Update on the Swinging Atwood's Machine NICHOLAS TUFIL-
LARO, Oregon State — The Swinging Atwood's machine (SAM) is an Atwood's
machine where one of the masses is allowed to swing in a plane. There are only a
few integrable examples of mechanical systems, and we show that SAM is completely
integrable when the mass ratio is three. We also present an overview of recent results
that analyze the dynamics of SAM for other mass ratios using the Painleve analysis
and Galois theory, which indicate that SAM is non-integrable for other values of
mass ratios.

Nicholas Tufillaro
Oregon State