

FINAL ANNOUNCEMENT



European Microbeam Analysis Society

EMAS 2015

**14th
EUROPEAN WORKSHOP**

on

MODERN DEVELOPMENTS AND APPLICATIONS IN MICROBEAM ANALYSIS

**3 to 7 May 2015
at the
Grand Hotel Bernardin
Portorož, Slovenia**

Organised in collaboration with:
Jožef Stefan Institute, Ljubljana
SDM – Slovene Society for Microscopy

Scope of the workshop series

The primary aim of this series of Workshops is to assess the state-of-the-art and reliability of microbeam analysis techniques.

The Workshops are organized in such a way as to maximise transfer of knowledge among the participants and to provide a comprehensive exhibition of the latest analytical equipment. The programme includes time and opportunities for participants to visit the technical exhibitions and interact with the manufacturers.

Previous Workshops in this series were held in Antwerp (1989), Dubrovnik (1991), Rimini (1993), St. Malo (1995), Torquay (1997), Konstanz (1999), Tampere (2001), Chiclana de la Frontera (2003), Florence (2005), Antwerp (2007), Gdansk (2009), Angers (2011), and Porto (2013). They included sessions covering electron (EPMA, TEM, SEM, Auger, EELS), ion (SIMS, FIB), and nuclear (RBS, NRA) microbeam methods.

The main topics of the **Fourteenth Workshop** (EMAS 2015) are: pushing the limits of EPMA, microanalysis in the STEM, EELS, cathodoluminescence, EBSD, and materials applications of microbeam analysis. Time will also be devoted to problem orientated applications in material science, geological science, environmental studies, astrophysics, microelectronics, forensics, cultural heritage and archaeology, nanomaterials, surfaces and interfaces, catalysts, sensors, ...

Round-table discussions

Our *round-table discussions* are panel discussions taking place at the end of each scientific session on a main topic. They are moderated by a leading expert, assisted by the invited speakers of the corresponding session.

The idea is to stimulate the exchange of information and experience among the participants on a number of important problems in microbeam techniques. Such activities need careful preparation, both with regard to structure and subjects. Therefore, we would kindly request you to complete the discussion questionnaire on the on-line registration page. If you have specific questions, these can also be mentioned in 'Other suggestions' on the questionnaire.

Brief presentations or contributions to the round-table discussions are encouraged (please contact the round-table chairperson at the beginning of the Workshop).

Posters

Poster contributions are welcome on subjects within the scope of the workshop (see Scope). The abstracts will be refereed by the International Scientific Committee and will be published, together with the text of the invited lectures, in the *Book of Tutorials and Abstracts* of the Workshop.

There will be three *Oral Poster Sessions* in which selected authors will be given 5 minutes to present the highlights of their poster using two or three powerpoint slides. Those authors selected will be notified some weeks prior to the workshop.

Authors have the opportunity to discuss their posters during the three poster sessions. Posters will be on display during the whole Workshop. Size of the display area: 1.50 m high by 0.95 m wide.

Two awards will be given: a) an EMAS Award for the best poster by a young scientist (< 30 years of age) encompassing a certificate and an invitation from AMAS - Australian Microbeam Analysis Society to present his/her work at a microbeam event in Australia (the Award will include a free conference registration and financial support from AMAS and EMAS for travel and living expenses), and b) an EMAS Workshop Poster Award encompassing a certificate and a cash prize of € 500.

Young scientists' session

One session is dedicated to giving young scientists (post-graduates and scientists under 30) the opportunity to present their work in a talk lasting 15 minutes including time for discussion. There will be six such presentations selected from the submitted abstracts. Those contributions selected by the International Scientific Committee will receive an EMAS Award of € 100.

The best contribution and presentation will receive a certificate and an invitation from the Microanalysis Society of America (MAS) to present his/her work at the Microscopy and Microanalysis 2016 Meeting to be held in Columbus, Ohio (the invitation will include a free conference registration and financial support from MAS and EMAS for travel and living expenses).

Young scientists wishing to be considered for this session should submit a written application to the Workshop Secretariat, reaching it before **15 November 2014**, and should be member of EMAS. Recipients of an EMAS bursary are also eligible to apply.

Abstracts

Abstracts of poster contributions to be presented during the workshop should fit one A4 page; the Word-template is available on the EMAS website (www.microbeamanalysis.eu). Detailed guidelines are mentioned on the template. Online submission details are given on the workshop webpage.

The abstract has to be submitted before **28 February 2015**. Authors will be notified of the acceptance of their poster by 15 March 2015.

Publication

Authors of accepted contributions are invited to submit a manuscript for publication in a volume of the IOP - Institute of Physics Conference Series: Materials Science and Engineering, appearing some months after the Workshop. All submitted papers will be peer-reviewed. Owing to limitations imposed by the publisher, the editors will apply a stringent selection procedure based on quality, diversity, and adherence to the manuscript preparation rules. Manuscripts will have to be submitted in the format outlined by the publisher to the EMAS Secretariat.

Workshop language

The official language of the Workshop will be English.

Key dates

- * **28 February 2015** : submission of abstracts for poster presentations
 - * **15 March 2015** : notification of acceptance of poster contributions
 - * **15 March 2015** : early registration deadline
hotel accommodation deadline
 - * **03 May 2015** : start of the workshop
 - * **15 June 2015** : submission of manuscripts for publication in the proceedings
-

EMAS bursaries

A number of EMAS bursaries are available to (student) **members** of the Society. They include a free “student” registration and free accommodation package for the duration of the Workshop (in a shared twin room) in a hotel assigned by the Workshop. The conditions for the award of an EMAS bursary are as follows:

- the applicant must submit an abstract for a poster contribution;
- the applicant must be a young scientist (under 30) and a member of EMAS;
- a letter from the applicant's supervisor supporting the application must be supplied together with the application (see further).

A number of EMAS bursaries are available to **technician members** of the Society. They include a free “student” registration and free accommodation package for the duration of the Workshop (in a shared twin room) in a hotel assigned by the Workshop. The conditions for the award of an EMAS bursary are as follows:

- the applicant must submit an abstract for a poster contribution;
- the applicant must be a member of EMAS;
- a letter from the applicant's supervisor/manager supporting the application must be supplied together with the application (see further).

The quality and relevance of the work presented in the abstract are the main criteria on which successful applications will be judged. A maximum of 2 bursaries per person can be awarded.

Bursary applications must be sent to the Workshop Secretariat referring to the relevant poster contribution abstract, reaching it before **15 January 2015**. Applicants will be notified of the allocation of an EMAS Grant by **31 January 2015**.

Exhibition

Ample space, immediately adjacent to the lecture and poster areas, will be available for the exhibition of instruments, equipment, leaflets and books. Interested companies are invited to contact the Workshop Secretariat.

Short courses (Sunday May 3rd, 2015)

Introduction to EDS/WDS X-ray microanalysis

A one-day short course for new and novice users of both SEM and EPMA. The course involves a series of lectures and on-instrument practical demonstrations of some of the fundamental aspects of EDS and WDS analysis, delivered by EMAS' own experienced team of experts. Topics covered include: X-ray generation in the SEM, characteristics of ED and WD detectors, X-ray mapping, and quantitative analysis.

For a more detailed course description, see: www.microbeamanalysis.eu.

Introduction to EBSD

A one-day short course to introduce the physical and practical methods of electron backscatter diffraction (EBSD). The course is delivered as a series of on-instrument demonstrations and short lectures. The course is aimed at students, technicians, engineers and researchers with either no or limited experience of EBSD although some familiarity with basic SEM techniques would be beneficial. The course will cover different aspects of EBSD including: overview of EBSD, basics of sample preparation, EBSD on non-conductive materials, some in-situ applications, and practical demonstrations.

For a more detailed course description, see: www.microbeamanalysis.eu.

Both courses run concurrently and will be held at the Jožef Stefan Institute and at the Institute of Metals and Technology, Ljubljana, Slovenia. Accommodation (Saturday night), Saturday evening dinner, and coach transfer to the workshop venue, is included in the cost of the short courses.

Each course is strictly limited to 20 participants. The courses are only open to workshop participants.

Cost is € 250 for EMAS/SDM members and € 400 for non-members, covering overnight accommodation (Saturday to Sunday) in Ljubljana, Saturday evening dinner in Ljubljana, course material, lunch, refreshment breaks, and coach transfer from Ljubljana to the workshop venue in Portorož.

PROGRAMME

Sunday 3 May 2015

09.00 - 17.30 Short course: **Introduction to EPMA.**
Short course: **Introduction to EBSD.**
Organized at the Jožef Stefan Institute and at the Institute of Metals and Technology in Ljubljana; overnight (Saturday to Sunday) accommodation and coach transfer to the workshop venue in Portorož included.

Complimentary coach transfers are arranged from Venice (Marco Polo) airport leaving at 18.00, calling at Trieste (Ronchi dei Legionari) airport about 45 minutes later, and from Ljubljana (Joze Pucnik) airport and railway station leaving at 18.00.

19.30 - 20.00 Registration

20.00 - 22.00 Informal buffet reception hosted by the International Scientific Committee and the Local Organising Committee

PROGRAMME

Monday 4 May 2015

- 09.00 Welcome and opening address
Michael B. MATTHEWS (President of EMAS)
Miran ČEH (EMAS 2015 Workshop chairperson)
-
- 09.15 **Advanced EPMA techniques.**
Paul K. CARPENTER (Washington University, Earth and Planetary Sciences, St. Louis, MO, U.S.A.)
-
- 10.00 **Low voltage EPMA: experiments on a new frontier in microanalysis.**
John FOURNELLE (University of Wisconsin, Dept. Geology & Geophysics, Madison, Wisconsin, U.S.A.)
-
- 10.45 Refreshment break / Exhibition visit
-
- 11.15 Presentation by the MAS-USA President: **Continuing developments and future prospects for atom probe tomography.**
Thomas F. KELLY (Cameca Instruments, Inc., Madison, WI, U.S.A.)
-
- 11.45 Presentation by the MAS-USA Student Award Winner: **title to be defined.**
to be announced
-
- 12.00 Lunch break / Exhibition visit
-
- 13.30 **Presentation of new equipment and software by the exhibiting companies.**
chairpersons: Andreas MAKAT (Ametek, EDAX Business Division, Wiesbaden, Germany)
Xavier LLOVET (University of Barcelona, Scientific and Technological Centers (CCiT), Barcelona, Spain)
-
- 15.30 **Oral presentations of the contributed posters: I.**
chairperson: Silvia RICHTER (RWTH Aachen, Central Facility for Electron Microscopy (GFE), Aachen, Germany)
-
- 16:30 Poster session I / Refreshment break
-
- 17.00 **Development of soft X-ray emission spectrometer for EPMA/SEM and its application.**
Hideyuki TAKAHASHI (JEOL Ltd., Application & Research Group, Akishima, Tokyo, Japan)
-
- 17.45 **Quantification of low concentration elements using soft X-rays at high spatial resolution.**
Philippe T. PINARD (RWTH Aachen, Central Facility for Electron Microscopy (GFE), Aachen, Germany)
-
- 18.30 Round-table discussion: * **Electron probe microanalysis.**
chairpersons: Matjaž GODEC (Institute of Metals and Technology, Ljubljana, Slovenia)
Clive T. WALKER (Great Britain)
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PROGRAMME

Tuesday 5 May 2015

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- 09.00 **Oral presentations of the contributed posters: II.**
chairperson: Hans DIJKSTRA (Thermo Fisher Scientific BV, Breda, The Netherlands)
-
- 10.00 Poster session II / Refreshment break
-
- 10.45 **Young scientists' session.**
chairperson: Miran ČEH (Jožef Stefan Institute, Department for Nanostructured Materials & Centre for Electron Microscopy and Microanalysis, Ljubljana, Slovenia)
-
- 12.15 Presentation by AMAS President: **Low voltage imaging and X-ray analysis in the SEM: challenges and opportunities.**
Richard WÜHRER (University of Western Sydney, Advanced Materials Characterisation Facility, Penrith, NSW, Australia)
-
- 12.45 Presentation by the AMAS Student Award Winner: **title to be defined.**
to be announced
-
- 13.00 Lunch break / Exhibition visit
-
- 14.30 **Quantitative X-ray microanalysis, EBSD and imaging at high spatial resolution in the transmission mode of the SEM.**
Raynald GAUVIN (McGill University, Dept. Metals and Materials Engineering, Montréal, Quebec, Canada)
-
- 15.15 **Quantitative ADF STEM: acquisition, analysis and interpretation.**
Lewys JONES (University of Oxford, Department of Materials, STEM group, Oxford, Great Britain)
-
- 16.00 Refreshment break / Exhibition visit
-
- 16.30 **Fundamentals of EELS.**
Ferdinand HOFER (Graz University of Technology, Austrian Centre for Electron Microscopy and Nanoanalysis, Graz, Austria)
-
- 17.15 **Applications of scanning transmission electron microscopy (STEM).**
Sašo ŠTURM (Jožef Stefan Institute, Department for Nanostructured Materials, Ljubljana, Slovenia)
-
- 18.00 Round-table discussion: * **STEM and EELS.**
chairpersons: Boštjan MARKOLI (University of Ljubljana, Faculty of Natural Sciences and Engineering, Department of Materials and Metallurgy, Ljubljana, Slovenia)
Goran DRAŽIČ (National Institute of Chemistry, Laboratory for Materials Chemistry, Ljubljana, Slovenia)
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Social programme

All participants and accompanying persons are invited to the welcome buffet reception on Sunday evening. This informal get-together is hosted by the International Scientific Committee and the Local Organising Committee.

The workshop dinner, on Wednesday evening, will be held on the Laho during a cruise along the Adriatic Coast. The cost is included in the registration fee but is extra for accompanying persons.

Registration fees

Online registration is available at: www.microbeamanalysis.eu. Participants are encouraged to complete registration and arrange for their payment, preferably before **15 March 2015** to qualify for reduced rates.

The registration fee includes:

- **lunches** (Mo. – We.) and **all refreshment breaks**;
- the **welcome buffet** (Su.) and the **workshop dinner** (We.);
- a copy of the workshop's *Book of Tutorials and Abstracts* containing the detailed programme, the text of the invited lectures, and the abstracts of the poster presentations;
- a hard copy of the Workshop Proceedings (except with student registration, or equivalent).

	early rate before March 15	late rate after March 15	
<i>Workshop attendance:</i>			
- Current EMAS / SDM members	€ 500.00	€ 600.00	
- Registration + 2-year EMAS membership	€ 570.00	€ 670.00	
- Non-member registration only	€ 650.00	€ 750.00	
- Student / EMAS member in retirement (without proceedings volume)	€ 250.00		
<i>Short courses (Sunday 3 May 2015)</i>			
<i>Introduction to EPMA:</i>			
- Current EMAS / SDM members	€ 250.00		
- Non-member registration	€ 400.00		
<i>Introduction to EBSD:</i>			
- Current EMAS / SDM members	€ 250.00		
- Non-member registration	€ 400.00		
<i>Workshop dinner (additional ticket)</i> (for exhibitors, accompanying persons)			€ 50.00
<i>Proceedings volume (hard copy):</i> (for students, exhibitors, accompanying persons)			€ 40.00

Payment

Payment of the registration fee should be preferentially made through the EMAS website (www.microbeamanalysis.eu) using the online PayPal system (no account necessary); no credit card information will be stored on the EMAS website; various payment options are available (e.g., credit cards) depending on your country. An invoice/receipt will be generated by the system.

Alternatively, if you prefer to pay by bank transfer or any other offline payment method, please choose the "pay offline" button and follow the instructions; this will generate your invoice, which includes bank transfer and contact details.

Cancellation

Refund of the registration fee (less € 50 administrative costs) will only be granted if notification of cancellation has reached the Workshop Secretariat before 15 April 2015. After this date, no refund will be made. Refunds will be processed after the Workshop.

Insurance

The organizers cannot be held responsible for any personal accident or damage to the property of the participants.

Accommodation

The EMAS 2015 Workshop is being held in the conference centre of the Grand Hotel Bernardin. Apart from this 5-star hotel, there are also the 4-star Hotel Histrion and the 3-star Vile Park Hotel within the same complex.

We have arranged for favourable room rates (incl. breakfast and taxes) at all three of these hotels. Please be advised that the mentioned rates are only valid for a minimum stay of 3 nights. It is advisable to book your hotel accommodation as soon as possible to benefit from these preferential rates (incl. breakfast and taxes).

	single	double or twin
Grand Hotel Bernardin (5*)	€ 99.00	€ 138.00
Hotel Histrion (4*)	€ 84.00	€ 118.00
Vile Park Hotel (3*)	€ 64.00	€ 88.00

To obtain the formal details and further information about these hotels, or to make a reservation, please contact: natasa.bobovnik@bernardingroup.si.

Venue

Grand Hotel Bernardin (www.bernardingroup.si)
Obala 2
6320 Portorož, Slovenia

The Bernardin Congress Centre in the Grand Hotel Bernardin is the first and the largest convention centre in Slovenia. Its multifunctional design facilitates the organisation of various events: congresses, seminars, workshops, presentations, press conferences and business meetings, as well as banquets, fashion shows and gala dinners. All 16 modern multifunctional halls enjoy natural daylight.

Portorož is closely connected to nearby Piran, a small medieval town whose fame and fortune come from one of the largest saltpans in this part of the world. Today mostly abandoned, the saltpans now provide shelter to numerous bird species to nest or stop during southbound migration. It is the saltpans and their natural elements - salt, brine, and fango mud - that spurred the development of tourism in Portorož. When the healing properties of these natural elements were discovered as early as the 19th century, Portorož got its first hotels and thermal centres. Today Portorož is a popular place to work, relax and have fun.

Piran is a very special, precious city. It is the best preserved cultural monument of Slovenian Istria and the closest neighbour of Portorož, the luxurious city of flowers. Take a closer look at its architecture, influenced by the Venetian Republic, which left its mark on most Istrian towns. Throughout time, Piran maintained the clustered medieval structure of narrow winding streets with houses huddled close together, rising in cascades, the contact with the sea, numerous squares and churches.

The weather in Portorož in May

Portorož has a Mediterranean climate. Average high temperature in May is around 25 °C. It can rain but it can also be quite warm.

Personal data

Personal information supplied to EMAS will be held on computer and may be used only for purposes connected with the activities of the European Microbeam Analysis Society.

How to get to the Workshop venue

- a) By air: Participants arriving by plane are advised to arrange travel through either Ljubljana (Joze Pucnik) airport, Trieste (Ronchi dei Legionari) airport, or Venice (Marco Polo) airport.

Ljubljana airport is located 26 km north of Slovenia's capital city, Ljubljana, and 138 km from Piran-Portorož.

From the Ljubljana airport you can travel to Ljubljana city by bus, running several times a day; additional information and timetables can be found [here](#).

Trieste airport is located 80 km from Portorož. Public transport bus (APT) no. 51 will take you to the bus terminal in Trieste, for connections with cross border coach services to Portorož. Additional information on timetables for transport from Trieste airport to Portorož can be found [here](#).

Venice airport is located 190 km from Portorož. Public transport bus (ACTV) no. 15 will take you to the Venezia-Mestre railway station, where you can take a train to Trieste, for connections with cross border coach services to Portorož.

- b) By bus or train: From Ljubljana you can travel to Portorož by bus or by train. Additional information and timetables can be found at:

[Bus station Ljubljana](#) / [Train station Ljubljana](#)

Trains from Ljubljana terminate in Koper, from where you can take a bus or taxi (Taxi Soncek: +386-51-30.73.00) to Portorož.

- c) By car: Portorož can be reached via the A1 highway from Ljubljana to Koper, and then the 111 main road to Portorož.

Portorož can be reached via the A4 highway from Venice to Trieste, from where you can take the H5 to Koper (Slovenia) and then the 111 main road to Portorož.

Individual transfers to/from Portorož can be arranged through: www.goopti.com.

Complimentary coach transfers are organized for workshop participants:

- a) On Sunday May 3rd, 2015 at 18.00:
- from Ljubljana (Joze Pucnik) airport.
 - from Ljubljana railway station.
 - from Venice (Marco Polo) airport, calling at Trieste (Ronchi dei Legionari) airport at about 18.45.
- b) On Thursday May 7th, 2015 at 13.30:
- to Ljubljana (Joze Pucnik) airport and railway station (approx. arrival at 15.00).
 - to Trieste (Ronchi dei Legionari) airport (approx. arrival at 14.30), and continuing on to Venice (Marco Polo) airport (approx. arrival at 15.30).
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International Scientific Committee

François Brisset	<i>France</i>
Miran Čeh (chairperson)	<i>Slovenia</i>
Hans Dijkstra	<i>The Netherlands</i>
Matjaž Godec	<i>Slovenia</i>
Fernanda Guimarães	<i>Portugal</i>
Stuart L. Kearns	<i>Great Britain</i>
Janez Kovač	<i>Slovenia</i>
Enrico Langer	<i>Germany</i>
Xavier Llovet	<i>Spain</i>
Boštjan Markoli	<i>Slovenia</i>
Michael B. Matthews	<i>Great Britain</i>
Philipp Pöml	<i>Germany</i>
Silvia Richter	<i>Germany</i>
Giovanni Valdrè	<i>Italy</i>
Clive T. Walker	<i>Great Britain</i>

Local Organising Committee

Slavko Bernik
Miran Čeh (chairperson)
Goran Dražić
Sanja Fidler
Zoran Samardžija
Luc Van't dack
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Workshop Secretariat

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Updated information on the workshop can be found at the EMAS 2015 website: www.microbeamanalysis.eu.
