

EUROMAT 2017/ Symposia Structure/Area B

B.3	Title: High-temperature alloys		
	Organizer	Institution	Contact email
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	Summary		
<p>High temperature materials are critical to many processes and applications, such as aircraft turbine engines for aircraft and land applications, high temperature fuel cells, nuclear power generation, chemical plant processes, as well as semiconductor processing. Some of the most challenging technological problems of the future, such as developing clean, efficient energy conversion are expected to be solved by high temperature materials science. The socio-economic demand for increased performance, reliability and efficiency of the latest components necessitates novel designs that will subject key components to even harsher environments and conditions.</p> <p>The High Temperature Alloys Symposium will focus on the latest progress and developments related to microstructure, processing, properties and applications of high temperature alloys (e.g. Heat resisting steels, Superalloys, Intermetallics). Topics of interest range from fundamentals of phase constitution, stability and transformations, over alloy development, microstructure, mechanical and environmental response, to developments in processing methods and in technological aspects for successful commercial applications. Contributions are welcome of both experimental and modelling nature.</p> <p>The Symposium is intended to foster discussions and debate regarding the most recent understanding of high temperature alloys and the state of the art in experimental studies of high temperature materials and processes for scientific and technological applications. Research groups from all over the world will be brought together to showcase the latest developments in the field.</p> <p>The Symposium will be focused on metallic and intermetallic materials, with presentations covering a wide variety of topics including:</p> <ul style="list-style-type: none"> ▪ Modeling and simulation ▪ Thermodynamics, phase constitution, equilibria and transformations ▪ Defect structures and formation ▪ Alloy development and microstructure/properties relationships ▪ Mechanical properties, deformation and failure mechanisms ▪ Oxidation behaviour ▪ Novel experimental setups and approaches (alloy prototyping, in-situ testing and characterization) ▪ Processing and joining ▪ Novel structural and functional applications 			

	The meeting will include keynote lectures and oral selected contribution, as well as a poster session.
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