



## Advanced topics of 15th International Congress of Thermal Analysis and Calorimetry

ICTAC15

*Guest Editor*



**Prof. Takayoshi Kimura**  
Chairman, ICTAC15  
Department of Chemistry, Kinki University  
kimura@chem.kindai.ac.jp

This compilation is based on the peer-reviewed and selected papers of ICTAC15

## Preface

T. Kimura

It gives me a great pleasure to introduce this special issue of the Journal of Thermal Analysis and Calorimetry. This compilation is based on the selected and peer-reviewed papers of the 15th International Congress on Thermal Analysis and Calorimetry (ICTAC15). The international congress was held jointly with the 48th Japanese Conference on Calorimetry and Thermal Analysis at Kinki University in Higashi-Osaka in August of 2012. The Congress attracted quite a large number of attendees from around the world. Papers covered most of the various branches within the field of thermal analysis and calorimetry as well as numerous applications. The presentations were delivered by leading scientists in the field and were very well received.

In this congress, we held a commemorative special session honoring the centennial anniversary of Honda's thermogravimetry as well as the 50th anniversary of Ozawa's kinetic method. It is well known that thermogravimetry (TG) was developed by Professor Kotaro Honda (Tohoku Imperial University) in 1916 and it was his great breakthrough from which a century's worth of research has since transpired. Another important event occurred in 1965 when Dr. Takeo Ozawa developed the kinetic theory for TG. Since these two scientific breakthroughs occurred almost a century and half century ago, the congress devoted to a special session to honor these two world-famous scientists. Honda's thermobalance, which is currently being exhibited at the Tokyo Institute of Technology Museum, was transported to ICTAC15 and put on display. Due to the hard work of many colleagues at ICTAC15, it was the first time ever to watch the operation of Honda's thermobalance. Surprisingly, we could observe how the old balance could work. Also, the TG gave

highly precise data that was nearly as accurate as today's high-tech equipment. It was truly remarkable that a piece of equipment produced almost 100 years ago could still work with such precision. The exhibit allowed us all the opportunity to know more about Professor Honda and see firsthand the many fundamental considerations in his development process. Of course, Honda's contribution provided a guideline for subsequent equipment as well as research concerning thermal physical properties, and the analysis of stoichiometry, or kinetic theory.

In order to organize ICTAC15, we received great financial support from many companies and academic societies. The congress was a success, in part, due to assistance from the Kinki University administration. Also, we received enormous cooperation from more than 400 Kinki University students. On behalf of the organizing committee, I would like to thank Kinki University, its staff, administration, and student body for their gracious cooperation. Without their cooperation and assistance, there is no doubt that ICTAC15 would not have been such a big success!

Many young scientists attended this congress. We expect much from these young researchers in the twenty-first century, knowing that they will add much to the already large body of knowledge in the field. Also, I was pleased to observe that the joint session of ICTAC15 and the 48th JCCTA promoted both international cooperative activities as well as friendship among the many attendees.

I would like to express my sincerest gratitude to all the authors for their contributions to this journal. Moreover, the reviewers deserve our gratitude on behalf of JTAC for their hard work. All the authors responded quickly to the reviewers' comments allowing this journal to be published in such a timely manner. Last but not least, thanks are due to Professor Judit Simon (Editor-in-Chief), Dr. Imre Miklós Szilágyi (Editor), as well as the many coworkers of the Scientific Office.

---

T. Kimura (✉)  
Department of Chemistry, Kinki University,  
Higashi-Osaka, Osaka, Japan  
e-mail: kimura@chem.kindai.ac.jp

## Acknowledgements

The Guest Editor is very grateful to the following scientists for their critical and valuable reviews which have significantly contributed to the quality of the papers in this Special Issue.

Aki, H., Japan  
Aleixo, M. L., Brazil  
Amitava, B., Taiwan  
Antecka, A., Poland  
Barros, N., Spain  
Bernes, A., France  
Bhatnagar, A., Portugal  
Bogdanova, S., Bulgaria  
Bosacka, M., Poland  
Braga, M. H., Portugal  
Budrugaac, P., Romania  
Cao, Y., USA  
Carp, O., Romania  
Casanova, C., Spain  
Cherem da Cunha, A. L., Brazil  
Chrissafis, K., Greece  
Criado, J. M., Spain  
Crnkovic, P., Brazil  
Dabrowska, G., Poland  
Dan, F., USA  
Date, S., Japan  
di Lorenzo, M. L., Italy  
Doca, N., Romania  
Domenek, S., France  
Dorozhkin, S. V., Russian Federation  
Dou, Q., China  
Drebushchak, V. A., Russian Federation  
Endo, T., Japan  
Feist, M., Germany  
Ferenc, W., Poland  
Ferriol, M., France  
Frost, R. L., Australia  
Gaber, M., Romania  
Gomez, M. I., Argentina  
Gonçalves, A. P., Brazil  
Gonzalez-Benito, J., Spain  
Górniak, A., Poland  
Gupta, J. P., India  
Győryová, K., Slovakia  
Hanley, L., USA  
Hatakeyama, T., Japan  
Heng, J. Y. Y., United Kingdom  
Iijima, M., Japan  
Ilia, G., Romania  
Isalgue, A., USA  
Izutsu, K.-i., Japan  
Jakab, E., Hungary  
Kaljuvee, T., Estonia  
Katoh, K., Japan  
Kawaji, H., Japan  
Kawakami, K., Japan  
Kerch, G., Latvia  
Khan Mansoor, A., India  
Kim, S., Korea  
Koga, N., Japan  
Kolling, W. M., USA  
Kristóf, J., Hungary  
Kucerik, J., Germany  
Kumasaki, M., Japan  
Lalia-Kantouri, M., Greece  
Latajka, Z., Poland  
Lazzara, G., Italy  
Lehocky, M., Czech Republic  
Lehto, V.-P., Finland  
Lesley, M., USA  
Li, C., China  
Li, X.-R., USA  
Li, Y., China  
Lianos, P., Greece  
Lion, A., Germany  
Löbenberg, R., Canada  
Lőrinczy, D., Hungary  
Lu, X., China  
Lu, Y., USA  
Maciejewski, M., Poland  
Madarász, J., Hungary  
Mai, K., China  
Malek, J., Czech Republic  
Maltez Melchert, M. B., Brazil  
Matsumoto, H., Japan  
Mauro, A. E., Brazil  
Mendez, A., Spain  
Mészáros Szécsényi, K., Serbia  
Milestone, N., New Zealand  
Mitsubishi, T., Japan  
Mochizuki, A., Japan  
Mohanty, K., India  
Moribe, K., Japan  
Morikawa, J., Japan  
Mothe, C. G., Brazil  
Mracek, A., Czech Republic  
Nie, S., China  
Nomen, R., Spain  
Oda, M., Japan  
Ohtaka, H., Japan  
Ozao, R., Japan

- Pan, W.-P., USA  
Pandey, M., India  
Pasierb, P., Poland  
Perez-Maqueda, L. A., Spain  
Pinto, C. A., Brazil  
Plocek, J., Czech Republic  
Popescu, C., Germany  
Popov, D., Poland  
Purkait, M. K., India  
Quitain, A., Japan  
Randzio, S. L., Poland  
Ribeiro, R., Portugal  
Rotaru, A., Romania  
Rouquerol, J., France  
Rubiera, F., Spain  
Rusnac, L.-M., Romania  
Sajfert, V., Russian Federation  
Sam-Yellowe, T. Y., USA  
Santhosh, G., Singapore  
Santos, I. M. G., Brazil  
Sarge, S. M., Germany  
Saruyama, Y., Japan  
Schick, C., Germany  
Sedlářová, I., Czech Republic  
Sedmidubsky, D., Czech Republic  
Sempere, J., Spain  
Šesták, J., Czech Republic  
Shen, W., China  
Shengli, G., China  
Shi, Q., USA  
Shimatsu, T., Japan  
Shu, C.-M., Taiwan  
Siirde, A., Estonia  
Siler, P., Czech Republic  
Silva, I. A., Brazil  
Silva, M. M., Portugal  
Simon, P., Slovakia  
Siudyga, T., Poland  
Sorai, M., Japan  
Srdic, V., Romania  
Sroda, M., Poland  
Stefanescu, M., Romania  
Stoia, M. E., Romania  
Sulowska, J., Poland  
Takagi, H., Japan  
Tan, Z.-C., China  
Terada, K., Japan  
Tiverious, V., Greece  
Toda, A., Japan  
Tomaszewicz, E., Poland  
Tsai, F.-C., China  
Tsuji, T., Japan  
Tsukuba, K. S., Japan  
van Ekeren, P. J., The Netherlands  
Villanueva, M., Spain  
Wang, K., China  
Wu, S.-H., Taiwan  
Wu, W., China  
Xu, W., China  
Yamamura, Y., Japan  
Yang, K.-W., China  
Yapeng, F., United Kingdom  
Yazici, H., Turkey  
Yonemochi, E., Japan  
Yoshida, H., Japan  
Yoshino, S., Japan  
You, M.-L., Taiwan  
Zayed, M. A., Egypt  
Zevenhoven, R., Finland  
Zhang, T., China  
Zhao, H., USA