

Preliminary Program

Vaccine Technology X

April 12-17, 2026

Porto, Portugal

Conference Chairs

Nedim Emil Altaras, Moderna, USA

Darrin Cowley, AstraZeneca, USA

Stephanie Frank, University College London, UK

Tara Tagmyer, PATH, USA



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Sunday, April 12, 2026

15:00 - 17:30 **Registration**

15:30 - 17:00 **WORKSHOP**

Vaccine Innovation and Leadership: Building a Career for Global Impact

Linda Lua, University of Queensland, Australia

Leadership is about influencing others, mobilizing people, and leveraging resources to create meaningful impact. It isn't developed overnight, but through consistent, intentional practice—small, positive habits built over time. This interactive workshop is designed to support graduate students and early career researchers as they step into leadership roles—whether coordinating projects, supervising students, mentoring peers, or contributing to institutional and global initiatives. As you prepare for future roles in academia, industry, or government, growing as a leader becomes essential. Through a mix of practical exercises, peer discussion, and guided reflection, you'll explore core leadership skills such as strategic thinking, organizational influence, effective communication, team dynamics, decision-making, and managing upward. The session also builds on your commitment to advancing vaccine innovations for global health, equipping you with tools and insights to lead with clarity and purpose. Grow to lead—intentionally, confidently, and with impact.

17:30 - 18:00 **Opening Remarks**

18:00 - 19:00 **KEYNOTE**

Global immunization: Charting a course forward in a period of deep uncertainty

Gian Gandhi, Gates Foundation, USA

Global immunization has long stood as a triumph of science and public health, driven by decades of innovation in vaccine research, development, and delivery. Yet the world now stands at a critical inflection point. Over the past two decades, scientific ingenuity—paired with strategic investment and equitable access models—has transformed population health. But the systems and partnerships that fueled these successes are now being tested by converging crises: geopolitical instability, climate shocks, shifting donor priorities, misinformation, and the lingering effects of the COVID-19 pandemic. As traditional models of financing and coordination strain under new pressures, the path forward demands fresh thinking and adaptive leadership. This keynote will take stock of what has worked well—scientific innovation, effective public-private partnerships, sustained global cooperation, innovative financing models, and the rapid introduction of novel vaccines. It will explore how to preserve these achievements while building the agility needed to navigate a rapidly changing world. The talk will chart a course toward maximizing vaccine access and coverage in an era of uncertainty—by reimagining global solidarity, service delivery models, and sustainable financing, and by leveraging data and innovation to sustain and amplify the public health impact of immunization over the next two decades.

19:00 - 22:00 **Reception and Dinner**

Monday, April 13, 2026

7:00 - 8:30 **Breakfast**

Formulation, Delivery, Device: Accelerating Vaccine Innovation in Administration and Accessibility

Chairs: Jeff Blue, Merck & Co, USA & Nicole Payton, AstraZeneca, USA

This session explores how novel formulations, delivery methods, and devices are enhancing the speed, efficiency, and accessibility of vaccines. From advanced stabilizers to cutting-edge delivery systems like microneedles and needle-free injectors, these innovations are crucial to accelerating the development and distribution of effective vaccines globally.

8:30 - 9:00 **Drosophila Cell Produced Multivalent Filovirus Vaccines Demonstrate Thermostability for up to Two Years at Elevated Temperatures**
Axel T. Lehrer, University of Hawaii, USA

9:00 - 9:30 **Beyond the Needle: Engineering novel mRNA lipid nanoparticle formulations for mucosal vaccination**
Shrirang Karve, Sanofi, USA

9:30 - 10:00 **Towards a universal single shot rabies vaccine using microcapsules**
Romain Guyon, University of Oxford, UK

10:00 - 11:00 **Coffee Break**

11:00 - 12:00 **KEYNOTE**

The path to a malaria-free world: vaccine innovation, access, and sustainable impact

Katie Ewer, GSK, UK

Following more than 30 years of clinical development, two licensed vaccines have now been recommended by WHO and deployed at scale in 24 malaria-endemic sub-Saharan African countries. First-generation malaria vaccines have demonstrated substantial public health impact, reducing deaths from malaria, cases of severe malaria and hospitalisation due to malaria in large-scale implementation studies. Despite this, the global malaria burden continues to rise with substantial increases since 2015 due to factors such as extreme weather events, population growth, changes in vector behaviour and increasing antimalarial drug resistance. Innovation is essential to the development of next-generation vaccines and next-generation malaria vaccine development efforts are directed towards enhancing pre-erythrocytic vaccines by targeting additional liver-stage antigens, exploring whole sporozoite approaches, and utilizing novel platforms such as nanoparticles, viral vectors, and mRNA technologies. Multistage vaccines combining pre-erythrocytic and blood-stage antigens, as well as transmission-blocking vaccines, are being explored to reduce parasitemia and interrupt transmission. Equity, affordability, and co-implementation with other malaria control tools are critical considerations for future vaccines. These advances aim to align scientific innovation with the practical realities of African health systems.

12:00 - 13:30 **Lunch**

Nucleic Acid based vaccines: Accelerating Vaccine Innovation with Next Generation Genetic Platforms

Chairs: Kate Broderick, Artis BioSolutions, USA & Duccio Medini, BioForge, USA

This session will explore the continued evolution of nucleic acid-based vaccines, highlighting the unmatched flexibility and speed offered by nucleic acid-based platforms. Attendees will gain insights into cutting-edge advancements and innovations that have emerged in the post-COVID era. The session will also cover how these technologies are positioned to continue evolving vaccine development, enabling rapid responses to emerging infectious diseases and pandemics. From personalized vaccines to scalable platforms, the future of immunization is unfolding faster than ever, and this session will delve into what lies ahead for accelerating vaccine innovation with nucleic acid-based platforms

13:30 - 13:50 **Advancing mRNA vaccines through science, delivery innovation and ecosystem alignment**
Roberta Duncan, Alliance for mRNA Medicines, USA

13:50 - 14:10 **A self-replicating RNA (srRNA) rabies vaccines using unmodified bases shows an expanded clinical therapeutic index, sustained immune responses and is competitive with conventional vaccine technology**
Andrew Geall, Replicate Bioscience, USA

14:10 - 14:30 **A Broad-Spectrum Norovirus mRNA Vaccine Elicits Potent Immune Responses in Mice and Nonhuman Primates**
Jiajie Wei, Merck & Co, USA

14:30 - 14:50 **Carbohydrate lipids as promising PEG-alternatives for LNP formulations**
Emilie Bazin, Sanofi, France

15:00 - 15:30 **Coffee Break**

15:30 - 17:00 **PLENARY**

Global Regulatory Fireside Chat

Dr. Marco Cavaleri (EMA); Dr. Dean K. Smith (Health Canada); additional global regulatory voices expected

A special highlight of Vaccine Technology Meeting X will be an opening Global Regulatory Fireside Chat, bringing together senior regulatory leaders including Dr. Marco Cavaleri (European Medicines Agency) and Dr. Dean K. Smith (Health Canada), with additional global regulatory voices expected to join the discussion. With decades of experience guiding vaccine evaluation, quality standards, emergency response frameworks, and international regulatory collaboration, these leaders have played key roles in advancing vaccines from development through licensure—most notably during the COVID-19 pandemic and in ongoing preparedness for emerging public health threats. This candid and forward-looking conversation will explore how regulatory science is adapting to support innovation while upholding safety and effectiveness standards, how agencies are navigating global uncertainty, and what developers should anticipate as next-generation platforms, manufacturing models, and access pathways continue to evolve. For

scientists, manufacturers, and global health leaders alike, this session offers a valuable opportunity to engage directly with regulators who are helping shape the future of vaccines.

- 17:00 - 18:30** **Break**
- 18:30 - 20:00** **Dinner**
- 20:00 - 22:00** **Poster Session A**

Tuesday, April 14, 2026

- 7:00 - 8:30** **Breakfast**

Lessons from Animal Health: Accelerating Vaccine Innovation for Human Health

Chairs: Abby Patterson, Boehringer-Ingelheim, USA & Diego Fontana, Laboratorio de Desarrollo Biotecnologico, Argentina

This session demonstrates how lessons from animal vaccine development can accelerate innovation in human health. By studying immune response mechanisms, viral evolution, and deployment strategies in animal health, participants gain insights into faster and more effective vaccine development for human diseases.

- 8:30 - 8:50** **Lessons from Animal Health: Accelerating Vaccine Innovation for Human Health**
Joris Vandeputte, IABS, Switzerland
- 8:50 - 9:10** **Advancing RNA technology in animal health**
Sophia Hundt, CEVA Tiergesundheit GmbH
- 9:10 - 9:30** **Recombinant glycoantigens for tuberculosis subunit vaccines: production, glycosylation, and immunological characterization in Pichia pastoris and E. coli**

Mauricio A. Trujillo-Roldan, Universidad Nacional Autonoma de Mexico, Mexico
- 9:30 - 9:50** **Molecular and structural insights into emerging Mexican PEDv to support next-generation vaccine development**
Norma A. Valdez-Cruz, Universidad Nacional Autonoma de Mexico, Mexico
- 10:00 - 10:30** **Coffee Break**

10:30 - 12:00

WORKSHOP

Bringing Vaccines to the Market (Continued) – this is how we do it.

Manon Cox, NextWaveBio, USA

Because of great success at our last meeting, we will continue the journey of taking a vaccine candidate from idea through to commercialization. This interactive workshop features five innovators (some of whom who participated in Vaccine Technology IX) involved in various stages of vaccine development who will present their product development plans (and challenges) in approximately 5-7 minutes. Each presentation is followed by a Q&A; session of 8-10 minutes, where our panel members each with unique experience in vaccine development will challenge and provide valuable feedback to the presented scenarios from vaccine development to supporting business model. We encourage participants to provide feedback and/or ask questions as well! Innovators presenting in this session include: Axel Lehrer – Professor Hawaii University with a dream to develop a vaccine. The vaccine candidate is at the preclinical stage. Garry Morefield – President Vaxform, a start-up with an oral delivery platform and one human clinical study under its belt. Juanjo Infante – CEO Vaxdyn, a startup with a universal Klebsiella pneumoniae vaccine. Thomas Lake – Vaxxas' journey: Development of microneedle technology. Expert panel is composed of: Daniel Adams (former venture capitalist and founder of multiple successful companies) Barry Buckland (former Merck executive with extensive product development expertise) Linda Lua (Professor Emeritus Queensland University, now professional coach) Laura Palomares (Director UNAM, former advisor to Cofepris, Flublok process development)

12:00 - 13:30

Lunch

Environmental sustainability: Accelerating Vaccine Innovation with Green Practices

Chairs: Yinka Oyinloye, AstraZeneca, UK & Magali Barbaroux, Sartorius, France

This session explores how innovations in environmental sustainability are complementing the acceleration of vaccine innovation. Experts will discuss the use of energy-efficient processes, sustainable material sourcing, and waste reduction to minimize the environmental impact of vaccine manufacturing, all while maintaining the speed and scalability of production.

13:30 - 13:50

From Lab Bench to Living Room to Goat Farm: The FluMist Sustainability Journey
Louise McCulloch, Astra Zeneca, UK

13:50 - 14:10

Transitioning to Environmentally Friendly Detergents for Viral Inactivation in Protein Nanoparticle Vaccine Production
Reshma Brown, Merck & Co., Inc, USA

14:10 - 14:30

The challenges and opportunities for bioremediation in vaccine production
Jack Jeffries, UCL, UK

14:30 - 14:50

Towards Improved Environmental Practices in Biopharmaceuticals: Opportunities Emerging from Single-Use Technologies
Lara Cobacho Lluesma, Sartorius, Spain

15:00 - 22:00

Social Outing in Porto

Wednesday, April 15, 2026

7:00 - 8:30 **Breakfast**

Regional Development and Manufacturing Capacity Building: Accelerating Vaccine Innovation for Global Equity

Chairs: Laura Palomares, Instituto de Biotecnología UNAM, Mexico & Acep Riza, BioFarma, Indonesia

This session focuses on the critical role of building regional development and manufacturing capacity to accelerate vaccine innovation. Topics will highlight successes from LMIC manufacturers in conducting technology transfer, building local infrastructure to fill supply gaps, and novel regulatory strategies to ensure that vaccine production is scalable, sustainable, and accessible to all regions, particularly low- and middle-income countries.

8:30 - 8:50 **TBA**
TBA

8:50 - 9:10 **TBA**
TBA

9:10 - 9:30 **Innovation in Mucosal Immunization: Development of Bbv154 (incovacc), the World's First Intranasal Covid-19 Vaccine**
Raches Ella, Bharat Biotech International Ltd., India

9:30 - 9:50 **Advancing Vaccine Manufacturing Platforms for Rapid Response to Global Health Emergency**
Amine Kamen, McGill University, Canada

10:00 - 11:00 **Coffee Break**

11:00 - 12:00 **KEYNOTE**

African Vaccine Manufacturing Network

TBA

12:00 - 13:30 **Lunch**

13:30 - 15:00 **WORKSHOP**

Shifting Global Vaccine Priorities: Funding in a New Political Landscape

Piper Treisedt, Gates MRI, USA

Over the past 20 years, the acceleration of vaccine innovation has been supported by a diverse network of funders, spanning governments, philanthropic organizations, multilateral agencies, and industry. With changing global priorities and the resulting gaps in vaccine funding, new questions arise around which players are stepping in to address unmet vaccine development

needs. This session will bring together a panel of global funders to discuss how their strategies are evolving in light of these changes—whether by redirecting resources, strengthening regional initiatives, or identifying new areas of focus to sustain innovation. An introductory expert panel will set the scene, followed by an interactive discussion where the audience will have the opportunity to engage with funders directly and explore how shifting priorities may shape the next phase of vaccine development.

15:00 - 15:30 **Coffee Break**

Bioprocessing Breakthroughs, AI Integration, and Systems Biology: Accelerating Vaccine Innovation in Manufacturing

Chairs: Laura Pack, Moderna, USA & Kumar Namdev, Sanofi, USA

This session explores how breakthroughs in bioprocessing technologies, artificial intelligence, regulatory sciences, protein (antigen) design, and computational biology are transforming vaccine development and manufacturing. Key discussions will highlight predictive analytics, high-throughput screening, and computational modeling in enhancing manufacturability, process robustness, and cost efficiency. The session will also showcase real-world applications demonstrating how these advancements are accelerating development timelines, improving scalability, and shaping next-generation vaccine production. By integrating these innovations, the field is advancing toward more automated, data-driven, and scalable solutions, ensuring vaccines are developed and produced with greater efficiency, precision, and accessibility.

- 15:30 - 16:00** **From Antigen Design to Industrialization: a Data-driven Approach to Next-gen Vaccine Manufacturing**
Cedric Charretier, Sanofi, France
- 16:00 - 16:20** **Molecular fingerprinting enables efficient clone selection for vaccine manufacture**
Sam Reffsin, Merck & Co., Inc., USA
- 16:20 - 16:40** **Automated End-to-End Optimization of Glycoconjugate Vaccine Production Using an Open-Source Data Management Platform**
Ryan Mellor, UCL, UK
- 16:40 - 17:00** **Practical AI for Bioprocessing: From Hackathon Prototypes to Production-Ready Vaccine Manufacturing**
Phillippe-Alexandre Gilbert, Gates Foundation, USA
- 17:00 - 17:20** **TBA**
Tara Jones, Moderna
- 18:30 - 20:00** **Dinner**
- 20:00 - 22:00** **Poster Session B**

Thursday, April 16, 2026

7:00 - 8:30 **Breakfast**

Next Gen platforms and Novel technologies: Accelerating Vaccine Innovation for the Future

Chairs: Cyrielle Fougeroux, Adaptvac, Denmark & Florian Krammer, Icahn School of Medicine at Mount Sinai, USA

This session dives into the latest vaccine platforms and cutting-edge technologies, from vector-based vaccines to modular antigen display approaches. By embracing next-generation technologies, such as nanoparticle vaccines and novel expression systems, the industry is accelerating innovation to meet global vaccine challenges faster and more efficiently than ever before.

8:30 - 8:50 **Respiratory IgA and Protection against Infection: Insights from Longitudinal Surveillance in a Swedish Healthcare Worker Cohort**
Charlotte Thalín, Karolinska Institute, Sweden

8:50 - 9:10 **Engineering an endogenous retrovirus antigen for cancer therapy**
Lasse Neukirch, HERVolution Therapeutics, Denmark

9:10 - 9:30 **The Impact of the Deprioritization of mRNA Vaccine Technology on Pandemic Preparedness; What are the Alternatives?**
Tanima Sinha, BDO USA PC, USA

9:30 - 9:50 **Encapsulins: Developing Protein Nanocages for Stable and Protective mRNA Delivery**
Yuqian Ou, UCL, UK

10:00 - 10:30 **Coffee Break**

10:30 - 12:00 **WORKSHOP**

Bringing Next Generation Adjuvants to Market

Dennis Christensen, Croda, Denmark

Over the past decades, exogenous adjuvants have increasingly been part of the new and improved vaccines. The COVID-19 pandemic accelerated the development of new adjuvants and 'mimics' of those already present in licensed vaccines, to increase accessibility of known technologies. The increased interest for adjuvant technologies accommodating the functional and regulatory demands for novel vaccines has increased the effort to develop and make available said vaccine adjuvants for both preclinical and clinical vaccine development programs. In the present session we will discuss the opportunities and challenges related to the development of novel vaccine adjuvants and making them broadly accessible. An introductory expert panel discussion will set the scene followed by an interactive roundtable, where the audience will also have the opportunity to challenge the expert panelist.

12:00 - 13:30 **Lunch**

Vaccine analytical tools and PAT: Accelerating Vaccine Innovation through Precision

Chairs: Jamie Wagner, Merck & Co, USA & Laura Cervera Gracia, Universitat Autònoma de Barcelona, Spain

Focusing on the role of advanced analytical tools and Process Analytical Technology (PAT), tools that are essential for accelerating the innovation pipeline and improving the reliability of vaccine manufacturing, this session covers real-time monitoring techniques, data-driven quality control, and regulatory innovations that ensure vaccines are safe, effective, and produced at scale.

- 13:30 - 14:00** **TBA**
Jessica White, PATH, USA
- 14:00 - 14:20** **Real-time monitoring and forecasting of viral titer during adenovirus production in HEK293 cells**
Xingge Xu, McGill University, Canada
- 14:20 - 14:40** **Noninvasive analysis of aluminum-adjuvanted vaccines by wNMR**
Bruce Yu, University of Maryland School of Pharmacy, USA
- 14:40 - 15:00** **Next Generation Sequencing for Adventitious Virus Testing: Validation Study in a Live Vaccine Matrix**
Alice Alston, AstraZeneca, UK
- 15:00 - 16:00** **Coffee Break**
- 16:00 - 17:30** **3 Minute Poster Talks**

15 poster presenters discuss their research in 3 minute talks

17:30 - 19:00 **PLENARY**

Vaccine Technology X – 20 Years of Vaccine Technology

Tarit Mukhopadhyay, Merck & Co, USA

Since the first Vaccine Technology Meeting two decades ago, the field has transformed in remarkable ways—driven by breakthroughs that have redefined what is possible in vaccine science and technology. Over this period, we have witnessed the rise of new vaccine platforms, innovations in manufacturing and delivery, and unprecedented responses to global health crises. This special anniversary session provides a unique opportunity to reflect on the journey of the past 20 years, examine where the field stands today, and consider the opportunities and challenges that lie ahead. A distinguished panel of experts will share their perspectives on the scientific, technological, and policy advances that have shaped vaccine development, as well as the lessons learned along the way. The session will conclude with an interactive dialogue, inviting participants to explore together what the next 20 years of vaccine technology might bring—and how we can collectively prepare for the future.

19:00 - 22:00 **Banquet**