

References

[1] Special issue of 2nd ANFC, J. Nucl. Sci. Tech. (2105) to be published.

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