

# E-CAT QX DEMO

Stockholm 24 November 2017

# PROGRAM

- Introduction and description of test protocol **Mats Lewan**  
*(journalist, speaker, author of 'An Impossible Invention.')*
- Demo and measurements **William S. Hurley**  
*(dir. Senior Project Engineering, Los Angeles Refinery, Andeavor).*
- Calculations **Andrea Rossi**  
*(CEO of Leonardo Corporation, inventor of the E-Cat technology).*
- Theory **Carl-Oscar Gullström**  
*(Nuclear physicist, focusing on meson physics)*
- *Aperitivo*

# E-CAT QX

Third generation of the patented **E-Cat** technology:

A **heat source** built on a low energy nuclear reaction (**LENR**) with a fuel based primarily on nickel, aluminum, hydrogen and lithium, with **no radiation** and with **no radioactive waste**.

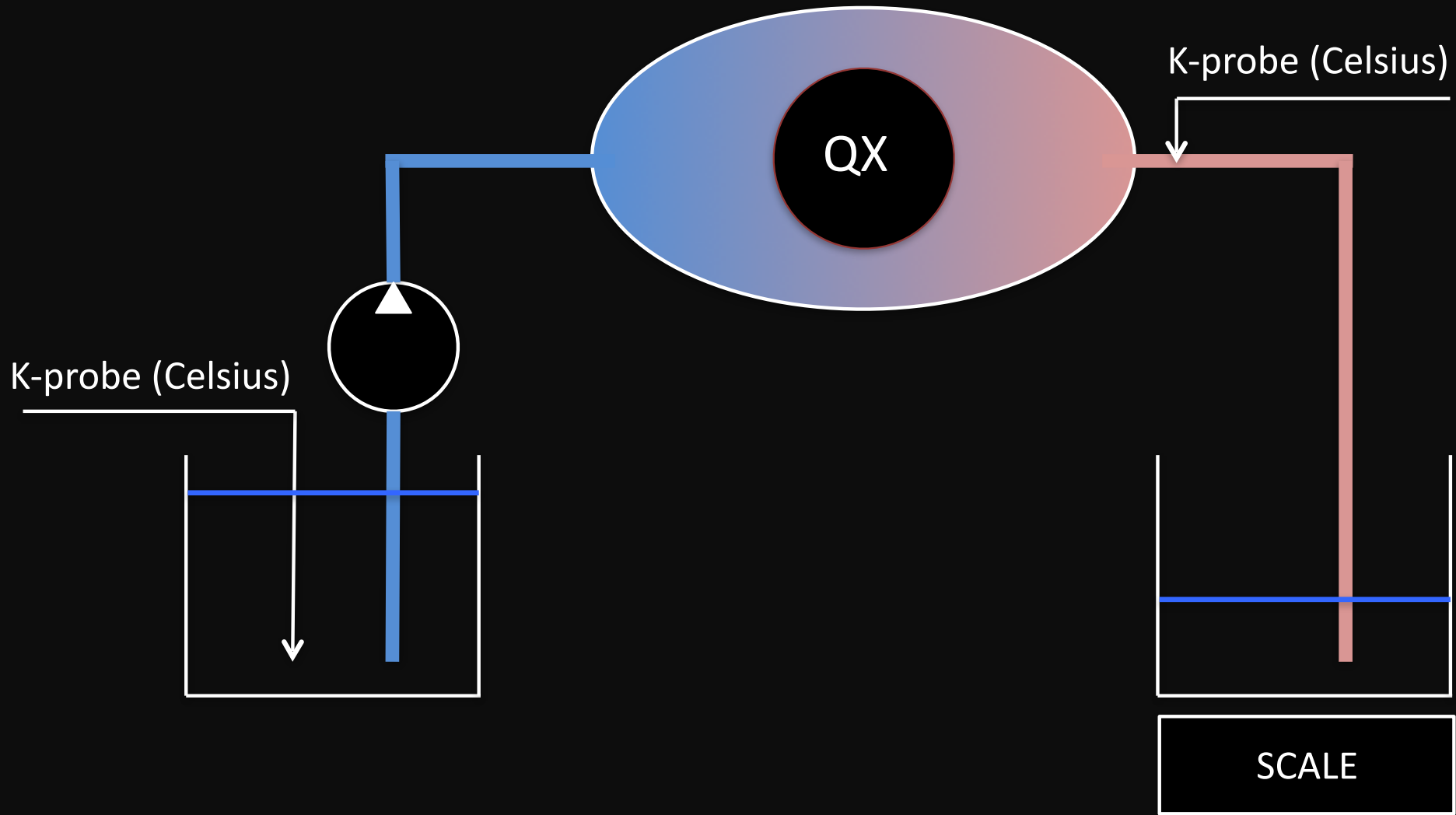
Claims E-Cat QX:

- volume  $\approx 1 \text{ cm}^3$
- thermal output 10-30 W
- negligible input control power
- internal temperature  $> 2,600^\circ \text{ C}$
- no radiation above background

Today: Cluster of 3 E-Cat QX

# TEST PROTOCOL

Thermal output



# TEST PROTOCOL

Thermal output

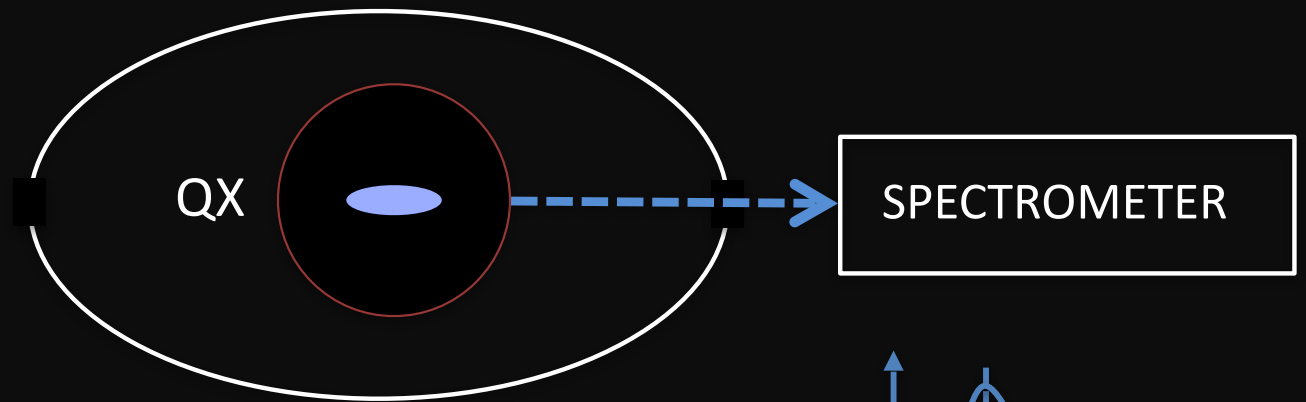
$$W = m_{\text{water}} * C_p * \Delta T$$

$$C_p \text{ water} = 4.18 \text{ J}/(\text{g}\cdot\text{K})$$

$$P_{\text{av}} = W/t$$

# TEST PROTOCOL

Thermal output



**Wien's displacement law:**

$$\lambda_{\max} = b/T \quad \text{or} \quad T = b/\lambda_{\max}$$

where  $b \approx 2900 \mu\text{m}\cdot\text{K}$

**Stefan–Boltzmann law:**

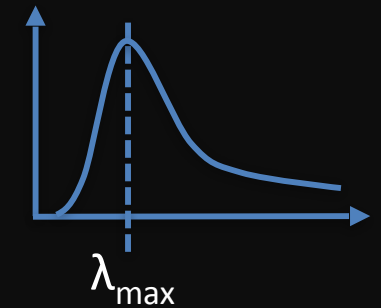
$$P = A\varepsilon\sigma T^4$$

where

$A$  = area

$\varepsilon$  = emissivity

$\sigma \approx 5.67 \times 10^{-8} \text{ W}/(\text{m}^2 \cdot \text{K}^4)$



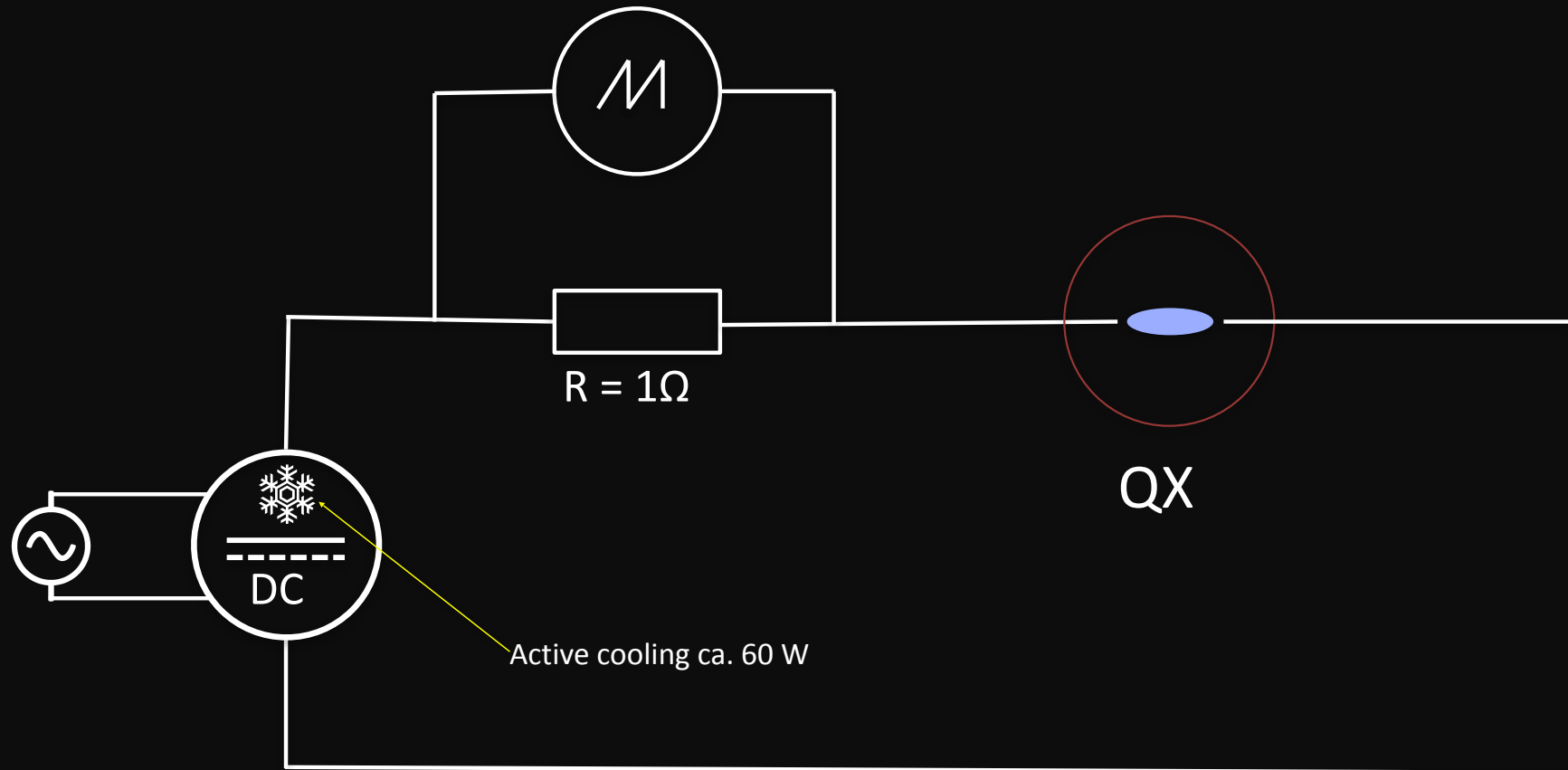
# TEST PROTOCOL

Electric input

$$I = U/R$$

$$P = UI$$

$$P = RI^2$$



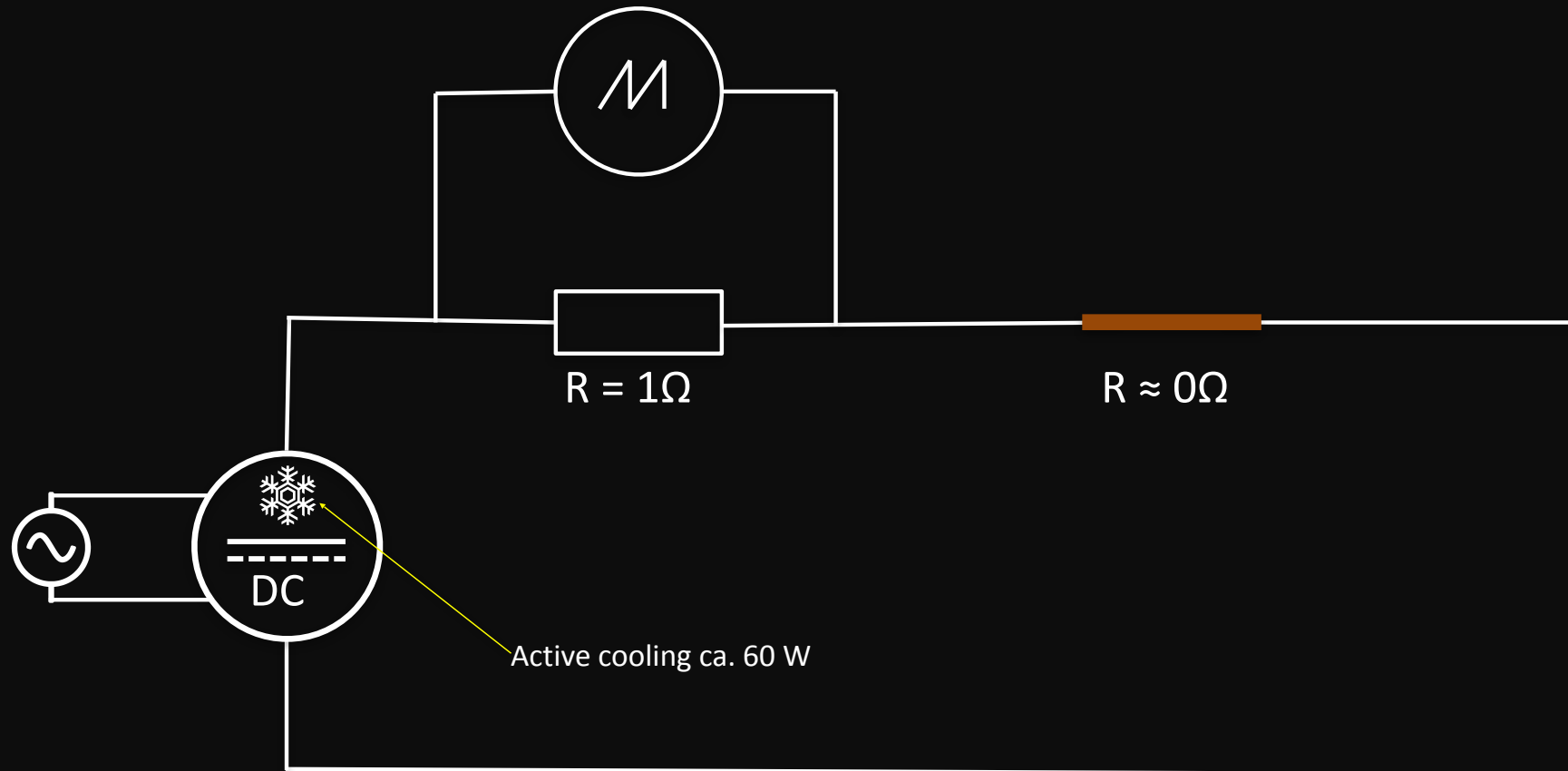
# TEST PROTOCOL

Electric input

$$I = U/R$$

$$P = UI$$

$$P = RI^2$$





# TEST PROTOCOL

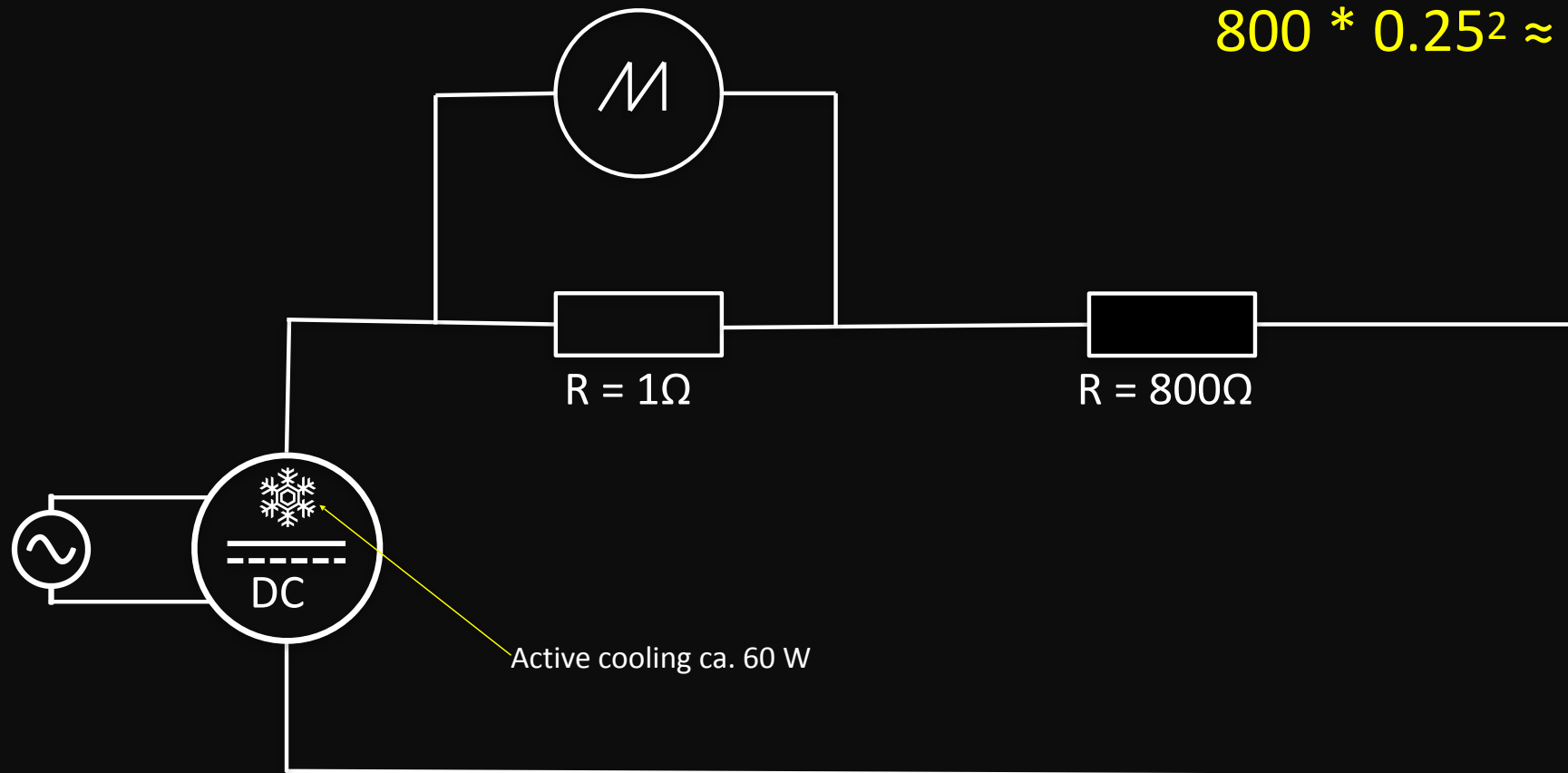
Electric input

$$I = U/R$$

$$P = UI$$

$$P = RI^2$$

$$800 * 0.25^2 \approx 50 \text{ W}$$



# PROGRAM

- Introduction and description of test protocol **Mats Lewan**  
*(journalist, speaker, author of 'An Impossible Invention.')*
- Demo and measurements **William S. Hurley**  
*(dir. Senior Project Engineering, Los Angeles Refinery, Andeavor).*
- Calculations **Andrea Rossi**  
*(CEO of Leonardo Corporation, inventor of the E-Cat technology).*
- Theory **Carl-Oscar Gullström**  
*(Nuclear physicist, focusing on meson physics)*
- *Aperitivo*

# THANKS

Mats Lewan

Twitter: matslew

Contact: [MatsLewan.se](http://MatsLewan.se)