



40 ans d'aventure scientifique et humaine

Le LAAS célèbre cette année 40 ans d'existence. Créé en 1968 comme unité propre de recherche du CNRS, le « Laboratoire d'automatique et de ses applications spatiales » s'est très vite développé, avec un parti pris d'anticipation, dans d'autres disciplines qui allaient profondément modifier la vie scientifique, et révolutionner jusqu'à notre vie quotidienne : l'informatique, les micro et maintenant nanotechnologies, la robotique et l'intelligence artificielle. Sans changer d'acronyme tout en tenant compte des évolutions de ses thématiques de recherche, il deviendra en 1973 le « Laboratoire d'automatique et d'analyse des systèmes » puis en 1994 ce qu'il est aujourd'hui, le « Laboratoire d'analyse et d'architecture des systèmes ». Qu'en est-il aujourd'hui dans ces domaines qui connaissent une évolution si rapide ? Quels sont les apports croisés d'une discipline à l'autre ? Comment, fort des avancées d'hier et d'aujourd'hui, se dessine demain ? Des scientifiques talentueux et renommés dans leur domaine, que le LAAS est honoré d'inviter, apportent leur éclairage dans un cycle de conférences tout au long de l'année 2008.



Laboratoire d'Analyse
et d'Architecture
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Cycle de
conférences
du LAAS-CNRS
40^e anniversaire

Robotics: Shaped by and Shaping the World in 2000 to 2050

par

Rodney Brooks

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& Computer Science Department,
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Vendredi 5 décembre 2008

à 10h 30

LAAS-CNRS, salle de conférences



1968-2008

l'orateur



r é s u m é

As the 21st century has dawned, we have seen a dramatic uptake of robots for unstructured environments; already from zero to thousands of ground robots in the US military, and from zero to many millions of home cleaning robots world wide.

The technology of robots for unstructured environments is able to ride the coattails of many large scale deployments in other industries, from cell phones to safer automobiles. At the same time, the demand for more robotics is being driven by demographics and changing expectations of safe, healthy, and satisfying working conditions.

By 2050, we can expect to see wide scale deployment of robots throughout all aspects of our homes, our service sector, and primary and secondary industries. These robots will start as tele-oped or for simple applications, but will gradually become human assistants, and move towards more and more autonomous complex applications.

Rodney Brooks is Panasonic Professor of Robotics in the Electrical Engineering & Computer Science Department (EECS) at the Massachusetts Institute of Technology (MIT). He is also Chief Technical Officer of iRobot Corp (NASDAQ: IRBT). From 1997 - 2003 and from 2003 - 2007, respectively, he was Director of the MIT Artificial Intelligence Lab and Director of the Computer Science and Artificial Intelligence Laboratory (CSAIL). He received degrees in pure mathematics from the Flinders University of South Australia and the Ph.D. in Computer Science from Stanford University in 1981. He held research positions at Carnegie Mellon University and MIT, and a faculty position at Stanford before joining the faculty of MIT in 1984. His research is concerned with both the engineering of intelligent robots to operate in unstructured environments, and with understanding human intelligence through building humanoid robots. He has published papers and books in model-based computer vision, path planning, uncertainty analysis, robot assembly, active vision, autonomous robots, micro-robots, micro-actuators, planetary exploration, representation, artificial life, humanoid robots, and compiler design.

Dr. Brooks is a Member of the National Academy of Engineering (NAE), a Founding Fellow of the Association for the Advancement of Artificial Intelligence (AAAI), a Fellow of the American Academy of Arts & Sciences (AAAS), a Fellow of the American Association for the Advancement of Science (the other AAAS), a Fellow of the Association for Computing Machinery (ACM), a Corresponding Member of the Australian Academy of Science (AAS) and a Foreign Fellow of the Australian Academy of Technological Sciences and Engineering (ATSE). He won the Computers and Thought Award at the 1991 IJCAI (International Joint Conference on Artificial Intelligence). He has been the Cray lecturer at the University of Minnesota, the Mellon lecturer at Dartmouth College, and the Forsythe lecturer at Stanford University. He was co-founding editor of the International Journal of Computer Vision and is a member of the editorial boards of various journals including Adaptive Behavior, Artificial Life, Applied Artificial Intelligence, Autonomous Robots and New Generation Computing. He starred as himself in the 1997 Errol Morris movie "Fast, Cheap and Out of Control" named for one of his scientific papers, a Sony Classics picture, available on DVD.