2nd of May 2022

To: CoR staff  
 RO/VE/BR/HI students

Subject: **student colloquia Cognitive Robotics**

We are pleased to invite you to attend the literature and introductory colloquia:

**Monday May 2nd , 08.45-10.45**  
 TU Delft 3me hall E physically present

1. **14.00– 14.30 hrs**
2. **14.30- 15.00 hrs**
3. **15.00-15.30 hrs**

**(14.00)** **Rosa Maessen**

**Title: Robotic Skill Learning: How a novice robot becomes an expert**

**Abstract:**

In the past, the robot's behavior was directly programmed which had the disadvantage of not being able to adapt to changes in the environment, as each action had to be predefined. This inability to adapt to changes is especially undesired when working alongside humans, as safety is a key priority. In addition, it might be desired that these robots would be used for tasks or conditions different from their original purpose. This could, of course, be done by reprogramming the robots, however, this is again time-consuming. Therefore, the topic of robotic learning has increased in popularity. In the literature review, the idea of robotic learning was examined. Two main types of skill learning methods are Imitation Learning (IL) and Reinforcement Learning (RL). The former uses demonstrations, exerted by a (human) expert to learn a behavior, whereas the latter uses a trial-and-error approach to do so. Often these methods try to find a policy that best describes the desired behavior.

*Supervisors: Luka Peternel and David A. Abbink*