



CURRICULUM VITAE (short)

Academic record

Current employer: Laboratory of Anatomy, Biomechanics and Organogenesis (LABO), Faculty of Medicine, Université Libre de Bruxelles (ULB). Website: <http://homepages.ulb.ac.be/~labo>.

Academic degrees and postdoctoral experience:

- 1997: PhD in Physiotherapy and Rehabilitation, ULB (with *summa cum laude*), Thesis title: « *Development of a 3D reconstruction system for kinematic interpolation and joint motion simulation from medical imaging* ».
- 1993: BSs in Informatics, Institute for Commercial Careers, Brussels (with *cum laude*),
- 1989: Certificate in Biomechanics, Interuniversity Program (Brussels).
- 1989: MSc in Physiotherapy and Rehabilitation, ULB (with *magna cum laude*).

(Post-)doctoral experience:

- 1998-1999: Department for Computer and Information Sciences, De Montfort University, UK,
- 1995: Department for Mechanical Engineering, The University of New Mexico, USA,
- 1994: Paul W. Brand Biomechanics Laboratory, GWL Hansen's Disease Center, LSU, USA.

Current and previous positions:

- 2007- : Senior Professor (tenured) at the Faculty of Medicine of ULB,
 - In charge of the classes related to the anatomical, physiological and functional aspects of the musculoskeletal system (including innervation and vascularisation), urinary system, genital system, cardio-vascular system, respiratory system.
- 2008- : Research Coordinator at LABO-ULB,
- 2005- : Senior Professor (tenured) at the Faculty of Polytechnics of ULB,
 - In charge of anatomy classes specially adapted to Biomedical Engineers, including many practical examples of available clinical data and modelling activities; the idea behind this class is to allow technically-oriented students to acquire a clinical vocabulary and to understand the constraints of clinical-practice.
- 2001-2007: Associate professor at the Faculty of Medicine of ULB,
- 1991-2001: Assistant professor at the Faculty of Medicine of ULB,
- 1990-1991: Civilian Service.

Research record

- > 80 publications in international peer-reviewed journals¹, 1 book (in English, translated to Japan and Korean), 7 book chapters, 1 invited monograph.
- *Invited presentations*:
 - Last invitations:
 - International Congress of Physiotherapy and Bioengineering (January 2016, Brussels, Belgium).
 - XIV Congress of the SOFAMEA (February 2015, Geneva, Switzerland).
 - Belgian Royal Academy of Medicine (March 2013, Brussels, Belgium).²

¹ The website ResearchGait indicates more than 140 international publications (this list includes published abstract conferences).

² This presentation, in French, is available on YouTube.



- Keynote speakers at several international Events.
- Advanced school:
 - 2000-2008 : Visiting Professor at the Faculty of Medicine, National University of Rwanda (yearly teaching during 2 weeks),
 - 2006 : International Summer School Advances in Medical Imaging of the International Society for Photogrammetry and Remote Sensing (Greece).
- Scientific supervision : 14 PhD (5 running), 35 MSc (3 running).

Commissions of trust:

- Review panel member of EC funded projects (ICT for Health).
- Conference organization:
 - Member of the Scientific Committee of the 9th Int. Conf. on Pervasive Computing Technologies for Healthcare, Turkey, 2015.
 - Member of the Scientific Committee of the 14th Int. Symp. on Computer Simulation in Biomechanics (ISCSB), Brazil, 2013.
 - Member of the Selection Committee of the 2nd Int. Symp. on Digital Human Modelling, USA, 2013.
 - President of the Scientific Committee of the 23rd Congress of the International Society of Biomechanics, 2011, Brussels, Belgium.
 - President of the Scientific Committee of the 9th International Symposium on the 3-D Analysis of Human Movement, International Society of Biomechanics, 2006, Valenciennes, France.
 - Since 2002: member of the Scientific Committees for 7 international scientific events.
- Board members:
 - Board member of the VPH-NoE³ Network of Excellence.
 - Elected board member of the Technical Group On Computer Simulation of the International Society of Biomechanics (from 2006 until 2014).
 - Elected board member of the Technical Group On Medical Image Analysis, Human Motion and Body Measurements of the International Society for Photogrammetry and Remote Sensing (from 2005 to 2008).
- Review activities for the following journals: *Journal of Biomechanics*; *Gait & Posture*; *International Journal of Imaging Systems and Technology*; *IEEE Transactions on Medical Imaging*; *IEEE Transactions on Biomedical Engineering*; *Medical Engineering & Physics*; *Medical & Biological Engineering & Computing*; *The Anatomical Record - The New Anatomist*; *Medical Informatics and the Internet in Medicine*.

Other honors:

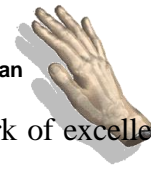
- Marie Curie Research Fellow (1998-1999).

Competitive extramural funding

(this is the list of multi-partner projects, international and national, in which I have been involved with a leading role; the budgets indicated where the budget allocated to my team and is not the total budget of the project)

- Leading coordinator of the RehabGoesHome project from 02/2014 until 03/2016, budget : 653,120.0 €.
- Leading coordinator of the ICT4Rehab project from 01/2011 until 01/2014, budget: 1,544,755.0 €.
- Local coordinator of the European DHErgo project from 09/2008 until 09/2011, budget : 574,072.0 €.

³ VPH = Virtual Physiological Human

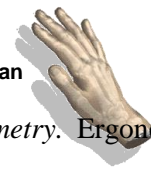


- Local coordinator of the European VPH-NoE project (network of excellence) from 06/2008 until 06/2012, budget: 630,000.0 €.
- Local coordinator of the European STEP project, from 01/2006 until 03/2007, budget : 94,680.0 €.
- Local coordinator of the European LHDL project, from 02/2006 until 31/01/2009, budget: 395,520.0 €.
- Local coordinator of the European JPD project from 02/2001 until 06/2002), budget:
- 12,000.0 €.
- Local coordinator of the European BIONET project from 10/2001 until 12/2002, budget:
- 32,280.0 €.
- Local coordinator of the European MULTIMOD project, from 10/2001 until 09/2004, budget: 350,000.0 €.
- Leading coordinator of the European VAKHUM project from 02/2000 until 06/2002, budget : 431,844.0 €.

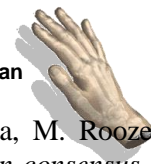
Selection of publications⁴

- J. Peng, L. Denninger, J. Panda, **S. Van Sint Jan**, X. Wang. *Methods for determining hip and lumbosacral jointcenters in a seated position from external anatomical landmarks*. J. Biomch., 2015, 48(2), 396-400.
- B. Bonnechère, V. Sholukha, P. Salvia, M. Rooze, **S. Van Sint Jan**. *Physiologically-corrected coupled motion during gait analysis using Model-Based Approach*. Gait and Posture, 2015, 41(1), 319-322. IF = 1.97.
- B. Beyer, V. Sholukha, P. Salvia, M. Rooze, V. Feipel, **S. Van Sint Jan**. *Effect of anatomical landmarks perturbation on mean helical axis parameters of in vivo costovertebral joints*, J. Biomech, 2015, 48(3), 534-538. IF = 2.66.
- B. Bonnechère, B. Jansen, L. Omelina, M. Rooze, **S. Van Sint Jan**. *Can serious games be incorporated with conventional treatment of children with cerebral palsy? A review*. Research in Development Disabilities, 2014, 35(8), 1899-1913. IF = 4.41.
- O. Snoeck, B. Beyer, V. Feipel, P. Salvia, J.L. Sterckx, M. Rooze, **S. Van Sint Jan**. *Tendon and fascial structure contributions to knee muscle excursions and knee joint displacement*. Clinical Biomechanics, 2014, 29, 1070-1076.
- J. Coupier, F. Moiseev, V. Feipel, M. Rooze, **S. Van Sint Jan**. *Motion representation of the long fingers: a proposal for the definitions of new anatomical frames*. J. of Biomechanics, 2014, 47(6), 1299-1306. IF = 2.66.
- B. Bonnechère, B. Beyer, S. Gabriel, M. Rooze, **S. Van Sint Jan**. *What is the safest start position for American football players*. Journal of Sports Sciences and Medicine, 2014, 13(2), 423-429. IF = 0.89.
- **S. Van Sint Jan**. *Modelling of the musculoskeletal system and its physiology : scientific and clinical applications*. Proceedings of the Belgian Royal Academies of Medicine. Invited. 2014, 3, 13-30.
- O. Snoeck, P. Lefèvre, Erica Sprio, V. Feipel, M. Rooze, **S. Van Sint Jan**. *The lacertus fibrosus of the biceps brachii muscle: an anatomical study*. Surgical and Radiological Anatomy, 2014, 36(7), 713-719.
- B. Beyer, V. Sholukha, P-M Dugailly, M. Rooze, V. Feipel, **S. Van Sint Jan**. *In-vivo thorax 3D modelling from costovertebral joint complex kinematics*. Clinical Biomechanics, 2014, 29, 434-438. IF = 1.76.
- B. Bonnechère, B. Jansen, P. Salvia, H. Bouzahouene, V. Sholukha, J. Cornelis, M. Rooze, **S. Van Sint Jan**. *Determination of the precision and accuracy of the morphological measurements using*

⁴ A full list of publications is available from my extensive CV and from <http://homepages.ulb.ac.be/~labo/>.



- the Kinect sensor: comparison with standard stereophotogrammetry.* Ergonomics, 2014, 57(4), 622-631.
- L. Cristofolini, M. Baleani, E. Schileo, **S. Van Sint Jan**, M. Juszczak, C. Öhman, I. Zwierzak, P. Lefèvre, J. Juszczak, M. Viceconti. *Differences between contralateral bones of the human lower limbs: a multiscale investigation.* Journal of Mechanics in Medicine and Biology, 2014, 14(3):1450032.
 - W. Samson, A. Van Hamme, S. Sanchez, L. Chèze, **S. Van Sint Jan**, V. Feipel. *A portable system for foot biomechanical analysis during gait.* Gait and Posture, 2014, 40(3), 420-428. IF = 2.58.
 - T. Chapman, P. Lefèvre, P. Semal, F. Moiseev, V. Sholukha, S. Louryan, M. Rooze, **S. Van Sint Jan**. *Sex determination using the Probabilistic Sex Diagnosis (DSP: Diagnose Sexuelle Probabiliste) tool in a virtual environment.* Forensic Science International, 2014, 234, 189-195. IF: 2.301.
 - B. Bonnechère, V. Sholukha, F. Moiseev, M. Rooze, **S. Van Sint Jan**. From Kinect to anatomically-correct motion modelling : preliminary results for human applications. Lecture Notes in Computer Science, 2013. Available from available from http://www.springer.com/cda/content/document/cda_downloaddocument/9783658028961-c1.pdf?SGWID=0-0-45-1421613-p175289600.
 - B. Bonnechère, B. Jansen, P. Salvia, H. Bouzahouene, L. Omelina, J. Cornelis, M. Rooze, **S. Van Sint Jan**. *Determination of repeatability of Kinect™ sensor.* Telemedicine & eHealth, 2014, 20, 451-543.
 - W. Samson, A. Van Hamme, S. Sanchez, L. Chèze, **S. Van Sint Jan**, V. Feipel. *Foot roll-over evaluation based on 3D dynamic foot scan.* Gait and Posture, 2014, 39:577-582.
 - B. Bonnechère, B. Jansen, P. Salvia, H. Bouzahouene, L. Omelina, F. Moiseev, V. Sholukha, J. Cornelis, M. Rooze, **S. Van Sint Jan**. *Validity and reliability of the Kinect within functional assessment activities: comparison with standard stereophotogrammetry.* Gait and Posture, 2014, 39:593-598.
 - B. Bonnechère, B. Jansen, L. Omelina, L. Da Silva, J. Mougeat, V. Heymans, M. Rooze, **S. Van Sint Jan**. *Use of serious gaming to increase motivation of cerebral palsy children during rehabilitation.* European Journal of Paediatric Neurology, 2013, 17:S12-13 (IF: 2.01).
 - B. Bonnechère, B. Jansen, L. Omelina, L. Da Silvan, M. Mouraux, M. Rooze, **S. Van Sint Jan**. *Patient follow-up using Serious Gaming: a feasibility study on low back pain patients.* Games for Health, 2013, 185-195.
 - B. Bonnechère, V. Wermenbol, B. Dan, P. Salvia, Y. Leborgne, G. Bontempi, S. Vansummeren, V. Sholukha, F. Moisee, B. Jansen, M. Rooze, **S. Van Sint Jan**. *Management and interpretation of medical data related to Cerebral Palsy: the ICT4Rehab project.* European Journal of Paediatric Neurology, 2013, 17:S32-33 (IF: 2.01).
 - P. Dugailly, S. Sobczak, A. Lubansu, M. Rooze, **S. Van Sint Jan**, V. Feipel. *Validation protocol for assessing the upper cervical spine kinematics and helical axis: an in vivo preliminary analysis for axial rotation, modeling, and motion representation.* Journal of craniovertebral junction and spine. 2013, 4:10-15.
 - B. Bonnechère, B. Jansen, P. Salvia, H. Bouzahouene, L. Omelina, J. Cornelis, M. Rooze, S. Van Sint Jan. *Can the Kinect sensor be used for motion analysis ?* Transaction on Electrical and Electronic Circuits and Systems, 2013, 1, 1-8.
 - V. Sholoukha, B. Bonnechère, P. Salvia, M. Rooze, **S. Van Sint Jan**. *Model-based approach (MBA) for human kinematics reconstruction from markerless and marker-based motion analysis.* J. of Biomechanics, 2013, 46:2363-2371.
 - B. Bonnechère, B. Jansen, L. Omelina, J. Cornelis, M. Rooze, **S. Van Sint Jan**. *Les jeux vidéo (bientôt) au service des patients? Medecine & Sciences, 2013, 29, 957-960.*
 - J. Peng, X. Wang, L. Denninger, J. Panda, **S. Van Sint Jan**. *Hip joint center location from anatomical landmarks for automotive seated posture reconstruction.* Computer Methods in Biomechanics and Biomedical Engineering, 2013, 16, 195-197.
 - S. Sobczak, P. Dugailly, V. Feipel, B. Baillon, M. Rooze, S. Salvia, **S. Van Sint Jan**. *In vitro biomechanical study of femoral torsion disorders: Effect on moment arms of thigh muscles.* Clinical Biomechanics, 2013, 28(2), 187-192.



- B. Bonnechère, V. Wermembol, B. Dan, M. Degelaen, P. Salvia, M. Rooze, **S. Van Sint Jan**. *Examen Clinique de l'enfant infirme moteur cérébral: existe-t-il un consensus entre les praticiens? Clinical examination of children with cerebral palsy: is there a consensus between clinicians?* Revue Médicale de Bruxelles, 2013, 34(2), 70-78.
- **S. Van Sint Jan**, V. Wermenbol, P. Van Bogaert, K. Desloovere, M. Degelaen, B. Dan, P. Salvia, E. Ortibus, B. Bonnechère, Y-A Le Borgne, G. Bontempi, S. Vansummeren, V. Sholukha, F. Moiseev, M. Rooze. *Integrative research related to the musculoskeletal system: application for the clinical following up of cerebral palsy patients – the ICT4Rehab project*. *Medecine & Sciences*, 2013, 29(5), 529-536.
- T. Chapman, P. Semal, S. Louryan, M. Rooze, **S. Van Sint Jan**. *Stand up and walk! Application of the musculo-skeletal modelling software 'IhpFusionBox' to a paleoanthropological problem*. *Medecine & Sciences*, 2013, 29(6), 623-629.
- Sholukha V, Chapman T, Salvia P, Moiseev M, Euran F, Rooze M, **S. Van Sint Jan**. *Femur shape prediction by multiple regression based on quadric surface fitting*. *Journal of Biomechanics*, 2011, 44:712-718.
- Dugailly P, Sobczak S, Moiseev F, Sholukha S, Salvia P, Feipel V, Rooze M, **S. Van Sint Jan**. *Musculoskeletal modeling of the suboccipital spine: kinematics analysis, muscle lengths and muscle moment arms during axial rotation and flexion extension*. *Spine*, 2011, 36:413-422.
- S. Sobczak, P. Salvia, P. Dugailly, P. Lefèvre, V. Feipel, **S. Van Sint Jan**, M. Rooze. *Use of embedded strain gages for the in-vitro study of proximal tibial cancellous bone deformation during knee flexion-extension movement: development, reproducibility and preliminary results of feasibility after frontal low femoral osteotomy*. *Journal of Orthopaedic Surgery and Research*, 2011, 6:12.
- Fenner J, McCormack K, Pinney D, Brook B, Clapworthy G, Coveney P, Feipel V, Gregersen H, Hose R, Kohl P, Lawford P, Thomas S, **S. Van Sint Jan**, Waters S., Viceconti M. *The Europhysiome, STEP and a roadmap for the Virtual Physiological Human*. *Philosophical Transactions of the Royal Society*, 2008, 366, 2979-2999. [International paper related to the VPH vision.]
- Viceconti M, Clapworthy G, **S. Van Sint Jan**. *The Virtual Physiological Human – An European initiative for in silico human modeling*. *Journal of Physiological Sciences*, 2008, 58:441-446.
- **S. Van Sint Jan**, Demondion X, Louryan S, Clapworthy G, Rooze M, Cotton A, Viceconti M. *Multimodal Visualisation Interface for Data Management, Self-learning and Data Presentation*. *Surgical and Radiological Anatomy*, 2006, 28:518-524.
- V. Sholukha, A. Leardini, P. Salvia, , M. Rooze, **S. Van Sint Jan**. *Double-step registration of in vivo stereophotogrammetry with both in vitro electrogoniometry and CT medical imaging*. *Journal of Biomechanics*, 2006, 39:2087-2095.
- Viceconti M, Testi D, Taddei F, Martelli S, Clapworthy G, **S. Van Sint Jan**. *Biomechanics modelling of the musculo-skeletal apparatus: status and key issues*. *Proceedings of the IEEE*, 2006, 94:725-739.
- **S. Van Sint Jan**, Salvia P, Feipel V, Sobzack S, Rooze M, Sholukha V. *In vivo registration of both electrogoniometry and medical imaging: development and application on the ankle joint*. *IEEE Transactions on Biomedical Engineering*, 2006, 53:759-762.
- **S. Van Sint Jan**. *Introducing Anatomical and Physiological Accuracy in Computerized Anthropometry for Increasing the Clinical Usefulness of Modeling Systems*. Invited publication in *Critical Reviews of Physical and Rehabilitation Medicine*, 2005, 17(4): 249-274.
- **S. Van Sint Jan**, Della Croce U. *Accurate palpation of skeletal landmark locations: why standardized definitions are necessary. A proposal*. *Clinical Biomechanics*, 2005, 20:659-660.
- **S. Van Sint Jan**, Crudele M, Gashegu J, Feipel V, Poulet P, Salvia S, Hilal I, Sholukha V, Louryan S, Rooze M. *Development of Multimedia Learning Modules for Teaching Human Anatomy: Application to Osteology and Functional Anatomy*. *The Anatomical Record – The New Anatomist*, 2003, 272:98-106.



Research monographs

- **S. Van Sint Jan.** *Introducing Anatomical and Physiological Accuracy in Computerized Anthropometry for Increasing the Clinical Usefulness of Modeling Systems.* Critical Reviews of Physical and Rehabilitation Medicine, 2005, 17(4): 249-274.
- **S. Van Sint Jan.** *Color Atlas of Skeletal landmark definitions. Guidelines for reproducible manual and virtual palpations.* Churchill Livingstone - Elsevier, 2007. Translated to Japanese (2008) and Korean (2009).

Organisation of international conferences

- Member of the Scientific Committee of the 9th International Conference on Pervasive Health, 2015, Turkey.
- Member of the Scientific Committee of the 2nd International Symposium on Digital Human Modelling, 2013, USA.
- Member of the Scientific Committee of the 14th International Symposium on Computer Simulation in Biomechanics, 2013, Brazil.
- President of the Scientific Committee of the 23rd Congress of the International Society of Biomechanics, 2011, Belgium.
- Member of the Scientific Committee of the 13th International Symposium on Computer Simulation in Biomechanics, 2009, Belgium.
- Member of the Scientific Committee of the 19th Hand and Upper Limb International Symposium, 2010, Belgium.
- Member of the Scientific Committee and Organizing Committee of the First Symposium of the Virtual Physiological Human, 2010, Belgium.
- Member of the Scientific Committee of the 12th International Symposium on Computer Simulation in Biomechanics, 2009, South Africa.
- Member of the Scientific Committee of the 11th International Symposium on Computer Simulation in Biomechanics, 2007, Taiwan.
- President of the Scientific Committee of the 9th International Symposium on the 3-D Analysis of Human Movement, International Society of Biomechanics, 2006, Valenciennes, France.
- President of the Organizing Committee of the 2nd EuroPhysiome STEP Event, 2006 (November), Belgium.
- President of the Organizing Committee of the 1st EuroPhysiome STEP Event, 2006 (May), Belgium.
- Key Session Chairs:
 - “*Musculoskeletal Modeling for Problem Solving in Rehabilitation*”, 17th Congress of the European College of Sport Science, 2012, Bruges, Belgium.
 - “*How to increase the clinical usefulness of current motion analysis and modeling systems?*”, 20th Congress of the International Society of Biomechanics, 2005, Cleveland, USA.
 - “*Computer Simulation*”, 14th Congress of the European Society of Biomechanics, 2004, 's-Hertogenbosch, The Netherlands.

Key invited presentations to peer-reviewed internationally established conferences and advanced schools



- “*La mesure du mouvement sans capteurs est-elle applicable en Clinique?*”, 24th Congress of the SOFAMEA, 2015, Genève, Switzerland.
- “*Making the links between rehabilitation and musculoskeletal modeling: requirements and tools*”, 17th Congress of the European College of Sport Science, 2012, Gent, Belgium.
- “*Data digitising and data registration for anatomically correct modelling of the musculo-skeletal system (medical imaging, dissection and motion analysis) – The EuroPhysiome context*”, International Summer School Advances in Medical Imaging of the International Society for Photogrammetry and Remote Sensing, 2006, Greece.
- “*Towards an advanced clinical expert system for patient-specific modeling and musculo-skeletal (MS) analysis?*”, 20th Congress of the International Society of Biomechanics, 2005, USA.
- “*Advanced modelling and simulation of the lower limb using medical imaging, electrogoniometry and gait analysis data*”, 7th International Symposium on the 3-D Analysis of Human Movement of the International Society of Biomechanics, 2002, United Kingdom.

Patents (pending because recent applications)

- US Provisional Patent : LibraBoard, EFS ID : 22231282, Application number : 62155666 (April 2015).
- European Patent Application: Human Motion Tracking, PCT application number: EP2015/058672.