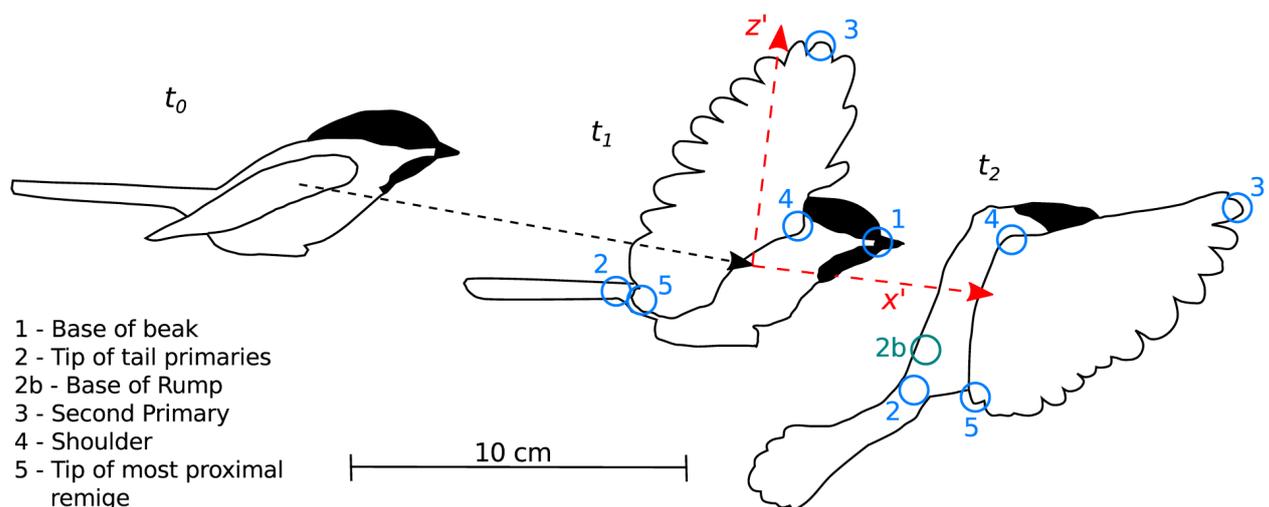


Announcement of a new course entitled:

## Biological Fluid Dynamics

We seek motivated students from a broad range of disciplines eager to join us in this inaugural course at TU Braunschweig. We will study topics that cross traditional boundaries, and therefore look forward to the participation of students from STEM fields ranging from Biology, Chemistry, Engineering, Medicine, Physics, to name but a few. Via active participation in this course students will, for instance, be able to:

- Conduct analysis and/or design optimization through the lens of Evolution, and subsequently perform validation against theory (or experiment);
- Understand and manipulate the governing equations for unsteady flows across a broad range of scales, e.g. from cellular motility to bio-propulsion;
- Solve problems relating to pulsatile internal flows (with e.g. curvature, bifurcations) as well as to unsteady aerodynamics/hydrodynamics; and
- Apply qualitative and quantitative reasoning to support real-world biomedical or biologically-inspired designs (e.g. biomedical devices, physiological mechanisms, imaging techniques and autonomous robots).



**lecturer:** Prof. Dr.-Ing. David E. Rival  
**language:** English  
**when:** Tuesdays, 10:30-12:00 (lecture) & 12:15-13:00 (tutorial)  
**location:** Institute of Fluid Mechanics, H003, Hermann-Blenk-Str. 37, Braunschweig  
**first class:** Tuesday, 02.04.2024  
**textbook:** Rival, D., 2022, Biological and Bio-Inspired Fluid Dynamics – Theory and Application, Springer-Nature