Why are we engineers?
For whose benefit do we work?
What is the full measure of our moral and social responsibility?

Activist engineering: What do environmental protection, social justice, and peace mean for engineering?
I. Motivation

Activist engineering

Engineering as a political enterprise and the values we bring to it

Creating new possibilities
II. From entanglement to isolation

The technical and the political/value-based: no longer a “seamless web”
Are “non-technical” concerns relevant to “real” engineering work?
separating the technical from the political
(or, when mental walls lead to physical walls)

“There could be a political backlash, but we are in business to make money and put people to work and provide a good service, whether it’s a wall or substation or airport or prison. We don’t want to approach it from a political standpoint, only from a business standpoint.”

George Ishee of Cast Lighting (2017)
III. Engineering is political and value-driven

From election security and disinformation to climate change

Responses to the pandemic are no different
IV. What is activist engineering?

Making explicit the values and key drivers of why engineering is done, and having that knowledge shape how engineering is done.

What is the real problem, and does this problem “require” an engineering solution?

Karwat, Eagle, Wooldridge, & Princen, 2014
V. Policy, “leadership,” and the creation of possibility
V. Policy, “leadership,” and the creation of possibility
IV. Experiments in activist engineering

Example 1: MIT and March 4, 1969

https://www.capeandislands.org/post/mit-marks-50th-anniversary-protest-launched-union-concerned-scientists#stream/0
IV. Experiments in activist engineering

Example 2: If you can see it, you can change it
IV. Experiments in activist engineering

Example 3: Engineering for peace at Drexel University

Where are interested and active STEM professionals?

VI. Experiments in activist engineering
Example 4: Project Confluence in re-Engineered
VII. What possibilities do we create?

Engineering students’ concerns for public welfare decrease as they go through school. We can’t expect everyone to be entrepreneurs.
VII. What possibilities do we create?

Many working engineers have little sense of purpose
Self-reflection for activist engineering: a list of questions

- Social and political considerations
- Environmental and ecological considerations
- Economic considerations
- Personal conflicts
- Alternative problem-solving approaches
- Praxis, connections, and feedback
- Peace and security considerations
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