



Contribution ID: 70

Type: Oral Presentation - Full Paper will be submitted

## CFD modelling of AOD converter tuyere region

*Tuesday, 20 May 2025 17:30 (20 minutes)*

Argon-oxygen decarburization (AOD) is the most common refining process in stainless steelmaking. The converter's tuyere region has complex multiphase phenomena and extremely harsh environment, which makes direct experimental process measurements very difficult. However, valuable information can be obtained using computational fluid dynamics (CFD). This minireview targets to critically examine CFD simulation methodologies in AOD converter tuyere region in a fundamental way to understand the strengths and limitations of different approaches. Particular attention is directed towards multiphase models, turbulence models, and general methodology to achieve set targets. Summary of used the methodologies is given with research focus.

### Speaker Country

Finland

### Are you interested in publishing the paper in a Steel Research International special issue?

Yes

**Primary author:** VUOKILA, Ari (University of Oulu)

**Co-authors:** Mr PYLVÄNÄINEN, Mika (University of Oulu); VISURI, Ville-Valtteri (Process Metallurgy Research Unit, University of Oulu)

**Presenter:** VUOKILA, Ari (University of Oulu)

**Session Classification:** New developments in converter technology

**Track Classification:** New developments in converter technology