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## Biography (Long Version)

### Emmanuelle Charpentier

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Emmanuelle Charpentier studied biochemistry, microbiology and genetics at the University Pierre and Marie Curie (now Sorbonne University), Paris, France (1986-1992) and obtained her Ph.D. in microbiology for her research performed at the Pasteur Institute, Paris, France (1992-1995). She then continued her scientific career in the United States, at The Rockefeller University (1996-1997), New York University Medical Center (now NYU Langone Health) (1997-1999) and the Skirball Institute of Biomolecular Medicine (1999-2002) (all in New York City, NY) and at St. Jude Children's Research Hospital (in Memphis, TN) (1999). Emmanuelle returned to Europe to establish her own research group as a guest and then assistant professor (2002-2005) at the Institute of Microbiology and Genetics and as an associate professor (2006-2009) at the Max F. Perutz Laboratories (now Max Perutz Labs) at the University of Vienna in Austria, where she habilitated in the field of microbiology. In 2009, she was appointed as associate professor at The Laboratory for Molecular Infection Medicine Sweden (MIMS, part of Nordic European Molecular Biology Laboratory (EMBL) Partnership for Molecular Medicine) at Umeå University in Sweden (2009-2013), where she habilitated in the field of medical microbiology and served as a visiting professor (2013-2017). In 2013, Emmanuelle was appointed as the founder and head of the Department of Regulation in Infection Biology at the Helmholtz Centre for Infection Research, Braunschweig and as a full professor at the Medical School of Hannover in Germany. In 2013, she was awarded an Alexander von Humboldt professorship, which she held in 2014 and 2015. In 2015, Emmanuelle was appointed scientific member of the Max Planck Society. From 2015 to 2017, Emmanuelle was founder, scientific director and head of the Department of Regulation in Infection Biology at the Max Planck Institute for Infection Biology in Berlin, Germany. Since 2016, Emmanuelle has been an honorary professor at Humboldt University. Since 2018, she has been founding scientific and managing director of the Max Planck Unit for the Science of Pathogens (MPUSP) in Berlin, an independent Institute of the Max Planck Society. Since 2021, she has also been acting as the head of administration of MPUSP.

Emmanuelle is recognized as a world expert in the regulatory mechanisms underlying infection and immunity processes in bacteria that cause diseases in humans. Her work and that of her laboratory have led to several fundamental discoveries and a better understanding of the molecular pathways that regulate antibiotic resistance and virulence in bacterial pathogens. Thanks to her groundbreaking discoveries in the field of RNA-mediated regulation based on the CRISPR-Cas9 system (mainly in the human pathogen *Streptococcus pyogenes*), Emmanuelle has laid the foundations for the development of a highly versatile and specific genome editing and engineering technology. This discovery is revolutionizing life science research and opening up new possibilities in the field of biotechnologies and biomedical gene therapies that have an impact on society and humanity. The field of CRISPR-Cas continues to develop at lightning speed, with exciting new developments appearing almost every week.

Emmanuelle is inventor and co-owner of the core intellectual property of the CRISPR-Cas9 technology. She is co-founder of CRISPR Therapeutics and ERS Genomics, two companies she founded with Rodger Novak and Shaun Foy to develop the CRISPR-Cas genome engineering technology for biotechnological and biomedical applications.

For her contribution and that of her team to the discovery of CRISPR-Cas9, Emmanuelle has received numerous international distinctions, including decorations, honors, prizes and awards, elected memberships of national and international scientific academies, and honorary doctorates from Europe, Asia and North America. Among her most prestigious awards are the Nobel Prize in Chemistry, the Japan Prize, the Kavli Prize in Nanoscience, the Wolf Prize, the Tang Prize for Biopharmaceutical Science, the Breakthrough Prize in Life Sciences, the Canada Gairdner International Prize, the Massry Prize, the L'Oréal-Unesco for Women in Science Award and many others.

CRISPR-Cas9 has rapidly moved from a specialized area of scientific research to a major topic in world affairs. Emmanuelle and her scientific contributions have been featured in numerous journals and magazines, including recognition by *OONOM* (2017, 2018, 2019, 2020, 2022, 2023, 2024), *Forbes* (Europe's Top 50 Women in Tech 2018, World's Top 50 Women in Tech 2018, 50 over 50 EMEA 2022), *TIME* magazine (2016 short list for Person of the Year and 2015 list of the 100 Most Influential People in the World), *Global Leaders Today* (Global 100 Inspirational Leaders 2022), *Vanity Fair* (2014, 2015, 2018 lists of the 50 most influential French people, 2016 list of The New Establishment), *Foreign Policy* (2014 list of 100 Leading Global Thinkers).

*Official title: Prof. Dr. Drs. h.c. Emmanuelle Charpentier, ForMemRS*

More information about Emmanuelle is available at <[www.emmanuelle-charpentier.org](http://www.emmanuelle-charpentier.org)>.

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## Biography (Shorter Versions – 1/2)

### Emmanuelle Charpentier

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#### Shorter Version (#400 words)

Emmanuelle Charpentier studied biochemistry, microbiology and genetics at the University Pierre and Marie Curie (now Sorbonne University), Paris, France and obtained her Ph.D. in microbiology for her research performed at the Pasteur Institute, Paris, France. She then continued her scientific career in the United States, at The Rockefeller University, New York University Medical Center (now NYU Langone Health) and the Skirball Institute of Biomolecular Medicine (all in New York City, NY) and at St. Jude Children's Research Hospital (in Memphis, TN). Emmanuelle returned to Europe to establish her own research group as a guest and then assistant professor at the Institute of Microbiology and Genetics and as an associate professor at the Max F. Perutz Laboratories (now Max Perutz Labs) at the University of Vienna in Austria, where she habilitated in the field of microbiology. She was then appointed as associate professor at The Laboratory for Molecular Infection Medicine Sweden (MIMS, part of Nordic European Molecular Biology Laboratory (EMBL) Partnership for Molecular Medicine) at Umeå University in Sweden, where she habilitated in the field of medical microbiology and served as a visiting professor. Emmanuelle continued her career by founding and heading the Department of Regulation in Infection Biology at the Helmholtz Centre for Infection Research, Braunschweig and as a full professor at the Medical School of Hannover in Germany. She was awarded an Alexander von Humboldt professorship, which she held in 2014 and 2015. Emmanuelle was then appointed scientific member of the Max Planck Society. She was founder, scientific director and head of the Department of Regulation in Infection Biology at the Max Planck Institute for Infection Biology in Berlin, Germany. Since 2016, Emmanuelle has been an honorary professor at Humboldt University. Since 2018, she has been founding scientific and managing director of the Max Planck Unit for the Science of Pathogens (MPUSP) in Berlin, an independent Institute of the Max Planck Society. Since 2021, she has also been acting as the head of administration of MPUSP.

Emmanuelle has laid the foundations for the development of a highly versatile and specific genome editing technology – CRISPR-Cas9 – which is revolutionizing life sciences, biotechnology and medicine. For her groundbreaking discovery and innovative research, she has received numerous prestigious international awards and honors, including the Nobel Prize in Chemistry in 2020. She is an elected member of national and international scientific academies and has received honorary doctorates from international universities. She is co-founder of CRISPR Therapeutics and ERS Genomics with Rodger Novak and Shaun Foy.

*Official title: Prof. Dr. Drs. h.c. Emmanuelle Charpentier, ForMemRS*

More information about Emmanuelle is available at <[www.emmanuelle-charpentier.org](http://www.emmanuelle-charpentier.org)>.

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#### Short Version (#270 words)

Emmanuelle Charpentier is Founding, Scientific and Managing Director of the Max Planck Unit for the Science of Pathogens (MPUSP) (since 2018), Head of Administration of MPUSP (since 2021) and Honorary Professor at Humboldt University (since 2016), Berlin, Germany. Prior to her current appointments, she was Scientific Director at the Max Planck Institute for Infection Biology, Berlin (2015-2017); Alexander von Humboldt Professor, Department Head at the Helmholtz Centre for Infection Research, Braunschweig and Full Professor at the Hannover Medical School, Germany (2013-2015); Visiting and Associate Professor at the Laboratory for Molecular Infection Medicine Sweden (EMBL Partnership), Umeå University, Sweden (Visiting Professor 2013-2017 and Associate Professor 2009-2013; habilitated in microbiology in 2013); Associate Professor at the Max F. Perutz Laboratories (now Max Perutz Labs), University of Vienna, Austria (2006-2009) (habilitated in microbiology in 2006); Guest and Assistant Professor, Institute of Microbiology and Genetics, University of Vienna, Austria (2002-2005). Emmanuelle held several research associate positions in the US (1996-2022): Skirball Institute of Biomolecular Medicine, New York (1999-2002), St. Jude Children's Research Hospital, Memphis (1999), New York University Medical Center (now NYU Langone Health) (1997-1999) and The Rockefeller University (1996-1997). She received her education in microbiology, biochemistry and genetics at the University Pierre and Marie Curie and the Pasteur Institute in Paris, France (Bachelor studies 1986-1991, Master studies 1991-1992, PhD in microbiology 1992-1995). Emmanuelle has been widely recognized for her groundbreaking research, which laid the foundations for the revolutionary CRISPR-Cas9 genome engineering technology. She has received numerous prestigious international awards and distinctions, and is an elected member of national and international scientific academies. She is co-founder of CRISPR Therapeutics and ERS Genomics with Rodger Novak and Shaun Foy.

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## Biography (Shorter Versions – 2/2)

### Emmanuelle Charpentier

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#### Short Version (#220 words)

Emmanuelle Charpentier is founder, scientific and managing director and head of administration of the Max Planck Unit for the Science of Pathogens and honorary professor at Humboldt University, Berlin, Germany. Prior to her current appointments, she was scientific director at the Max Planck Institute for Infection Biology, Berlin; Alexander von Humboldt professor, head of department at the Helmholtz Centre for Infection Research, Braunschweig and full professor at the Hannover Medical School, Germany; visiting and associate professor at the Laboratory for Molecular Infection Medicine Sweden (EMBL Partnership), Umeå University, Sweden; associate professor at the Max F. Perutz Laboratories, and guest and assistant professor at the Institute of Microbiology and Genetics, University of Vienna, Austria. Emmanuelle held several research associate positions in the US: The Rockefeller University, New York University Medical Center and Skirball Institute of Biomolecular Medicine, New York, and St. Jude Children's Research Hospital, Memphis. She received her education in microbiology, biochemistry and genetics at the University Pierre and Marie Curie and the Pasteur Institute in Paris, France. Emmanuelle has been widely recognized for her groundbreaking research that laid the foundations for the revolutionary CRISPR-Cas9 genome engineering technology. She has received numerous prestigious international awards and honors, and is an elected member of national and international scientific academies. She is co-founder of CRISPR Therapeutics and ERS Genomics with Rodger Novak and Shaun Foy.

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#### Short Version (#175 words)

Emmanuelle Charpentier is a French microbiologist, geneticist and biochemist. She received her scientific education at the University Pierre and Marie Curie and the Pasteur Institute in Paris, France. Emmanuelle is founder, scientific and managing director of the Max Planck Unit for the Science of Pathogens and honorary professor at Humboldt University, Berlin, Germany. Prior to her current appointments, she held professorship positions at the Helmholtz Centre for Infection Research and Hannover Medical School, Germany, Umeå University, Sweden and University of Vienna, Austria. She also held research associate positions at The Rockefeller University, New York University Medical Center and Skirball Institute of Biomolecular Medicine, New York, and St. Jude Children's Research Hospital, Memphis. Emmanuelle has been widely recognized for her groundbreaking research, which laid the foundations for the revolutionary CRISPR-Cas9 genome engineering technology. She has received numerous prestigious international awards and honors including the Nobel Prize in Chemistry in 2020, and is an elected member of national and international scientific academies. She is co-founder of CRISPR Therapeutics and ERS Genomics with Rodger Novak and Shaun Foy.

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#### Short Version (#100 words)

Emmanuelle Charpentier is a French microbiologist, geneticist and biochemist. She developed her scientific career in academic research institutions in France, the United States, Austria, Sweden and Germany. She is founder, scientific and managing director of the Max Planck Unit for the Science of Pathogens and honorary professor at Humboldt University, Berlin, Germany. Emmanuelle has been widely recognized for her groundbreaking research, which laid the foundations for the revolutionary CRISPR-Cas9 genome engineering technology. She has received numerous prestigious international awards and honors, and is an elected member of national and international scientific academies. She is co-founder of CRISPR Therapeutics and ERS Genomics with Rodger Novak and Shaun Foy.

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#### Short Version (#430 characters incl. spaces)

Emmanuelle Charpentier is a French microbiologist, geneticist and biochemist. She is founder, scientific and managing director of the Max Planck Unit for the Science of Pathogens in Berlin. She is co-founder of CRISPR Therapeutics and ERS Genomics with Rodger Novak and Shaun Foy. She has received numerous prestigious international awards and honors, and is an elected member of national and international scientific academies.

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