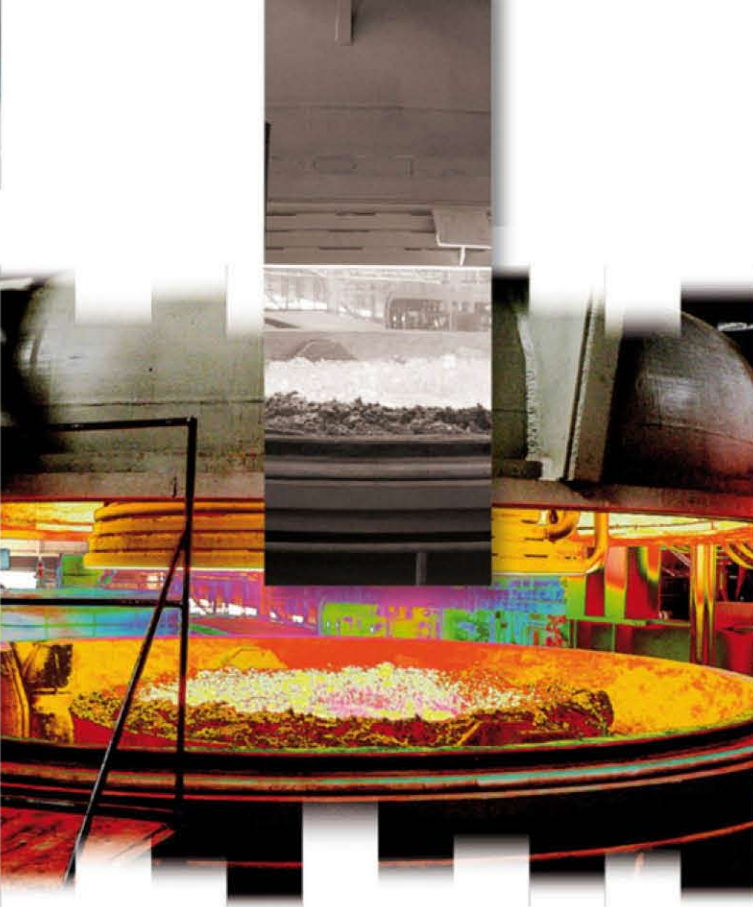


**ADVANCED  
PROGRAMME**

**INTERNATIONAL  
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**PERSPECTIVES  
ON AUTOMATION,  
MATERIALS, ENERGY  
& ENVIRONMENT**

**MILAN · ITALY · 29-30 MARCH 2012**

Organized by  
**Steelmaking and Plastic Deformation Study Groups**  
of  
**ASSOCIAZIONE ITALIANA DI METALLURGIA**



*EAF 2012 Organizing Secretariat*  
**Associazione Italiana di Metallurgia**  
P.le Rodolfo Morandi 2 - 20121 Milan, Italy  
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<http://www.aimnet.it/eaf2012.htm>



[WWW.AIMNET.IT/EAF2012.HTM](http://WWW.AIMNET.IT/EAF2012.HTM)



## INTRODUCTION

Eighteen years ago, the first workshop on EAF was held in Milan. Throughout the years, these EAF meetings have become a key-event for the industrial and academic experts involved in the EAF steelmaking. What is new at this EAF 2012 workshop?

For the first time, the meeting will focus also on monitoring and automation. Data monitoring, collection and statistical analysis are of great importance for a modern and efficient management of Electric Arc Furnace.

Not only they allow the improvement of technology, but most important they guarantee the "know-how inheritance": transfer, sharing and recording of the knowledge within the company at any level. Besides the improvement in process efficiency, continuous measurements and automatic control contribute decisively to all aspects related to safety and environment.

The Workshop aims at gathering and sharing information on all aspects of EAF technology, among delegates with academic and industrial backgrounds. Such an event, capable of bringing together suppliers and manufacturers, will allow the comparison between the current and future needs and will set the ground to satisfy these demands now or in the future.

## ORGANISING COMMITTEE

**Federica Bassani** - AIM - Associazione Italiana di Metallurgia

**Mauro Bianchi Ferri** - Tenova

**Giovanni Cozzi** - Consultant Engineer

**Carlo Mapelli** - Politecnico di Milano

**Giorgio Mignone** - SMS INNSE

**Franco Milani** - Siemens VAI

**Silvano Panza** - ASO Siderurgica - President of AIM Safety & Environment Technical Committee

**Gabriele Rampinini** - Forgiatura A. Vienna - President of AIM Steelmaking Technical Committee

**Pietro Ravanelli** - TenarisDalmine - President of AIM Plastic Deformation Technical Committee

**Romano Sellan** - Danieli Centro Met

**Luigi Zampetti** - CSM - Centro Sviluppo Materiali



## MARCH 28, 2012

### PRE - REGISTRATION

From 15.00 to 17.00, attendees will be able to register, at the Workshop venue, in Piazzale Rodolfo Morandi 2, Milano at AIM offices - 1<sup>st</sup> Floor.

## MARCH 29, 2012

**8.45** Registration of the delegates

**9.15** Welcome and opening session  
Ing. Ottavio Lecis, AIM President

### SESSION I: MATERIALS & ENVIRONMENT

Chairmen: Carlo Mapelli, Gabriele Rampinini

**9.25 Advanced fabric filter technology for EAF**  
G. Sacchi - Alstom Power Italia, Sesto San Giovanni, Italy

**9.50 Advances in energy consumption and environmental improvements using high carbon DRI and an EAF shop**  
P. Duarte, T. Scarnati - Tenova HYL, San Nicolas de los Garza, Mexico

**10.15 Management and design of charged metal and slag in the EAF for the production of alloy steels using advanced software**  
C.A. Perani - XPLAB, Brescia, Italy

**10.40** Coffee Break

**11.10 Modern refractory advances for electric arc furnaces**  
P. Zottler, J. Bachmayer, K. Zettl - RHI AG, Vienna, Austria

**11.35 EAF slag: a product not a problem**  
L. Di Sante, F. Cirilli - Centro Sviluppo Materiali, Dalmine, Italy  
N. Angelucci - TenarisDalmine, Dalmine, Italy

**12.00 Replacement of the use of fossil carbon with biogenic residues in the electric steelmaking process**  
T. Demus, T. Echterhof, H. Pfeifer - RWTH Aachen, Germany

**12.25 Dioxfree powdered activated carbon (PAC) injection system to control EAF's dioxin emission**  
A. Giachero, S. Torre - TTF, Genova, Italy  
S. Tosato - TenarisDalmine, Dalmine, Italy

**12.50** Lunch

## SESSION II: ENVIRONMENT & AUTOMATION

Chairmen: Giovanni Cozzi, Silvano Panza

**14.00 Approach for safe and reliable use of EAF slag**  
S. Barella, A. Gruttadauria, C. Mapelli, D. Mombelli - Politecnico di Milano, Italy  
F. Magni - Feralpi Siderurgica, Lonato, Italy

**14.25 Secret losses in dedusting systems. Optimisation of ducts & routing pays off!**  
V. Knoth, P. Pfister - Badische Stahl-Engineering GmbH, Kehl, Germany

**14.50 Dioxins minimisation and control in a EAF**  
E. Malfa, D. Mirabile, I. Pistelli, M. Scotto - Centro Sviluppo Materiali, Dalmine, Italy  
N. Angelucci, P. Giugliano, S. Tosato - TenarisDalmine, Dalmine, Italy

**15.15 Alternatives for steelmaking dusts disposal and recovery**  
N. Corna - SIAD, Bergamo, Italy

**15.40** Coffee Break

**16.10 LINDARC™ EAF off-gas analysis system**  
S. Marcuzzi, M. Iacuzzi - MORE, Gemona del Friuli, Italy

**16.35 Quality-quantity-quickness: the Danieli Automation 3Q technology for a modern EAF operation**  
M. Ometto - Danieli Automation, Buttrio, Italy

**17.00 ArchiTech™ - Maximizing the performance of electric arc furnaces**  
B.A. Chiappelli - GrafTech International Holdings Inc., Parma OH, USA

**17.25 iSteel Technologies: Tenova innovative approach for energy saving and environmental friendship in the melt shop**  
D. Masoero, P. Clerici - Tenova, Milano, Italy

**17.50-18.30** Exhibition

**19.30 Gala Dinner at Palazzo Giureconsulti, in Piazza Mercanti 2, Milano**

With the contribution of



## MARCH 30, 2012

### SESSION III: AUTOMATION

Chairmen: Mauro Bianchi Ferri, Franco Milani

**9.00 Model-based automation and optimisation of EAF steelmaking from charging to tapping**  
R. Pierre, B. Kleimt - VDEh-Betriebsforschungsinstitut, Düsseldorf, Germany  
B. Dettmer, H. Schliephake - Georgsmarienhütte, Germany

**9.25 Automated process capability. A step towards continuous improvement**  
A. Arnold, H. Schult, A. Wyatt - SGL Group, Wiesbaden, Germany

**9.50 Technical and economical potential for heat recovery in steel plants**  
C. Born, R. Granderath - Tenova Re Energy GmbH, Düsseldorf, Germany

**10.15 New benchmark for energy efficient steelmaking**  
M. Abel - Siemens VAI Metals Technologies GmbH, Willstätt-Legelshurst, Germany

**10.40 The management of EAF data collection non only in terms of technology but also of cost controls**  
C. Morbi - Stain, Brescia, Italy

**11.05** Coffee Break

**11.35 Continuous improvements in EAF performance at Dongbu Steel**  
Y.H. Lee - Dongbu Steel, Asan Bay, South Korea  
F. Gandin - Danieli Steelmaking, Buttrio, Italy  
R. Pivotti - Danieli Automation, Buttrio, Italy

**12.00 ARCESS® FEOS - Optimized energy input into the EAF**  
W. Linden - SMS Siemag AG, Düsseldorf, Germany and SMS Innse, San Donato Milanese, Italy

**12.25 The evolution of the Consteel® EAF**  
C. Giavani - Tenova, Milano, Italy  
E. Malfa - Centro Sviluppo Materiali, Dalmine, Italy

**12.50 Oxygen/carbon/lime module injection technology at Nunki steel electric arc furnace**  
M. Iacuzzi - MORE, Gemona del Friuli, Italy  
R. Celeghein, A. Aizza - NUNKI Steel, San Giorgio di Nogaro, Italy

**13.15** Lunch

**14.15-15.30** Exhibition and Workshop closure

Please complete and return this form by **February 20, 2012** to:

**ASSOCIAZIONE ITALIANA DI METALLURGIA - AIM**

Piazzale Rodolfo Morandi 2 · I · 20121 Milano, Italy  
Tel. +39 0276021132 / 0276397770 · Fax +39 0276020551  
E-mail: aim@aimnet.it · VAT entry no. 00825780158

To register please fill in the following registration form in all its parts.  
(It is also possible to register online)

Please use **BLOCK** letters throughout form (photocopies can be used)

**PERSONAL AND INVOICING DATA**

Family Name .....

First Name(s) .....

Company Name .....

Company Fiscal Address .....

ZipCode ..... Town .....

Country .....

E-mail for invoicing and billing information .....

E-mail for correspondence .....

Phone ..... Fax .....

VAT and FISCAL CODE (if different) .....

Order ref. number (if requested on the invoice) .....

I will attend the Workshop as:

 AIM MEMBER ..... € ..... NON MEMBER ..... € ..... AIM Junior Member ..... free ..... STUDENT (proof of student status required) ..... € ..... n. .... Accompanying Persons ..... € .....**Total amount being paid:** ..... € .....

by non-transferable bank draft or cheque, negotiable in Italy, to the order of Associazione Italiana di Metallurgia (AIM)

by bank transfer, to the order of Associazione Italiana di Metallurgia - AIM at "Banca Popolare Commercio e Industria", Branch no. 2 - Milano, account no. 000000022325 - cod. ABI 05048 - CAB 01602 - cin L - IBAN: IT92L0504801602000000022325, swift code POCIITM1002. The transfer order must specify the name of the delegate and the reference "EAF 2012". A copy of the transfer order must be sent to AIM, together with this Registration Form

by credit card online (www.aimnet.it/eaf2012.htm)

We inform you that data collected will be treated following the normal institutional activity of AIM. In accordance to article 130 of the D.lgs 196/03 in every moment the interested party has the right to oppose the treatment of one's personal data. Your data will be dealt with in accordance of the D.lgs. in 30th June 2003 n.196, guaranteeing the rights of the interested parties foreseen in the 7 art. of the Decree. We also inform you that AIM will communicate to foreign partners the personal data only for above reasons. We also inform you that your personal data will be on the list of the Workshop participants. In the case that you DO NOT want to appear on this list you may block the mail box. We also inform you that the holder of the personal data is AIM in Milan in Ple Morandi 2, while owner of the personal data is Ing. Ottavio Lecis, available near the AIM offices. ○

Date ..... Signature .....

**GENERAL INFORMATION****ORGANIZING SECRETARIAT****AIM - Associazione Italiana di Metallurgia**

Piazzale Rodolfo Morandi 2 - I - 20121 Milano, Italy  
Phone: +39 02.7602.1132 or +39 02.7639.7770  
Fax +39 02.7602.0551 - E-mail: aim@aimnet.it  
Workshop website: www.aimnet.it/eaf2012.htm

**WORKSHOP VENUE**

The Workshop will be held in Milan (Italy), at the Centro Congressi FAST - Piazzale R. Morandi 2 - near Piazza Cavour (underground: line 3 yellow - Turati station).

**LANGUAGE**

The official language of the Workshop will be English. A simultaneous translation service (English-Italian) will be provided.

**PROCEEDINGS**

The full text of the accepted papers will be published in the CD-Rom proceedings and issued to attendees on arrival at the Workshop.

**GALA DINNER**

On the evening of March 29, 2012, at 19.30 a Gala Dinner will be offered at Palazzo Giureconsulti, in Piazza Mercanti 2, Milano.

**REGISTRATION INFORMATION****Registration fees BEFORE February 20, 2012**

	STANDARD RATES	AIM MEMBERS RATES
DELEGATES:	EUR 410 (*)	EUR 330 (*)
STUDENTS (★):	EUR 190 (*)	FREE

**Registration fees AFTER February 20, 2012**

	STANDARD RATES	AIM MEMBERS RATES
DELEGATES:	EUR 510 (*)	EUR 430 (*)
STUDENTS (★):	EUR 290 (*)	FREE

(\*) Revenue Stamp included

ACCOMPANYING PERSONS ..... EUR 85 (VAT included)  
(includes only Gala Dinner)

Registration fees **include** admittance to technical sessions, workshop bag with CD-Rom proceedings, Gala dinner, lunches and coffee breaks. For non-members the fee includes AIM Membership for the year 2012.

(★) **Students** will have to provide valid proof of student status. Standard Student rate includes access to technical sessions, Workshop bag with CD Rom proceedings, lunches and coffee breaks. The fee includes AIM Junior Membership for the year 2012. It does **not** include Gala Dinner.

**Cumulative registrations** for over 3 attendees from the same company will entitle to a discount of 15% of the total amount. Cumulative registration should be sent together.

**ADVANCED REGISTRATION**

If you plan to attend, please fill in the registration form on the workshop website (www.aimnet.it/eaf2012.htm) or the enclosed registration form and send it to the Organizing Secretariat at your earliest convenience, but not later than **February 20, 2012**. Please use a separate form for each delegate. Photocopies can be used. Please contact the Organizing Secretariat by e-mail (aim@aimnet.it), if possible.

**SPEAKERS REGISTRATION**

Speakers are required to register and pay the registration fee not later than **February 10, 2012**. Otherwise their paper will be removed from the programme and the proceedings.

**PAYMENT AND REMITTANCE**

- by non-transferable bank draft or cheque, negotiable in Italy, to the order of Associazione Italiana di Metallurgia (AIM)
- by bank transfer, to the order of Associazione Italiana di Metallurgia - AIM at "Banca Popolare Commercio e Industria", Branch no. 2 - Milano, Account no. 000000022325 - Code ABI 05048 - CAB 01602 - CIN L, IBAN: IT92L0504801602000000022325, swift code POCIITM1002. The transfer order must specify the name of the delegate and the reference "EAF 2012". A copy of the transfer order must be sent to AIM, together with Registration Form.
- by credit card online (www.aimnet.it/eaf2012.htm).

**CANCELLATION AND REFUND POLICY**

A refund, less 20% deduction for administrative costs, will be issued for written cancellations received by **March 9, 2012**. For attendees who notify their cancellation after March 9, 2012 or will not attend the workshop, **a charge of 100%** of the registration fee will be withheld and a copy of the proceedings will be sent after the event.

**INSURANCE**

The Organising Secretariat cannot assume any responsibility for personal accident, loss or damage to the private property of participants and accompanying persons, which may either occur during or arise from the workshop. Participants should therefore take whatever steps they consider necessary as regards insurance.

**VISA APPLICATION FORM**

If you need an official invitation please send your request to the Organising Secretariat before February 20, 2012 complete with family and first name, birth date, passport number, arrival and departure dates, nationality and Italian Embassy fax number.