

A Report on the 5th Annual Symposium on TRF Senior Research Scholar on Flow Based Analysis in Thailand

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The 5th annual symposium on TRF senior research scholar on “Development of micro- and nano-scale analysis by flow-based techniques II” was held in Chiang Mai University (CMU) on Aug. 12th, 2006. This symposium under the auspices of the Thailand Research Fund (TRF) has been organized by Prof. Kate Grudpan of CMU since 2002. I had stayed at Chiang Mai for about 3 weeks by his kind invitation for our collaboration. During my stay, this symposium was held, so that I could take an opportunity of seeing his all group members’ efforts to arrange the symposium successfully in advance. On that day they were wearing uniform and establishing their good teamwork.

The research project has active collaboration with overseas institutions: University of Washington, USA (Profs. Gary D. Christian, Jaromir Ruzicka, Robert E. Synovec), Monash University, Australia (Dr. Ron Beckett, Assoc. Prof. Ian D. Mckelvie), Karlsruhe Research Centre, Germany (Prof. Thomas Fanghenel, Horst Geckeis), University of Plymouth, England (Prof. Paul J. Worsfold), Okayama University, Japan (Prof. Shoji Motomizu), Aichi Institute of Technology, Japan (Prof. Tadao Sakai), Texas Tech University, USA (Prof. Pernendu K. Dasgupta), Gunma University, Japan (Prof. Hideyuki Itabashi), Kochi University, Japan (Prof. Hiroyuki Ukeda) and Ogawa & Co., Japan (Dr. Keiro Higuchi). The first Workshop between U.S. and Thai Analytical Scientists was held in Thailand on January 4th – 8th, 2006 in order to facilitate their collaboration.

An opening session was opened with Kate’s address about the objectives and progress of the project. After that, there were two welcome opening addresses by the Dean of Faculty of Science (Assist. Prof. Mongkon Rayanakorn) and the Director of Academic Research Division of the TRF (Prof. Vichai Boonsaeng). The Director gave the silver plates to Profs. Shoji Motomizu (Okayama University, Japan) and Tadao Sakai (Aichi Institute of Technology, Japan) and to me, although Tadao Sakai could not attend the symposium. I would like to congratulate Tadao Sakai on his 2006 Japan Society for Analytical Chemistry Award. Also, we praised Thai lady researchers for their awards. Bunches of flowers were given to them: Assist. Prof. Duangjai Nacapricha (Mahidol University, Thailand), Assoc. Prof. Orawon Chailapakul (Chulalongkorn University, Thailand) and Dr. Supaporn K. Hartwell (CMU, Thailand).

There were plenary (PL-01) and invited (IL-01) lectures:

PL-01 “Development of Flow-Based Methods for Automated Chemical Analysis Using Computer-Controlled Liquid Flow Devices” by Shoji Motomizu, Narong Lenghor and Sarawut Somnam (Okayama University). In this paper S. Motomizu presented studies on FIA and SIA systems assembled with solenoid pumps and valves and new concept of SIMA (simultaneous injection-effective mixing analytical

method).

IL-01 “Spectrophotometric Flow Analyzer with Automatic Valve Switching System for Trace Phenols” by Norio Teshima and Tadao Sakai (Aichi Institute of Technology).

Thereafter, 11 oral presentations were on the morning session.



S. K. Hartwell presented study on immunochromatographic assay for specific proteoglycans which are a potential biomarker for ovarian cancer.

D. Nacapricha used a boron-doped diamond thin film as sensor for flow analysis of three β -agonists: salbutamol, terbutaline and clenbuterol.

W. Siangproh reported on a FIA of Sudan I, II, III and IV in food using glassy carbon modified with carbon nanotube-ionic liquid gel, and also W. Wonsawat determined the four Sudan dyes in non-aqueous system by a FIA with amperometric detection.

R. Burakham developed an on-line sample preparation for liquid chromatography and capillary electrophoresis.

T. Kanyanee performed an elegant sampling and analysis system for trace SO_2 determination using soap bubble.

S. Chanpaka used a sequential injection analysis (SIA) system with lab-at-valve (LAV) format for on-line micro-solvent extraction of tetracycline.

L. Ganranoo adapted a SI-LAV stopped flow system to a kinetic study on the reaction of iodide and persulfate as a model reaction.

W. Siringkhawut measured some heavy metals such as Zn, Cd and Pb using Bi film flow-through electrode with anodic stripping voltammetric detection.

S. Prasitwattanaseree demonstrated chemometrics techniques for micro- and nano-scale analysis: classification of gasoline trademarks and simultaneous determination of chlorate and chlorite in agrochemical samples.

S. Kittiwachana described principal component regression (PCR) and partial least square (PLS) procedures for the determination of protein in cow milk, although he was absent because he was in a temple as a new trainee monk (I learned this kind of Thai traditional culture).

I believe that their oral presentations made themselves (especially for Ph.D. students) internationalized.

There were thirty eight poster presentations in the afternoon session. Many Thai students were discussing their successful results lively.

Kate presided at a closing session. He mentioned that studies on analytical chemistry have impacts to academic communities in Thailand by considering the data from the science citation index (Web of Science). Also, he addressed a joint symposium between Thailand and Japan on 2007. Some participants were requested to address their remarks. Ron Beckett gave his comments in supporting that future collaboration would lead to good research, and Shoji Motomizu commented on the expectation of developments in flow-based techniques. I mentioned that I hoped *Journal of Flow Injection Analysis* would be much more recognized as a valuable international journal.

After the symposium, we enjoyed a wonderful dinner at a good restaurant near the campus. Fortunately, a sudden shower waited for us till we all got into the restaurant.

I had continued my stay at Chaing Mai after the symposium, and I could take an opportunity to give a lecture to undergraduate students in Department of Chemistry of CMU. The title was "Flow-Based Methods of Water and Clinical

Analyses".

I observed that the Symposium activated the young generations (especially students) in experiencing to contribution in organizing the Symposium apart from academic experiences.

