ME 586: **Biology-inspired robotics**

Prof. Sawyer B. Fuller

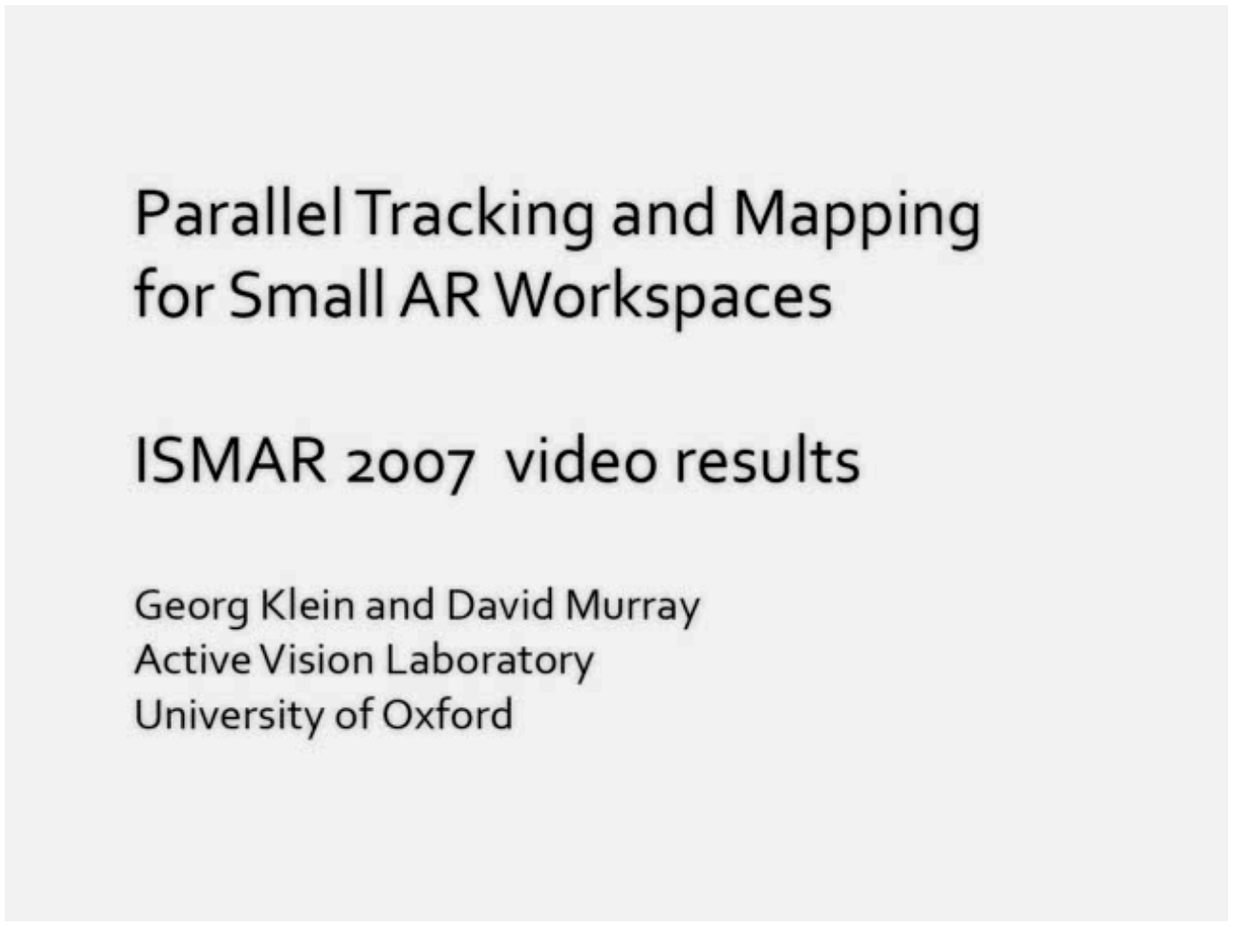
Goals:

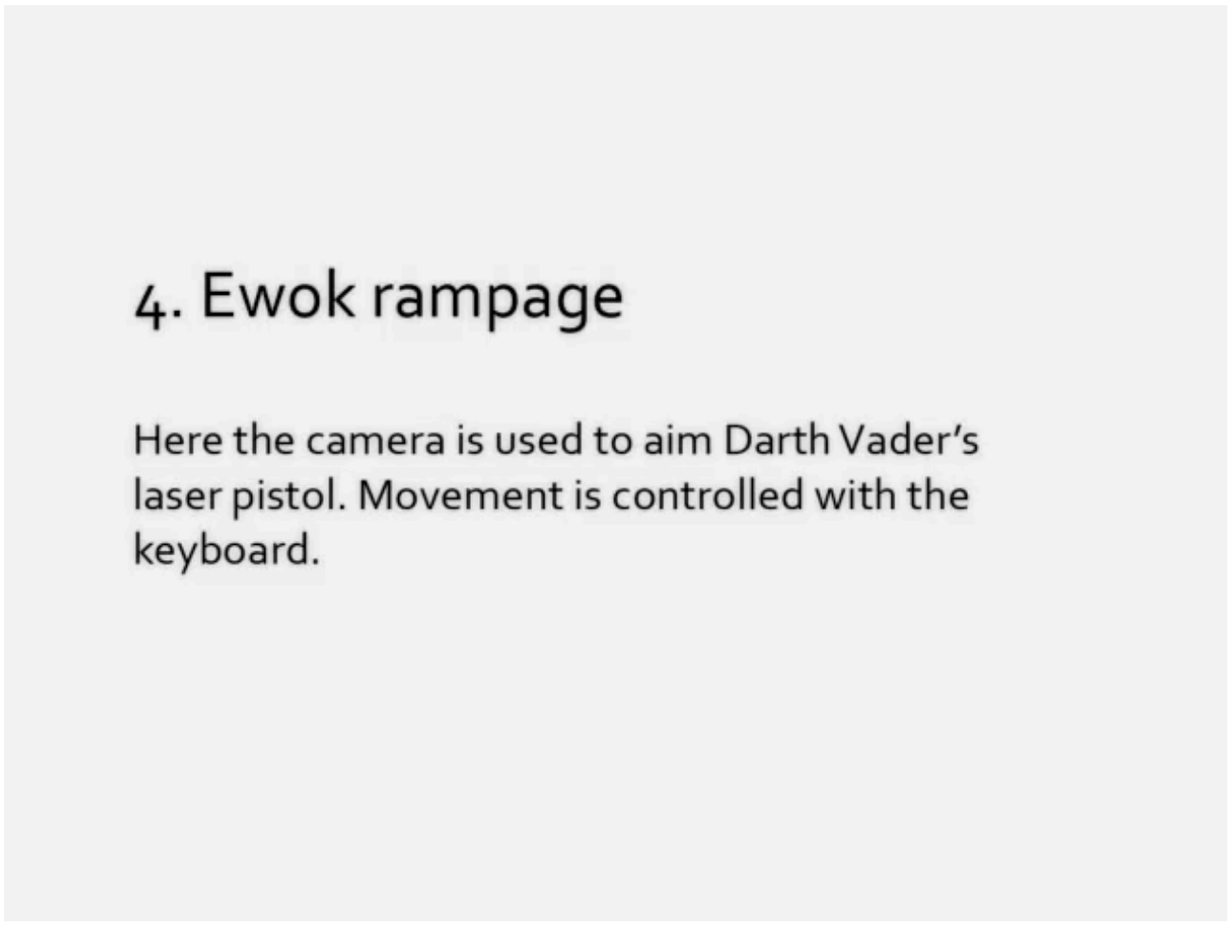
- introduce paper 4
- paper 3 presentations

UNIVERSITY of WASHINGTON

context for paper 4
(visual motion control in insects)

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





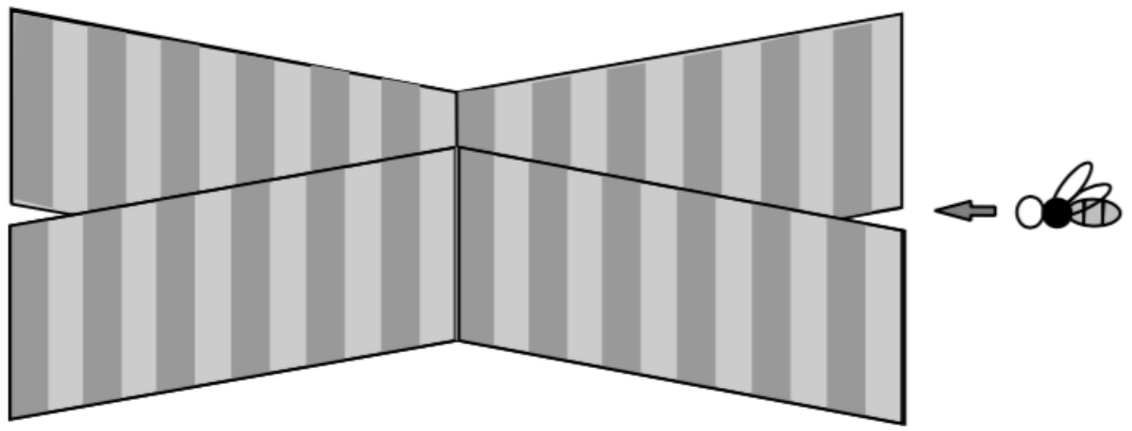
“HONEYBEE NAVIGATION *EN ROUTE* TO THE GOAL: VISUAL FLIGHT CONTROL AND ODOMETRY” by Srinivasan, Zhang, Lehrer, and Collett (1996)

- are there other ways to do visual navigation?

- how do tiny animals like 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)
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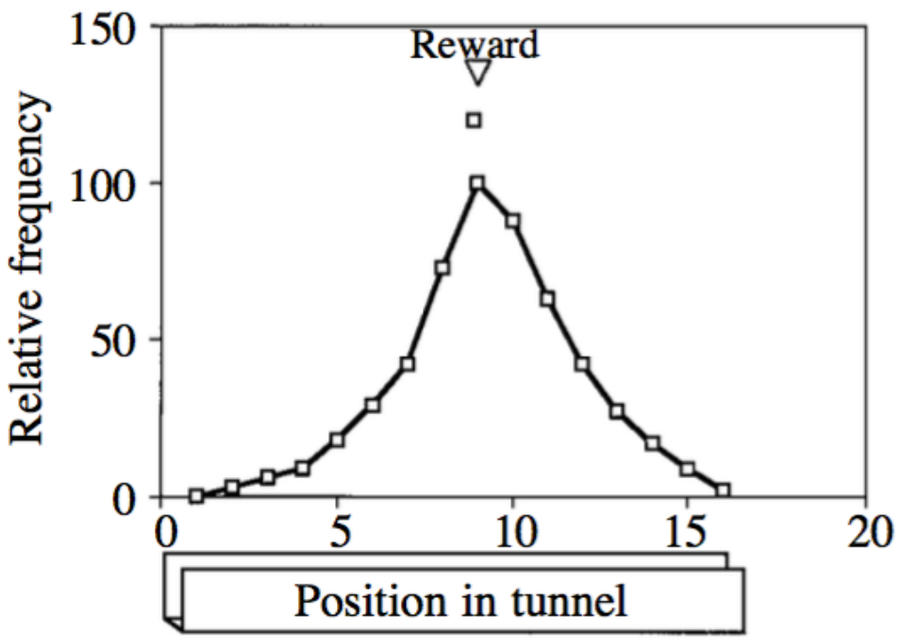

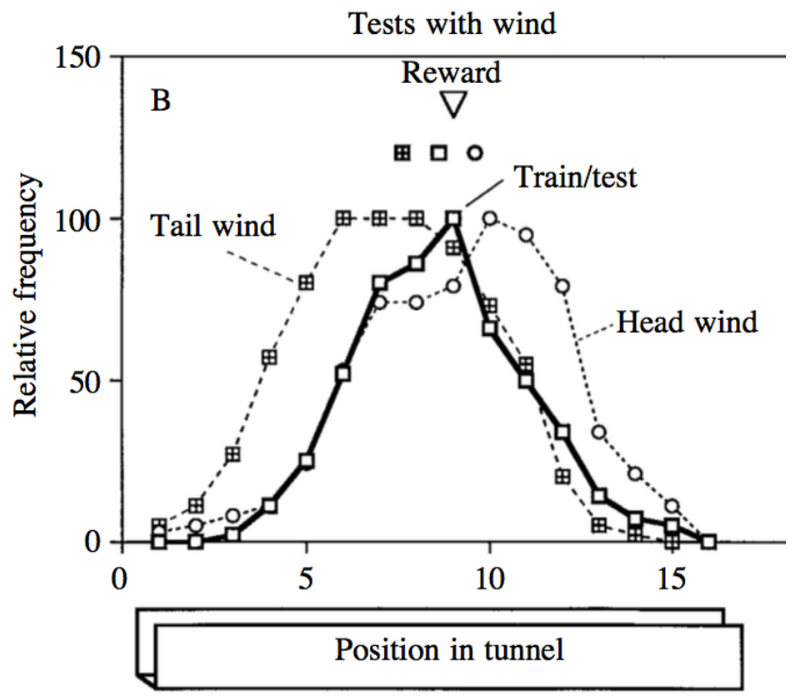

paper 4b: visual delay in free-flight flies

Drosophila melanogaster
1.1 mg
3 mm