

# PROGRAMME AT A GLANCE

Tuesday, October 16

18:00 WELCOME RECEPTION Stockholm City Hall  
Hosted by the City of Stockholm

Wednesday, October 17

## PLENARY SESSION (ROOM B+C)

### Plenary speakers

102, 103, 104

### Invited speakers

105, 106, 107

## Sponsor & Exhibition presentations

Transvalor

*Transvalor Global Value - Proposition for Casting & Rolling  
Process Modelling (Olivier Jaouen)*

Linsinger

*Trust the Investor (Michael Steinkogler)*

RHI MAGNESITA

*Refractories for Ingot Casting – Hollowware (Vladimir Abreu)*

## General Scientific presentations

196, 146, 115, 152, 186, 128, 149

## Thursday, October 18

### **INGOT CASTING (ROOM B)**

Metallurgy  
123, 130, 173

Remelting - I  
121, 132, 134, 188

Simulation - I  
113, 129, 143, 159

Additives & Refractories - I  
178, 198, 203, 195

### **ROLLING & FORGING OF INGOTS (ROOM C)**

Material development - I  
200, 111, 114, 126

Simulation  
110, 124, 201

Technology  
154, 177, 190, 194

Material development - II  
139, 153, 197

19:30 GALA DINNER Vasa Museum  
*Bus transfer from the conference venue entrance (Folkets hus) at 18.15*

## Friday, October 19

### **INGOT CASTING (ROOM B)**

Ingot Moulds &  
Casting Technology  
109, 136, 175, 185

Simulation - II  
145, 202, 179

### **INGOT CASTING (ROOM C)**

Additives & Refractories - II  
166, 170, 171, 192

Remelting - II  
131, 138, 189

12:30 END OF CONFERENCE

# PROGRAMME - Day 1

Wednesday, October 17 (Room B+C)

Session Chairpersons: Carl-Åke Däcker, Robert Vikman

## 07:30–18:00 REGISTRATION

09:00–09:10 Welcome speech

**Bo-Erik Pers,**  
CEO Jernkontoret

09:10–09:40 Recent trends and main topics affecting the forging industry (ICRF-102)

**Dr - Ing. Dieter Bokelmann**  
Technical Consultant,  
Saarschmiede GmbH  
Freiformschmiede  
Germany

09:40–10:10 Physical metallurgy-based integrated manufacturing of G115 martensitic steel pipes used for 650 °C A-USC power plants (ICRF-103)

**Prof. Zhengdong Liu**  
Central Iron and Steel  
Research Institute (CISRI)  
China

10:10–10:40 What is Clean Steel and Why is it Important? Exploring the Link Between Steel Manufacture, Steel Cleanliness and Component Performance (ICRF-104)

**Dr Peter Glaws**  
Senior Scientist,  
Timken Steel Corporation  
USA

## 10:40–11:00 COFFEE BREAK IN THE EXHIBITION HALL

Session Chairpersons: Robert Vikman, Carl-Åke Däcker

11:00–11:30 Ingot Casting and Forging in Germany (ICRF-105)

**Dr - Ing. Frank Hippenstiel**  
CTO, BGH Edelstahl Siegen GmbH  
Germany

11:30–12:00 Solidification Relationships between Continuous Casting and Electroslag Remelting Processes (ICRF-106)

**Prof. Alec Mitchell**  
Professor Emeritus,  
University of British Columbia  
Canada

12:00–12:30 The effect of the natural convection on the solidification of ingots (ICRF-107)

**Prof. Hans Fredriksson**  
Professor Emeritus,  
Royal Institute of Stockholm  
Sweden

## 12:30–13:30 LUNCH IN THE EXHIBITION HALL

*Session Chairperson: Bo Larsson*

<b>13:30-14:30</b>	General Presentations of Exhibiting Companies - Exclusive Company presentations, 10 min each	<b>Transvalor</b> <i>Transvalor Global Value - Proposition for Casting &amp; Rolling Process Modelling (Olivier Jaouen)</i> <b>Linsinger</b> <i>Trust the Investor (Michael Steinkogler)</i> <b>RHI MAGNESITA</b> <i>Refractories for Ingot Casting – Hollowware (Vladimir Abreu)</i>
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*Session Chairpersons: Bruno Buchmayer, Fatemeh Shahbazian*

<b>14:30-14:50</b>	The startup of Frisa Steel in Mexico, bottom pour ingots and specialty steels (ICRF-196)	<b>José Alberto Vazques Monroy</b> <i>Mexico</i>
<b>14:50-15:10</b>	Dimensioning of a new ingot type using simulation with a 3d thermo-mechanical fluid/structure numerical model (ICRF-146)	<b>Olivier Jaouen</b> <i>Transvalor S.A. France</i>
<b>15:10-15:30</b>	A review of developments in the ingot casting process with focus on mould powder (ICRF-115)	<b>Carl-Åke Däcker</b> <i>Swerea KIMAB AB Sweden</i>

**15:30-16:00 COFFEE BREAK IN THE EXHIBITION HALL**

*Session Chairpersons: Fatemeh Shahbazian, Bruno Buchmayer*

<b>16:00-16:2</b>	How laser based element analysis increases yield and ensures process control in times of industry 4.0 and global steel production (ICRF-152)	<b>Alexander Schlemminger</b> <i>SECOPTA analytics GmbH Germany</i>
<b>16:20-16:40</b>	Demands on material for the aircraft and aerospace industry – operational experiences and attainable quality of material using the VIM, ESR and VAR process (ICRF-186)	<b>Michael Kubin</b> <i>INTECO melting and casting technologies GmbH Austria</i>
<b>16:40-17:00</b>	Hydrogen control of large bottom poured forging ingots at Ellwood quality steels (ICRF-128)	<b>Bjorn Gabrielson</b> <i>Ellwood Quality Steels USA</i>

<b>17:00-17:20</b>	Microstructure coupling of meshless hot rolling simulation (ICRF-149)	<b>Umut Hanoglu</b> <i>Institute of Metals and Technology Slovenia</i>
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## **PROGRAMME - Day 2**

Thursday, October 18 (Room B)

### **Ingot Casting – Metallurgy**

*Session Chairpersons: Alec Mitchell, Ewa Sjöqvist Persson*

**09:00–09:20**

Effect of cooling rate on Nb (C, N) formation in high-Cr heat-resistant steel (ICRF-123)

**Shintaro Yano**

*Japan Steel Works  
Japan*

**09:20–09:40**

True solidification grain size in industrial 100Cr6 ingot (ICRF-130)

**Marvin Gennesson**

*Ascométal / IJL  
France*

**09:40–10:00**

Influence of casting temperature on the microstructure of AISI M42 high speed steel (ICRF-173)

**Kerstin Baumgartner**

*Montanuniversität Leoben  
Austria*

**10:20–10:40**

**COFFEE BREAK IN THE EXHIBITION HALL**

### **Ingot Casting – Remelting – I**

*Session Chairpersons: Ewa Sjöqvist Persson, Alec Mitchell*

**10:40–11:00**

Numerical simulation of temperature field and microstructure in the electroslag remelting process of M42 high-speed steels (ICRF-121)

**Wanming Li**

*University of Science and  
Technology Liaoning  
China*

**11:00–11:20**

Electroslag remelting - additive technology for large part building (ICRF-132)

**Ganna Polishko**

*E.O. Paton Welding Institute  
Ukraine*

**11:20–11:40**

Liberty steel (formerly Tata steel specialty steels) produces ultra-clean specialty steels with VIM x-eed® unit from SMS Mevac GmbH/ SMS group (ICRF-134)

**Cihangir Demirci**

*SMS Mevac GmbH  
Germany*

**11:40–12:00**

Enhancing the electroslag remelting process: first impressions and results regarding the application of a new current transfer device and electrode control movement (ICRF-188)

**Martin Schwenk**

*Institute for Process Metallurgy and  
Metal Recycling, RWTH Aachen  
Germany*

**12:00–13:00**

**LUNCH IN THE EXHIBITION HALL**

## **PROGRAMME - Day 2**

Thursday, October 18 (Room C)

### **Rolling & Forging of Ingots – Material development – I**

*Session Chairpersons: Stanislaw Riljak, Jan Haraldsson*

**09:00–09:20** A novel technology to produce homogenized steel by forging solidifying metal (ICRF-200) **Yanfei Cao**  
*Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences  
China*

**09:20–09:40** Investigations of different processing routes for bainitic forging steels (ICRF-111) **Bruno Buchmayr**  
*Montanuniversitaet Leoben  
Austria*

**09:40–10:00** Comparative study of microstructural evolution and flow behavior of columnar and correlative equiaxed grain structures of austenite after hot compression (ICRF-114) **Munir Al-Saadi**  
*Sandvik Materials Technology  
Sweden*

**10:00–10:20** Multiple perspectives description on hot deformation behavior of an as-cast Fe-Mn-Al-C steel (ICRF-126) **Xuan Li**  
*University of Science and Technology Beijing  
China*

**10:20–10:40** **COFFEE BREAK IN THE EXHIBITION HALL**

### **Rolling & Forging of Ingots – Simulation**

*Session Chairpersons: Jan Haraldsson, Stanislaw Riljak*

**10:40–11:00** Pass-schedule calculation with integrated prediction of equivalent strain and microstructure (ICRF-110) **Martin Wolfgarten**  
*RWTH Aachen University  
Germany*

**11:00–11:20** Contribution to the simulation of hot rolling process with an innovative steady state formulation (ICRF-124) **Antoine Navarro**  
*Transvalor S.A.  
France*

**11:20–11:40** Highly effective hydro mechanical surface treatment for high end quality steel (ICRF-201) **Jürgen Gaydoul**  
*CEO, HERMETIK Hydraulik AB  
Germany*

**12:00–13:00** **LUNCH IN THE EXHIBITION HALL**

# ROOM B

## Ingot Casting – Simulation – I

Session Chairpersons: Rolf Gerling, Karin Hansson Antonsson

13:00–13:20

Optimization of casting technology, chemical composition, and ingot geometry of a 20 tones 42CrMo4 ingot to minimize macro segregation and increase material homogeneity (ICRF-113)

**Ovidiu Bogdan**  
Industrial Soft  
Canada

13:20–13:40

Autonomous engineering to improve ingot quality (ICRF-129)

**Ingo Hahn**  
MAGMA Gießereitechnologie GmbH  
Germany

13:40–14:00

Simulation and experiment research on macro-segregation of 6-ton ingot casting (ICRF-143)

**Fu Paixian**  
Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences  
China

14:00–14:20

Study of argon shrouding in ingot casting of steel with focus on improving the production operation (ICRF-159)

**Fatemeh Shahbazian**  
Swerea Kimab  
Sweden

14:20–14:40

**COFFEE BREAK IN THE EXHIBITION HALL**

## Ingot Casting – Additives & Refractories – I

Session Chairpersons: Karin Hansson Antonsson, Rolf Gerling

14:40–15:00

Optimal fluxes and hot top insulations for ingot casting of special steels (ICRF-178)

**Michael Richter**  
Schmiedewerke Gröditz GmbH  
Germany

15:00–15:20

Global Macro Segregation Formation and Control in Bearing Steel (ICRF-198)

**Dianzhong Li**  
Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences  
China

**Cancelled**

15:20–15:40

Automated Evaluation of Microstructure in Duplex Stainless Steel (ICRF-203)

**Claes Olsson**  
Sandvik Materials Technology  
Sweden

15:40–16:00

Plant trials with a new mould powder and mould powder board at Sandvik and Uddeholm AB (ICRF-195)

**Jan Haraldsson**  
Sandvik Materials Technology  
Sweden

19:30

**GALA DINNER – VASA MUSEUM** - Bus transfer from the conference venue entrance (Folkets hus) at 18.15

# ROOM C

## Rolling & Forging of Ingots – Technology

Session Chairpersons: David Martin, Bo Larsson

13:00–13:20

Energy savings and maintenance friendliness in special machinery for open die forging plants (ICRF-154)

**Boris Marcukaitis**  
*Dango & Dienenthal  
Germany*

13:20–13:40

Latest development in forging equipment (ICRF-177)

**Hans Pelster**  
*SMS group  
Germany*

13:40–14:00

Process integration of a new 20MN forging press at BGH Edelstahl Freital (ICRF-190)

**Alexander Grosse**  
*BGH Edelstahl Freital GmbH  
Germany*

14:00–14:20

Optimization of blank weights in forging lines (ICRF-194)

**Johann Wolfschwenger**  
*Linsinger  
Austria*

14:20–14:40

**COFFEE BREAK IN THE EXHIBITION HALL**

## Rolling & Forging of Ingots – Material development – II

Session Chairpersons: Bo Larsson, David Martin

14:40–15:00

Knowledge management and modern teaching tools for rolling and forging (ICRF-139)

**Bruno Buchmayr**  
*Montanuniversitaet Leoben  
Germany*

15:00–15:20

Influence of MnS inclusions and microstructures on the transverse mechanical properties of a free-cutting non-quenched and tempered steel for crankshaft (ICRF-153)

**Meng Wu**  
*University of Science and Technology Beijing  
China*

15:20–16:00

Entrainment and Detrainment for Clean Steel (ICRF-197)

**John Campbell**  
*Department of Metallurgy and Materials,  
The University of Birmingham,  
United Kingdom*

19:30

**GALA DINNER – VASA MUSEUM** - Bus transfer from the conference venue entrance (Folkets hus) at 18.15



# **PROGRAMME - Day 3**

Friday, October 19 (Room B)

## **Ingot Casting – Ingots Moulds & Casting technology**

*Session Chairpersons: Sven-Olof Ericsson, Koji Kajikawa*

**09:00–09:20**

Application of alternative methods of the crystallization process organizing to produce ingots to be used for further manufacturing of hollow forgings (ICRF-109)

**Oleg Ignatov**  
*Izhmetmash  
Russia*

**09:20–09:40**

Research and development of water-cooled casting technology for over-thick ingot blanks of offshore platform rack plate (ICRF-136)

**Yan Liu**  
*Capital Engineering & Research  
Incorporation Limited  
China*

**09:40–10:00**

A review of modern literature concerning macro segregation in ingot casting (ICRF-175)

**Carl-Åke Däcker**  
*Swerea Kimab  
Sweden*

**10:00–10:20**

Segment casting: a novel casting technology enters the market – an overview on plant design and first practical results (ICRF-185)

**Michael Kubin**  
*INTECO melting and casting  
technologies GmbH  
Austria*

**10:20–10:50**

**COFFEE BREAK IN THE EXHIBITION HALL**

## **Ingot Casting – Simulation – II**

*Session Chairpersons: Koji Kajikawa, Sven-Olof Ericsson*

**10:50–11:20**

Numerical simulation of the vacuum arc remelting process (ICRF-145)

**Moritz Eickhoff**  
*RWTH Aachen University  
Germany*

**11:20–11:40**

A comparison between segregation and carbides precipitation in the A-segregate channels and in the bulk matrix in an ingot cast bearing steel and an analysis of the effect of the soaking time on the dissolution of the carbides (ICRF-202)

**Fareed Ashraf Khan**  
*KTH Royal Institute of Technology  
Sweden*

**11:40–12:10**

Development and application of an advanced ingot casting rate control (ICRF-179)

**Christian Redl**  
*INTECO melting and casting  
technologies GmbH  
Austria*

**12:10**

**END OF CONFERENCE**

# **PROGRAMME - Day 3**

Friday, October 19 (Room C)

## **Ingot Casting – Additives & Refractories – II**

*Session Chairmen: Bertil Walden, Robert Vikman*

**09:00–09:20**

Inclusion evolution and mechanical properties of ultra-low oxygen 4Cr5MoSiV1 die steel with pure rare earth addition (ICRF-166)

**Hanghang Liu**

*I Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences China*

**09:20–09:40**

The effect of different heat treatment on the stability of retained austenite of martensitic stainless steel (ICRF-170)

**Xin Cai**

*Shenyang National Laboratory for Materials Science, Institute of Metal Research, Chinese Academy of Sciences China*

**09:40–10:00**

Optimization of runner systems to improve quality of ingots (ICRF-171)

**Frank Hippenstiel**

*BGH Edelstahl Siegen GmbH Germany*

**10:00–10:20**

Synthetic granulated ingot casting powders (ICRF-192)

**Marco Alloni**

*Prosimet S.p.A. Italy*

**10:20–10:50**

**COFFEE BREAK IN THE EXHIBITION HALL**

## **Ingot Casting – Remelting – II**

*Session Chairmen: Robert Vikman, Bertil Walden*

**10:50–11:20**

About possible problem with ESR of heavy forging ingot (ICRF-131)

**Artem Sybir**

*E.O. Paton Welding Institute Ukraine*

**11:20–11:40**

Importance of the cleanliness of the consumable electrode in ESR/PESR remelting (ICRF-138)

**Ewa Sjöqvist Persson**

*Uddeholms AB Sweden*

**11:40–12:10**

Generation of low oxygen Ti-Al-V-alloys from oxidic raw materials via aluminothermic reduction (ATR) and subsequent refining via electroslag remelting (ESR) and vacuum arc remelting (VAR) (ICRF-189)

**Frederic Brinkmann**

*Institute for Process Metallurgy and Metal Recycling, RWTH Aachen Germany*

**12:10**

**END OF CONFERENCE**