



CELEBRATING

25
YEARS

**SCIENCE
WEEK**

#scienceweek

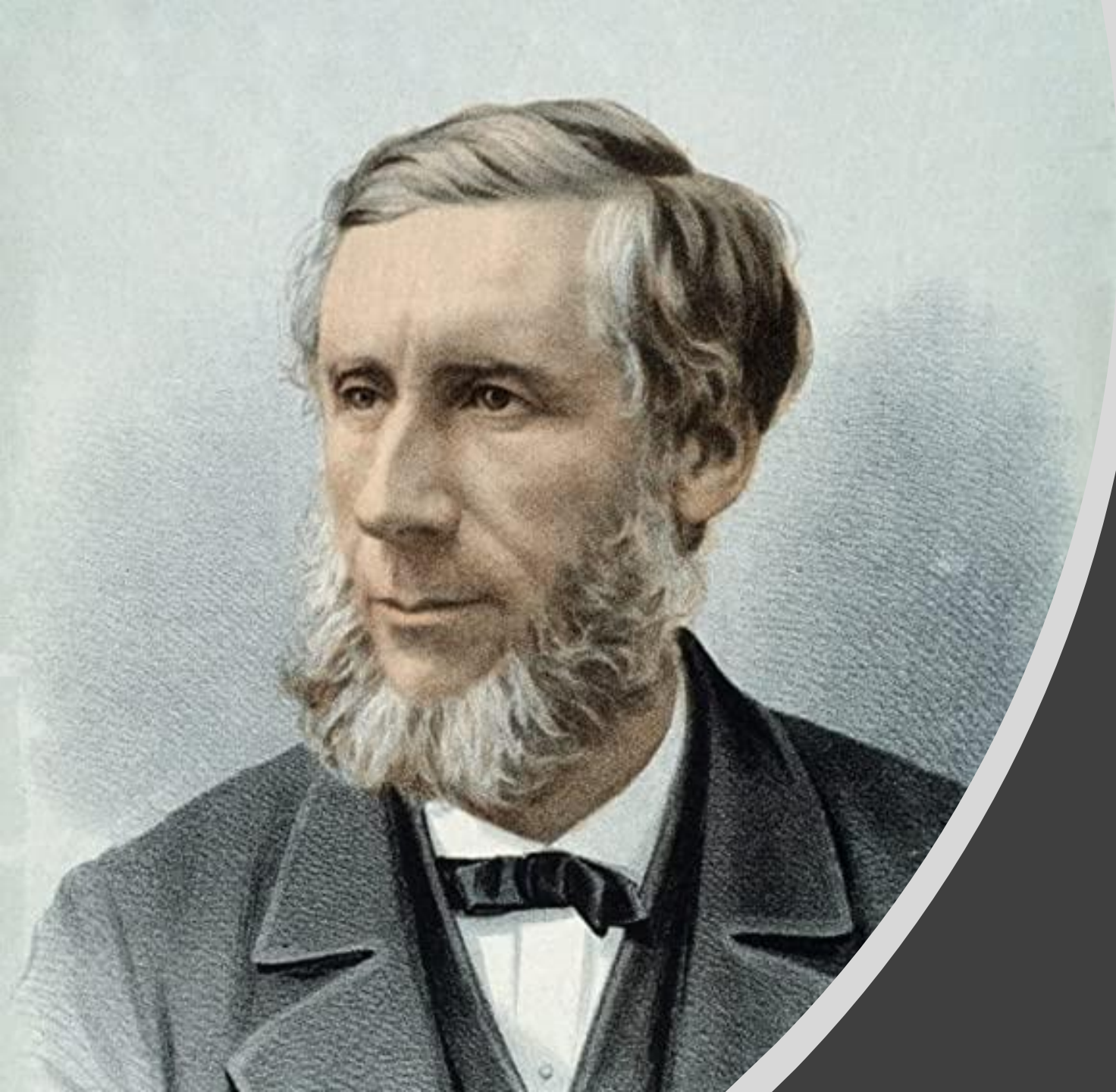
8-15 Nov 2020



Physics

in Your Life

ROUND 1



Born 200 years ago
John Tyndall is best
remembered for the
man who discovered
why the sky is blue.

Which county was
he from?

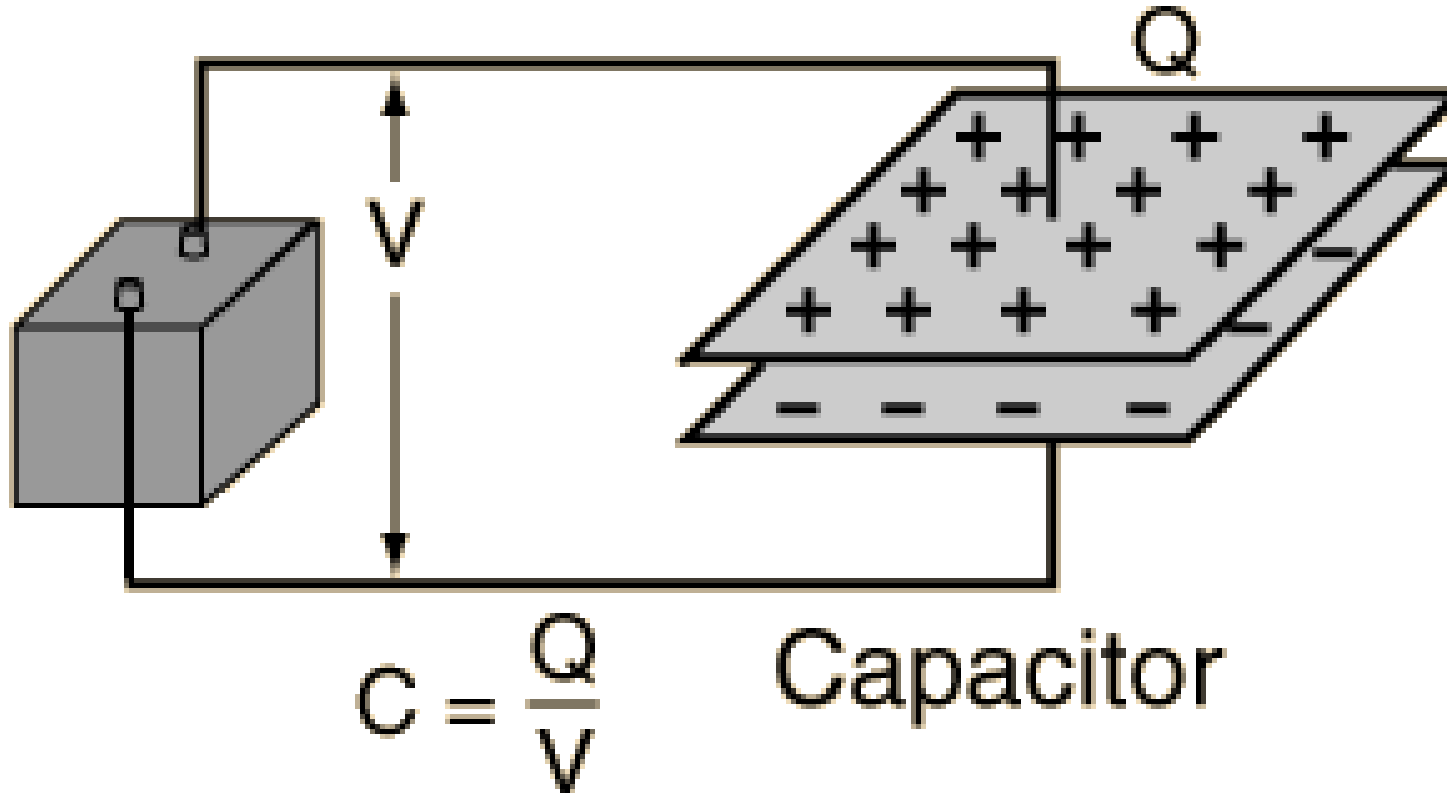
Which two planets in our solar system do not have moons?



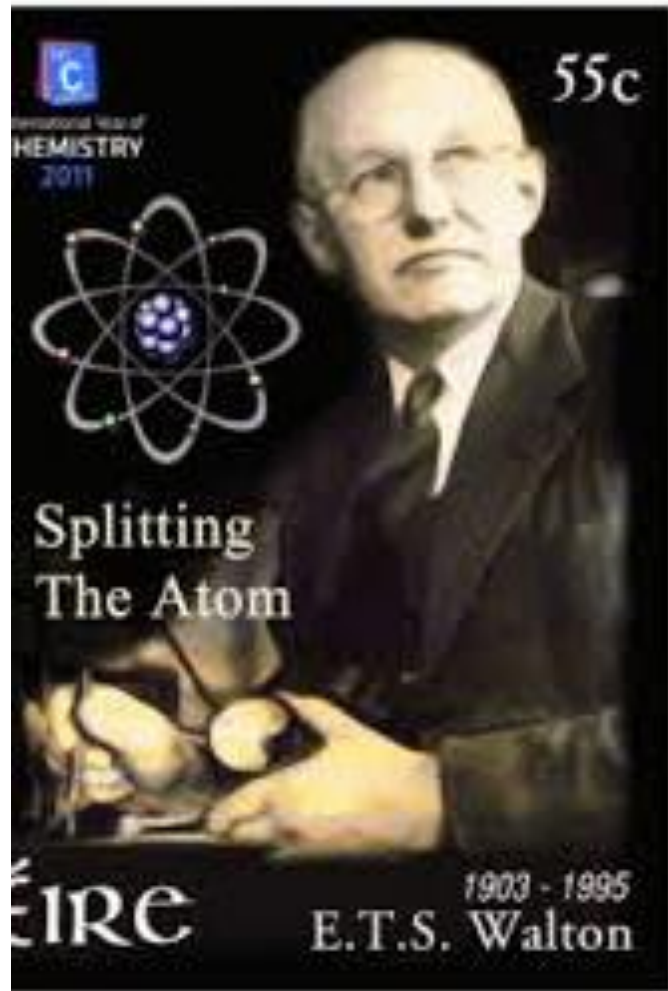


I-LOFAR is a low frequency radio telescope.
Where is it located?

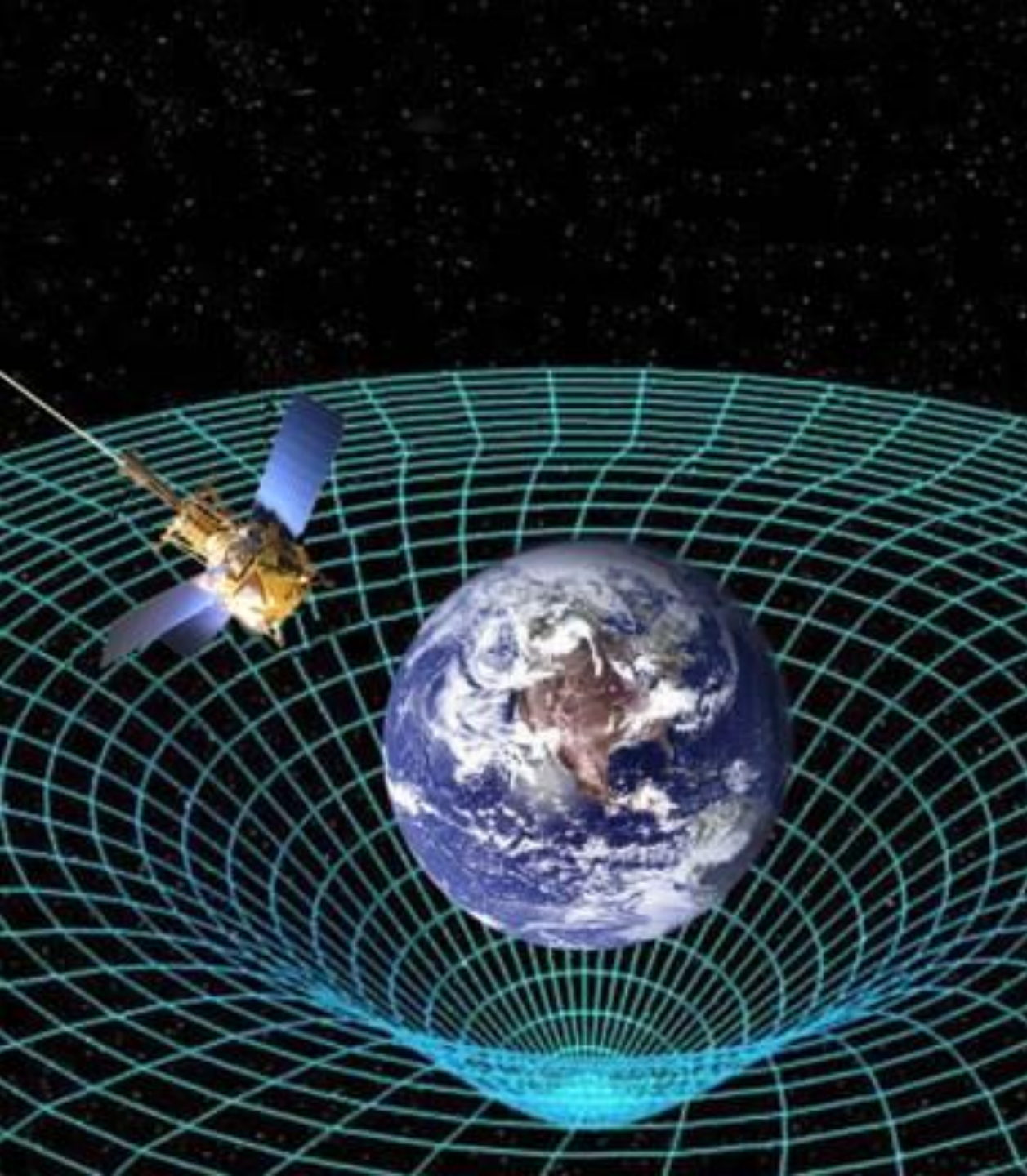
A **capacitor** stores energy.
Is the energy stored in the



- Electric field
- Magnetic field
- Both



Ernest Walton won a Nobel Prize for his work on splitting the atom, but who was the engineer that helped build the apparatus used for this experiment and the supervisor?



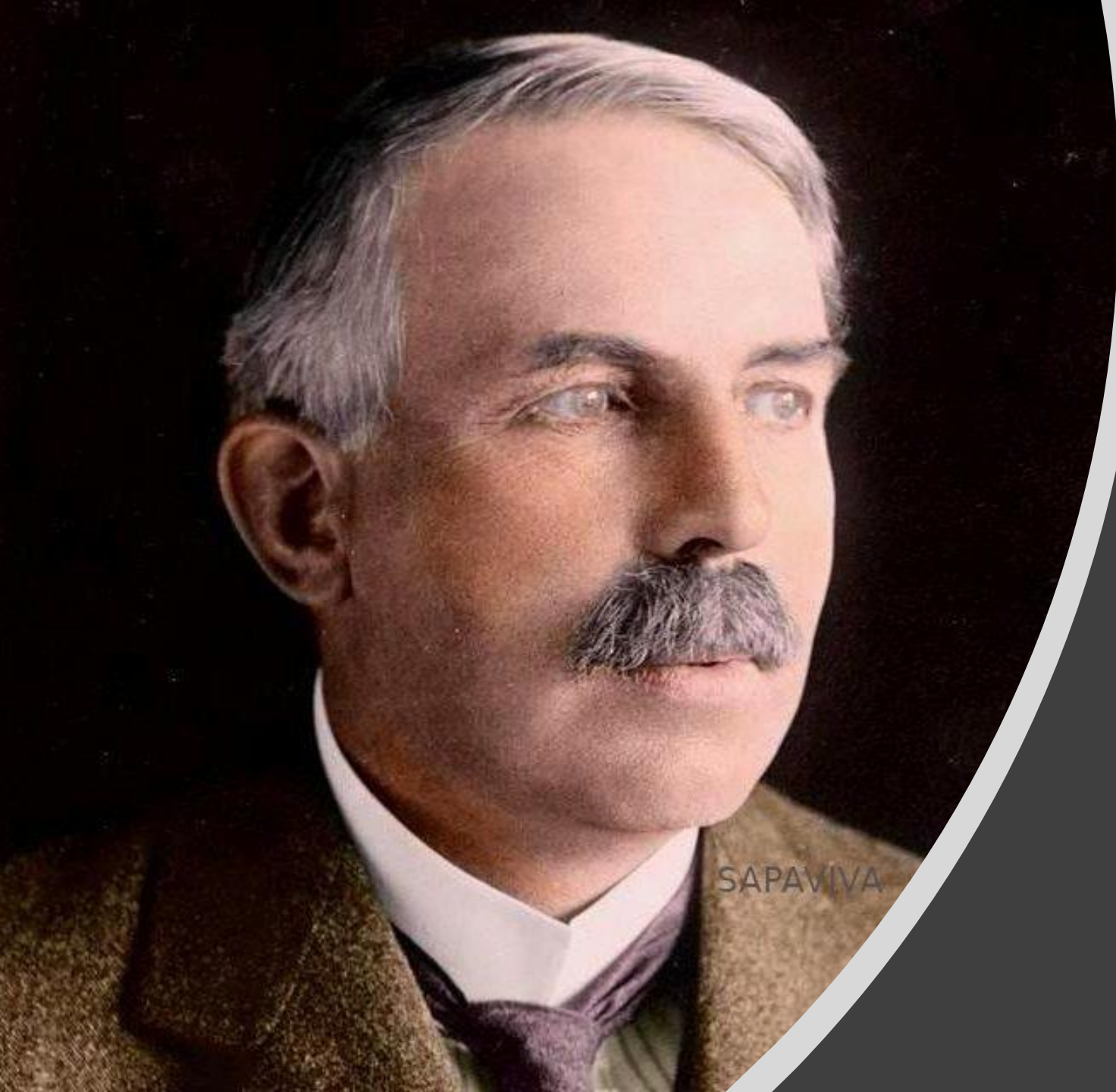
If the acceleration due to gravity on a planet is 20 ms^{-2} at the surface, what the acceleration at a height of 3 times the radius above the surface?



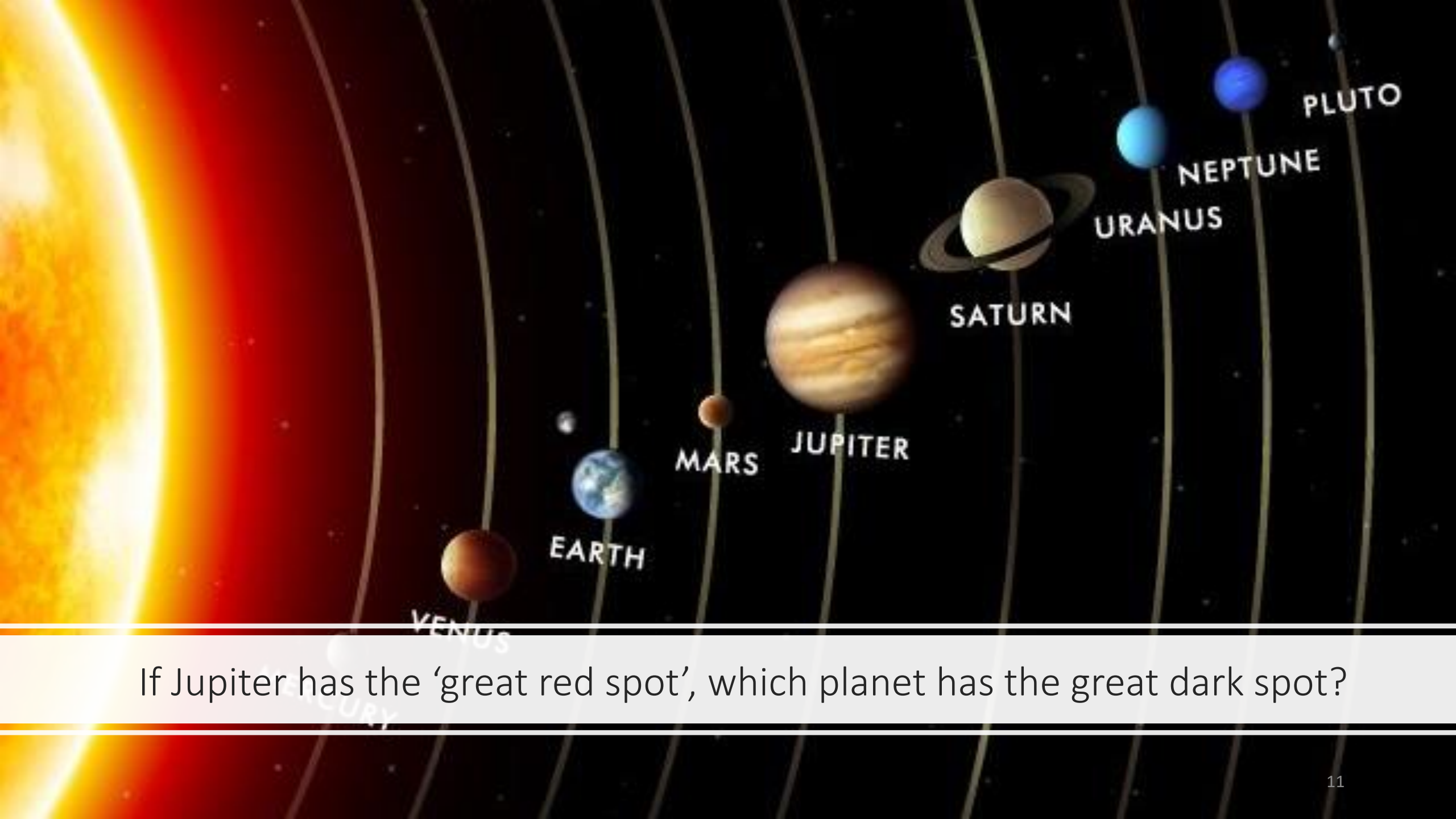
Physics

in Your Life

ROUND 2



Rutherford said that all science is just one subject while comparing the rest to stamp collecting? What was the subject?



If Jupiter has the 'great red spot', which planet has the great dark spot?



A BER certificate is an indication of the energy performance of a home. What does **BER** stand for?



You have a 1.4 kW toaster with a missing fuse. What is the lowest rating of fuse you could use in Ireland: is it 3A, 5A, 10A, or 13A?

$$C = \frac{Q}{V}$$

Who is the unit of
capacitance named after?

Transistors



A transistor is a semiconductor device used to amplify or switch electronic signals and electrical power. The word “transistor” is a contraction of which two other words ?

A plasma ball with a glowing red core and numerous blue and purple filaments extending outwards. The background is dark with some faint lights.

Physics

in Your Life

ROUND 3



Pulsars were discovered by an Irish scientist who is Pro-Chancellor of Trinity College.

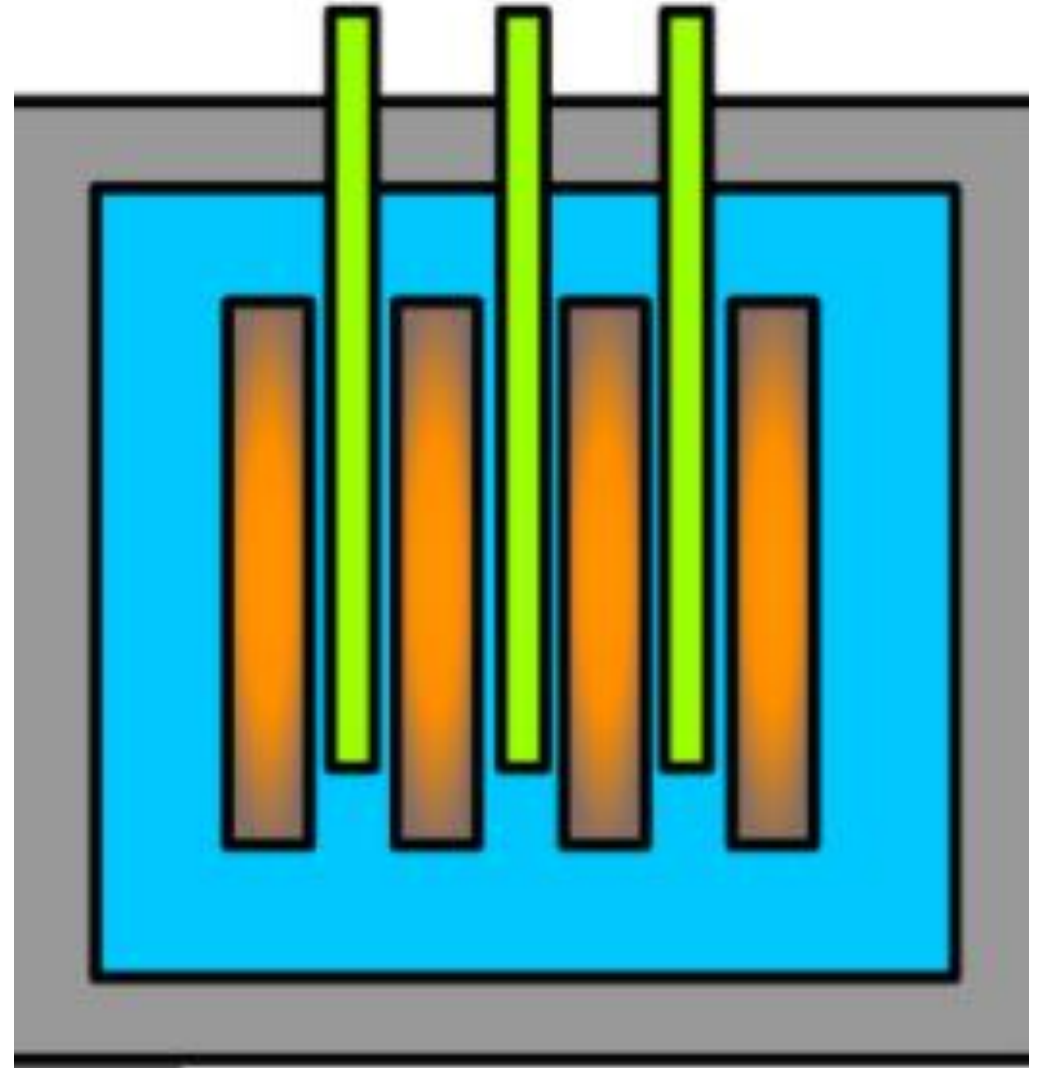
Who is she?

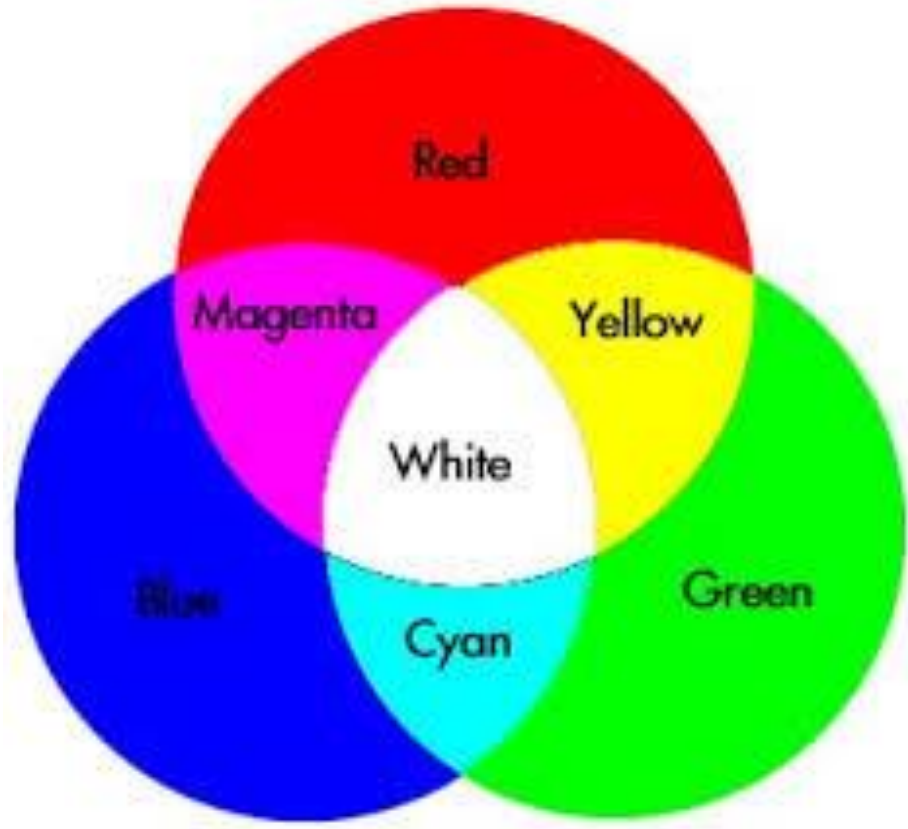


When
astronomers
talk about
**'atmospheric
scintillations**
' what are
there
referring to?

In a nuclear reactor, the purpose of the moderator is to reduce

- A. temperature of the reactor
- B. number of neutrons causing the fission
- C. speed of the neutrons
- D. rate at which energy is being released





Who first demonstrated that light is a mixture of colours?



There are 3 factors on which the resistivity of a wire depends. Resistance is one, what are the other two?



It is assumed that the depth of water in a harbour rises and falls with simple harmonic motion. On a certain day the low tide has a depth of 9 m at 12:20 and the following high tide had a depth of 13 m at a time of 18:20.

Which of the following is true:

- A Amplitude is 4 m and period is 12 hours
- B Amplitude is 2 m and period is 6 hours
- C Amplitude is 4 m and period is 6 hours
- D Amplitude is 2 m and period is 12 hours



Physics

in Your Life

ROUND 4

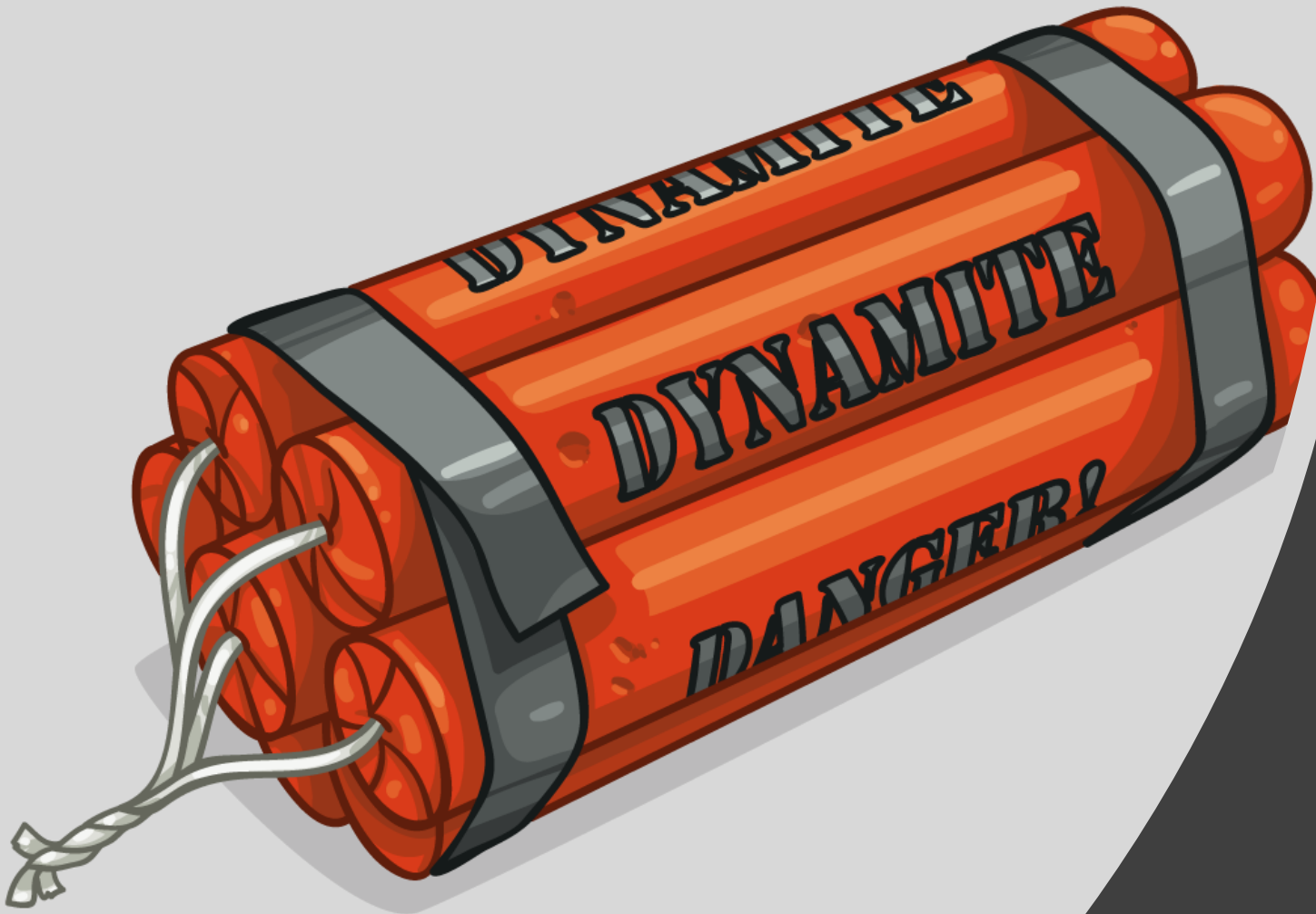


Who was the German born mechanical engineer and physicist who discovered X-rays?

When a cannon ball is fired and the cannon recoils which of the following is true?

- A Cannon's momentum is greater than the canon ball's momentum
- B Cannon's momentum is equal to the canon ball's momentum
- C Cannon's momentum is less than the canon ball's momentum
- D The sum of the two momentum values is zero

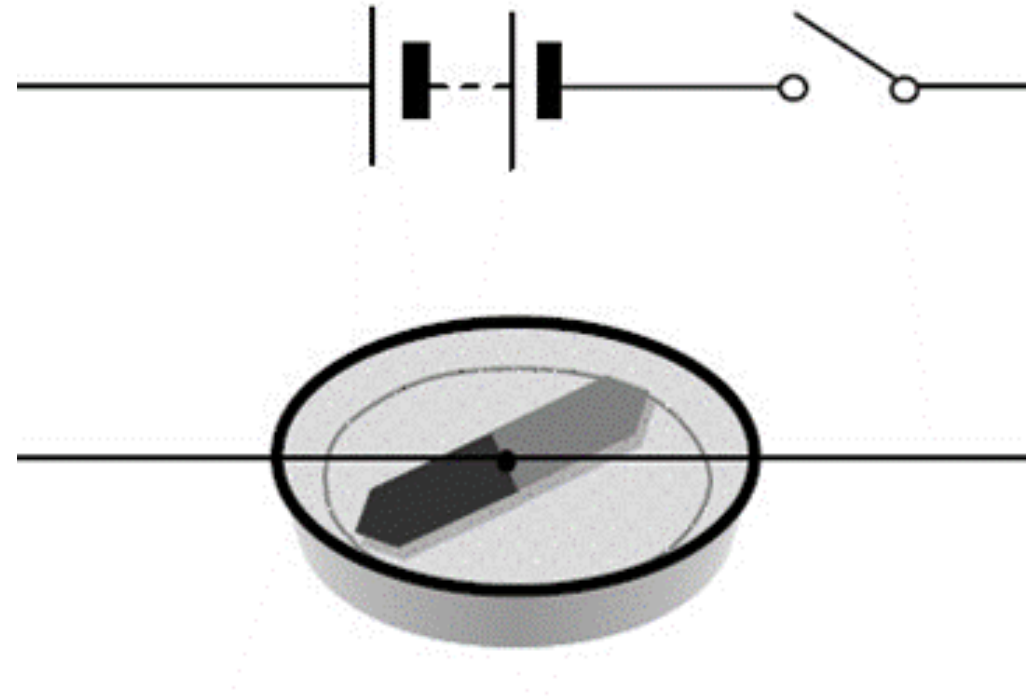




Name the Swedish chemist and industrialist who invented dynamite.

Which of the following was the first to recognise a connection between electricity and magnetism?

- Coulomb
- Faraday
- Galvani
- Oersted



On a resistor colour code what number does red stand for?





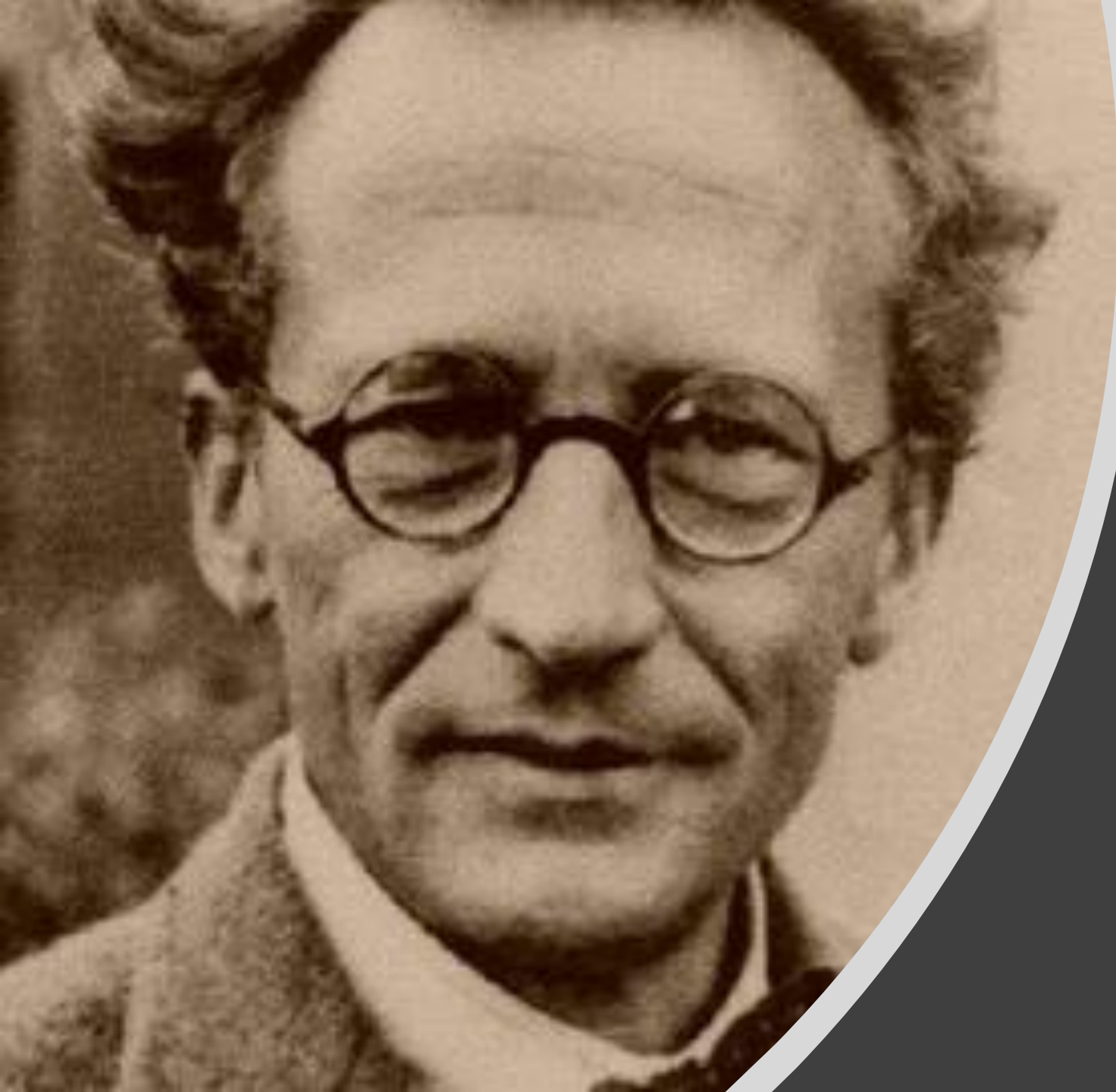
What is the SI
unit of
inductance?



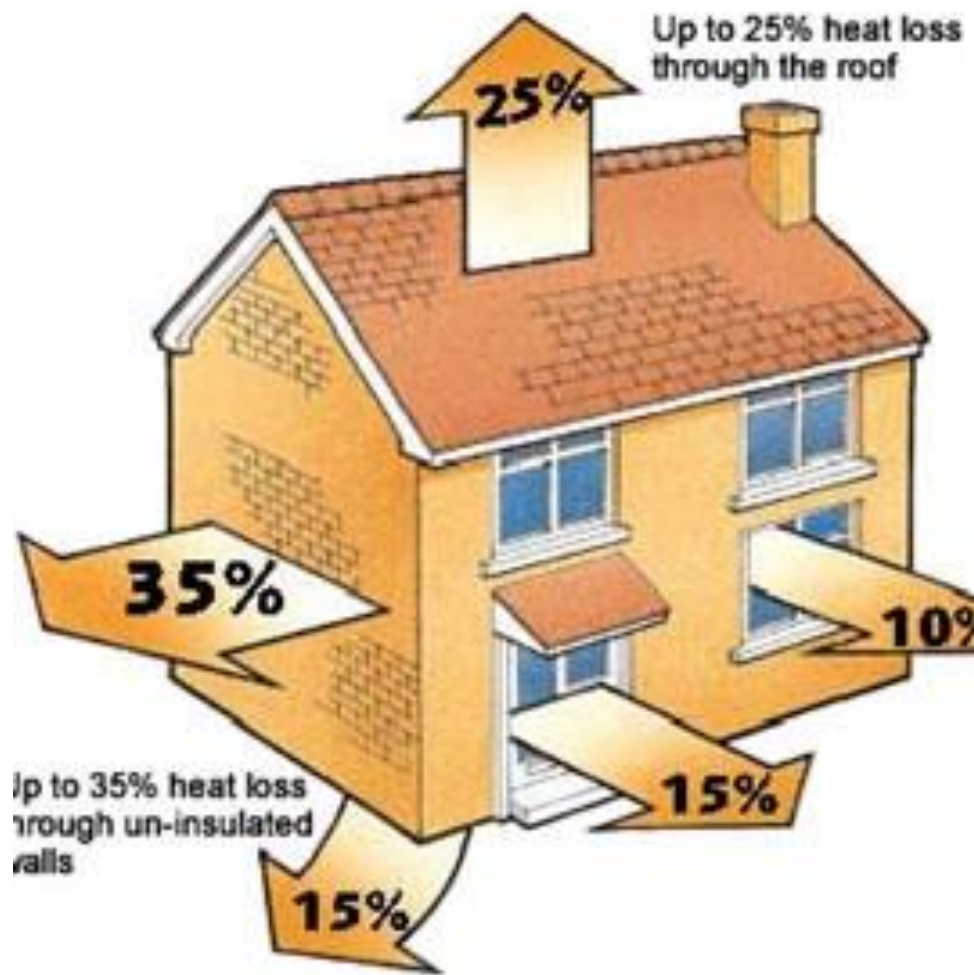
Physics

in Your Life

ROUND 5



Which Austrian scientist's 1944 book, written while he was working in Trinity College Dublin has been credited by both Crick and Watson as inspiration for their initial work on DNA.



A U-value indicates the overall heat loss rate through a complete building. Will a well insulated house have a HIGH or LOW U value?



At what point in its motion does a pendulum have its greatest acceleration?




Which Irish Scientist
invented the
Induction Coil?

In which of the following
is the speed of sound
greatest?

- A air
- B water
- C steel
- D sand





An elevator lifts a weight of **2000 N** through a height of **10 m** in **5 s**.

What is the **power** of the elevator?



A plasma ball with a human brain inside, emitting colorful filaments of light. The brain is a reddish-pink color, and the filaments are primarily blue and purple, with some yellow and green. The background is dark, making the glowing elements stand out.

Physics

in Your Life

ROUND 6



The anemometer was invented in 1845 in Ireland for the purpose of measuring the speed of the wind.

What was the name of the inventor?



Name the **fixed point** or axis around which a lever is free to turn?



Calculate the distance the ship is from the seabed given **speed of sound** in water = **1500 m/s** and the **time** taken for the sound to be heard is **0.2 s**



Below which temperature is salt spread on icy roads ineffective?

A body starts from rest with a uniform acceleration a .
The time t taken for it to undergo a displacement s is
given by

A	B	C	D
$t = \sqrt{\frac{2s}{a}}$	$t = \sqrt{\frac{2a}{s}}$	$t = \sqrt{\frac{a}{2s}}$	$t = \sqrt{\frac{s}{2a}}$



The candela (cd) is the SI base unit of luminous intensity.

A common candle emits light with a luminous intensity of roughly how many candelas?



CELEBRATING

25
YEARS

SCIENCE WEEK

#scienceweek

8-15 Nov 2020