



Curriculum Vitae Professor Dr Ewine F. van Dishoeck

Name: Ewine Fleur van Dishoeck

Born: 13 June 1955

Research Priorities: Astrochemistry, interstellar molecules, the formation of stars and planets, submillimetre and infrared astronomy, laboratory astrophysics

Ewine van Dishoeck is a Dutch chemist and astronomer. Her pioneering research into the chemical composition of the universe has deepened the understanding of how stars and planets are formed.

Academic and Professional Career

- since 2007 Scientific Director, Netherlands Research School for Astronomy (Nova), Leiden, the Netherlands
- since 2007 External Scientific Member, Max Planck Institute for Extraterrestrial Physics, Garching, Germany
- since 1995 Professor of Molecular Astrophysics, Leiden University, Leiden, the Netherlands
- 1990 - 1995 Lecturer, Leiden University, Leiden, the Netherlands
- 1988 - 1990 Assistant Professor of Cosmochemistry, California Institute of Technology (Caltech), Pasadena, USA
- 1987 - 1988 Visiting Professor, Princeton University, Princeton, USA
- 1984 - 1988 Visiting Member, Institute for Advanced Study, Princeton, USA
- 1984 - 1987 Junior Fellow, Harvard Society of Fellows, Harvard, USA
- 1984 PhD in Chemistry, Leiden University, Leiden, the Netherlands
- 1980 M.Sc. in Chemistry, Leiden University, Leiden, the Netherlands
- 1977 B.Sc. in Mathematics, Leiden University, Leiden, the Netherlands

1976 B.Sc. in Chemistry, Leiden University, Leiden, the Netherlands

Project Coordination, Member in Collaborative Research Projects

2012 - 2018 Principal Investigator, Advanced Grant “Astrochemistry and the Origin of Planetary Systems”, European Research Council (ERC)

Honours and Awarded Memberships

since 2021 Ordinary Member, Pontifical Academy of Sciences, Vatican City

2020 Jules Janssen Prize, Société astronomique de France, France

2019 Karl Schwarzschild Medal, German Astronomical Society, Hamburg, Germany

2018 James Craig Watson Medal, National Academy of Science, USA

2018 Kavli Prize in Astrophysics, Kavli Foundation, Los Angeles, USA, Norwegian Academy of Sciences and Letters as well as Norwegian Ministry of Education and Research, Norway

2015 Albert Einstein World Award of Science, World Cultural Council

2014 Gothenburg Lise Meitner Award, Gothenburg Physics Centre, Gothenburg, Sweden

since 2013 Member, German National Academy of Sciences Leopoldina, Germany

2012 Academy Professor, Royal Dutch Academy of Sciences, the Netherlands

since 2008 Foreign Honorary Member, American Academy of Arts and Science, USA

2007 Petrie Award, Canadian Astronomical Society, Canada

2005 Physics Prize, Netherlands Physical Society, the Netherlands

since 2001 Member, Royal Dutch Academy of Sciences, the Netherlands

2001 Bourke Award, Royal Society of Chemistry, UK

2000 Spinoza Award, Dutch Research Council (NWO), Netherlands

1994 Gold Medal, Royal Netherlands Chemical Society (KNCV), the Netherlands

1993 Maria Goeppert Mayer Award, American Physical Society (APS), USA

1986 Pastor Schmeits Prize, Foundation “Pastoor Schmeitsprijs voor Sterrekunde”, Groningen, the Netherlands

Research Priorities

Ewine van Dishoeck is a Dutch chemist and astronomer. Her pioneering research into the chemical

composition of the universe has deepened the understanding of how stars and planets are formed.

The space between stars and planets is not empty, but filled with very thin, cold gas clouds. In addition to hydrogen and carbon monoxide, these clouds consist of a number of exotic compounds and organic molecules. Ewine van Dishoeck researches what chemical processes occur when gas clouds collide in order to form stars, and the predominant conditions in the dust rings surrounding young stars in which planets may form. The molecules also function as sensors for temperature and pressure, allowing Ewine van Dishoeck to precisely examine the conditions of the material in space.

She uses instruments such as the Very Large Telescope (VLT) of the European Southern Observatory in Chile, and the Atacama Large Millimeter Array (ALMA), also in Chile, as well as the Herschel Space Observatory. These receive electromagnetic signals from space, which, like all electromagnetic waves, are emitted directly by molecules. Recently, she has examined the organic and water molecules involved in these processes in order to investigate how water and life might originate on planets.

The methods that Ewine van Dishoeck and her colleagues have developed to analyse cosmochemistry have become standard procedures in this still young discipline. She also makes use of quantum chemical techniques. She uses these techniques to define processes that occur in space under extreme conditions involving low temperatures and low pressure, and which are very difficult to reproduce in experiments here on Earth under laboratory conditions.