

A 501 (C) (3) Non-Profit Organization https://www.mvjs.org

# **Corporate Background**

Founded in 2006 to advance research & communications in the field of Theoretical Physics & Cosmology.

Multiversal Journeys is a 501(c) (3) non-profit organization. Our non-profit educational status is also approved by the state of California under section 23701d.

# **Our Mission**

To advance research and raise public awareness & interest in Theoretical Physics and Cosmology



# **Sources of Funding**

1. Grants – Private Foundations
FQXi (Foundational Questions in Physics & Cosmology Institute):
http://fqxi.org/grants/

# 2. Grants – US Government

NSF (National Science Foundations) Dept. of Education

## 3. Corporate Donations

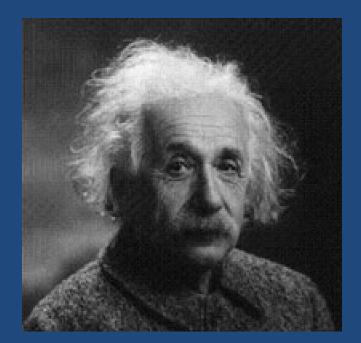
Donations to Multiversal Journeys are deductible to the maximum extent permitted by the laws

# Charter

Research in leading edge concepts in Theoretical Physics & Cosmology.

Educating the public in the latest discoveries in Theoretical Physics and Cosmology in a non-technical language.

Lecture Series Panel Discussions Book Series Production of Documentaries/Films



# Advisory Boards Scientific Advisory Board

- Professor Fred Adams University of Michigan, Ann Arbor
- Professor Yasunori Nomura University of California, Berkeley; Director of Berkeley Center for Theoretical Physics
- Professor John Terning UC Davis

## **Book Series Advisory Board**

- Professor Thomas Buchert University Claude Bernard in Lyon, France
- Professor Lawrence M. Krauss
- Professor Mark Trodden, University of Pennsylvania, Philadelphia, PA

# **Conferences - UC Berkeley, CA**

### **Clarifying Theoretical Physics & Cosmology Misconceptions** Lawrence Hall of Science



#### **CLARIFYING THEORETICAL PHYSICS and COSMOLOGY MISCONCEPTIONS For**

SF Bay Area JOURNALISTS

#### & the PUBLIC

**Topics:** Misconceptions about Ouantum Physics, Multiverse Cosmology, Particles Physics, and Space-Time

Speakers: Professor Yasunori Nomura, Professor William Poirier, and Professor John Terning



Date: Thursday, July 9th, 2015 Time: 1:30 PM - 5:00 PM Lawrence Hall of Science **University of California Berkeley** 

#### FREE TO THE PUBLIC

This is a Non-Profit Event and is supported by a grant from the Foundational Questions Institute (fqxi.org)



## Conferences - Notebaert Nature Museum; Chicago, IL

## A Symposium on the Future of the Universe The Chicago Academy of Sciences

VENUE INFORMATION

Theoretical Physics

made easy

for

the public

Add**ivess:** The Notebaert; <u>Nature Museum</u> 2430 N. Cannon Drive Chicago, IL 60614

Date: Saturday, October 20th 2007 Time: 10:00 am – 1:30 pm

> 773-775-5100 Free to the Public General Seating

Space is limited. Please register early. Contact: events@multiversaljourneys.org

Speakers subject to substitution

#### ABSTRACTS INTO THE DARK

The Future History of the Universe This talk outlines the long term fate of the cosmos. We

This has obtained the only claim rate of the obstrost. He consider the evolution of planets, stars, galaxies, and the universe itself over time scales that greatly exceed the current age of the universe. This discussion starts with new stellar evolution calculations that follow the development of the low mass iM type) stars that dominate the stellar IMF. We then determine the final mass distribution of stellar remnants – the neutron stars, while dwarfs, and the prover dwarfs, campaintment attended to the following the

After several following the supply of interceleroes grows adjointed, yet and formation continuous at a librity attanuated rate through brown dwarf collisions. This propose tails off as the galaxy cradually losses a galaxy electing the majority, and driving a minority toward accretion of one missive data back holes. As the galaxy, classes, weaky interacting data, hatterparalles are accreted by white dwarfs, where they subsequently and rate dwarfs where they subsequently

Laxy, we consider the fate of extelled degenerate i hote (danate, white dwarts) and neutron stars) within a dashimption that proble decay list of viable process. The oldt on and eventual sublimation of these objects is fated by the tlebay of (fulle closet(tient nullebons; this enario is developed in some detail. After white dwarts a debutton stars may disappeared, the block holles.

he largest olaok, holes have evepgrafed, the se slowly islides into darkness: OUR MISERABLE FUTURE

veries in co billion years future of intelligent life in our solar on to the very far future, when it appears we live in may be worst of all universes for the future of life. Even before life itself ends, as it must in such a universe, the quality of life will decrease, as our empirical knowledge of the universe will also decrease All evidence of the big bang, and of the existence of other galaxies outside our own will disappear on a timeframe that is short compared to the lifetime of the longest lived stars. Astronomers in the future will believe they live in a static universe with only one island galaxy. Remarkably the current epoch seems quite special in the history of the universe for a variety of reasons. Is there any significance to this? Arguments about this are changing the way many scientists view a possible understanding of nature.

A Symposium on The Future of the Universe INTO THE DARK The Future History of the Universe AND

**Multiversal Journeys Presents** 

#### OUR MISERABLE. FUTURE

O Saturday October 20, 2007 J0:00 am to 1:30 pm

The Notebaert Nature Museum 2430 N. Cannon Drive Chigago, IL 60614

#### Free to the Public

is is a Non-Profit Fuent and is supported by prant RFPL-06-30 from the Foundational Questions Institute (fqxi.org)



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## A SYMPOSIUM ON THE FUTURE OF THE UNIVERSE

#### Our Mirerable Future

#### INTO THE DARK

Professor Lawrence M. Krauss Case Western Reserve University The Future History Of the Universe Professor Fred Adams

#### Date: Saturday, October 20th, 2007 Time: 10:00 AM – 1:30PM

Admission is FREE

#### The Notebaert Nature Museum 2430 N. Cannon Drive, Chicago, IL 60614 773-775-5100

'



For more information about the symposium Please visit www.MultiversalJourneys.org This is a Non-Profit Event and is supported by grant RFP1-06-30 from the Foundational Questions Institute (fqxi.org)

## Conferences - Cambridge, MA **General Relativity, Going Strong at 92: Time Travel and Dark Energy**

#### **Theoretical Physics** made easy for the public

 $T = \frac{K}{2\pi}$ Theoretical Physics Made Easy for the Public

#### VENUE INFORMATION

Address: **38 Cameron Gallery** 38 Cameron Avenue Cambridge, MA 02140 www.38cameron.com

Date: Saturday, September 15th 2007 Time: 1:00 PM - 4:30 PM

> 818 - 935 - 0466 Free to the Public General Seating

Space is limited. Please register early. Contact: events@multiversaljourneys.org

Speakers subject to substitution

#### ABSTRACTS

Is time travel possible? Einstein's General Relativity tells us that space and time together form a 4-dimensional spacetime that is curved by the presence of matter and energy. If we could produce the proper state of matter and energy, the spacetime could curve enoug o permit travel into the past. But ordinary forms tter are not sufficient. Instead we would ic material with negative energy dens possibility of time trave depends on wheth tum mechanics can provide us with the proj tive-energy-density state. The lecture v ent the state of the art in design e or proving that it is impossible to ing a time i do so, and elated issues of wormholes and t travel. Time-travel ideas related to faster-th hanical correlations and tunneling of a quantur h a barrier will be briefly discussed.

> Einstein's Biggest Blunder? A Cosmic Mystery Story completed his Relativity: Thi

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General

rkable theory ding of the laid the t or our und motion of of the univers Einstein's theory tions of the universe. problem, he added an addit the so-called "Cosmological Constant". Within decade however, observations indicated that suc term was not necessary to obtain agreement with observations, and Einstein called this addition his "biggest blunder"

Over the past decade, new observations have led to a revolution in cosmology. The standard model of cosmology built up over a 20 year period up until the early 1990's is now dead. Its replacement may be far more bizarre. In particular, new data from a wide variety of independent cosmological and astrophysical observations, combine together to strongly suggest most of the energy density of the universe today may be contained in empty space! Remarkably, this is exactly what one would expect if Einstein's Cosmological Constant really exists! If it does, its origin is the biggest mystery in physics. The discussion will end by briefly describing possible implications for our under standing of nature, for physics, and for life, of this astounding new result.

#### **General Relativity**

Going Strong at 92:

Time Travel and Dark Energy

Saturday September 15, 2007 1:00 p.m. to 4:30 p.m

38 Cameron Gallery 38 Cameron Avenue Cambridge, MA 02140

www.38cameron.com

#### Free to the Public

This is a Non-Profit Event and is supported by grant RFP1-06-30 from the Foundational Questions Institute (fqxi.org)



Cambridge, MA 02140 Organized by \$5>0

A \$43(c) (3) non-profit organization

Professor

Ken Olum

For more information about the symposium Please visit www.MultiversalJourneys.org This is a Non-Profit Event and is supported by grant RFP1-06-30 from the Foundational Questions Institute (fqxi.org)

Professor

Lawrence

M. Krauss

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COING STRON

TIME TRAVEL

AND

DARK ENERGY

Date: Saturday, September 15th, 2007

Time: 1:00 PM – 4:30PM

Admission is FREE

**38 Cameron Gallerv** 

**38 Cameron Avenue** 

# Conferences - UCLA, Los Angeles, CA

## It's About Time: The Concept of Time, Cosmology and the Latest Theory about Time

#### **Theoretical Physics**

made easy

for

the public



#### VENUE & TICKET INFORMATION

Address Hillel at UCLA, 574 Hilgard Avenue Los Angeles, CA 90024

Date: Sunday, July 29th 2007 Time: 1:00 PM – 4:30 PM

> Ticket information: http://www.ticketweb.com

#### TICKET WEB

866 - 468 - 3399 Admission: \$5 General Seating

For more information about the Symposium please visit: http://www.MultiversalJourneys.org

Speakers subject to substitution

#### ABSTRACTS

The Beginning and End of Time: Life, The Universe, and Nothing

One can consider measuring time by the number of events that occur within some period, in this sense, more happened in the first second in the history of the universe since that moment. The first part of the lecture highlights some of the major milestones in that initial moment, and then moves on to discuss the future. Our current observations suggest we live in the vorst of all universes for the long term future of life, and that our knowledge about the state of the universes will continue to decrease with time. In the far future we will be alone in a largely dark and empty universes.

#### Two-Time Physics: The Unified View From Higher Dimensional Space and Time

Evidence has been gathering that the ordinary formulation of physics, in a space-time with three space and one time dimensions, is insufficient to describe our world, just like shadows on walls alone are insufficient to capture the true essence of an object in a three dimensional room. Two Time Physics reveals that our physical world in 3 + 1 dimensions is like a shadow of a highly symmetric universe in four space and two time dimensions. Amazingly, the best understood fundamental theory in Physics, the Standard Model of Particles and Forces is reproduced, and its "strong CP problem" is solved, as a field theory in 4+2 dimen sions in the context of Two-Time Physics. This point of view provides new mathematical tools and new insights for understanding our universe. Evidence of the 4+2 dimensional world can be found both at the macroscopic and microscopic scales in the form of hidden symmetries and "dualities", and such predictions of Two-Time Physics can be tested through theory and experiment. Two-Time Physics may assist in the quest to unify the Standard Model with Einstein's theory of General Relativity in a single unified theory. The most popular approach to that problem today, superstring theory, and its extension M theory, invoke 10 dimensions of space, but a single dimension of time. The path to success with formulating M theory, which so far eluded theoretical physicists, could well be adopting the more symmetric and higher dimensional Two-Time Physics approach. This would require adding one time dimension plus one space dimension, giving nature 11 space and two time dimensions. The Two-Time Physics version of M theory would have a total of 13 dimensions.

#### It's About Time: The Concept of Time, Cosmology and the Latest Theory about

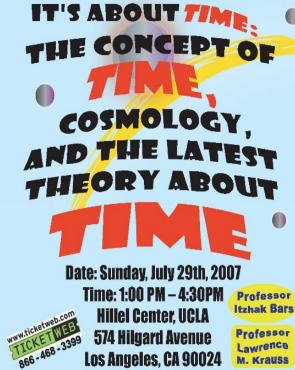
Time.

#### Sunday, July 29 2007 Hillel Center, UCLA 574 Hillgard Avenue-Los Angeles, CA 90024

This is a Non-Profit Event and is supported by grant RFP1-06-30 from the Foundational Questions Institute (fqxi.org) Organized by



A 501(c) (3) non-profit organization www.MultiversalJourneys.org



Admission: \$5 General Seating For more information about the symposium Please visit www.MultiversalJourneys.org A Lawrence M. Krauss This is a Non-Profit Event and is supported by grant

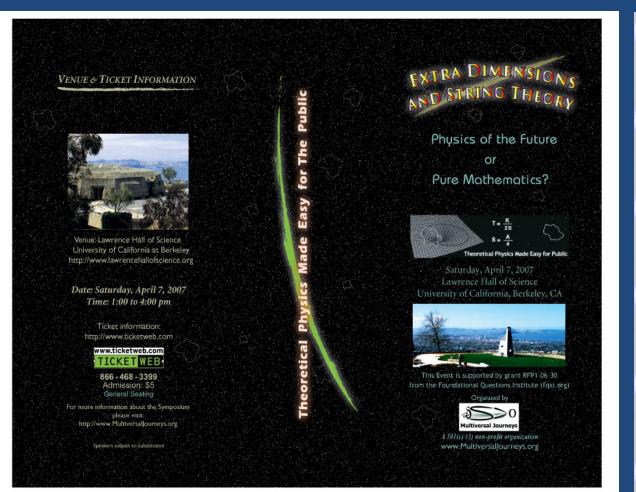
RFP1-06-30 from the Foundational Questions Institute (fqxi.org)



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# **Conferences - UC Berkeley, CA**

## Extra Dimensions and String Theory: Physics of the Future or Pure Mathematics?



## **EXTRA DIMENSIONS** & STRING THEORY Physics of the Future or Pure Mathematics

Two of the WORLD'S RENOWNED PHYSICISTS will explain STRING THEORY & EXTRA DIMENSIONS in Layman's Terms Saturday, April 7, 2007

from 1 to 4 p.m. Lawrence Hall of Science University of California, Berkeley, CA

www.ticketweb.com	Organized by
TICKETWEB	500
866 - 468 - 3399	ADD Nultiversal Journeys
Admission: \$5	A 501(c) (3) non-profit organization
General Seating	www.MultiversalJourneys.org
This Event is supported by grant RFP1	-06-30 from the Foundational Questions Institute (ford.

# Conferences - Skirball Museum, LA, CA Space-Time & the Cosmos



Saturday, December 17, 2005 Skirball Cultural Center 2701 N. Sepulveda Blvd. Los Angeles, C∆ 90049 Organized by

www.Multiversaljourneys.com

## Ever Wondered if Other Dimensions or Universes Really Do Exist?

Three of the world's renowned physicists will explain their latest findings about the Universe in layman's terms.

## "SPACE - TIME and the COSMOS"

Saturday, December 17, 2005 Skirball Cultural Center, Los Angeles, CA

For more information please visit www.multiversaljourneys.com



## **Conferences - UC Berkeley, CA** Latest Theories about the Universe & Its Governing Laws

#### VENUE & TICKET INFORMATION



Venue: Lawrence Hall of Science University of California at Berkeley http://www.lawrencehallofscience.org

Date: Saturday, November 5, 2005 Time: 1:00 to 5:00 pm

> Ticket information: http://www.ticketweb.com



866 - 468 - 3399 Admission: \$80

For more information about the Seminar, please visit http://www.MultiversalJourneys.com

Speakers subject to substitution

Public Theoreti

 $F = \frac{k}{2\pi}$   $s = \frac{A}{4}$ Theoretical Physics Made Easy for Public Saturday, November 5, 2005 Lawrence Hall of Science University of California, Berkeley, CA

Latest Theories about The INTVERSE

MultiversalJourneys.com

**Aultiversal Journeys** 

## Ever Wondered if Other Dimensions or Universes Really Do Exist?

Three of the world's famous scientists will explain their latest findings about the universe in layman's terms

"Latest Theories About The Universe"

## Saturday, November 5th

Lawrence Hall of Science, UC Berkeley For more information please visit www.multiversaljourneys.com



# **Speakers**

## Our speakers are some of the world's renowned physicists:

- Professor Fred Adams University of Michigan, Ann Arbor
- Professor Anthony Aguirre University of California, Santa Cruz
- Professor Itzhak Bars University of Southern California, Los Angeles
- Professor Raphael Bousso University of California, Berkeley
- Professor Gary T. Horowitz University of California, Santa Barbara
- Professor Sean Carroll California Institute of Technology, Pasadena
- Professor Lawrence M. Krauss Origins Initiative, ASU
- Professor Yasunori Nomura University of California, Berkeley
- Professor Ken Olum Tufts University, Medford, MA
- Professor L. William Poirier Texas Tech University
- Professor John Terning University of California, Davis
- Professor Ken Wharton San Jose State University

## **Book Series**

a low a

- Mysteries of Quantum Mechanics
- Latest theories in Cosmology
- String Theories
- Nature of Space-Time
- Theory of Everything
- Extra Dimensions
- Misconceptions in Theoretical Physics

# **Book Series**

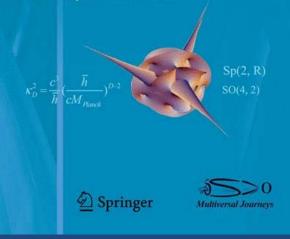
The inspiring books in this series are designed for scientifically literate nonspecialists who want to know the latest discoveries in Theoretical Physics and Cosmology in a non-technical language.

Multiversal Journeys-book series are published with Springer (https://www.springer.com), a world wide leader in scientific publishing:

https://www.springer.com/series/7919

# MULTIVERSAL JOURNEYS Farzad Nekoogar, Founding Editor Itzhak Bars • John Terning Extra Dimensions in Space and Time

Foreword by Lawrence M. Krauss

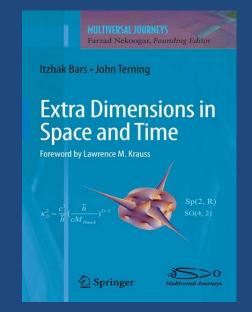


## **Extra Dimensions in Space and Time**

Bars, Itzhak; Terning, John; Nekoogar, Farzad (Founding Ed.)

https://www.springer.com/gp/book/9780387776378

"Popular expositions of scientific topics have an important role in informing the general public of the nature/implications of current research. This is always a difficult task, especially for the highly abstract and very complicated topics addressed here. ... Summing Up: Recommended. Upper-division undergraduates and graduate students." (M. COPLAN, CHOICE, VOL. 48 (2), OCTOBER, 2010)

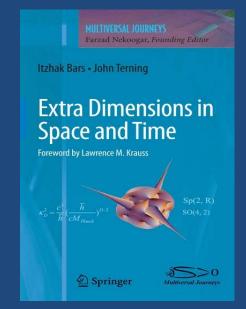


## **Extra Dimensions in Space and Time**

Bars, Itzhak; Terning, John; Nekoogar, Farzad (Founding Ed.)

https://www.springer.com/gp/book/9780387776378

"The origin of this book lies in two public lectures given by the authors for a general public, under the auspices of multiversal journeys, a non-profit organization dedicated to disseminating knowledge on current theoretical physics to the general public. ... It certainly is to be welcomed that leading theoretical physicists make an effort to communicate their research to the general public. This book demonstrates how to succeed in such an endeavour." (MICHAEL KUNZINGER, ZENTRALBLATT MATH, VOL. 1207, 2011

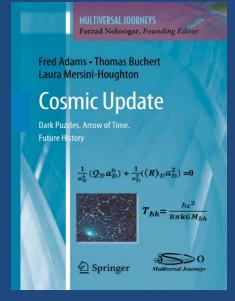


#### **Cosmic Update Dark Puzzles. Arrow of Time. Future History**

Adams, Fred; Buchert, Thomas; Mersini-Houghton, Laura; Nekoogar, Farzad (Founding Ed.)

http://www.springer.com/series/7919?detailsPage=titles

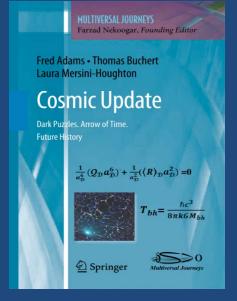
"This book is a collection of three self-contained main contributions and an appendix, each from different authors, on current fundamental questions and new developments in cosmology. It is so structured that general readers can also follow the main ideas. The two longest chapters (written by Fred C. Adams and Thomas Buchert, respectively) contain appendices (at the level of an undergraduate textbook) with formulas specifying the basic descriptions." (WOLFGANG HASSE, MATHEMATICAL REVIEWS, JANUARY, 2013



## **Cosmic Update Dark Puzzles. Arrow of Time. Future History**

Adams, Fred; Buchert, Thomas; Mersini-Houghton, Laura; Nekoogar, Farzad (Founding Ed.) <u>http://www.springer.com/series/7919?detailsPage=titles</u>

"The many ambitious aims of this book are: A noval approach to uncover the dark faces of the Standard Model of Cosmology. To present the global properties of World Models and their topology. To explain the arrow of time in a Universe with a positive cosmological constant Lambda and the consequences of Lambda for our Universe. ... Graduate students in physics with interest in astrophysics and cosmology can use the book .... The Glossary is helpful for the beginner." (JOHANNES VIKTOR FEITZINGER, ZENTRALBLATT MATH, VOL. 1241, 2012)

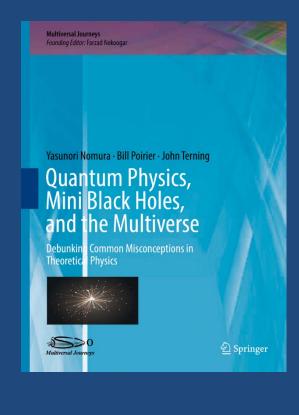


## Quantum Physics, Mini Black Holes, and the Multiverse Debunking Common Misconceptions in Theoretical Physics

Authors: **Nomura**, Yasunori, **Poirier**, Bill, **Terning**, John Editors: **Nekoogar**, Farzad (Ed.)

https://www.springer.com/gp/book/9783319417080

"Modern physics is rife with provocative and fascinating ideas, from quantum mechanics to the multiverse. But as interesting as these concepts are, they are also easy to understand. This book, written with deft hands by true experts in the field, helps to illuminate some of the most important and gamechanging ideas in physics today." -SEAN M. CARROLL

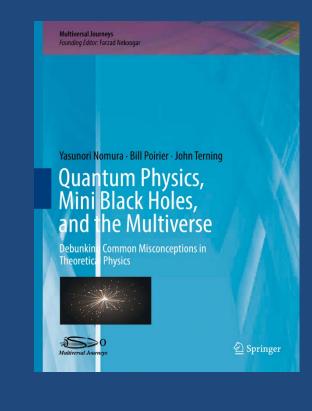


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https://www.springer.com/gp/book/9783319417080

"This book stands above others in its genre of physics books for laypeople. The subtitle promises that commonly held fallacies about popular topics in physics will be clarified. ... Topics covered include basic quantum mechanics, relativity theory, and particle physics. ... Highly recommended. All levels/libraries." (A. SPERO, CHOICE, VOL. 56 (02), OCTOBER, 2018)







- Professor Fred Adams University of Michigan, Ann Arbor
- Professor Itzhak Bars University of Southern California, Los Angeles
- Professor Thomas Buchert The University Claude Bernard in Lyon, France
- Professor Laura Mersini-Houghton UNC-Chapel Hill
- Professor Yasunori Nomura University of California, Berkeley
- Professor L. William Poirier Texas Tech University
- Professor John Terning University of California, Davis

Collaborating with top media production companies to develop documentaries about Theoretical Physics & Cosmology topics.

Two short documentaries about Misconceptions in Theoretical Physics on YouTube:

Misconceptions about LHC Part-1

Misconceptions about LHC Part-2



Two documentaries about the Multiverse on YouTube:

## The Multiverse Part 1: Introduction & Misconceptions

### The Multiverse - Part 2



MVJS YouTube Channel:

https://www.youtube.com/user/MultiversalJourneys/videos

The Multiverse Part 1: Introduction & Misconceptions

The Multiverse - Part 2



## Physics of observer series:

https://www.mvjs.org/physics-of-observer-video-series/

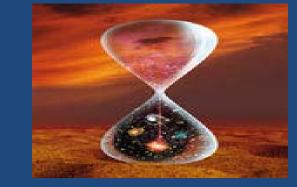
- Physics of the Observer Cosmology
- Reliable observers in the multiverse
- Physics of the Observer A discussion on Quantum Physics
- Observers Classical vs Quantum
- What Exists and What Happens: The Role of the Observer
- Physics of the observer Quantum Physics
- The Role of the Observer The Multiverse

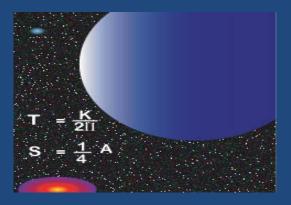
# **DVDs Produced**

The Beginning and End of Time: Life, the Universe, and Nothing Prof. Lawrence M. Krauss

The Nature of Space and Time Prof. Gary T. Horowitz

Two-Time Physics: The Unified View from Higher Dimensional Space and Time Prof. Itzhak Bars

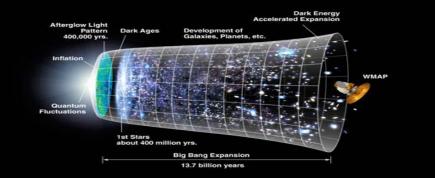






# **DVDs Produced (cont'd)**

# The Future History of the Universe Prof. Fred C. Adams



## Is time travel possible? Prof. Ken Olum



#### 

## **Contact Multiversal Journeys**

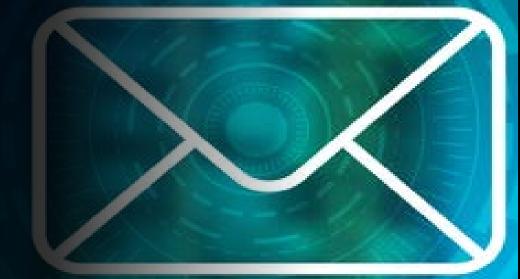
Multiversal Journeys 17328 Ventura Blvd, #155 Encino, CA 91316

Multiversal Journeys 773 E El Camino Real #167 Sunnyvale, CA 94087

By phone: 818-935-0466

By web: https://www.mvjs.org/

By eMail: info@mvjs.org





# Ways to DONATE today:

If you are interested in our work and consider a donation to our cause, there are several ways to help us:

 Via our website (by credit card/debit card/PP): <u>http://www.mvjs.org/donate/</u>

 Via PayPal Giving Fund (by credit card/debit card/PP): <u>https://www.paypal.com/fundraiser/charity/1494184</u>

 Via mail (by check): Multiversal Journeys, 17328 Ventura Blvd, #155
 Encino, CA 91316

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- charity, NO COSTS FOR YOU!)
- Log into <u>https://smile.amazon.com</u>, go to "Your Account" → "Change your charity" → Type "Multiversal Journeys" & order all your goods! over for disclaimer

# **Disclaimer:**

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Once you provide your email during the payment, the payment processing company (PayPal) will send you a receipt for your donation. Please provide your return address, if you send us a check and need a paper receipt.

If you wish additional documentation for your donation to *Multiversal Journeys*; please request it explicitly under "Optional instructions to MVJS".



Thank You