



**JOHN C GARDINER**  
**SENIOR BIOMECHANICAL ENGINEER**  
**INJURY BIOMECHANICS GROUP**

PhD, Bioengineering, 2002  
BS, Mechanical Engineering, 1995  
Registered Professional Engineer

Dr. John Gardiner joined MEA Forensic Engineers and Scientists in 2002. He is responsible for conducting biomechanical analyses to assess injury causation in cases involving automobile collisions, slip/trip and fall, and sports injuries.

Dr. Gardiner also possesses expertise in the use of the finite element (FE) method to assess product failure and function in medical device and other fields.

**Areas of Specialization**

- Injury mechanism
- Injury causation
- Medical device failure
- Sports injuries
- Slip and fall incidents

**Professional Affiliations**

MEA staff are members of various professional organizations. A current listing can be found on our website [www.meaforensic.com](http://www.meaforensic.com).

**Select Publications**

Dr. Gardiner is an active participant in MEA Forensic Engineers and Scientists' research initiatives. Areas of his research efforts include whiplash, slip and fall mechanics, and knee and shoulder biomechanics.

Weiss JA, Gardiner JC, Ellis BJ, Lujan TJ, Phatak NS (2005). Three-dimensional finite element modeling of ligaments: Technical aspects. Medical Engineering & Physics, 27, pp 845-861.

Gardiner JC, Weiss JA (2003). Subject-specific finite element models can predict strain in the human medial collateral ligament during valgus knee loading. Journal of Orthopaedic Research, 21(6), pp. 1098-1106.

Weiss JA, Gardiner JC, Bonifasi-Lista C (2002). Ligament material behavior is nonlinear, viscoelastic, and rate-independent under shear loading. Journal of Biomechanics, 35(7), pp. 943-950.

Gardiner JC, Weiss JA (2001). Simple shear testing of parallel-fibered planar soft tissues. American Society of Mechanical Engineers Journal of Biomechanical Engineering, 123, pp. 170-175.

**Contact:** [john.gardiner@meaforensic.com](mailto:john.gardiner@meaforensic.com)