



# *You Can't Replace the Face*

## ***Communication Habits in a Technical Workplace; Implications for Educators***



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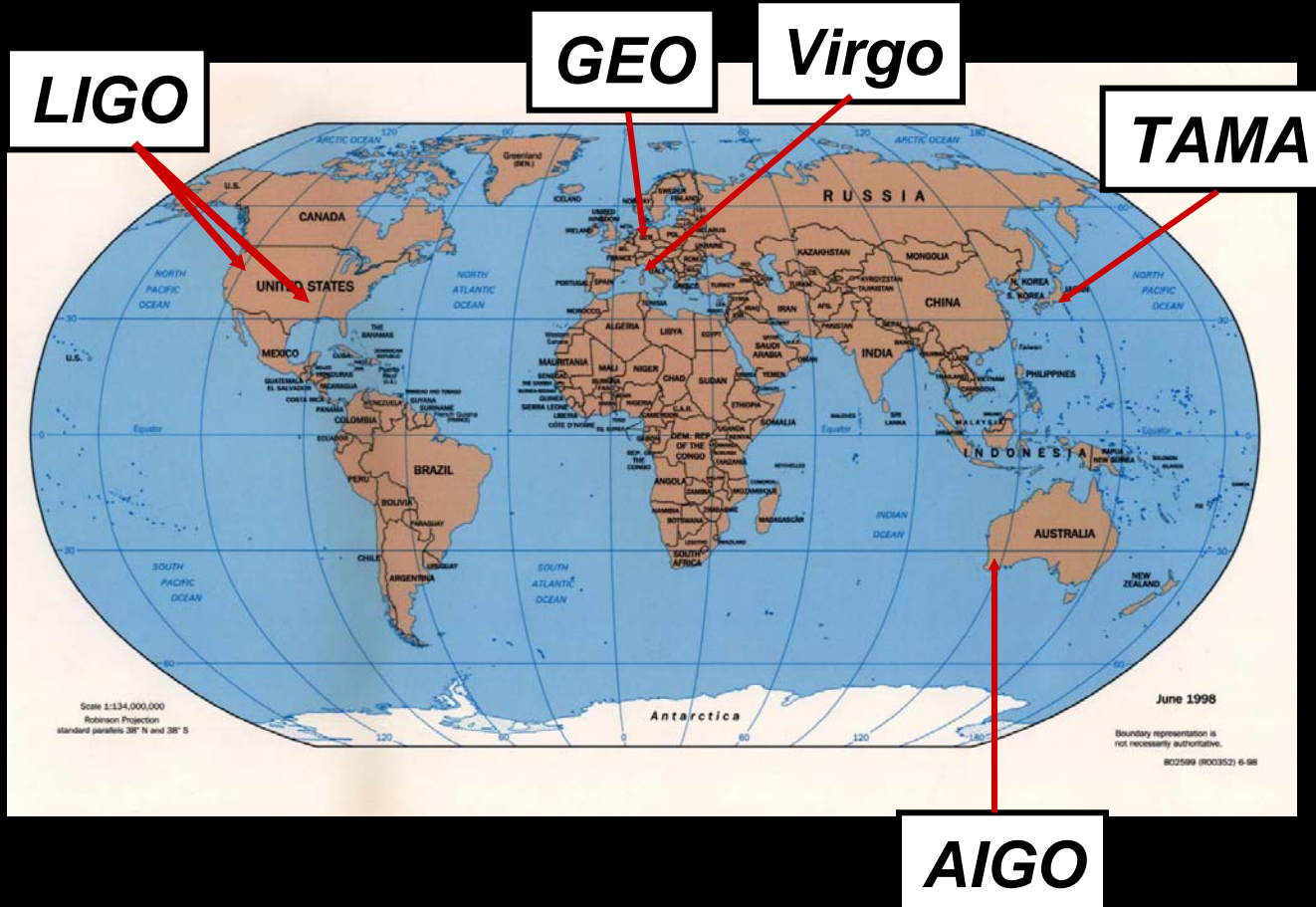
# *LIGO Science*

- Our mission: Detect and characterize the faint signature of gravitational waves
- Two NSF-funded Observatory sites, operated by Caltech and MIT, lead the U.S. effort in this emerging field
- The LIGO Scientific Collaboration: 600(+) scientists at dozens of U.S. and international institutions





*LIGO operates in concert with international partners, forming a worldwide research community of ~2000 individuals*







# *Technology*

- Unprecedented measurement precision requires unprecedented technology
- "I don't think we can design and build something that precise" is not an acceptable point of view



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# *Personnel*

- Ph.D scientists  
postdocs, engineers  
and grad students  
from leading  
physics institutions
- Highly confident,  
highly focused,  
highly collaborative  
low-needs  
individuals





## *Today's question . . .*

- Given the nature of LIGO's enterprise and LIGO's personnel, why does the Collaboration hold at least two large and expensive face-to-face meetings per year?
- Why not videoconference?

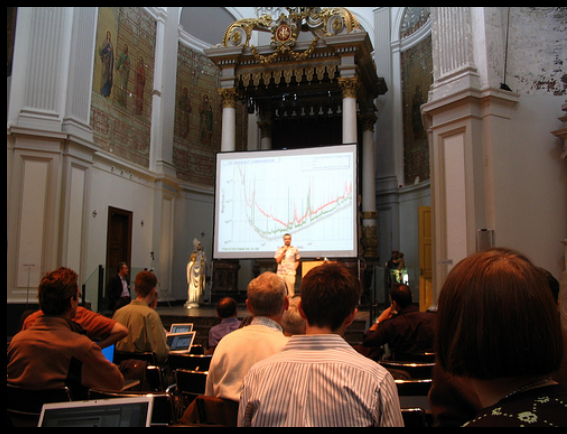






*A major portion of the answer . . .*

• Trust



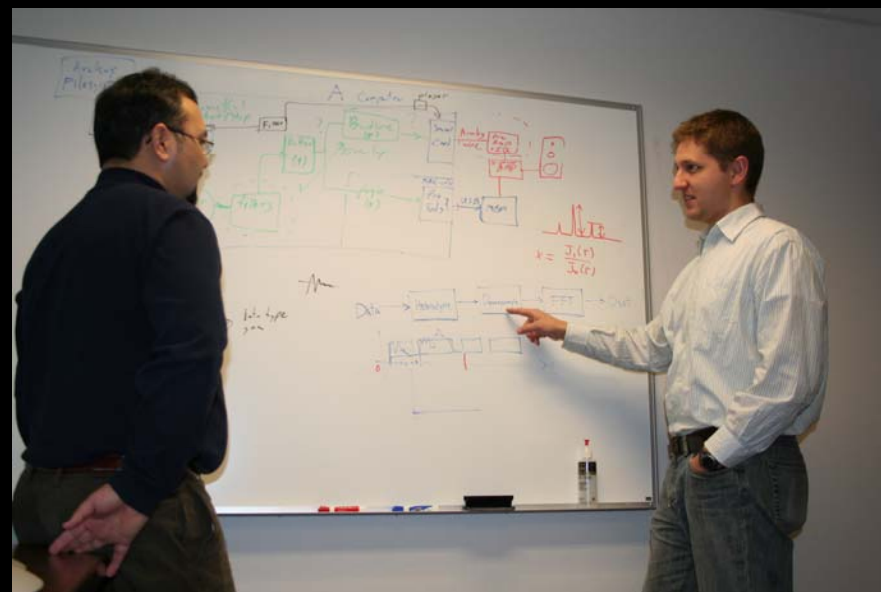
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# *Move this interpersonal dynamic into an educational setting . . .*

- The development of a student's mind involves a similar trust transaction that can only be supported through rich, prolonged face-to-face interchanges







*The intangibles of human potential that arise from healthy teacher-student interactions - self confidence, personal initiative, fearlessness, collaborative skills -are prized in a technical workplace*

