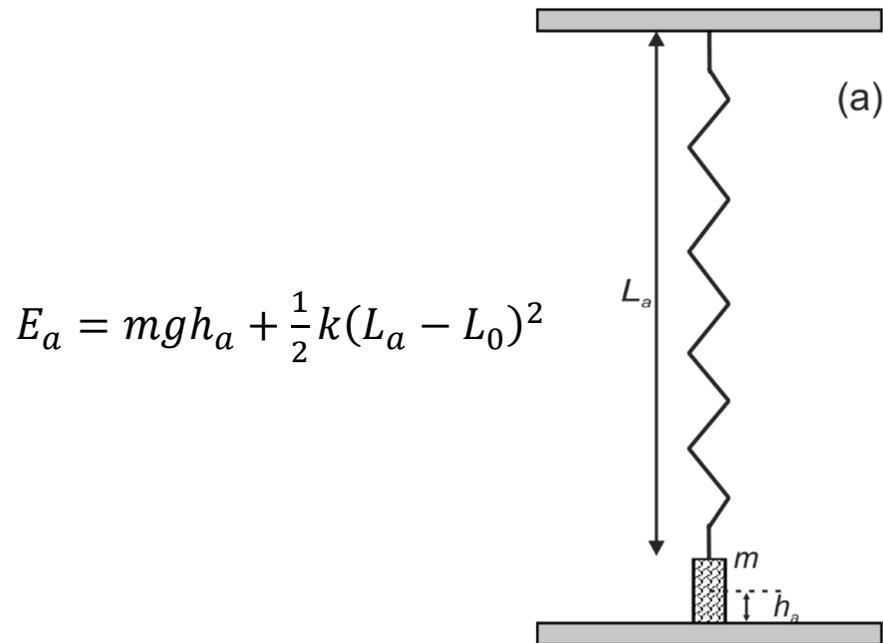


# *Conservação da energia mecânica*

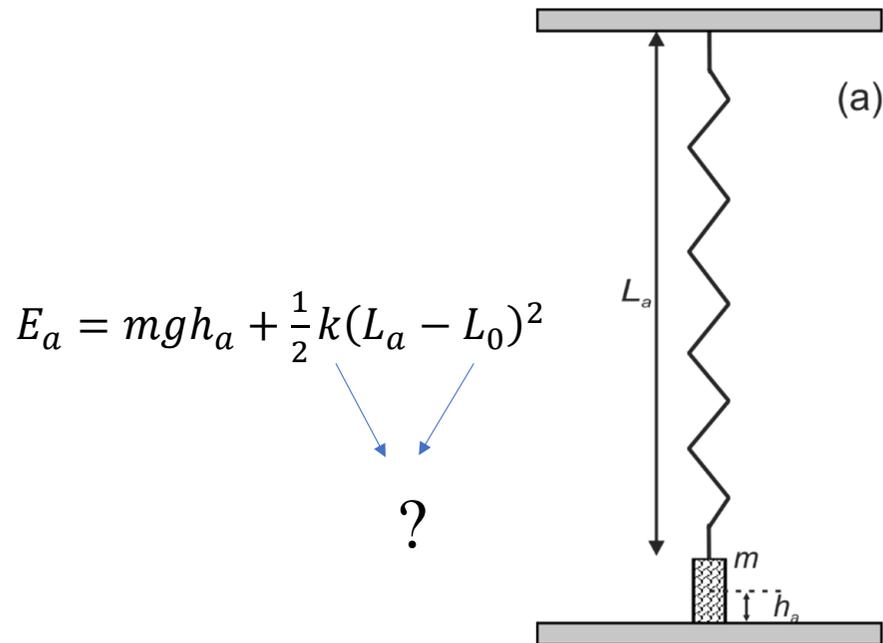
Prof. Rafael Guido

rvcguido@ifsc.usp.br

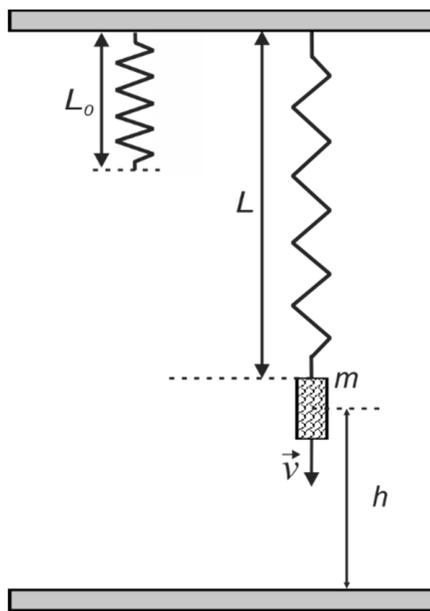
# Conservação da Energia – Caso 1



# Conservação da Energia – Caso 1



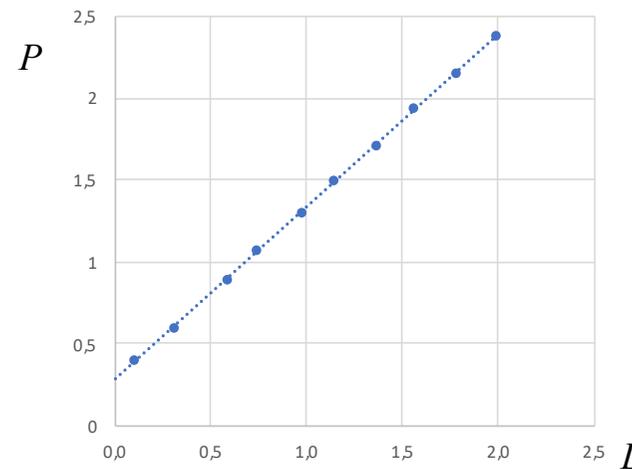
# Sistema massa-mola



$$F = k x \rightarrow \text{Lei de Hooke}$$

$$P = k(L - L_0)$$

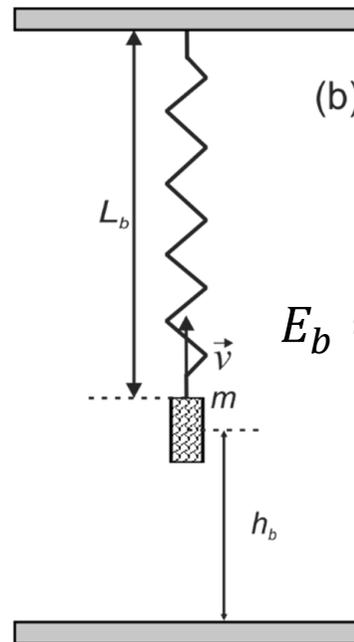
$$P = kL - kL_0 \rightarrow y = ax + b$$



$$k = \Delta P / \Delta L$$

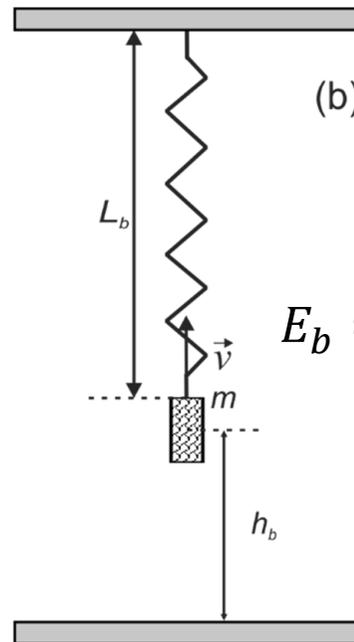
$$L_0 = b / k$$

## Conservação da Energia – Caso 2



$$E_b = \frac{1}{2}mv^2 + mgh_b + \frac{1}{2}k(L_b - L_0)^2$$

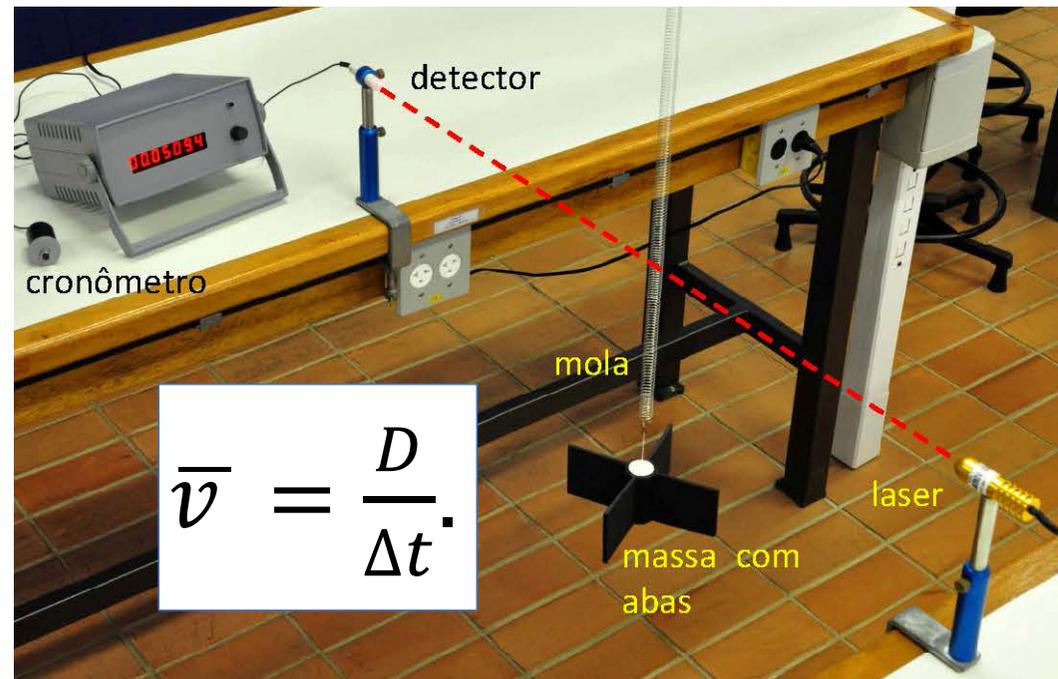
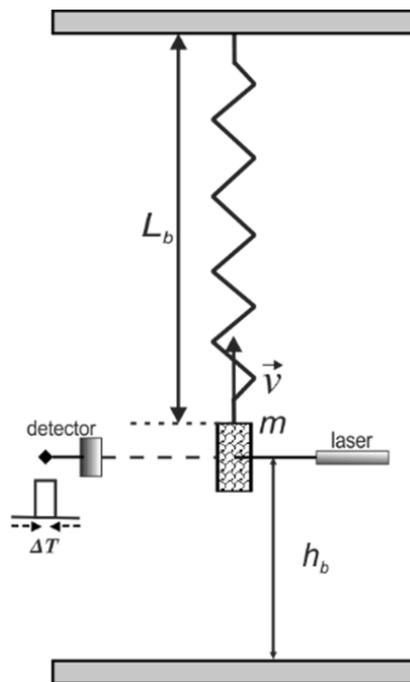
# Conservação da Energia – Caso 2



$$E_b = \frac{1}{2}mv^2 + mgh_b + \frac{1}{2}k(L_b - L_0)^2$$

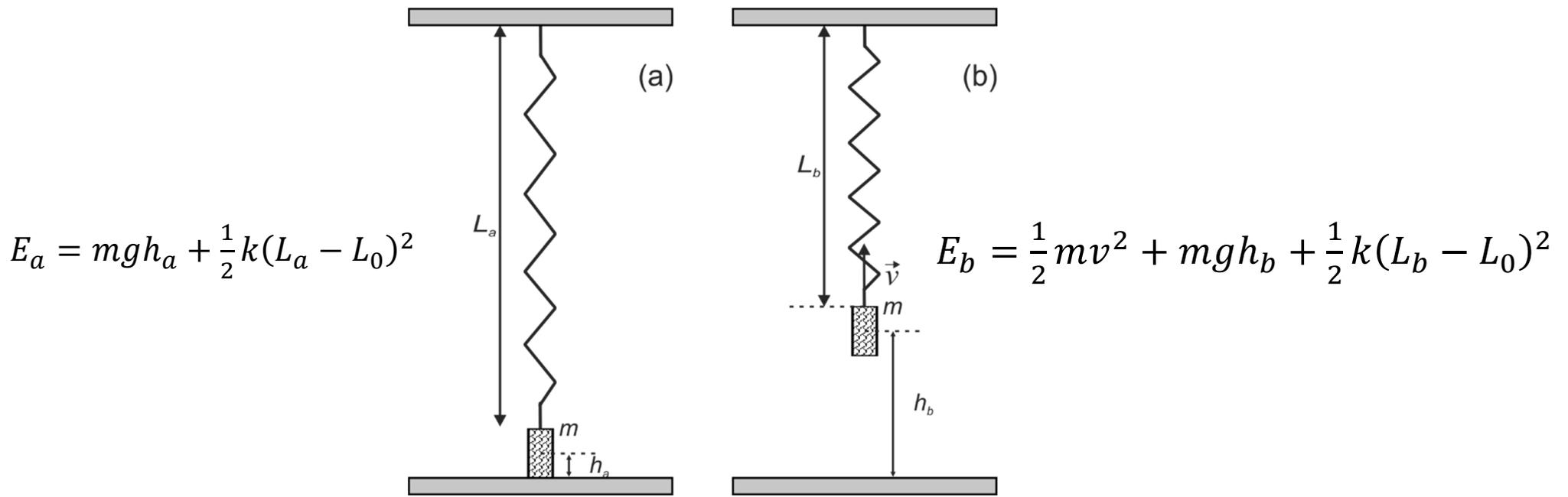
?

# Conservação da Energia – Caso 2



$$\bar{v} = \frac{D}{\Delta t}$$

# Conservação da Energia



Conservação da Energia

$$E_{T1} = E_{T2}$$