

# **Synthetic biology ethics in the academic and public spheres**

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## Context:

Synthetic Biology Knowledge System (SBKS)

- An open and integrated repository that leverages existing data repositories and publications to create a single interface that transforms the way researchers access this information
- Including ethics!

## Questions:

1. How is synthetic biology ethical discourse organized in academic versus popular outlets?
2. How do these differ?

## Data:

*Web of Science:* 574 articles

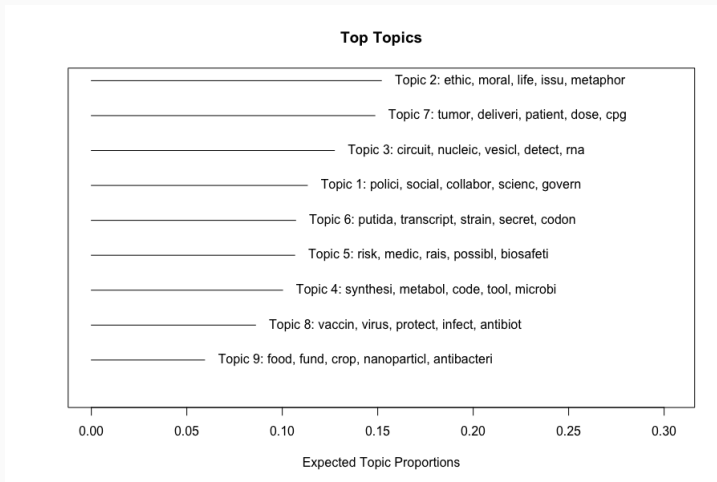
- Synbio + ethics, security, safety

*Twitter:* 745 posts

- Tweets containing #synbio, #syntheticbiology, #igem, #igem2020

Three types of topic:

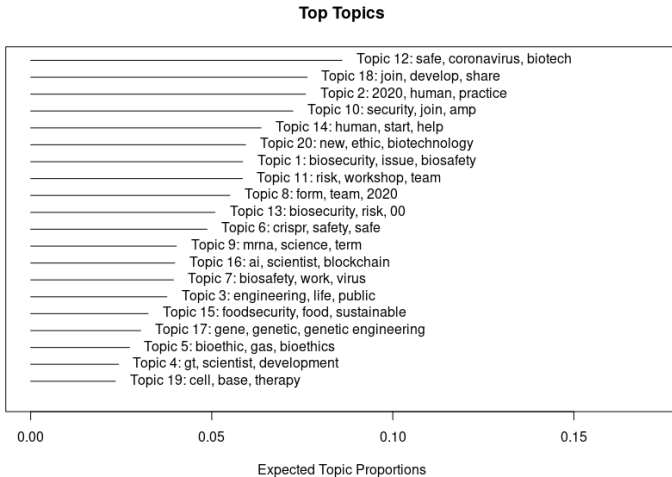
- Concrete research (most prevalent)
- Regulation (least prevalent)
- Philosophical principles



Three types of topic:

- Concrete research (most prevalent)
- Regulation
- (Virtual) meetings and conferences

**No sustained engagement with moral principles or guiding frameworks.**



## Conclusions and future research

1. Ethical discourse constitutes a very small part of synthetic biology texts.
  - Articles: < 4%
  - Twitter: 2%
2. Not all themes in academic literature found in public-facing texts, even focusing only on 2019 scientific publications (not shown).
  - To what extent does this correspond to distinct **types of actors** (e.g., academic, industry, government)?
  - How does this relate to **distinct collaboration networks**?
  - How are **geographical inequalities** related?
  - Does **impact** vary by topic and outlet?

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If you have questions or comments or want to check out the code, do not hesitate to reach out.

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