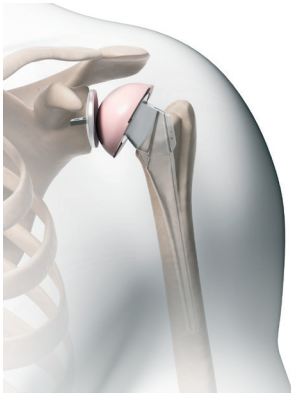
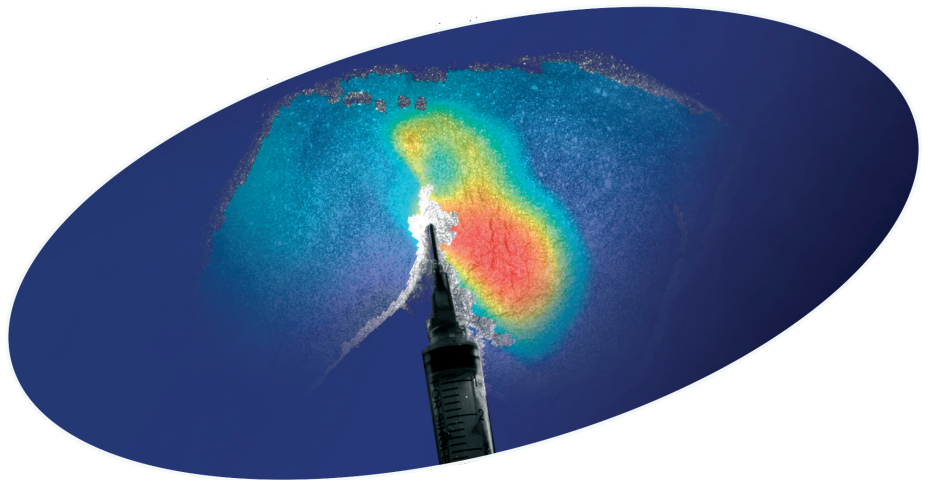


Deformation and Strain Measurement of Biomaterials



StrainMaster Digital Image Correlation (DIC) systems from LaVision offer non-contact measurement of material surface shape, deformation and strain in biomaterials and biomechanical application. **DIC** allows the user to obtain full-field data maps of the material as well as apply virtual gauges and extensometers. **StrainMaster** is the optimum solution where contacting gauges or extensometers are difficult or impossible to use. We offer an optimized system of Photogenic Patterning which utilizes fluorescence technology for the most accurate and reliable surface measurements in the most challenging tests.



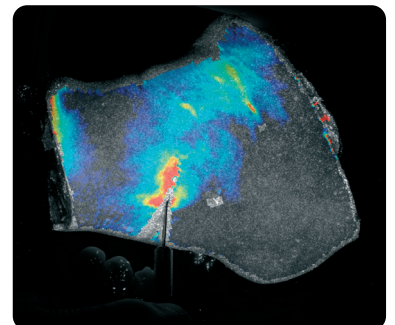
Specimen

- ▶ Bone
- ▶ Implants
- ▶ Skin tissues
- ▶ Microscopic subjects
- ▶ Samples in solution

Alongside **DIC** for surface measurement, LaVision also offer **StrainMaster Digital Volume Correlation (DVC)** which is able to take images from systems such as X-ray CT, MRI, and OCT, and measure the internal material deformation and strain.

Advantages

- ▶ Full field data equivalent to thousands of gauges on the specimen surface or within the volume
- ▶ Use results to validate and optimize Finite Element Analysis (FEA) simulations
- ▶ Suitable in standard and harsh environments
- ▶ Exceptional strain range - from microstrains to 1000% strain
- ▶ Video extensometer and virtual gauge modes
- ▶ Simple setup and calibration procedure



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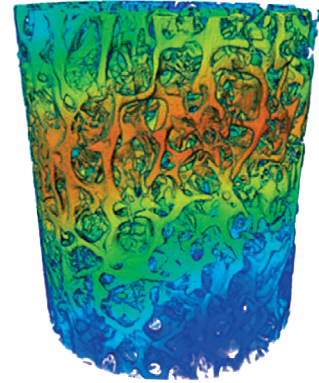
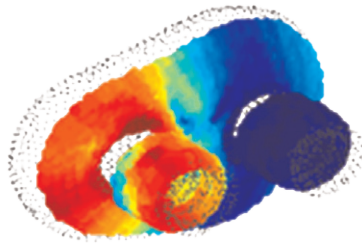
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Volume Imaging

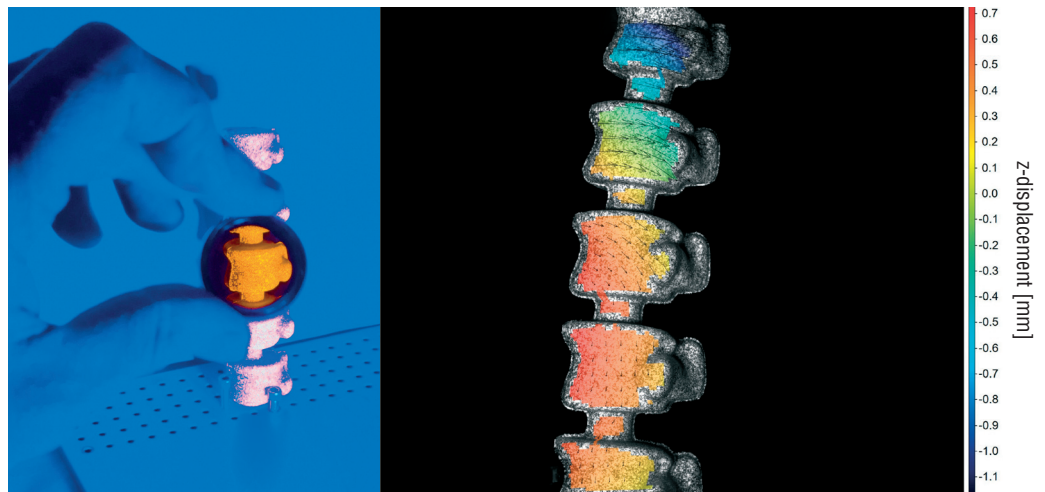
- ▶ X-ray Computed Tomography (X-ray CT)
- ▶ Magnetic Resonance Imaging (MRI)
- ▶ Optical Coherence Tomography (OCT)
- ▶ Confocal microscopes



StrainMaster systems are completely modular in design, from the pre-calibrated **StrainMaster Compact** through to complete systems featuring Stereo Microscopes and ultra-fast cameras with kilohertz data rates. Our fully integrated systems include control and synchronization of all connected hardware and complete project management of the acquired images and processed data.

Photogenic Patterning

- ▶ Observation of injection and cutting into tissue
- ▶ Bend testing of medical devices
- ▶ In-vivo measurements during surgery
- ▶ Bi-axial testing of samples in solution
- ▶ Measurement in dental applications



StrainMaster systems are extremely flexible and can be used for a variety of scales and applications. The examples shown here are just a small selection of the possibilities. LaVision has extensive expertise with scientific imaging techniques and in addition to materials testing, we offer modules for fluid flow analysis, sprays, and fluid mixing processes; all of which are possible for biomedical subjects at micro- or macro-scale. Please contact us today to discuss your requirements.

Data provided by LaVision are believed to be true.
However, no responsibility is assumed for possible inaccuracies or omissions. All data are subject to change without notice.

Jun-25

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