

Conference report

Symposium report: 5th Russian winter symposium on chemometrics: WSC-5

The Drushbametries (DM) project has come to its successful conclusion. The project objectives which were stated six years ago are now completed with WSC-5. In the first report these objectives were as follows:

- 1) contributing to starting up chemometrics in Russia
- 2) establishing a framework for international chemometrics interaction
- 3) enabling foreign and Russian scientist to participate on an equal economic footing

During the five meetings, five cities have been visited (Kostroma, Barnaul, Pushgory, Chernogolovka, Samara) which constitutes a very good spread of regions over the whole of Russia — two of them were in the neighborhood of St. Petersburg and Moscow. More than 200 scientists took part in these conferences. A special proceedings book titled “Progress in Chemometrics Research” has been published [1], four introductory courses on chemometrics have been conducted at different Russian universities. A Russian language chemometrics textbook has been published in three editions [2]. The Drushbametries project has resulted in the establishment of seven chemometrics centers (Moscow, St. Petersburg, Barnaul, Samara, Tomsk, Irkutsk, Ufa, Kazan). The proceedings of WSC-5 will be presented as a special issue of *Chemometrics and Intelligent Laboratory Systems*, which must be considered as a very fitting recognition of the merit and value of the entire project.

The Fifth Russian Winter Symposium on Chemometrics took place 18–23, February, in one of the biggest industrial cities in Russia—Samara. Following tradition, an introductory school on chemometrics was conducted at the Samara State Technical University, the host organization of WSC-5. The participants of the introductory school were introduced to projection methods of multivariate data analysis, multivariate calibration and classification. It is a sign of the maturity of the DM project that this school for the third time was given by Russian teachers only. As a conclusion on this course, an overview of a wide selection of chemometrics applications was presented by Oxana Rodionova.

The symposium was located in the beautiful surroundings in a suburb of Samara along the Volga river, at the recreation center of Samara State Technical University. Fresh air and a high level of comfort promoted a productive working atmosphere during the symposium. WSC-5 boasted six invited lectures, sixteen

contributing talks and more than twenty posters, all of which promoted scientific discussions of high value that were continued after sessions.



The main topic for WSC-5 was: “Process Analytical Technology and Environmental Protection”. Samara State Technical University is well-known for its ecological projects, most of which were presented on the symposium. The conference opened with a lecture by DM-founder Kim H. Esbensen: “Representative sampling in PAT and environmental/geological work: Theory of Sampling (TOS) — a missing link”. Following this, Dmitry Bykov, local co-chairman of the WSC-5 gave an overview of ecological activity of his department: “Chemometric methods for environmental pollution monitoring”. Roma Tauler also did not miss the ecological aspects when he lectured on main contamination sources of heavy metal ions in fish, sediments and waters from Catalonia rivers using different multi-way data analysis approaches. Oxana Rodionova lectured on analytical process control and optimization using the SIC-approach. Pentti Minkkinen gave a lecture about weighting errors and their place in the theory of sampling. Paul Geladi raised interesting questions about hyperspectral imaging and showed recent results and application examples. Yuri Kalambet focused on implementation of chemometric techniques in a specific chromatographic data station software. Finally Chris Marks gave a very personal overview of all previous conferences in a moving lecture: “Drushbametries — My Russian Adventures” which summed up

the social aspects of the entire DM project to the intense satisfaction of the audience.

As in the previous year, Elsevier Publishers provided a special prize for the best oral or poster presentation from a young scientist. The 20th volume of Data Handling in Science and Technology series — “Handbook of Chemometrics and Qualimetrics, Part A” — was presented to Sergei Kucheryavski from Altai State University, Barnaul, Russia for his innovative contribution: “Using black and white models for classification of medical images”. An additional award — for the “most promising new beginner”, the fundamental textbook H. Martens and T. Naes “Multivariate Calibration” was presented to Eugene Vasiliev by Professor Kim Esbensen.

The social program of WSC-5 allowed attendees to combine pleasant and useful activities. Two hours every day was assigned for skiing (with or without actual skies). A stable fixture of the WSC-program is the by now a famous bar, “Scores & Loadings” that operates each night during the conference. Discussions on chemometrics, politics, music and general scientific networking continued late into the nights. An interesting meeting was devoted to ecological education of students starting their activity from implementation of projects that help their own universities to establish, implement and maintain ecological behavior to appropriate international standards. Fruitful conversations regarding the use of chemometrics in ecological monitoring of the Volga basin was also conducted with colleagues from the UNESCO Moscow office.

These results of the conference attest the significant success of this concluding event of the first part of the Drushbametrix program. Vivid discussions centered on future plans and directions of the Drushbametrix project. It was decided henceforth to conduct a new cycle of WSC conferences biannually. Most of the participants support the idea of continuing with winter symposia and expressed their desire to see WSC conferences as a mainly “local event” for presenting new ideas and fruitful discussions in a friendly international, informal atmosphere, rather than to opt for a development into a larger, more standard conference format.

Finishing this “First Five-Year Plan” does not mean the end of the Drushbametrix project however! It is timely and relevant to move on to the next level. Participants of all WSC-meetings have

expressed a desire to continue and further strengthen international collaboration. It is safe to say that the many personal network contacts established between young scientists from Russia and many foreign chemometricians by now constitute a valuable bridge between scientific schools and societies from different countries.

The core idea of the Drushbametrix program was to start up chemometrics in Russia and to reach out to many new, young (and not-so-young) scientists. The second generation DM cycle now has to work towards closer cooperation with other national chemometrics societies. The exact form of this collaboration will be discussed at an intermittent meeting at Kazan State University in the summer of 2007, to which will be invited the leaders for some 3–5 national chemometrics societies.

Documentation for the entire DM project can be found at: <http://rcs.chph.ras.ru/drushba.htm>

References

- [1] A.L. Pomerantsev (Ed.), Progress in Chemometrics Research, NovaScience Publishers, NY, ISBN: 1-59454-257-0, 2005.
- [2] K.H. Esbensen, “Multivariate Data Analysis — In Practice”, 4-th Ed., CAMO, 2000. Transl. into Russian by S. Kucheryavski, Ed.: O. Rodionova, 1st ed: ASU, Barnaul, 2003; 2nd ed: IPCP, Chernogolovka, 2005; 3-d ed: SSTU, Samara, 2006.

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