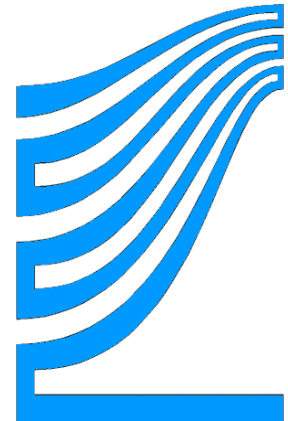


10th Annual European Rheology Conference



Nantes, France April 14-17, 2015

FINAL REPORT



Golden Jubilee of the *Groupe
Français de Rhéologie*

I. Summary

The 10th Annual European Rheology Conference was held in Nantes at the City of Congress on April 14-17, 2015. It was organized by the *Groupe Français de Rhéologie* on the occasion of its 50th anniversary. During three days more than 560 participants coming from 5 continents and 36 countries have presented and discussed their most recent achievements. In parallel to the scientific program, a permanent exhibition gathered 15 companies which showcased their latest scientific equipments dedicated to bulk and interfacial rheology, microfluidics, rheo-microscopy and light scattering.

II. Objectives

Our key objective was to organize a world class scientific conference bringing together a broad community of scientists, engineers, industrial experts, and students involved in multidisciplinary aspects of modern rheology: material science, processing, chemical engineering, soft matter physics, and chemistry. Our efforts were directed towards:

- attracting internationally renown chairpersons who represent the different trends of modern rheology;
- stimulating the submission of a great number of abstracts of outstanding scientific quality;
- attracting European and non European experts;
- achieving a synergy with scientific, technological and industrial aspects of rheology;
- promoting the participation of PhD students to all activities of the conference including social events;
- selecting a functional and comfortable conference venue in a very accessible location;
- promoting a friendly atmosphere with rich and relaxing extra activities: lunches with local products, social events, conference dinner.

III. Location and conference venue

The city of Nantes was chosen for its exquisite location and the facilities it offers to visitors. In addition of being a vibrant regional capital rich in art, history and natural beauties, Nantes is a center of excellence in material sciences, life sciences and biotechnologies. It counts a plethora of competitiveness clusters, world-class companies and many start-ups. The region is also a major higher-education and research crossroad with several Universities and Institutes.

The conference took place at the Cité des Congrès of Nantes (<http://www.lacite-nantes.com/>), ideally located in the centre of the city, within a five minute walk from the high-speed train station and 20 minutes from the airport by shuttle bus or taxi.

The conference rooms were all located on the first and second floors, which allowed the delegates to commute easily and rapidly from one room to another. On the first floor, the mezzanine and an adjacent spacious area accommodated the scientific exhibition and the

recreational area with coffee and refreshment bars. The plenary lectures were given in a comfortable amphitheater accommodating up to 800 participants. The poster session took place in the huge “Grande Halle” situated at the ground level. Lunches were served in spacious catering areas.

IV. Communication

All relevant information about the conference and the abstracts for oral and poster presentation were compiled into an Abstract Book which was distributed to all participants. It is also available as a PDF-file to be downloaded from the conference website.

List of publications:

- a flyer was printed and distributed from July 2014.
- adverts were published in the magazine *Applied Rheology*
- daily program flyers were included in the conference bag
- a full list of participants was available at the conference
- reports were published in *Applied Rheology* and *Rhéologie*

Website:

The main information concerning the conference was released on November, 2013 as a special page of the ESR website. It was regularly updated as soon as new and important information was available. Abstract submission and evaluation tools were accessible through an URL redirecting to a distinct application administrated by Albert Co (*University of Maine, USA*). Registration and payment of registration fees were made through the website of the *Fédération Française des sciences de la Chimie (FR)*. Two months before the conference, the website of the ESR crashed and a separate website hosted by the Groupe Français de Rhéologie was built in an emergency (www.legfr.fr/AERC_2015/)

V. Organization

Chair Committee

Michel Cloitre	ESPCI ParisTech, Paris	Chairman
Lionel Choplin	ENSIC-Université de Lorraine	Co-Chairman
Jean-François Tassin	Université du Maine, Le Mans	Co-Chairman

Organizing Committee

Guylaine Ducouret (President)	ESPCI ParisTech, Paris
Rudy Valette	Mines ParisTech, Sophia Antipolis
Lazhar Benyahia	Université du Maine, Le Mans
Frédéric Bossard	Université Joseph Fourier, Grenoble
Pascale Bridou Buffet	Fédération Française pour les sciences de la Chimie, Paris
Christian Carrot	Université Jean Monnet, Saint Etienne
Xavier Chateau	Université Paris-Est, Marne la Vallée

Francisco Chinesta	Ecole Centrale de Nantes
Guy Della Valle	INRA, Nantes
Alain Ponton	Université Paris-Diderot, Paris
Vincent Verney	Université Blaise Pascal, Clermont-Ferrand

Responsibilities

Team Supervision:	Guylaine Ducouret
Website:	Rudy Valette and Frédéric Bossard
Scientific program:	Michel Cloitre
Abstract submission:	Albert Co
Abstract book:	Albert Co and Michel Cloitre
Registration and administration:	Pascale Bridou Buffet
Sponsoring:	Lionel Choplin
Scientific exhibition:	Vincent Verney
On-site communication:	Xavier Chateau

VI. Technical program

The scientific program was arranged around 4 plenary lectures, 9 thematic symposia, and a poster session. Ample time was given to participants to discuss and initiate new partnerships during lunches, and coffee breaks.

Plenary lectures

Dimitris Vlassopoulos (Weissenberg lecture), FORTH and University of Crete, Greece:

“Outstanding challenges in entanglement dynamics: beyond the classic picture”

Jian Ping Gong, Hokkaido University, Japan:

“Tough hydrogels with sacrificial bonds”

David Pine, New York University, United States:

“A microscopic view of the yielding transition in concentrated emulsions”

Lydéric Bocquet (Maurice Couette lecture), Ecole Normale Supérieure, France :

“Flow and transport at the nanoscales: fast and curious”

Symposia

AT: Advanced techniques and methods in rheology:

Peter Fischer, Sébastien Manneville, and Dimitris Vlassopoulos

CS: Colloids, suspensions, and granular materials:

Jeffrey Morris and Guillaume Ovarlez

CM: Confined flows, microfluidics, and rheology at the microscopic scale:

Lydéric Bocquet and Patrick Doyle

FB: Food, cosmetic, active and biological rheology:

Stefania Baldursdottir and William Frith

IE: Interfacial phenomena, foams, and emulsions:

Sylvie Cohen-Addad, Pier Luca Maffettone, and Jan Vermant

SG: Polymers in solutions, self-assembling systems, and gels:

Christian Ligoure and Marie-Claude Heuzey

MB: Polymer melts, blends, composites and solid polymers:

Leon Govaert and Evelyne Van Ruymbeke

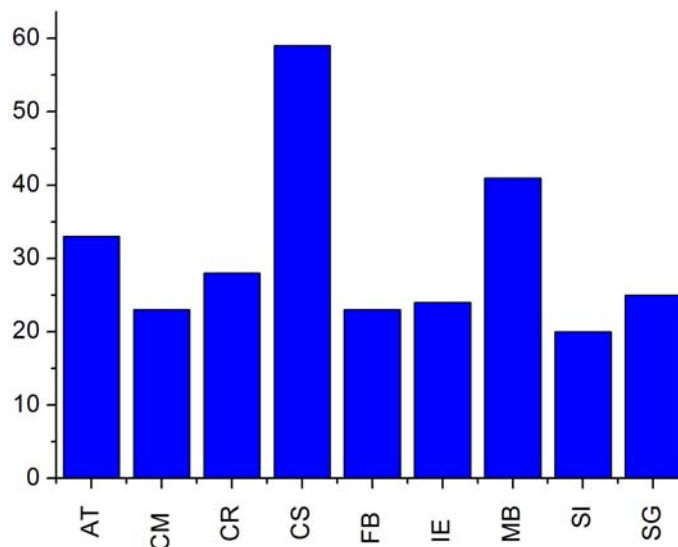
CR: Simulations and computational rheology:

Francisco Chinesta and Gerhard Gompper

SI: Structured flows and instabilities:

Suzanne Fielding and Bruno Vergnes

The number of oral communications presented in each session was proportional to the number of initial submissions. The graph below shows that the sessions had roughly the same importance except the “Colloids, suspensions and granular materials” where a significantly larger number of communications were presented.



Number of oral communications presented in the different sessions

Poster session

The poster session was coordinated by Guy Della Valle et Alain Ponton. About 235 submissions were selected for presentation and more than 190 were effectively displayed. A jury constituted of Stefania Baldursdottir, Roger Bonnecaze, Guy Della Valle, Peter Fischer, Christian Ligoure, Guillaume Ovarlez, Alain Ponton, Evelyne van Ruymbeke, et Graeme Watt had the important task to select three contributions for the Poster Awards.

Short courses

The short course session at Ecole Centrale de Nantes on the rheology and processing of advanced polymeric materials and composites was followed by 33 participants. The whole organization was under the responsibility of Francisco Chinesta. The session consisted of three complementary lectures in the field of polymer processing and a visit of the Airbus technopole in Nantes:

Christophe Binetruy (Faurecia Chair, Ecole Centrale de Nantes, France) :

“Flows of simple and complex fluids in microstructures: reactive processing and novel composite materials”

Francisco Chinesta (ESI & EADS Chair, Ecole Centrale de Nantes, France) :

“Complex flows of micro/nano structured fluids: reinforced polymer composites”

Roland Keunigs (Université Catholique de Louvain, Belgium) :

“Rheology and flow of polymer solutions and melts”

The content of the courses is available in the Springerbriefs series (“Flow in polymers, reinforced polymers and composites”). Each participant received a free copy of the book.

Schedule

	Tuesday April 14 th	Wednesday April 15 th	Thursday April 16 th	Friday April 17 th
8:15		Opening	Jian Ping Gong	Lydéric Bocquet**
8:50		Dimitris Vlassopoulos		Awards (posters, RA)
9:15	Short Courses	Oral	Oral	Oral
9:50		Coffee break	Coffee break	Coffee break
10:50		Oral	Oral	Oral
11:20		Lunch	Lunch	Lunch
12:40	Short Courses	Oral	David Pine	Oral
14:10		Coffee break	Oral	End
15:10		Oral	Coffee break	
15:30	Airbus visit	Oral	Oral	
16:00			Coffee break	
16:30			Oral	
17:00	Registration Reception	Poster Session Reception ^{§1}		
18:00			Conference Dinner "La Pigossière"	
18:20				
20:30				
21:30				

* Weissenberg lecture

**Maurice Couette lecture

§1 European Society of Rheology Meeting

VII. Awards

Several prizes were awarded during the AERC 2015.

- Professor Dimitris Vlassopoulos (FORTH and University of Crete) received the **2015 Weissenberg Prize** from Professor Mats Stading, President of the *European Society of Rheology*.
- Professor Lydéric Bocquet (Ecole Normale Supérieure, Paris) was awarded the **2015 Maurice Couette Award** by Professor Lazhar Benyahia, President of the *Groupe Français de Rhéologie*, in cooperation with the Malvern company.
- The editors of *Rheologica Acta*, Professors Jan Vermant and Henning Winter, were proud to present the first **Publication Award of Rheologica Acta** to Damien Vadillo, Wouter Mathues, et Christian Clasen (KU Leuven).
- Three young researchers, Giovanniantonio Natale (Ecole Polytechnique de Montréal), Gabriel Samson (INSA Rennes), and Chloé Trarieux (RheoWave, Tours) received a **Poster Prize** from Dr Graeme Watt, executive director at IOPublishing.

VIII. Social program

Social activities aimed at encouraging informal discussions in a relaxing atmosphere throughout the conference. All participants were welcome to the opening reception on Tuesday 14th in the mezzanine of the conference centre. The poster session sponsored by Anton Paar on Wednesday 15th, was a unique opportunity to discover and discuss more than 190 contributions. Local food and drinks were offered to all participants. The conference dinner, sponsored by TA Instruments, on Thursday 16th took place at the *Château de la Pigossière*, located within 15 minutes from the conference centre. Throughout or after the conference participants could visit several sightseeing sites of Nantes: the Castle of the Dukes of Brittany and its museum, the *Machines de l'Île*, the cathedral, the medieval centre.

IX. Accompanying persons program

Special attention was given to the persons accompanying delegates. In addition to be welcome to all the social events, accompanying persons had the opportunity to sign up for a walking tour of the historical centre of Nantes with an English speaking guide, on Wednesday 15th afternoon. Tickets allowing free entrance to The *Machines de l'Île* and the *The Sea World Merry-go-Round* museums were available. About 10 persons attended the program.

X. Participation

Abstract submission and selection

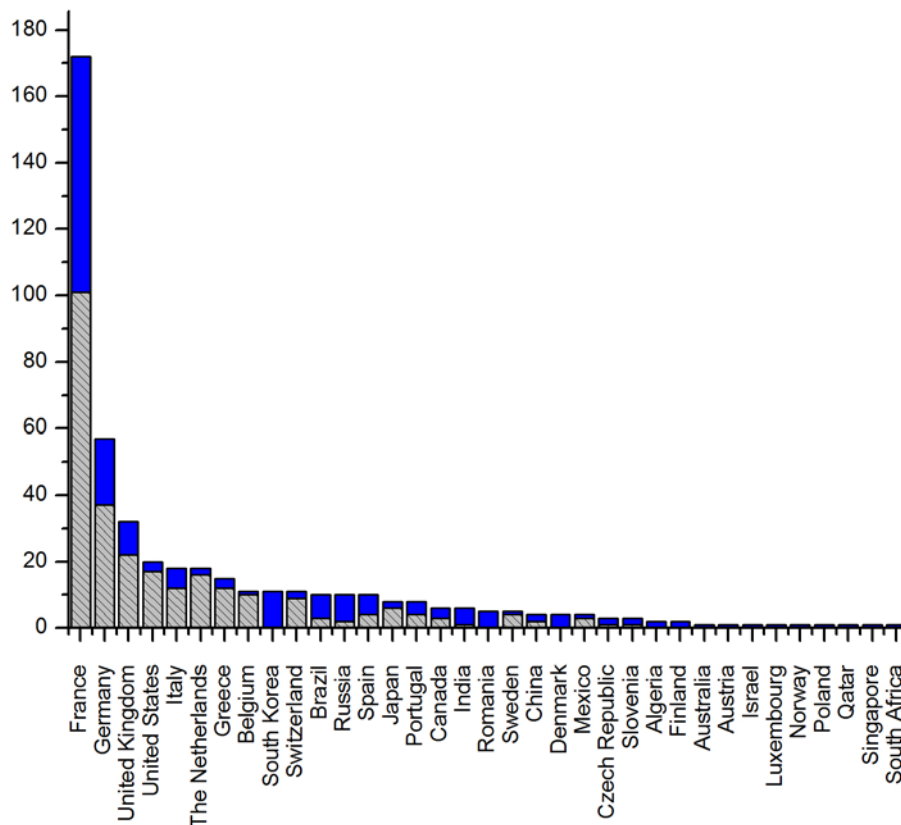
The call for communications was extremely successful with 528 abstracts submitted. The chairpersons of the different sessions worked thoroughly to review the submissions and select

276 oral contributions (rate of acceptance: 63%). The contributions which were not selected for oral presentation were transferred to the poster session. The table below details the status of submissions at the different steps of the selection process.

Abstracts	Submitted	Accepted	Presented
Oral	438	276	275
Posters	90	235	190
Total	528	511	465

Statistics of contributions

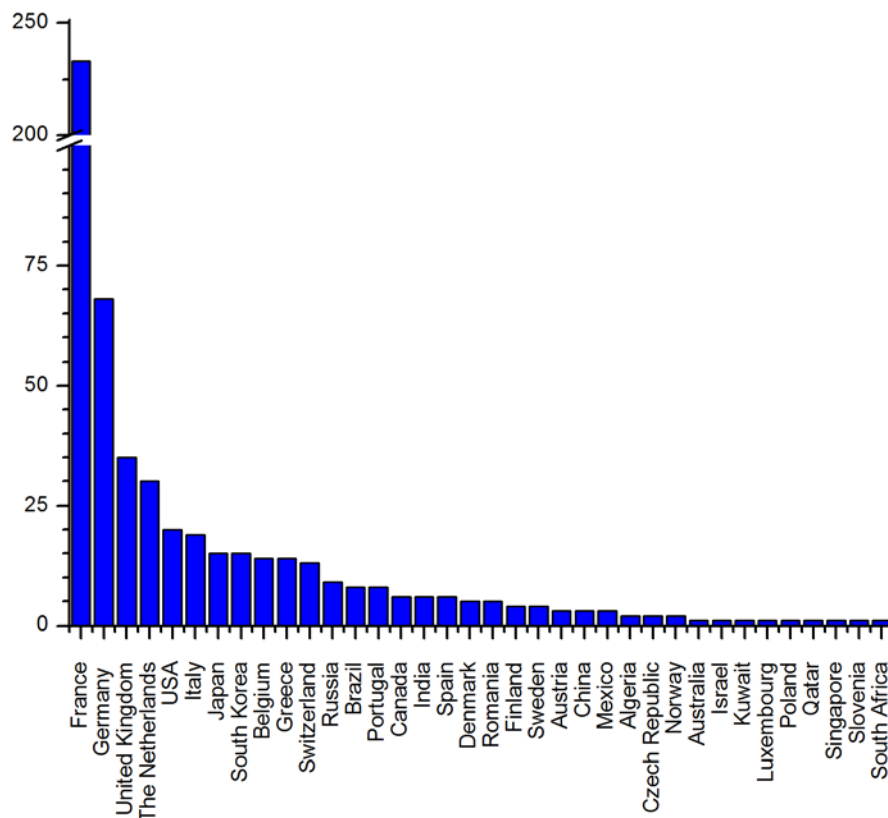
The following graph details the origin of the presentations (oral and total) based on the country of the presenter. In average 59 % of the presentations were oral talks. Interestingly, France, which had the greatest number of presentations, is just below the average (58 %). The Netherlands (88 %), USA (85 %), Greece (80 %), United Kingdom (68 %), Italy (66 %), and Germany (64 %) are very well represented and were extremely successful.



Origin of contributions (total: blue; orals: dashed grey) based on the country of the presenter

Statistics of participants

A total number of 561 registered participants including full delegates (365), students (176), and exhibitors (20) attended the conferences. Five continents and 36 countries were represented. The diagram below shows the country distribution of participants. France had clearly the greatest number of participants, which can be interpreted as follows: (1) the French rheology community, which is very active, was mobilised by the 50th anniversary of the *Groupe Français de Rhéologie*; (2) we managed to attract a number of participants from the soft matter side who do not usually attend rheology meetings; (3) our sponsoring and exhibition programs among French companies were very successful.



Origin of participants

XI. Sponsors

Platinum

Anton Paar

www.anton-paar.com

TA Instruments

www.tainstruments.com

Total

www.total.com

Gold

Capsugel

www.capsugel.com

Solvay

www.solvay.com

Silver

Arkema	www.arkema.fr
Bostik	www.bostik.com
Centre National de la Recherche Scientifique	www.cnrs.fr
Diana Pet Food	www.diana-group.com
Ecole Centrale de Nantes – Chaire ESI	www.ec-nantes.fr
Ecole Centrale de Nantes – Chaire Faurecia	www.ec-nantes.fr
Eurovia	www.eurovia.com
Fresenius-Kabi	www.fresenius-kabi.com
Gelscom	www.gelscom.com
Hutchinson	www.hutchinsonworldwide.com
Ifp Energies nouvelles	www.ifpenergiesnouvelles.com
Michelin	www.michelin.com
SA ESPCI	www.espci.fr
Tereos-Syral	www.tereos-syral.com

Donating members

Association Française de Mécanique	www.afm.asso.fr
EPL	www.epljournal.edpsciences.org
ESPCI ParisTech	www.espci.fr
Fromageries Bel	www.groupe-bel.com
Malvern	www.malvern.com/fr/
Thermo Scientific	www.thermoscientific.fr
Université Pierre et Marie Curie	www.upmc.fr
VMI	www.vmi.fr

XII. Exhibitors

Anton Paar	www.anton-paar.com
Cad Instruments	www.cad-inst.com
Elveflow	www.elveflow.com
Esi Group	www.esi-group.com
IOP Publishing	www.ioppublishing.org
Kyoto Electronics Manufacturing	www.ems-viscometer.com
Krüss	www.kruss.de
Lamy Rheology	www.lamyreology.com
LS Instruments	www.lsinstruments.ch
LUM Gmbh	www.lum-gmbh.com
Malvern	www.malvern.com
Microvision	www.microvision.fr
TA Instruments	www.tainstruments.com
Teclis Instruments	www.teclis-instruments.com
Thermoscientific	www.thermoscientific.fr