



Strings 2014 PRINCETON

June 23-27



PRINCETON
UNIVERSITY

IAS

Institute for Advanced Study

VISION

David Gross

A PERSPECTIVE ON STRING THEORY

David Gross

Institute For Theoretical Physics, Santa Barbara

*International Conference on String Theory
Beijing, China
August 17, 2002*

PERSPECTIVES

STRINGS 2007
MADRID



DAVID GROSS

Kavli Institute
for
Theoretical
Physics





STRINGS 2009

OPENING REMARKS

Roma
June 22-26, 2009
David Gross

<http://strings2009.roma2.infn.it>

strings 2011

LIPPOALA JUNE 27-JULY 2

www.strings2011.eu

OPENING

REMARKS

David Gross

Organizers:
Lars Brink
Ulf Danielsson
Ulf Lindström
Joseph Minahan
Antti Niemi
Maxim Zabzine



CLOSING MUNICH STRINGS 2012 REMARKS

strings2012.mpg

July 23-28

David Gross



MAX-PLANCK-GESellschaft



Max-Planck-Institut für Physik
(Werner Heisenberg Institut)



TUM
LMU
Excellence Cluster
Universe

ARNOLD SOMMERFELD
CENTER FOR THEORETICAL PHYSICS



LMU
LUDWIG-MAXIMILIANS-UNIVERSITÄT MÜNCHEN



CLOSING REMARKS

David Gross

STRINGS 2014

Scattering Equations (Massless Particles)

Based on:
w. Song He & Ellis Yuan
1309.0885, 1307.2199
w. Humberto Gomez
to appear.

Freddy Cachazo
Perimeter Institute

From Higher Spins to Strings

Rajesh Gopakumar

Harish-Chandra Research Institute

Strings 2014, Princeton, June 24th, 2014

*Based on: M. R. Gaberdiel and R. G.
(arXiv:1406.tmrw and also 1305.4181)*

NON-PERTURBATIVE EFFECTS IN M-THEORY

Marcos Mariño
University of Geneva

[Hatsuda-M.M.-Moriyama-Okuyama, 1306.1734]

[Johan Kallen-M.M., 1308.6485]

[Alba Grassi-M.M., 1403.4276]

+ recent papers by Hatsuda, Honda, Matsumoto, Moriyama,

Unity of tree-level superstring amplitudes



Max-Planck-Institut für Physik
(Werner-Heisenberg-Institut)

Stephan Stieberger, MPP München

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PRINCETON UNIVERSITY

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Gravitation

From

Entanglement

Mark Van Raamsdonk, UBC

STRINGS 2014

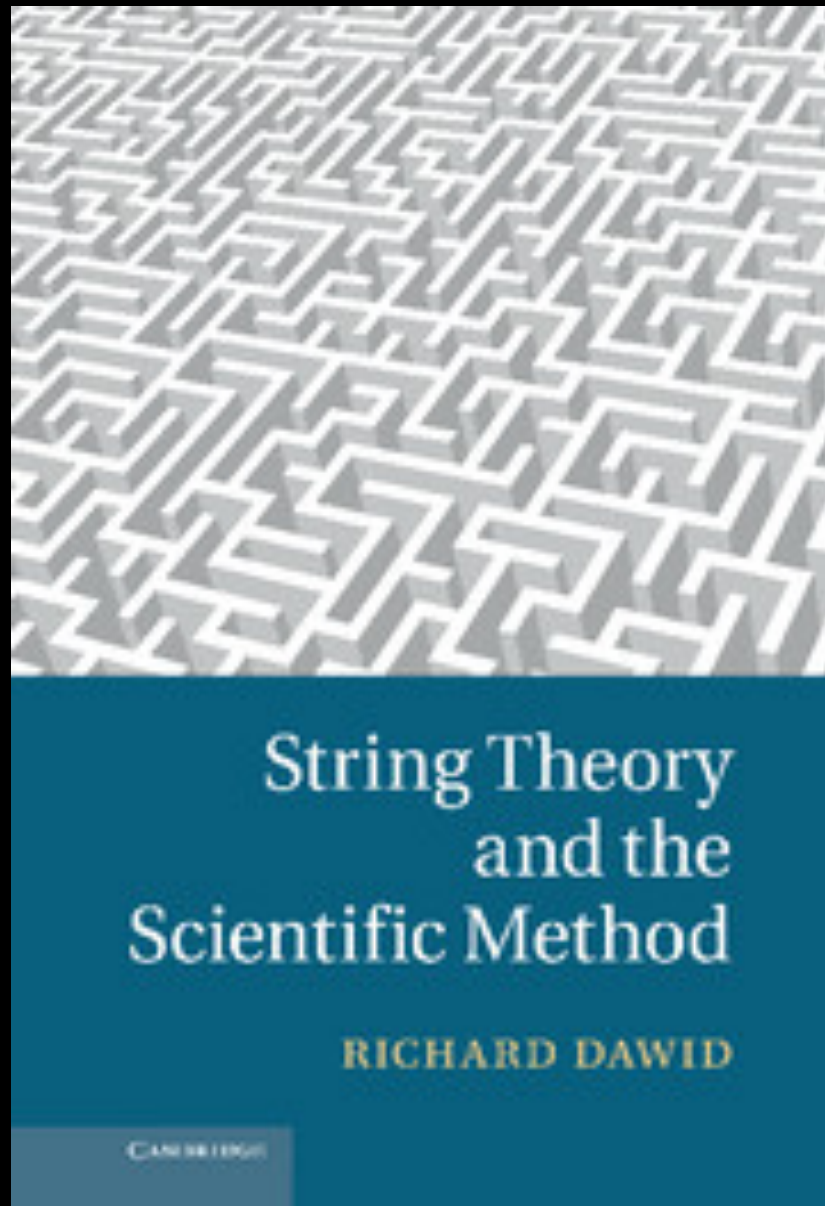
The Scientific Method

INFLATION

The inflationary paradigm
is so flexible
that *no test or combination of tests*
can disprove it.

STRING THEORY

String Theory
is so flexible
that *no test or combination of tests*
can disprove it.



"Richard Dawid argues that string theory plays a novel role in the scientific process that has been neglected by philosophers of science. I believe that this book is a valuable contribution to the philosophy of science, which should interest practicing scientists as well as those who are more interested in the methodology of science."

John Schwarz

"At the frontiers of physics and cosmology theoretical speculation proceeds without the constant confrontation with experiment often thought to be required for scientific validation. Richard Dawid explores this issue in the case of string theory. He offers a fascinating new perspective on non-empirical theory assessment,

DG

★ UEA = Unexpected Explanatory Coherence

Asymptotic Freedom --> Confinement

Dual Resonance --> String Theory --> Gravity ,
SuperSymmetry, Unification, Black Hole Entropy -->,...

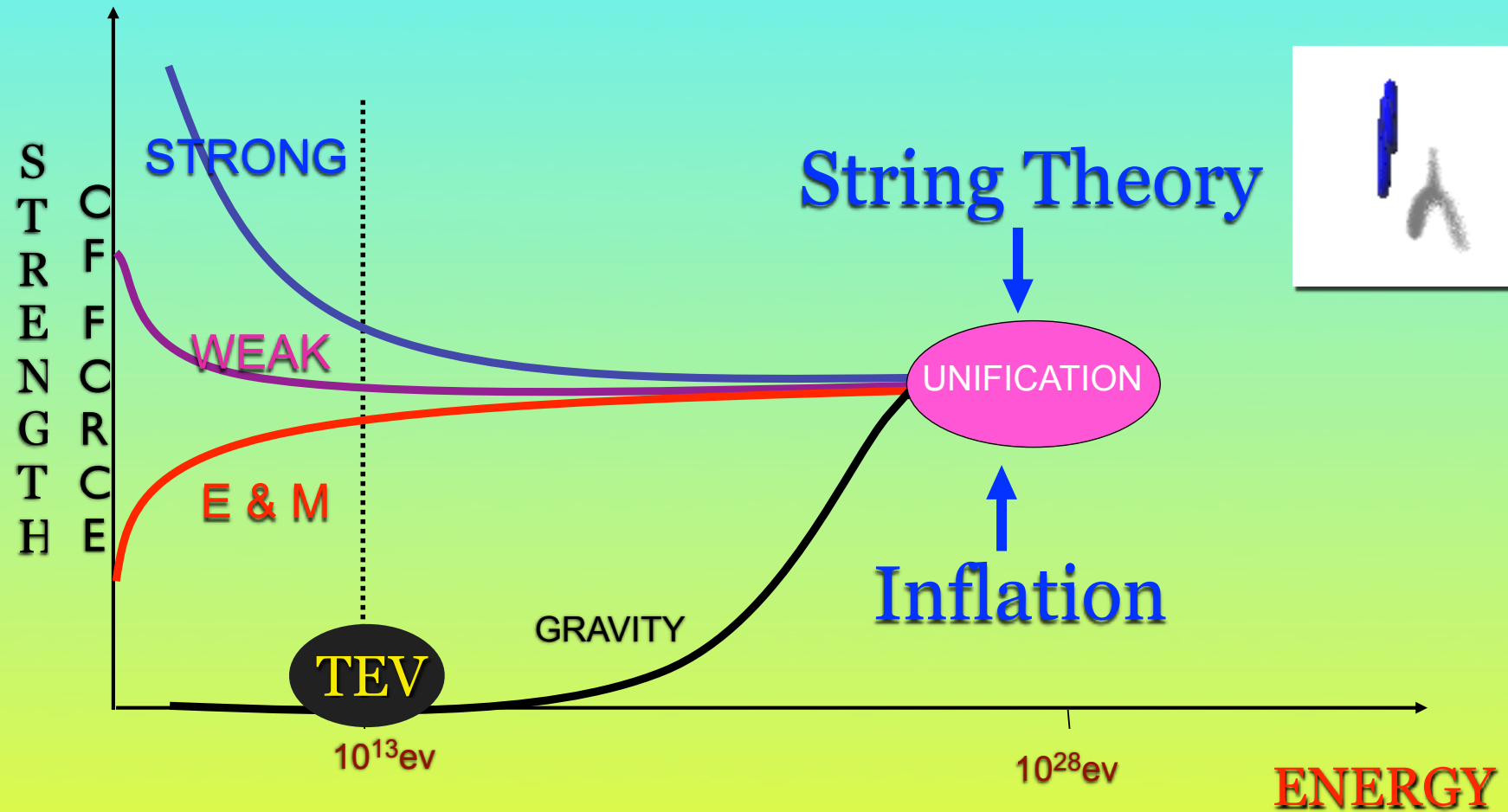
★ NAA = No Alternative Argument

★ MIA = Meta Inductive Argument

The success (emperical) of other theories
in the research program

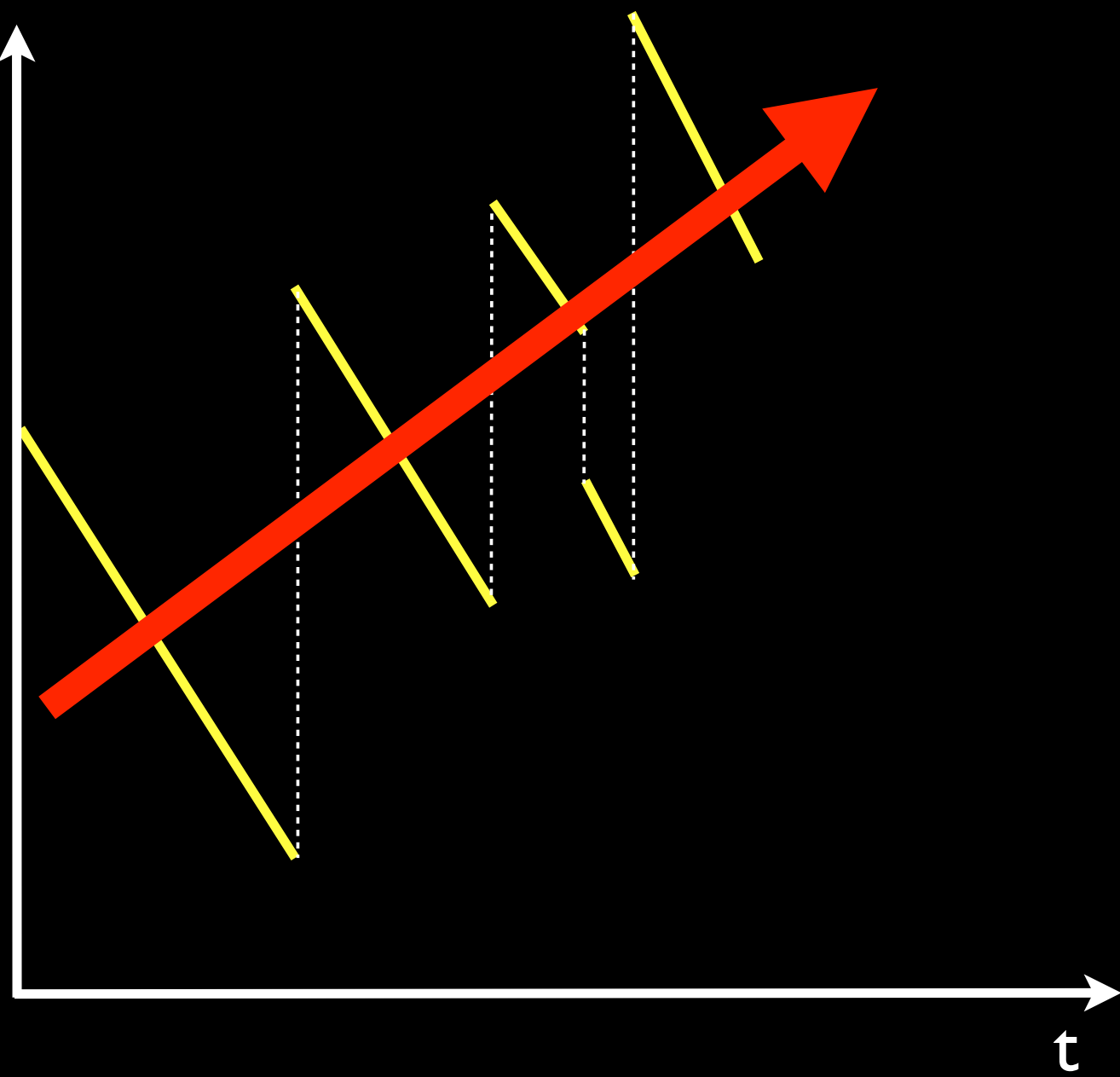
The Standard Model, Supersymmetry ?,

HOW DO THE FORCES UNIFY?



My Theory of History

Good
Things



STRING THEORY

IS ALIVE & HEALTHY

MANY NEW & BRILLIANT

STRING THEORISTS

THE STRINGS CONFERENCE

CONTINUES TO FLOURISH

INDIA: ICTS in Bangalore 2015

CHINA: Tsingua in Beijing 2016

And the site of the “Great Collider”

ISRAEL: 2017

JAPAN: 2018

BELGIUM : 2019 ?

MIT-HARVARD, STANFORD,

CHICAGO,?????

THE

END