UNIVERSITÉ LIBRE DE BRUXELLES

Alain Delchambre

Curriculum Vitae

Short CV

2001 - : Full professor at the Ecole polytechnique de Bruxelles (ULB).
1994 - 2001 : Assistant professor at the Ecole polytechnique de Bruxelles (ULB).
1987 - 1994 : Head of the department "Design, methods and assembly equipment" in the Industrial automation section of the CRIF (Metal Manufacturing Industry Research Centre).
1986 : Engineer in charge of the Machine Automation department at Ateliers SCHLUMPF s.p.r.l. (SME active in the design and manufacture of stainless steel equipment for the nuclear, textile and brewing industries).
1985 - 1986 : Military service in the Land Force Technical Service.
1983 - 1985: Research and development engineer at Ateliers SCHLUMPF sprl.

Education

Courses

Classical mechanics (5 credits, titular) – BA1 IR
Kinematics and dynamics of machines (5 credits, co-titular) – BA3 IR
Design methodology (5 credits, titular) – MA1 IR EM/BIOMED

Management responsibilities

2019- : Co-director of the ULB FabLab
2018- : Director of the Beams (Bio, Electro And Mechanical Systems) department
2011-2014: President of the ULB Board
2006-2010: Dean of the Ecole polytechnique de Bruxelles
2005-2006: Vice-Dean of the Ecole polytechnique de Bruxelles

Scientific profile

ORCID ID: 0000-0002-6047-1002
ISI-ranked journal papers: 58 # Peer-reviewed conference papers: 127
Citations (Researchgate): 3121
h-index (Scopus): 24 h-index (Google): 32

Five main publications

Decroly, G., Toncheva, A., Blanc, L., Raquez, J.-M., Lessinnes, T., Delchambre, A., & Lambert, P. (2020). Programmable Stimuli-Responsive Actuators for Complex Motions in Soft Robotics: Concept, Design and Challenges. Actuators, 9(4), 131. doi:10.3390/ act9040131

Mertens, B., De Leener, B., Debeir, O., Beumier, C. M., Lambert, P., & Delchambre, A. (2013). Robust Structured Light Pattern for Use with a Spatial Light Modulator in 3-D Endoscopy. International Journal of Optomechatronics, 7(2), 105-121. doi:10.1080/15599612.2013.785041

De Greef, A., Lambert, P., & Delchambre, A. (2009). Towards flexible medical instruments: Review of flexible fluidic actuators. Precision engineering, 33, 311-321 – 192 citations

Falkenauer, E., & Delchambre, A. (1992). A genetic algorithm for Bin Packing and Line Balancing. In Proceedings : 1992 IEEE International Conference on Robotics and Automation (pp. 1186-1192) Los Alamitos, Calif.: IEEE Computer Society Press - 407 citations

Delchambre, A. (1992).
Computer-aided Assembly Planning. London: Champan & Hall. doi:10.1007/978-94-011-2322-8 - 161 citations

Other scientific output and impact (only mention most relevant)

Published books

Rekiek B., Delchambre A. (2006). Assembly line design. The balancing of mixed-model hybrid assembly lines with genetic algorithms.
Springer series in advanced manufacturing.

De Lit, P., & Delchambre, A. (2003). Integrated Design of a Product Family and Its Assembly System. Dordrecht: Kluwer Academic Publishers. doi:10.1007/978-1-4615-0417-7

Delchambre, A. (1996). CAD Method for Industrial Assembly: Concurrent Design of Products, Equipment and Control Systems. New York: John Wiley & Sons, Inc.

Delchambre, A. (1992). Computer-aided Assembly Planning. London: Champan & Hall. doi:10.1007/978-94-011-2322-8

Valorization experience and industrial collaboration

Patents

Shape memory surgical needle
Nutritive composition
Surgical instrument preferably with temperature control
Method of selective catheterism of an anatomical structure using a guide
Tubular element for orthopaedic immobilisation
Device for cold plasma treatment, cold plasma endoscopic system, and method for generating and transporting a cold plasma
Endoscopic non-contact measurement device
Device for shearing tissue
Guide for catheterism
Support d' instruments comprenant une bague et montable sur un endoscope

Spinoff companies and technology licensing

Optimal design
Amia systems
Noho
EndoTools Therapeutics
Lys Medical