

Conference Summary

It was a great pleasure to welcome you to Weimar the town of Goethe and Schiller.

The Material Research and Testing Institute (MFPA) Weimar was delighted to host the First European Moisture Conference Aquametry 2010, and we thank you for your participation.

This conference is created as a forum of theory and practice, where experts meet each other, and exchange results of research, development, and application. The interested public was invited to participate. We invited scientists, manufacturers and users in order to exchange information, latest research results, and to offer solutions and devices.

We organized seven sessions with oral presentations, a poster session and an exhibition. The purpose of the conference is to broadly address the current academic and industrial issues on moisture measurement, basic and advanced research, technological problems and their likely solutions.

The conference program was supported jointly by STIFT, the MFPA Weimar and hf sensor GmbH which helped provide financial assistance to invite several speakers for attending the conference. By keeping the fees to a minimum we have enabled also scientists from East Europe to participate in the conference.

Moisture measurements serve for quality control and improvement in many branches like industry, civil engineering, agriculture, commerce, but also for foodstuffs, for instance: for quality detection of meat, fruits, coffee, and so on.

The research of moist materials and development of measuring devices are absolutely necessary. Experts in this complex area, being too complicated and time consuming for large industry, are relatively rare. Their cooperation around Europe helps to solve quality problems in the framework of ISO 9000, to save water and energy, and to reduce environmental damage.

Large area soil moisture measurements from the regional up to the global scale are urgently required for meteorological and hydrological modelling. Satellite data helps for the improvement of weather forecast, the determination of the available water for plant growth and the flood risk warning.

The predecessor of the Aquametry 2010 was the so called "Feuchtetag" it was founded at the University of Architecture and Civil Engineering 1987. The "Feuchtetag" 1997 and 2002 in Weimar with exhibitions and more than 100 scientists, developers and users have been brought a good exchange of notes in the national framework.

The 4th and 6th International Conferences "Electromagnetic Wave Interaction with Water and Moist Substances" were held in Weimar 2001 and 2005. The conferences were a big success; more than 110 attendees came from 25 countries all over the world to each conference.

It is the aim of the MFPA to develop and to apply this new innovative moisture measuring technique in Germany and Europe quickly together with other cooperation partners. The experiences from the national and international conferences have been used in order to organize an European Moisture Conference called "AQUAMETRY 2010". The microwave moisture measurement in Weimar has a 25 years tradition, with this a successful milestone has been set to the conference.

The Call for Papers of the AQUAMETRY 2010, was very successful. 62 papers came from all over Europe. We were also happy that 11 manufacturers of moisture measurement systems and devices presented their products in the framework of such a conference.

The conference provides an interdisciplinary platform for sharing experience in development and application of moisture measurement techniques. The conference has addressed all

problems relevant to both physical concepts and technological aspects of practical implementation of moisture measurement techniques for qualitative and quantitative determining the amount of water in moist substances. The conference program had the following sessions:

- Plenary session (5)
- Electromagnetic Methods for moisture Determination in Frequency Domain (5)
- Electromagnetic Methods for moisture Determination in Time Domain (10)
- Soil moisture estimation and monitoring (9)
- Analytical Reference methods for Moisture determination (3)
- Effects of Electromagnetic radiation to the human organism (2)
- Moisture measurement of biological substances (4)
- Application of Moisture Measurement in Civil engineering (13)
- Poster session (11)
- Conclusion

10 manufacturers of moisture measurement techniques and the Ansys Corporation presented their products on the well-attended exhibition.

105 attendees have been participated in the conference. The papers came from French, Switzerland, Poland, Czech, Russia, Belarus, Great Britain, Denmark, Sweden and Germany.

The formal conference meeting on the Leuchtenburg was commended as one of the topics of the conference. The attendees meet each other, could discuss about problems of the research, development and cooperation. The impressive panorama from the Leuchtenburg showed a part of the fine landscape of our country Thuringia.

A special conference web-site designed by Dr. Kuhne, Dr. Kupfer, Mr. Bonitz and Dr. Wagner showed the conference program, information on accommodation, and pictures from Weimar and Thuringia.

Within the MFPA we thank especially Ms. Ehrig, Ms. Frydrych for making the accounting, Ms. Bergmann for the management of the accommodation, Ms. Spangenberg, and Ms. Georgi for mailing Calls and Programmes.

At this place I want to thank Prof. Bergmann, Dr. Nitsche, E. Trinks, Dr. N. Wagner, R. Wagner, F. Bonitz and B. Müller and all colleagues of MFPA who helped during preparation and realisation of the conference.

We thank Mrs. Kupfer, Mrs. Gärtner (both TU Dresden), Ms. Rieger, Ms. Bergmann and Mr. Trinks for making the registration.

We would like to acknowledge the professional design of the Calls, Programmes, and Proceedings worked out by Klapproth & Koch and the excellent work of the Gutenberg Druckerei Weimar.

We hope that we, together with the authors and reviewers of the papers, have produced a publication of lasting value.

The meeting was intended to be a well accepted event for all attendees to meet each other, to exchange information, and to establish contacts and acquaintances for the future.

I feel confident that this conference will continue the series of conferences that began in Weimar into the future. On behalf of the Scientific Program committee and the Organisation Committee thank you for your participation in this conference once more.

We want to get a feedback please, if you were satisfied with the conference AQUAMETRY 2010. We would be thankful for any suggestions or comments.

Weimar, 08.10.2010

Klaus Kupfer
Chairman of AQUAMETRY 2010