

# Stanford

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## Faes Kerkhof

Postdoctoral Research Fellow, Orthopedic Surgery

### Bio

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#### BIO

I manage and conduct integrative research using machine-learning, biomechanics, additive manufacturing and advanced medical imaging to drive the knowledge on hand (dys)function in ways that are clinically meaningful.

#### HONORS AND AWARDS

- International Scholarship Award, Hand and Wrist Biomechanics International (June 2015)
- Louis Bolk-Award for best presentation, Dutch/Flemish Anatomical Society (January 2017)

#### PROFESSIONAL EDUCATION

- Doctor of Philosophy, Katholieke Universiteit Leuven (2017)
- Bachelor (Undeclared), Unlisted School (2008)
- Master of Science, Rijksuniversiteit Groningen (2018)

### Publications

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#### PUBLICATIONS

- **Mobility and structural constraints of the bonobo trapeziometacarpal joint** *BIOLOGICAL JOURNAL OF THE LINNEAN SOCIETY*  
Van Leeuwen, T., Vanneste, M., Kerkhof, F. D., D'Agostino, P., Vanhoof, M. M., Stevens, J. G., Van Lenthe, G., Vereecke, E. E.  
2019; 127 (3): 681–93
- **Relating Trapeziometacarpal Joint Morphology to Functional Capabilities in the Primate Thumb**  
van Leeuwen, T., Vanneste, M., Kerkhof, F. D., Stevens, J. G., Vereecke, E. E.  
WILEY.2019: S232
- **Trapeziometacarpal stabilization through dorsoradial ligament reconstruction: An early post-surgery in vivo biomechanical analyses** *JOURNAL OF ORTHOPAEDIC RESEARCH*  
Kerkhof, F. D., Vereecke, E. E., Vanovermeire, O., Vanhaecke, J., Vanneste, M., Stockmans, F.  
2018; 36 (11): 2851–64
- **The digital human forearm and hand** *JOURNAL OF ANATOMY*  
Kerkhof, F. D., van Leeuwen, T., Vereecke, E. E.  
2018; 233 (5): 557–66
- **Insights into the musculature of the bonobo hand** *JOURNAL OF ANATOMY*  
van Leeuwen, T., Vanhoof, M. M., Kerkhof, F. D., Stevens, J. G., Vereecke, E. E.  
2018; 233 (3): 328–40

- **In vivo biomechanical behavior of the trapeziometacarpal joint in healthy and osteoarthritic subjects** *CLINICAL BIOMECHANICS*  
D'Agostino, P., Dourthe, B., Kerkhof, F., Van Lenthe, G., Stockmans, F., Vereecke, E. E.  
2017; 49: 119–27
- **In vivo kinematics of the thumb during flexion and adduction motion: Evidence for a screw-home mechanism** *JOURNAL OF ORTHOPAEDIC RESEARCH*  
D'Agostino, P., Dourthe, B., Kerkhof, F., Stockmans, F., Vereecke, E. E.  
2017; 35 (7): 1556–64
- **COMPARISON BETWEEN INTRA-ARTICULAR CONTACT PATTERNS IN THE TRAPEZIOMETACARPAL JOINT OF HEALTHY AND ARTHRITIC SUBJECTS**  
Dourthe, B., D'Agostino, P., Kerkhof, F., van Lenthe, G., Stockmans, F., Vereecke, E.  
ELSEVIER SCI LTD.2017: S298–S299
- **Subject-specific thumb muscle activity during functional tasks of daily life** *JOURNAL OF ELECTROMYOGRAPHY AND KINESIOLOGY*  
Kerkhof, F. D., Deleu, G., D'Agostino, P., Vereecke, E. E.  
2016; 30: 131–36
- **Quantifying thumb opposition kinematics using dynamic computed tomography** *JOURNAL OF BIOMECHANICS*  
Kerkhof, F. D., Brugman, E., D'Agostino, P., Dourthe, B., van Lenthe, G. H., Stockmans, F., Jonkers, I., Vereecke, E. E.  
2016; 49 (9): 1994–99
- **In vivo contact biomechanics in the trapeziometacarpal joint using finite deformation biphasic theory and mathematical modelling** *MEDICAL ENGINEERING & PHYSICS*  
Dourthe, B., D'Agostino, P., Stockmans, F., Kerkhof, F., Vereecke, E.  
2016; 38 (2): 108–14
- **SEGMENTATION OF 4D CT BONE IMAGES BY SEQUENTIAL REGISTRATION**  
Van Dijck, C., Kerkhof, F., Vereecke, E., Wirix-Speetjens, R., Vander Sloten, J., IEEE  
IEEE.2015: 621–24
- **Comparison of the Anatomical Dimensions and Mechanical Properties of the Dorsoradial and Anterior Oblique Ligaments of the Trapeziometacarpal Joint** *JOURNAL OF HAND SURGERY-AMERICAN VOLUME*  
D'Agostino, P., Kerkhof, F. D., Shahabpour, M., Moermans, J., Stockmans, F., Vereecke, E. E.  
2014; 39 (6): 1098–1107
- **Physical strain of handcycling: An evaluation using training guidelines for a healthy lifestyle as defined by the American College of Sports Medicine** *JOURNAL OF SPINAL CORD MEDICINE*  
Hettinga, F. J., de Groot, S., van Dijk, F., Kerkhof, F., Woldring, F., van der Woude, L.  
2013; 36 (4): 376–82
- **Human hand function and dysfunction: what insights can be gained from comparative anatomy and musculoskeletal computer models?**  
Vereecke, E. E., Kerkhof, F., Stockmans, F., Jonkers, I., Van Sint Jan, S.  
WILEY-BLACKWELL.2012: 292