

**EUROMAT 2017/ Symposia Structure/Area E**

<b>E.4</b>	<b>Title: Materials for Fusion and Fission</b>		
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<b>Summary</b>			
<p>High performance structural materials are crucial for successful operation of nuclear fusion and fission reactors. A long list of open questions must be addressed to ensure reliable reactor performance and the implementation of new materials, from neutron irradiation resistance, thermo-mechanical behavior, to local heat transfer rates and particle loads. Thus, this symposium aims at bringing together researchers to discuss these challenges, opening the route to reliable nuclear energy generation. It will cover material issues from both the experimental and fundamental point of view, giving priority to multi-scale approaches. This symposium covers various topics relevant to either fusion or fission research (list is not exhaustive):</p> <ul style="list-style-type: none"> <li>• Novel material innovations (2D/3D) for fission/fusion application,</li> <li>• Performance and development of structural plant materials (Steels, Ni-alloys, etc.),</li> <li>• Structural materials to support the nuclear fuel cycle, including materials for storage and disposal, and associated material issues,</li> <li>• Advances in nuclear fuel cladding, advanced processing, and fuel coatings,</li> <li>• Reliable plasma facing components (PFCs) for nuclear fusion based on tungsten, tungsten alloys, low Z materials, or liquid metals, including hydrogen isotope retention and release, damage and defects, operation in a deleterious environment, erosion, re-deposition, migration and dust formation.</li> </ul>			