

## TMS Bladesmithing Competition Judging Rubric

### Technical Report: 40 points total maximum

	Score	Comments
<b>Report Content: 10 points maximum</b>		
Considerations for report content include: <ul style="list-style-type: none"> <li><input type="checkbox"/> Explanation of design decisions (historical background and modifications from historical pieces, or novel design)</li> <li><input type="checkbox"/> Discussion on safety procedures</li> <li><input type="checkbox"/> Final blade shown in the report</li> </ul>		
<b>Scientific Merit: 10 points maximum</b>		
Considerations for scientific merit include: <ul style="list-style-type: none"> <li><input type="checkbox"/> Blade material: source and choice of material clearly stated</li> <li><input type="checkbox"/> Method of execution explained: forging, pattern-welding, forge welding, etc.</li> <li><input type="checkbox"/> Explanation of concepts, metallurgy understood (heat treatment, phase transformation, internal stresses, extractive metallurgy if produced from ore, etc.)</li> </ul>		
<b>Characterization: 10 points maximum</b>		
Considerations for characterization include: <ul style="list-style-type: none"> <li><input type="checkbox"/> Mechanical properties testing</li> <li><input type="checkbox"/> Metallography (sample preparation quality, proper magnification, proper etchants)</li> <li><input type="checkbox"/> Other tests (blade geometrical measurements, balance point measurement, etc.)</li> <li><input type="checkbox"/> Creative characterization techniques</li> </ul>		
<b>Communications and Style: 10 points maximum</b>		
Considerations for communications and style include: <ul style="list-style-type: none"> <li><input type="checkbox"/> Aesthetics and layout</li> <li><input type="checkbox"/> Correct spelling, fonts, units (SI), formatting</li> <li><input type="checkbox"/> Report structure: abstract/introduction/experiments/conclusions</li> <li><input type="checkbox"/> Easy to read and understand (clear sentences, use of proper technical terms – see common misconceptions)</li> <li><input type="checkbox"/> Proper acknowledgements, as applicable (funding, university, facility, artisan)</li> <li><input type="checkbox"/> Proper referencing</li> </ul>		