

Practical MDO with openMDAO

John Jasa

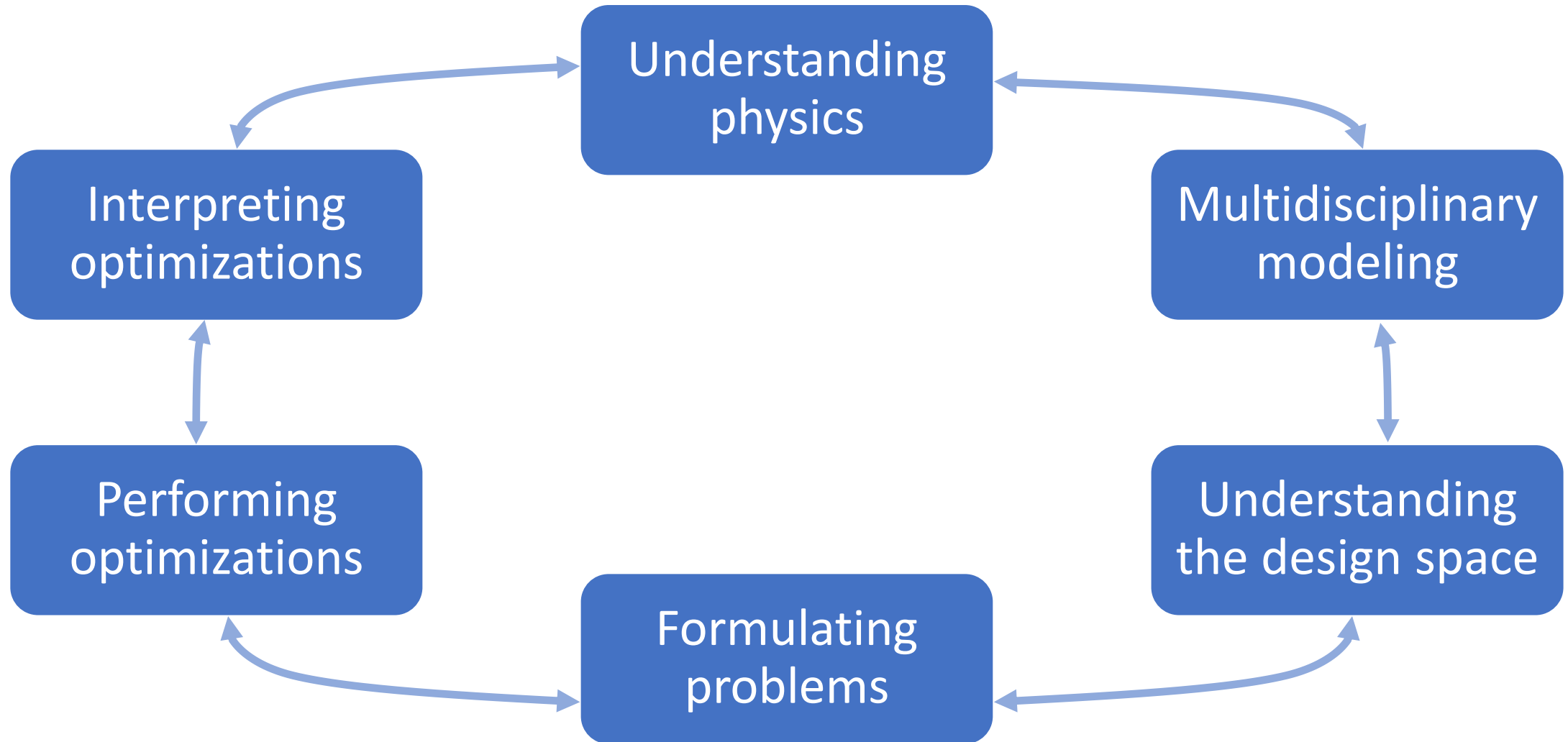
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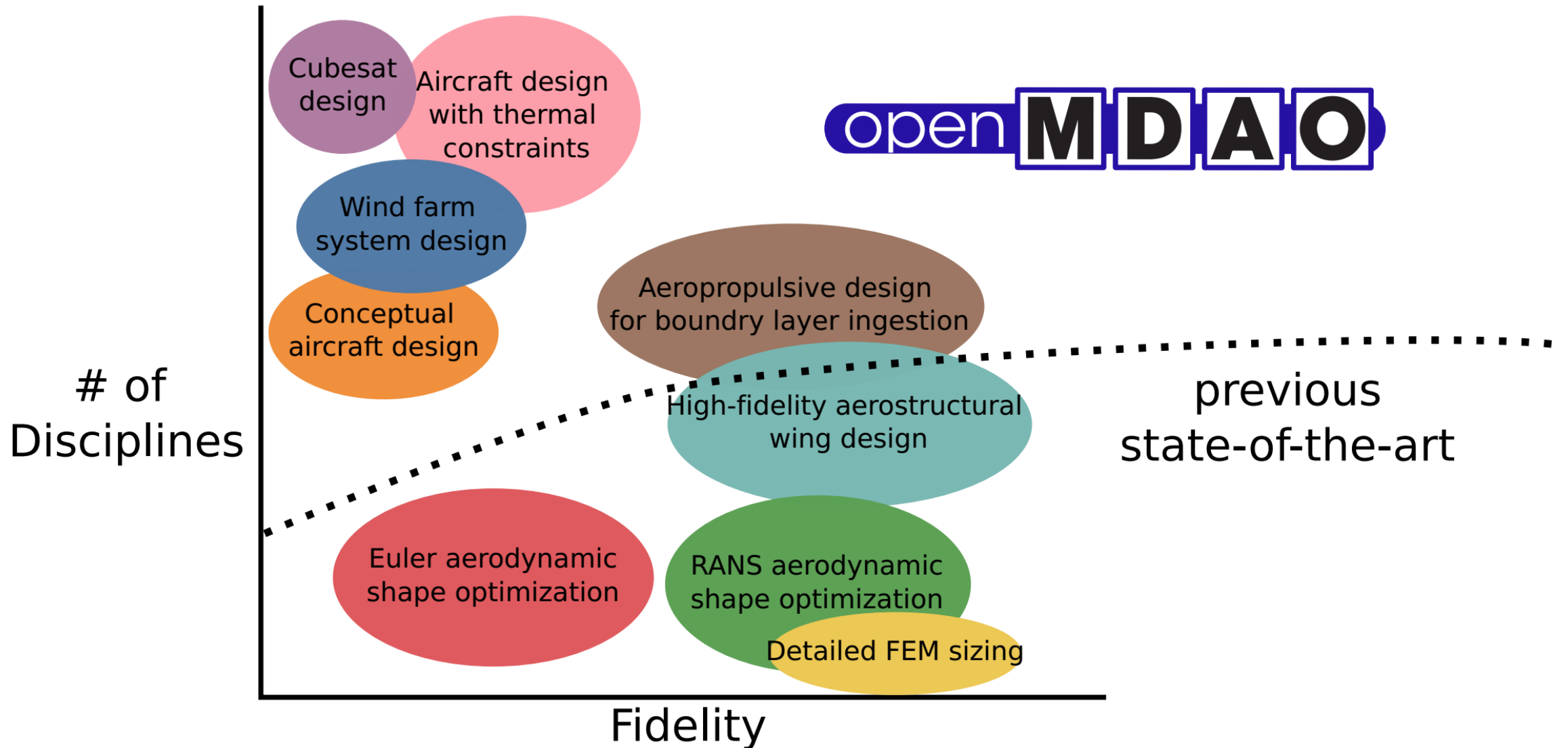
2022 OpenMDAO Workshop
Cleveland, OH
Oct 24-26, 2022



MDAO is a powerful tool but understanding and harnessing that power is not easy



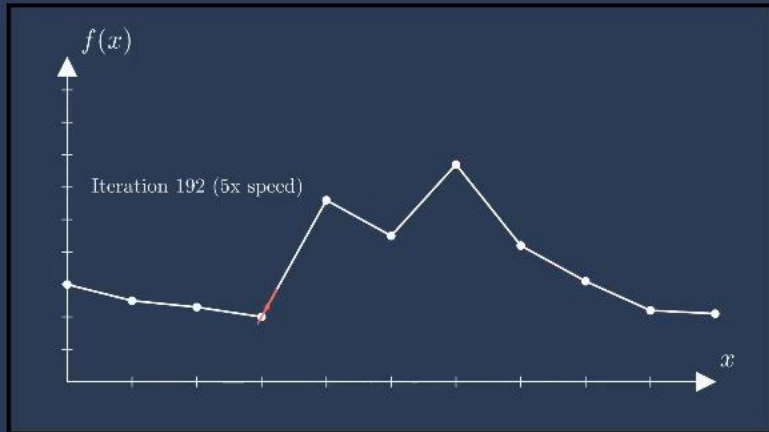
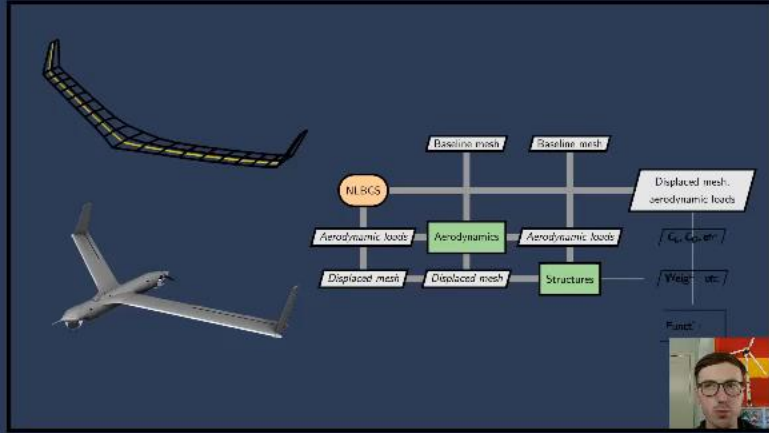
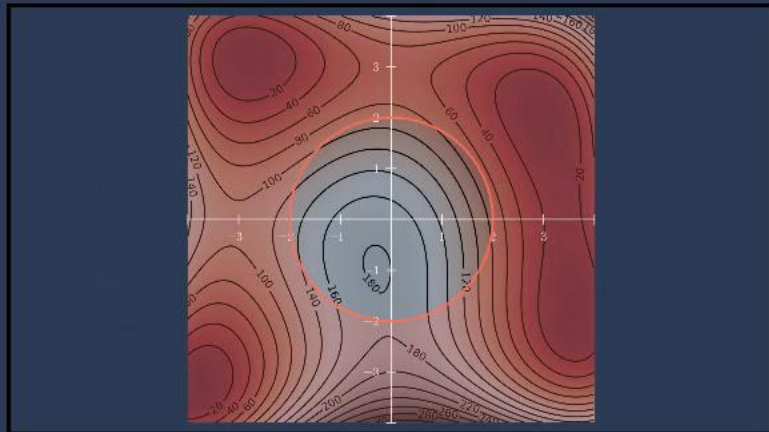
Making the hard easy and the impossible hard



This training is *not* an OpenMDAO course

Course format:

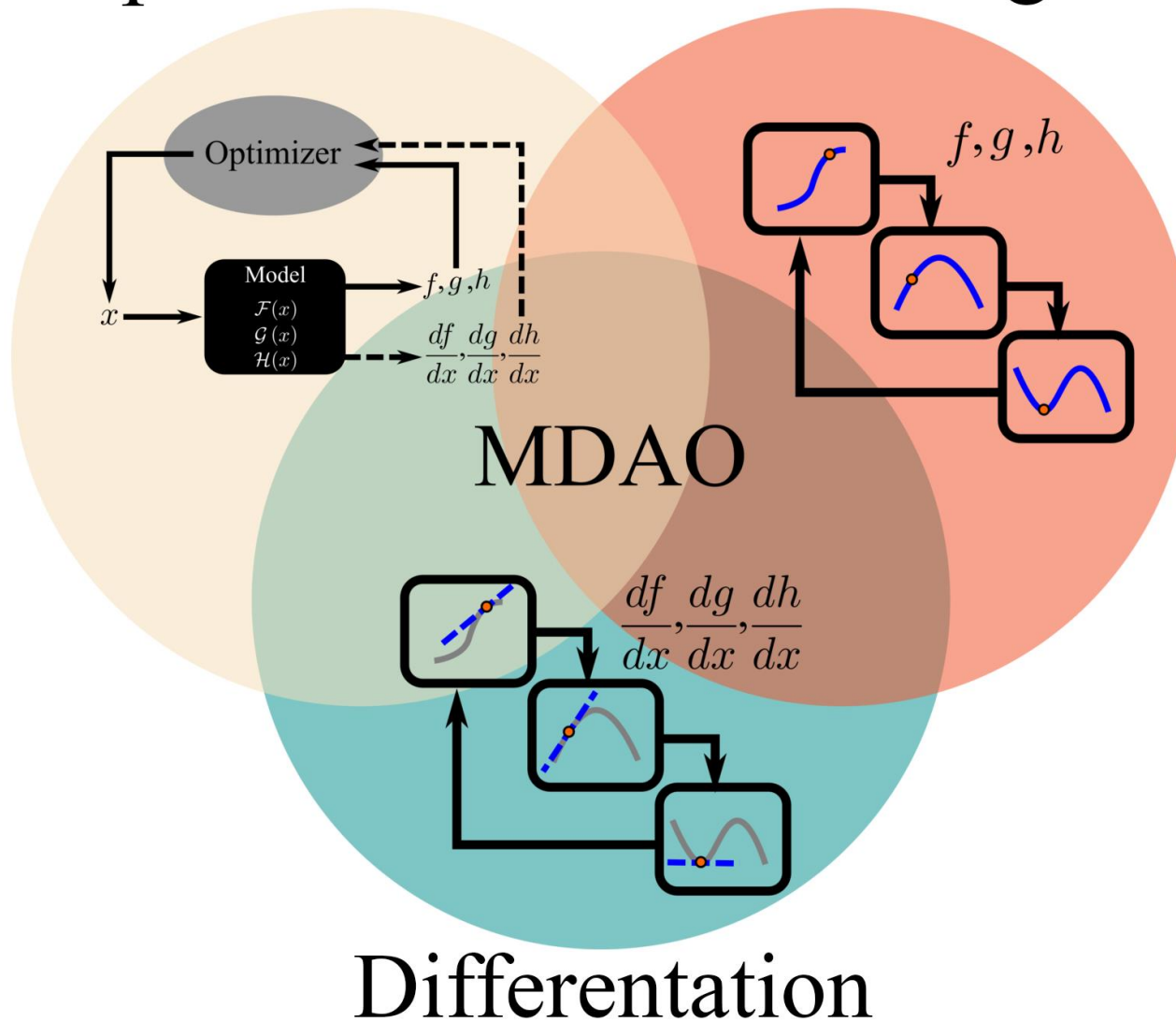
Lectures



The course focuses on three main topics

Optimization

Modeling



The video lessons should be an accessible entry point for many ideas related to MDAO

- Each about 5-15 minutes
- A mix of figures, math theory, and code walkthroughs
- We connect different lessons together and reference them in the video and description
- Each lesson is placed in the larger context of the course

Most lessons have an accompanying interactive Jupyter notebook

- More exposition and detail
- Links to references and docs
- Corresponding OpenMDAO code for concepts
- Also exercise type notebooks with problems, hints, and solutions

Lessons are organized into the three main topics *and* as collections

- **Collections of guided lessons include:**
 - 0 to optimization in 10 steps
 - What to do when someone hands you a model
 - What you need for just gradient-free optimization

Other notes

- Subtitles and transcripts provided for each lecture for accessibility
- Searchable website so you can find keywords or jog your memory
- Cross-posted and cross-linked lessons on the website

Live walkthrough of the website

<https://openmdao.github.io/PracticalMDO/intro.html>

Thanks!

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