

How to design natural dynamics that are easy to exploit?



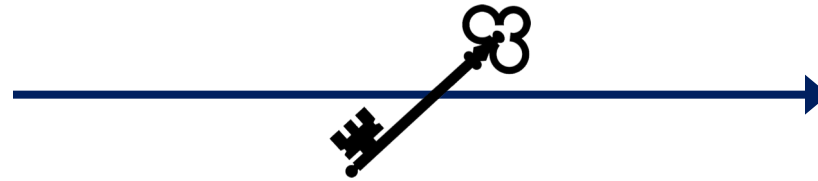
Dynamic Locomotion Group

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Motivation

Build
Agile-Dynamic
Robots



Understand
Biomechanical
Observations

Natural
Dynamics

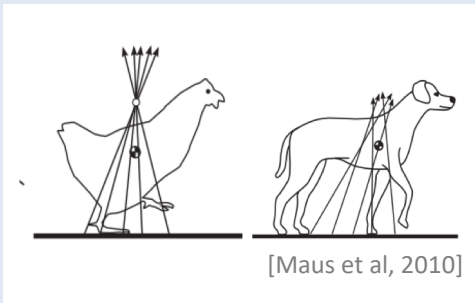


Controller
Design

Mechanical
Design

Virtual Pivot Point (VPP)

Mechanical Design



Compliance

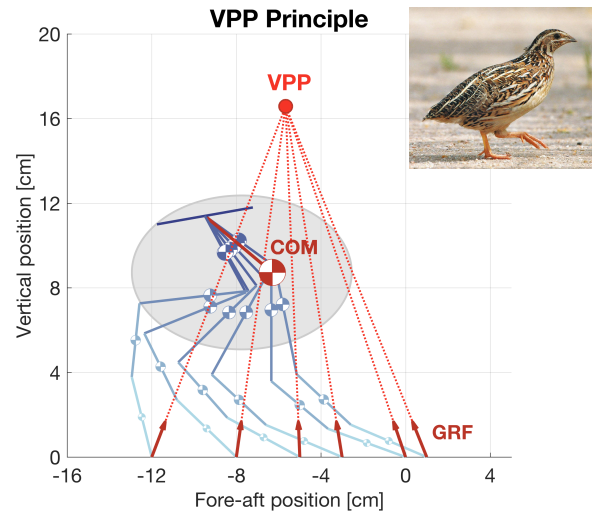
Leg
Segmentation

Dampers
Springs

Mass-Length
Distribution

Observation

Quail Morphology



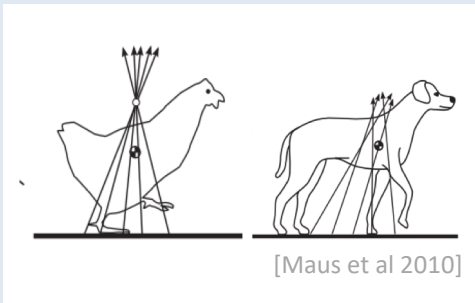
Hypothesis

VPP as a
Controller
Concept

Trunk
Stability

Virtual Pivot Point (VPP)

Mechanical Design



Compliance

Leg
Segmentation

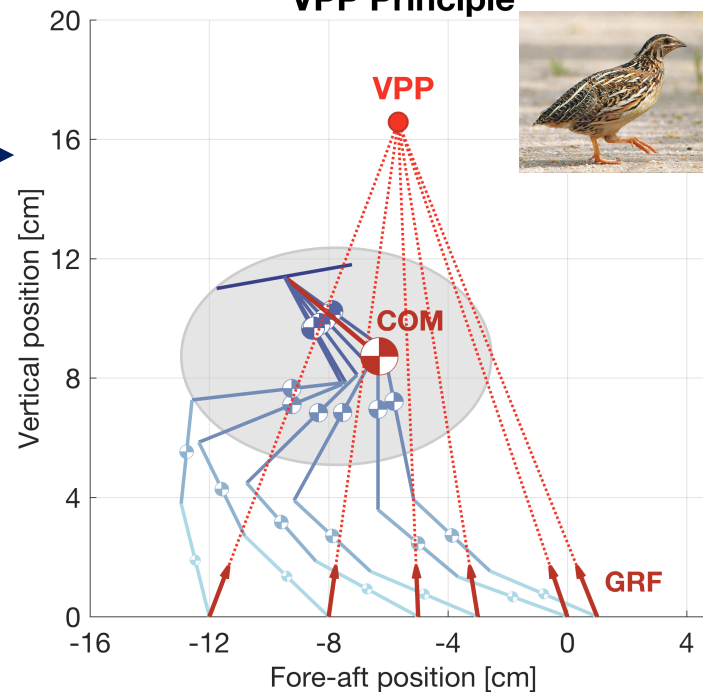
Dampers
Springs

Mass-Length
Distribution

Observation

Quail Morphology

VPP Principle



Hypothesis

VPP as a
Controller
Concept

Trunk
Stability

[Maus, 2008]
[Andrada, 2014]