

RESUME

Last name: **MAYOR**
First name: **Michel**
Middle name: Gustave
Date of birth: January 12, 1942
Citizenship: Swiss
Marital status: Married, 3 children

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Position: Professor Emeritus at the Department of Astronomy,
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DEGREES

- Master in Physics, Lausanne University, 1966
- “Certificat d’Astronomie et d’Astrophysique”, University of Geneva, 1968
- PhD, University of Geneva, 1971: “Essay on the kinematical properties of stars in the solar vicinity: possible relation with the galactic spiral structure.”

ACADEMIC POSITIONS

- Assistant Geneva University 1966 – 1971
- Research associate (SNF) 1971 - 1984
- Associate professor, University of Geneva, 1984 - 1988
- Professor, University of Geneva, 1988 - 2007
- Director of the Geneva Observatory, 1998 - 2004
- Professor Emeritus, University of Geneva, since 2007

PARTICIPATION IN PROFESSIONAL ASSOCIATIONS

- Organiser and publisher of 9 *Saas-Fee Advanced Courses* of the Swiss Society of Astrophysics and Astronomy
- Member of the Editorial Board of “Europhysics News”, 1985 – 1990
- Swiss delegate for the ESA (Agence Spatiale Europeenne) “Astronomical Working Group”, 1985 – 1987
- President of the Commission 33 on “Structure and dynamics of the galactic system” of the International Astronomical Union (IAU), 1988 – 1991
- Chairman of the “Scientific Technical Committee of ESO (European Southern Observatory)”, 1990-1992
- President of the Swiss Society of Astrophysics and Astronomy (SSAA), 1990–1993
- Member of the Organising Committee of the IAU Commission on Bioastronomy, 1997 – 2003
- Swiss Delegate to the ESO Council, 2003 – 2007
- President of the IAU commission on “Extra-solar planets”, 2006 – 2009

- Member of the “European Academy of Sciences”, 2004
- Foreign Associate of the French Academy of Sciences, 2003
- Honorary Fellow of the Royal Astronomical Society (UK), 2008
- Foreign Member of the National Academy of Sciences (USA), 2010
- Foreign Member of the American Academy of Arts and Sciences, 2010
- Honorary Member of the AAS (American Astronomical Society), 2015
- Honorary Member of the EGU (European Geosciences Union), 2016

AWARDS AND DISTINCTIONS

- Award of the “Académie Française des Sciences” 1983 (Prix “Charles-Louis de Saulces de Freycinet”, (this prize has been jointly awarded to André Baranne and Michel Mayor).
- Discovery of the first extra-solar planet 51 Peg, cited by “Sciences” as one of the 10 most important discoveries in 1995
- Medal of the IAU Commission of Bioastronomy awarded at the General Assembly at Kyoto, 1997 (this medal has been jointly awarded to M. Mayor, D. Queloz, G. Marcy, P. Butler)
- Laureate of “Marcel–Benoist” Award 1998 of the Swiss Confederation
- Janssen’s Medal awarded by the Société Astronomique de France, 1998
- ADION’s Medal awarded by the Observatoire de la Côte d’Azur, Nice (France), 1999
- Laureate of the “E. Balzan” International Award 2000
- Medal awarded by the Montpellier University (France), 2001
- The asteroid 125076 Michelmayor is named in his honour.
- Prize “Livre de l’astronomie 2001” awarded for the publication of the book “Les nouveaux mondes du cosmos” (in collaboration with P.Y.Frei) awarded by the 17th Astronomy Festival Haute Maurienne/F
- Einstein Medal, 2004
- Knight of the French Legion d’Honneur 2004
- Member of the list of “Highly cited Scientists” (Presently, h-index 106)
- Laureate of the Prize of the “Fondation pour Genève”, 2005
- Laureate of the Shaw Prize for Astronomy (shared with G. Marcy), Hong-Kong, 2005
- Medal of the University of Geneva, 2009
- Karl-Schwarzschild Medal awarded by the Deutsche Astronomische Gesellschaft, 2010
- Viktor Ambartsumian International Prize (shared with G. Israelian and N. Santos), 2010
- Prize (Sciences) awarded by the town of Geneva (shared with D.Queloz and S.Udry), 2011
- BBVA “ Frontiers of Knowledge Award ” (shared with D.Queloz), Madrid 2012
- Nature Citation as a member of the 2013 Top Ten Scientists
- Gold Medal of the Royal Astronomical Society, 2015
- Tycho Brahe Prize awarded by the European Astronomical Society, 2015
- Kyoto Prize in Basic Sciences, awarded by the Inamori Foundation, Nov. 2015
- Jean-Dominique Cassini Medal awarded by the European Geosciences Union, Apr. 2016
- Officer of the French Order “Legion d’Honneur” , May 2017
- Wolf Prize (physics) , June 2017
- Nobel Prize (physics) (shared with J.Peebles and D.Queloz) , Dec.2019

HONORARY DEGREES

- Honorary Doctor of Katholieke Universiteit Leuven (Belgium), 2001
- Honorary Doctor of the Swiss Institute of Technology, 2002
- Honorary Doctor of the Federal University of Rio Grande do Norte (Brazil), 2006
- Honorary Doctor of Philosophy of Uppsala University (Sweden), 2007
- Honorary Doctor of Paris Observatory (France), 2008
- Honorary Doctor of the “Université Libre de Bruxelles”, (Belgium), 2009
- Honorary Doctor of the University of Provence (Marseille, France), 2011
- Honorary Doctor of the Joseph Fourier University (Grenoble, France), 2014
- Honorary Doctor of the University of Liège (Belgium), 2018

SPECIAL LECTURES AND INVITED DISCOURSES

- Invited Discourse of the General Assembly of the International Astronomical Union, Manchester, Aug. 2000
- Niels Bohr Lecture, Copenhagen, 2000
- 5th Leibniz Kolleg's Lecture, Potsdam (Germany), 2001
- Laureate of the Helen Sawyer-Hogg Prize, awarded by the Canadian Astronomical Society, 2005
- Barringer's Lecture at the 69th annual meeting of the Meteoritical Society, Zurich 2006
- Payne-Gaposchkin's Lecture at Harvard University (US), 2008
- Marker's Lecture at Pennstate University (US), 2008
- Kepler's Lecture at Tübingen University (Germany), 2009
- Andrew Chamblin's lecture at Cambridge University, 2010
- Karl-Schwarzschild's lecture at the meeting of the Deutsche Astronomische Gesellschaft , Bonn, 2010
- Edmund Halley's lecture at Oxford University, 2011
- Paco Yndurain's lecture at Madrid University, 2011
- Yervant Terzian's lecture at Cornell University, 2012
- Einstein's lecture at the Weizmann Institute (Israel), 2013

Resume , Michel Mayor

Michel Mayor, was born in Lausanne (Switzerland). Having obtained a master in physics at Lausanne University, he moved to astrophysics and get interested in the dynamics of spiral galaxies.

The PhD of Dr. M. Mayor was devoted to the search of evidence of spiral structure in the Milky Way in the velocity distribution of stars close to the Sun. To test that possibility, at the end of his PhD he decided to develop a new specific spectrograph to measure stellar radial velocities. This was the start of his interest in stellar kinematics. This research led to various fields of interest, among which the dynamics of globular clusters and the study of statistical characteristics of solar-type binary stars. (Duquennoy, Mayor (1991) He was naturally driven to study small mass companions to stars analogous to our Sun. By the end of the 1980's the evolution of technology was such to allow for the development of a new spectrograph. This spectrograph, built at the Haute-Provence Observatory, reached a level of precision permitting to detect extra-solar planets.

Part of a large survey, with Didier Queloz, one of his graduate students, they have detected, in 1995, the planetary companion to the solar-type star 51 Pegasi : this was the first detection of an exoplanet.

This discovery has resulted in the advent of an exciting new research field "exoplanets". As a result of constant improvements to his high dispersion spectrographs Dr. Mayor's work has significantly contributed to the discovery of "super-Earth" planets with mass greater than that of Earth.

In 2000, Dr. Mayor took the lead for the construction of a new spectrograph: HARPS, optimized to search for very low mass planets. This spectrograph revealed the large occurrence of the subpopulation of super-Earths on tight orbits, challenging the scenarios of planetary formation.

Apart from his research activity, Dr. Mayor initiates a series of advanced level courses of Astrophysics since 1971, the "Saas-Fee courses". He was a co-organizer for nine of these courses.

From 1984 to 2007, he was teaching astrophysics at Geneva University for undergraduate courses at the department of physics as well as post-graduate ones at the department of astronomy.

From 1998 to 2004, M. Mayor was Director of the Geneva Observatory.

He was also active in ESO (the European Southern Observatory), being the chairman of the Scientific and Technological Committee of that organization (1990-92) and the Swiss delegate to the Council of ESO (2003-2007).

In the frame of the IAU (International Astronomical Union) M. Mayor chaired the Commission on the "Structure and Dynamics of the Galactic System" (1988-1991), as well as the new Commission devoted to "Extra-solar planets" (2006-2009).

Since 2007, Dr. M. Mayor is Emeritus professor at Geneva University.

Twenty years after the discovery of 51 Peg b, M. Mayor is still very active to detect and characterize exoplanets, devoting a large fraction of his time as a member of his group of research as well as inspiring other teams. For example M. Mayor was at the origin (with D. Latham) of the development of a northern copy of the overwhelming HARPS spectrograph to measure the mass of rocky planets detected by the Kepler space mission. A program focused on the physics of very low mass planets having allowed numerous scientific publications.

He also gives a large tribute to outreach activities ... a direct consequence of the exceptional interest of the public for that new domain of astronomy.

A FEW SELECTED PAPERS

1	<p>A Jupiter-mass companion to a solar type star <i>Nature</i> 378, 355 (1995) Mayor M., Queloz D. <i>First discovery of a planet orbiting a solar-type star.</i> <i>This first exoplanet provides the evidence of planetary migration, a physical effect involved in any present scenario of planetary formation.</i></p> <p><i>Paper selected in "A Century of Nature; Twenty-one discoveries that changed Science and the World". Edited by Laura Garvin of Tim Lincoln University of Chicago Press 2003.</i> <i>One of the 3 selected papers in astronomy.</i></p>
2	<p>An extra-solar planetary system with three Neptune-mass planets <i>Nature</i>,441, 305 L, (2006) Lovis C., Mayor M., Pepe F., et al. <i>The first example of the population of Neptune mass-planets on tight orbits.</i></p>
3	<p>The HARPS search for southern extra-solar planets XIII. A planetary system with 3 super-Earths (4.2, 6.9, and 9.2 M_{\oplus}) <i>A&A</i>, 493, 639, (2009) Mayor M., Udry S., Lovis C., et al. <i>A planetary system with 3 super-earths. The first example of the rich population of Super-Earth orbiting solar-type stars.</i></p>
4	<p>The HARPS search for southern extra-solar planets XVIII. An Earth-mass planet in GJ 581 planetary system <i>A&A</i>, 507, 487, (2009) Mayor M., Bonfils X., Forveille T., et al.</p>
5	<p>Detection of planetary transits across a sun-like star <i>ApJ</i> , 529 L, 45 (2000) Charbonneau, D., Brown, T. W., Latham, D. W., Mayor M. <i>The first detection of a transiting planet.</i></p>
6	<p>Detection of a spectroscopic transit by the planet orbiting the star HD209458 <i>A&A</i>, 359, 13 (2000) Queloz, D., Eggenberger, A., Mayor, M. et al. <i>The first Rossiter-McLaughlin effect due to a transiting planet. This measurement allows the estimation of the relative angle between the orbital planet and the stellar equatorial planet.</i></p>
7	<p>Evidence for planet engulfment by the star HD 82943 <i>Nature</i>, 411, 613 (2001) Israelian, G., Santos, N. C., Mayor, M., Rebolo, R. <i>In that paper we present the Li 6 test to search for evidence of such engulfment of planets.</i></p>
8	<p>The metal-rich nature of stars with planets <i>A&A</i>, 373, 1019 (2001) Santos, N.,Israelian,G., Mayor,M. et al. <i>The work described in this paper represents the first uniform and unbiased comparison between stars with and without planetary-mass companions in a volume limited sample. The results show that:</i></p> <ol style="list-style-type: none"> 1) stars with giant planets are significantly metal-rich 2) the source of metallicity is most probably primordial

<p>9</p>	<p>Setting new standards with HARPS. Msng. 114, 20 (2003) Mayor, M., Pepe, F., Queloz, D. et al.</p> <p><i>Brief description of the new HARPS instrument installed on the ESO 3.6 m telescope at La Silla observatory. Until 2018, the most precise spectrograph to detect exoplanets by Doppler spectroscopy. References 2,3,4,10 illustrate a few discoveries made by that instrument. (M. Mayor was the Pi of the consortium having developed HARPS)</i> <i>Observatory on the Galileo telescope.</i> <i>A northern copy of HARPS has been installed on the Galileo telescope at La Palma Observatory to contribute to the characterization of very low mass planets detected by the Kepler space mission.</i></p>
<p>10</p>	<p>The HARPS search for southern extra-solar planets. XXVII. Up to seven planets orbiting HD 10180: probing the architecture of low-mass planetary systems A&A, 528, 112 (2011) Lovis C., Segransan D., Mayor M. et al. <i>A planetary system with 7 planets, most of them on very tight orbits.</i></p>

470 papers in referred publications with a total of 41558 citations (March 2019)

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