



and

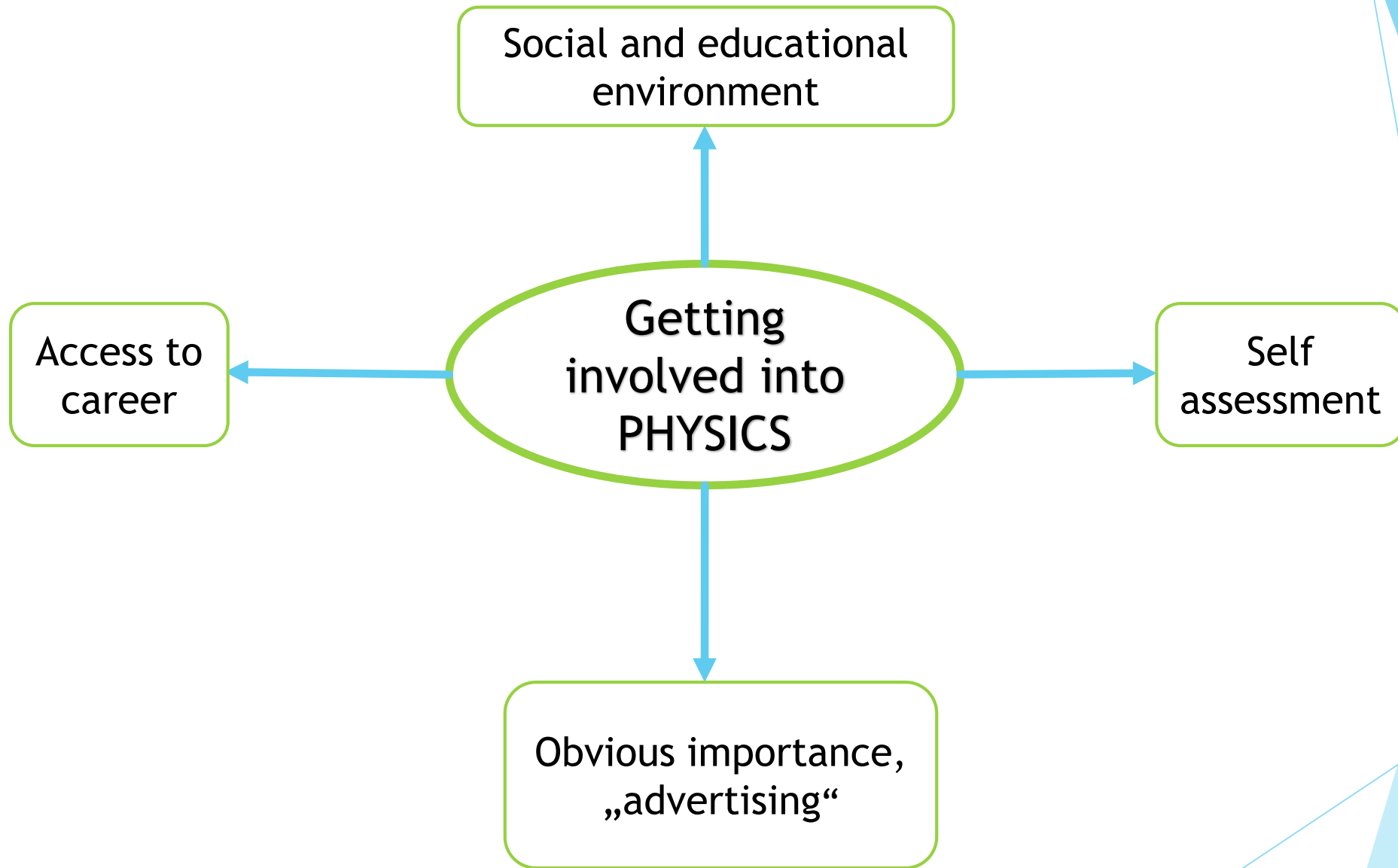
aspects in physics lessons

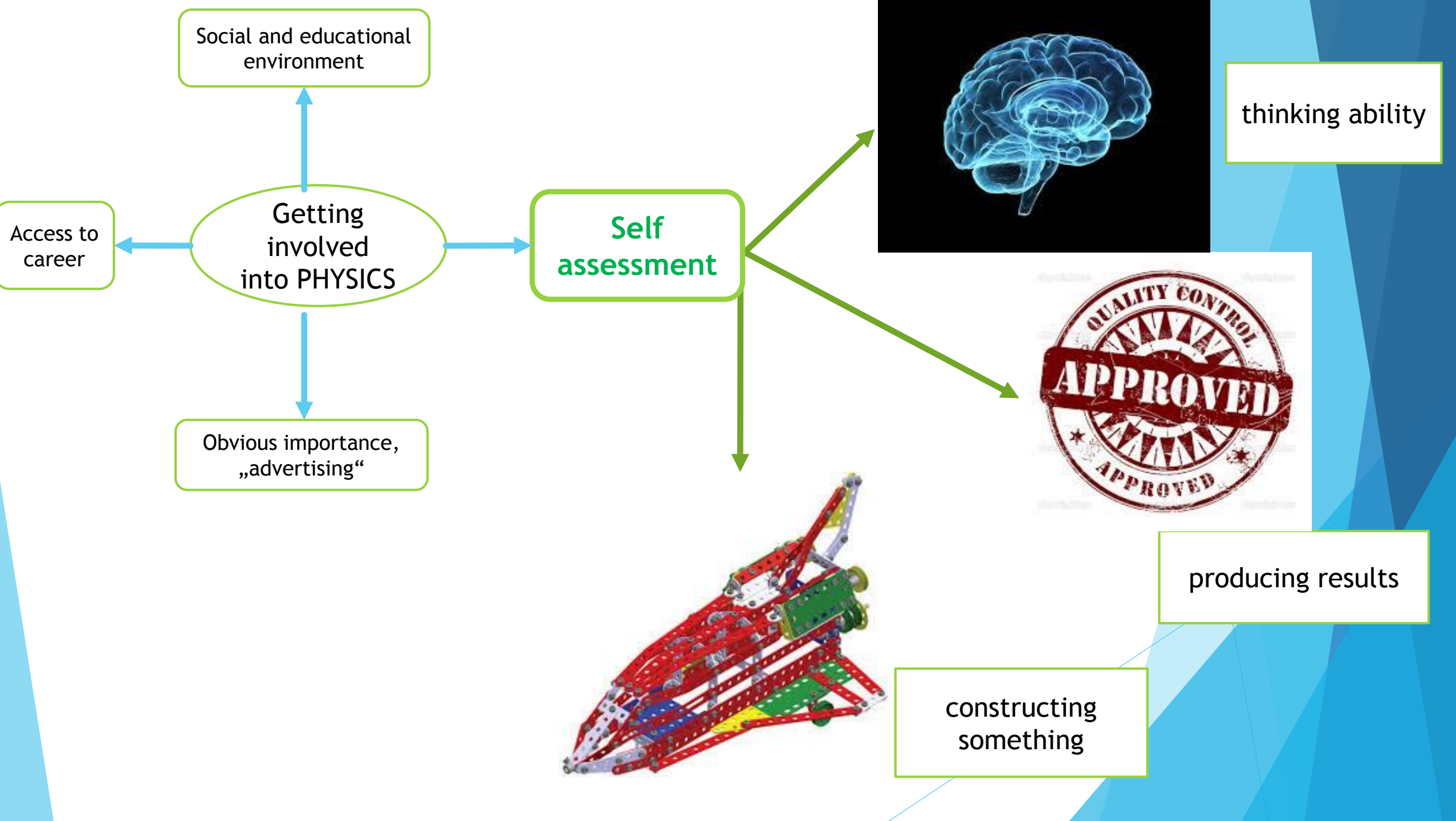


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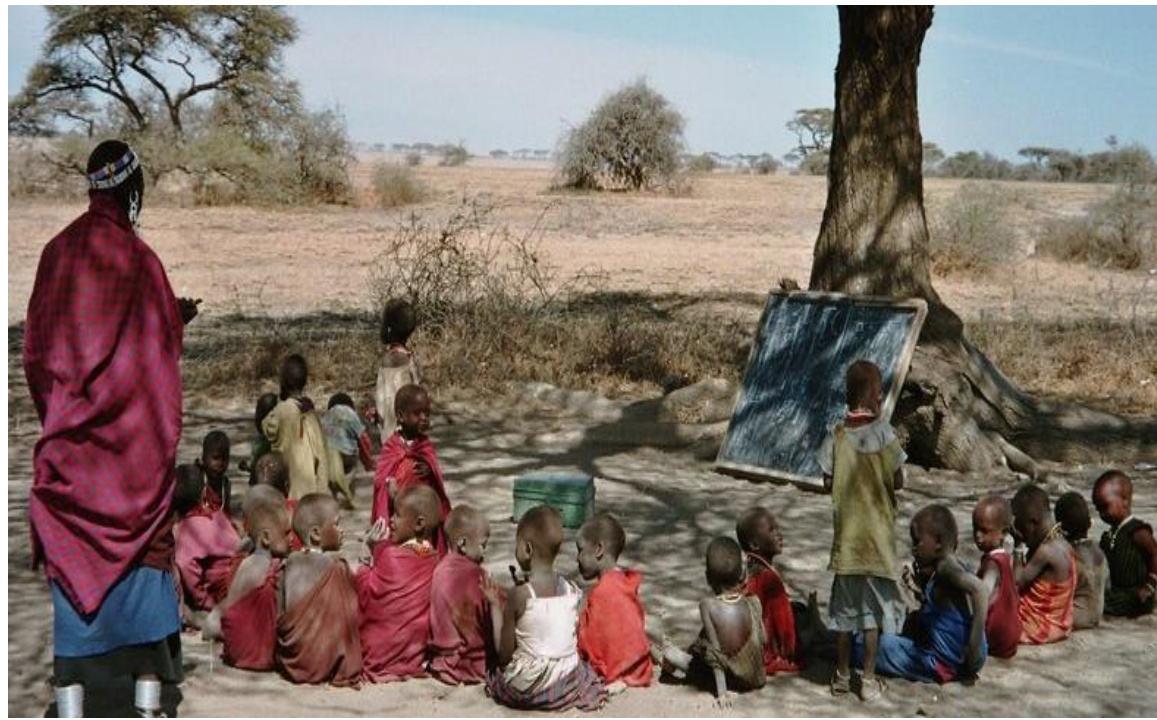
สารบัญ

1. Myšlenková mapa
2. Modèles à suivre.
3. Nola areagotu emakumeen presentzia Fisikan.
4. ♀ oder ♂ ?

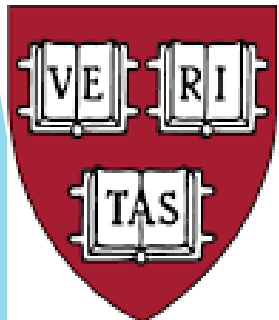




Educational system



Attractive physics department in „local“ University



HARVARD UNIVERSITY

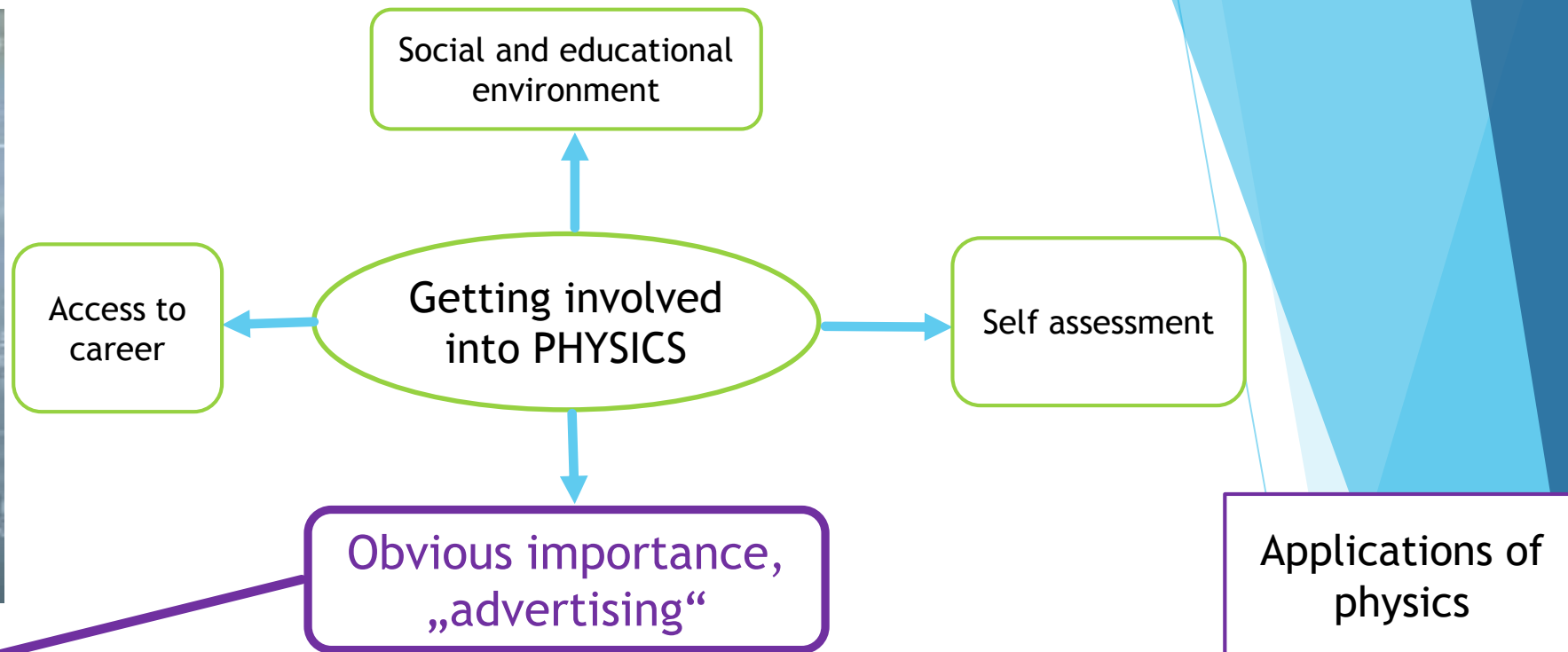
Access to career

Social and educational environment

Getting involved into PHYSICS

Self assessment

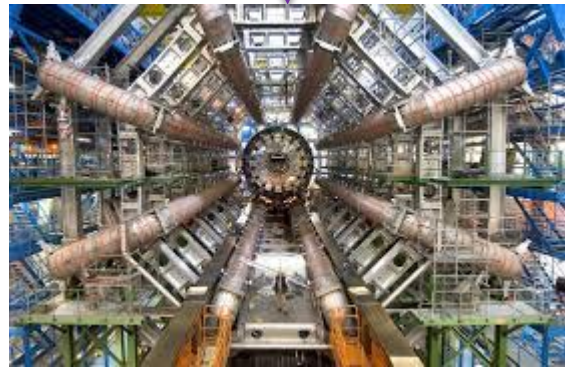
Obvious importance, „advertising“



Theoretical physics



Basic research



General attitude,
„going through
the whole
problem“



Family, friends
and teachers

media



Historical
background

Social and
educational
environment

Access to
career

Getting
involved
into PHYSICS

Self assessment

Obvious importance,
„advertising“



Girls in the Physics Classroom: Considering a Gender Approach through Role Models

“And while this has not yet manifested itself significantly in the form of female role models in hierarchical positions, progress to date shows that we’re getting there: we’re starting to breach the infamous glass ceiling.”



What can you do as a *Science* teacher?

Become AWARE!

“It cannot be assumed that girls are gaining meaningful access to physics.”

IOP Institute of Physics

Murphy, P. and Whitelegg, E. (2006). Girls in the physics classroom: A review of the research on the participation of girls in physics. *Institute of Physics*, London, UK. Retrieved from http://www.iop.org/education/teacher/support/girls_in_physics_classroom/41597.html

What can you do as a *Science* teacher?

Know Historical Female Role Models in *Science* and Discuss them.

FABLES SHOULD BE TAUGHT AS FABLES, MYTHS AS MYTHS, AND MIRACLES AS POETIC FANCIES. TO TEACH SUPERSTITIONS AS TRUTHS IS A MOST TERRIBLE THING. THE CHILD MIND ACCEPTS AND BELIEVES THEM, AND ONLY THROUGH GREAT PAIN AND PERHAPS TRAGEDY CAN HE BE IN AFTER YEARS RELIEVED OF THEM. IN FACT, MEN WILL FIGHT FOR A SUPERSTITION QUITE AS QUICKLY AS FOR A LIVING TRUTH – OFTEN MORE SO, SINCE A SUPERSTITION IS SO INTANGIBLE YOU CANNOT GET AT IT TO REFUTE IT, BUT TRUTH IS A POINT OF VIEW, AND SO IS CHANGEABLE. HYPATIA OF ALEXANDRIA



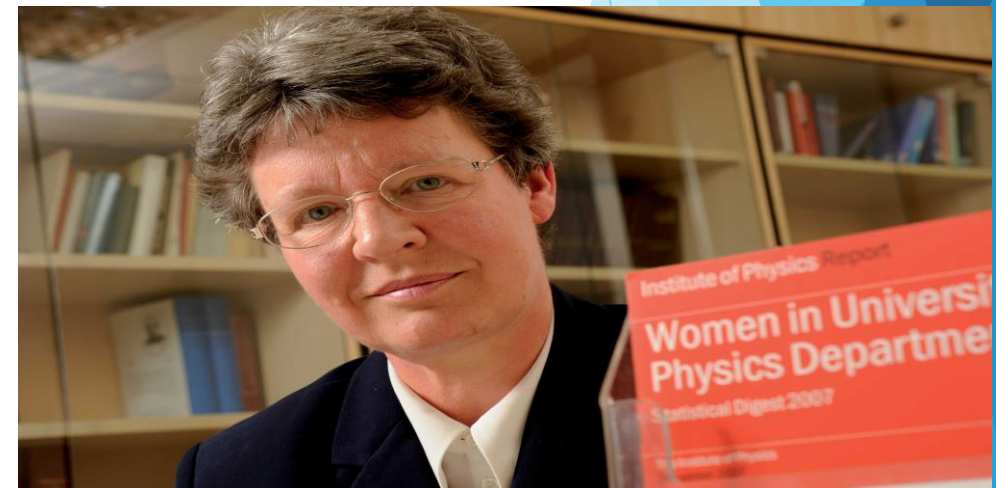
What can you do as a *Science* teacher?

Know Historical Female Role Models in *Science* and Discuss them.



What can you do as a *Science* teacher?

Know Contemporary Female Role Models in *Science* and Discuss them.



What can you do as a *Science* teacher?

Know your Local Female Role Models in *Science* and Discuss them.

- You, as a female science teacher, are a role model!
- Ask the students in your class if they know females in STEM careers.
- What are the STEM businesses in your area?



What can you do as a *Science* teacher?

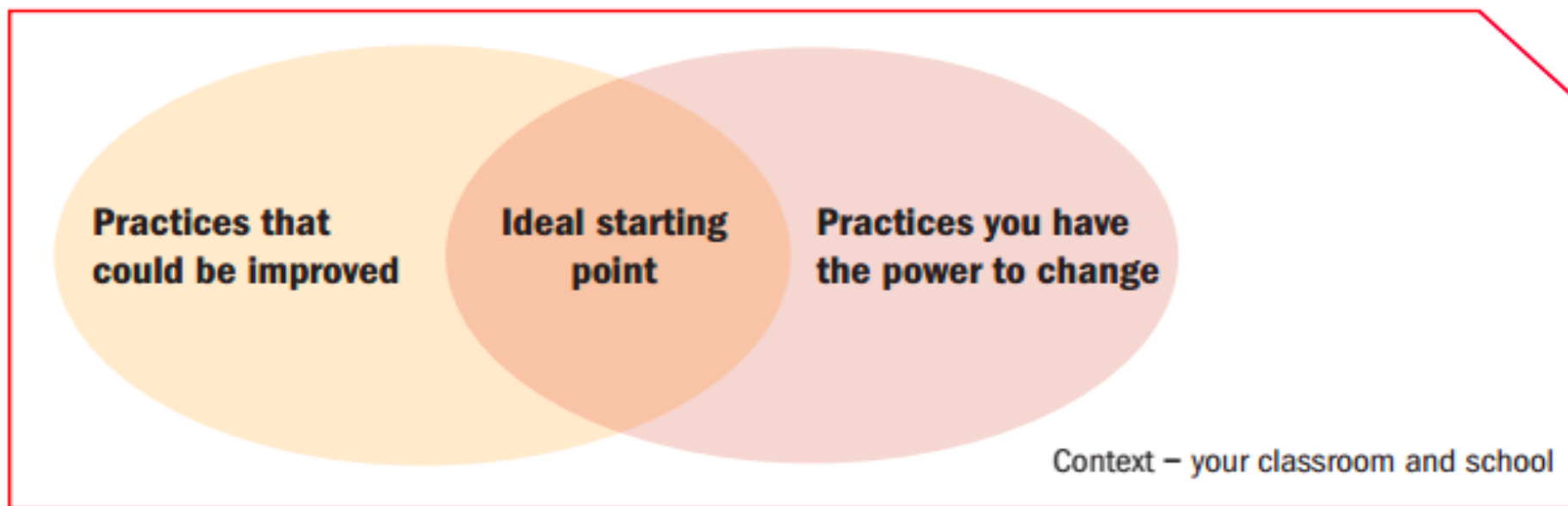
Know your Local Female Role Models in *Science* and Discuss them.

Be a female role model supporter!





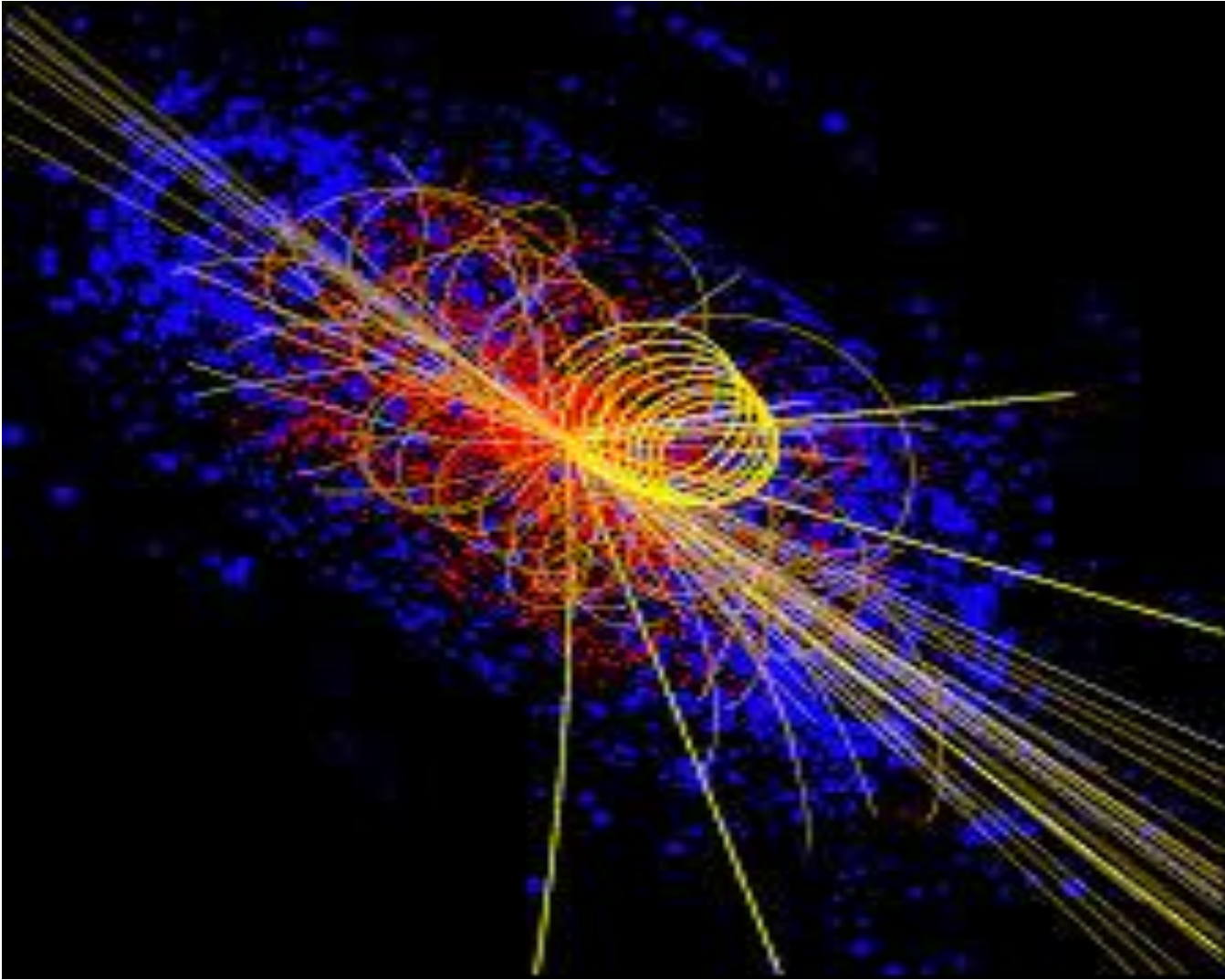
GIRL-FRIENDLY PHYSICS



<http://girlfriendlyphysics.co.uk/testlist.html>

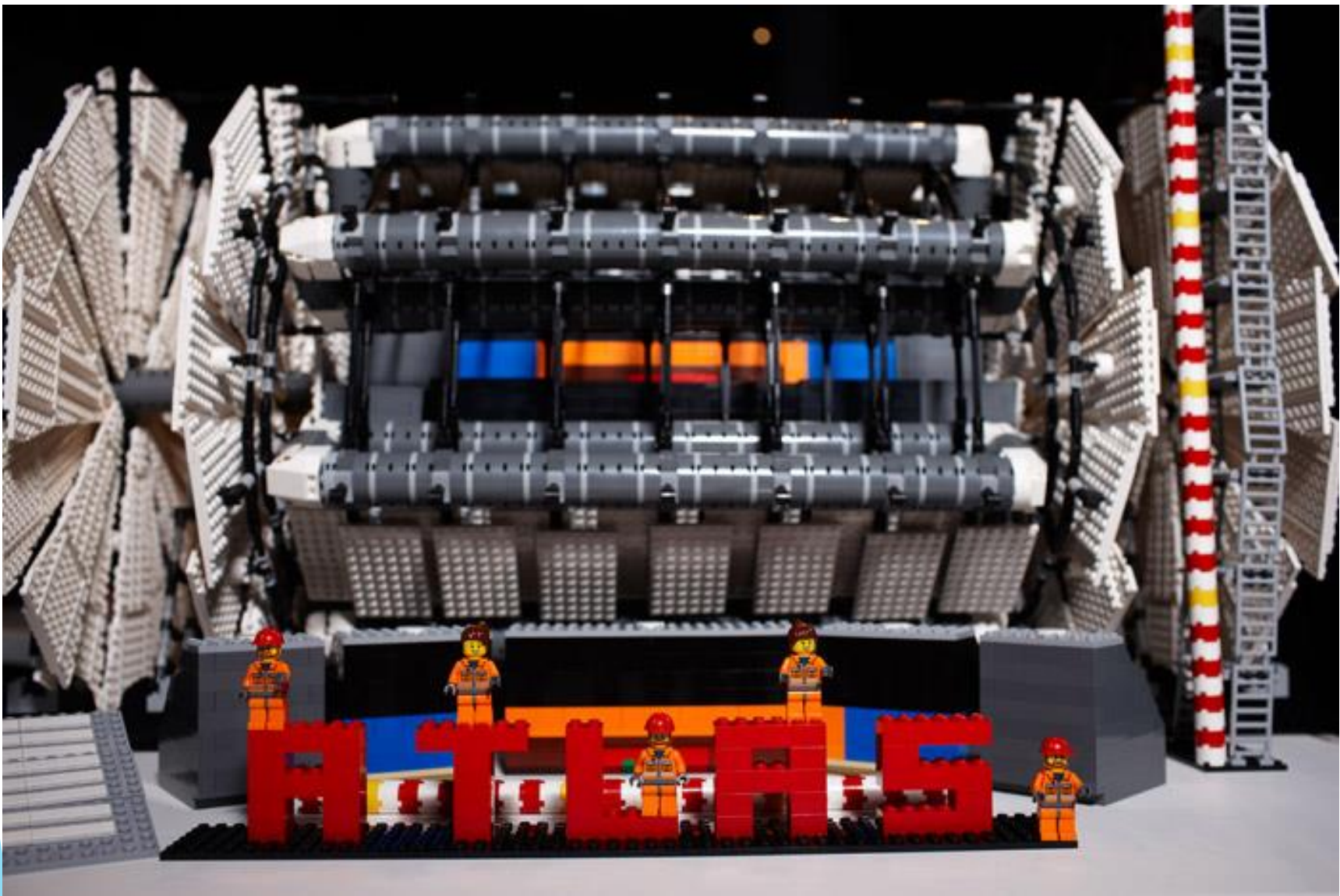
IOP Institute of Physics

Girly or not girly - that's the question?



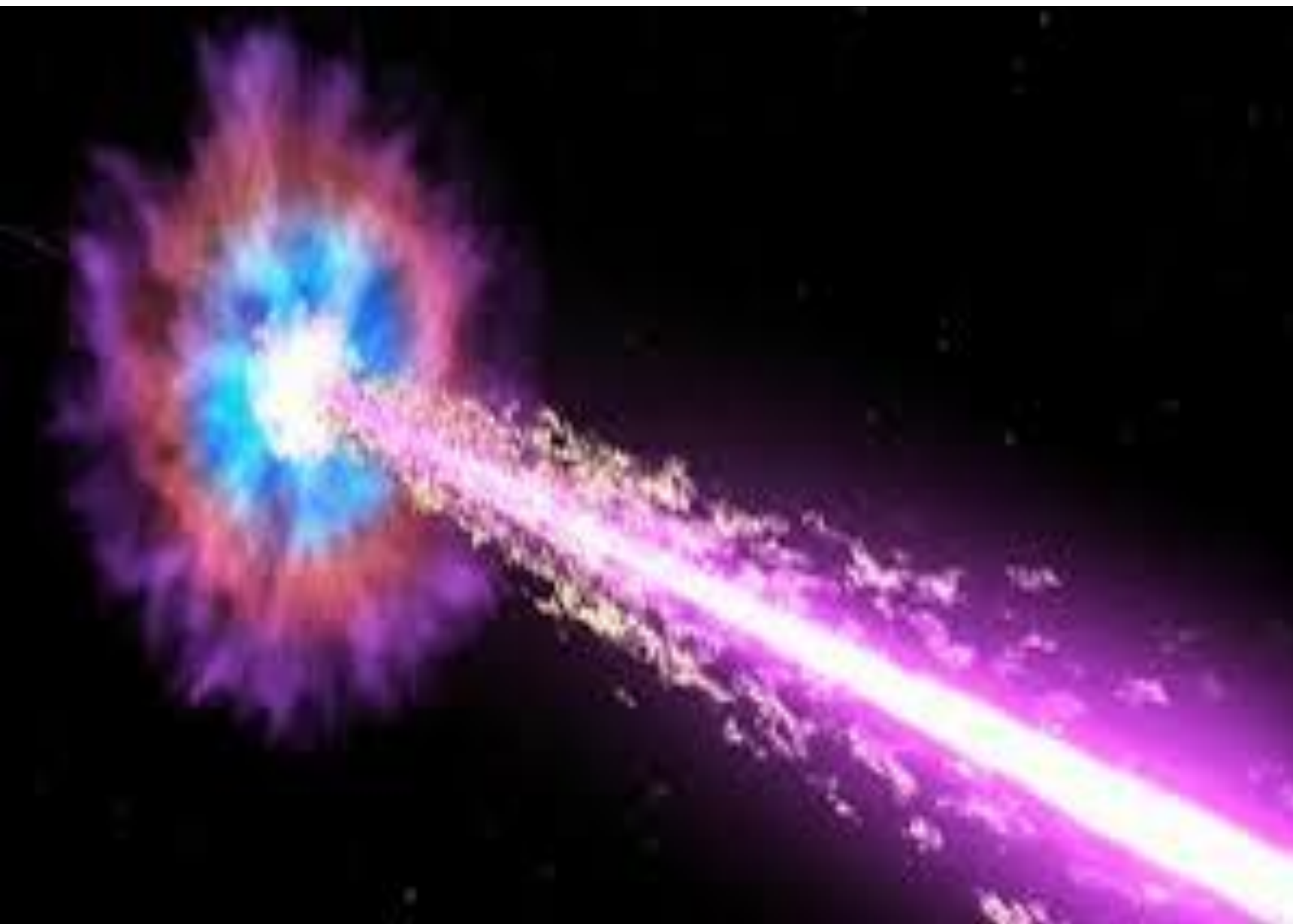
Collision event





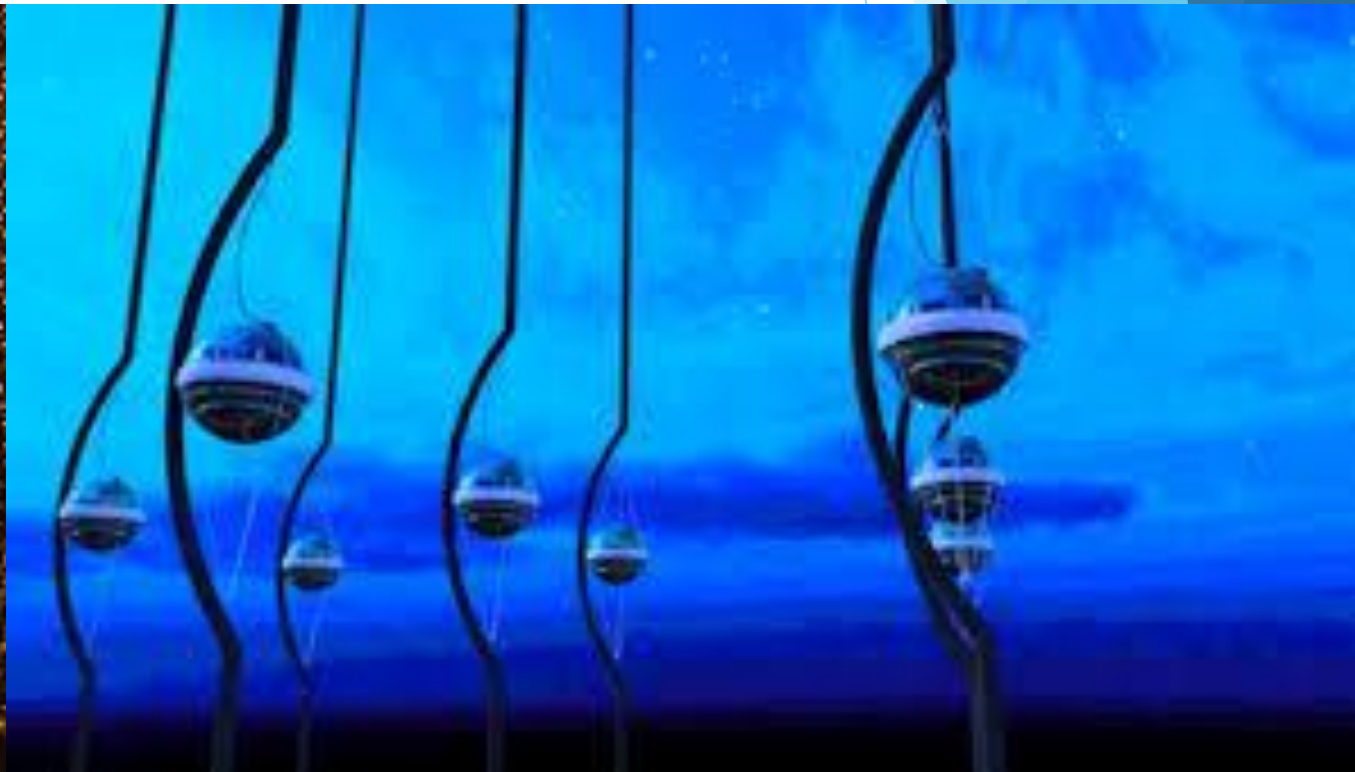
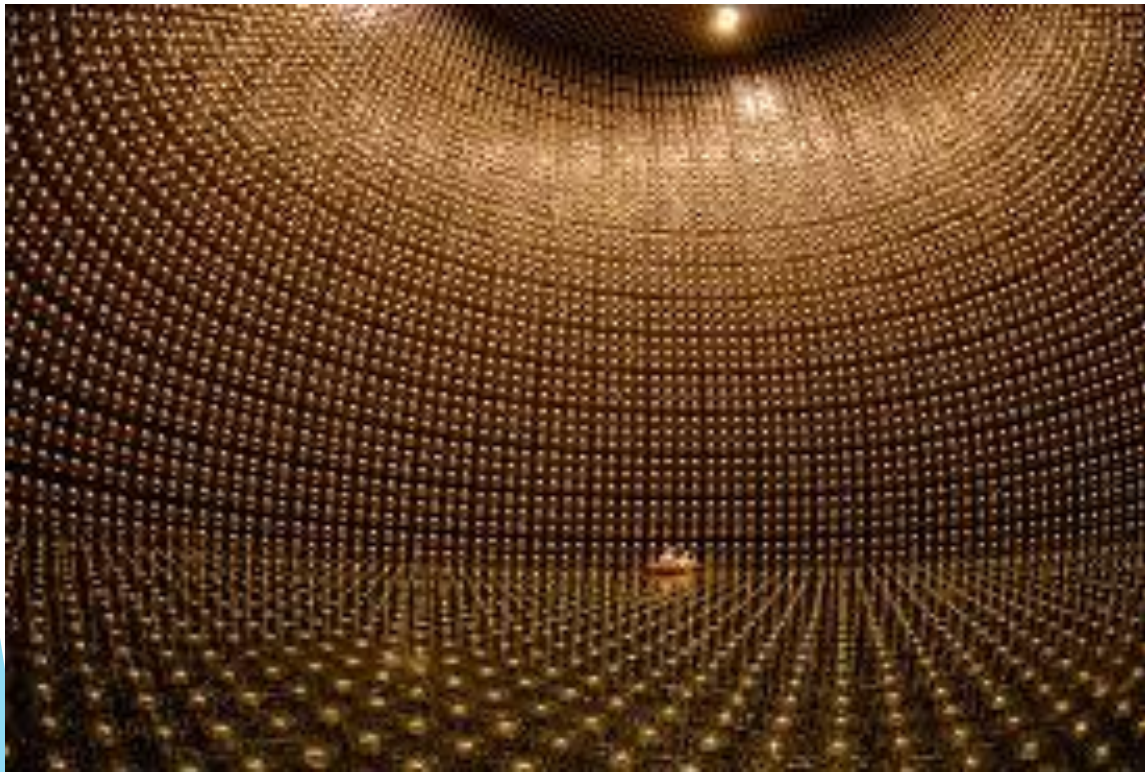
LEGO ® ATLAS model





Cosmic gamma rays





Neutrino detectors

$$D_\mu \phi = (\partial_\mu + i q A_\mu) \phi$$

$$\mathcal{L} = D_\mu \phi^\dagger D^\mu \phi - \mu^2 \phi^\dagger \phi - \lambda |\phi^\dagger \phi|^2$$

↙ Doublet

$$\mathcal{L} = \partial_\mu \Phi^\dagger \partial^\mu \Phi - \mu^2 \Phi^\dagger \Phi - \lambda (\Phi^\dagger \Phi)^2$$

$$SU(2)_w : \Phi \rightarrow U \Phi = e^{i \alpha_j \tau_j / 2} \Phi$$



Nice formula



Thank You
Merci
Dekuji
Gracias
Eskerrik asko
Vielen Dank
ขอบคุณ



Never abandon your dreams. You
may regret it for the rest of your life.

— *Fabiola Gianotti* —