



K O N I N K L I J K E N E D E R L A N D S E
A K A D E M I E V A N W E T E N S C H A P P E N

A The Restless Universe. How the Periodic Table Got Built up

This symposium will feature an Academy Lecture by Shrinivas Kulkarni, professor of Astronomy, California Institute of Technology, Pasadena, United States

Date: Friday 24 May 2019, 7.00 p.m. – 8.30 p.m.

Venue: Public Library Amsterdam, OBA Oosterdok, Theaterzaal OBA, Oosterdokskade 143, 1011 DL Amsterdam

Abstract

The Universe began only with hydrogen and helium. It is cosmic explosions which build up the periodic table! Astronomers have now identified several classes of cosmic explosions of which supernovae constitute the largest group. The Palomar Transient Factory was an innovative 2-telescope experiment, and its successor, the Zwicky Transient Factory (ZTF), is a high tech project with gigantic CCD cameras and sophisticated software system, and squarely aimed to systematically find "blips and booms in the middle of the night". Shrinivas Kulkarni will talk about the great returns and surprises from this project: super-luminous supernovae, new classes of transients, new light on progenitors of supernovae, detection of gamma-ray bursts by purely optical techniques and troves of pulsating stars and binary stars. ZTF is poised to become the stepping stone for the Large Synoptic Survey Telescope.

Short biography

S. R. Kulkarni is the George Ellery Hale Professor of Astronomy at the California Institute of Technology. He served as Executive Officer for Astronomy (1997-2000) and Director of Caltech Optical Observatories for the period 2006-2018. He was recognized by Cornell University with an AD White Professor-at-Large appointment. Kulkarni received an honorary doctorate from the Radboud University of Nijmegen, The Netherlands. He is the Chair of the Physical Sciences panel of the Infosys Science Foundation.

Kulkarni obtained his undergraduate degree from the Indian Institute of Technology, Delhi and his PhD from UC Berkeley. He served a brief period as a postdoc at UC Berkeley and Caltech before joining the faculty rank at Caltech in 1987.

Prof. Kulkarni's primary interests are the study of compact objects (neutron stars and gamma-ray bursts) and cosmic explosions. He is keenly interested in developing or refining astronomical methodologies.

His awards include NSF's Alan T. Waterman Prize of the NSF, a fellowship from the David and Lucile Packard Foundation, a Presidential Young Investigator award from the NSF, the Helen B. Warner award of the American Astronomical Society, the Jansky Prize of Associated Universities, Inc and the Dan David Prize.

Kulkarni is a fellow or member of the following learned societies: the American Academy of Arts & Sciences, the Royal Society of London, the US National Academy of Sciences, Indian Academy of Sciences and the Royal Netherlands Academy of Arts and Sciences (KNAW).

Professor Shrinivas Kulkarni is this year's Johannes Diderik van der Waals Visiting Professor, a Visiting Professorship of the University of Amsterdam and Vrije Universiteit Amsterdam.



Programme

- 6.30 p.m. Coffee and registration
- 7.00 p.m. Ed van den Heuvel, Emeritus Professor of Astronomy, Anton Pannekoek Institute, University of Amsterdam – *Welcome and introduction*
- 7.10 p.m. Shrinivas Kulkarni, Professor of Astronomy, California Institute of Technology, Pasadena, United States – *The Restless Universe. How the Periodic Table Got Built up*
- 8.10 p.m. Discussion
- 8.30 p.m. Drinks