

Cross-Species Extrapolation: Opportunities in a 21st-Century Regulatory Nonanimal Testing World

Q&A DISCUSSION

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US ENVIRONMENTAL PROTECTION AGENCY

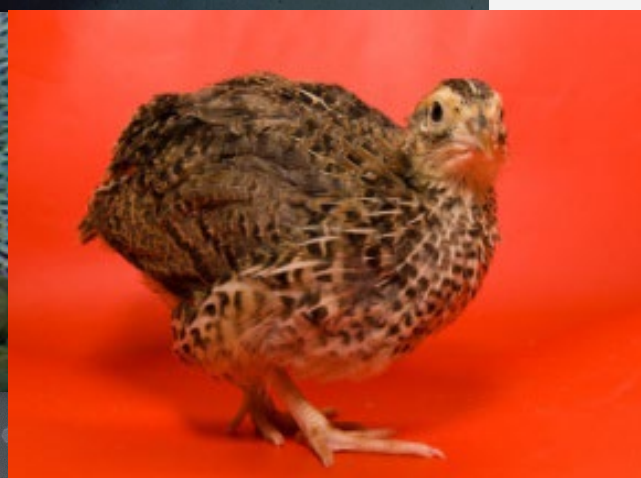
cheap and readily available



easy maintenance and good breeding capabilities



short lifespans and rapid life cycles

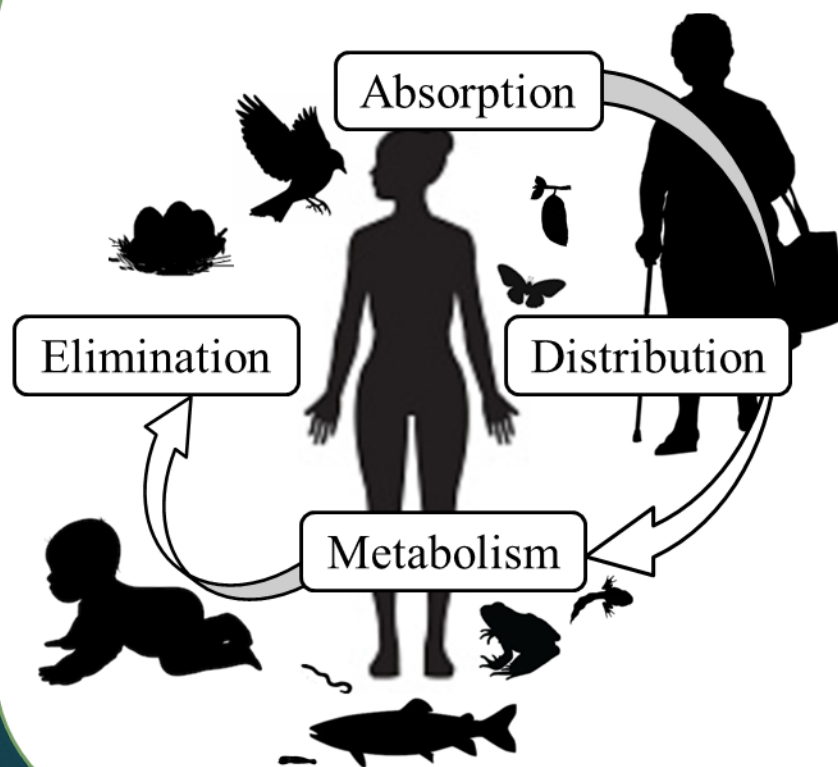


ability to control diet and surroundings



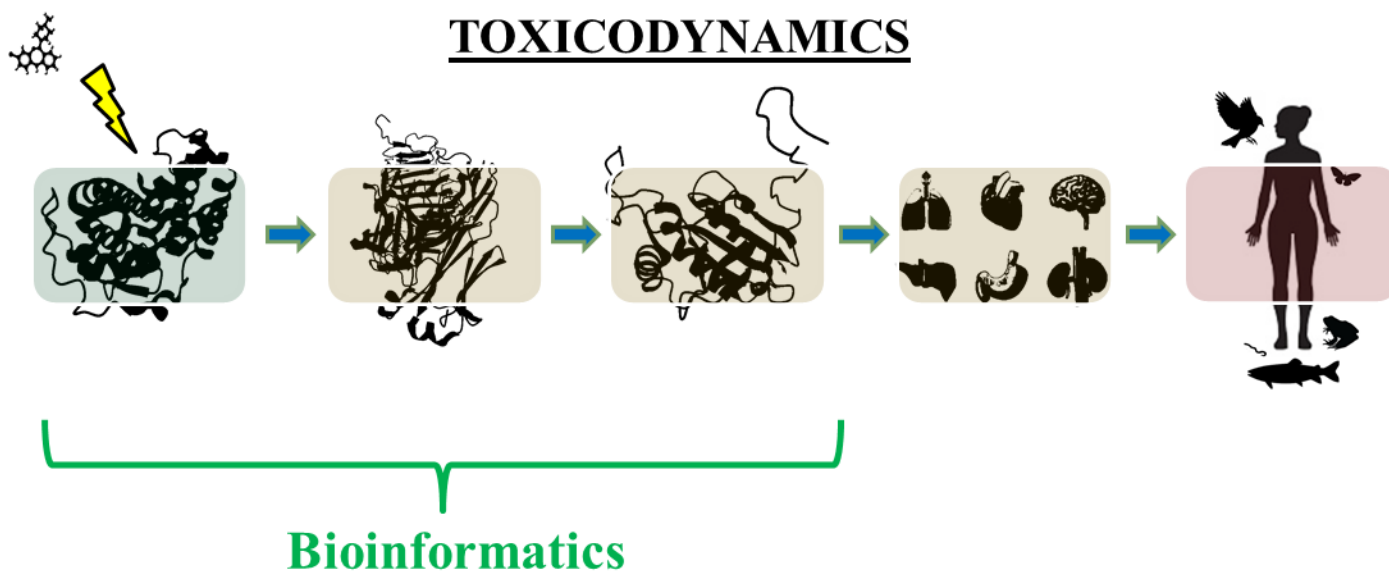
Sensitivity to Chemical Perturbation

TOXICOKINETICS



Cross Species Extrapolation

TOXICODYNAMICS



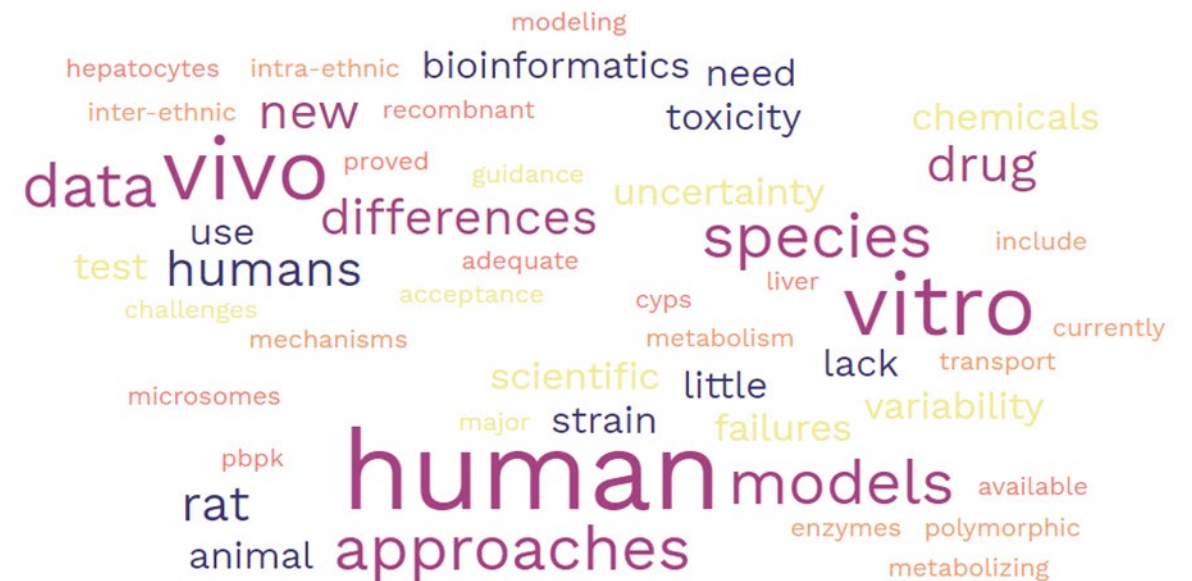


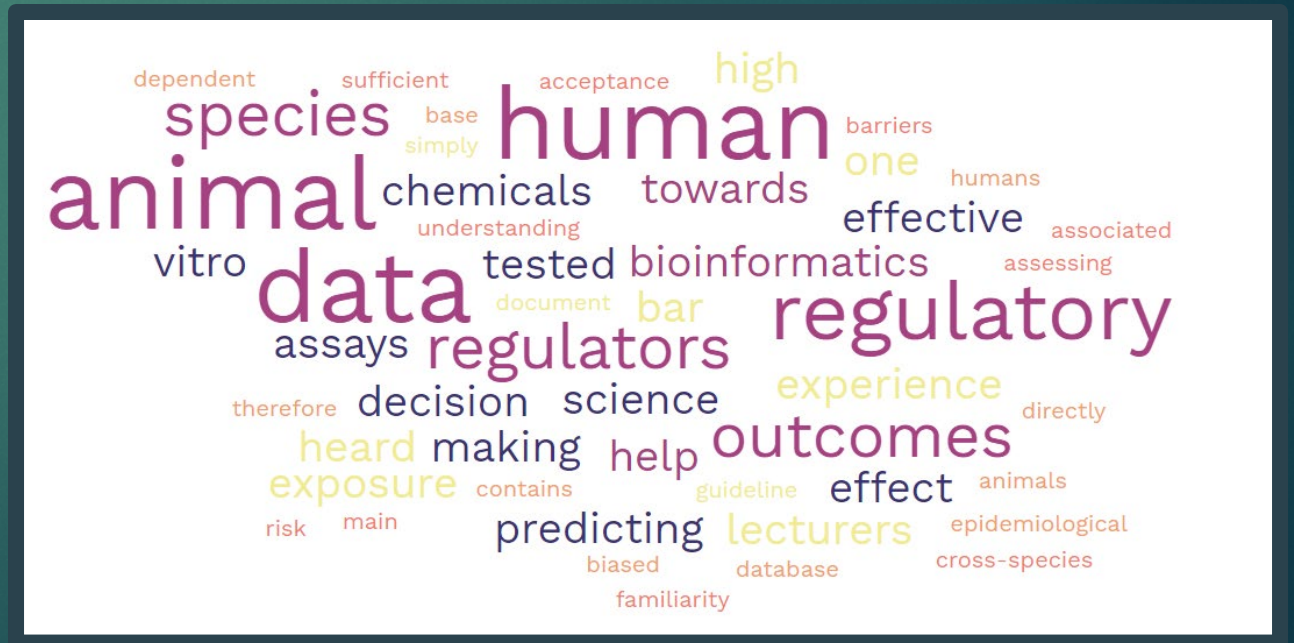
Bioinformatics

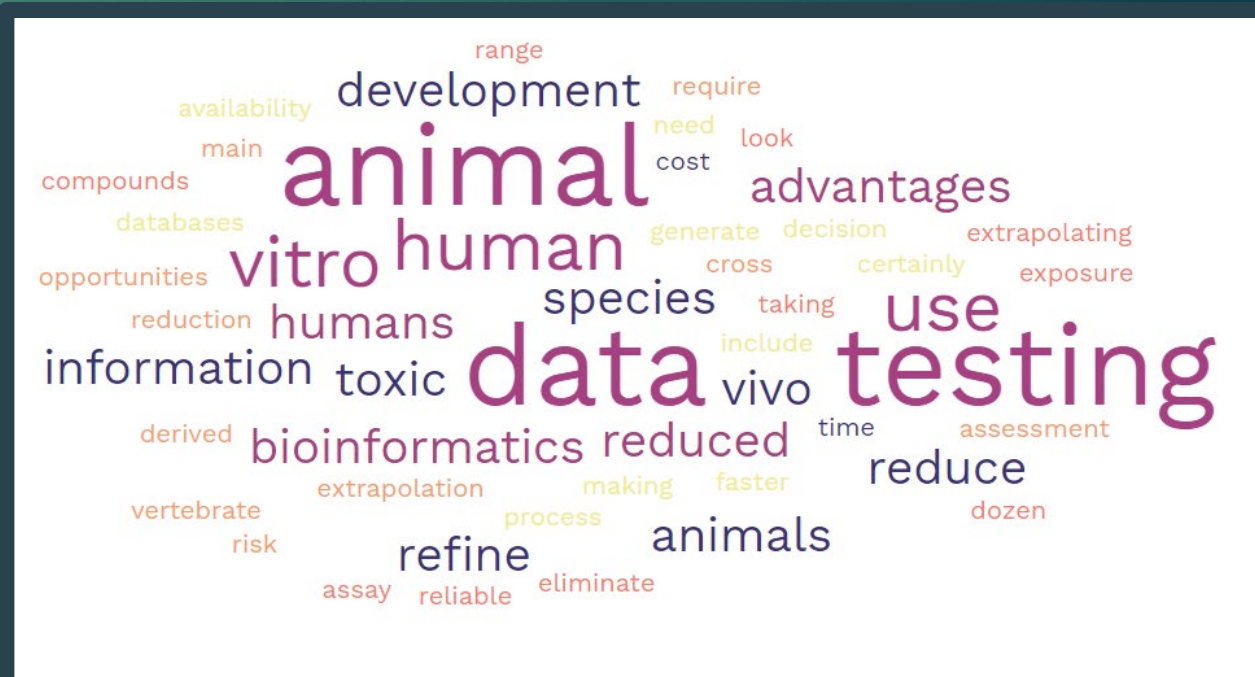
- ▶ Combines mathematics, information science, and biology to answer biological questions
- ▶ Developing methodology and analysis tools to explore large volumes of biological data
 - ▶ Query, extract, store, organize, systematize, annotate, visualize, mine, and interpret complex data
 - ▶ Usually pertains to DNA and amino acid sequences


Let the computers do the work

In your view what are the main challenges/roadblocks in regulatory science for which cross-species extrapolation (with a focus on bioinformatics) approaches can help?



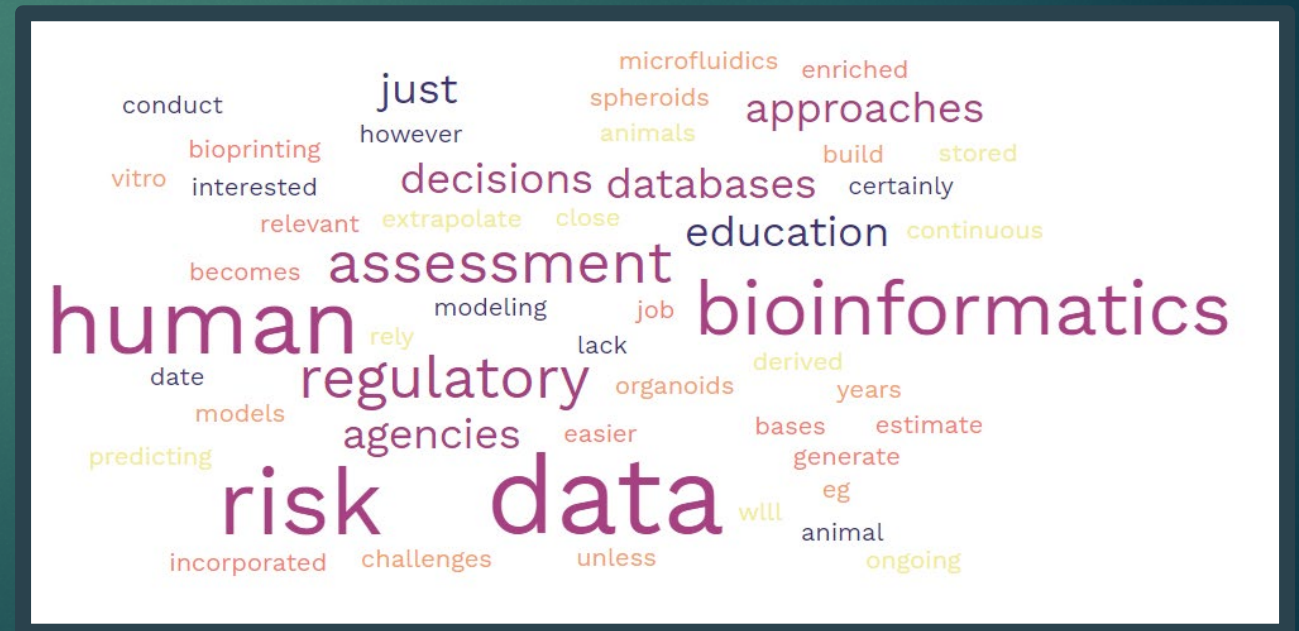




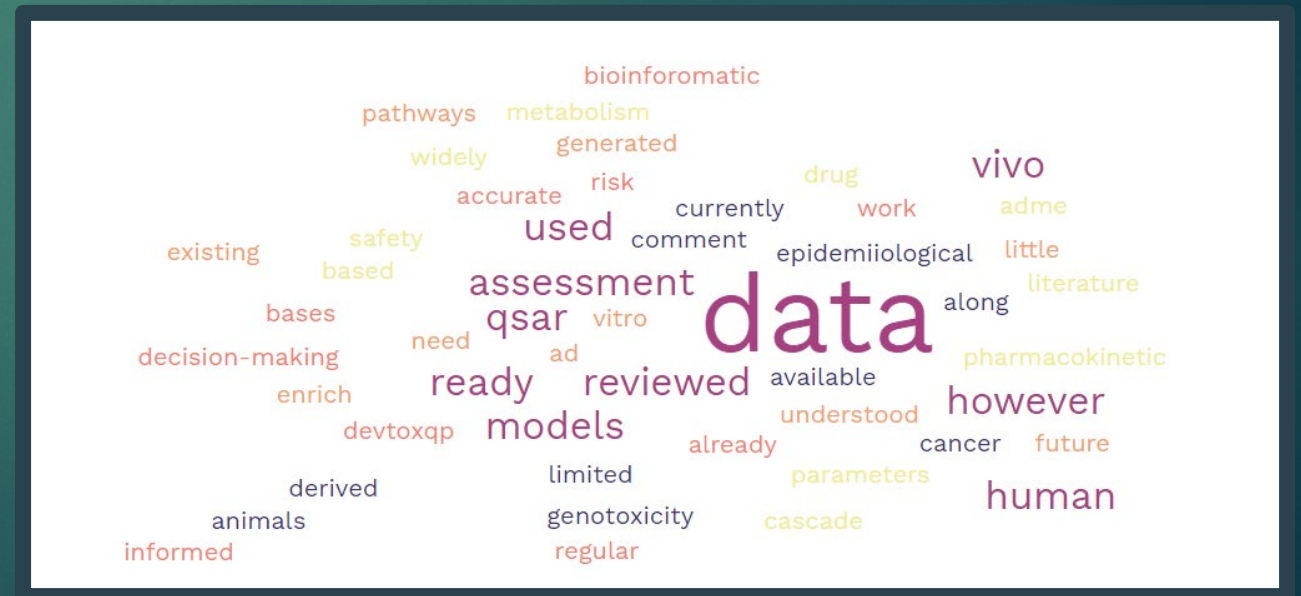


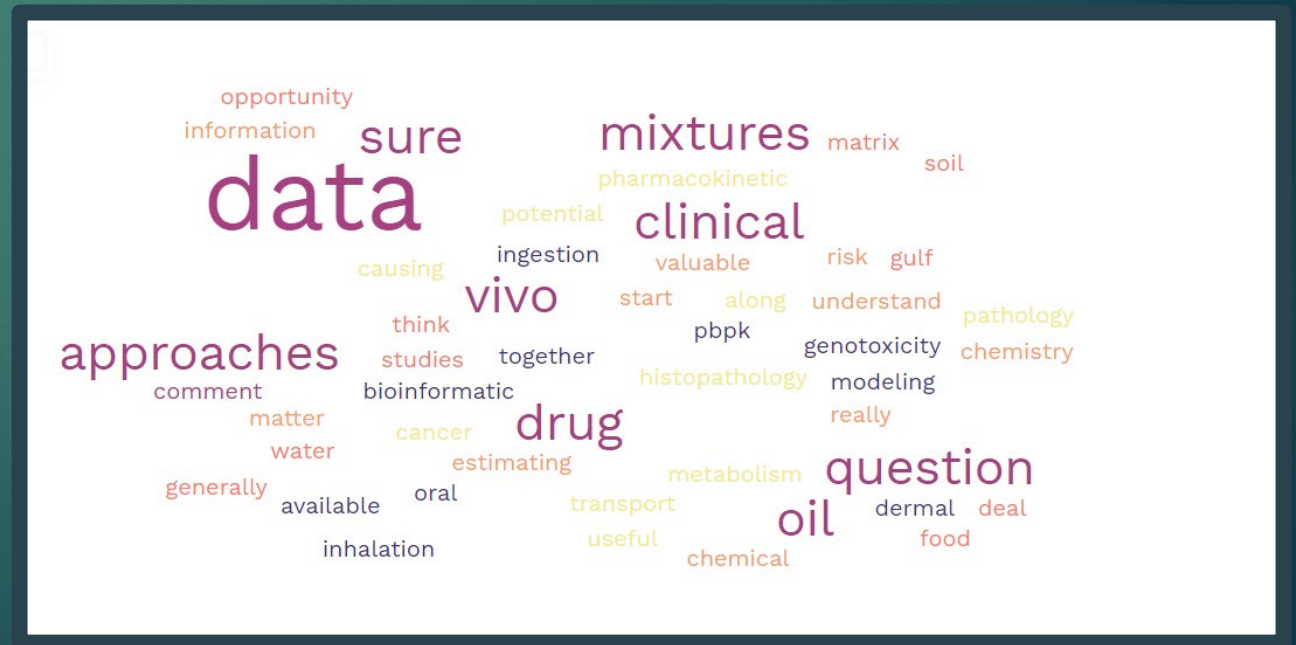
Which approaches in cross-species extrapolation (with a focus on bioinformatics) do you believe offer the best opportunities/advantages for helping address/provide solutions to the challenges of a future regulatory landscape (i.e. focused on non-animal testing). Please provide some explanation of the approach(es).

What are the challenges/roadblocks for using bioinformatics approaches in species extrapolation for regulatory decision making?









Government

Industry

Consortium to Advance Cross Species Extrapolation in Regulation

Steering Committee:

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1. Define the taxonomic domain of applicability
2. Define the global regulatory landscape/need
3. Develop a bioinformatics toolbox
4. Communicate a shared scientific vision

Interested in Learning more or Joining: Contact LaLone.Carlie@epa.gov or Geoff.Hodges@unilever.com

Academia

NGO

