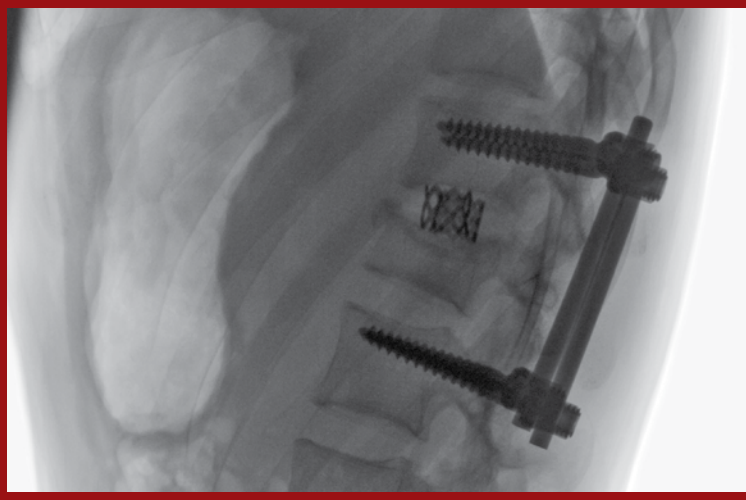
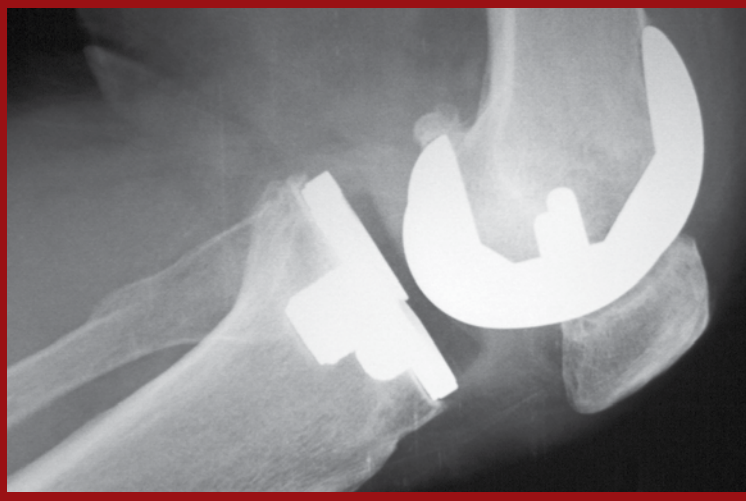
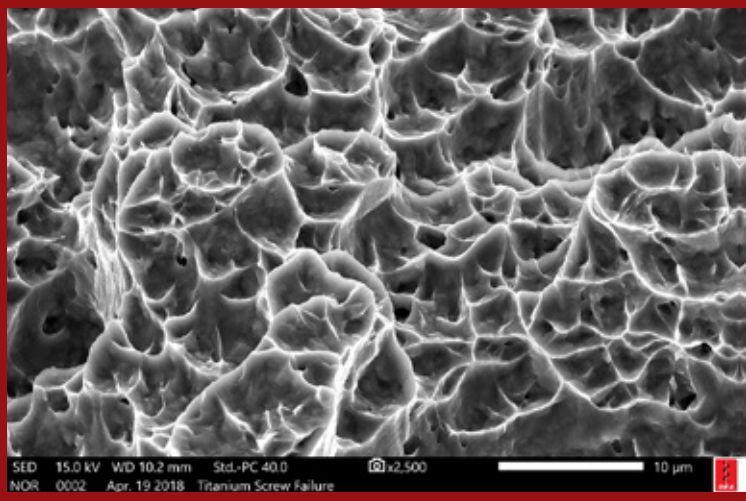
HEALTH SCIENCES

BIOMEDICAL - BIOMATERIALS - VISUALIZATION







SEAlimited.com

About S-E-A's Health Sciences

Excellence in Medical Device Testing and Evaluation

MISSION
To exceed traditional medical device testing techniques through innovation and technology

S-E-A Team Approach

- Our multi-disciplined team tests device performance and surgical procedures under clinical conditions
- Comprised of biomedical, biomechanical, and materials engineers, along with medical illustrators and animators
- Positioned to provide unique and specific analyses of implant performance using patented methodologies and peer-reviewed techniques

S-E-A Testing Capabilities

- Coupled with S-E-A's technical team, our facility boasts the latest technology and resources, including:
  – a scanning electron microscope (SEM)
  – a licensed in-vitro laboratory, and
  – 3D patient-specific reconstructions for computational modeling

Introducing **Antonio Valdevit, Ph.D,** DIRECTOR, HEALTH SCIENCES

Antonio Valdevit, Ph.D
Director, Health Sciences

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Primary Focus in Orthopaedics

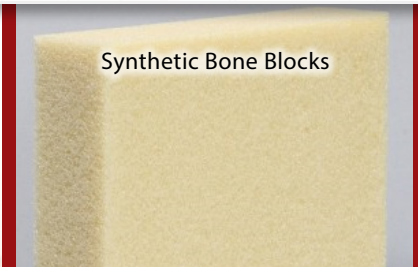
Experience in testing and evaluation of devices:

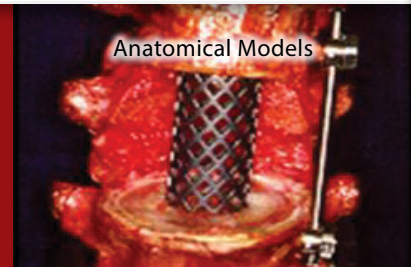
- **Spine -** Intervertebral fusion and non-fusion instrumentation
- **Knee -** Total and hemi-arthroplasty
- **Hip -** Taper locking stems
- **In-Vitro (Animal/Cadaver) Facility -** Evaluation of surgical procedures and devices under clinical conditions

Mr. Valdevit joined the S-E-A team from Stevens Institute of Technology in New Jersey where he was a Professor of Biomedical Engineering since 2007 teaching Biomedical Device Design and Biomechanics. His previous positions included The Cleveland Clinic Foundation Department of Biomedical Engineering and the New York University Department of Orthopedics, where he conducted studies in orthopaedic device performance under clinically relevant conditions. He has also worked as a Biomedical Consultant to Stryker Spine, Titan Spine and other medical device manufacturers.

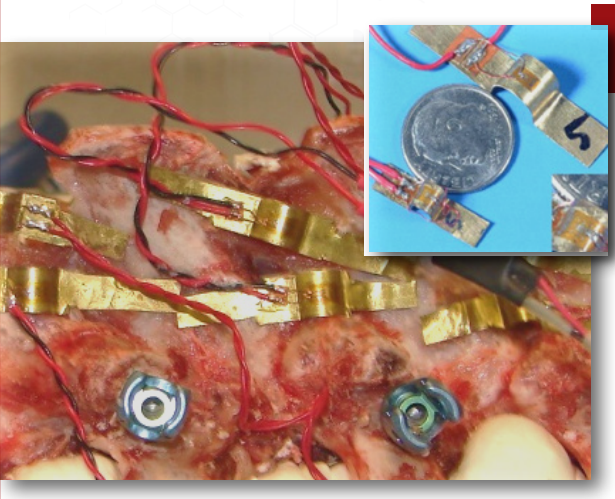
He earned his Bachelor of Science degree in Physics from McMaster University in Hamilton, Ontario, Canada, his Master of Science in Physics from Queen's University in Kingston, Ontario, Canada, and his Ph.D. in Biomedical Engineering at the Stevens Institute of Technology in Hoboken, New Jersey.

He currently holds 20 patents in the medical device field and has published over 40 peer-reviewed research papers with more than 100 conference presentations.



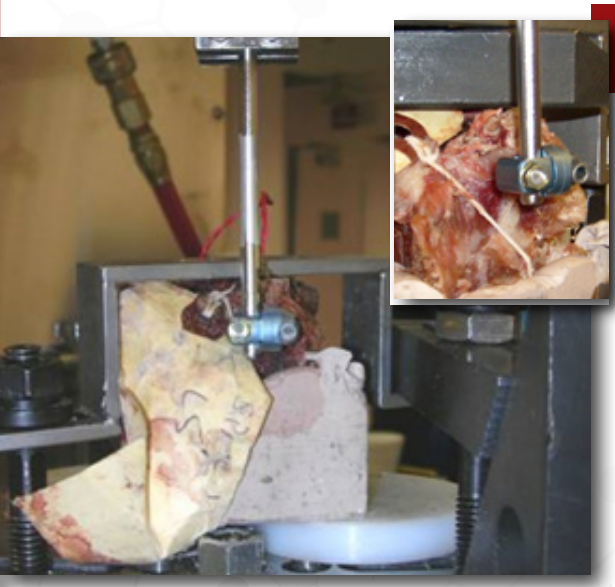


S-E-A Health Sciences Capabilities



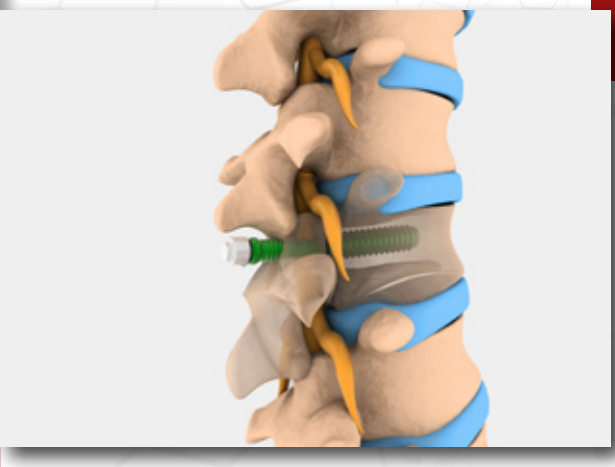
BIOMEDICAL

- Standardized ASTM and ISO testing for medical devices
- Testing configurations ranging from static conditions to high speed fatigue (peer-reviewed)
- Specialized testing methods to investigate implant **subsidence** and **micromotion** under cyclic loading
- Unique techniques for determination of device **performance signatures** under **clinical loading conditions** using anatomic specimens



BIOMATERIALS

- **Scanning electron microscopy** by materials scientists for surface feature, debris characterization, and failure analysis
- Non-destructive **elemental analysis** and visualization
- **3D quantitative optical microscopy** for material surface evaluations due to wear, fracture and corrosion



VISUALIZATION

- **Certified Medical Illustrators** to visualize anatomy and physiological processes
- Realistic animations using input from engineering computations and testing to provide **accurate visualizations**
- Use of FDA approved software for **reconstruction** of patient-specific anatomy with manufacturer implants for engineering analysis

When standard testing no longer meets your standards.

Being known for experience and expertise begins with seeking those qualities in the professionals you engage. Our Health Sciences experts are proven leaders in biomedical and biomaterial product testing and evaluation.

The 47-acre research campus at S-E-A unifies traditional ASTM methodologies with some of the most advanced techniques and groundbreaking innovations available for testing and analysis. In-vitro, materials, and chemical laboratories, Field SEM, and confidential testing suites are all housed in our state-of-the-art 110,000 sq. ft. corporate headquarters and testing facility.

When a product demands a patient-specific approach, expedited response, or innovative testing and expertise, S-E-A is ready to assist.

S-E-A™

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