Curriculum vitae:

Contact information

Pauwel Goethals
Bloemsehoeve 58
3200 Aarschot
Belgium

Mobile: +32 499 194157
Telephone: +32 16 301074

e-mail: pauwel.goethals@groept.be

Date of birth: June 20th, 1982
Place of birth: Leuven, Belgium

Gender: Male

Education

Diploma July 2005 at KU Leuven:
Master in mechanical engineering, specialisation **mechatronics**
Teacher education Physics – KU Leuven July 2007
PhD in Engineering Sciences – KU Leuven January 2011

Master thesis:
"Development of a ferrofluidic seal for a linear, hydraulic micro actuator"

PhD-thesis:
"Development of a tactile feedback system for robot assisted minimally invasive surgery"

Work experience

2005-2011: doctoral student at Katholieke Universiteit Leuven, department of mechanics, division PMA

2009-2013: assistant professor at Group T, International University College Leuven, KU Leuven Association

2013-now: professor at Group T, International University College Leuven, KU Leuven Association
Courses: Bachelor project coordinator, Finite element design, Drive systems

Area of expertise

- haptic feedback in general with a focus on tactile feedback
- tactile sensing
- robot assisted minimally invasive surgery
- actuator technology with focus on microactuators and microhydraulics
- mechanical design and machine components

PhD:
P. Goethals, “Development of a tactile feedback system for robot assisted minimally invasive surgery”, PhD-dissertation, Katholieke Universiteit Leuven, Belgium, January 26 2011.

Journal Papers:

M.M. Sette, P. Goethals, J. D’Hooge, H. Van Brussel, and J. Vander Sloten. Algorithms for ultrasound elastography: a survey. Journal of Computer Methods in Biomechanics and Biomedical Engineering, accepted for publication, 2010.

Book Chapters:

Willaert B., Goethals P., Reynaerts D., Van Brussel H., Vander Poorten E., “Transparent and shaped stiffness reflection for telesurgery”, Advances in Haptics, In-Tech, 2010, pp. 259-282

P. Goethals. Eten om nooit te vergeten, chapter Fruitlasagne, page 93, 2006. available online: https://sites.google.com/site/fruitlasagne/home

International Conferences:

De Volder M., Goethals P., Eeckhoudt S., Peirs J., Reynaerts D., “A ferrofluid seal technology for hydraulic microactuators”, Proceedings of Actuator 2006, June 2006, Bremen, Germany, pp. 693 – 696

Goethals P., De Gersem G., Sette M., Reynaerts D., Van Brussel H., “Accurate Haptic Teleoperation on Soft Tissues through Slave Friction Compensation by Impedance Reflection”, Proceedings of World Haptics Conference 2007, March 2007, Tsukuba, Japan, pp. 458 – 463 (actieve deelname: poster + paper)

Sette M.M., D’Hooge J., Langeland S., Goethals P., Van Brussel H., Vander Sloten J., “Tactile feedback in minimally invasive procedures using an elastography-based method”, Proceedings of CARS (Computer Aided Radiology and Surgery), Berlin, Germany, June 2007

Goethals P., Willaert B., Sette M., Reynaerts D., Van Brussel H., „Tactile sensing technology for robot assisted minimally invasive surgery”, ISB (International Society of Biomechanics), Taipei, Taiwan, July 2007, Journal of Biomechanics, Vol. 40, nr. S2, p. S647

Goethals P., Lintermans H., Sette M.M., Reynaerts D., Van Brussel H., “Powerful compact tactile display with microhydraulic actuators”, in Proceedings of Eurohaptics, Madrid, Spain, June 2008, pp. 447-457

Goethals P., Sette M.M., Reynaerts D., Van Brussel H., “Flexible elastoresistive tactile sensor for minimally invasive surgery”, in Proceedings of Eurohaptics, Madrid, Spain, June 2008, pp. 573-579

Peeters K., Sette M.M., Goethals P., Vander Sloten J., Van Brussel H., “Design considerations for lateral skin stretch and perpendicular indentation displays to be used in minimally invasive surgery”, in Proceedings of Eurohaptics, Madrid, Spain, June 2008, pp. 325-330

Goethals P., Sette M.M., Van Brussel H., Reynaerts D., "Towards the design of powerful and compact tactile displays", in Proceedings of Actuator, Bremen, Germany, June 2010, pp. 524-527

Goethals P., Van Brussel H., Reynaerts D., "A miniature proportional pneumatic valve for a tactile display", in Proceedings of Actuator, Bremen, Germany, June 2010, pp. 793-796

Van Hoe B., Lamon D., Bosman E., Van Steenberge G., Missinne J., Goethals P., Krassimir P., Reynaerts D., Vanfleteren J., Van Daele P., "Embedded high resolution sensor based on optical feedback in a vertical cavity surface emitting laser", in Proc. SPIE 7648, March 2010, 76480N

National Conferences:

Goethals P., Van Brussel H., Reynaerst D., Nuttin M., Vander Sloten J., "Tactile feedback for robot assisted endoscopy", AMS Workshop, Belgium, Leuven, K.U.Leuven, 9 nov 2005

De Volder M., Goethals P., Eeckhoudt S., Reynaerts D., "A ferrofluid seal technology for hydraulic microactuators", AMS Workshop, Belgium, Leuven, K.U.Leuven, 6 dec 2006

Goethals P., Sette M.M., Reynaerts D., Van Brussel H., "Flexible elastoresistive tactile sensor for minimally invasive surgery", Flex Stretch Electronics II: 2nd international workshop on flexible & stretchable electronics, Belgium, Ghent, 16-18 November 2009

Goethals P., Reynaerts D., Van Brussel, H., "A miniature proportional valve for a tactile display, National Day on Biomedical Engineering 2011

Goethals P., Reynaerts D., Van Brussel, H., "Pneumatic Tactile Display Controlled by a Miniaturised Proportional Valve", 9th National Congress on Theoretical and Applied Mechanics May 9-11, Brussels, Belgium

Goethals P., Chaobal H., Reynaerts D., Schaner D., "Tactile sensor for correct endotracheal tube placement", National Day on Biomedical Engineering 2012, December 7, Brussels, Belgium

Awards:

Best Demo Award: Dutch-Belgian Haptics meeting 11, België, Leuven, K.U.Leuven, 8 maart 2011, sponsored by MOOG, selected by Piet Lamertse en Prof. Y. **Yokokohji** (University of Kobe)