

# Serial arm singularities

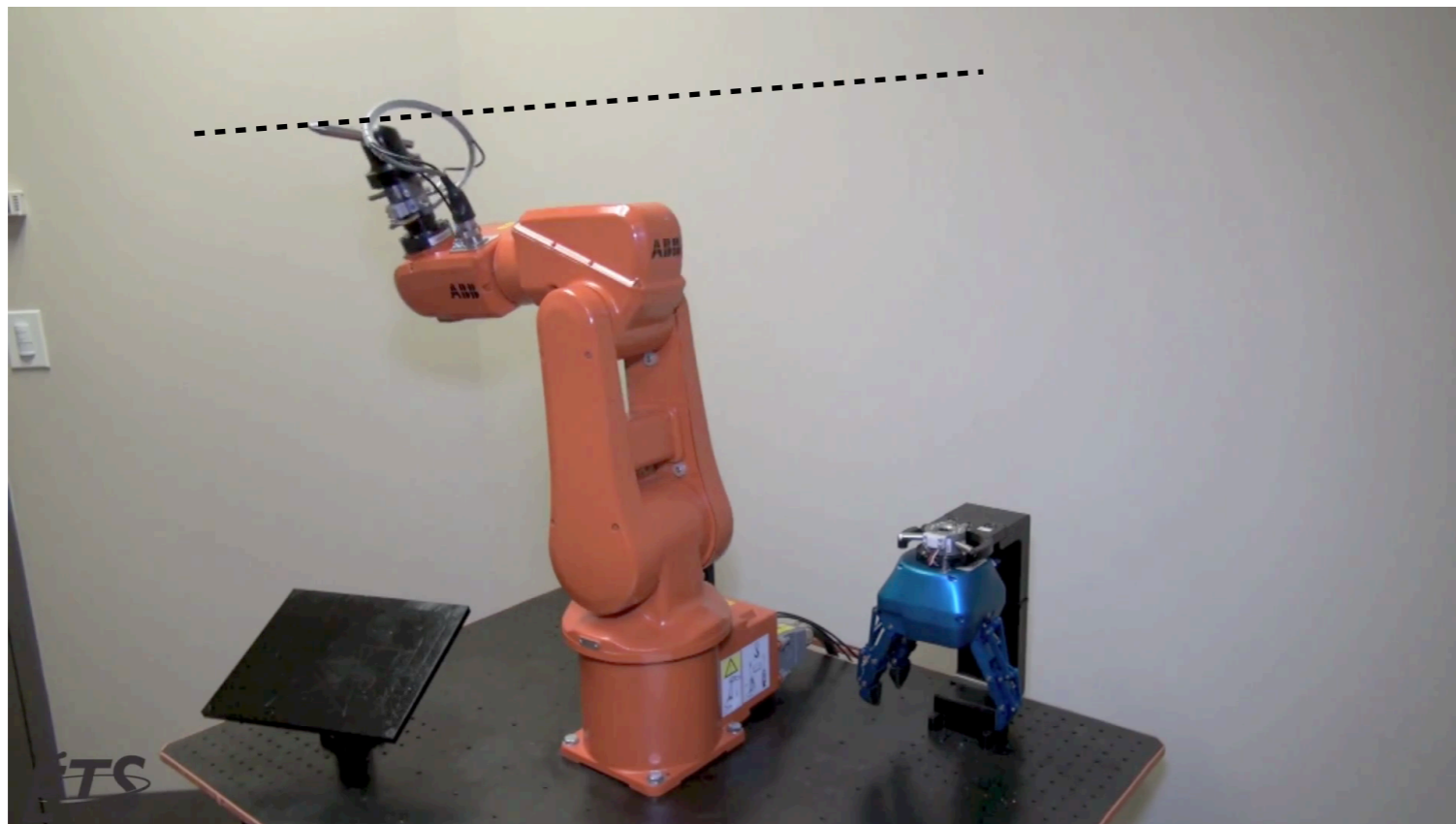
Videos courtesy of Prof. [Ilian Bonev](#)  
École de Technologie Supérieure, Montreal



<http://youtu.be/zlGCurgsqg8?t=31s>

## Internal velocities

Joint angular velocities that yield a null end-effector twist



<http://youtu.be/zlGCurgsqg8?t=1m2s>

## Overspeeding

when tracking paths near singularities

The end-effector speed has to be decreased near the singularities, to limit the amount of overspeeding

# The full videos

<http://youtu.be/zlGCurgsqg8>

<http://youtu.be/FjoYt-KTZpg>