



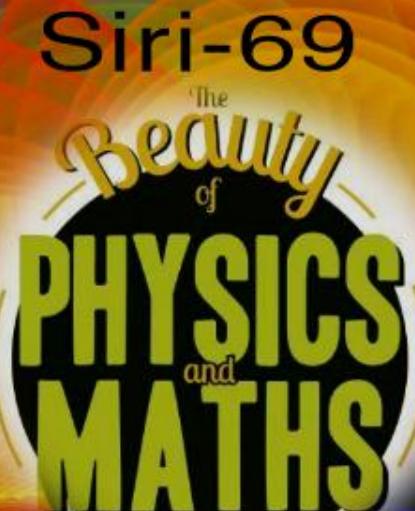
Beautiful MATHEMATICS

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UNIVERSITI
MALAYSIA
PERLIS

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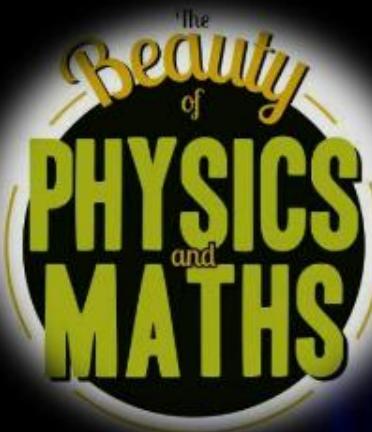


SEMINAR NASIONAL Pekan Seni Bermatematika XV

Seminar Siswa
25 FEBRUARI 2018 (Ahad)
1.30pm, Ruang Seminar Gedung 1



JURUSAN MATEMATIKA | FAKULTAS MIPA
UNIVERSITAS ANDALAS



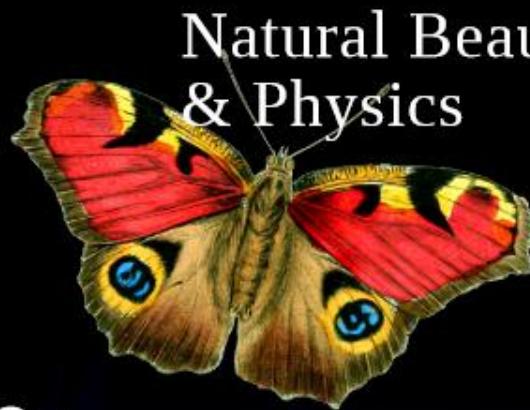
Physics is Life

Newton & Einstein



Gravity

space-time curvature
space-time engineering



Natural Beauty & Physics



Physics & STEM

Challenges in Science Education (Science & Humanity)

Physics Empire

PHYSICS TIMELINE

SPACE Science,
Engineering & Technology

from
Apollo mission
& beyond



Atom
& Quantum Engineering

BEAUTIFUL MATHEMATICS

Pi World Ranking List

π

Nobel Prize, Fields Medal,
Millenium Prize

KENAPA pelajar TAK MINAT



**SAINS
& Matematik**

Bukan isu di Malaysia

CANADA
U.S. CANADA
CANADA
UNITED STATES OF AMERICA
ICA
MEXICO
CUBA
VENEZUELA
COLOMBIA
EQUADOR
BRAZIL
PERU
BOLIVIA
CHILE
ARGENTINA
PARAGUAY

Ini isu Global

STEM around the World

& Education TRANSFORMATION



Pusat
STEM Negara





Pendidikan itu

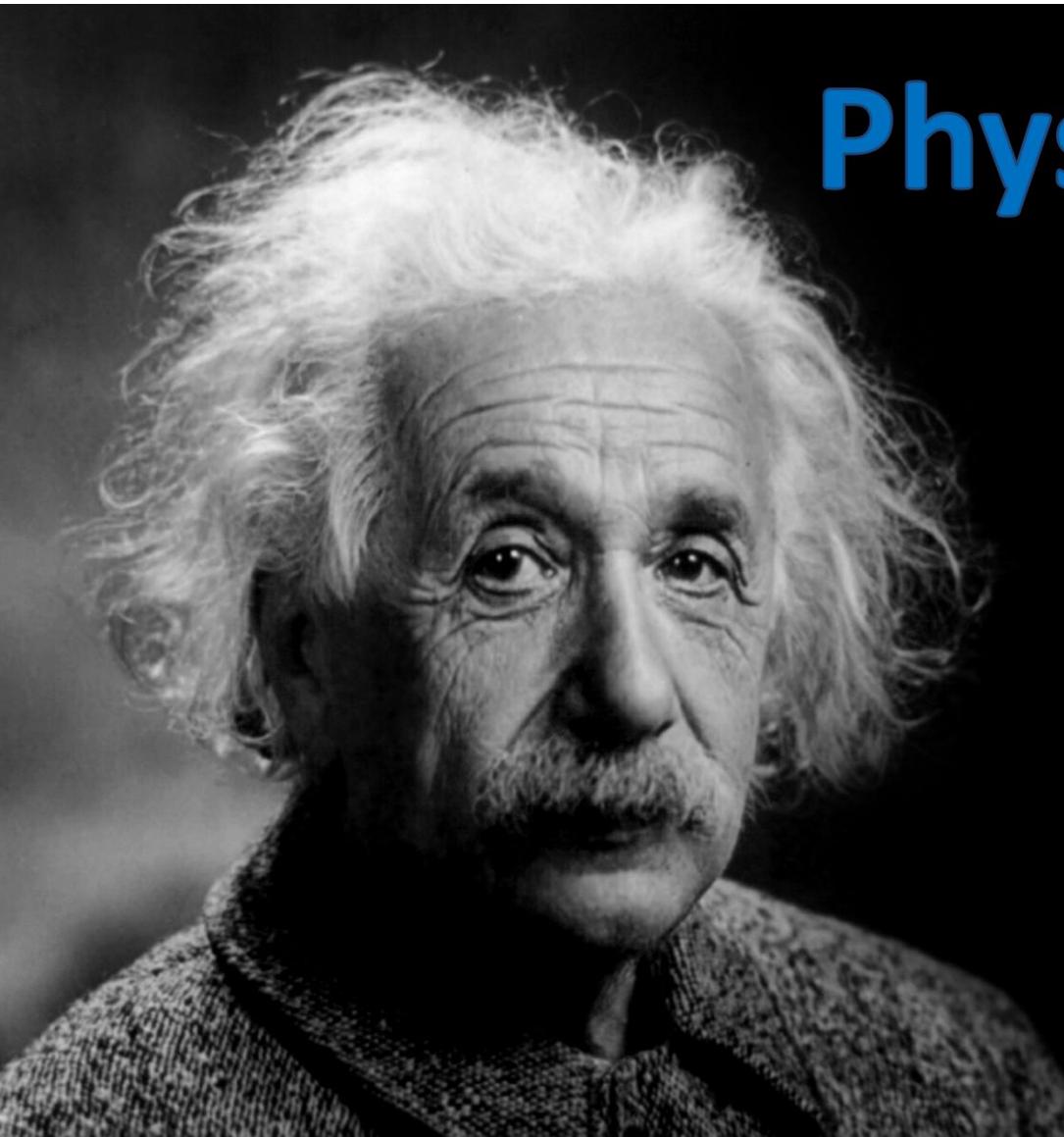
adalah

SEBAHAGIAN

(CERMINAN)

dari

BUDAYA
kita

A black and white portrait of Albert Einstein, showing him from the chest up. He has his characteristic wild, white hair and a well-groomed beard and mustache. He is looking slightly to the right of the camera with a thoughtful expression.

Physics...the

BEAUTY

Albert Einstein

Now

L. Randall,
Silverstien,
A. Hameed,
Susskind, Witten
etc

Physics Empire

Thorn, Wheeler,
Feynman,
Weinberg, Salam,
Chandrasekhar,
Yang,
Einstein...etc...

Time ↑

Einstein,
Schrodinger,
Bohr, Planck,
Fermi, Yukawa,
Dirac....etc

J.C. Maxwell,
Boltzman,
Newton,
Keppler,...etc
Past empires

Past

Classical Physics

Engineering,
civil, mechanical
structural,
automotive...etc

E&E, Nuclear
Semicon, photonics
telecommunication,
Computer, Plasma,
Supercon.
Nanotech...etc

M-Theory
String Theory
Quantum Gravity

Super-Symmetry
General Relativity
Quantum Field Theory

Special
Relativity
Quantum
Mechanics

GPS,
Astrophysics,
Exp. Elementary
Particles labs,

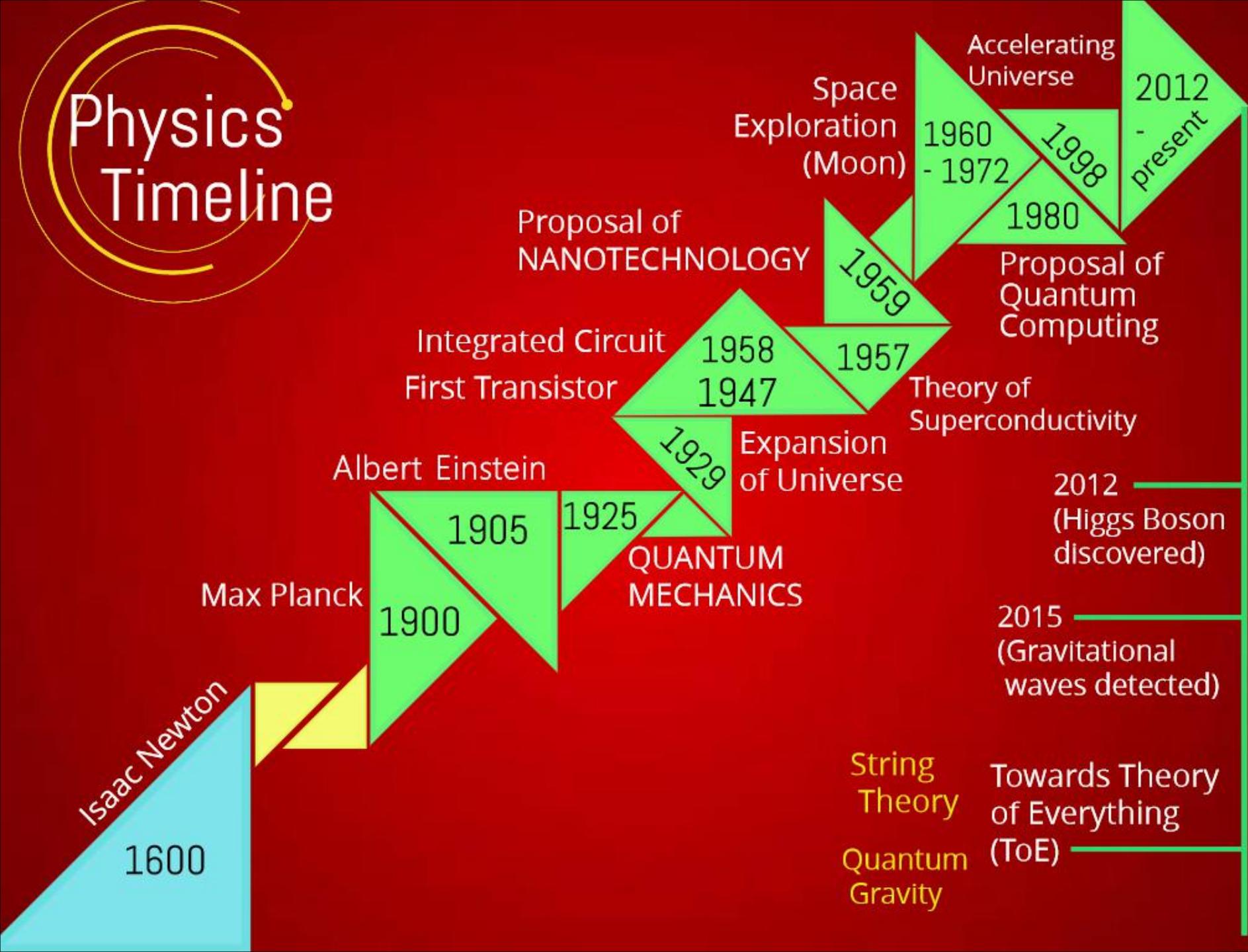
Particle
accelerators
(CERN, SLAC)
LIGO labs,
Military hi-tech
gadgets

Mathematics

Purely
theoretical....
Application
when?....another
100th
years..1000th
years

APPLICATIONS

Physics Timeline



Berapa ramai yang TIDAK PERCAYA program pendaratan manusia di Bulan melalui misi Apollo NASA?



Beauty of Mathematics Notation for Differentiation

$$\frac{dy}{dx} \quad \frac{d^2y}{dx^2}$$

$$f'(x) \quad f''(x)$$

$$D_x y \quad D^2 f$$

$$\dot{x} \quad \ddot{x}$$

Welcome to the first ever



π

3.141592653589793

23846264338327950288

4197169399375105820974944

592307816406286208998628034825342
112067982148096E132823066420938446995E0E

8223172535940812848111745028410270193852110555

96446229489549303819544288109756659334461284756482

33788783163271201909143648366923480548810434326646213
39360726024914127372458700660631558817488152002096282925

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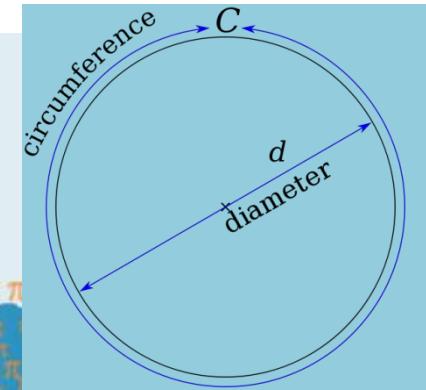
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9537156073379645380735430198543131709213580398-0014011838116197747713308640313307515

4999999837397864995169873173261609631859516344594553469680302642523396252344580835261983198171
348880737838723864273320836342047177666147189319421894287384667115862386803238338798979198273849

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<http://www.pi-world-ranking-list.com/>



RANKING LIST



INDONESIA: 110 digits (21/4/2015)

PHILIPPINES: 1,183 digits (02/8/2012)
241 digits (14/03/2016)

SINGAPORE: 1,380 digits (09/12/2013)
518 digits (14/9/2008)
549 digits (14/03/2016)

THAILAND: 10 persons, ranging from 52 digits to
410 digits (2007 - 2015), national record: 122 digits

VIETNAM: 133 digits (14/4/2017)

MALAYSIA: 60 digits (10/11/2017)

The **SEVEN (7) Great Millennium**

MATHEMATICS PROBLEMS

<http://www.claymath.org/>

\$ 7,000,000

Yang-Mills & Mass Gap

Proof of existence of
a 'mass-gap'.

1



4

Navier-Stokes Equation

Proof for unique solution

Riemann Hypothesis

About the prime number
theorem

2



P vs NP Problem

The Hamiltonian Path
problem

3

Birch & Swinnerton-Dyer Conjecture

7

Relates the number of points on an
elliptic curve mod p to the rank of the
group of rational points.

Hodge Conjecture

Topology of the solution set
of a system of algebraic
equations

5

Poincare Conjecture

3D sphere - SOLVED



'The more I spent
time on maths,
the more excited
I got'

Maryam Mirzakhani (1977-2017)

Professor of Mathematics at Stanford University, USA

"Wanita pertama di dunia yang dianugerahkan Fields Medal"