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**Highlights of Research:**

- His research interests specifically focus on the examination of a ... characteristics of Al-Mg-Si alloy.
- yield strength modeling of AA6063 alloy by considering different strengthening mechanisms
- To study the influence of the state of ageing on cyclic deformation behaviour of AA6063 Al-Mg-Si alloy by strain-controlled low cycle fatigue tests along with post fatigue tensile tests.
- To evaluate the effects of static and dynamic ageing on adhesive as well as two body abrasive wear performance.

**Representative pictures /Graphs:**

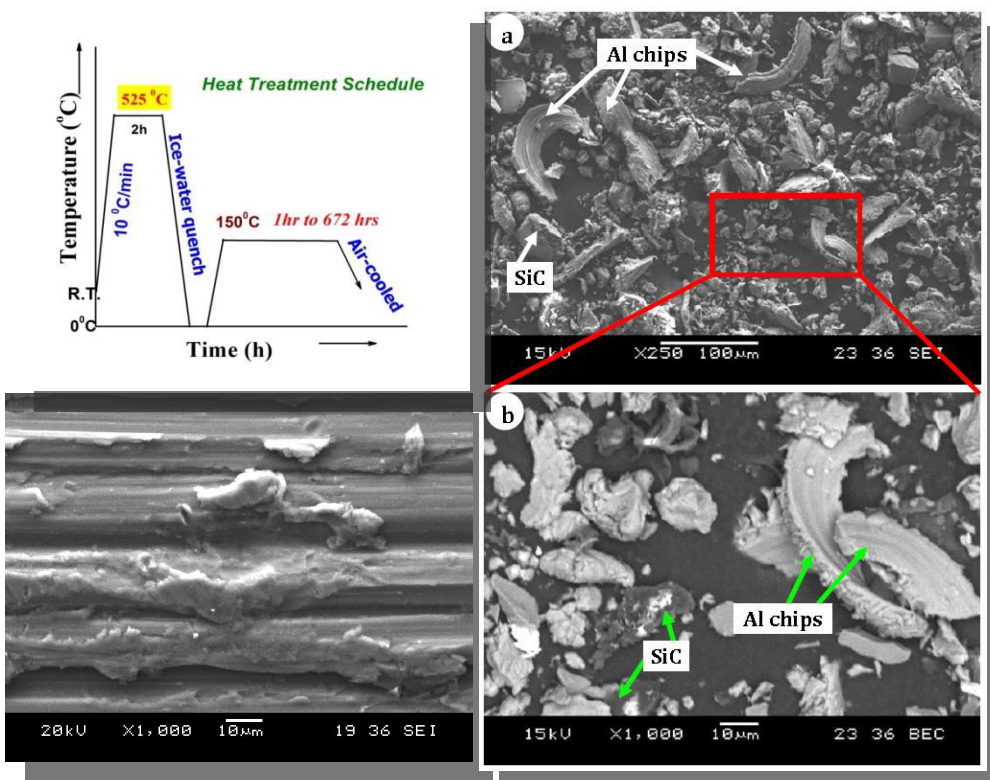
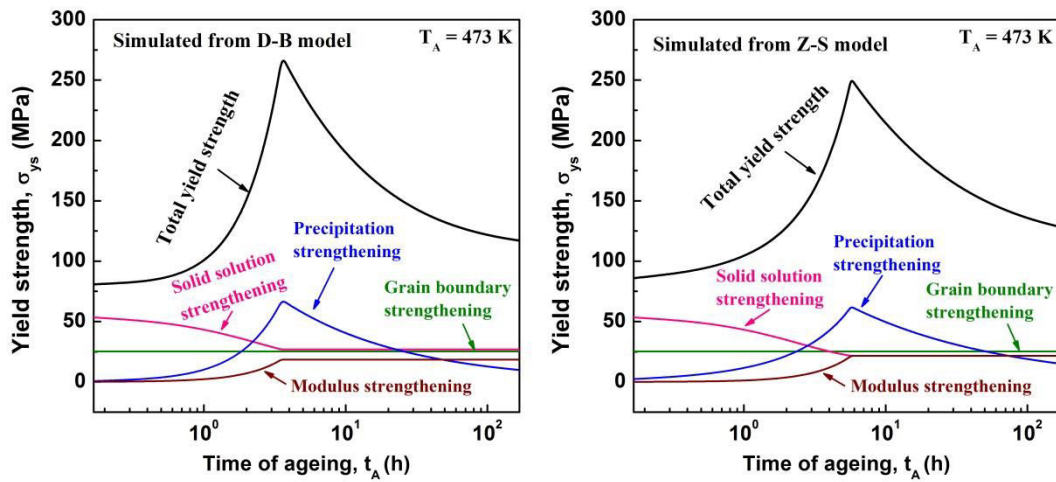


Illustration of Heat treatment Schedule and Images of worn pin surface and wear debris at ageing temperature of 150°C for 8h



Contribution of various strengthening mechanisms to total yield strength of AA 6063 alloy aged at 473K simulated from both D-B and Z-S model.

#### Publications:

- [1] S. Nandy, A.P. Sekhar, D.Das, K.K.Ray, "Influence of dynamic precipitation during low cycle fatigue of under-aged AA6063 alloy": Trans Indian Inst of Met Vol.69, Pp 319-324 (2015)
- [2] Aluru Praveen Sekhar, Supriya Nandy, Kalyan Kumar Ray, Debdulal Das, "Artificial ageing response of an Al-Mg-Si alloy – A Statistical Correlation": Perspectives in Science, Vol. 8, Pp 739-742 (2016)
- [3] A P Sekhar, S Nandy, K K Ray, D Das, "Comparitive Assesment of Strength Models for AA 6063 Alloy": Materials Science Forum, Vol. 880, P83-89
- [4] Aluru Praveen Sekhar, Kalyan Kumar Ray, Debdulal Das, "Yield strength modelling of an Al-Mg-Si alloy"; Proceedings of Research Scholar colloquim p159-160 (2016) ISBN:978-93-80813-44-8