The fifth International Conference on Advances in Solidification Processes (ICASP5) and the fifth International Symposium on Cutting Edge of Computer Simulation of Solidification, Casting and Refining (CSSCR5) are held as a joint event in Salzburg, Austria, on June 17-21, 2019. The conference location, Salzburg, is known as the birth town of Wolfgang Amadeus Mozart, the UNESCO World Heritage city, at the heart of Europe. Solidification science and technology deserve the destination as we, experts in the field of solidification, place it as high as a Wolfgang Amadeus Mozart’s partition.

**History in brief.** The conference series ICASP started in Stockholm (Sweden) in 2005, continued in Graz (Austria) in 2008, Aachen (Germany) in 2011, London (UK) in 2014. The conference series CSSCR started in Osaka (Japan) in 1999, continued in Sapporo (Japan) in 2010, Stockholm (Sweden) in 2013, Xi’an (China) in 2016.

**Statistics.** The joint event ICASP5-CSSCR5 attracted over 200 participants from 29 countries worldwide. From 255 abstracts received, the final program included 158 oral presentations (including 11 plenaries, 9 keynotes and 18 highlights) and over 60 poster presentations.

**Topics and highlights.** The joint event ICASP5-CSSCR5 covered a broad spectrum of solidification related topics. There were 27 parallel sessions, dealing with nucleation and grain refinement, in-situ observation and experimental characterization of microstructure (primary dendritic, eutectic and peritectic, intermetallic and composites); numerical modelling at different length scales (atomistic, microscopic, mesoscopic and macroscopic), casting processes (continuous casting, ingot, shape casting, electroslag remelting, …) and cast alloys (steel, cast iron, aluminum, etc.), thermo-mechanics and properties. For the first time of this conference series, a new topic, additive manufacturing, with two parallel sessions was added to the program. Freeze casting was also for the first time introduced. The plenary lectures were carefully defined while accounting for the recommendations of the International Scientific Committee. They covered an historical review on the development route leading to modern solidification science, progress in the microstructure modelling which focuses on bridging different length scales, in-situ observation of metal alloy solidification, discussions on the facing challenges such as the missing physical properties and coupled flow-structure mechanics in solidification, and interdisciplinary research bridging solidification science beyond metallurgy.

**Proceedings.** After the peer-review procedure, 84 articles were included in the proceedings. Each article was reviewed, heavily relying on the members of the International Scientific Committee or senior authors. The proceedings were published before the conference.

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