

Muscle Model Theory and Publications

Millard, M., Uchida, T., Seth, A., Delp, S.L. **Flexing computational muscle: modeling and simulation of musculotendon dynamics.** ASME Journal of Biomechanical Engineering, 2013, 135(2). [Download PDF Document](#)

Thelen, D.G. **Adjustment of muscle mechanics model parameters to simulate dynamic contractions in older adults.** ASME Journal of Biomechanical Engineering, 2003, 125(1):70–77. [Download PDF Document](#)

The following sections contain more information about each of the muscle models included in OpenSim:

- [Characteristic Musculotendon Curves](#)
- [First-Order Activation Dynamics](#)
- [Millard 2012 Muscle Models](#)
- [Thelen 2003 Muscle Model](#)