

# Experience of $X \leftrightarrow$ Theory (where X is physics experiment, industrial products or code)

**Code $\leftrightarrow$ Theory Workshop**

The University of Manchester

16<sup>th</sup> January 2017

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# Similarities

- ▶ Important skills
  - Project Management & Team Working
  - Software Engineering for Code
- ▶ Processes involving Theory
  - Theory -> **Understanding** -> Design
  - Data -> **Understanding** -> Theory
- ▶ Acquiring & applying **understanding** seems mysterious
  - Various conscious & subconscious human processes
    - Are psychologists working on this?
- ▶ **None of these are unique to Code<->Theory**

# Differences

- ▶ **Context** e.g. constraints, goals, people skills/experience
- ▶ **Theories** e.g. levels of complexity
- ▶ **Codes** e.g. different methods, algorithms, outputs, etc.
- ▶ **Code $\leftrightarrow$ Theory** seems wrong level
  - Too much variability
- ▶ **Reduce scope to Code A  $\leftrightarrow$  Theory B in context C**
  - Inverse relationship between “usefulness of advice” and “size of domain of applicability”?