

# ***Preliminary Programme***

**8<sup>th</sup> International Symposium on  
Ultrasonic Doppler Methods  
for Fluid Mechanics  
and Fluid Engineering**



**hzdr**

 **HELMHOLTZ**  
ZENTRUM DRESDEN  
ROSSENDORF

  
**SFB 609**

Organization:

S. Eckert, S. Franke, D. Rübiger  
Helmholtz-Zentrum Dresden-Rossendorf  
Contact: [s.eckert@hzdr.de](mailto:s.eckert@hzdr.de), [s.franke@hzdr.de](mailto:s.franke@hzdr.de), [d.raebiger@hzdr.de](mailto:d.raebiger@hzdr.de)

## **Tuesday, September 18<sup>th</sup>**

17:00 - 21:00    Registration at the conference venue (Schloss Hotel Pillnitz)

19:00 - 21:00    Welcome reception at Schloss Hotel Pillnitz

### **Lab tour at HZDR**

For those participants being interested we could offer a lab tour for visiting the MHD department at HZDR.

Because of the full conference program such a tour would be possible only before or after the symposium.

The following time slots are available:

Tuesday, September 18<sup>th</sup>, 13:00 - 16:00

or

Friday, September 21<sup>st</sup>, 17:00 - 19:00

All those interested should contact the persons from the local organizing committee per email before September 1<sup>st</sup>. Please give us your preference with respect to one of these dates.

## Wednesday, September 19<sup>th</sup>

- 8:30 Registration
- 9:30 Opening, welcome
- 10:00 Keynote lecture: Y. Takeda  
*Future in Ultrasound Doppler Flow Measurements*
- 10:40 Coffee break
- 11:00 R. Kotzé, J. Wiklund, R. Haldenwang  
*Optimisation of UVP measurements using new transducer technology and advanced signal processing techniques*
- 11:20 R. Nauber, L. Büttner, M. Burger, M. Neumann, J. Czarske, S. Franke, S. Eckert  
*Dual-plane Ultrasound Array Doppler Velocimeter for Flow Investigations in Liquid Metals*
- 11:40 O. Andreew, A. Thess  
*Two-dimensional flow mapping past a circular cylinder using a 7-channel UDV system*
- 12:00 M. Müller, G. De Cesare, A. Schleiss  
*One- and two-dimensional UVP velocity sampling in a cuboidal basin subject to in- and outflow sequences*
- 12:20 Lunch
- 13:50 P. Schmitt, A. Pallares, Y. Tasaka, K. Sakurai, S. Fischer  
*Ultrasonic wave interaction with air-water boundary layer*
- 14:10 T. Vogt, A. Andruszkiewicz, K. Eckert, S. Odenbach, S. Eckert, G. Gerbeth  
*Ultrasonic flow measurements and bubble detection in gas-stirred metallic melts*
- 14:30 J. He, G. Bao, O. Huang, Z. Zhu, S. Gao  
*Ultrasonic Doppler Flow Measurements applied to gas-lift pumping technique*
- 14:50 V. Dugué, K. Blanckaert, A.J. Schleiss  
*Flow patterns induced by a bubble screen in a sharply curved flume based on Acoustic Doppler Velocity Profiler measurements*
- 15:10 T. Ihara, H. Kikura, Y. Takeda  
*A very low velocity measurement using ultrasonic velocimetry*
- 15:30 Coffee break
- 16:00 V. Bareš, T. Pícek, J. Krupička, J. Brabec, V. Matoušek  
*Investigation of slurry flows in rectangular pressurized pipe flow by means of ultrasonic velocimetry*
- 16:20 M. Rahman, U. Håkansson, J. Wiklund  
*Application of the Ultrasound Velocity Profiling + Pressure Difference (UVP+PD) method for cement based grouts*
- 16:40 T. Shiratori, I. Kumagai, Y. Tasaka, Y. Murai, Y. Takeda  
*Development of rotational rheometers by introducing UVP*
- 17:00 J. Wiklund, R. Kotzé, R. Haldenwang, M. Stading  
*Development of an industrial UVP+PD based rheometer - optimisation of UVP system and transducer technology*

## Thursday, September 20<sup>th</sup>

- 9:00 Keynote lecture: C. Poelma  
*Recent Developments in Ultrasound Imaging Velocimetry: toward Clinical Application*
- 9:40 S. Franke, D. Rübiger, J. Czarske, G. Gerbeth, S. Eckert  
*Time dependent 2D flow structure measurements arising from melt stirring by means of various AC magnetic fields*
- 10:00 I. Kolesnichenko, R. Khalilov, P. Oborin, A. Pavlinov  
*Application of UDV for studying the flow and crystallization of liquid metal in the process of electromagnetic stirring*
- 10:20 J. Pal, A. Cramer, G. Gerbeth  
*Flow measurements in a model of the Czochralski crystal growth process*
- 10:40 Coffee break
- 11:00 K. Timmel, M. Röder, S. Eckert, G. Gerbeth  
*Flow measurements in a continuous casting model using a low temperature liquid metal*
- 11:20 T. Yanagisawa, T. Miyagoshi, Y. Yamagishi, Y. Hamano, A. Sakuraba, Y. Tasaka, Y. Takeda  
*Random reversals of flow direction in Rayleigh-Bénard convection of liquid metal under a uniform magnetic field*
- 11:40 D. Rübiger, T. Vogt, S. Franke, S. Eckert, G. Gerbeth, J. Czarske  
*Inertial wave observations in liquid metal by means of ultrasound Doppler velocimetry*
- 12:00 F. Samsami, A. Thess  
*Investigation of flow structure in electromagnetically driven liquid metal confined in an annulus by Ultrasound Doppler Velocimetry*
- 12:20 Lunch
- 13:50 A. Debacker, B. Birkhofer, D. Lootens, R. Bourquin, S. Ricci, P. Tortoli  
*A new fully digital UVP enabling quantitative in-line rheometry*
- 14:10 M. Motozawa, T. Sekine, T. Sawada, Y. Kawaguchi  
*Characteristic velocity distribution of rectangular duct flow of a magnetic fluid under magnetic field*
- 14:30 K. Igaki, R. Abe, Y. Tasaka, I. Kumagai, Y. Murai  
*Heat and momentum transfer of a buoyant blob in low Prandtl number fluids*
- 14:50 S. Fischer, C. Rebattet, T. Lalande, D. Dufour, N. Bachellier  
*Applicability of ultrasonic pulsed Doppler for fast flow-metering*
- 15:45 Departure for excursion and conference dinner

## Friday, September 21<sup>th</sup>

- 9:00 Keynote lecture: F. Stefani, G. Gerbeth, T. Gundrum, T. Wondrak  
*Contactless Inductive Flow Tomography: A Liquid Metal Flow Measuring Technique Complementary to UDV*
- 9:40 H. Murakawa, R. Sakagami, K. Sugimoto, N. Takenaka  
*Effects of analysis algorithms and number of repetition pulses on velocity data by using ultrasonic Doppler method*
- 10:00 Y. Tasaka, Y. Murai, M. Ima  
*Ultrasonic flow field measurement of a rotating flow with free surface*
- 10:20 T. Gundrum, F. Stefani, C. Ma, Y. Sun, A. Giesecke, T. Albrecht, G. Gerbeth  
*Ultrasonic flow measurements in a downscaled water mockup of a large scale precession driven dynamo experiment*
- 10:40 Coffee break
- 11:00 E. Khavasi, H. Jamshidnia, B. Firoozabadi, H. Afshin  
*Experimental investigation of flow structure of a density current encountering a basal obstacle*
- 11:20 T. Kawaguchi  
*UVP measurement of low speed natural convection in the internally heating rectangular cavity*
- 11:40 P. Schmitt, A. Pallares, M.-N. Pons  
*Improvement of acoustical characterization of suspended particles in wastewater*
- 12:00 M. Lenz, M. Bock, E. Kühnicke, J. Pal, A. Cramer  
*Sound velocity measurements in fluids using echo signals from scattering particles*
- 12:20 Lunch
- 13:50 N. Furuichi  
*Uncertainty analysis of flowrate measurement using UVP*
- 14:10 M. Pfister, R. Duarte, M. Müller, G. De Cesare  
*Cavitation risk estimation at orifice spillway based on UVP and dynamic pressure measurements*
- 14:30 S. Nahar, S.A.K. Jeelani, Y. Takeda, E.J. Windhab  
*Peristaltic flow characterization of shear thinning fluid through elastic tube by UVP*
- 14:50 K. Mohanarangam, K. Simic, A. Brent, P. Fawell  
*Fluid flow characterization of process equipment using ultrasonic pulsed Doppler technique*
- 15:10 Coffee break  
Meeting of the ISUD Scientific Committee
- 15:45 Closing Session, UBERTONE Student paper award
- Poster: T. Kawaguchi, Y. Takeda: *Open user forum: [OpenUVP.org](http://OpenUVP.org)*