

SCHOOL REPORT

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| School: | Bombannes School 2014 |
| Specific Title: | 12th European Summer School on Scattering Methods Applied to Soft Condensed Matter |
| Date: | 16 – 23 May 2014 |
| Venue: | VTF “Les Bruyères” Bombannes 33121 Carcans-Maubuisson, Gironde, France |
| Organiser Name: | Peter Lindner (ILL Grenoble) |
| Affiliation Organizer: | Institut Laue-Langevin, Grenoble |
| Total budget: | 51000 Euro |
| Maximum NMI3-II support: | 6000 Euro |

Scope of the school

Since 1990 the « Bombannes » summer school - series proposes with a period of 2 years advanced training for young European researchers and for researchers with a working place in European laboratories at post-graduate and post-doctoral level. It is devoted to a practical « state-of-the-art » approach to scattering methods, using neutrons, as well as X-ray and light sources – today’s key techniques to study structure and dynamics in systems containing colloids, polymers, surfactants and biological macromolecules. The scope of the « Bombannes » school is to introduce on a fundamental level the current methodology of static and dynamic scattering techniques and their application to soft matter systems.

Further information on the « Bombannes » school is to be found under URL <http://www.ill.eu/bombannes>.

Scientific programme

The total scientific program of the 2014-summer school took 32 hours.

24 hours of 25 general lectures (45 min, 1 hour or 2 hours in the morning and late afternoon) were given by 13 different teachers (see attached programme).

The lectures were divided into two parts: an introductory session during the first half of the week covers the areas of general introduction to scattering experiments, basic concepts of data treatment, the notion of contrast, general theorems, instrumentation and resolution effects. In the second half of the week, applications of static and dynamic scattering techniques to investigate typical soft matter systems such as colloidal suspensions, microemulsions, micelles and surfactant solutions, polymers, biological systems and turbid suspensions were presented.

A further (and particularly successful) feature of the "Bombannes" school are the compulsory oral contributions given by the 40 students during the evening sessions (after-dinner) during the week. These contributions are training for the students to present their specific fields of research (10 min each + 2 min discussion) and provide a forum for discussion and exchange of experience when using complementary experimental methods. In total 8 hours were devoted to the students’ présentations during the evenings.

In addition, 1 hour has been devoted to a general discussion of all participants, teachers and students, for getting feedback on the school and propositions for further improvements to be considered for the next school event.

Lecture material:

The lecture material has been made available to the participants in pdf format for (password-protected) download on the "Bombannes" homepage (<http://www.ill.eu/bombannes>). As general lecture material a free copy of the introductory textbook "Neutrons, X-rays and Light..." (Eds. P. Lindner & T. Zemb, Elsevier, North Holland, Amsterdam, 2002) has been distributed to the participants.

Gender distribution of the teachers

1 female speaker and 12 male speakers.

Composition and level of the students group

The selected students group (total of 40) showed a gender distribution of 20 female/ 20 male. The group was composed of 38 PhD student and 2 PostDoc's. The age of students was between 24 and 33 years. The peak of the age distribution was at 26-27 years. The students had 10 different nationalities (1 non-EU) and the students' places of work were situated in 10 different countries (1 non-EU).

Acknowledgement

The organizers gratefully acknowledge financial support from ILL Grenoble, PSCM, Grenoble, SoftComp, the EU networks NMI3, COST Action, ESMI, and Anton Paar company Graz, as well as administrative and logistic help from ILL staff.

Peter Lindner
8 October 2014

attached: timetable/ programme & group photo

BOMBANNES 2014

12th European Summer School on “Scattering Methods Applied to Soft Condensed Matter”, 16 – 23 May 2014, VTF “Les Bruyères”, Carcans-Maubuisson, Gironde, France
 16 May 2014: arrival, welcome aperitif, 20:00: dinner 23 May 2014: departure

| Time | Saturday 17 May | Time | Sunday 18 May | Monday 19 May | Tuesday 20 May | Wednesday 21 May | Thursday 22 May |
|---------------|---|---------------|---|---|---|--|---|
| 8:30-10:30 | Distribution of Bicycles | 9:00 - 10:00 | Concept of Contrast & Contrast Variation Stefan Egelhaaf | Static Light Scattering Otto Glatter | Inelastic Neutron Scattering Reiner Zorn | Surfactant Systems II Julian Oberdisse | Polymer Dynamics Reiner Zorn |
| 10:30 – 11:30 | Opening of the School/ Presentation Lecturers Peter Lindner | 10:00 – 11:00 | Aggregation, Sol-Gel Transition, Glasses Peter Schurtenberger | Dynamic Light Scattering I Stefan Egelhaaf | Neutron & X-Ray Reflectivity Roland Steitz | Model Fitting & Simulation Techniques Jan Skov Pedersen | External Constraints Walter Richtering |
| | | 11:00 – 11:30 | Coffee Break | Coffee Break | Coffee Break | Coffee Break | Coffee Break |
| 11:30-12:30 | General Introduction Peter Schurtenberger | 11:30 – 12:30 | Inverse Scattering Problem & Fourier Transformation Otto Glatter | Dynamic Light Scattering II Stefan Egelhaaf | Light Scattering in Turbid Suspensions Frank Scheffold | Biological Applications Grethe Vestergaard Jensen | General Discussion |
| 12:30 – 13:30 | Lunch | 12:30 – 13:30 | Lunch | Lunch | Lunch | Lunch | Lunch |
| 14:00 – 15:30 | Introd. to Scattering & General Theorems I Olivier Spalla | 14:00 – 16:00 | Sailing Activity | Sailing Activity | Sailing Activity | Sailing Activity | Excursion |
| | Introd. to Scattering & General Theorems II Olivier Spalla | | | | | | |
| 15:30 – 16:00 | Coffee Break | 16:30 – 17:00 | Coffee Break | Coffee Break | Coffee Break | Coffee Break | |
| 16:00 – 17:30 | Instrumentation & Resolution Effects. Oleksandr Mykhaylyk | 17:00 – 18:00 | Generalized Fourier T. & Liquid Crystals Otto Glatter | Interacting Systems - Dynamics Johan Bergenholtz | Polymers in Solution & Bulk - Statics Jan Skov Pedersen | Free Afternoon | |
| | Absolute Intensity & Initial Data Treatm Oleksandr Mykhaylyk | | | | | | |
| 17:30 – 17:45 | Introduction to Sailing Otto Glatter | 18:00 – 19:00 | Surfactant Systems I Julian Oberdisse | Interacting Systems - Statics Johan Bergenholtz | Polymer Processing & Synchrotron Radiation Oleksandr Mykhaylyk | Returning of Bicycles | |
| 19:30 – 20:30 | Dinner | 19:30 – 20:30 | Dinner | Dinner | Dinner | Dinner | Summer School Dinner |
| 20:30 – 22:15 | Participants Contributions | 20:30 – 22:15 | Participants Contributions | Participants Contributions | Participants Contributions | Participants Contributions | |

Total Lecture Time: 4 hours

5 hours

5 hours

3 hours

5 hours

2 hours

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'Les Bruyères', Carcans-Maubuisson, Gironde, France

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