

*advance
programme*

HIGH TECH DIE CASTING 2016

Venice (Italy) 22-23 June 2016



Organised by
**ASSOCIAZIONE
ITALIANA
DI METALLURGIA**

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 **NADCA**
NORTH AMERICAN DIE CASTING ASSOCIATION

www.aimnet.it/htdc2016.htm

Scope

Held for the first time in Vicenza, Italy in 2002, HTDC Conference has become a key-event for the international industrial and academic community involved in casting processes of Aluminium, Magnesium and other non-ferrous alloys. The HTDC Conference series has been steadily growing in quality, impact and participation in the following conferences, organised in 2004, 2006, 2008 and 2012. Today, Die Casting production is facing new challenges, from eco-sustainability and efficient energy usage to optimisation of product properties, from alloys' properties improvement to design of lightweight components. Only an "open minded" approach, resulting in a high capability of being innovation-driven, integration-oriented and implementation-ready, will make Die Casting foundries successful in a international arena dominated by competition.

To sustain the development of this capability, i.e. the competitiveness in Die Casting production, HTDC 2016 will review:

- innovations, from alloys to processes, from design to applications, which are available to foundries, suppliers, end-users;
- multi-disciplinary integration of concepts, methods and processes;
- implementation, into the industrial context, of new and modern solutions for quality, efficiency, high performance.

Conference Chairman

Franco Bonollo · University of Padova, Vicenza, Italy

Conference Co-Chairman

Giulio Timelli · University of Padova, Vicenza, Italy

International Scientific Committee

Kevin Anderson · Mercury Marine, USA

Diran Apelian · WPI, USA

Lars Arnberg · NTNU, University of Trondheim, Norway

Franco Bonollo · DTG, Università di Padova, Italy

Andreas Bührig-Polaczek · RWTH Aachen University, Germany

Lorella Ceschini · Università di Bologna, Italy

Mario Conserva · Edimet, Italy

Arne Dahle · Jönköping University, Sweden

Marisa Di Sabatino · NTNU, University of Trondheim, Norway

Derya Dispınar · Istanbul University, Turkey

Gian Luca Garagnani · Università di Ferrara, Italy

Elisabetta Gariboldi · Politecnico di Milano, Italy

Nicola Gramegna · Enginsoft, Italy

Toshio Haga · Technical University Osaka, Japan

Anders Jarfors · Jönköping University, Sweden

Karl Ulrich Kainer · Helmholtz-Zentrum Geesthacht

Magnesium Innovation Centre, Germany

Lothar Kallien · University of Aalen, Germany

Plato Kapranos · The University of Sheffield, UK

Roger Kendrik · Foseco, UK

Jokin Lozares · University of Mondragon, Spain

Xia Mingxu · Shanghai Jiaotong University, China

Roberto Molina · Teksid Aluminum, Italy

Amelia Montedoro · F.O.M.T. SpA, Italy

Giorgio Muneratti · Foseco, Italy

Claudio Mus · Aluminium Rheinfelden, Germany

Adel Nofal · CMRDI, Egypt

Piero Parona · Raffmetal, Italy

Annalisa Pola · Università degli Studi di Brescia, Italy

Thomas E. Prucha · American Foundry Society, USA

Didier Rollez · Grillo Werke AG

Mario Rosso · Politecnico di Torino, Italy

Ashok Sharma · Malaviya National Inst. of Tech. Jaipur, India

Jose Talamantes Silva · NEMAK, México

Giulio Timelli · DTG, Università di Padova, Italy

Daniel Twarog · NADCA, USA

Daniele Ugues · Politecnico di Torino, Italy

Maurizio Vedani · Politecnico di Milano, Italy

Jessada Wannasin · Prince of Songkla University, Thailand

Qiang Zhu · General Res. Inst. for Non-ferrous Metals, China

Organising Scientific Committee

Federica Bassani · Associazione Italiana di Metallurgia, Italy

Franco Bonollo · DTG, Università di Padova, Italy

Fabrizio Carmagnini · Amafond, Italy

Antonio Del Grosso · Associazione Italiana di Metallurgia, Italy

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Stefano Capuzzi · DTG, Università di Padova, Italy

Alberto Fabrizi · DTG, Università di Padova, Italy

Elena Fiorese · DTG, Università di Padova, Italy

Giorgio Kral · DTG, Università di Padova, Italy






Jovid Rakhmonov · DTG, Università di Padova, Italy

Maurizio Vedani · Politecnico di Milano, Italy



Aula Magna _OPENING LECTURES HIGH PRESSURE DIE CASTING: AN EXCELLENT MICROSTRUCTURE POTENTIAL FIGHTING AGAINST DEFECT GENERATION

Chairperson _Franco Bonollo

- 9.00  Welcome Addresses by the Conference Chairman
Franco Bonollo - University of Padova - DTG, Vicenza, Italy
- 9.30  Genesis of microstructure in HPDC
L. Arnberg - NTNU, Trondheim, Norway
- 10.00  Genesis of defects in HPDC
J. Campbell - University of Birmingham, UK
- 10.30  Comment & Remarks chaired by D. Apelian
- 10.50  Presentation of AIM's Prize Innovation in diecasting
- 11.00 Coffee break



Aula Magna _EXPLOITATION PATHS FOR HIGH PRESSURE DIE CASTING

Chairperson _Giulio Timelli

- 11.20  Laser-induced breakdown spectroscopy: A new tool for real time melt cognition
S.W. Hudson, D. Apelian - Metal Processing Institute WPI, Worcester, USA
J. Craparo, R. De Saro - Energy Research Company, Plainfield, USA
- 11.40  Process parameter influence on selected quality features in high-pressure die casting
F. Schmidt, M. Müller, U. Vroomen, A. Bührig-Polaczek - Foundry-Institute RWTH, Aachen University, Germany
- 12.00  Designing an AZ based secondary magnesium alloy for high pressure die casting applications
C. Blawert, K.U. Kainer - Helmholtz-Zentrum Geesthacht, Germany



Aula Magna _WELDING SOLUTIONS FOR DIECASTING

Chairperson _Giulio Timelli

- 12.30  Laser beam welding of highly ductile secondary HPDC aluminium alloy at reduced ambient pressure
F. Teichmann, S. Müller, H. Pries, K. Dilger, S. Greis - Technische Universität Braunschweig, Germany
- 12.50  Mechanical properties of a friction stir processed HPDC magnesium alloy
E. Cerri, M.T. Di Giovanni - University of Parma, Italy
- 13.10 Lunch

Aula 5A _ALLOYS FOR HIGH TEMPERATURE APPLICATIONS

Chairperson _Marisa Di Sabatino

- 12.30  Effect of prolonged thermal exposure on hardness and tensile strength of Al alloys for forged pistons:
a comparison between EN AW-2618A and EN AW-4032
L. Ceschini, A. Morri, E. Balducci - Università di Bologna - DIN, Bologna, Italy
- 12.50  High temperature behaviour of 46000, 46100 and 47100 Al die cast parts
J.N. Lemke, O. Maslovskaja, E. Gariboldi - Politecnico di Milano, Dept. of Mechanics, Milan, Italy
G. Timelli, F. Bonollo - University of Padova - DTG, Vicenza, Italy
- 13.10 Lunch

Aula Magna _NEW GENERATION OF ALLOYS AND MOLTEN ALLOY TREATMENTS

Chairpersons _Diran Apelian _Karl Ulrich Kainer

- 14.20 ■ Protecting molten magnesium and its alloys
N. Hort, B. Wiese, H. Dieringa, K.U. Kainer - Magnesium Innovation
Centre Helmholtz-Zentrum Geesthacht, Germany
- 14.40 ■ High performance recycled aluminium alloys
R. Zambelli, P. Parona - Raffmetal, Casto, Italy
F. Bonollo, E. Battaglia - University of Padova - DTG, Vicenza, Italy
- 15.00 ■ A new secondary AlSi10MnMg(Fe) alloy suitable for manufacture of ductile aluminium
parts by vacuum assisted high pressure die casting technology
A. Niklas, A.I. Fernández-Calvo, A. Bakedano, S. Orden - IK4-AZTERLAN, Auzunea, Spain
M. da Silva, E. Nogués - Fundacio Eurecat (Ascamm), Barcelona, Spain
E. Rosset - Ruffini, Barcelona, Spain
- 15.20 ■ Description of Al-Si10-Mg1 alloys microstructural structures by advanced thermal analysis
based on their known chemical compositions
I. Vicario, M.B. Djurdjevic, E. Villanueva, A. Meléndez - Tecnalia, Derio, Spain
G. Huber - Nemak, Spain
- 15.40 ■ Intelligent melt treatment in the production of aluminium castings
R.S. Kendrick - Foseco International
G. Muneratti - Foseco Italy
R. Simon - Foseco Europe
- 16.00 Coffee break
- 16.20 ■ Potential nucleation agents in Al-Mg alloys
D. Zhang, L. Wang, B. Chen, M. Xia, J.G. Li - Shanghai Jiao Tong University, China
Y. Wang - Brunel University London, UK
N. Hari-Babu
- 16.40 ■ Use of vacuum and fluxing on quality of A380 cast parts
I.H. Kalkan, O. Vardar - Arslan Makina Dokum, Istanbul, Turkey
E. Erzi, D. Dispinar - University of Istanbul, Turkey
- 17.00 ■ The influence of AlTi5B1 grain refinement and the cooling rate on the formation behaviour of Fe-rich
compounds in secondary AlSi8Cu3 alloys
J. Rakhmonov, G. Timelli, F. Bonollo - University of Padova - DTG, Vicenza, Italy
- 17.20 ■ Process development and grain refinement
R. Haghayeghi - Islamic Azad University, Tehran, Iran
E.J. Zoqui - University of Campinas Unicamp, Campinas, Brazil
- 19.15 Departure by boat
- 20.15 Conference dinner at
Le Maschere Restaurant
c.o. Starhotels Splendid Venice San Marco 760

Aula 5A _INNOVATIVE SOLUTIONS FOR HIGH PRESSURE DIE CASTING

Chairpersons _Mario Rosso _Roberto Boni

- 14.20 ■ Advanced 3D geometrical and thermal vision casting quality control in HPDC
R. Boni - Idra, Travagliato, Italy
A. Chillemi - Imago Vision, Italy
- 14.40 ■ Lightweight structural parts production: positioning vacuum technology manufacturers
as spectrum-wide service providers
D. Baumgartner - FONDAREX, St.Légier, Switzerland
- 15.00 ■ Virtualization of high vacuum and high performance HPDC machine for top quality casting
L. Valente - Ecotre Valente, Brescia, Italy
- 15.20 ■ High thermal conductivity HTCS[®] tool steels for die casting dies: cutting production
costs and times through advanced tool materials
A. Hamasaid, I. Valls - Rovalma, Rubí, Spain
- 15.40 ■ Improvement of surface properties of aluminium die casting moulds through protective coatings
I. Peter, M. Rosso, F.S. Gobber - Politecnico di Torino, Italy
- 16.00 Coffee break
- 16.20 ■ Minimal spray cooling and tool steel selection
I. Schruff - Kind & Co., Edelstahlwerk, Germany
- 16.40 ■ Progress in the technology of release agents for modern HPDC process
F. Casarotto - Chem-Trend Italy, Milano, Italy
- 17.00 ■ Innovative circuit for thermal regulation of part of die
F. Miglierina - Omnia Tecno, Italy
R. Vuga - HTS, Slovenia
- 17.20 ■ Structural casting from rough pieces to finished components in the HPDC full automatic cell
R. Pederzoli - Meccanica Pi.Erre, Bedizzole, Italy
- 19.15 Departure by boat
- 20.15 Conference dinner at
Le Maschere Restaurant
c.o. Starhotels Splendid Venice San Marco 760

Aula Magna _INTELLIGENT PROCESS FOR QUALITY & ECONOMICAL SUSTAINABILITY

Chairpersons _Lars Arnberg _Zhu Quiang

- 9.00 ■ HPDC foundry competitiveness based on smart control and cognitive system in Al-alloy products
N. Gramegna - Enginsoft, Padova, Italy
F. Bonollo - University of Padova - DTG, Vicenza, Italy
- 9.20 ■ An Integrated and intelligent sensor network as tool for monitoring HPDC process parameters
U. Gauermaun, A. Mazzamuto - Electronics, Germany
N. Gramegna - Enginsoft, Padova, Italy
- 9.40 ■ Intelligent management of the lubrication phase in high pressure die casting
C. Raone - Motultech Baraldi, Castel San Pietro, Italy
N. Gramegna - Enginsoft, Padova, Italy
F. Zuliani - University of Padova - DTG, Vicenza, Italy
- 10.00 ■ Correlation between process parameters and quality characteristics in aluminum high pressure die casting
M. Winkler, L. Kallien, T. Feyertag - Aalen University of Applied Sciences, Aalen, Germany
- 10.20 ■ Innovative control and real-time quality prediction for the casting production of aluminum alloy structural components at AUDI AG
B. Kujat - AUDI AG, Ingolstadt, Germany
N. Gramegna - Enginsoft, Padova, Italy
M. Benvenuti - University of Padova - DTG, Vicenza, Italy
- 10.40 Coffee break
- 11.00 ■ Understanding quality of HPDC aluminium alloy products from intelligent sensor network
E. Battaglia, F. Bonollo, A. Brotto, G. Kral - University of Padova - DTG, Vicenza, Italy
A. Mazzamuto - Electronics, Germany
- 11.20 ■ Real-time HPDC quality prediction and optimization supported by trained cognitive model
N. Gramegna, A. Bassi, G. Scarpa - Enginsoft, Padova, Italy
E. Battaglia, E. Fiorese - University of Padova - DTG, Vicenza, Italy
- 11.40 ■ Application of cost model approach in HPDC contexts
L. Macchion, G. Kral, F. Bonollo - University of Padova - DTG, Vicenza, Italy
N. Gramegna - Enginsoft, Padova
- 12.00 ■ Conditions for the onset of blisters during heat treatments of Al-Si-Cu cast part: numerical simulation and experimental validation
E. Gariboldi, O. Ozhoga-Maslovskaja, J.N. Lemke, S. Barella, L. Rovatti, M. Colombo - Politecnico di Milano, Italy
- 12.20 ■ High tech die casting driven by virtual experimentation and autonomous optimization with MAGMA5 - baseline technology for robust products and processes
H. Bramann, H. Rockmann - MAGMA, Aachen, Germany
G. Scarpa - EnginSoft, Italy

Aula 5A _THE POTENTIAL FOR NEW PROCESSES

Chairperson _Lorella Ceschini

- 9.00 ■ Semi-solid high pressure die casting of high quality and complex shape aluminium components
Q. Zhu, H. Lu - Institute for Non-Ferrous Metals, Beijing, China
- 9.20 ■ The effect of microstructural inhomogeneity on thermal diffusivity in a rheocast component
M. Payandeh, Anders E.W. Jarfors, M. Wessen - Jönköping University, Sweden
- 9.40 ■ GISS slurry casting technology for improving die casting quality and reducing production costs
J. Wannasin - GISSCO Co., Samut Sakhon, Thailand
K.M. Yoon, B.J. Jung, C.U. Lee - Hyundai Motor Company, Seoul, Korea
M.S. Kim, J.S. Park - LG Electronics Inc., Seoul, Korea
M.C. Flemings - Massachusetts Institute of Technology, USA
- 10.00 ■ Casting of product of Al-25%Si with thin fins
T. Haga, H. Fuse - Osaka Institute of Technology, Japan
- 10.20 ■ Effect of shearing forces on the morphological changes of iron-bearing intermetallics in A380 aluminum HPDC alloy
S.G. Shabestari, M. Edalat Shahri - University of Science and Technology (IUST), Iran
- 10.40 Coffee break

Aula 5A _FROM MICROSTRUCTURE TO PERFORMANCE I

Chairperson _Elisabetta Gariboldi

- 11.00 ■ Effect of Ni additions on A356 alloy's microstructure and high-temperature tensile properties
D. Casari, Y. Li, M. Di Sabatino - Norwegian University of Science and Technology, Trondheim, Norway
F. Poli, M. Merlin - University of Ferrara, Italy
M.T. Di Giovanni, University of Parma, Italy
- 11.20 ■ Metallurgical bonding between cast-in ferrous inserts and aluminum: Interaction between aluminum alloys and steel inserts
C. Soderhjelm, D. Apelian - Metal Processing Institute WPI, Worcester, USA
- 11.40 ■ Al-Si-Cu alloys for high pressure die casting: influence of Fe, Mn and Cr on room temperature mechanical properties
L. Ceschini, A. Morri, S. Toschi, I. Boromei - University of Bologna, Italy
A. Bjurensted, S. Seifeddine - Jönköping University, Sweden
- 12.00 ■ Effect of cooling rate and eutectic modification on texture and grain structure of Al-Si-Cu-Mg die cast alloy
M. Zamani, S. Seifeddine, E. Ghassemali - Jönköping University, Sweden
- 12.20 ■ Yielding and failure of hot chamber die cast thin-walled AZ91D
A.E.W. Jarfors - Jönköping University, Sweden
- 12.40 Lunch

Aula Magna _APPLICATIONS: THE CHALLENGE FOR MATERIALS & PROCESSES

Chairperson _Gian Luca Garagnani

- 14.00 ■ Numerical and experimental analysis of a high pressure die casting aluminum suspension cross beam for light commercial vehicles
S. Cecchel, D. Ferrario - Streparava, Adro, Italy
- 14.20 ■ From cast iron to Al-based alloys to produce cylinder blocks through high pressure die casting
C. Castella, M. Rosso - Politecnico di Torino, Italy
M. Mattiel, L. Tortone, R. Molina - Teksid Aluminum, Carmagnola, Torino, Italy
- 14.40 ■ Quality control and its importance on rejection rate of LPDC cast wheels
E. Erzi, D. Dispinar - University of Istanbul, Turkey
Ç. Yüksel - Yıldız Technical University, Istanbul, Turkey
E. Koca - MaxionWheels, Manisa, Turkey
- 15.00 ■ Optimization of heat treatment parameters for a non-conventional Al-Si-Mg alloy with Cr addition by DoE method
M. Tocci, A. Pola - University of Brescia, Italy
L. Raza, L. Armellin, U. Afeltra - Maxion Wheels, Dello, Italy
- 15.20 Coffee break
- 15.40 ■ Efficiency and yield evaluation of a stack furnace in aluminum alloy high pressure die casting
N. Agostini, G. Timelli, S. Capuzzi - University of Padova - DTG, Vicenza, Italy
M. Furlati - SIT Group, Rovigo, Italy
- 16.00 ■ Integrated information system for die-casting industry
Z. Jia - Ningbo Institute of Technology, Zhejiang University, China
D. Thornhill, A. Long, S. Salunkhe, D. Soban, - Queen's University Belfast, United Kingdom
D. Watson - Ryobi Aluminium Casting, UK

Aula Magna

Chairperson _Franco Bonollo

- 16.20 ■ Innovation and organizational dynamics in the Italian automotive suppliers network
A. Moretti, F. Zirpoli - University Ca' Foscari of Venice

FINAL REMARKS AND OFFICIAL CLOSURE OF HTDC 2016

Room 5A _NEW SCENARIOS FOR PROCESS SIMULATION

Chairperson _Derya Dispınar

- 14.00 ■ Tracking of collapsed bubbles during a filling simulation
R. Pirovano - XC Engineering, Cantù, Italy
- 14.20 ■ Dual phase simulation for high pressure die casting: overview and validation of its capabilities
A. Panvini, D. Molin - Piq2, Brescia, Italy
C. Gislón - Co.Stamp, Sirone, Italy
- 14.40 ■ A new fully virtualized integrated approach in HPDC: from casting to machining
C. Viscardi - Ecotre Valente, Brescia, Italy
- 15.00 ■ Process and product integrated design for high pressure die casting equipment
C. Apollonio, D. Mancini - SAPP, Italy
G. Scarpa, N. Gramegna, V. Peselli, D. Calsolaro - EnginSoft, Padova, Italy
- 15.20 Coffee break

Room 5A _FROM MICROSTRUCTURE TO PERFORMANCE II

Chairperson _Anders Jarfors

- 15.40 ■ Tailoring Al-7Si-0.3Mg cast alloy properties to represent HPDC tensile and fatigue behaviour in component prototypes
M. Riestra, S. Seifeddine - School of Engineering, Jönköping University, Sweden
E. Sjölander - Scania CV AB, Södertälje, Sweden
- 16.00 ■ Characterisation of properties of V, B, Mo, Sr additions on HPDC of A380 alloy
E. Erzi, O. Gursay, D. Dispınar - University of Istanbul, Turkey
Ç. Yüksel - Yıldız Technical University, Istanbul, Turkey
A.O. Kucuk - Alcast Metal, Bursa, Turkey

Aula Magna

Chairperson _Franco Bonollo

- 16.20 ■ Innovation and organizational dynamics in the Italian automotive suppliers network
A. Moretti, F. Zirpoli - University Ca' Foscari of Venice

FINAL REMARKS AND OFFICIAL CLOSURE OF HTDC 2016

POSTER SESSION

POSTER WILL BE DISPLAYED FOR THE ENTIRE PERIOD OF THE CONFERENCE

■ Optimization production process optimization of a die-casting component for automotive

L. Bracchi, C. Bettinsoli - Tecnopress, Italy

G. Scarpa, N. Gramegna - EnginSoft, Padova, Italy

■ Investigation about foam inserts use in diecasting of Zamak 5 parts

D. Rollez -Grillo-Werke AG, Duisburg Germany

L. Montesano, A. Pola, G.M. La Vecchia - University of Brescia, Italy

F. Schumacher - Arthur Monse, Velbert, Germany

■ Effect of laser surface melting on microstructure and mechanical properties of the rare earth rich magnesium alloy EV31A

L. Ceschini, A. Morri, V. Angelini, F. Tarterini, A. Fortunato, E. Liverani - University of Bologna, Italy

■ Metallographic studies of aluminum-lithium alloys added with rare earths

I. Calliari, L. Pezzato - University of Padova, Italy

S. Nazarov - Technological University of Tajikistan, Republic of Tajikistan

■ Morphology and distribution characterization of different types of porosities in high pressure die cast AM60B magnesium alloy

X. Li, S.M. Xiong - School of Materials Science and Engineering, Tsinghua University, Beijing, China

■ Performance analysis of an Aluminum alloy for the production of commercial high pressure die castings

E. Battaglia, F. Bonollo, P. Ferro, A. Cenghialta, G. Mazzacavallo - University of Padova - DTG, Vicenza, Italy

■ Optimization of production parameters for semisolid casting of 6082

O. Vardar, I. Ergun, E. Erzi, D. Dispinar - University of Istanbul, Turkey

Ç. Yüksel - Yıldız Technical University, Istanbul, Turkey

■ The effect of Si content on microstructure and mechanical properties of Al-Si alloys

T. Bogdanoff, S. Seifeddine, A.K. Dahle - Jönköping University, Jönköping, Sweden

■ Computer modelling of quenching of steel die for industrial purpose

B. Smoljan, D. Iljkić, L. Štic - University of Rijeka, Rijeka, Croatia

■ Improved metamodells for the optimization of high-pressure die casting process

E. Fiorese, D. Richiedei, F. Bonollo - University of Padova - DTG, Vicenza, Italy

■ An industrial perspective on providing workers safety and increase of productivity for the wellbeing of people and enterprises

F-P. Kirgis - ABB Robotics, Baden, Switzerland

D. Pintar - ABB Robotics, Friedberg, Germany

■ Hydraulic fluids contribution to eco-sustainable die casting

R. Knecht - Quaker Chemical B.V., Uithoorn, The Netherlands

■ Surface defects of anodized HPDC Al alloy components

D. Caliri, G. Timelli - University of Padova - DTG, Vicenza, Italy

T. Salata, G. Cavagnini, S. Maestri - Alfa Ossidazione, Borgosatollo, Italy

■ Evaluation of thixoforging process for steering piston production as possible alternative to hot forging

I. Peter, M. Rosso - Politecnico di Torino - DISAT, Torino, Italy

■ Development of pre-normative documents to support quality of HPDC products

G.C. Mei - Unimet, Milan, Italy

E. Battaglia, G. Kral, F. Bonollo, D. Caliori, G. Timelli - University of Padova - DTG, Vicenza, Italy

F. Voltazza - SAEN, Italy

N. Gramegna - Enginsoft, Italy

■ The new european standards on mechanical potential of Al-based casting alloys and on defects in Al alloy castings: an overview

G.C. Mei - Unimet, Milan, Italy

F. Bonollo, G. Timelli, E. Fiorese - Università di Padova, Vicenza, Italy

E. Gariboldi - Politecnico di Milano, Italy

P. Parona - Raffmetal, Italy

L. Arnberg - NTNU, Trondheim, Norway

■ Thermal, microstructural and mechanical characterization of innovative Al-Si-Mg alloys for high temperature applications

M. Colombo, E. Gariboldi - Politecnico di Milano, Italy

■ The effect of secondary scrap ratio on the quality of LPDC cast wheels

C. Yuksel, M. Cigdem - Yildiz Technical University, Istanbul, Turkey

E. Erzi, D. Dispinar - University of Istanbul, Turkey

U. Aybarç, E. Cubuklu, O. Topcuoglu - MS Wheels, Izmir, Turkey

NOTE ON THE PROGRAMME

This programme is a preliminary programme. It is not definitive and it may be slightly modified: title and authors, cancelled or added papers or posters, timetable or duration, etc. Possible changes in the programme will be communicated before the beginning of the Conference.

GENERAL INFORMATION

Conference Venue

The Conference will be held in Venice, at Cà Foscari - Aula Magna of San Giobbe, Via Cannaregio 873, Fondamenta San Giobbe (<http://static.unive.it/mappe/sede/990021>).

Conference website

www.aimnet.it/htdc2016.htm

You can find all the information on the HTDC 2016 and fill in the online registration form on the Conference website.

Language

The official language of the Conference will be English.

Proceedings

The full text of the accepted papers will be published in the form of electronic proceedings and issued to attendees on arrival at the Conference.

A selection of the best papers will also be published on "La Metallurgia Italiana –International Journal of the Italian Association for Metallurgy", the scientific journal of AIM which is covered in the Science Citation Index Expanded by Thomson Reuters and in Scopus by Elsevier B.V.

Registration fees

STANDARD REGISTRATION FEES (after April 30, 2016)	AIM MEMBER	NON MEMBER
SESSION CHAIR/COMMITTEE MEMBER	€ 480 (*)	€ 560 (*)
DELEGATE	€ 580 (*)	€ 660 (*)
STUDENT *	FREE	€ 440 (*)
ADDITIONAL TICKET FOR SOCIAL EVENT (includes only the social event on June 22)		€ 110 (22% VAT included)

(*) revenue stamp included

Conference Registration fees include admittance to technical sessions, Conference bag with electronic proceedings, coffee breaks, lunches and the social event on June 22. For non-members the fee includes AIM Membership for the last three quarters of 2016 and for the year 2017.

*Students will have to provide valid proof of student status. The social event on June 22 is not included in the student registration fee.

Payment and remittance

- by bank transfer, to the order of Associazione Italiana di Metallurgia - AIM at "Banca Popolare Commercio e Industria (UBI Banca)", Branch no. 2 - Via Borgogna, 2/4 - 20122 Milano- Italy, account no. 000000022325 - cod. ABI 05048 - CAB 01602 - cin L, IBAN: IT92L0504801602000000022325, swift code BLOPIT22. The transfer order must specify the name of the delegate and the reference "HTDC 2016". A copy of the transfer order must be sent to AIM, together with the Registration Form.
- by credit card online: www.aimnet.it/htdc2016.htm.

Cancellation and refund policy

A refund, less 20% deduction for administrative costs, will be issued for written cancellations received by May 15, 2016. For attendees who notify their cancellation after May 15, 2016 or will not attend the conference, a charge of 100% of the conference fee will be withheld and a copy of the proceedings will be sent after the event.

Social programme

For the evening of June 22nd, the Conference organizers AIM have planned the Conference dinner, in order to give delegates the opportunity to meet informally and enjoy Venice's atmosphere:

- 19.15 Departure from the Conference venue, Aula Magna di San Giobbe - Cà Foscari, to Venice by boat;
- 20.15 Conference dinner at Le Maschere restaurant (c.o. Starhotels Splendid Venice San Marco 760);
- 22.45 Return by boat to Piazzale Roma (Venice) for who stay in Mestre.

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 Conference. 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 best before April 30, 2016 complete with family and first name, Mr/Mrs, birth date, passport number, arrival and departure dates, nationality and fax number of the Italian Embassy for your Country.

Sponsorship opportunities

Companies will be able to enhance their corporate identification by taking advantage of benefits offered to them as Sponsors of the Conference. The HTDC 2016 Organising Committee has prepared a selection of sponsorship opportunities designed to increase the visibility and to optimize the return of investment for sponsors participating in the HTDC 2016 Conference. For further information, please visit the Conference website (www.aimnet.it/htdc2016.htm) or refer to the Conference Secretariat: info@aimnet.it.

Mobile/cell phone

Mobiles must be kept turned off or in silent mode in all Conference rooms.

Venice

Venice, "La Serenissima", holds a mystical aura and is one of the most enchanting places in the world. Built on 117 small islands in a lagoon, Venice is a unique blend of water, art and romance with exquisite canals, charming bridges, magnificent palaces and churches, and world famous landmarks rising from the water's surface up to sky. Whether skimming over a cozy canal on a gondola or strolling around its "calle", visiting Venice is a magical experience for everyone. It is a treasure from the artistic and architectural point of view.

Accommodation

The Conference venue can rely on a great variety of accommodations situated in the surroundings, ranging from comfortable mid-range hotels, to religious hotel-quality accommodations.

To book for accommodation, we invite you to contact the Conference official travel agency, Arzanà, by filling in the online hotel reservation form (<http://htdc.arzanadv.it/>) .

For any further question, please refer to the official travel agency Arzanà (e-mail: htdc2016@arzanadv.it - tel. +39 041 2750223). Due to a high demand of rooms in Venice, we recommend to book hotels at your earliest convenience to ensure availability.

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REGISTRATION FORM

Please complete and return this form to HTDC Conference Secretariat - info@aimnet.it

To register please fill-in the following registration form in all its parts
It also possible register online: www.aimnet.it/htdc2016.htm). Please use BLOCK letters throughout form

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Family Name	First Name(s)
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REGISTRATION FEES AND PAYMENT

I will attend the Conference as

	AIM MEMBER	NON MEMBER
SPEAKER/SESSION CHAIR	<input type="checkbox"/> € 480	<input type="checkbox"/> € 560
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DELEGATE	<input type="checkbox"/> € 580	<input type="checkbox"/> € 660
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N. ____ ADDITIONAL TICKET(S) FOR SOCIAL EVENT		<input type="checkbox"/> € 110 (22% VAT included)

TOTAL AMOUNT BEING PAID..... €_____

☐ by bank transfer, to the order of Associazione Italiana di Metallurgia - AIM at "Banca Popolare Commercio e Industria (UBI Banca)", Branch no. 2 - Milano, account no. 000000022325 - cod. ABI 05048 - CAB 01602 - cin L, IBAN: IT92L0504801602000000022325, swift code BLOPIT22. The transfer order must specify the name of the delegate and the reference "HTDC 2016". A copy of the transfer order must be sent to AIM, together with this Registration Form.

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In accordance to article 13 of the D.lgs n. 196/03 we inform you that: personal data are required, collected and treated following the normal institutional activity of AIM and according to law; in every moment the interested party can exercise the rights foreseen in the in article 7 of the D.lgs n. 196/03; data controller is AIM in Milan - Piazzale Rodolfo Morandi 2; data processor is AIM President, prof. Carlo Mapelli.

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to the input of your name in the list of the participants to the event: ☐ yes ☐ no

Date

Signature

21 June 2016

17.30 - 19.00 Pre-registration

22 June 2016

8.30 Registration

AULA MAGNA

ROOM 5A

9.00 Opening lectures
High pressure die casting

11.00 Coffee break

11.20 Exploitation paths for high pressure
die casting

12.30 Welding solutions
for diecasting Alloys for high temperature
applications

13.10 Lunch

14.20 New generation of alloys
and molten alloy treatments Innovative solutions
For high pressure die casting

16.00 Coffee break

16.20 New generation of alloys
and molten alloy treatments Innovative solutions
For high pressure die casting

Conference dinner

23 June 2016

AULA MAGNA

ROOM 5A

9.00 Intelligent process control
for quality & economical
sustainability The potential for new processes

10.40 Coffee break

11.00 Intelligent process control
for quality & economical
sustainability From microstructure
to performance I

12.40 Lunch

14.00 Applications: the challenge for
materials & processes New scenarios for process simulation

15.40 Coffee break

16.00 Applications: the challenge for
materials & processes From microstructure
to performance II

16.40 Final remarks and official closure of
HTDC 2016

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Organising Secretariat

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