

Telerobotics is a **computer-mediated** interaction with a remote location

# Open Platform for High-Acuity Surgical Treatment With

## Cyberphysical Systems

What is the Cyber role?

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 Safety  
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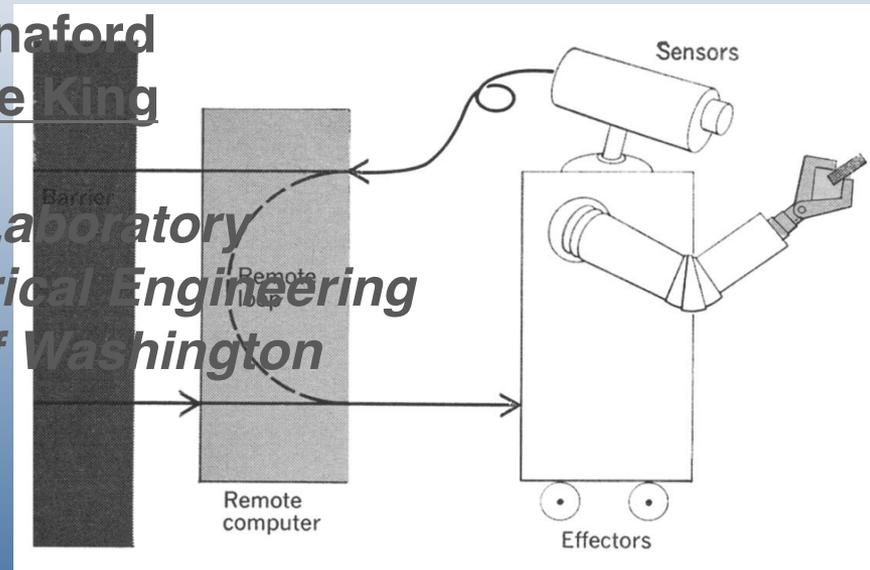
Improve Task Performance

Remote Telepresence

Automation

Compensate Time Delay

*BioRobotics Laboratory*  
*Department of Electrical Engineering*  
*The University of Washington*



# Research Opportunity: Raven II – Open Telesurgery Research Platform



NSF CRI



Individual Contracts



Applied Dexterity

# Research Needs in CPS Surgical Systems

- New architectures for combined human + machine operation
- Detailed modeling of soft-tissue interaction
- Effective and safe human/robot interaction paradigms for traded human/'cyber' control
- Engineering and control design for simultaneous safety and task goals. i.e. tissue aware controllers
- Raven community software support



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