

Augmentation of Teleoperation with Cyberphysical Systems

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The BioRobotics Laboratory at the University of Washington is working to improve robotic surgery by augmenting surgeons with advanced ~~cyber-physical~~ capabilities. Our work comprises three objectives: open network interface providing interoperability among telesurgical systems; developing a methodology or API for flexibly connecting telesurgical robots to assistive agents like automation or virtual fixtures; develop safe feedback control algorithms that use online tissue modeling to minimize unnecessary damage during robotic surgery. Research leverages the Raven surgical system and several developed technologies to create breakthroughs in Cyber-Physical Surgical Systems.