Raphael Dumas
[redacted]

Education and Research Experience

2004 **Post-doctorate** in biomechanics
Ecole de Technologie Supérieure de Montréal
Lavoisier scholarship (*Ministère Français des Affaires Etrangères*) and **Mentor scholarship** (*Instituts de Recherche en Santé du Canada*)

2002 **PhD** in mechanics
Ecole Nationale Supérieure des Arts et Métiers de Paris
CIFRE scholarship

1998 **Research Engineer** in biomechanics
Institut National des Sciences Appliquées de Lyon, 4-months contract

1998 **Master degree** in mechanics
Université Claude Bernard Lyon 1

1998 **Engineer degree** in mechanics
Institut National des Sciences Appliquées de Lyon

University and Research Institute Career

2013 Directeur de Recherche (**Senior Researcher**)
Université Gustave Eiffel

2010 '**Habilitation à Diriger des Recherches**' (privat docent)
Université Claude Bernard Lyon 1

2004 **Associate Professor**
Université Claude Bernard Lyon 1

Scientific and Administrative Responsibilities

2026 Member of the **Organising Committee** of the congress of *International Shoulder Group* (Technical Group of the *International Society of Biomechanics*) in Lyon

2025-now Elected **Director** of the *Interuniversity Centre of Bioengineering of the Human Neuromusculoskeletal System* [https://www.iuc-bohnes.eu]

2025-now **Deputy-Director** of the Joint International Laboratory *EVASYM* [https://evasym.univ-gustave-eiffel.fr]

2022-now Elected member of the **Executive Board** of *3D Analysis of Human Movement* (Technical Group of the *International Society of Biomechanics*)

2019-now **Head** of the research team '*Faciliter les déplacements*' at *Laboratoire de Biomécanique et Mécanique des Chocs* [https://lbmc.univ-gustave-eiffel.fr]

2019-now **Head** of the research team '*Dynamique musculo-squelettique du membre inférieur*' of Joint International Laboratory *EVASYM* [https://evasym.univ-gustave-eiffel.fr]

2016-2019 **Head** of the research team '*Biomécanique & Orthopédie*' at *Laboratoire de Biomécanique et Mécanique des Chocs*

2016-now Member of the **Scientific Commission** of *Institut National de Recherche et de Sécurité*

2016 Member of the **Organising Committee** of the joint congress of *European Society of Biomechanics* and *Société de Biomécanique* in Lyon

2014-2020 Elected member and General Secretary of the **Executive Board** of *Société Francophone d'Analyse du Mouvement chez l'Enfant et l'Adulte*

2013-2017 Elected member of the **Advisory Board** of research department *Transport Santé, Sécurité* of *Institut Français des Sciences et Technologies des Transports, de l'Aménagement et des Réseaux*

2011-2017 Elected member of the **Executive Board** of *Société de Biomécanique*, in charge of the Thesis Award

2009-2012 Elected member of the **Advisory Board** of research department *Sciences et Technologies* of *Université Claude Bernard Lyon 1*

2007-2012 **Coordinator** of bachelor program *Ingénierie Mécanique* at *Université Claude Bernard Lyon 1*

2007 Member of the **Organising Committee** of the congress of *Société de Biomécanique* in Lyon

Scientific Expertise

2021-now Member of the **Editorial Board** of Frontiers in Mechanical Engineering - Biomechanical Engineering

2021-now Member of the **Editorial Board** of Sensors

2019-2020 Member of **Evaluation Committee** for the French national call on very high-performance sport

2017-now **External jury** member of 8 *Habilitation à Diriger des Recherches* (privat docent) defences

2017 **Guest Editor** of a special issue of Journal of Biomechanics (The Soft Tissue Artefact Issue)

2016-now Member of the Board of **Consulting Editors** of Journal of Biomechanics

2014-now Member of the **Scientific Committee** of 3DHM congress (3-D Analysis of Human Movement)

2011-now **Scientific Expert** for the *European Science Foundation*, *Agence Nationale de la Recherche* (France), *Conseil de recherches en sciences naturelles et en génie du Canada* et *Fonds recherche du Québec en Santé*, *Austrian Science Fund*, *Fonds de la Recherche Scientifique* (Belgique), *German-Israeli Foundation for Scientific Research and Development, Institut National du Sport, de l'Expertise et de la Performance* (France)

2013-now Member of the **Scientific Committee** of ESMAC congress (European Society of Movement Analysis for Adults and Children)

2011-now **External jury** member of 44 PhD defences

2009- now **External jury** member of 8 selection committees for Lecturer and Professor

2000-now **Reviewer** (> 225 articles) for *Journal of Biomechanics, Computer Methods in Biomechanics and Biomedical Engineering, Clinical Biomechanics*, *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine*, *IEEE transactions on Biomedical Engineering*, *Gait & Posture*, *Medical & Biological Engineering & Computing*, *Medical Engineering & Physics* [https://www.webofscience.com/wos/author/record/1717600]

Research Activities

2025-2026 **Principal investigator** of *Partenariat Hubert Curien – Polonium* travel grant

2024-2026 **Principal investigator** of *Agence Nationale de la Recherche - TrueKneeMov* French-Taiwanese research grant

2023-2024 **Principal investigator** of *Partenariat Hubert Curien - Galilée* travel grant

2022-2023 **Principal investigator** of *Région Auvergne Rhône-Alpes – Pack Ambition International* research grant

2021-2022 **Scientific coordinator** of *Alliance Campus Rhodanien* research grant

2021-2024 **Scientific partner** of *Fonds de recherche du Québec Nature et technologies* research grant

2020-2024 **Scientific partner** of *Agence Nationale de la Recherche (PPR PIA) – Perfanalytics* research grant

2020 **Principal investigator** of research contract with *Human Layers*

2019 **Principal investigator** of research contract with *Fondation Ellen Poidatz*

2019 **Principal investigator** of research contract with *Centre Orthopédique Santy*

2019 **Principal investigator** of *Société de Biomécanique* travel grant

2017 **Principal investigator** of *Partenariat Hubert Curien - Fasic* travel grant

2015-2016 **Principal investigator** of *Partenariat Hubert Curien - Sakura* travel grant

2014 **Principal investigator** of *Région Rhône-Alpes - Explora Pro* travel grant

2014 **Principal investigator** of research contract with *Innovpulse*

2013-2015 **Principal investigator** of research contract with *Institut National de Recherche et de Sécurité*

2012-2013 **Scientific partner** of *Programme de Soutien à des Initiatives Internationales de Recherche et d'Innovation* of Ministry of Economy and Innovation (Quebec)

2010-2014 **Scientific coordinator** of *Agence Nationale de la Recherche – ACE* research grant

2010-2014 **Scientific coordinator** of *Agence Nationale de la Recherche – MIME* research grant

2009 **Principal investigator** of *Centre Jacques Cartier* travel grant

2008-2011 **Scientific partner** of research contract with *Medimex*

2008-2011 **Scientific partner** of *FP7 European Project - DHErgo* research grant

2006-2010 **Scientific partner** of *Agence Nationale de la Recherche - SACR-FRM* research grant

2005-2014 **Scientific partner** of research contract with *Centre Technique du Cuir Chaussure Maroquinerie*

2005-2010 **Scientific partner** of research contract with *AXS Médical*

2005 **Principal investigator** of *Université Claude Bernard Lyon 1 - Bonus Recherche* research grant

2004-2007 **Scientific partner** of *FP6 European Project - APROSYS* research grant

Teaching and Supervision

2018-now Part-time **lecturer** at *Ecole Centrale de Lyon*

2016 Pre-course at ESB2016 on *3D kinematics and inverse dynamics: practical issues with a custom Matlab toolbox* [https://fr.mathworks.com/matlabcentral/fileexchange/58021-3d-kinematics-and-inverse-dynamics]

2013-now Part-time **lecturer** at *Université Claude Bernard Lyon 1*

2011 Part-time **lecturer** in medical inter-university diploma *Pathologie Rachidienne*

2005-2012 Part-time **lecturer** in medical inter-university diploma *Chirurgie du Rachis*

2004-2012 **Lecturer** at *Université Claude Bernard Lyon 1* and *Ecole Polytechnique Universitaire de Lyon*

2005-now **Supervisor** of 9 post-doctorates, 22 PhD and 39 master students

Publications and distinctions

2020 **Research Award** (*Prix Christian Oddou*) of *Société de Biomécanique*

2014 Whiteker-Allard **Innovation Award**

2006 **Research Award** of *Mécabio*

2003 **Thesis Award** from Association of Research groups for Spinal Osteosynthesis

1999-now **Author** of 151 peer-reviewed articles (27 as first and 38 as last author) in international journals, 11 book chapters, 209 edited congress proceedings, 2 patents, 34 h-index, > 4000 citations [https://www.scopus.com/authid/detail.uri?authorId=55604019400]

Complete list of publication

Peer-reviewed articles:

P151 Delafontaine, A., Naaim, A., Leemrijse, T., Cheze, L., **Dumas, R.**, Devos Bevernage, B., Besse, J.-L., Birch, I., Malherbe, C., Deleu, P. A., 2025. Are there differences in ankle mechanics after total ankle arthroplasty in patients suffering from post-fracture versus post-sprain endstage ankle osteoarthritis? *Foot Ankle International,* Accepted.

P150 Muller, A., Naaim, A., **Dumas, R.**, Robert, T., 2025. Benchmarking raw datasets and collaboratively-evolving processed data for markerless motion capture analysis. *Data in Brief*, 62: 112044. doi: 10.1016/j.dib.2025.112044

P149 Polomé, E., Théveniau, N., Vigier, C., **Dumas, R.**, Robert, T., 2025. Shoe wear test machine: what exists versus innovations and promising concepts. A scoping review. *Proceedings of the Institution of Mechanical Engineers, Part P: Journal of Sports Engineering and Technology*, 239(3):567-575. doi:10.1177/17543371221133903

P148 Chaumeil, A., Puchaud, P., Muller, A., **Dumas, R.**, Robert, T., 2025. A confidence-based multibody kinematics optimization for markerless motion capture: a proof of concept. *International Journal for Numerical Methods in Biomedical Engineering*, 41(8): e70079. doi: 10.1002/cnm.70079

P147 Lahkar, B. K., Robert, T., Basso, F., **Dumas, R.**, De Rosario, H., 2025. Body segment inertial parameters of children derived from a large database of 3D body scans. *Journal of Biomechanics*, 189: 112840. doi: 10.1016/j.jbiomech.2025.112840

P146 Adjel, M., **Dumas, R.**, Mohammed, S., Bonnet, V., 2025. Visual-Inertial Sensor-To-Segment Calibration Methods for Upper Limb Joint Angles Estimation through Inverse Kinematics. *IEEE Transactions on Automation Science and Engineering*, 22: 11519 - 11528. doi: 10.1109/TASE.2025.3535857

P145 Riglet, L., Gras, L.-L., Viste, A., Moissenet, F., Gasparutto, X., Fessy, M.-H., Hannouche, D., Armand, S., **Dumas, R.**, 2025. Wear factor comparison between single and dual mobility cup in total hip arthroplasty. *Multibody System Dynamics*, 63: 397–412. doi: 10.1007/s11044-024-10031-3

P144 Bousigues, S., Naaim, A., Robert, T., Muller, A., **Dumas, R.**, 2025. The effects of markerless inconsistencies are at least as large as the effects of the marker-based soft tissue artefact. *Journal of Biomechanics,* 182: 112566. doi: 10.1016/j.jbiomech.2025.112566

P143 Sabbah, M., Watier, B., **Dumas, R.**, Gautier, M., Bonnet, V., 2024. Concurrent validity of embedded solutions for whole body kinematics, dynamics and inertial parameters identification. *IEEE Sensors Journal*, 24(24): 40524-40531. doi: 10.1109/JSEN.2024.3485475.

P142 Riglet, L., Viste, A., **Dumas, R.**, Liebgott, H., Fessy, M.-H., Gras, L.-L., 2024. Dual mobility cup studied ex vivo: liner movement quantification using 3D ultrasound imaging and motion analysis. *Orthopaedics & Traumatology: Surgery & Research,* 110(6):103924. doi: 10.1016/j.otsr.2024.103924

P141 Ciszkiewicz, A., **Dumas R.**, 2024. Surrogate-based worst-case analysis of a knee joint model using Genetic Algorithm. *Frontiers in Mechanical Engineering*, 10: 1392616. doi: 10.3389/fmech.2024.1392616

P140 Guan, S., **Dumas, R.**, Pandy, M. G., 2024. Tibiofemoral slip velocity in total knee arthroplasty is design-invariant but activity-dependent. *Annals of Biomedical Engineering,* 52(6):1779–1794. doi: 10.1007/s10439-024-03490-4

P139 Chaumeil, A., Muller, A., **Dumas, R.**, Robert, T., 2024. Effect of a confidence-based weighted 3D point reconstruction for markerless motion capture with a reduced number of cameras. *Computer Methods*

in Biomechanics and Biomedical Engineering: Imaging & Visualization, 11(7): 2292067. doi: 10.1080/21681163.2023.2292067

P138 Chaumeil, A., Lahkar, B., **Dumas, R.**, Muller, A., Robert, T., 2024. Agreement between a markerless and a marker-based motion capture system for balance related quantities. *Journal of Biomechanics*, 165: 112018. doi: 10.1016/j.jbiomech.2024.112018

P137 Koussou, A., **Dumas, R.**, Desailly, E., 2024. A velocity stretch-reflex threshold based on muscle-tendon unit peak acceleration to detect possible occurrences of spasticity during gait in children with cerebral palsy. *Sensors*, 24(1): 41. doi: 10.3390/s24010041.

P136 Deleu, P.-A., Naaim, A., Devos Bevernage, B., Cheze, L., **Dumas, R.**, Birch, I., Besse, J.-L., Leemrijse, T., 2023. Changes in relative work of the lower extremity and distal foot joints after total ankle replacement: an exploratory study. *IEEE Transactions on Neural Systems and Rehabilitation Engineering*, 31: 4376-4381. doi: 10.1109/TNSRE.2023.3328936.

P135 Koussou, A., **Dumas, R.**, Desailly, E., 2023. Common modelling assumptions affect the joint moments measured during passive joint mobilizations. *Scientific Reports*, 13: 17782. doi: 10.1038/s41598-023-44576-8

P134 Ranaldi, S., Naaim, A., De Marchis, C., Robert, T., **Dumas, R.**, Conforto, S., Frossard, L., 2023. Walking ability of individuals fitted with transfemoral bone-anchored prostheses: a comparative study of gait parameters. *Clinical Rehabilitation*, 37(12): 1579-1718. doi: 10.1177/02692155231183779

P133 Deleu, P.-A., Naaim, A., Devos Bevernage, B., Cheze, L., **Dumas, R.**, Birch, I., Leemrijse, T., Besse, J.-L., 2023. Concomitant triceps surae lengthening in total ankle arthroplasty affects the mechanical work at the ankle joint. *Foot & Ankle International*, 44(8): 754-762. doi: 10.1177/10711007231176819

P132 Fonseca, M., Gasparutto, X., Carcreff, L., Grouvel, G., Bonnefoy- Mazure, A., **Dumas, R.**, Armand, S., 2023. Can the evaluation of marker placement confidence be used as an indicator of gait kinematic variability? *Frontiers in Rehabilitation Sciences*, 4: 1122303. doi: 10.3389/fresc.2023.1122303

P131 Guitteny, S., Aissaoui, R., **Dumas, R.**, 2023. Can a musculoskeletal model adapted to knee implant geometry improve prediction of 3D contact forces and moments? *Annals of Biomedical Engineering*, 51(8): 1872–1883. doi: 10.1007/s10439-023-03216-y

P130 Moissenet, F., Beauseroy, V., Gasparutto, X., Armand, S., Hannouche, D., **Dumas, R.**, 2023. Estimation of two wear factors for total hip arthroplasty: a simulation study based on musculoskeletal modelling. *Clinical Biomechanics*, 107: 106035. doi: 10.1016/j.clinbiomech.2023.106035

P129 Koussou, A., **Dumas, R.**, Desailly, E., 2023. A procedure and model for the identification of uni- and biarticular structures passive contribution to inter-segmental dynamics. *Scientific Reports*, 13, 10535 doi: 10.1038/s41598-023-37357-w

P128 Fonseca, M., Gasparutto, X., Grouvel, G., Bonnefoy-Mazure, A., **Dumas, R.**, Armand, S., 2023. Evaluation of lower limb and pelvic marker placement precision among different evaluators and its impact on gait kinematics computed with the Conventional Gait Model. *Gait & Posture*, 104: 22-30. doi: 10.1016/j.gaitpost.2023.05.028

P127 Gasq, D., **Dumas, R.**, Caussé, B., Scandella, M., Cintas, P., Acket, B., Arné-Bes, M. C., 2023. Effect of a helical versus a posterior ankle-foot orthosis on gait in people with unilateral foot drop: a randomised crossover trial. *Journal of NeuroEngineering and Rehabilitation*, 20(1): 63. doi: 10.1186/s12984-023-01184-x

P126 Gasparutto, X., Bonnefoy-Mazure, A., Attias, M., **Dumas, R.**, Armand, S., Miozzari, H., 2023. Comparison between passive knee kinematics during surgery and active knee kinematics during walking: A preliminary study. *Plos One*, 18(3): e0282517. doi: 10.1371/journal.pone.0282517

P125 Pomarat, Z., Guitteny, S., **Dumas, R.**, Muller, A., 2023 Kinetics influence of multibody kinematics optimisation for soft tissue artefact compensation. *Journal of Biomechanics*, 150: 111514. doi: 10.1016/j.jbiomech.2023.111514

P124 Becanovic, F., Bonnet, V., **Dumas, R.**, Jovanovic, K., Mohammed, S., 2023. Force sharing problem during gait using inverse optimal control. *IEEE Robotics and Automation Letters*, 8(2):872-879. doi: 10.1109/LRA.2022.3217398

P123 Deleu, P. A., Naaim, A., Chèze, L., **Dumas, R.**, Devos Bevernage, B., Birch, I., Besse, J.L., Leemrijse, T., 2022. Decreased mechanical work demand in the chopart joint after total ankle replacement. *Foot & Ankle International,* 43(10): 1354-1363. doi: 10.1177/10711007221112094

P122 Riglet, L., Viste, A., De Leissegue, T., Naaim, A., Liebgott, H., **Dumas, R.**, Fessy, M. H., Gras, L. L., 2022. Accuracy and precision of the measurement of liner orientation of dual mobility cup total hip arthroplasty using ultrasound imaging. *Medical Engineering & Physics*, 108: 103877. doi: 10.1016/j.medengphy.2022.103877

P121 Fonseca, M., Bergere, M., Candido, J., Leboeuf, F., **Dumas, R.**, Armand, S., 2022. The Conventional Gait Model's sensitivity to lower-limb marker placement. *Scientific Reports*, 12: 14207. doi: 10.1038/s41598-022-18546-5.

P120 Fonseca, M., Armand, S., **Dumas, R.**, 2022. An analytical model to quantify the impact of the propagation of uncertainty in knee joint angle computation. *International Biomechanics*, 9(1): 10–18. doi: 10.1080/23335432.2022.2108898

P119 Lahkar, B. K., Muller, A., **Dumas, R.**, Reveret, L., Robert, T., 2022. Accuracy of a markerless motion capture system in estimating upper extremity kinematics during boxing. *Frontiers in Sports and Active Living,* 4: 939980. doi: 10.3389/fspor.2022.939980

P118 Blache, Y., Rogowski, I., Degot, M., Trama, R., **Dumas, R.**, 2022. Uncertainty analysis and sensitivity of scapulothoracic joint angles to kinematic model parameters. *Medical & Biological Engineering & Computing,* 60: 2065–2075. doi: 10.1007/s11517-022-02593-1

P117 Deroche, E., Naaim, A., Lording, T., **Dumas, R.**, Servien, E., Cheze, L., Lustig, S., Batailler, C., 2022. Femorotibial alignment measured during robotic assisted knee surgery is reliable: radiologic and gait analysis. *Archives of Orthopaedic and Trauma Surgery,* 142: 1645–1651. doi: 10.1007/s00402-021-04033-5

P116 Fonseca, M., **Dumas, R.**, Armand, S., 2022. Automatic gait event detection in pathological gait using an auto-selection approach among concurrent models. *Gait & Posture*, 96: 271-274. doi: 10.1016/j.gaitpost.2022.06.001

P115 **Dumas, R.**, Duprey, S., 2022. Subject-specific model-derived kinematics of the shoulder based on skin markers during arm abduction up to 180° - Assessment of 4 gleno-humeral joint models. *Journal of Biomechanics*, 136: 111061. doi: 10.1016/j.jbiomech.2022.111061

P114 Deleu, P. A., Naaim, A., Chèze, L., **Dumas, R.**, Devos Bevernage, B., Birch, I., Besse, J.L., Leemrijse, T., 2022. Changes in ankle and foot kinematics after fixed-bearing total ankle replacement. *Journal of Biomechanics,* 136: 111060. doi: 10.1016/j.jbiomech.2022.111060

P113 Guitteny, S., Lafon, Y., Bonnet, V., Aissaoui, R., **Dumas, R.**, 2022. Dynamic estimation of soft tissue stiffness for use in modeling socket, orthosis or exoskeleton interfaces with lower limb segments. *Journal of Biomechanics*, 134: 110987. doi: 10.1016/j.jbiomech.2022.110987

P112 Mallat, R., Bonnet, V., **Dumas, R.**, Adjel, M., Venture, G., Khalil, M., Mohammed, S., 2021. Sparse visual-inertial measurement units placement for gait kinematics assessment. *IEEE Transactions on Neural Systems & Rehabilitation Engineering*, 29: 1300-1311. doi: 10.1109/TNSRE.2021.3089873

P111 Koussou, A., Desailly, E., **Dumas, R.**, 2021. Contribution of passive moments to inter-segmental moments during gait - A systematic review. *Journal of Biomechanics*, 122: 110450. doi: 10.1016/j.jbiomech.2021.110450

P110 Zeighami, A., **Dumas, R.**, Aissaoui, A., 2021. Knee loading in OA subjects is correlated to flexion and adduction moments and to contact point locations. *Scientific Reports*, 11: 8594. doi: 10.1038/s41598-021-87978-2

P109 Deleu, P. A., Leemrijse, T., Chèze, L., Naaim, A., **Dumas, R.**, Devos Bevernage, B., Birch, I., Besse, J.L., 2021. Post-sprain versus post-fracture post-traumatic ankle osteoarthritis: impact on foot and ankle kinematics. *Gait & Posture,* 86: 278-286. doi: 10.1016/j.gaitpost.2021.03.029

P108 Deleu, P. A., Naaim, A., Cheze, L., **Dumas, R.**, Devos Bevernage, B., Goubau, L., Besse, J.L., Leemrijse, T., 2021. The effect of ankle and hindfoot malalignment on foot mechanics in patients suffering from post-traumatic ankle osteoarthritis. *Clinical Biomechanics*, 81: 105239. doi: 10.1016/j.clinbiomech.2020.105239

P107 Deleu, P. A., Naaim, A., Leemrijse, T., **Dumas, R.**, Devos Bevernage, B., Besse, J.L., Crevoisier, X., Cheze, L., 2021. Impact of foot modeling on the quantification of the effect of total ankle replacement: A pilot study. *Gait & Posture*, 84: 308-314. doi: 10.1016/j.gaitpost.2020.12.027

P106 **Dumas, R.**, Moissenet, F., 2020. Accuracy of the tibiofemoral contact forces estimated by a subject-specific musculoskeletal model with fluoroscopy-based contact point trajectories. *Journal of Biomechanics*, 113: 110117. doi: 10.1016/j.jbiomech.2020.110117

P105 Thaunat, M., Ingale, P., de Guise, J., **Dumas, R.**, Blache, Y. 2020. The effect of anterolateral ligament reconstruction on knee constraint - A computer model based simulation study. *The Knee*, 27(4): 1228-1237. doi: 10.1016/j.knee.2020.05.006

P104 Colombel, J. Bonnet, V., Daney, D., **Dumas, R.**, Seilles, A., Charpillet, F. 2020. Physically consistent whole-body kinematics assessment based on a RGB-D sensor. Application to simple rehabilitation exercises. *Sensors*, 20(10): 2848. doi: 10.3390/s20102848

P103 Fonseca, M., Gasparutto, X., Leboeuf, F., **Dumas, R.**, Armand, S., 2020. Impact of knee marker misplacement on gait kinematics of children with cerebral palsy using the Conventional Gait Model - A sensitivity study. *Plos One,* 15(4): e0232064. doi: 10.1371/journal.pone.0232064

P102 Deleu, P. A., Chèze, L., **Dumas, R.**, Besse, J.-L., Leemrijse, T., Devos Bevernage, B., Birch, I., Naaim, A., 2020. Intrinsic foot joints adapt a stabilized-resistive configuration during the stance phase. *Journal of Foot and Ankle Research*, 13: 13. doi: 10.1186/s13047-020-0381-7

P101 Derrick, T. R., van den Bogert, A. J., Cereatti, A., **Dumas, R.**, Fantozzi, S., Leardini A., 2020. ISB recommendations on the reporting of intersegmental forces and moments during human motion analysis. *Journal of Biomechanics*, 99: 109533. doi: 10.1016/j.jbiomech.2019.109533

P100 **Dumas, R.**, Comments on the "Influence of the load modelling during gait on the stress distribution in a femoral implant" by Gervais et al., 2019. *Multibody System Dynamics*, 47(4): 435–437. doi: 10.1007/s11044-019-09709-w

P99 Zabat M., Ababou, A. Ababou, N., **Dumas, R.**, 2019. IMU-based sensor-to-segment multiple calibration for upper limb joint angle measurement - A proof of concept. *Medical & Biological Engineering & Computing*, 57(11): 2449-2460. doi: 10.1007/s11517-019-02033-7

P98 **Dumas, R.**, Barré, A., Moissenet, F., Aissaoui, R., 2019. Can a reduction approach predict reliable joint contact and musculo-tendon forces? *Journal of Biomechanics*, 95: 109329. doi: 10.1016/j.jbiomech.2019.109329

P97 Jacquelin, E., Brizard, D., **Dumas, R.**, 2019. A screening method to analyse the sensitivity of a lower limb multibody kinematic model. *Computer Methods in Biomechanics and Biomedical Engineering*, 22(10): 925-935. doi: 10.1080/10255842.2019.1604950

P96 Naaim, A., Bonnefoy-Mazure, A., Armand, S, **Dumas, R.**, 2019. Correcting lower limb segment axis misalignment in gait analysis: a simple geometrical method. *Gait & Posture*, 72: 34-39. doi: 10.1016/j.gaitpost.2019.05.013

P95 Blache, Y., Kouevidjin, B., de Guise, J., **Dumas, R.**, Saithna, A., Sonnery-Cottet, B., Thaunat, M., 2019. Lateral extra-articular reconstruction length changes during weightbearing knee flexion and pivot shift: A simulation study. *Orthopaedics & Traumatology: Surgery & Research*, 105(4): 661-667. doi: 10.1016/j.otsr.2019.02.020

P94 Blache, Y., **Dumas, R.**, de Guise, J., Saithna, A., Sonnery-Cottet, B., Thaunat, M., 2019. Technical considerations in lateral extra-articular reconstruction coupled with anterior cruciate ligament reconstruction: a Simulation study evaluating the Influence of surgical parameters on control of knee stability. *Clinical Biomechanics*, 61: 136–143. doi: 10.1016/j.clinbiomech.2018.12.011

P93 El Mansori, A., Lording, T., Schneider, A., **Dumas, R.**, Servien, E., Lustig, S., 2018. Incidence and patterns of meniscal tears accompanying the anterior cruciate ligament injury: possible local and generalized risk factors. *International Orthopaedics*, 42(9): 2113-2121. doi: 10.1007/s00264-018-3992-x.

P92 Gasparutto, X., Jacquelin, E., **Dumas, R.**, 2018. Contribution of passive actions to the lower limb joint moments and powers during gait: a comparison of models. *Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine*, 232(8): 768–778. doi: 10.1177/0954411918785661

P91 Hallemans, A., Verbecque, E., **Dumas, R.**, Cheze, L., Van Hamme, A., Robert, T., 2018. Developmental changes in spatial margin of stability in typically developing children relate to the mechanics of gait. *Gait & Posture*, 63: 33-38. doi: 10.1016/j.gaitpost.2018.04.019

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