



# Designing Better Bicycles

Although bicycles are fairly simple, they involve some interesting questions that have remained unanswered for more than a century, such as: what forces keep a bike stable, and why does a moving riderless bike balance itself (for as long as its speed is maintained)? Mathematicians, physicists, and engineers are using models involving differential equations, geometry, and linear algebra to answer such questions and to experiment with new designs that may be more easily balanced and steered than the one we're used to.



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