INSIDE TOMORROW MEDIA PRESENTS

THE MESSENGER

A Story of mRNA

In co-production with

INSIDETOMORROW

RTS Radio Télévision Suisse

CINÉFOROM Fondation romande pour le cinéma

2HÉRONS PRODUCTION

LOTERIE ROMANDE

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LOGLINE

mRNA vaccine pioneers uncover a tangled history of discoveries, igniting a new wave of therapeutics. Unaware of the impending pandemic, visionary scientists sought gene therapy methods for cancer, HIV, and other deadly diseases. Their groundbreaking work on messenger RNA (mRNA) technology, now crowned by the 2023 Nobel Prize in Medicine, is bringing a new era of revolutionary cures.

FILM REVIEWS

*"**If someone told you they could sequence the DNA of your malignant tumour (cancers have their own DNA) and then give you a shot of mRNA that would prime your immune system to attack your life-threatening tumour--and only that tumour--would you take the shot? (I sure would.) That's where we're headed with mRNA therapies, thanks to the researchers featured in this film.** I enjoyed getting to know their personalities, passions, and quirks. (One of the Nobel Prize winners for mRNAs, Katalin Karikó, became interested in biology as a child curious about the carcasses in her dad's butcher shop!) Bravo to the scientists and the filmmakers who told their stories. **Let's hope this film gets picked up by a major streaming platform so more people can get up to speed - a must watch for the future of healthcare."***

-ADRIANA BARTON
Healthcare Journalist, British Columbia, Canada

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*"This remarkable film chronicles one of humanity's most incredible technical achievements: the development of mRNA vaccines and medicines. It weaves a compelling historical narrative around the key innovators in this field, showcasing how collaboration for a common good leads to extraordinary results. **A true life medical drama of epic proportions; a must see!"***

-JEFF COLLER
Bloomberg Distinguished Professor of RNA Biology and Therapeutics, Johns Hopkins University

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*"**My personal favorite moment of the film is a question of the relationship between science and the capitalist economy.** This moment gives us a good grasp of the ambiguous nature of patents: on the one hand, they are an object of suspicion and even rejection for scientists who see science as a global public good; on the other, they are an essential incentive for investors to devote the resources to biotechs that will ensure the continuation of researchers' scientific activities. **THE MESSENGER's qualities are undeniable, as is its ability to educate, at a time when so much misinformation is circulating on social networks.**"*

-JÉRÔME LEMONNIER
Author of "The Marathon of the Messenger" book

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*"The movie THE MESSENGER **provides exciting insights into the world of mRNA technology and medical biotech in general.** The producers use interviews with relevant experts to tell an engaging origins story of the mRNA vaccines, which were first used against Covid-19. In doing so, **the film masterfully balances accessibility with accuracy and objectivity. It is a backstory to events we are all familiar with, told in a refreshing and unbiased manner.**"*

-NORMAN DRZENIEK
Scientist and Practitioner in Cell Engineering, Biomaterials, Berlin Institute of Health

“I want to sincerely congratulate for The Messenger: A Story of mRNA. I watched it with great interest and was both moved and impressed. ***The film brilliantly explains a complex scientific topic without ever oversimplifying it, making the science accessible while preserving its depth and accuracy.*** *The storytelling is clear and engaging, weaving together scientific breakthroughs, personal stories, and the global context of the pandemic in a powerful and human way. It highlights not only the science, but the people - their vision, resilience, and dedication.* ***What stayed with me most was the emotional depth and care in how each story was told. It's a film that informs, inspires, and stays with you.*** *I will gladly recommend it to others as it truly deserves to be seen and shared widely.*

-MIKAËL PITTET
Scientist , Professor of Immunology, holder of the ISREC Foundation Chair in immuno-oncology and full member of the Ludwig Institute for cancer research, University of Geneva

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*“****A glimpse into mRNA, without the lens of COVID19.*** *An engaging story of the history behind mRNA development. While most people associate RNA with the COVID-19 vaccines, THE MESSENGER provides a glimpse into the decades of research and a story of the people behind RNA medicine that exists outside of COVID-19. Not only that, but they explain why RNA itself is only half the battle, with scientists such as Robert Malone and Pieter Cullis providing key solutions to the challenges (providing the 'Envelope' that allows the RNA "Recipe" to get to the right place). One thing* ***I liked most is that I think both the general public and experts alike have something to gain from watching the story. As it touches upon personal and scientific based topics in an easy to digest manner.***

-ANDREW VARLEY
RNA & Formulation Core Solving DNA & RNA Synthesis, Purification, Analytical Challenges
University of British Columbia

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*“****A very human and personal look at the science behind mRNA. This film does a great job of breaking down some pretty complex science, making it easy for anyone to understand*** *(even those without scientific background). The film not only covers the science behind the mRNA and its role in the COVID-19 vaccines but also dives into the personal stories of the scientists, like Robert W. Malone, who were behind the key discoveries many decades ago. What really stands out is how the movie shows the whole picture, giving us different viewpoints on mRNA and the pandemic, so even if you don't have a science background, it's still super interesting.* ***The ending leaves you thinking about how medical science keeps moving forward, even when we don't realize it. It's definitely a film that makes you reflect and learn something new.****”*

-ALEKSEI TUROCKIN
Merck Life Science

“The Messenger is a great primer for anyone wanting to better understand the new world of RNA vaccines and therapeutics, as told by the scientists at the forefront of this technology themselves. The documentary covers the scientific breakthroughs that enabled the rapid development of the mRNA-based Covid vaccines, as well as the future outlook of the technology, interspersed with easy-to-follow animations covering the key scientific concepts. ***The film also doesn’t shy away from the controversy that accompanied the rollout of the Covid vaccines****, acknowledging the real-world challenges faced by the field. In all, a must-watch for anyone with an interest in RNA-based medicines.”*

-LYUDMILA KOVALCHUKE
Project Manager, Scientist VIB Research Belgium

SYNOPSIS

In co-production with the national Swiss Television channel RTS, “THE MESSENGER” uncovers a fascinating history of messenger RNA technology applied in the recent Covid-19 vaccines. In a remarkable turn of events, the film features a selected group of mRNA pioneers who stayed at the roots of this technology, with KATALIN KARIKÓ and DREW WEISSMAN freshly crowned with the prestigious Nobel Prize in Medicine on October 2, 2023.

Long before the pandemic of 2020, researchers were initially looking for the best gene therapy methods to fight cancer, AIDS and other deadly diseases, which several decades later became a foundation of mRNA technology we know today.

A prominent science journalist ELIE DOLGIN walks viewers through a tangled history of discoveries and inventions that have marked this little-known story. Through interviews with biggest names in research, the film opens “back stage” doors to technology founders: STEVE PASCOLO, the first human to receive an mRNA vaccine as part of his own lab experiment in Tübingen, ROBERT MALONE, who first attempted to bring mRNA into cultured cells to produce proteins in California, KATALIN KARIKÓ, who discovered at the University of Pennsylvania how specific chemical modifications allow mRNA to be better accepted by the human body, PIETER CULLIS, best known as the inventor of a revolutionary mRNA transport system in Vancouver, UGUR SAHIN & OZLEM TURECI, the visionary couple who founded the BioNTech company in Mainz, and others.

Graphic animations made as cartoons, help the audience understand the role of RNA and DNA in our body, a normal life cycle of mRNA - and how scientists tried to divert this process to teach the immune system to overcome disease.

Now, after the pandemic brought the humanity to this crucial momentum in technological advancement, the leading biotech companies are enacting clinical trials to reveal a new generation of revolutionary cures, all through mRNA technology.

This film reveals the personal human battles these scientists endured to bring their contributions to the mainstream. It delves into an incredible page in the history of science, exploring the non-linear, even sometimes chaotic ways in which research is often carried out. This is a story that needs to be told, and one that will be celebrated and remembered for the rest of time.

STARRING

Katalin Karikó

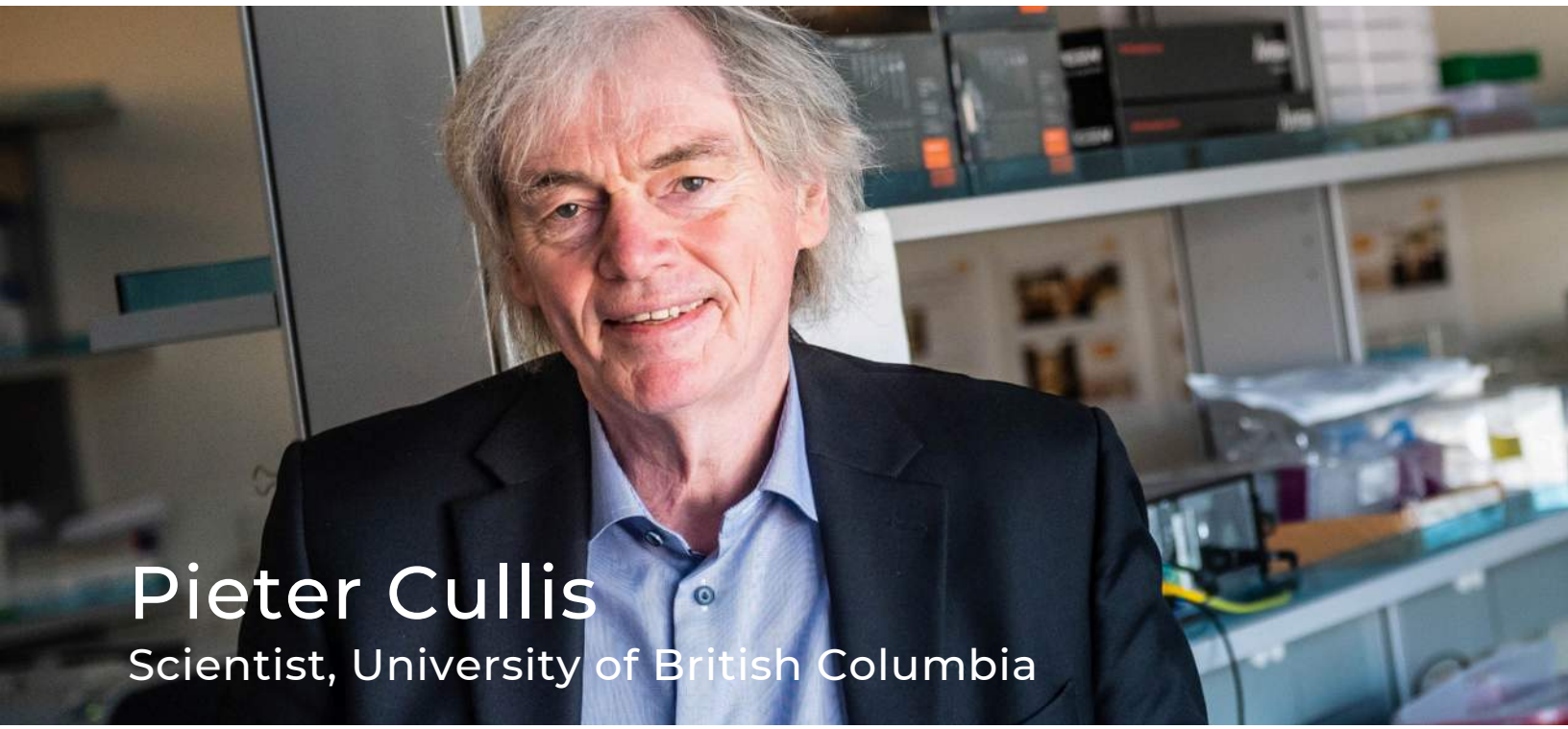
Nobel Prize winner 2023

Katalin Karikó is a Hungarian-born biochemist whose pioneering discoveries on RNA chemistry paved the way for the mRNA vaccines that changed the course of the COVID-19 pandemic. Awarded the 2023 Nobel Prize in Medicine alongside Drew Weissman, Karikó spent decades pursuing ideas that many considered too risky or impractical — long before mRNA became a known term.

Her journey began with an early fascination for biology; as she recounts in the film, she was “a very curious child,” captivated by the inside of animals in her father’s butcher shop. After earning her PhD in Hungary, she moved to the United States and joined the University of Pennsylvania in 1989, where she would spend over twenty years shaping the foundations of modern mRNA science.

A chance encounter with immunologist Drew Weissman at a photocopier led to a collaboration that transformed medicine. Working together, they discovered that modifying mRNA’s chemical building blocks — such as using pseudouridine — could prevent dangerous inflammatory reactions while dramatically increasing protein production. This breakthrough turned synthetic mRNA from a fragile, inflammatory molecule into a powerful therapeutic tool.

In THE MESSENGER, Karikó shares her relentless belief in the science, despite years of skepticism from the academic and biotech worlds. Beyond her scientific achievements, Karikó embodies the human spirit of discovery: resilience, curiosity, and the courage to pursue an idea long before its value is widely recognized. Her work now inspires a new generation of therapies — from cancer to autoimmune diseases — and continues to shape the future of medicine.



Pieter Cullis

Scientist, University of British Columbia

Pieter Cullis is a Canadian biochemist whose pioneering work in lipid nanoparticle (LNP) technology revolutionized the delivery of genetic medicines. Over decades at the University of British Columbia, he unraveled how lipids can be engineered to protect and transport fragile nucleic acids into cells, leading to the creation of LNP systems that became the foundation for modern RNA therapeutics. His technology achieved its first major milestone in 2018, when the FDA approved Onpattro, the world's first LNP-based RNA drug, marking a breakthrough moment for precision drug delivery and validating decades of fundamental research.

As portrayed in THE MESSENGER, Cullis' innovations were indispensable to the rapid development and global deployment of mRNA COVID-19 vaccines, enabling mRNA to reach the targeted cells safely and efficiently. His career exemplifies the power of persistent, curiosity-driven science, transforming lipid chemistry into a platform with worldwide impact. Today, his contributions continue to shape next-generation therapies across infectious disease, oncology, and rare genetic disorders.

Özlem Tureci Ugur Sahin

Scientists, Co-founders BioNTech

Ugur Sahin and Özlem Türeci are the physician-scientist couple behind BioNTech, whose decades of work in immunology and personalized cancer therapies positioned them to respond rapidly when COVID-19 emerged. Long before the pandemic, they were pioneers in using mRNA as a flexible platform to instruct the immune system, driven by their vision of creating individualized cancer vaccines. Their deep scientific insight, entrepreneurial courage, and commitment to translational research led to the development of BioNTech's mRNA technologies, built on the foundational discoveries of modifying and delivering mRNA safely.

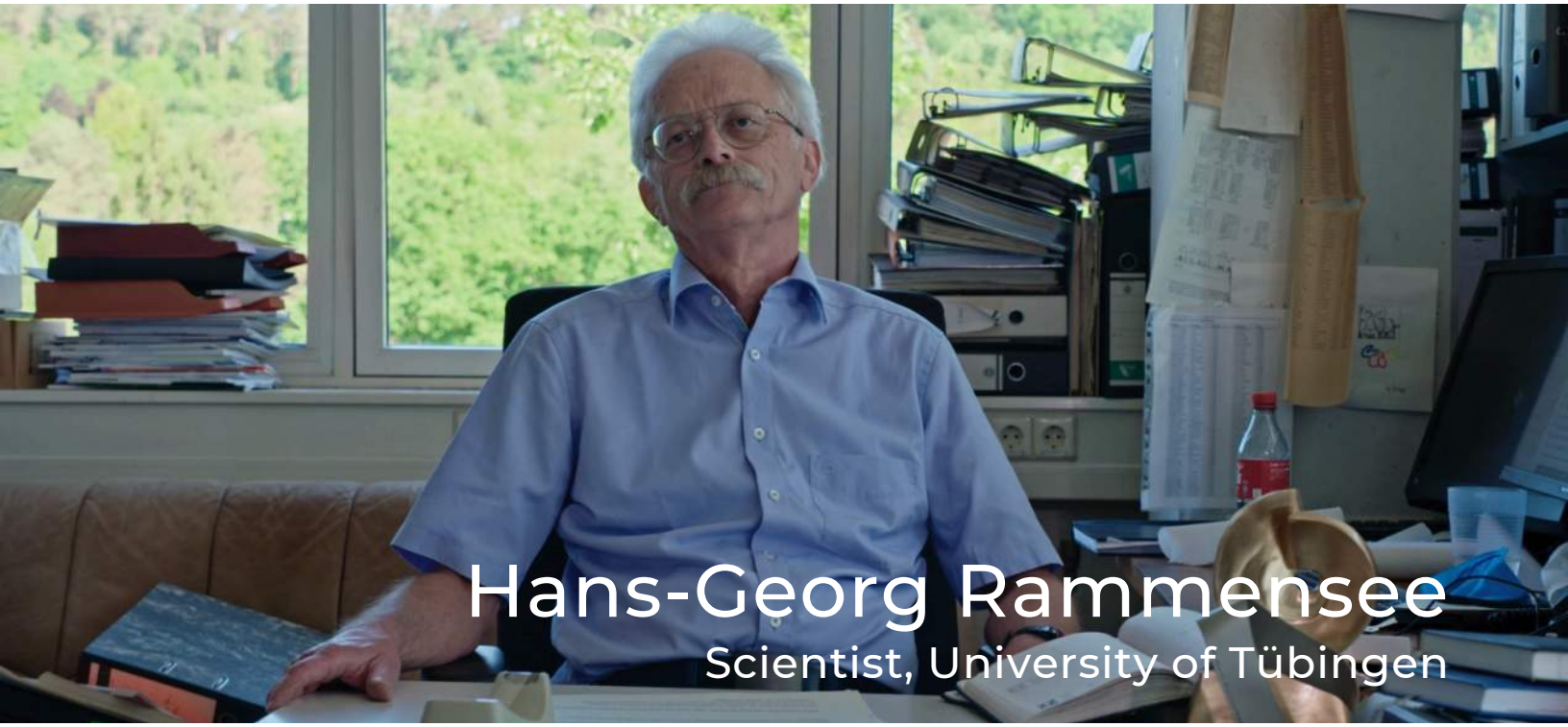
When SARS-CoV-2 appeared, Sahin recognized within days that mRNA could offer a fast, adaptable solution. Together with Türeci, he mobilized their teams and launched Project Lightspeed, partnering with Pfizer to bring an mRNA vaccine from concept to global deployment in under a year. As shown in THE MESSENGER, their story is not one of sudden innovation but of sustained scientific preparation — years of refining mRNA platforms for cancer immunotherapy that became the backbone of one of the most effective vaccines in history. Their work continues to shape the future of personalized medicine and immune-based therapies under way.

Steve Pascolo

Co-founder CureVac, Scientist, University Hospital Zurich

Steve Pascolo is a pioneering immunologist whose early experiments helped bring synthetic mRNA from theory into living systems. As a co-founder of CureVac in the early 2000s, he was among the first scientists to test mRNA vaccines in humans — notably injecting himself with an experimental mRNA formulation to demonstrate its safety and potential. His work focused on harnessing mRNA to stimulate the immune system against cancer and infectious diseases at a time when the technology was still widely dismissed as unstable and impractical.

As portrayed in THE MESSENGER, Pascolo's contributions illuminate the bold, exploratory phase of mRNA science, when only a handful of researchers believed in its therapeutic promise. His early clinical insights helped establish mRNA as a viable medical platform and paved the path for later breakthroughs. Today, Pascolo continues his work in Switzerland, advancing RNA immunotherapy and contributing to the ongoing evolution of next-generation RNA medicines.

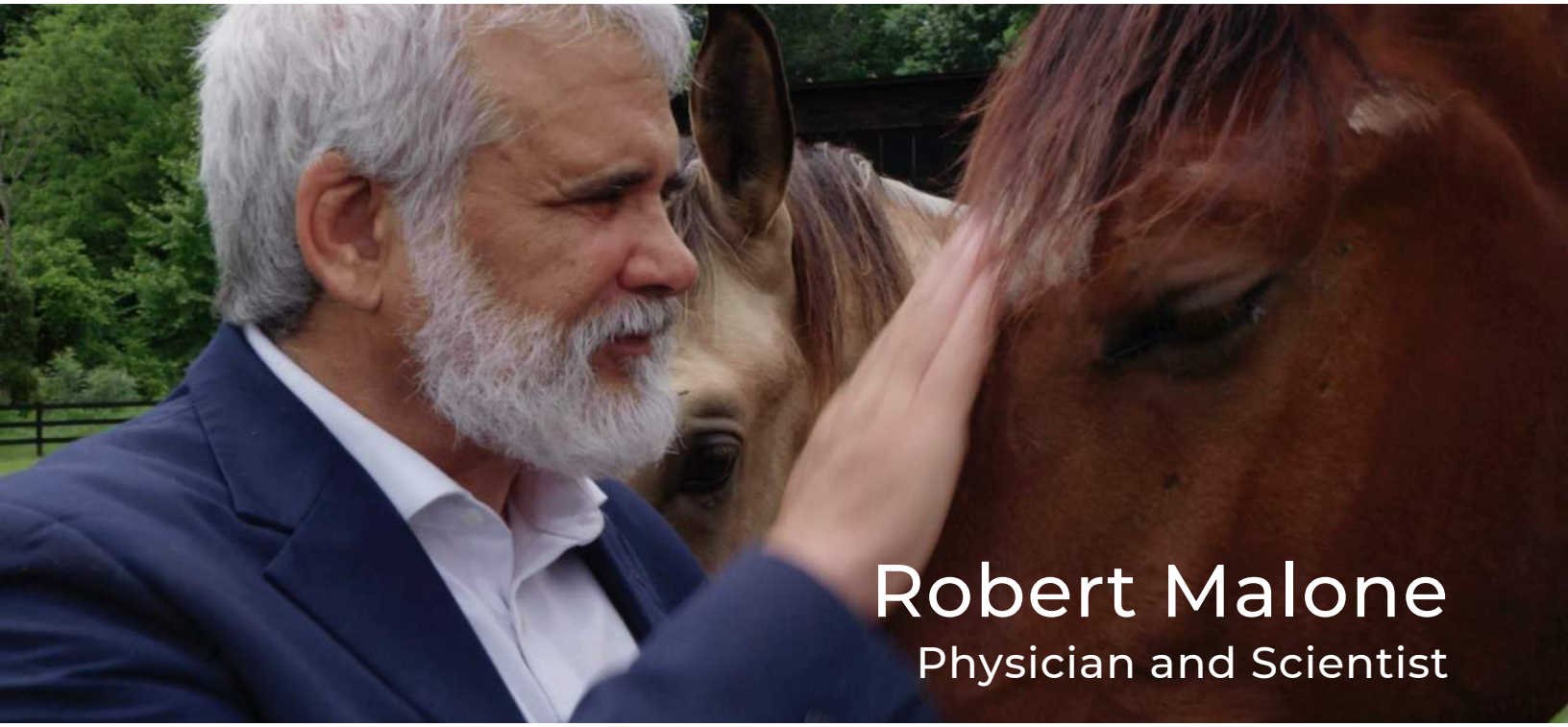


Hans-Georg Rammensee

Scientist, University of Tübingen

Hans-Georg Rammensee is a leading German immunologist whose foundational discoveries in antigen presentation helped define modern immunology. As a professor at the University of Tübingen, he pioneered the field of peptides research, displayed them on cell surfaces that guide immune recognition. His work provided crucial insights into how the immune system identifies infected or cancerous cells, laying the scientific groundwork for today's personalized cancer vaccines and T-cell–based immunotherapies. Rammensee's group was among the first to explore mRNA as a way to teach the immune system to target tumors, long before the platform became mainstream.

As portrayed in THE MESSENGER, Rammensee's laboratory in Tübingen became an early hub for RNA innovation, influencing a generation of scientists who helped bring mRNA technology into clinical exploration. He co-founded CureVac - the first company of mRNA therapeutics - together with Steve Pascolo and others. His research demonstrated that synthetic mRNA could reliably trigger immune responses, helping to validate the concept years before the COVID-19 vaccines. Rammensee remains a central figure in translational immunology, continuing to shape the future of cancer immunotherapy and RNA-based therapeutic strategies.



Robert Malone
Physician and Scientist

Robert Malone is an American physician and researcher who conducted early experiments in the late 1980s exploring how synthetic mRNA could be delivered into cells to produce proteins — work that contributed to the conceptual foundation of nucleic-acid–based therapeutics. During his time as a graduate student at the Salk Institute and later at Vical, he helped develop some of the first studies demonstrating that mRNA could be used to instruct cells to make specific proteins, an idea that would eventually influence the broader field of RNA medicine. His early patents captured these proof-of-concept approaches at a time when the technology was still in its infancy.

As portrayed in THE MESSENGER, Malone becomes the film's most contradictory figure: although his early research touched on the conceptual origins of mRNA therapeutics, he later emerged during the COVID-19 pandemic as a public critic of the very technology that scientists such as Karikó, Weissman, Sahin, Türeci, Pascolo, Cullis, and Rammensee advanced through decades of rigorous work. His trajectory illustrates how scientific narratives can diverge sharply over time — a contrast that highlights both the collaborative nature of discovery and the tensions that arise when emerging technologies meet public debate.

Robert Langer

Professor MIT, Co-founder Moderna

Robert Langer is an American chemical engineer and one of the most influential figures in biotechnology, known for pioneering modern drug-delivery systems and founding dozens of companies translating academic science into real-world therapies. As a longtime professor at MIT, Langer helped revolutionize the controlled release of biomolecules and developed foundational technologies that enabled RNA, DNA, and protein therapeutics to be delivered safely and effectively. His laboratory's work on polymer science and nanoparticle delivery became essential building blocks for the mRNA platform and contributed to the scientific environment from which companies like Moderna emerged.

As portrayed in THE MESSENGER, Langer represents the bridge between academic discovery and biotech innovation — a scientist whose vision helped transform genetic medicine into a scalable industry. He co-founded Moderna with other scientists and investors. His contributions highlight how engineering, materials science, and molecular biology converged to make mRNA vaccines possible. Today, Langer continues to shape the biotechnology landscape, mentoring researchers, driving therapeutic innovation, and influencing the next generation of drug-delivery technologies.

Fyodor Urnov

Professor, University of California Berkeley

Fyodor Urnov is a molecular biologist and a leading figure in the field of genome editing, known for helping transform gene-editing technologies from experimental tools into therapeutic strategies. At University of California, Berkeley, Urnov played a central role in demonstrating that engineered nucleases — the predecessors of today's CRISPR systems — could precisely rewrite human DNA in living cells. His research established some of the first practical paths toward treating genetic diseases by directly correcting their underlying mutations, shaping the modern landscape of precision medicine.

As portrayed in THE MESSENGER, Urnov brings a critical and ethical lens to the rapid rise of RNA and gene-editing technologies. He highlights both the promise and the responsibility that come with the ability to alter genetic information, offering viewers a grounded perspective on how scientific breakthroughs must coexist with public understanding and regulatory safeguards. Urnov's work continues to influence global efforts to develop safe, equitable, and life-changing genetic therapies.

Elie Dolgin
Science Journalist

Elie Dolgin is a science journalist whose work has appeared in leading publications such as Nature, Science, and STAT, specializing in biotechnology, immunology, and genetic medicine. With a background in molecular biology and years of reporting on RNA research, vaccine development, and biotech innovation, Dolgin has become one of the most trusted voices translating complex scientific advances into clear, engaging stories for a global audience. His deep understanding of the scientific landscape makes him uniquely well-positioned to guide viewers through the tangled history of mRNA technology.

In THE MESSENGER, Dolgin serves as the film's narrative anchor, weaving together decades of discoveries, setbacks, and breakthroughs into a coherent and compelling storyline. His ability to contextualize each scientist's contribution — from early conceptual experiments to the engineering of lipid nanoparticles and the race to develop COVID-19 vaccines — allows the audience to grasp both the science and the human journey behind it. Dolgin's narration brings clarity, nuance, and continuity to a story that spans continents, laboratories, and generations of innovation.

PRODUCTION

Production:	INSIDE TOMORROW (CH)
In Co-production:	Radio Télévision Suisse RTS (CH) 2 Hérons production (FR)
Producer:	Yelena Ganshof van der Meersch
RTS Co-producers:	Bettina Hofmann Steven Artels
Duration:	53 min
English version: **French version:** **Italian version:**	original dubbed dubbed
Distributed to:	RTS channel RSI channel TV5 Monde international channels
International Stages:	Geneva University, Switzerland Bloomberg Center, Johns Hopkins, Washington DC, USA Berlin Institute of Health, Charité, Germany Vancouver, British Columbia, Canada
Trailer:	https://vimeo.com/insidetomorrow/themessenger-officialtrailer
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Lights:	Ev Durán
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2D Animation Team:	Safran Juillard Romain Delaunay Albin Merle Benoit Pelle
Colorgrading:	Marcel-Ange Michaud
Sound Mix:	Jean Charles Daclin
French Adaptation Narration:	Laurence Mermoud
English Narrator Voice:	Lise Pedersen
French Voices:	Damien Laquet Hyppolit Audouy Laurent Pasquier Elise Gamet

AUTHORS

Ev Durán

Ev Durán has been nominated for nineteen Emmy Awards, winning four as a producer, director of photography, and editor. His documentary film “All Its Name Implies” (2020) won ‘Best Documentary’ at multiple international film festivals, including the Paris Art and Movie Awards. He is the producer and director of several other documentary films recently or currently in production: “Dream Job” (2023), “Nothing Gold Can Stay” (2023), “Still Paradise” (2022), “Learn the Words, Bitch!” (2022), “Bobcats - Football Returns to Paradise” (2019), and “Better Humans: Athletes of the Spartan World Championship” (2018), to name a few. He currently resides in Northern California, and has lived and worked all across the United States.

Yelena Ganshof van der Meersch

Known for her groundbreaking scientific documentary “THE MESSENGER: A Story of mRNA”, Yelena is passionate about technology and innovation. The film achieved a record viewership during its premiere on RTS channel in Switzerland, featuring two Nobel Prize winners of 2023.

Holder of a Master's degree in Economics from Oklahoma State University in the USA, she grew up in Siberia within a family of doctors. Before the pandemic, she hosted the Geneva-based talk show INSIDE TOMORROW, exploring breakthroughs in AI, biotech, space, fintech. Before turning to filmmaking, she built a dynamic career across investment banking, economic diplomacy, and media.

Tareq Daoud

After a master’s degree in biology from the University of Geneva, Afghan-born Tareq Daoud studied film at the EICTV in Havana, Cuba. Since 2012, he lives and works between Switzerland and Turkey. His list of films include: direction and screenplay of “Yaban” (2021), a Swiss-Turkish-French coproduction with the support of RTS, Cineforom, Loterie Romande; direction of “In Absentia” (2011), selected in the 30th Festival Jean Rouch (Paris), at 33rd International Film Festival (Havana), at 13th Festival Filmar en América Latina (Geneva); direction of “The Staff Room” co-produced with RTS and selected to Locarno and Soleure festivals; direction of “Goliath”(2005) selected to the festivals of Soleure, Tout Ecrans and international festivals.