

# LS Instruments,

## an outstanding performance in dense particle suspensions and in high concentrations

*LS Instruments* was created on the basis of a research project in the field of Soft Condensed Matter at the Swiss Federal Institute of Technology (ETH Zurich), the University of Fribourg and the Nestlé Research Centre in Lausanne. The great success of this project led to the formation of the Start-Ups in December 2000. Since then the small company situated in Fribourg has been surprisingly successful. The progress of the company accelerated when they joined Fri Up in 2007, an organisation which supports Start-Ups, by offering a suitable infrastructure and professional advice.

Originally LS Instruments focused on the development of light scattering instruments for the characterization of nano-particles in their original undisturbed state and this market segment remains the backbone of the company. In this specific field they offer the most sophisticated device available on the market, the so called 3D DLS Spectrometer. One significant advantage of this device is the outstanding performance in dense particle suspensions and in high concentrations. This has convinced renowned companies around the world such as Nestlé, Procter & Gamble or Unilever; to name only some of the leading industrial customers of LS Instruments. Although the analysis of nano particles is a rather specialized field, the Managing Director Andreas Völker is confident that demand will grow in accordance with the rapid development of new nano technologies and materials. Quality control standards for industrial production of nano-materials are only beginning to be defined and the head start of LS Instruments will allow the company to play a significant role in the coming years.

However, the 3D DLS technology is not the only product field in which LS Instruments is market leader. When Prof. Scheffold from Soft

Matter Optics Group from the Soft Matter Optics Group at the University of Fribourg joined the company in 2005, a new product line for microrheology was added. Today LS Instruments is the only company worldwide manufacturing optical rheometers. In comparison to traditional rheometers, optical rheometers can measure the rheological properties of a sample much faster and in regions inaccessible to classical mechanical rheometers.

Measurements that used to take hours or even days can now be performed within a few minutes.

As rheometers are used in most industrial laboratories, there is a huge market potential for optical rheometers. Despite the many technical advantages of optical rheometers, it remains a challenge to convince technical and scientific personnel acquainted with traditional mechanical rheometers of the benefits.

To break the ice LS Instrument has recently been focusing on ever more user friendly devices and software for industrial customers.

LS Instruments also offers services such as consulting, a state-of-the-art applica-

tion laboratory and training-courses on light scattering technologies. Thanks to the close cooperation with the physics department of the University of Fribourg and the Adolphe Merkle Institute, the experts at LS Instruments always stay in touch with the latest developments in science. This concept has been one of the ingredients for the success of LS instruments.

### Une performance remarquable dans la rhéologie

*LS Instruments GmbH* a été créé en décembre 2000 d'un projet de recherche dans le domaine de la matière condensée, à l'Ecole polytechnique fédérale de Zürich (ETH Zurich), à l'université de Fribourg et au centre de recherche de Nestlé, à Lausanne. Aujourd'hui, *LS Instruments GmbH* fait figure de référence dans le domaine de la rhéologie – l'étude de l'écoulement et de la déformation d'un liquide

sous l'effet d'une contrainte. Ses produits fournissent d'excellents résultats, aussi bien dans les échantillons fortement troubles que dans les concentrations élevées en particules.

*LS Instruments GmbH* offre également des services de consultance, un laboratoire de pointe et des cours sur la dispersion de la lumière. Les clients peuvent également profiter de l'étroite collaboration de cette société avec l'université de Fribourg et l'Institut Adolphe Merkle.

