

X-ray honour gallery – award winners of the Röntgen Medal

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The Röntgen Medal

Summary: Starting in 1951, on the 50th anniversary of the award of the first Nobel Prize for physics to Wilhelm Conrad Röntgen, the Lord Mayor of the German city of Remscheid has annually awarded Röntgen Medals to scientists who "in the broadest sense have made a special contribution to the progress and dissemination of X-ray discoveries in the theoretical and applied sciences". The Röntgen Medal has become highly recognized in the scientific world. To date, more than one hundred scientists have received this honour. Through their chronology, this contribution presents a "Who's Who" of X-ray science and provides selected insights into their scientific work; with special focus on the fields of X-ray optics and X-ray astronomy.

Prof. Dr. Max von Laue (1952)



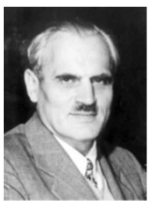
Physicist. Student and assistant of Max Planck. In Munich together with Friedrich and Knipping, he discovered the diffraction and interference of X-rays in crystals. Thus he proved their wave nature and also provided experimental confirmation for a symmetrical grid being formed by the components of the crystals. Diffraction patterns have since been used to determine the structure of crystals. Nobel Prize for Physics in 1914.

Sir William Lawrence Bragg (1955)



Physicist. Together with his father, Sir William Henry Bragg, he conducted studies in the field of X-ray diffraction in crystals. Bragg's law gives the relation between the spacing of atomic planes, the wavelength of the X-ray and the angle of incidence at which constructive interference occurs. He determined crystal structures beginning with NaCl, ZnS, and diamond. Nobel Prize for Physics in 1915.

Sir Arthur Holly Compton (1957)



Physicist. In 1922 he succeeded in proving the corpuscular character of light: When he directed X-ray photons onto a metal surface electrons were released and the X-rays' wavelength increased because some of the incident photon energy was transferred to the electrons, what is now known as the Compton-effect. Nobel Prize for Physics in 1927.

Prof. Dr. Günter Schmahl (1992)



Physicist. As a pioneer of X-ray microscopy he developed a new method for the fabrication of Fresnel zone plates as x-ray lenses. He used them as X-ray lenses in microscopic experiments with synchrotron radiation and also succeeded in manufacturing a laboratory X-ray microscope. Together with Gisela Schütz he used the effect of X-ray magnetic circular dichroism (XMCD) as a contrast mechanism in an X-ray microscope.

Röntgen Medal Laureates 1951–2022

1951 Otto Glasser	1970 John Coltman	Mitsuyuki Abe
Richard Glocker	Robert Jaeger	Karl-Heinz Höhne
Friedrich Janus	Hendrik Willem Stenvers	1997 Mortimer M. Elkind
1952 Leonard Grebe	Alessandro Vallebona	1998 Joachim Trümper
Walter Hartmann	1972 Werner Teschendorf	1999 Heizaburo Ichiwawa
Robert Janker	1973 Liane B. Russell	Gerd Friedmann
Wilhelm Rees	William L. Russell	Paul Gerhardt
Hans Theodor Schreus	1974 Frans Willem Saris	2000 Manfred P. Hentschel
Hans Meyer	1975 Wilhelm Hanle	2001 Herman D. Suit
1953 Fedor Haenisch	1976 Josef Becker	2002 Ulrich Bonse
Max Anderlohr	1977 Bernard George Ziedses	2003 Rolf Günther
Hermann Holthusen	des Plantes	2004 Johann Weisenhofer
Hugo Seemann	1978 John Francis Fowler	Robert Huber
1954 Max Kossel	1979 Russel Henry Morgan	Hartmut Michel
Walter Kossel	1980 Godfrey Newbold Hounsfield	Ohtsura Niwa
1955 Heinz Lossen	Hermann Muth	2006 Sigurd Hofmann
Friedrich Dessauer	1982 Otto Vaupel	2007 Horst Sack
Mario Ponzio	1983 Karl Musshoff	Rolf Sauer
1957 Arthur Holly Compton	Heinz Vieten	Michael Wannemacher
1958 Boris Rajewski	1984 Vernon Ellis Cosslet	2008 Willi Kalender
1959 Antoine Lacassagne	1984 Max Scheer	2009 Uwe Ewert
Gian Guiseppe Palmieri	1985 Albrecht M. Kellerer	2010 Helmut Dosch
Hans Rudolf Schinz	Christian Streffer	2011 Andreas Bockisch
1960 Richard Seifert	1986 Daniel Blanc	2012 Gerhard van Kaick
1961 Elis Berven	1987 Paul Lauterbur	2013 Gillies McKenna
Heinrich Franke	1988 Viktor Hauk	2014 Ada Yonah
1962 Gerardus Jacobus van der Plaats	1988 Eckehard Macherauch	2015 Sunil K. Sinha
1963 Albert Bouwers	1989 Gerald Edward Adams	2016 Michael Baumann
Anton LeB	Arthur Scharmann	2017 Henry Chapman
William David Coolidge	1990 Hans Wambersie	2018 Franz Pfeiffer
1965 Helmut Kuhlentkämpf	André-Stefan Stender	2019 Francesco Sette
1966 Walter Frey	1991 Ludwig Feinendegen	2020 Günther Hasinger
Hanns Langendorff	1992 Günter Schmahl	2021 Wolfgang Schlegel
1967 Gottfried Spiegel	1993 Philips E.S. Palmer	2022 Beatriz Roldan Cuenya
1968 Robert Prévôt	1995 Albert L. Baert	
1969 Rolf Wideröte	Geoffrey Harding	3 Nobel prize laureate
	Josef Kosanetzki	

Prof. Dr. Joachim Trümper (1998)



Astrophysicist. As a pioneer in the field of X-ray astronomy he investigated cosmic X-ray sources in space. In his early balloon program he found a sharp and intense spectral feature in the hard X-ray spectrum of the binary neutron star Hercules X-1, which he interpreted in terms of a cyclotron absorption line. He acted as principal investigator of ROSAT and as director of this observatory.

Prof. Dr. Günther Hasinger (2020)



Astrophysicist. During his analysis of ROSAT measurements he recognized that the X-ray background mainly originates from black holes in galactic nuclei. His study of the evolution of distant galaxies has contributed significantly to our understanding of black holes not so much as a product of the evolution of galaxies, but rather as seeds for their origin. Since 2018 he is Director of Science of the European Space Agency (ESA).