

MESSAGE FROM HoP

Dear EPD Family,
 EPD GOES SOCIAL! Our Instagram handle is @epd.sutd and you may follow us for daily updates. We welcome any news which you would like to highlight on any of our various avenues. Thank you for your overwhelming support of our Pillar initiatives! Wishing all our Muslim friends and family a "Selamat Hari Raya"!

CALLING ALL POST-DOCS!

The SUTD Postdoc Society aims at serving the needs of postdoctoral researchers at SUTD. We are run by a committee formed of PostDoc volunteers and our efforts are supported by the SUTD Office of Research.

For more information on the society, and to learn more about our activities and events, please refer to our website at <http://postdocs.sutd.edu.sg>. To join us, please email us at postdoc_society@sutd.edu.sg.

UPCOMING EVENTS

30 Jun

"Aviation Insight Series" by Prof. Kristin L. Wood & Prof. Peter Jackson

At Singapore Aviation Academy

3 July – 29 Aug
 Global Health Technologies Exhibition (2017)

At SUTD Library

12 July

EPD Photoshoot 2nd Edition

At EPD Office. Sign up by clicking on our newsletter!

14 July

EPD Living Room Sessions



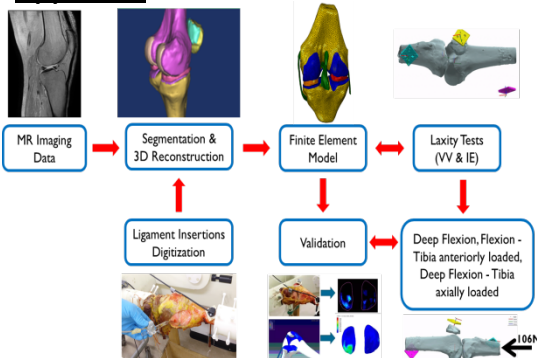
ACHIEVEMENTS

- Four of the seven winners of the Singapore Good Design Mark Competition (<http://www.sgmark.org>) involved our EPD faculty. They are –
 - 1) Asst. Prof Jianxi Luo and team for InnoGPS,
 - 2) Prof. Kristin Wood, Dr. Mohan Rajesh Elara and team for Scorpio Urban Reconnaissance Robot
 - 3) Asst. Prof Soh Gim Song, Asst. Prof Foong Shaohui, Prof. Kristin Wood and team for Virgo Intelligent Surveillance and Reconnaissance Robot
 - 4) Prof Kristin Wood and team for Gilmour Spaceflight Academy
- Pickcell Lab and SUTD signed a new Research Collaboration Agreement to demonstrate capillary-driven, mold-based patterning techniques developed at SUTD in 2016 as a result of Assoc. Prof. Low Hong Yee and Dr. Wong Him Cheng's research on industrial fabrication of ultra-thin through hole membranes. The outcome of this collaboration shall be a completely automated micro-fabrication line prototype for new biotech micrometric consumables.

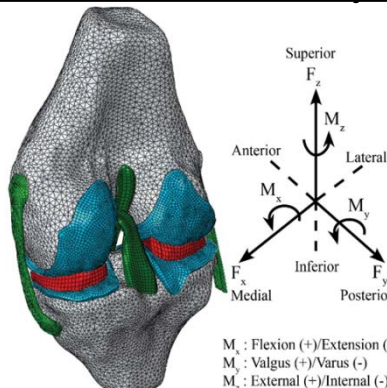
FEATURED STUDY: KNEE JOINT BIOMECHANICS

Description: Knee joint injuries and surgeries lead to early OA due to articular cartilage wear after a few years of incident. The biomechanical factors behind this damage result in progressive and degenerative cartilage degeneration. We aim to assess biomechanical behavior of the knee joint using MR image-based subject-specific finite element (FE) analysis as well as experimental studies.

Approach



Posterior view of 3D finite element model of the knee joint



M_x : Flexion (+)/Extension (-)
 M_y : Valgus (+)/Varus (-)
 M_z : External (+)/Internal (-)

Key Publications:

Shriram, D., Parween, R., Lee, Y.H.D. & Subburaj, K. Effects of Counteracting External Valgus Moment on Lateral Tibial Cartilage Contact Conditions and Tibial Rotation, *Proceedings of the 39th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC'17)*, Jeju Island, Korea (2017). Lecture Presentation (acceptance rate 40%)

Shriram, D., Kumar, G.P., Lee, Y.H.D. & Subburaj, K. Effect of Posterior Root Tear of the Lateral Meniscus on the Articular Cartilage during the Stance Phase of Gait Cycle: a Finite-Element Study, *Proceedings of the XXVI Congress of the International Society of Biomechanics*, Brisbane, Australia (2017).

Project Student: Duraisamy Shirram (EPD PhD Candidate)

Project Supervisor: Assistant Prof. Subburaj Karupppasamy

Shriram et al., 2016; Shirram et al., 2017