



Instituut Collectie Nederland
Ministerie van Onderwijs, Cultuur en
Wetenschap

EMAS 2010

9th EMAS Regional Workshop on

**ELECTRON PROBE MICROANALYSIS OF
MATERIALS TODAY - PRACTICAL ASPECTS**

**including a session on
microbeam analysis in cultural heritage**

25 - 28 April 2010

Conference Centre de Roos
Amsterdam, The Netherlands

ANNOUNCEMENT AND PROVISIONAL PROGRAMME

Organised in collaboration with:
ICN - Netherlands Institute for Cultural Heritage

1. AIMS AND SCOPE

The EMAS Regional Workshops are biennial events designed to provide postgraduate-level and research workers in materials science and material engineering with basic knowledge of the capabilities and limitations of electron probe X-ray microanalysis. The workshops are arranged as low-budget meetings with lectures on practical and theoretical aspects of EPMA given by internationally recognised experts. The format and content of the meetings are tailored to the needs of the practical microanalyst routinely dealing with problems of specimen preparation, instrumental procedures, data collection and quantification, as well as those of research workers keen to obtain a deeper understanding of the physics underlying X-ray production, measurement and analysis.

The core topics of the 9th EMAS Regional Workshop are:

- Electron beam - specimen interactions
- X-ray spectroscopy
- Quantitative electron probe microanalysis
- Light element analysis
- Basic Monte Carlo simulation
- Electron backscatter diffraction
- Sample preparation

Since the Netherlands Institute for Cultural Heritage (ICN) has an ongoing interest in cultural heritage related microbeam analysis, the Workshop will include two technical sessions dedicated to this subject.

Topics covered in these sessions dealing with cultural heritage microanalysis will include:

- Non-invasive analysis of cultural heritage objects
- Multispectral imaging and IR reflectography of paintings
- Scanning μ -X-ray fluorescence
- Variable pressure scanning electron microscopy
- Identification of pigments and dyestuffs by μ -Raman
- Integrated X-ray diffraction and X-ray fluorescence
- Laser ablation inductively coupled plasma mass spectrometry

Past EMAS Regional Workshops were held in Finland (1994), Hungary (1996), Spain (1998), the Czech Republic (2000), Poland (2002), Slovenia (2004), Germany (2006), and Italy (2008).

2. SCIENTIFIC PROGRAMME

The programme will consist of invited lectures delivered by renowned experts, and three poster sessions. Three round-table discussions will also be held during the workshop. The invited lectures and poster abstracts will be published in the Workshop *Book of Tutorials and Abstracts*. Selected papers of accepted poster contributions will be published in the journal *Microscopy & Microanalysis*, subject to the standard peer review procedure. The official language of the workshop will be English.

Preliminary programme

Sunday 25 April 2010

- 17h00 Registration (at the Café Vertigo, Vondelpark 3A, Amsterdam)
18h00 Welcome reception (at the Café Vertigo, Vondelpark 3A, Amsterdam)

Monday 26 April 2010

- 08h00 Registration
09h00 **Welcome and Opening Addresses**
Janneke Ottens, Head of ICN Research Department
EMAS President Representative

Session I

- 09h30 **Introduction to EPMA and SEM**, *Hans Dijkstra*, Thermo Fisher Scientific BV, Breda, The Netherlands
10h30 Coffee
11h00 **Sample preparation for EPMA (generic)**, *Silvia Richter*, RWTH, Gemeinschaftslabor für Elektronenmikroskopie (GfE), Aachen, Germany
12h00 **Performance characteristics of WDS detectors**, *Michael B. Matthews*, AWE Plc., Aldermaston, UK
13h00 Lunch

Session II

- 14h00 **Performance characteristics of EDS detectors**, *Michael B. Matthews*, AWE Plc., Aldermaston, Great Britain
15h00 **Light element analysis**, *Hans Dijkstra*, Thermo Fisher Scientific BV, Breda, The Netherlands

16h00 Refreshments / Poster Session I
17h00 Round-table discussion:
EPMA - EDS/WDS - Light element analysis
Moderator: Michael B. Matthews, AWE Plc., Aldermaston, Great Britain

Tuesday 27 April 2010

Session III

09h00 **Quantification in EPMA (incl. Monte Carlo simulation and thin films)**, *Xavier Llovet*, University of Barcelona, Serveis Científico-Tècnics, Barcelona, Spain
10h00 **Electron backscatter diffraction: a bridge between microstructure and quantitative analysis on material science**, *Patricia Romano Triguero*, Tata-Corus Group, Microstructure & Crystallography & Thermal Analysis, IJmuiden, The Netherlands
11h00 Coffee
11h30 **Introduction to table-top μ -XRF**, *Koen Janssens*, University of Antwerp, Department of Chemistry, X-ray Micro Beam Analysis Research Group, Antwerp, Belgium
12h30 Round-table discussion:
EPMA - EBSD - table-top μ -XRF
Moderator: Hans Dijkstra, Thermo Fisher Scientific BV, Breda, The Netherlands
13h30 Lunch

Session IV

14h30 **Table-top SEM presentations:**
- NeoScope™, Jeol Europe
- Phenom™, PhenomWorld
- TM-1000™, Hitachi High-Technologies Europe
15h15 **Oral poster presentations**
15h30 Refreshments / Poster Session II
Demonstrations of table-top SEM's
17h00 **Visit to ICN facilities at the 'Ateliergebouw'**
(Hobbemastraat 22, Amsterdam)
19h00 Departure for guided city trip followed by workshop dinner

Wednesday 28 April 2010

Session V

- 09h00 **Scientific analyses of cultural heritage objects**, *Alberto de Tagle*, Netherlands Institute for Cultural Heritage (ICN), Amsterdam, The Netherlands
- 09h30 **Characterisation of painting techniques by multispectral IR reflectography**, *Claudia Daffara*, Consiglio Nazionale delle Ricerche, INOA - Istituto Nazionale di Ottica Applicata, Art Diagnostic Group, Florence, Italy
- 10h00 **Non-destructive identification of art objects using multispectral mapping images and acoustic microscopy**, *Giorgios Karagiannis*, "ORMYLIA" Foundation, Art Diagnosis Centre, Ormylia, Greece
- 10h30 **Looking through van Gogh: advanced X-ray analysis reveals a portrait below the painting of a landscape**, *Joris Dik*, Delft University of Technology, Department of Materials Science and Engineering, Delft, The Netherlands
- 11h00 Coffee
- 11h30 **Quantitative determination of van Gogh's painting grounds using SEM-EDX**, *Ralph Haswell*, Shell Global Solutions International BV, Shell Research & Technology Centre, Amsterdam, The Netherlands
- 12h00 **How to study a pigment that has disappeared?** *Katrien Keune*, Netherlands Institute for Cultural Heritage (ICN), Amsterdam, The Netherlands
- 12h30 **Colourful surfaces: identification of pigments by scanning μ -XRF**, *Luc Megens*, Netherlands Institute for Cultural Heritage (ICN), Amsterdam, The Netherlands
- 13h00 Lunch
- 14h00 **Study of surfaces by low-voltage and variable pressure SEM**, *Ineke Joosten*, Netherlands Institute for Cultural Heritage (ICN), Amsterdam, The Netherlands
- 14h30 **Identification of early synthetic organic dyestuffs using μ -Raman spectroscopy**, *Suzan de Groot*, Netherlands Institute for Cultural Heritage (ICN), Amsterdam, The Netherlands
- 15h00 **Analysis of ancient and historic glass by laser ablation inductively coupled plasma mass spectrometry**, *Norman Tennent*, University of Amsterdam (UvA), Amsterdam, The Netherlands
- 15h30 Refreshments / Poster Session III

- 16h00 ***In situ* analysis of object surfaces by portable X-ray diffraction and fluorescence**, François Mirambet, Centre de Recherche et Restauration des Musées de France (C2RMF), Paris, France
- 16h30 **PARC – Phase analysis, recognition and characterisation: full quantitative interpretation of spectral imaging datasets in terms of phase-proportions and -composition**, *Corrie van Hoek*, Corus Research, Development & Technology, Ceramic Research Centre, IJmuiden, The Netherlands
- 17h00 Round-table discussion:
Microbeam analysis on cultural heritage
Moderator: Alberto de Tagle (Netherlands Institute for Cultural Heritage (ICN), Amsterdam, The Netherlands)
- 18h00 **Closing ceremony**
Clive T. Walker, EMAS President

Posters presentations

All participants of the workshop are invited to make a poster presentation. Abstracts must be submitted electronically to the workshop secretariat at the address given below before 15 February 2010. The International Scientific Committee will review all submitted abstracts. Authors will be notified of the acceptance of their poster(s) by 28 February 2010.

Abstract format

One camera-ready A4 page (3 cm all-round margins, no indents, 12-point font size, single line spacing) containing:

TITLE OF ABSTRACT

N. Ames, O.F. Authors

Affiliations

(free line)

Text of abstract without figures, photographs or tables.

Abstracts should be sent in Word or WordPerfect or Rich Text Format (RTF) by e-mail to the workshop secretariat with an accompanying electronic version of a passport-style photograph of the presenting author (in either tiff- or jpeg-format; 300 dpi resolution at a size of approx. 5 cm high by 4 cm wide). The photograph will be reproduced in the *Book of Tutorials and Abstracts* to assist other participants to contact the author during the Workshop.

3. REGISTRATION

Participants are requested to complete and return the attached registration form to the workshop secretariat as soon as possible, preferably before 15 March 2010.

Workshop registration fees

	Early registration (before 15 March)	Late registration (after 15 March)
EMAS member	€ 350	€ 400
Non-member	€ 450	€ 500
Student (ID required)	€ 100	€ 150
EMAS grant	free	
Accompanying person	€ 125	
1-day ticket	€ 150	

The registration fee for respectively EMAS members, non-members, students and EMAS Grant recipients, includes a copy of the workshop's *Book of Tutorials and Abstracts* (invited lectures and poster abstracts), the coffee/refreshment breaks and lunches during the workshop, the welcome reception (Sunday 25 April), and the workshop dinner (Tuesday 27 April).

The accompanying person fee includes the coffee/refreshment breaks and lunches during the workshop, the welcome reception (Sunday 25 April), and the workshop dinner (Tuesday 27 April).

The 1-day ticket includes a copy of the workshop's *Book of Tutorials and Abstracts*, and the coffee/refreshment breaks and lunch on the day of attendance.

EMAS grants and support for participants

Some EMAS grants are available to undergraduate and Ph.D.-students and young scientists and technicians (< 30 years of age). Applicants need to be (student) member of EMAS. Applications should be made to the workshop secretariat as soon as possible, and not later than 15 February 2010, enclosing a copy of their student ID, if applicable, and a letter of recommendation from their supervisor. Grant recipients are required to present a poster (the abstract should be included with the application). Included in the EMAS grant is a free registration and a maximum of 3 nights hotel accommodation in a shared twin room assigned by the workshop organisers. Grant recipients will have to submit a duly completed registration form by the early registration deadline of March 15th.

Payment

Payment of the registration fee, without charges to the beneficiary, should be made to the European Microbeam Analysis Society. Payment can be made by:

- bank transfer to EMAS 2010 IBAN account no. BE72 9530 3981 3516, BIC/Swift code: CTBK BE BX, at the Citibank (Statielei 95, BE-2640 Mortsels, Belgium);
- a bank cheque in Euro, drawn on a Belgian bank, to the order of EMAS 2010 (attn. Luc Van't dack) and mailed to the workshop secretariat;
- credit cards: Visa, Mastercard, American Express (please complete and sign the relevant part on the registration form).

Cancellation policy

A refund of the registration fee (less € 50 administration costs) will be granted only if notification of cancellation is given to the workshop secretariat before 1 April 2010. After this date no refund will be made. Refunds will be processed after the Workshop.

Personal data

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

Insurance

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

Hotel accommodation

Hotel accommodation is widely available in Amsterdam. The following website can help you choose one: www.iamsterdam.com/en/visiting.

5. KEY DATES

15 February 2010	deadline for submission of abstracts for poster presentations
15 February 2010	deadline for applications for grants and financial support
28 February 2010	notification of acceptance of poster contributions
28 February 2010	notification of decisions on grants and financial support
15 March 2010	early registration deadline
25-28 April 2010	EMAS 2010 Workshop, Amsterdam, The Netherlands

6. WORKSHOP WEBSITE, COMMITTEES, SECRETARIAT

Workshop website

www.emas-web.net

International Scientific Committee

Hans Dijkstra	NL
Ralph Haswell	NL
Ineke Joosten	NL
Xavier Llovet (Chairperson)	ES
Michael B. Matthews	UK
Luc Megens	NL
Silvia Richter	DE

Local Organising Committee

Ineke Joosten (Chairperson)	NL
Hans Dijkstra	NL
Luc Van't dack	BE

Workshop Secretariat

European Microbeam Analysis Society (EMAS)
c/o University of Antwerp
Department of Chemistry, Research group PLASMANT
Mr. Luc Van't dack
Campus Drie Eiken, Universiteitsplein 1
BE-2610 Antwerp-Wilrijk, Belgium
tel: +32-3-265.23.43, fax: +32-3-265.23.43
e-mail: luc.vantdack@ua.ac.be

