# Conference Report II

## REPORT ON THE XIIITH INTERNATIONAL WORKSHOP ON NUMERICAL METHODS FOR NON-NEWTONIAN FLOWS

### LAUSANNE, SWITZERLAND 4 - 7 June 2003

Just as one may flout superstitious beliefs by seizing opportunities to walk under ladders, tread on black cats and do the opposite of what is counselled in the columns of the horoscopes page, the author of this report waited patiently in the wings until the need arose for someone to organize the 13th in the series of international workshops on the numerical simulation of non-Newtonian flows, and then pounced. A vigorous behind-the-scenes lobbying campaign and deliberately misleading images of the Matterhorn displayed before the eyes of senior colleagues two years previously secured Lausannes's place as host city for the XIIIth International Workshop on Numerical Methods for non-Newtonian Flows in 2003.

The Workshop, as with the previous twelve, was organized around the themes of numerical simulation, constitutive modelling and the comparison of numerical predictions with experimental data for complex (non-Newtonian) fluids. 63 scientists and engineers, many of them top-notch in their chosen disciplines, contributed admirably to making the three days of presentations and informal discussions animated and stimulating but (usually) polite and respectful. More than a half of the participants at the XIIIth Workshop were present for the first time in this workshop series and this was a consequence of a decision taken early on to advertise the meeting widely in leading journals and

on the web. Funding from the Fonds National

Suisse (FNS) under its SCOPES programme allowed three Eastern European scientists to attend. The infusion of new people and new ideas was certainly refreshing and bodes well for the future of both the subject area and the future of the workshops organized every two years or so to promote open exchange of ideas in a cooperative rather than competitive spirit. The good number of participants on this occasion in this rather specialized field was due, undoubtedly, in no small way to the slashing of the conference fee to attractive levels made possible by generous sponsorship from the FNS, the Ecole Polytechnique Fédérale de Lausanne (EPFL) and Imperial College Press.

The scientific programme was organized around 12 technical sessions, covering themes ranging from the more obvious such as numerical methods to bead-spring modelling and Brownian dynamics. High-order numerical methods had a higher profile in this Workshop than in previous ones. A novelty this year was the strong representation in the area of inelastic and viscoplastic modelling and simulation. What was hot? Kinetic theory modelling for polymer melts and for both dilute and concentrated solutions is evidently now very in vogue and we were treated to many presentations using increasingly sophisticated reptation-type models and fullchain simulations. What was not? Interest in the numerical solution of benchmark problems with macroscopic constitutive models of the Oldroyd/Maxwell/Phan-Thien Tanner type was less in evidence, although those who made presentations in this area did so with authority and competence. The tide would appear to have turned however, and faithful constitutive modelling and the development of new numerical methods suitable for the so-called "micromacro" approach are the new trend setters.

The conference Proceedings are to appear early in 2004 as a special issue of the Journal of non-Newtonian Fluid Mechanics after the usual process of peer review. The Special Issue will contain approximately 20 papers and may be ordered from the Workshop organizer at the astonishingly low price of 40 Euros, including postage and packaging. Robert Owens and Tim Phillips (University of Wales Aberystwyth) are the guest editors.

After all the discussion above the burning question is surely "Yes, but was the Workshop

Group photograph of some of the participants at the XIIIth International Workshop on Numerical Methods for non-Newtonian Flows



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enjoyable?" Somebody recently commented that what sticks in the mind years after a conference is primarily the hotel and the social programme! Hôtel de la Paix, Lausanne, is to be heartily thanked for hosting the Workshop with such style and professionalism. Sumptuous surroundings, excellent food and wine and up-to-themoment technical facilities made our sojourn there particularly pleasant. For the social programme, an evening buffet cruise on Lac Léman on the Thursday and a magnificent banquet at the Château du Chatelard, Montreux the following evening contributed to making the three days that we were together so memorable. The testimonies received afterwards speak for themselves: "...congratulations once again on a superbly organized workshop. Excellent food also", "...congratulation for the flawless organisation of the Workshop; it was a real pleasure to attend it.", "...I want to express my thanks to you for organizing this wonderful workshop. It was very interesting for me and I enjoyed the nice and constructive mood on the workshop." Indeed, the only (reasonable) complaint made during the Workshop was by Jay Schieber who lamented the inferior quality of the EPFL pens that came with the conference pack. The organizer would like to thank the conference secretary Mrs. Eva Gasser and his two research students Alexei Lozinski and Mehmet Sahin for all their hard work in making the Workshop run smoothly.

Finally, the XIVth Workshop is to be organized in 2005 by Matteo Pasquali (Rice University, USA) and Radhakrishna Sureshkumar (Washington University, USA) "somewhere in America". We look forward to learning of their choice of conference venue and wish them well as they prepare for this next meeting in the series.

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#### CALMIA

Grundkurs i Rheologi (in Swedish)

21.-22.10.03

29.-30.3.2004

Principles of Rheology and its Measurement Techniques

10.-11.11.2003 26.-27.4.2004

#### **PHYSICA**

### Rheo Workshops - Basics in Rheology (in German):

Two days of training in Rheology given by Thomas Mezger, author of the book "Das Rheologie-Handbuch / The Rheology-Handbook"

Rheo-Workshops (Grundlagen):

21.-22.10.03 D - Berlin 5.-6.11.03 CH - Zürich

26.-27.11.03 D – Ostfildern / Stuttgart

Rheo-Seminar für Fortgeschrittene:

30.9.-1.10.03 Ostfildern / Stuttgart (Polymere, Dispersionen) Rheo Workshops - Basics in Rheology (in English):

Rheo-Workshops (basics):

08.-9.10.03 B - Brugge

For further information please contact: Physica Messtechnik GmbH Helmut Hirth Strasse 6 73760 Ostfildern / Germany info@physica.anton-paar.com http://www.physica.de

### **TA INSTRUMENTS**

Anwendertreffen Erlangen, Erlangen/Germany 16.-17.10.2003

For further information please contact Brigitte Geissler at bgeissler@tainstruments.com

**Rheology Trainings Courses (in German)** 21.-22.10.0203 Rheologie-Schulung ARES

(Einführung), Alzenau/Germany

23.-24.10.2003 Rheologie-Schulung ARES (Expertentraining),

Alzenau/Germany

# Schools & **User Group Meetings**

This is an extract of the complete reprint-pdf, available at the Applied Rheology website http://www.appliedrheology.org