

## RATEC2012 -International Symposium on “Recent advance in analytical techniques for steelmaking industry

Ratec2012 was held in 2012. Nov. 28th-30th at National Museum of Emerging Science and Innovation (MIRAICAN), Koto-ku, Tokyo. There were 19 lectures, 19 poster presentations, and 56 participants. 10 foreign keynote speakers were invited from German, Belgium, Sweden, Australia, USA, China, and Korea.

The major objective of this conference is particularly that we can overview new trends of analytical techniques for process and quality controls in material industry, since they would contribute to the further development and production of new materials in various industry fields. Especially, the application of laser-induced breakdown spectroscopy (LIBS) for on-site/on-line elemental analysis was a remarkable topic, and we invite Dr. Prof. Reinhard Noll (Head of the Fraunhofer Institute for Laser Technology, Germany) and Dr. Victor Tusset (Head of the Advanced Techniques, Center for Research in Metallurgy, Belgium) to deliver a plenary talk about the recent advances of LIBS for quality control of steel products and for sorting of steel scraps according to their chemical compositions [1]. Other important topic of this conference is the microscopic observation techniques for the clarification of fine structure of materials. On this point, Dr. Andrey Karasev (KTH, Sweden) and other researchers made an excellent talk about the application of electrolytic extraction for investigation of inclusions and clusters in various steel grades and alloys on different stages of production [2]. The discussions with them were very heated, which resulted a foundation of connections each other.



Fig. 1 The plenary talk by Dr. ReinHard Noll, Head of the Fraunhofer Institute for Laser Technology, Germany

In this conference, we could show the presence of Japan's high research levels in the field of analytical science to especially the ICASI (International Committee of Analysis in Steel and Iron Industry) and CETAS (European Committee for the Study and Application of Analytical Work in the Steel Industry), and it is expected to hold such a kind of opportunity for ingathering of researchers to maintain and spread the presence. Finally, we truly acknowledge the financial support from International Corroboration Center, Institute for Materials Research (ICC-IMR).



Fig. 2 A scene during poster session.

### References

- [1] R. Noll, V. Strum, Ue. Aydin, D. Eliers, C. Gelhen, M. Hoehne, A. Lamott, A. Makowe, J. Vrenegor. Spectochim. Acta. Part B: Atomic Spectroscopy, 63, 10, 2008, pp.1159-1166.
- [2] S.Sato, Y. Arai, N. Yamashita, A. Kojyo, K. Komada, N. Ohtsu, Y. Okamoto, K. Wagatsuma. Appl. Surh. Sci., 258, 2012, pp. 7574-7580.

