



**Bat Population Dynamics:
an Individual-based Model Approach**

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Why Bats?

More than 900 species of bats (~20% of mammals).

Bats play key roles in many ecosystems as: insect predators, seed dispersers, pollinators

Astonishing variations of anatomy, lifestyles, roosting sites, diet, etc.

Bats have been associated with more than 60 viral diseases.

Hibernating insectivorous temperate zone bat...

Stored lipids are the primary fuel during hibernation

The lipid profile of a female bat is very dynamic over its life stages and may play an important role in population dynamics



Physiologically based individual model

(Lipid and Protein components at the individual – ODE)

integrated into a

Individual- based population model

see poster for details...