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Cosmologists collect 2002 Dirac medal

8 August 2002

US cosmologists Alan Guth, Andrei Linde and Paul Steinhardt share this year's Dirac medal for their development of the concept of cosmic inflation. Awarded by the Abdus Salam International Centre for Theoretical Physics in Trieste, Italy, the prize recognizes the success of the theory, which has been strongly supported by astronomical observations. This year's medal is awarded on the centenary of Paul Dirac's birth, and is accompanied by a cash prize of US\$5000.

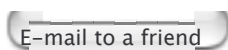
The 'big bang' theory of the 1960s stated that the Universe expanded rapidly shortly after its birth. But it did not explain how the Universe came to have its relatively smooth structure that is demonstrated by the uniformity of the cosmic microwave background. Based on the results of particle-physics experiments, Guth of the Massachusetts Institute of Technology was the first to propose the 'inflation' mechanism to explain how such uniformity could arise.

Linde of Stanford University and Steinhardt of Princeton University developed this idea further, successfully accounting for the existence of objects such as stars and galaxies in the otherwise uniform Universe. Experiments such as COBE and BOOMERANG have supported these predictions with their measurements of the cosmic microwave background, and have helped to make the theory of inflation a cornerstone of modern cosmology.

Guth, Linde and Steinhardt are recognized on the centenary of Dirac's birth, an event that is celebrated today at the University of Bristol - in his home city - with a series of talks about his work and its impact on modern technology. The Edinburgh Fringe Festival is also staging special performances of *Into the Antiworld*, a 'physical theatre' show inspired by Dirac's revolutionary prediction of the existence of antimatter.

About the author

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