



Kolloquium zur Masterarbeit

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***„Robot communication and coordination with a group of Humans while passing them in a confined space“***

With the arrival of Robots into our homes and our workspace, it is essential that we as humans need to interact with them in very close proximity when sharing narrow, confined spaces. With that proximity brings in the question of the Robot's acceptability by Humans. This acceptability depends on the human's perception of the Robot. Although much research is available on human-robot interaction, it primarily focuses on one-robot and one-human interaction. Extending this human-robot interaction between robots and groups of humans, especially within confined spaces, will bring new challenges that need to be unraveled. In such environments where a robot and a group of humans have to pass each other without collision, sufficient negotiations between the Robot and the group of Humans and between humans of the group is necessary for a safe pass-by. Also, making this multiple humans and one robot interaction raises the question of how a robot's behavior affects human's perception of Robots and human's perception of their fellow teammates. We have implemented an experiment scenario to vary the Robot's behavior in a corridor while passing the group in six different ways and investigated how these behaviors change the social dynamics among the group and how it affected the group's perception of the Robot. Results from 24 Indian participants within-subjects research indicate that participants preferred the behavior which would allow them to cross the Robot from their left direction and preferred the Robot turning its body and waiting for humans to pass while crossing them in a narrow corridor. Results also indicate no significant difference in the relationship between participants based on Robot's behavior. The results show the accepted way of designing a robot's behavior while encountering a group of humans in a narrow corridor.

**Donnerstag, 08.12.2022, 08:30 Uhr**

**Videokonferenz: BBB <https://webconf.tu-clausthal.de/b/jor-a6p-een>**