

Session Program

5-7 Oct 2021

**9th International Conference on Modeling
and Simulation of Metallurgical Processes in
Steelmaking - STEELSIM2021**

***T_9 Microstructure & mechanical properties
of steel***

Virtual Conference

Tuesday 5 October

10:20

T_9 Microstructure & mechanical properties of steel

Session | **Location:** Room 3 | **Convener:** Dr Carl Slater

10:20–10:40

From ladle to wire: Integration of calphad-based design and traditional through process modelling approaches

Speaker

Dr Johannes Kreyca

10:40–10:55

Predicting the change in strength properties of heavy plates due to the levelling operation

Speaker

Dr Thomas Kaltenbrunner

10:55–11:10

The Introduction of a Boundary Intensity Factor to Cellular Automata Modelling to Improve Prediction of Recrystallisation in Hot Rolled Steel

Speaker

Mr Gabriel Ekoja

11:10–11:25

Role of cooling rate on microstructure evolution of Zn-Al-Mg based coatings via phase-field approach

Speaker

Dr Vanessa Quaranta

11:25–11:40

Unravelling the competing effects of chemical composition and grain size in affecting austenite stability in high carbon steels

Speaker

Adriel Wong

11:40

13:00

T_9 Microstructure & mechanical properties of steel

Session | **Location:** Room 3 | **Convener:** Dr Johannes Kreyca

13:00–13:20

Using alloy design, modelling and rapid alloy processing validation to improve through-thickness microstructural uniformity during the production of large section components

Speaker

Dr Carl Slater

Location

Room 3

13:20–13:35

Numerical modelling of thermal evolution and phase transformation during high-heat input electro-gas welding of marine steel**Speaker**

Mr JUN FU

Location

Room 3

13:35–13:50

Prediction and optimization of the mechanical properties of Q&P Steel using process - property correlation via multiscale modelling**Speaker**

Dr Sai Pavan Bhogireddy

Location

Room 3

13:50–14:05

Multiscale homogenization of elastic properties in hypereutectoid steel**Speaker**

Mr Marko Vogric

Location

Room 3

14:05–14:20

Ultrafine grained high C steel bars obtained by multi-pass warm caliber rolling**Speaker**

Mr Claudio Guarnaschelli

Location

Room 3

14:20–14:35

Rapid alloy processing approach for ductility enhancement in commercial dual-phase steels through industrially relevant process and composition changes.**Speaker**

Mr Bharath Bandi

Location

Room 3

14:35