Developing the Powder Metallurgy Future

european powder
metallurgy association

Celebrating 25 Years
EPMA
european powder metallurgy association

EPMA Powder Metallurgy Summer School 2014

A Residential Summer School for Young Materials and Design Engineers

Kraków, Poland

Participation Fee €575 per person

16 - 20 June 2014

Kraków, Poland

Image courtesy of Sandvik AB

www.epma.com/summerschool

Powder Metallurgy Summer School

16 - 20 June 2014

The EPMA Summer Schools have been designed to offer participants from all parts of the EU an advanced teaching of PM's advantages and limitations by some of the leading academic and industrial personnel in Europe. It is also a rare opportunity to stimulate direct technical discussions by young scientists and engineers who are interested in broadening their knowledge through interaction with senior figures in the PM industry.

Students networking

Powder Metallurgy

Powder Metallurgy (PM) is the generic name for a series of related processes where powders are compacted into components of the desired shape and then the compacts are strengthened by sintering at high temperature in excess of 1100°C. PM can utilise a range of materials including steels, non-ferrous metals, friction and anti-friction materials, high porosity materials and filters, hard materials and cemented carbides, magnets and materials for electronic applications.

PM Summer School 2014 Programme

The programme consists of a 5-day Summer School from Monday 16 June until Friday 20 June 2014. The 2014 Summer School will be coordinated by Prof José Torralba from the Universidad Carlos III de Madrid together with Prof Jan Kazior and his team from the Cracow University of Technology. All lectures and laboratory work will take place at the University.

Cracow University of Technology

Who Should Attend ?

The events are particularly designed for young graduate designers, engineers and scientists drawn from a wide range of disciplines such as materials science, design, engineering, manufacturing or metallurgy. All will benefit from an in depth overview of PM presented in the course. The Course will be presented in English and will provide a valuable opportunity to improve attendees' knowledge of the current status of PM technology. The Course is open to graduates under the age of 35 who have received their degrees from a European university.

Fees and benefits

The participation fee for the whole event is a very reasonable €575 per person. For this non-refundable fee participants will receive all relevant course documents plus refreshments, accommodation, a Welcome Reception on Monday and a Summer School Dinner on Thursday. **Please note all accommodation is shared.** The fee also includes 18 months' Student Membership of the EPMA which enables members to obtain discounted rates at the Euro PM2014 Congress & Exhibition to be held 21 - 24 September in Salzburg, Austria, amongst other benefits.

Location

The event is being held at:
Cracow University of Technology
Warszawska 24,
31-155 Kraków, Poland

For travel details and other information please visit the EPMA website at **www.epma.com/summerschool** (Travel costs are not included in the course fee).

Kraków, Poland

How to apply

Please apply online no later than Monday, 31 March 2014 at:
www.epma.com/summerschool to reserve a place. Remember these courses are highly likely to be over-subscribed so past Summer School attendees need not apply as priority will be given to those applicants who have not previously attended. Applicants will be advised week beginning 7 April 2014 if they have been successful in gaining a place and payment details will be sent at that time.

Mon 16 June

09.00 - 10.00 Registration for Summer School

10.00 - 10.50	**Introduction to Materials Science** Prof Alberto Molinari, University of Trento, Italy
11.00 - 11.20	**Refreshments**
11.20 - 11.50	**Presentation of the EPMA** Dr Olivier Coube, EPMA, France
12.00 - 12.50	**Introduction to PM** Prof José M Torralba, Universidad Carlos III de Madrid, Spain
13.00 - 14.00	**Lunch**
14.00 - 15.50	**Case Studies** Dr Brian James, Consultant, USA
15.50 - 16.10	**Refreshments**
16.10 - 17.00	**Powder Manufacturing** Dr Brian James, Consultant, USA
17.10 - 18.00	**Powder Characterization** Dr Ulf Engström, Höganäs AB, Sweden
18.30 - 19.30	**Welcome Reception**

Tues 17 June

09.00 - 09.50	**Shaping Technologies** Mr Norbert Nies, SMS Meer GmbH, Germany
10.00 - 10.50	**Sintering Fundamentals** Prof Bernd Kieback, IFAM/Dresden University, Germany
11.00 - 11.20	**Refreshments**
11.20 - 12.10	**Student Presentations**
12.10 - 13.00	**Liquid Phase Sintering** Dr Cinzia Menapace, University of Trento, Italy
13.00 - 14.00	**Lunch**
14.00 - 14.50	**Atmosphere/Material Interaction** Dr Christian Gierl, TU Vienna, Austria
15.00 - 15.50	**Student Presentations**
15.50 - 16.10	**Refreshments**
16.45 - 18.40	**Laboratory Work / Group Problem Solving**
EVENING	**Free time**

Wed 18 June

09.00 - 09.50	**Introduction to MIM** Dr Marco Actis Grande, Politecnico di Torino, Italy
10.00 - 10.50	**New Developments in MIM** Dr Frank Petzoldt, IFAM Bremen, Germany
10.50 - 11.10	**Refreshments**
11.10 - 12.00	**HIP** Dr Anders Eklund, Avure Technologies AB, Sweden
12.10 - 13.00	**Advanced Methods in PM** Prof Lars Nyborg, Chalmers University of Technology, Sweden
13.00 - 14.00	**Lunch**
14.00 - 18.00	**Factory Visit**
EVENING	**Free time**

Thurs 19 June

09.00 - 09.50	**PM Light Alloys** Dr Tadeusz Pieczonka, Cracow University of Technology, Poland
10.00 - 10.50	**Hardmetals** Dr Steven Moseley, Hilti AG, Liechtenstein
10.50 - 11.10	**Refreshments**
11.10 - 12.00	**PM Steels I** Prof Herbert Danninger, TU Vienna, Austria
12.10 - 13.00	**PM Steels II** Prof Francisco Castro, CEIT, Spain
13.00 - 14.00	**Lunch**
14.00 - 14.50	**Finishing Operations** Dr Monica Campos, Universidad Carlos III de Madrid, Spain
15.20 - 17.15	**Laboratory Work / Group Problem Solving**
20.00	**Summer School Dinner**

Fri 20 June

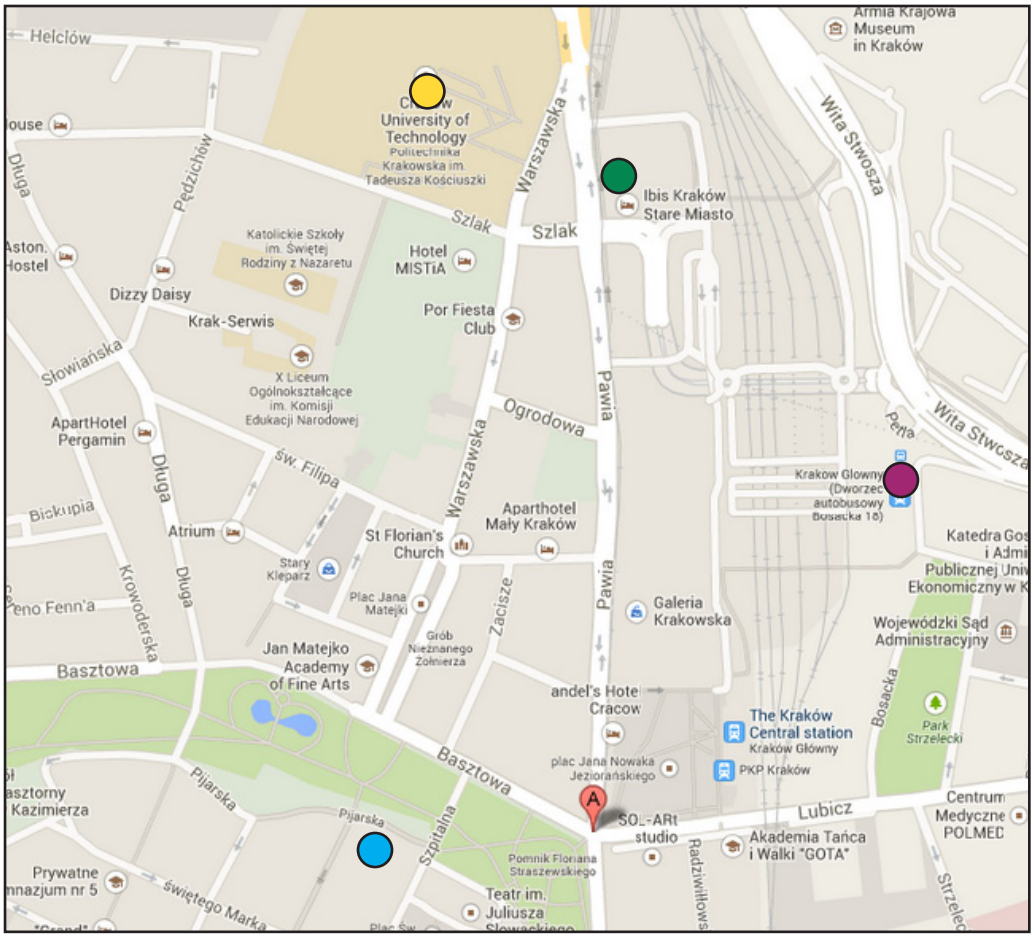
09.00-09.50	**Stainless Steels** Prof Jan Kazior, Cracow University of Technology, Poland
10.00-10.50	**Modelling I** Prof Didier Bouvard, INP Grenoble, France
10.50-11.10	**Refreshments**
11.10-12.00	**Modelling II** Dr Luc Federzoni, CEA, France
12.10-13.00	**Additive Manufacturing** Mr Juan Isaza, Fraunhofer IFAM, Germany
13.00-14.00	**Lunch**
	END OF SUMMER SCHOOL

The programme may be subject to change

Optional Sightseeing Tours Information, Friday afternoon – 20 June

1. Visit to Wieliczka Salt Mine **2.** Visit to Auschwitz **3.** City tour of Kraków

Location



Map

- Ibis Hotel and Bus Stop
- Main Station & Main Coach Station
- Cracow University of Technology
- Old City

The city of Kraków, which lies on the banks of the Vistula River, was for centuries the capital of Poland, and has accumulated a quarter of Poland's total number of museum artefacts. A visit to Kraków is a meeting with the most glorious era in Polish history. Kraków's Old Town, along with Wawel Castle and the city's Kazimierz district were placed on the First World Heritage List, created by UNESCO in 1978. At that time, such prestigious recognition had been awarded to only 12 of the world's most famous heritage sites, including the Egyptian pyramids and the Great Wall of China. More information about Kraków is available at: http://cracow.travel/ or http://www.krakow.pl/english

Travel / Directions

By Air

Kraków is connected with the international Kraków Airport im. Jana Pawła II.

The website of the airport: www.krakowairport.pl/en

How to get the IBIS hotel from Kraków Airport. Kraków Airport is served by two regular bus lines: 208 and 292 and one night line: 902. These are AGGLOMERATION BUS LINES. Tickets for bus lines can be purchased from:

- the ticket machine at the bus stop (payment in cash or with credit/debit card),
- the authorized ticket machines found on 292 line buses (payment in cash – coins only),
- the bus driver, in case of lack or failure of ticket machine (single tickets only, payment in cash).

Note: The ticket must be validated when getting on the bus. The single ticket cost 4 PLN i.e about 1 Euro. The bus stop is almost just in front of the hotel.

The distance between airport and hotel IBIS is about 16 km – time required 20 minutes for taxi service - the charges are calculated according to the taximeter, cost approximate 90 PLN i.e 23 Euro.

By Train

If you reach Kraków by train, please check the timetable on http://rozklad-pkp.pl/bin/query.exe/en. The central station is just walking distance to hotel IBIS and main campus of Cracow University of Technology

By Car

For those arriving in Kraków by car, motorway A4 is recommended.