

EPF 5th Summer School

(AIM XXXII Convegno-Scuola Mario Farina)



Palazzo Feltrinelli on Garda Lake. EPF School residence

“Fundamentals and developments in polymer processing science and technology”


organized by AIM, GFP and BPG

In collaboration with University of Milan

2nd Circular

<http://www.epfschool.eu>

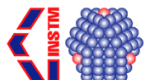
**15-20 May 2011
Palazzo Feltrinelli - Gargnano (BS), Italy**

 Associazione
Italiana di Scienza e
Tecnologia delle
Macromolecole

 Groupe Français
d'Etudes et
d'Applications des
Polymères

 Belgian
Polymer
Group

Supported by Consorzio
Interuniversitario Nazionale per
la Scienza e Tecnologia dei
Materiali



Under the Auspices
of the Polymer
Processing Society



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sgr.amm@aim.it +39 081 674369 fax +39 081 674367
anna@dcci.unipi.it +39 050 2219203
alberto.fina@polito.it, +39 0131 229316

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EPF 5th Summer School

Fundamentals and developments in polymer processing science and technology

With the first School on “Elastomers” in 2001, the European Polymer Federation (EPF) has undertaken a new task in the educational area, aiming at the creation of a European standard in Polymer Science and Technology teaching. The EPF Schools will supply an updated tutorial approach to the most recent and fast developing areas on which rationalised and comprehensive overviews are not yet available. Moreover, the educational approach will be available to all students and teachers worldwide, through a series of electronic books in English language edited from the lectures of the School. By launching this initiative, EPF fulfils once more its mission to make national achievements available europewide. The 2011 School addresses basic aspects and recent advances in polymer processing, science and technology. Processing is a key step in polymer materials preparation and use, which importance and scientific aspects have been underestimated for a long time. Indeed, processing doesn't only provide formulations through proper suitable mixing and/or the desired shape to final products, but also plays a fundamental role in determining the durability of the material. This is due to the fact that polymer processing is not a mere physical mechanical operation. Indeed, it involves chemical modifications of the polymer being an organic molecule exposed to thermal, mechanical, chemical environments, capable of chemically modifying the polymer. Uncontrolled degradation of the polymer structure can strongly reduce the lifetime of polymer materials that we have learned to avoid by using effective stabilisers. On the other hand, the understanding of the chemical nature of polymer processing is opening a new approach to synthesis of new polymer materials by what is called “reactive processing” which provides a very versatile, environmentally friendly, cheap and flexible route to modification and enhancement of polymer properties to create new multifunctional polymer materials. Furthermore, the evolution of surface modification technologies allowing nanoengineering of surface polymer structure and properties, supplies to polymer scientists and engineers a rich reservoir of further methods to tailor processing to ever increasing materials demands by new developing technologies. The School will be of particular interest to polymer scientists and engineers dealing with polymer materials production and processing, academic research, industrial R&D and applications. The School will also be of interest to marketing and technical assistance sectors as well as to teachers. The residential character of the School in the beautiful environment of Palazzo Feltrinelli on Lake Garda will supply the informal and relaxed atmosphere for a fruitful exchange of ideas among lecturers and attendees all the week long.

TOPICS

- **Jean-François Gerard, INSA de Lyon (F):** Introduction to polymer processing
- **Giuseppe Marrucci, Università di Napoli (I):** Polymer rheology
- **Giuseppe Titomanlio, Università di Salerno (I):** Heat transfer in polymer processing
- **Giovanni Camino, Politecnico di Torino (I):** Polymer degradation in melt processing
- **Paolo Lomellini, Polimeri Europa (I):** Mixing, dispersion and compatibilization in polymer mixtures
- **Christian Carrot, Université Jean Monnet Saint Etienne (F):** Extrusion
- **Giorgio Bertacchi, Unione Costruttori Stampi e Attrezzature di Precisione-UCISAP (I):** Injection moulding
- **Julien Pierre, Institut Français du Textile et de l'Habillement (F):** Polymer Spinning
- **Eileen Harkin-Jones, Queen's University Belfast (UK):** Blow moulding/Rotomoulding/Thermoforming
- **Salvatore Iannace, Consiglio Nazionale delle Ricerche (I):** Polymeric foams: developments in processes and products
- **Josè Kenny, Institute of Polymer Science and Technology ICTP-CSIC (E):** Thermosets and thermoset composites processing
- **Philippe Dubois, Université de Mons (B):** Reactive extrusion : a green processing tool for (bio)polymers
- **Jean-Jacques Flat, Arkema (F):** Reactive mixing of polymers
- **Veronique Bounor-Legare and Jocelyne Galy, Université de Lyon I/INSA de Lyon (F):** Sol-gel in polymer melt and thermosets
- **Bruno Vergnes, Mines ParisTech (F):** Modelling of polymer processing
- **Masami Okamoto, TOYOTA Technological Institute (J):** Polymer nanocomposites processing
- **Dieter Fischer, Leibniz-Institut für Polymerforschung Dresden (D):** In-line/On-line Monitoring Polymer Processing
- **Eric Baer, Case Western Reserve University (US):** Multilayered functional Materials
- **Jannick Duchet-Rumeau, INSA de Lyon (F):** Surface functionalisation of Polymers
- **Alessandro Gallo, Maris (I):** Continuous rubber compounding and rubber devulcanisation
- **Leonardo Bellomo, So.F.teR. (I):** Hard/soft materials and the secrets e secrets of the soft touch
- **Gilberto Frigerio, Polimeri Europa (I):** Industrial applications of polymer foaming

GENERAL INFORMATION

POSTER SESSION

A poster session is organized which is preceded by a presentation session in which authors briefly highlight essential features of their work.

Poster size: 100 cm high and 80 cm wide.

DEADLINES

Poster proposal (10 lines abstract): **15 April 2011**

Registration (form A + fees): **15 April 2011**

This conference is limited to 100 participants. **First arrived (Form A with payment)/first served rule will be strictly followed.**

LANGUAGE

English will be the official language of the EPF summer school.

CONFERENCE VENUE

The EPF summer school will take place at: Palazzo Feltrinelli, Via Castello 3, 25048 Gargnano (Brescia) – Italy

Gargnano is a small resort village on Garda Lake, about 150 km east of Milan. At the end of May and beginning of June the weather is usually pleasant in northern Italy, temperatures ranging from 20 to 25°C; however, the evenings can be cooler.



REGISTRATION FEES

	Before 15 April 2011	After 15 April 2011
Active participant	€ 650	€ 700
Accompanying person	€ 300	€ 350

GRANTS

Young scientists and Ph.D. students can apply for cheap accommodation in the Palazzo Feltrinelli. In addition, a limited number of grants is provided by the Italian Institute of Materials Science and Technology (INSTM) for its young members. Applicants should send a short CV to secretariat@epfschool.eu by March, 20th. Grants assignment is scheduled by April, 1st.

TRAVEL

Foreign participants are advised to travel to Milano, which can be reached by plane from most Countries worldwide or by train from European Countries.

By Plane

Milano Centrale Railway Station can be reached in about one hour from Malpensa airport, where most overseas flights land, and in about 20 minutes from Linate Airport. Public transportation to Milano Railway Stations is available from both airports; a taxi service is also available.

By Train

Gargnano can be reached from Milano Centrale Railway Station by train to Brescia and bus from Brescia to Gargnano. Trains from Milano to Desenzano and both a bus and a taxi service from Desenzano to Gargnano is also available.

Please check timetables at www.trenitalia.it for trains and www.trasportibrescia.it for buses.

By Car

Gargnano can easily be reached by car, being close (about 40 Km) to the Milano-Venezia Motorway (see map).

TOURIST INFORMATION

CONSORZIO TURISTICO GARGNANO RELAX

Piazzale Boldini, 2 - 25084 - GARGNANO (BS), Lago di Garda - Italia

www.gargnanosulgarda.com

Tel / Fax (+39) 0365.791243, info@gargnanosulgarda.it

FORM A

REGISTRATION FORM

EPF 5th Summer School

“Fundamentals and developments in polymer processing
science and technology”
Gargnano (I), 15-20 May 2011

Please return this form before 15 April 2011 by fax at: +39 081 674367

Online registration form also available at
<http://www.epfschool.eu/1/registration.html>

Please print: Dr Prof Mr Mrs

Family Name _____

First Name _____

Accompanying Person Name _____

Affiliation _____

Address _____ Zip Code _____

City _____ Country _____

Phone _____ Fax _____

E-mail: _____

Registration Fees*	Before 15 April 2011	After 15 April 2011	Amount
Active participant	€ 650	€ 700	_____
Accompanying person	€ 300	€ 350	_____
		Total	€ _____

* Including (for all participants and accompanying persons): coffee breaks, five lunches, wine and cheese party and social dinner at Palazzo Feltrinelli.

PAYMENT OF THE FEE

Credit Card

Charge my: VISA Mastercard/Eurocard American Express

Card N° _____ CVV2 _____ Expiration Date _____

Cardholder's Name and Address: _____

Phone _____ Date _____

Signature _____

International Postal Money Order or Eurocheque

addressed to “Associazione Italiana di Scienza e Tecnologia delle Macromolecole”

Banker's Draft with reference to EPF 5th SUMMER SCHOOL drawn on the following bank account:

Account name: Associazione Italiana di Scienza e Tecnologia delle Macromolecole
Bank: Banco di Napoli
Branch: Napoli AG 1
Address of branch: Piazza Bovio, Palazzo Borsa, 80138 Napoli
Account number: 100000005184
ABI 01010
CAB 03401
IBAN IT14 G010 1003 4011 0000 0005 184
BIC code: IBSPITNA

Signature _____ Date _____

FULL PROGRAMME

Sunday, May 15th

16.30 – 19.30 Registration

Monday, May 16th

Session I Fundamentals

- 9.00 – 10.30 **Jean-François Gerard, INSA de Lyon (F):** Introduction to polymer processing
- 10.30 – 11.00 Break
- 11.00 – 12.30 **Giuseppe Marrucci, Università di Napoli (I):** Polymer rheology
- 13.00 – 14.30 Lunch
- 14.30 – 16.00 **Giuseppe Titomanlio, Università di Salerno (I):** Heat transfer in polymer processing
- 16.00 – 16.30 Break
- 16.30 – 18.00 **Giovanni Camino, Politecnico di Torino (I):** Polymer degradation in melt processing
- 18.15 – 19.45 **Poster presentation** (2 min. each)
- 20.00 **Wine and cheese party**

Tuesday, May 17th

Session II Processing Technologies

- 9.00 – 10.30 **Paolo Lomellini, Polimeri Europa (I):** Mixing, dispersion and compatibilization in polymer mixtures
- 10.30 – 11.00 Break
- 11.00 – 11.45 **Christian Carrot, Université Jean Monnet Saint Etienne (F):** Extrusion of polymer melts
- 11.45 – 12.30 **Giorgio Bertacchi, Unione Costruttori Stampi e Attrezzature di Precisione-UCISAP (I):** Injection moulding
- 13.00 – 14.30 Lunch
- 14.30 – 15.15 **Julien Pierre, Institut Français du Textile et de l'Habillement (F):** Polymer Spinning
- 15.15 – 16.00 **Eileen Harkin-Jones, Queen's University Belfast (UK):** Free surface moulding: blow moulding, thermoforming and rotational moulding
- 16.00 – 16.30 Break
- 16.30 – 17.15 **Salvatore Iannace, Consiglio Nazionale delle Ricerche (I),** Polymeric foams: developments in processes and products
- 17.30 – 19.00 **Posters session**

Wednesday, May 18th

- 9.00 – 10.30 **José Kenny, Institute of Polymer Science and Technology:** Thermosets and thermoset composites processing
- 10.30 – 11.00 Break
- Session III Advances in polymer processing**
- 11.00 – 12.30 **Philippe Dubois, Université de Mons (B):** Reactive extrusion : a green processing tool for (bio)polymers
- 13.00 – 14.30 Lunch
- 14.30– 16.00 **Jean-Jacques Flat, Arkema (F):** Reactive mixing of polymers : from fundamentals to new industrial applications
- 16.00– 16.30 Break
- 16.30– 18.00 **Veronique Bounor-Legare and Jocelyne Galy, Université de Lyon I/INSA de Lyon (F):** Sol-gel in polymer melt and thermosets

Thursday, May 19th

- 9.00 – 10.30 **Bruno Vergnes, Mines ParisTech (F):** Modelling of polymer processing
- 10.30 – 11.00 Break
- 11.30 – 13.00 **Masami Okamoto, TOYOTA Technological Institute (J):** Polymer Nanocomposites processing
- 13.00 – 14.30 Lunch
- 14.30 – 16.00 **Dieter Fischer, Leibniz-Institut für Polymerforschung Dresden (D):** In-line and On-line Monitoring during Polymer Processing and Synthesis
- 16.00 – 16.30 Break
- 16.30 – 18.00 **Eric Baer, Case Western Reserve University (US):** Multilayered functional Materials
- 18.15 – 19.30 Posters session
- 20.00 Social dinner

Friday, May 20th

- 9.00 – 10.30 **Jannick Duchet-Rumeau, INSA de Lyon (F):** Surface functionalisation of Polymers
- 10.30 – 11.00 Break
- Session IV Industrial applications**
- 11.00 – 11.45 **Alessandro Gallo, Maris (I):** Continuous rubber compounding and rubber devulcanisation
- 11.45 – 12.30 **Leonardo Bellomo, So.F.teR (I):** Hard/soft materials and the secrets e secrets of the soft touch
- 12.30 – 13.15 **Gilberto Frigerio, Polimeri Europa (I):** Industrial applications of polymer foaming
- 13.30 – 15.00 Closing and Lunch