Thoughts on Developing An Interdisciplinary Team

What, Why and How...

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Got Interdisciplinarity?

Intradisciplinary → Multidisciplinary → Crossdisciplinary → Interdisciplinary → Transdisciplinary
• **Intradisciplinary:** working within a single discipline.

• **Multidisciplinary:** people from different disciplines working together, each drawing on their disciplinary knowledge *and framework*.

• **Crossdisciplinary:** bridges are formed and crossed by those involved. *cross training and cross application of approaches*

• **Interdisciplinary:** integrating knowledge and methods from different disciplines, using a real *synthesis* of approaches. *Holistic*

• **Transdisciplinary:** creating a unity of intellectual frameworks beyond the disciplinary perspectives. *Full integration*
Why Interdisciplinarity?

• NAR related needs/problems/questions are inherently interdisciplinary
  • Interactions of multiple, complex systems

• Major funding agencies (e.g. CIHR) recognize that interdisciplinary work yields new insights and innovations
  • Creativity, New Perspectives, Error Detection

• In my research program, we conduct interdisciplinary investigation and innovation for bone health and repair
  • Overlapping spaces of mechanics, materials science, biological sciences, medicine
How to be Interdisciplinary

• Read broadly.
  • Develop breadth of knowledge, as well as depth.

• Avoid and/or challenge discipline-specific bias, dogma,…

• Be ‘open minded’ and flexible (in framework and language)
  • For example, consider the two meanings of the word “clinical”

• Get out of your box.
  • It is ok to be uncomfortable and learn new things.
How to be interdisciplinary

• Allow the question or need to determine the approach
  • And therefore, determine the required expertise and methods.

• In my career, becoming interdisciplinary has been somewhat organic, training in interdisciplinary settings for over 12 years.
  • And some times, it has been very uncomfortable.
How to build an interdisciplinary team

• Develop systems level, holistic understanding in order to understand your **strengths and weaknesses** with respect to the required expertise for the project
  • Knowledge
  • Methods

• Recognize/acknowledge expertise from outside your primary discipline/training

• Make friends (collaborators) who have similar interests and agendas, but who come from other disciplines, and ask them to collaborate!
How to demonstrate interdisciplinarity in a grant application

• Demonstrate an interdisciplinary approach in terms of:
  • Frameworks
  • Perspectives
  • Methods

• Demonstrate the team of applicants, co-applicants and collaborators has the expertise and skills, and include the letters to back it up.
That’s all folks!

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