

Evaluation of Virtual RCM for MIS

- Minimally invasive surgery (MIS) imposes a remote center of motion (RCM) constraint at the trocar. This project evaluates, via simulation, conventional robots with da Vinci instruments and a software-imposed (virtual) RCM.
- **What Students Will Do:** (1) Implement a virtual RCM for various robots and da Vinci instruments in the AMBF simulator, (2) evaluate performance using recorded da Vinci instrument motions
- **Deliverables:** models and software integrated with AMBF; report evaluating performance (e.g., range of motion, singularities, collisions between arms, maximum joint velocities)
- **Size group:** 1-2 students
- **Skills:** Dynamic simulation, Python programming, ROS/Linux familiarity
- **Mentors:** Peter Kazanzides (pkaz@jhu.edu), Adnan Munawar (amunawar@jhu.edu)

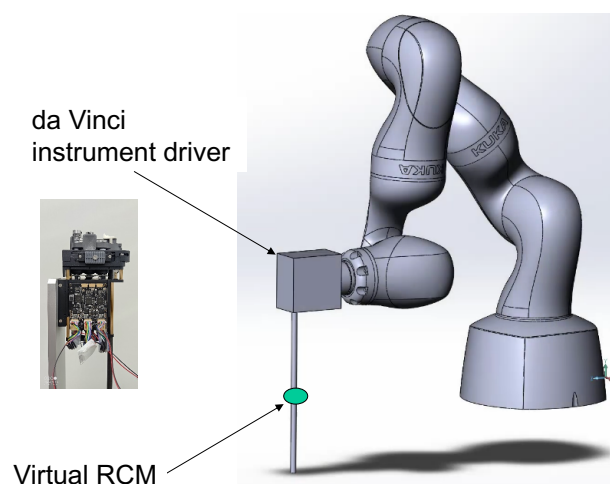
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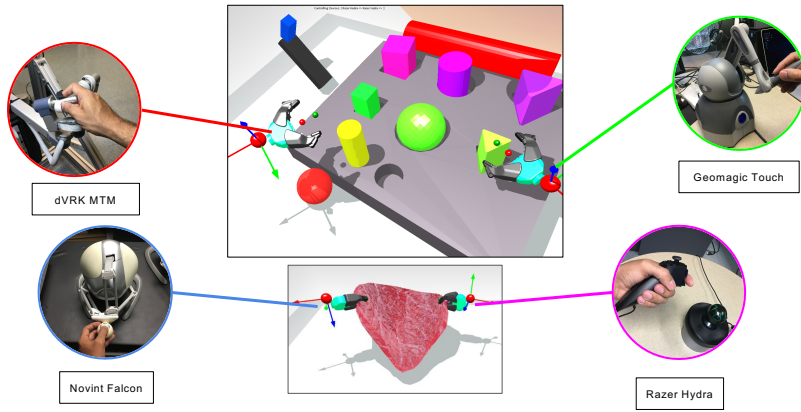


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Asynchronous Multi-Body Framework (AMBF)

<https://github.com/WPI-AIM/ambf>



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