

100 years of the  
Swiss Science Prize  
Marcel Benoist

—Swiss  
Science—Prize  
Marcel—Benoist  
*Experience Excellence*

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# PREFACE

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It is 100 years since the Swiss Confederation set up the Marcel Benoist Foundation to award an annual prize for scientific excellence with the bequest of French lawyer Marcel Benoist. The guiding principle that underpins the founder's wish is a notion of science based on excellence and relevance to society. These are still two of the most important factors in successful research. I am proud that a hundred years after the Marcel Benoist Swiss Science Prize was first awarded, we are still highlighting and recognising outstanding work that meets these criteria.

And when I talk about work, I am not just talking about findings and results. I am also explicitly thinking about the people behind these breakthroughs. Outstanding scientific achievements are primarily the result of hard work and require discipline and personal sacrifice. Which is why I am especially keen to recognise outstanding researchers as people and pay tribute to them for their dedication and commitment.

The award of the Marcel Benoist Swiss Science Prize also has a societal function. Education, research and innovation are among the central elements of a successful economy and a prosperous society. The fact that Switzerland is among the world's leading countries for scientific research is partly because it has always given its researchers scope for personal development and opportunities to showcase their talents. The Marcel Benoist Swiss Science Prize is testament to this tradition.

Finally, it is worth remembering that Switzerland's strong position as a leading nation in science is down to the commitment of both the State and the private sector. The Marcel Benoist Foundation is a good example of this: while the funds provided by its founder were of a private nature, Benoist's vision is implemented by the federal government. This division of tasks still exists today.

The centenary of the Marcel Benoist Foundation is an opportunity to look back at major achievements. The long-standing tradition is also a commitment that we can look forward to with confidence. Thanks to the generous support of its donors, the Foundation is stronger, and the impact of the Prize greater than ever.

I would like to thank all the supporters of the Marcel Benoist Foundation for their commitment and I look forward to continuing to work with them to strengthen top-level research in Switzerland.

A handwritten signature in blue ink, consisting of several overlapping loops and a long horizontal stroke extending to the right.

Federal Councillor Guy Parmelin  
Chair of the Board of Trustees

# MARCEL BENOIST

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1864–1918

The Marcel Benoist Swiss Science Prize has been awarded annually since 1920. It is named after its founder, the Frenchman Marcel Benoist, who bequeathed most of his wealth to the Swiss Confederation on condition that it be used to award an annual prize for scientific excellence. The laureates are internationally renowned scientists, 11 of whom have gone on to win a Nobel Prize.

Marcel Benoist was born in 1864 to a wealthy, middle class family. He studied law and worked as a barrister at a civil court in the Greater Paris region between 1889 and 1898, before stopping work to travel extensively in Europe and collect works of art. As Benoist did not leave any documents behind, such as correspondence or a diary, and kept a low public profile, little is known about him. One of his friends described him as a man who read a lot, had an inquiring mind and a very broad general knowledge, but who led a solitary life.

In 1911, Marcel Benoist began transferring his assets, art collection and library to Switzerland. From 1914, his main residence was in Lausanne. What prompted him to make the move is unknown. There is nothing to suggest he had ties to scientific or cultural circles in the city. The only person who is known to have been close to him is Gabrielle Duvivier (1885–1976), a daughter of some friends. She followed him to Lausanne and took care of his home and business affairs.

Benoist died in Paris in 1918. According to his relatives, who remember him as a philanthropist, Benoist had travelled to the poor neighbourhoods of Paris to hand out alms to relieve the rampant suffering caused by an epidemic, but ended up falling ill himself and died aged just 54.

# MARCEL BENOIST'S LEGACY

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Marcel Benoist wrote his will four years before his death. In it, he bequeathed most of his wealth, his art collection and his library to the Swiss Confederation.

He wanted the revenue from his assets to be used to award a single prize on an annual basis to a Swiss scholar or a scholar resident in Switzerland who in the course of that year had «made the most useful discovery or study» in the sciences «of particular relevance to human life». His companion Gabrielle Duvivier was to receive an annuity for life.

What is striking is that a number of the provisions in his will are very similar to those in Alfred Nobel's of 1895. It is quite possible that Benoist was inspired by Alfred Nobel's legacy. There are no indications or evidence of this, however.

The guiding principles that underpin the prize are still relevant 100 years after they were first committed to paper. Scientific excellence («the most useful scientific discovery») and relevance to society («of particular relevance to human life») are still two of the most important factors in successful research.

# THE FOUNDATION

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In 1920, the Swiss government set up the Marcel Benoist Foundation for the Promotion of Scientific Research to award the prize.

The highest body of the Foundation is the honorary Board of Trustees, which is responsible for defining the Foundation's strategy and priorities and for implementing its mission. It is responsible for the selection procedure and for awarding the prize. The Foundation's Board of Trustees is chaired by the head of the Federal Department of Economic Affairs, Education and Research EAER. It also includes a representative of the Swiss federal institutes of technology in Zurich and Lausanne and the ten cantonal universities, a senior federal official, and the French ambassador to Switzerland. The State Secretariat for Education, Research and Innovation SERI is responsible for running the Foundation's secretariat.

The Foundation Committee, made up of the chair and two vice chairs, prepares the Foundation's business for the attention of the Board of Trustees. The Investment Committee, which is chaired by a member of the Board of Trustees, supervises asset management for the Board of Trustees. A Patronage Committee brings together donors representing globally active companies and foundations, and prominent figures and organisations who have committed themselves to the Foundation and to the Marcel Benoist Swiss Science Prize.

The State and private sector together form a public-private partnership: while the allocated funds are of a private nature, the founder's vision is implemented by the federal government, which set up a Foundation for this purpose and is responsible for managing it.

# THE PRIZE

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The Marcel Benoist Swiss Science Prize is not intended to promote young researchers, nor is it a lifetime achievement award. Potential prizewinners are researchers with a well-established reputation, an internationally-recognised track record, and great scientific potential. To be eligible for the prize, nominees must live in Switzerland and spend at least half their time working at a Swiss research institution. The work for which the prize is awarded must have been carried out predominantly in Switzerland.

The main criteria for the awarding of the prize are scientific excellence and relevance to society. In line with its founder's wish, the prize is awarded to researchers for outstanding work that is «useful to human life» and meets the following criteria:

- is based on an original and innovative idea;
- points to ways of verifying this idea;
- involves clear steps towards verifying the idea;
- provides inspiration to young researchers to pursue the idea.

The prize is worth CHF 250 000.



# THE NOMINATION AND SELECTION PROCEDURE

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Nomination is based on a procedure that is open to the entire Swiss research community. Researchers, leading members of research institutions and representatives of other public or private institutions can submit nominations.

The Swiss National Science Foundation SNSF is responsible for evaluating the nominees on behalf of the Marcel Benoist Foundation. For this purpose, the SNSF sets up an evaluation committee made up of at least four international experts, members of the SNSF National Research Council and two members of the Marcel Benoist Foundation Board of Trustees, as well as two members drawn from public life. The committee proposes a candidate to be awarded the prize, and the final decision is made by the Marcel Benoist Foundation. The prize is the only science prize in Switzerland that is open to representatives of all scientific disciplines, provided the required quality and excellence criteria are met. It is awarded on an annually alternating basis between the fields of humanities and social sciences, and the natural sciences and biology/medicine.

# THE AWARD CEREMONY

The Marcel Benoist Swiss Science Prize is presented at a ceremony in the Swiss capital of Bern. It is held jointly with the presentation of the National Latsis Prize, which rewards scientists up to the age of 40 for outstanding achievements in basic research. In addition to the highlight that is the awarding of the prize by the member of the Federal Council presiding over the Marcel Benoist Foundation, young people who are interested in science also have the opportunity to exchange views and ideas with the prizewinners. In addition, the award ceremony offers other figures from public life, industry and politics the opportunity to find out more about Switzerland as a world-renowned location for research and to gain an insight into how Marcel Benoist's legacy is honoured and what the Swiss Science Prize stands for.



The Golden Book in which the names of all past laureates are ornately recorded for posterity. Photo: Daniel Rihs

# LAUREATES

## 1920 – 2020

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2020	Rudolf Aebersold	1990	Bruno Messerli
2019	Nicola Spaldin		Hans Oeschger
2018	Lars-Erik Cederman		Werner Stumm
2017	Thomas Stocker	1989	Niklaus Wirth
2016	Johan Auwerx	1988	Ulrich Lämmlli
2015	Laurent Keller	1987	Maurice E. Müller
2014	Nicolas Gisin		Martin Allgöwer
2013	Michael Grätzel		Hans Robert Willenegger
2012	Michael N. Hall	1986	Karl A. Müller*
2011	Michele Parrinello		Johannes G. Bednorz*
2010	Daniel Loss	1985	Richard R. Ernst*
2009	Françoise Gisou van der Goot	1984	Harald Reuter
2008	Ernst Fehr	1983	Hans R. Brunner
2007	Ari Helenius	1982	Franz Fankhauser
2006	Timothy J. Richmond	1981	Karl Illmensee
2005	Othmar Keel	1980	Hans Kummer
2004	Adriano Aguzzi	1979	Michel Cuénod
2003	Denis Duboule	1978	Nils Kaj Jerne*
2002	Rüdiger Wehner	1977	Hans Günthard
2001	Ruedi Imbach	1976	Theodor K. Brunner
2000	Dieter Seebach		Jean-Charles Cerottini
1999	Luzius Wildhaber		Jean Lindenmann
	Paul Müller	1975	Mahmut Gazi Yasargil
1998	Jürg M. Fröhlich	1974	Ewald Weibel
1997	Michel Mayor*	1973	Lucien Girardier
1996	Bernard Rossier		Eric Jéquier
1995	Henri Isliker	1972	Albert Eschenmoser
	Alfred Pletscher	1971	Manfred Bleuler
1994	Martin Schwab	1970	Charles Weissmann
1992	Gottfried Schatz	1969	Walter Heitler
1991	Kurt Wüthrich*	1968	Michel Dolivo
	Duilio Arigoni		

1967	Hans Jakob Moser Kurt Mühletaler	1928	Jules Gonin
1966	Eduard Kellenberger Alfred Tissières	1927	Hermann Sahli
1965	Georges de Rham	1926	Emile Argand
1964	Vladimir Prelog*	1925	Alfred Gysi
1963	Gerold Schwarzenbach	1924	Heinrich Zangger
1962	Alfred Hässig	1923	Albert Heim
1961	Werner Kuhn	1922	Paul Karrer*
1960	Pierre Duchosal	1921	Conrad Brunner
1959	Albert Wettstein	1920	Maurice Arthus
1958	Klaus Clusius		
1957	Jakob Seiler		
1956	Siegfried Rosin		
1955	Max Holzmann		
1954	Ernst Hadorn		
1953	Alfred Fleisch		
1952	Otto Gsell		
1951	Anton Fonio		
1950	Emile Guénot		
1949	Albert Frey-Wyssling		
1948	Hans E. Walther		
1947	Tadeus Reichstein*		
1946	Alexander von Muralt		
1945	Ernst A. Gäumann		
1944	Robert Matthey		
1943	Paul Scherrer		
1942	Arthur Stoll		
1941	Hermann Mooser		
1940	Friedrich Traugott Wahlen		
1939	Fritz Baltzer		
1938	Leopold Ruzicka*		
1937	Charles Dhéré		
1936	Alfredo Vanotti		
1935	Jakob Eugster		
1934	Max Askanazy		
1933	Robert Doerr		
1932	Maurice Lugeon		
1931	Walter Rudolf Hess*		
1930	Aloys Müller		
1929	Paul Niggli		

\* Subsequent Nobel laureate

# INTERVIEWS

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Michel Mayor, University of Geneva,  
Astronomy,  
1997 laureate

*«Winning this major Swiss prize for the discovery of 51 Pegasi b – the first exoplanet – in 1995 spurred me on in my research, but above all contributed to the coordinated development of planetary science at four leading Swiss higher education institutions.»*



Ernst Fehr, University of Zurich,  
Economist,  
2008 laureate

*«The Marcel Benoist Swiss Science Prize is a unique award that considers all scientific disciplines and publicly acknowledges the huge role played by science in human progress. As the first prizewinner in economics, I believe this shows that economics is now recognised as an empirical science.»*



Nicola Spaldin, ETH Zurich,  
Materials scientist,  
2019 laureate

*«It is a tremendous honour to join the list of highly respected scientists who have been awarded the Marcel Benoist Prize. It is a fabulous endorsement for my team of superb young researchers, and a recognition of the importance that materials play in improving many aspects of people's lives.*

*The Marcel Benoist Swiss Science Prize is a showcase of the importance of science and engineering research to the Swiss economy and culture. I am hugely impressed by the positive and enthusiastic attitude of Swiss society to both engineering and education, which helps me to be effective in my research and teaching.»*

### **Further information on the Marcel Benoist Foundation**

Information about the members of the Board of Trustees, donors, the Foundation statutes, details of the nomination procedure, the Foundation's annual reports and a look back at the Foundation's activity since 1920 can be found online at: [www.marcel-benoist.ch](http://www.marcel-benoist.ch)