

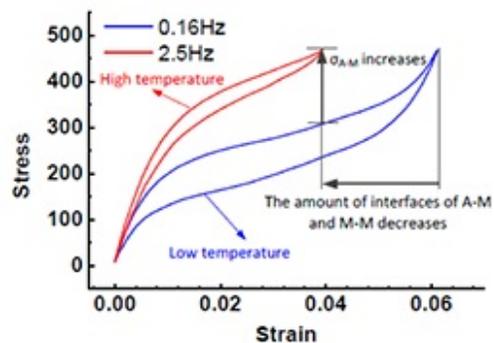
Newsletter At-A-Glance:

- Research Highlight – Fatigue of Shape Memory Alloys
- Research Highlight – Wireless Sensor for Monitoring In-Vivo Loading
- New WinTest® Tech Tip – Continuous Data Acquisition in WinTest 8
- New DMA Tech Tips – DMA Data Analysis with TRIOS and Corrected Sample Height
- Promotions and Events

Research Highlight – Fatigue of Shape Memory Alloys

*How temperature, strain, stress and frequency impact low-cycle fatigue*

Shape memory alloys are complex and fascinating metals. We see them used in a growing number of products from implantable heart valves to aeronautic applications. A recent publication of collaborative research between Northwestern Polytechnical University in Xi'an China and Université Paris Saclay highlights the thermo-mechanical response of Nitinol during its phase-transformations during repeated loading and unloading. The research reveals a loading-frequency dependence that has been incorporated into a new strain energy model which includes thermomechanical coupling to better predict fatigue lifetime of Shape Memory Alloys.

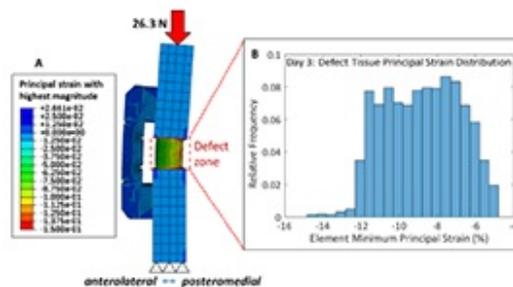


To access the publication and learn more about their research, [Click here](#).

Research Highlight – Wireless Sensor Enables In Vivo Strain Measurement

*Understanding the influence of mechanical loading on bone healing*

The impact of in vivo loading on bone regeneration has been an active research area for many of our customers. Through a multi-university, collaborative effort, a novel sensor has been developed to provide in vivo strain measurements across bone defects during physical activity. The sensor leverages advancements in wireless technology to enable non-invasive measurement of strain in real-time. This is a promising development that should lead to advancements in quantifying local tissue mechanics, which provide insights to the role of mechanical environment on dynamic skeletal healing.



To access the pre-publication and learn more about this research and development, [Click here](#).

## New WinTest 8 Tech Tip

*Acquiring data in WinTest has never been easier!*

Designing your loading protocol and executing it properly are crucial for a successful mechanical test. However, if you don't have data acquisition configured appropriately, or you simply forget to start it, the most successful test may all be for naught. In WinTest 8 we have simplified the way that data acquisition is defined. In addition to introducing a "Continuous Mode" and auto-start, data acquisition can now be defined as the number of data points per cycle and will automatically adjust the sample rate for your test frequency. To learn more check out the new [WinTest Data Acquisition Tech Tip](#).



[Click here](#) to learn more about what else is NEW in WinTest 8.0.

## New DMA 8 Tech Tips

The recently launched WinTest Dynamic Mechanical Analysis (DMA) 7.1 Application software incorporated a number of significant improvements. Two new DMA 7.1 Tech Tips have been created to provide quick overviews of two of these enhancements.

- The [ElectroForce WinTest™ DMA 7.1 Software featuring TRIOS](#) Tech Tip provides a short overview of how the DMA Application now integrates with TRIOS to provide even more functionality for post-test data analysis.
- The [DMA Corrected Sample Height](#) Tech Tip provides guidance on how to leverage this feature within WinTest that automatically adjusts the sample height used for calculating modulus values.



[Click here](#) to learn more about what's new in DMA 7.1.

## Promotions

Academic Matching Grant Program



Buy One, Get One



Buy an ARES-G2 rotational rheometer

TA will add \$20,000 to the value of any grant for the purchase of select load frame systems, tissue engineering instruments, or material and tissue characterization instruments.

### More Information

#### Trade In and Save



Trade in your current TA or competitive TGA or DSC/TGA system and SAVE up to 40% on a new Discovery system!

### More Information

before September 30th and get a FREE RSA-G2 Dynamic Mechanical Analyzer!

### More Information

#### Buy One, Get One



Buy a NEW Discovery Laser Flash or Optical Dilatometry Platform systems, get a FREE Dilatometer!

### More Information

## Upcoming Events

### Free Online WinTest Training

October 9  
10:00 AM - 12:00 PM CST  
Online - [Register Here](#)

### European Orthopaedic Research Society (EORS)

September 13 - 15  
Munich, Germany

### MS&T

October 8 - 12  
Pittsburgh, PA, USA  
Booth 624

### ESVB 2017

October 12 - 14  
Strasbourg, France

### The Composites and Advanced Materials Expo (CAMX)

September 11 - 14  
Orlando, FL, USA  
Booth D27

### Medtec China

September 20 - 22  
Shanghai, China  
Booth P308

### International Elastomer Conference

October 9 - 12  
Cleveland, OH, USA  
Booth 1544

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