‘Ardi’s’ 4.4 Million-Year-Old Footsteps Get Modern Day Simulation

LifeModeler, Inc. provided biomechanical simulation software to help scientists visualize motion.

SAN CLEMENTE, Calif., Oct. 7 (SEND2PRESS NEWSWIRE) — The recent news of “Ardi,” the oldest and most complete hominid skeleton yet discovered, continues to generate worldwide interest. LifeModeler, Inc. has reason to pay close attention. The company’s LifeMOD™ biomechanical simulation software helped researchers understand how the 4.4 million-year-old Ardipithecus ramidus female walked and moved.

LifeModeler’s founder, Shawn McGuan, worked with anthropologist C. Owen Lovejoy of Kent State University to create 3D models of the bones and muscles of this specimen first discovered in 1992.

Not only were they seeking information as to how her bones and muscles fit together, they also wanted to visualize the range of motion she was capable of, based on her anatomy. A detailed model of Ardi’s foot provided particular insight for Lovejoy and the extensive team working on the project which was first disclosed last week in the journal Science.

The LifeMOD software determined that Ardi was the first fossil hominid to have had an opposable big toe, meaning she was able to live in the tree canopy and walk nearly upright on the ground. Research shows that a small bone inside a tendon maintained rigidity in her big toe.

“We used simulations to answer the primary question as to how a foot that could grasp a branch was also able to walk efficiently,” said McGuan.

Some of the work done by McGuan will be featured on the Discovery Channel this Sunday, when a documentary tracing the research, “Discovering Ardi,” is shown, followed by a roundtable discussion detailing the impact of the scientific study.

While this might be the first time for many viewers to see how this unique technology is applied, the medical, sporting goods, automotive, and educational communities have relied on LifeMOD extensively since the company was founded seven years ago. The family of software applications has most prominently been used by orthopedic device makers in helping them to efficiently develop advanced human joint replacements. It is also used by NASA to generate information regarding astronaut weight loads during selected exercises in outer space.

More Information:
More information regarding LifeModeler, Inc. and its products can be found at www.lifemodeler.com. The company is based in San Clemente, Calif.

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