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ROBOT REPRODUCTION

Date: April 18 2019
Location: Room HG-11A33
Time: 13.00-14.30

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At VU, for several years now, the Computational Intelligence Group performs research on robot evolution. A system where robots reproduce and evolve forms a novel research instrument that allows previously impossible studies into evolution and the emergence of intelligence. Using robots here means using a mechatronic substrate instead of the biological substrate we know from nature. Reproduction of robots, meanwhile, also evokes ethical questions, primarily regarding the control of the process, in view of potential dangers. How is this secured when robots reproduce and evolve? In other words, how can we prevent runaway evolution? A crucial aspect here is the unpredictability of evolutionary artificial intelligence processes that may yield unexpected solutions to the problems they are confronted with. This means that robotic AI processes may also try to find – unforeseen – ways to evade the control system. And when robots reproduce, couldn’t they become a form of artificial life? Would this create a duty to protect and respect robots? In principle, such respect could limit the possibilities to control the robot, including its reproduction. In this presentation, we will provide some background of our recently started project on robot evolution and discuss its central aims, in particular those pertaining to ethical issues.