

Include the human body in your product design with the AnyBody Modeling System™

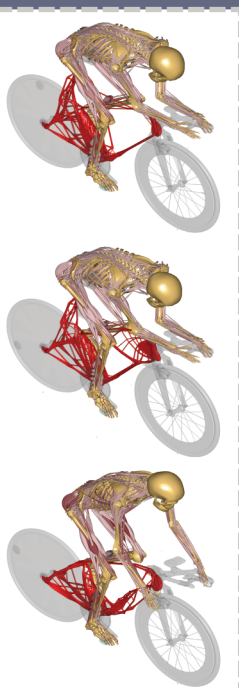
Bikes are designed to assist and enhance human abilities. They function as a mechanism working as an extension of the musculoskeletal system for safe, efficient and comfortable transportation.

The combined effect of muscle forces from the rider provide the critical boundary conditions for bike frame optimization in Generative Design.

The AnyBody Modeling System offers a cost-effective approach to predict and evaluate the functionality of products designed to work in concert with the human body, e.g., a bicycle chassis configuration driven by the various forces created by a rider and the riding environment.

Frame topology for AERO, SPRINT and BRAKE

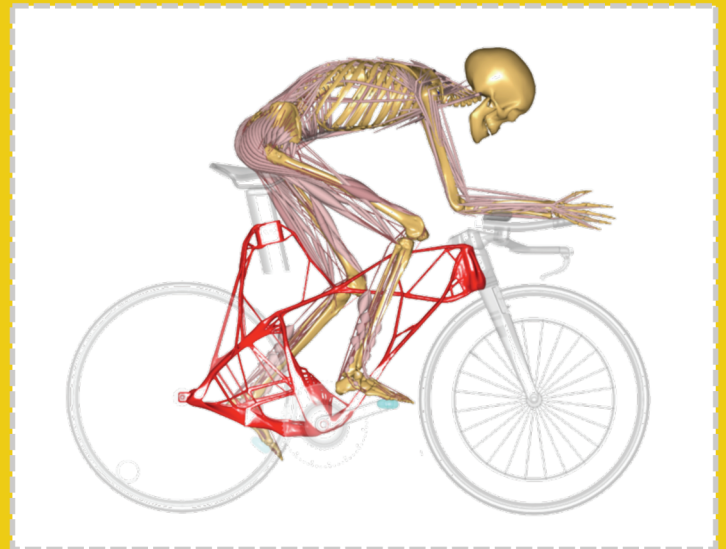
The optimized frame is the analytical average of these three scenarios



AERO

BRAKE

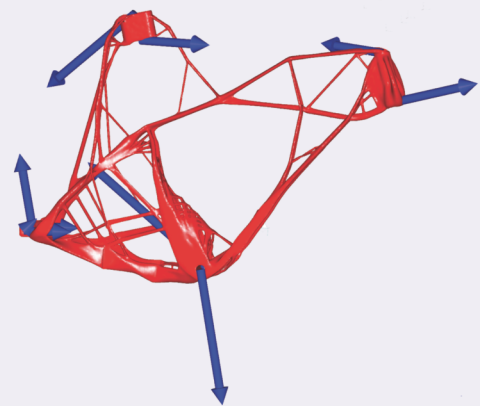
SPRINT



Average of AERO + BRAKE + SPRINT

Benefits of software prediction of human-device interface forces

- No need for costly and time-consuming experiments
- No need to rely on crude literature data or guesswork
- Ability to run multiple subjects and usage scenarios e.g.
 - Rider size and strength
 - Riding position
 - Critical situations e.g. sprinting and braking
- Detailed dynamic interface forces
- Realistic boundary conditions for Generative Design



Dynamic force vectors from The AnyBody Modeling System™ (blue arrows) specify the boundary conditions in Generative Design