



Andrei Linde

Humanities and Sciences Professor, Emeritus
Physics

 Curriculum Vitae available Online

CONTACT INFORMATION

- **Administrative Contact**

Zhenhua Wang

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Bio

BIO

What is the origin and the global structure of the universe?

For a long time, scientists believed that our universe was born in the big bang, as an expanding ball of fire. This scenario dramatically changed during the last 35 years. Now we think that initially the universe was rapidly inflating, being in an unstable energetic vacuum-like state. It became hot only later, when this vacuum-like state decayed. Quantum fluctuations produced during inflation are responsible for galaxy formation. In some places, these quantum fluctuations are so large that they can produce new rapidly expanding parts of the universe. This process makes the universe immortal and transforms it into a multiverse, a huge fractal consisting of many exponentially large parts with different laws of low-energy physics operating in each of them.

Professor Linde is one of the authors of inflationary theory and of the theory of an eternal inflationary multiverse. His work emphasizes the cosmological implications of string theory and supergravity.

Current areas of focus:

- Construction of realistic models of inflation based on supergravity and string theory
- Investigation of conceptual issues related to the theory of inflationary multiverse

ACADEMIC APPOINTMENTS

- Professor Emeritus, Physics

ADMINISTRATIVE APPOINTMENTS

- Harald Trap Friis Professor in Physics, Stanford University, (2008-2015)
- Professor of Physics, Stanford University, (1990- present)
- Professor, Lebedev Physical Institute, (1985-1989)
- Junior Research Fellow, Lebedev Physical Institute, (1975-1985)

HONORS AND AWARDS

- Gamow Prize, Russian-American Science Association (2018)
- Kavli Prize in Astrophysics, The Kavli Foundation (2014)
- Member, The Norwegian Academy of Science and Letters (2014)
- Fundamental Physics Prize, Fundamental Physics Prize Foundation (2012)
- Member, American Academy of Arts and Sciences (2011)
- Correspondent Member, Academy of Sciences and Humanities in Hamburg (2010)
- Member, National Academy of Sciences (2008)
- Medal of the Institute of Astrophysics, Institute of Astrophysics (2006)
- Thomson Scientific Laureate in Physics, Thomson Reuters (2006)
- Robinson Prize for Cosmology, Newcastle University (2005)
- Humboldt Research Award, The Alexander von Humboldt Foundation (2004)
- Peter Gruber Prize for Cosmology, The Gruber Foundation (2004)
- Dirac Medal, International Centre for Theoretical Physics (2002)
- Oskar Klein medal, Stockholm University (2001)
- Lomonosov Award, Academy of Sciences of the Union of Soviet Socialist Republics (1978)

BOARDS, ADVISORY COMMITTEES, PROFESSIONAL ORGANIZATIONS

- Staff Member, European Organization for Nuclear Research (CERN) (1989 - 1990)

PROFESSIONAL EDUCATION

- Ph.D., Lebedev Physical Institute , Physics (1975)
- B.S., Moscow State University , Physics (1971)

LINKS

- List of publications on inSPIRE: http://inspirehep.net/search?ln=en&p=a+Linde%2Ca&of=hb&action_search=Search&sf=earliestdate&so=d
- List of publications in Google Scholar: <https://scholar.google.com/citations?user=uOEjwMQAAAAJ&hl=en>

Teaching

COURSES

2023-24

- Inflationary Cosmology: PHYSICS 452 (Spr)

2022-23

- Electricity, Magnetism, and Optics: PHYSICS 23 (Win)

2021-22

- Electricity and Magnetism: PHYSICS 43 (Spr)

Publications

PUBLICATIONS

- **M-theory cosmology, octonions, error correcting codes** *JOURNAL OF HIGH ENERGY PHYSICS*
Gunaydin, M., Kallosh, R., Linde, A., Yamada, Y.

2021

- **Universality class in conformal inflation** *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*
Kallosh, R., Linde, A.
2013
- **Towards inflation in string theory** *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*
Kachru, S., Kallosh, R., Linde, A., Maldacena, J., McAllister, L., Trivedi, S. P.
2003
- **de Sitter vacua in string theory** *PHYSICAL REVIEW D*
Kachru, S., Kallosh, R., Linde, A., Trivedi, S. P.
2003; 68 (4)
- **Towards the theory of reheating after inflation** *PHYSICAL REVIEW D*
Kofman, L., Linde, A., Starobinsky, A. A.
1997; 56 (6): 3258-3295
- **CHAOTIC INFLATION** *PHYSICS LETTERS B*
Linde, A. D.
1983; 129 (3-4): 177-181
- **A NEW INFLATIONARY UNIVERSE SCENARIO - A POSSIBLE SOLUTION OF THE HORIZON, FLATNESS, HOMOGENEITY, ISOTROPY AND PRIMORDIAL MONOPOLE PROBLEMS** *PHYSICS LETTERS B*
Linde, A. D.
1982; 108 (6): 389-393
- **Macroscopic Consequences Of The Weinberg Model** *Physics Letters B*
Kirzhnits, D. A., Linde, A. D.
1972; 42: 471
- **Hybrid ?-attractors, primordial black holes and gravitational wave backgrounds** *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*
Braglia, M., Linde, A., Kallosh, R., Finelli, F.
2023
- **Goldstino condensation?** *JOURNAL OF HIGH ENERGY PHYSICS*
Kanosh, R., Linde, A., Wrase, T., Yamada, Y.
2022
- **Dilaton-axion inflation with PBHs and GWs** *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*
Kallosh, R., Linde, A.
2022
- **Hybrid cosmological attractors** *PHYSICAL REVIEW D*
Kallosh, R., Linde, A.
2022; 106 (2)
- **Polynomial alpha-attractors** *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*
Kallosh, R., Linde, A.
2022
- **BICEP/Keck and cosmological attractors** *JOURNAL OF COSMOLOGY AND ASTROPARTICLE PHYSICS*
Kallosh, R., Linde, A.
2021
- **IIB String Theory and Sequestered Inflation** *FORTSCHRITTE DER PHYSIK-PROGRESS OF PHYSICS*
Kallosh, R., Linde, A., Wrase, T., Yamada, Y.
2021
- **Sequestered Inflation** *FORTSCHRITTE DER PHYSIK-PROGRESS OF PHYSICS*

Kallosh, R., Linde, A., Wrase, T., Yamada, Y.
2021

- **KKLT without AdS** *JOURNAL OF HIGH ENERGY PHYSICS*
Linde, A.
2020
- **de Sitter minima from M-theory and string theory** *PHYSICAL REVIEW D*
Cribiori, N., Kallosh, R., Linde, A., Roupec, C.
2020; 101 (4)
- **Mass production of type IIA dS vacua** *JOURNAL OF HIGH ENERGY PHYSICS*
Kallosh, R., Linde, A.
2020
- **CMB targets after the latest Planck data release** *PHYSICAL REVIEW D*
Kallosh, R., Linde, A.
2019; 100 (12)
- **de Sitter Vacua with a Nilpotent Superfield** *FORTSCHRITTE DER PHYSIK-PROGRESS OF PHYSICS*
Kallosh, R., Linde, A., McDonough, E., Scalisi, M.
2019; 67 (1-2)
- **The Landscape, the Swampland and the Era of Precision Cosmology** *FORTSCHRITTE DER PHYSIK-PROGRESS OF PHYSICS*
Akrami, Y., Kallosh, R., Linde, A., Vardanyan, V.
2019; 67 (1-2)
- **On the Problem of Initial Conditions for Inflation** *FOUNDATIONS OF PHYSICS*
Linde, A.
2018; 48 (10): 1246–60