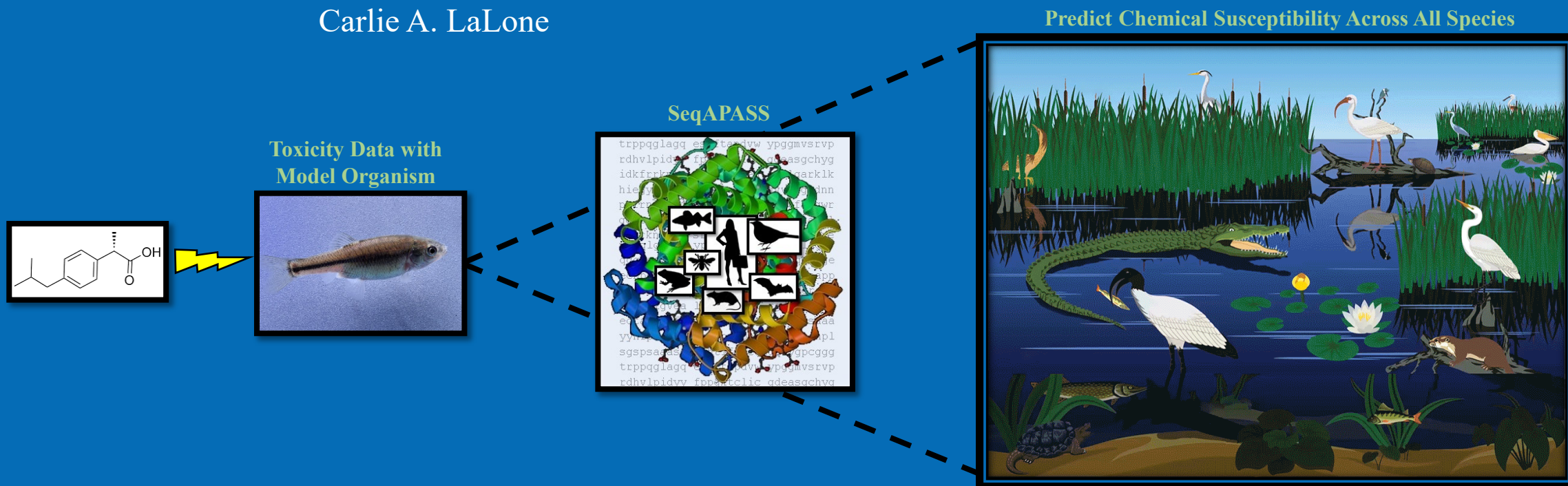


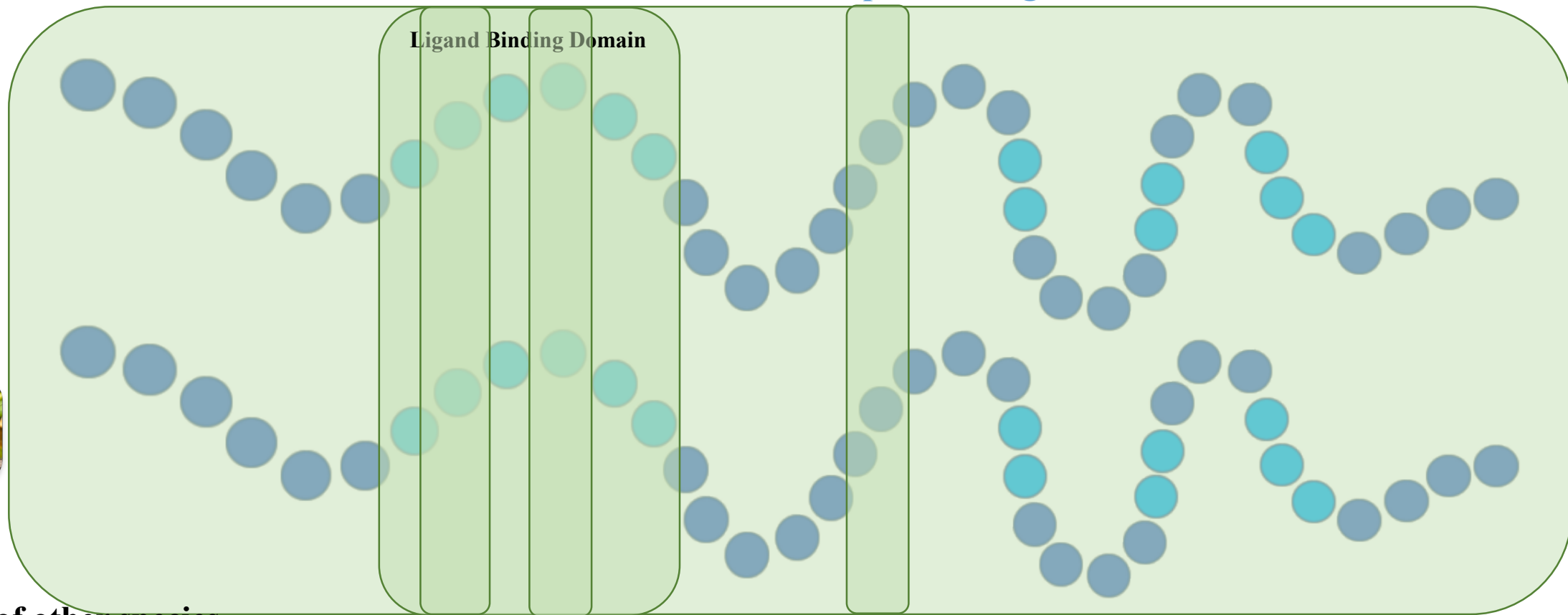
The US EPA Sequence Alignment to Predict Across Species Susceptibility tool for species extrapolation

Carlie A. LaLone



Overview of the SeqAPASS tool

Level 3: Individual Amino Acid Residues **Conservation for conservation of protein target**



+ thousands of other species
(vertebrates, invertebrates, plants, etc.)

Critical Amino Acids: Bind directly to chemical or maintain conformation



SeqAPASS v4.0 Released October 2019

- Free and publicly accessible Web-based tool
- User has a personal account
 - EPA Users LAN ID and Password
 - External Users assigned a username and password



Log In to SeqAPASS **Version 4.0**

Welcome to SeqAPASS ⓘ

Login

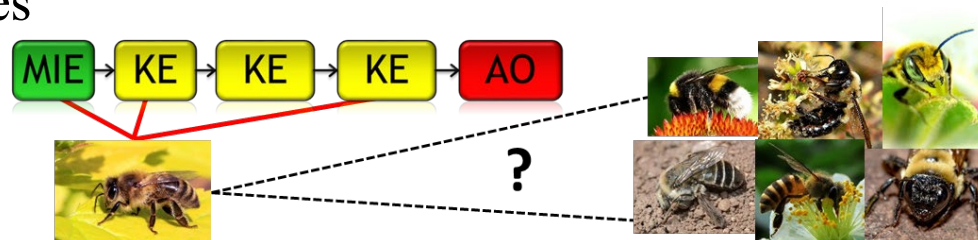
For optimal SeqAPASS performance use Chrome ⓘ

Want an account? Click [here](#) for instructions.

Applications of the SeqAPASS Tool

- **Extrapolate adverse outcome pathway knowledge across species**

- Define the taxonomic relevance: Apis vs Non-Apis bees



- **Extrapolate high throughput screening data**

- Chemicals that target human estrogen receptor alpha, androgen receptor, steroidogenic enzymes, thyroid axis proteins, and all ToxCast Assay targets

- **Predict relative intrinsic susceptibility**

- Pesticides
- Endangered Species Act
- Derivation of Aquatic Life Criteria

- **Predict chemical bioaccumulation across species**

- Chemicals of concern: PFAS

- **Generate research hypotheses** Strobilurin fungicides

- **Prioritization strategies** Pharmaceuticals

