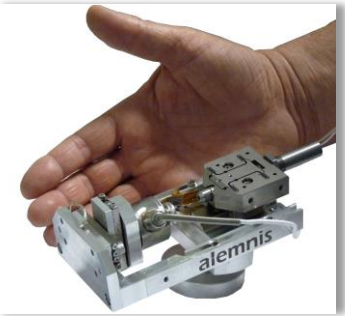


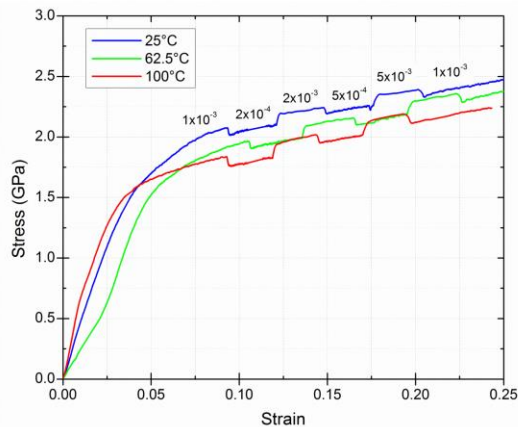
## Introduction to Mechanical Testing at the Micro/Nano-scale

Jean-Marc Breguet

*Alemnis AG*



*Fig.1: Alemnis Insitu  
Nanoindenter*



*Fig.2: Micro Compression  
tests on micro-pillars at  
variable strain rates and  
temperatures*

This talk introduces the new instruments developed by Alemnis to address the emerging techniques in the field of in-situ micron scale testing. Case studies of in-situ mechanical tests will be presented to cover not only hardness and modulus measurements but also emerging experimental techniques that enable extraction of fracture toughness, time dependent plasticity (creep, relaxation and strain rate sensitivity) and fatigue properties at the micron scale. Recent advances like variable temperature measurements (both cryo and high temperature testing), high dynamic testing (for fatigue and impact tests) and combining micron scale mechanical tests with x-rays, Raman and EBSD will also be introduced.

*October 11<sup>th</sup>, 2017, 13h, Salle Bellecour, Bât. S. Germain*