

Resource Sharing

Sharing of computational knee models (and relevant data) as resource has been conducted through the “Downloads” section of the project website at <https://simtk.org/home/openknee>. All download packages are disseminated using the Creative Commons Attribution-ShareAlike 3.0 Unported (CC BY-SA 3.0) license, see <http://creativecommons.org/licenses/by-sa/3.0/>. This license allows anyone to share (to copy, distribute, transmit the work), to remix (to adapt the work), and to make commercial use of the work under the following conditions: i) attribution – one must attribute the work in the manner specified by the author or licensor (but not in any way that suggests that they endorse you or your use of the work); ii) share alike – if one alters, transforms, or builds upon this work, one may distribute the resulting work only under the same or similar license to this one. This licensing scheme provides utmost dissemination and promote open science. It also does not restrict any type of use, academic or commercial.

Package. Open Knee - Generation 1 version g1-s1-v1.1.0.391 (added in this budget period)

Release Date. January 28, 2015

Release Description. This release provides the Open Knee - Generation 1 model compatible with FEBio v2.1.2.6432 and above. Some minor changes to facilitate application of loading and boundary conditions and to output femur and tibia kinematics were also implemented. Only FEBio input file is provided.

Download Location. https://simtk.org/frs/download.php?file_id=4322

Downloads. 26 total downloads as of April 8, 2015.

Total downloads for all Open Knee – Generation 1 versions (g1-s1-v1.1.0.391 and g1-s1-v1.0.1.202) is 806 (582 unique downloads) as of April 8, 2015.

Impact of Resource Sharing

Dissemination of Open Knee(s) data and models enabled the following studies conducted by investigators beyond the Open Knee(s) development team (added in this budget period):

1. Łuczkiwicz, P. Daszkiewicz, K., Witkowski, W., Chróścielewski, J. and Zarzycki, W. (in press) Influence of meniscus shape in the cross sectional plane on the knee contact mechanics, J Biomech. doi:10.1016/j.jbiomech.2015.03.002.
2. Khoshgoftar, M., Vrancken, A. C., van Tienen, T. G., Buma, P., Janssen, D. and Verdonschot, N. (in press) The sensitivity of cartilage contact pressures in the knee joint to the size and shape of an anatomically shaped meniscal implant, J Biomech. doi: 10.1016/j.jbiomech.2015.02.034.
3. Meng, Q., Jin, Z., Wilcox, R. and Fisher, J. (2014) Creep behaviour of human tibiofemoral joint under body weight, 60th Annual Meeting of the Orthopaedic Research Society, March 15-18, 2014, New Orleans, Louisiana, USA.
4. Khoshgoftar, M., Janssen, D., van Tienen, T., Buma, P. and Verdonschot, N. (2014) How an anatomically-shaped isotropic meniscus implant influences knee joint mechanics compared to native and meniscectomy conditions, 60th Annual Meeting of the Orthopaedic Research Society, March 15-18, 2014, New Orleans, Louisiana, USA.