

## **Nobel Prize Winners List**

Year	Category	Laureate	Country	Achievement
2016	Chemistry	Jean-Pierre Sauvage	France	Design and synthesis of molecular machines
		J. Fraser Stoddart	U.K.	Design and synthesis of molecular machines
		Bernard Feringa	Netherlands	Design and synthesis of molecular machines
	Economics	Oliver Hart	U.K.	Contributions to contract theory
		Bengt Holmström	Finland	Contributions to contract theory
	Literature	Bob Dylan	U.S.	
	Peace	Juan Manuel Santos	C <mark>olom</mark> bia	
	Physics	David Thouless	U.K.	Theoretical discoveries of topological phase transitions and topological phases of matter
		Duncan Haldane	U.K.	Theoretical discoveries of topological phase transitions and topological phases of matter
		Michael Kosterlitz	U.K.	Theoretical discoveries of topological phase transitions and topological phases of matter
	Physiology /Medicine	Yoshinori Ohsumi	Japan	Discoveries of mechanisms for autophag
2017	Chemistry	Jacques Dubochet	Switzerland	Development of cryo-electron microscopy for the high-resolution structure determination of biomolecules in solution
		Joachim Frank	Germany/U.S.	Development of cryo-electron microscopy for the high-resolution structure determination of biomolecules in solution
		Richard Henderson	U.K.	Development of cryo-electron microscopy for the high-resolution structure determination of biomolecules in solution
	Economics	Richard H. Thaler	U.S.	Contributions to behavioral economics
	Literature	Kazuo Ishiguro	U.K.	

Year	Category	Laureate	Country	Achievement
	Peace	International Campaign to Abolish Nuclear Weapons	Founded 2007	
	Physics	Barry C. Barish	U.S.	Decisive contributions to the Laser Interferometer Gravitational-Wave Observatory detector and the observation of gravitational waves
		Kip S. Thorne	U.S.	Decisive contributions to the Laser Interferometer Gravitational-Wave Observatory detector and the observation of gravitational waves
		Rainer Weiss	U.S.	Decisive contributions to the Laser Interferometer Gravitational-Wave Observatory detector and the observation of gravitational waves
	Physiology /Medicine	Jeffrey C. Hall	U.S.	Discoveries of molecular mechanisms controlling the circadian rhythm
		Michael Rosbash	U.S.	Discoveries of molecular mechanisms controlling the circadian rhythm
		Michael W. Young	U.S.	Discoveries of molecular mechanisms controlling the circadian rhythm
2018	Chemistry	Frances Arnold	U.S.	First directed evolution of enzymes
		George P. Smith	U.S.	Development of phage display, a method in which a bacteriophage can be used to evolve new proteins
		Gregory P. Winter	U.K.	Work using the
Year	Category	Laureate	Country	Achievement
2018	Chemistry	Frances Arnold	U.S.	First directed evolution of enzymes
		George P. Smith	U.S.	Development of phage display, a method in which a bacteriophage can be used to evolve new proteins
		Gregory P. Winter	U.K.	Work using the phage display method for the directed evolution of antibodies
	Economics	William Nordhaus	U.S.	Integration of climate change into long- run macroeconomic analysis
		Paul Romer	U.S.	Integration of technological innovations into long-run macroeconomic analysis
	Literature	Olga Tokarczuk	Poland	
	Peace	Denis Mukwege	Democratic Republic of the Congo	
		Nadia Murad	Iraq	

Year	Category	Laureate	Country	Achievement
	Physics	Arthur Ashkin	U.S.	Invention of optical tweezers and their
				application to biological systems
		Gérard Mourou	France	Invention of a method of generating high- intensity ultrashort optical pulses
		Donna Strickland	Canada	Invention of a method of generating high-
				intensity ultrashort optical pulses
	Physiology /Medicine	James P. Allison	U.S.	Discovery of cancer therapy by inhibition of negative immune regulation
		Tasuku Honjo	Japan	Discovery of cancer therapy by inhibition of negative immune regulation
2019	Chemistry	John B. Goodenough	U.S.	Development of lithium-ion batteries
	-	M. Stanley Whittingham	U.K./U.S.	Development of lithium-ion batteries
		Yoshino Akira	Japan	Development of lithium-ion batteries
	Economics	Abhijit Banerjee	U.S.	Experimental approach to alleviating global poverty
		Esther Duflo	French/U.S.	Experimental approach to alleviating global poverty
		Michael Kremer	U.S.	Experimental approach to alleviating global poverty
	Literature	Peter Handke	Austria	
	Peace	Abiy Ahmed	Ethiopia	
	Physics	James Peebles	Canada/U.S.	Theoretical discoveries in physical cosmology
		Michel Mayor	Switzerland	Discovery of an exoplanet orbiting a solar-type star
		Didier Queloz	Switzerland	Discovery of an exoplanet orbiting a solar-type star
	Physiology /Medicine	William G. Kaelin, Jr.	U.S.	Discoveries of how cells sense and adapt to oxygen availability
		Peter J. Ratcliffe	U.K.	Discoveries of how cells sense and adapt to oxygen availability
		Gregg L. Semenza	U.S.	Discoveries of how cells sense and adapt to oxygen availability
Year	Category	Laureate	Country	Achievement
2020	Chemistry	Emmanuelle Charpentier	France	Development of a method for genome editing
		Jennifer Doudna	U.S.	Development of a method for genome editing
	Economics	Paul R. Milgrom	U.S.	Improvements to auction theory and inventions of new auction formats

3

Year	Category	Laureate	Country	Achievement
		Robert B. Wilson	U.S.	Improvements to auction theory and
		Robert D. Wilson	0.3.	inventions of new auction formats
	Literature	Louise Glück	U.S.	
				Recognizing the efforts to combat
	Peace	World Food		hunger, bettering conditions for peace in
	Itale	Programme		conflict-affected areas, and preventing
				the use of hunger as a weapon of war
			C	Discovery of a supermassive compact
	Physics	Reinhard Genzel	Germany	object at the center of the Milky Way Galaxy
				Discovery of a supermassive compact
		Andrea Ghez	U.S.	object at the center of the Milky Way Galaxy
				Discovery that black hole formation is a
		Roger Penrose	U.K.	robust prediction of the general theory of
				relativity
	Physiology /Medicine	Harvey J. Alter	U.S.	Discovery of hepatitis C virus
		Michael Houghton	U.K.	Discovery of hepatitis C virus
		Charles M. Rice	U.S.	Discovery of hepatitis C virus
2021	Chemistry	Benjamin List	Germany	Development of asymmetric
2021	Chemistry		Germany	organocatalysis
		David W.C.	U.K./U.S.	Development of asymmetric
		MacMillan	,	organocatalysis
	Economics	Joshua Angrist	Israel/U.S.	Methodological contributions to the
				analysis of causal relationships
		David Card	Canada/U.S.	Empirical contributions to labor
				economics Methodological contributions to the
		Guido W. Imbens	Neth./U.S.	analysis of causal relationships
	Literature	Abdulrazak Gurnah	Tanz.	
	Peace	Dmitry Muratov	Russia	
		Maria Ressa	Phil./U.S.	
				Physical modeling of Earth's climate,
	Physics	Klaus Hasselmann	Germany	quantifying variability and reliably
				predicting global warming
				Physical modeling of Earth's climate,
		Manabe Syukuro	Japan/U.S.	quantifying variability and reliably
				predicting global warming
				Discovery of the interplay of disorder
		Giorgio Parisi	Italy	and fluctuations in physical systems from
				atomic to planetary scales

4

Year	Category	Laureate	Country	Achievement
	Physiology /Medicine	David Julius	U.S.	Discoveries of receptors for temperature and touch
		Ardem Patapoutian	U.S.	Discoveries of receptors for temperature and touch
Year	Category	Laureate	Country	Achievement
2022	Chemistry	Carolyn R. Bertozzi	U.S.	Development of click chemistry and bioorthogonal chemistry
		Morten P. Meldal	Neth.	Development of click chemistry and bioorthogonal chemistry
		K. Barry Sharpless	U.S.	Development of click chemistry and bioorthogonal chemistry
	Economics	Ben Bernanke	U.S.	Research on banks and financial crises
		Douglas Diamond	U.S.	Research on banks and financial crises
		Philip Dybvig	U.S.	Research on banks and financial crises
	Literature	Annie Ernaux	France	
	Peace	Ales Bialiatski	Belarus	
		Center for Civil Liberties	Ukraine	
		Memorial	Russia	
	Physics	Alain Aspect	France	Experiments with quantum entanglement that laid the foundation for a new era of quantum technology
		John F. Clauser	U.S.	Experiments with quantum entanglement that laid the foundation for a new era of quantum technology
		Anton Zeilinger	Austria	Experiments with quantum entanglement that laid the foundation for a new era of quantum technology
	Physiology /Medicine	Svante Pääbo	Sweden	Discoveries concerning the genomes of extinct hominins and human evolution