

ME 599/AA 546/EE 546: **Biology-inspired robot control**

Lecture 16
Sawyer B. Fuller

Goals:

- introduce the final paper
- enjoy some robotics documentaries

“HONEYBEE NAVIGATION *EN ROUTE* TO THE GOAL: VISUAL FLIGHT CONTROL AND ODOMETRY” by Srinivasan, Zhang, Lehrer, and Collett (1996)

- robotic context: visual localization and mapping is impressive, but requires a powerful computer

Parallel Tracking and Mapping for Small AR Workspaces

ISMAR 2007 video results

Georg Klein and David Murray
Active Vision Laboratory
University of Oxford

4. Ewok rampage

Here the camera is used to aim Darth Vader's laser pistol. Movement is controlled with the keyboard.

“HONEYBEE NAVIGATION *EN ROUTE* TO THE GOAL:
VISUAL FLIGHT CONTROL AND ODOMETRY” by
Srinivasan, Zhang, Lehrer, and Collett (1996)

- how do tiny animals (e.g. bees) with tiny brains navigate to food and back?



“HONEYBEE NAVIGATION *EN ROUTE* TO THE GOAL: VISUAL FLIGHT CONTROL AND ODOMETRY” by Srinivasan, Zhang, Lehrer, and Collett (1996)

- confined space navigation
- smooth landings
- visual odometry
(measuring distance travelled)

