

Bridging the Gap: Towards Realizing Advanced Robotic Hand Prosthetics

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Università
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Education

- European Masters in Advanced Robotics
 - Master of Engineering In Robotics and Control in Warsaw, Poland
 - Master of Science in Advanced Robotics and Applied Informatics in Nantes, France
- Ph.D. in Bioengineering and Robotics
- **Postdoc and Research Group Lead → Robot Systems Research Group, Laboratory for Product Development and Lightweight Design @TUM**

Work

- Research Engineer at Aldebaran Robotics, France
- Senior Fellow at iCub Technologies at IIT, Italy
- Postdoc at Artificial Mechanical Intelligence, IIT, Genoa



ISTITUTO ITALIANO
DI TECNOLOGIA



What's the most satisfying thing I ever built?

*2008

Why have things not changed in 15 years?



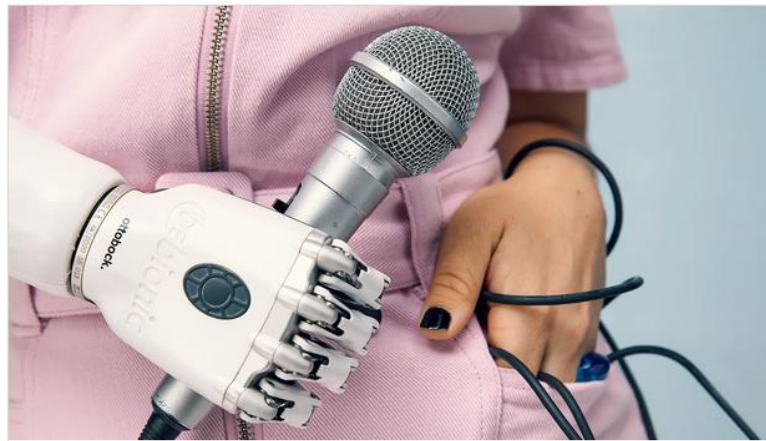




Bebe

"The right hand for the right job"

Bebe's recommendation: an Ottobock SpeedHand for working out and an eye-catching bebionic hand for going out!



Kiersten

"Be ready to raise your voice"

Don't be afraid to speak about your limb difference. Let people know it deserves love, respect, and acceptance.



Shaholly

"Never let them see you sweat"

No matter your body type, no matter your limb difference, just go for it. Show them who you are, because what you are is beautiful.



Cameron

"Always stick to the 5-try rule"

Whatever it is, try 5 times and then give yourself a rest. Try again once you've given your body and mind a chance to reset.



Davide

"Challenge yourself every day"

Never stop pushing yourself to set and achieve new goals. That's how you'll always know you're moving forward.



Gina

"Mindset is absolutely essential"

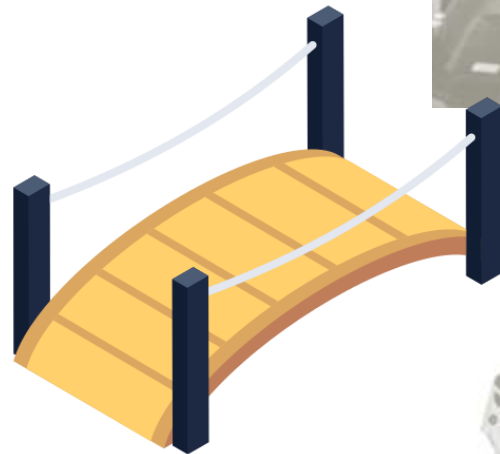
Find a community that can help remind you to be grateful, positive, and focused on what you want to achieve.



Science has sufficiently advanced!



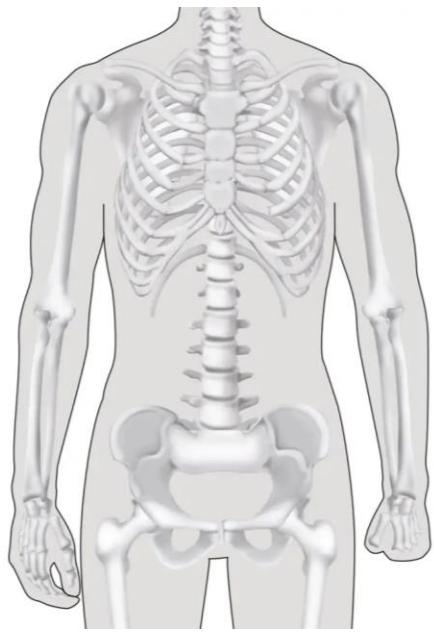
How do we bridge this?



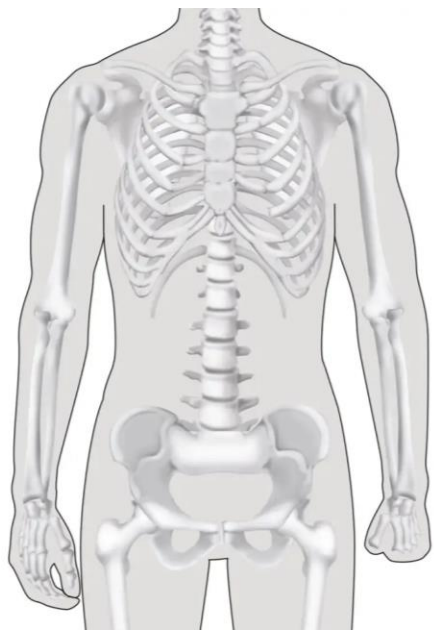
Complexity be thy name

Healthcare Policies	Policy Advocacy	Collaborative Research	Technology Transfer
Community Engagement	Low-Cost Design	Local and Low-Cost Manufacturing	Open Source
Customization	Low-Cost Training	Locally sourced Material	Improving Infrastructure
Monitoring and Evaluation	Tools and Methods	Education and Awareness	Ethical Considerations





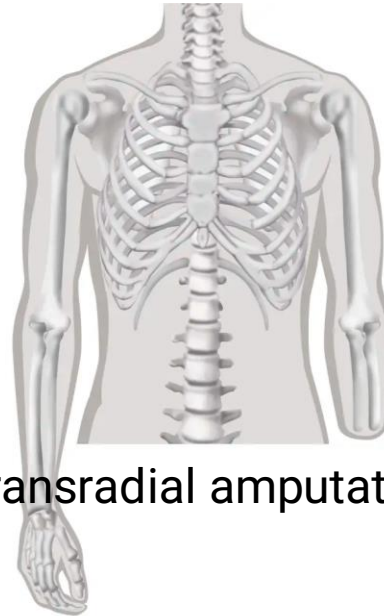
Partial hand/finger
amputation



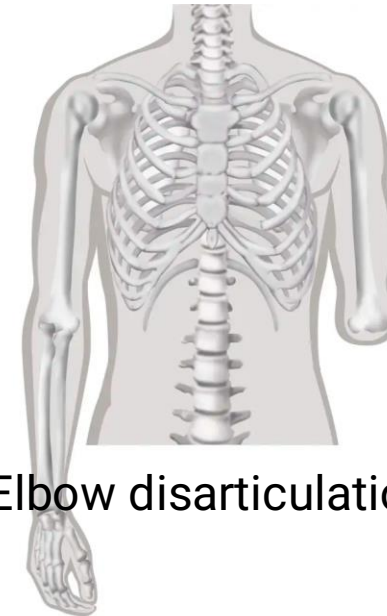
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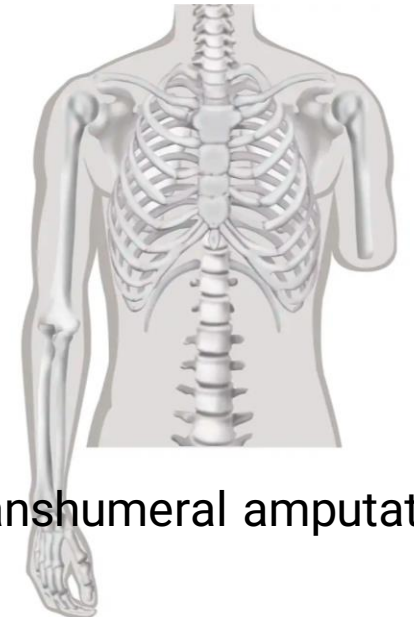
Wrist disarticulation



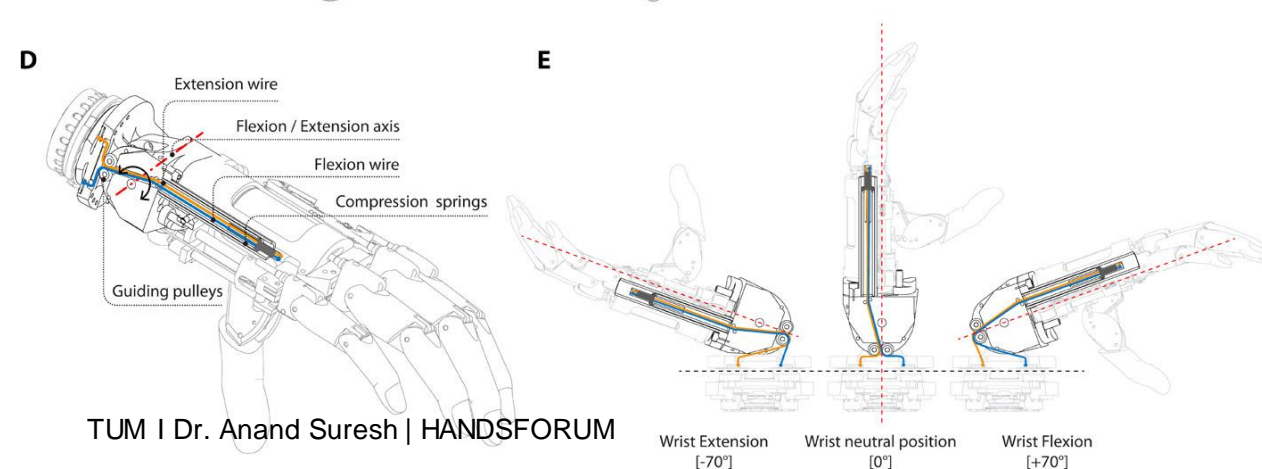
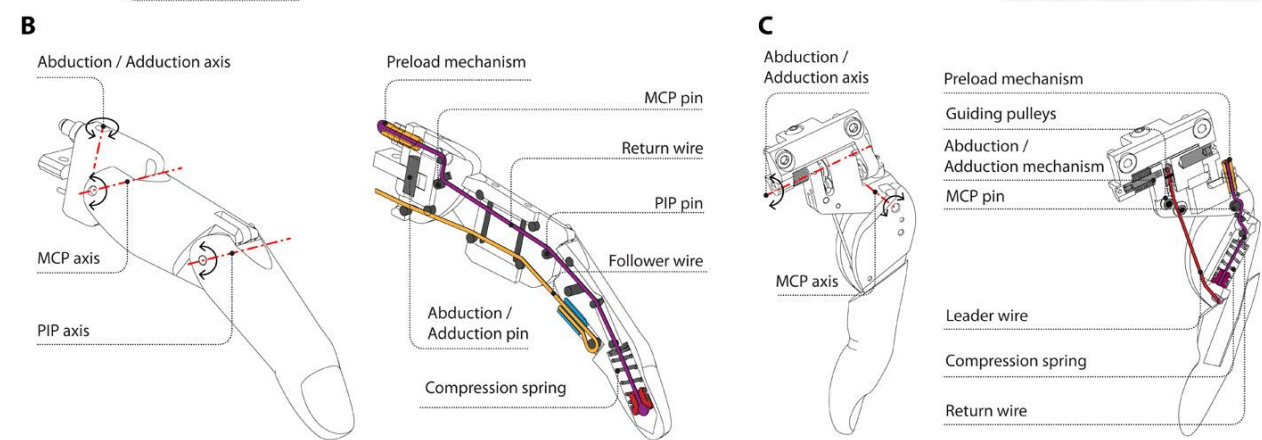
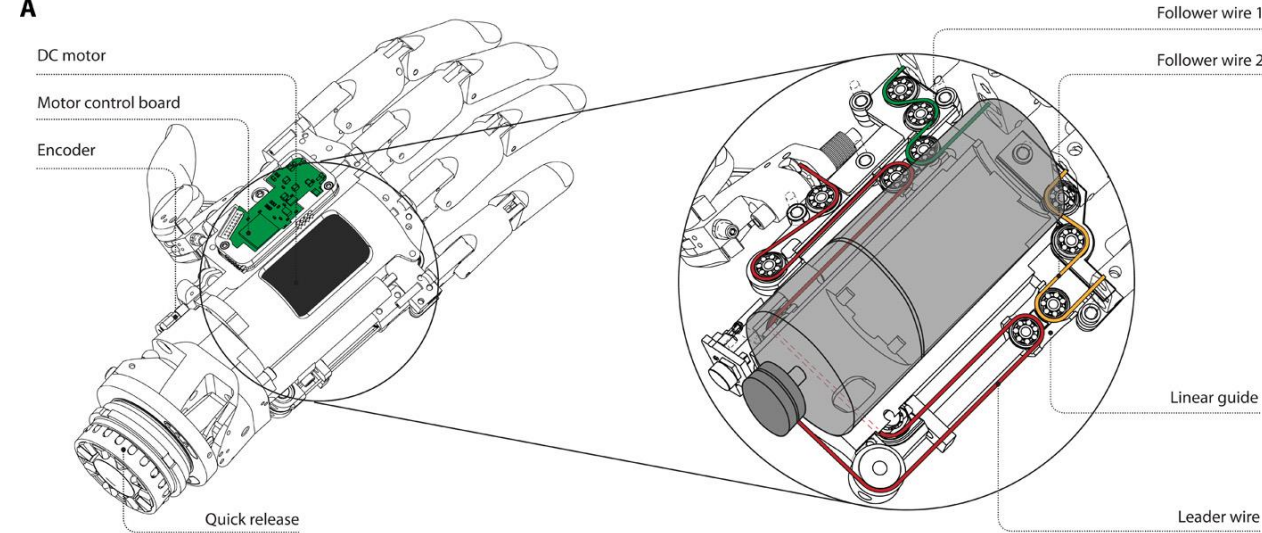
Transradial amputation

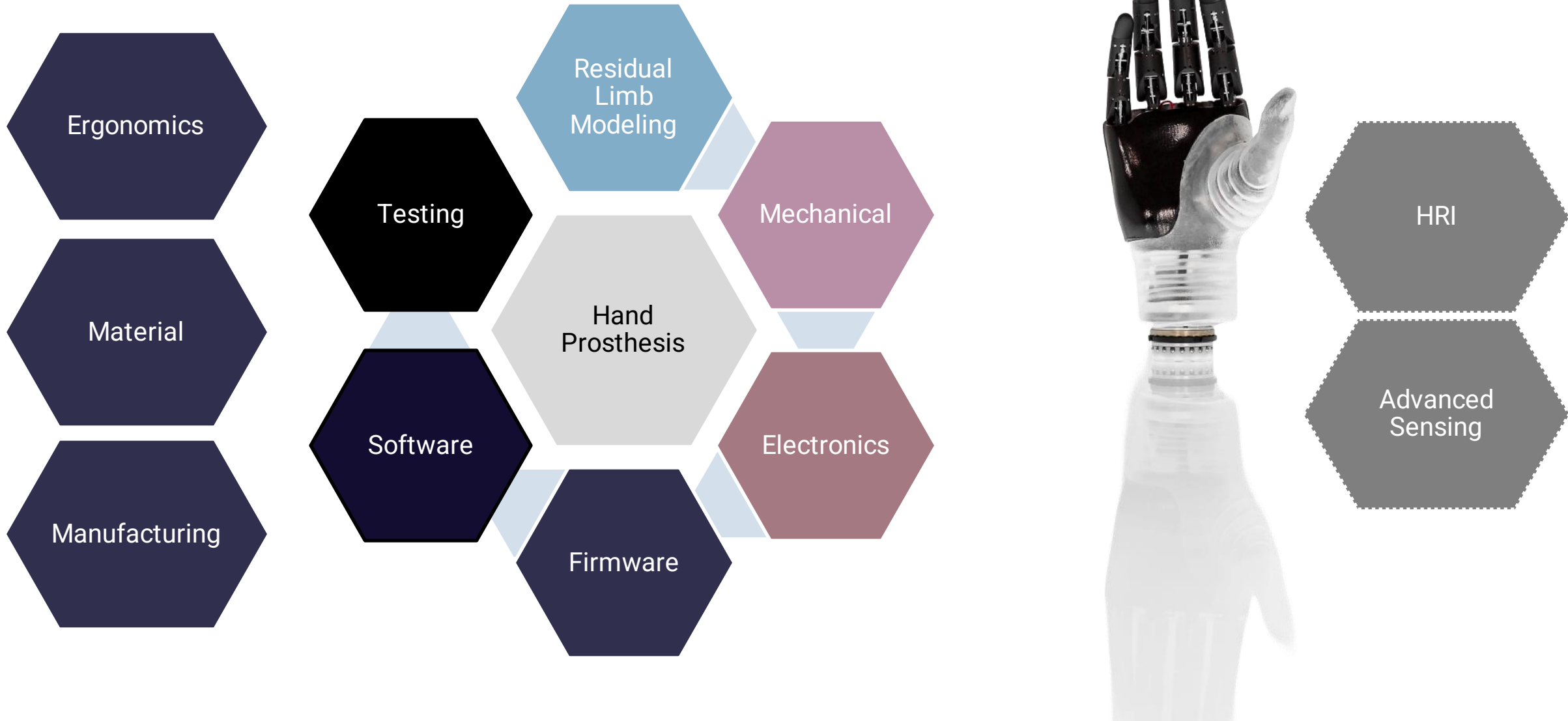


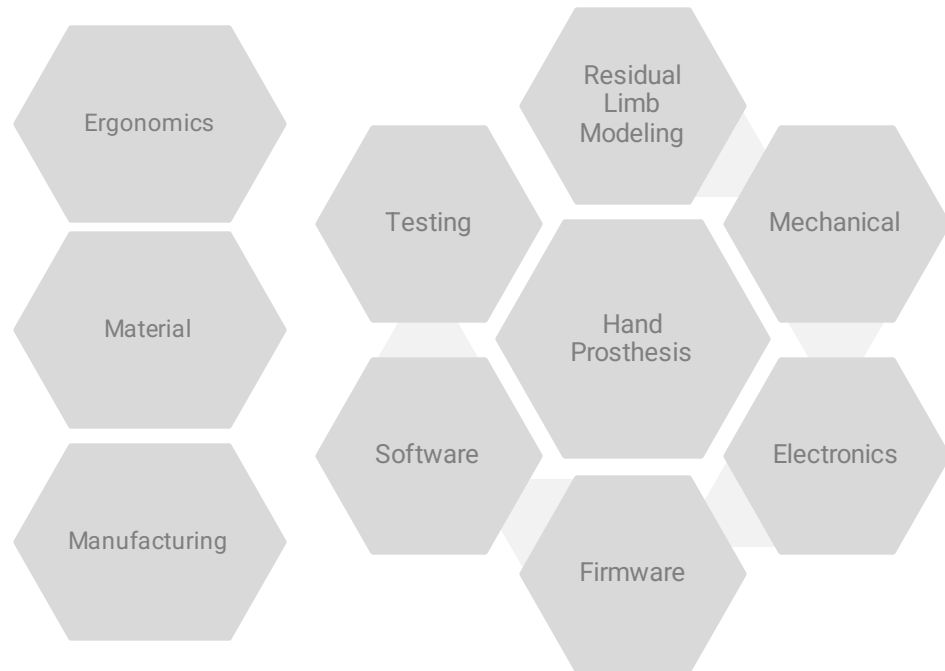
Elbow disarticulation



Transhumeral amputation







Low-Cost Modelling

Design for Low-Cost Manufacturing

Low-Cost Training



Simplify it

Healthcare Policies	Policy Advocacy	Collaborative Research	Technology Transfer
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Curiosity

Well, how do we do it?



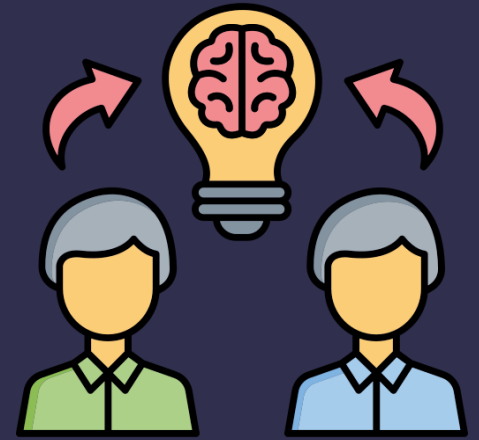
Curiosity



Accessibility



Communication



Knowledge



Pick a niche

Every tool is *not* a
hammer

Be curious

Have fun

Thank you!