

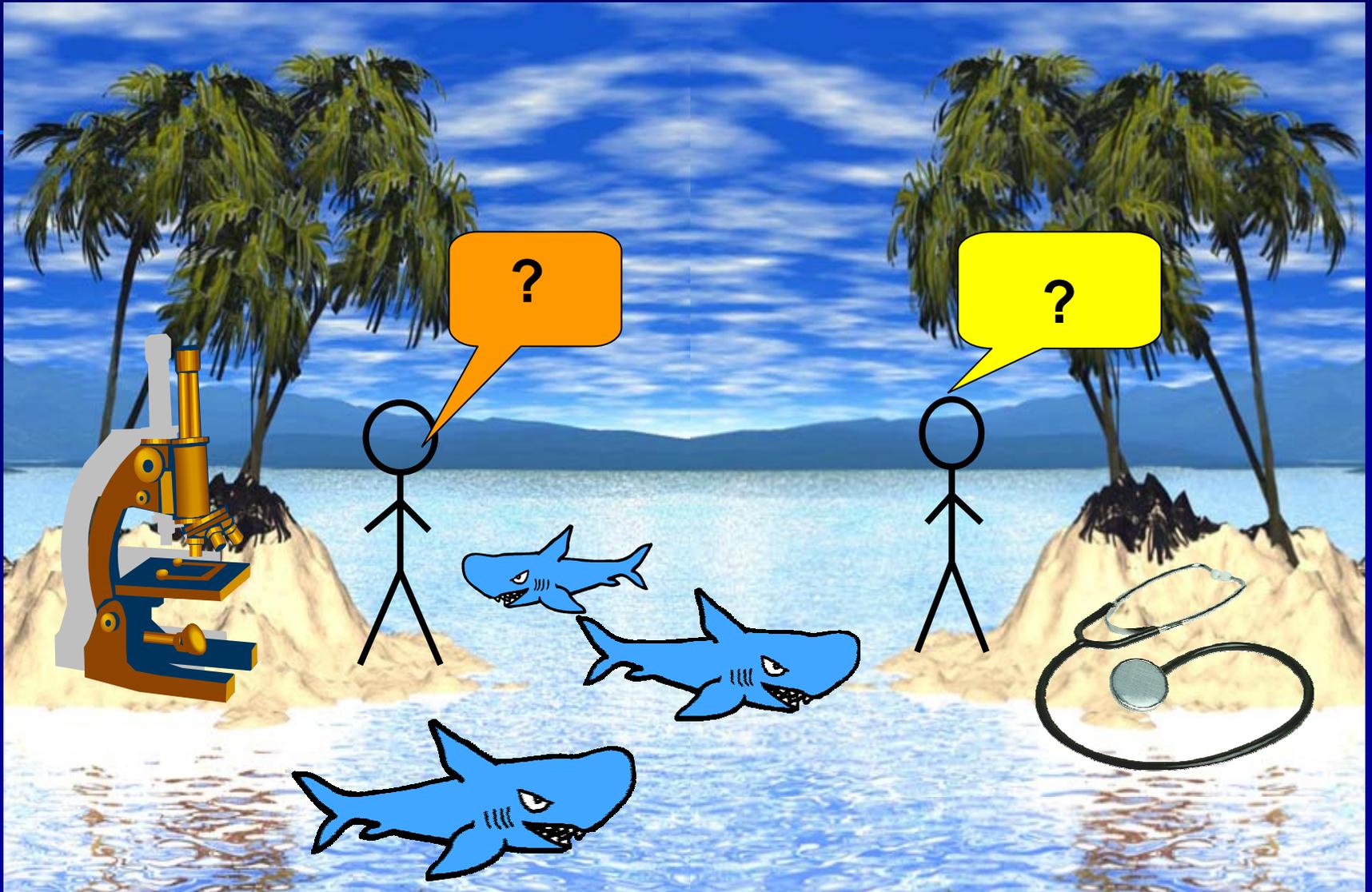
Image Guided Interventions: Collaboration and Technology Advancement

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What are the barriers for collaborations?



What are the barriers for collaborations?

- Lack of communication and common understanding of current clinical problems and available technology
- Isolation in hospitals / campuses leading to lack of interaction
- Lack of translational research
- Differences in motivation: improved patient care or advancement of science?

How do we facilitate collaborations among clinicians, engineers and scientists?

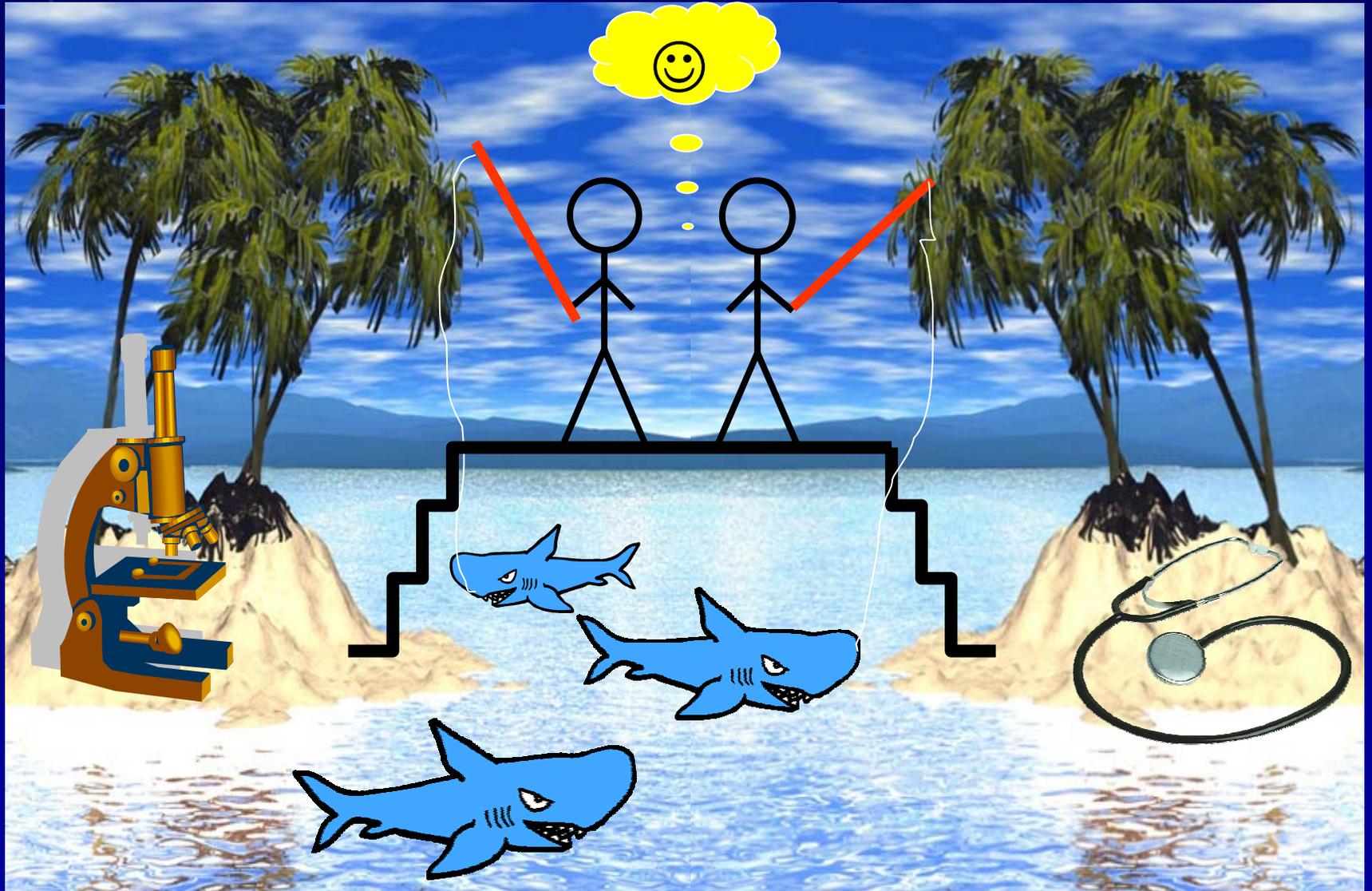
➤ Start early with college / graduate education

- Incorporating clinical problems in engineering and science courses
- Exposing medical students to current medical research initiatives
- Fostering biomedical engineering programs that teach a language that physicians, scientists and engineers can understand

➤ Sharing of ideas

- Personal interaction with colleagues
- Seminars (grand rounds, department journal clubs)
- Students (guest lectures in courses, summer research projects)
- Literature (campus news, magazines, posters, journals)

Bridging the communication gap



What technological advances and requirements can we implement that will significantly advance image-guided interventions in the next 5-10 years?

- Target-specific drugs, delivery devices, contrast agents and imaging probes (micro-robotics?)
- Functional and quantitative image analysis at a full scale from macro (organ) to micro (cellular) levels
- Validation of image data
- Cost-friendly, accessible scanners for researchers (small animal and clinical)
- “One-stop shopping” – diagnosis, treatment and assessment with same imaging modality