Program

Vaccine Technology IX

May 19-24, 2024
Los Cabos, Mexico

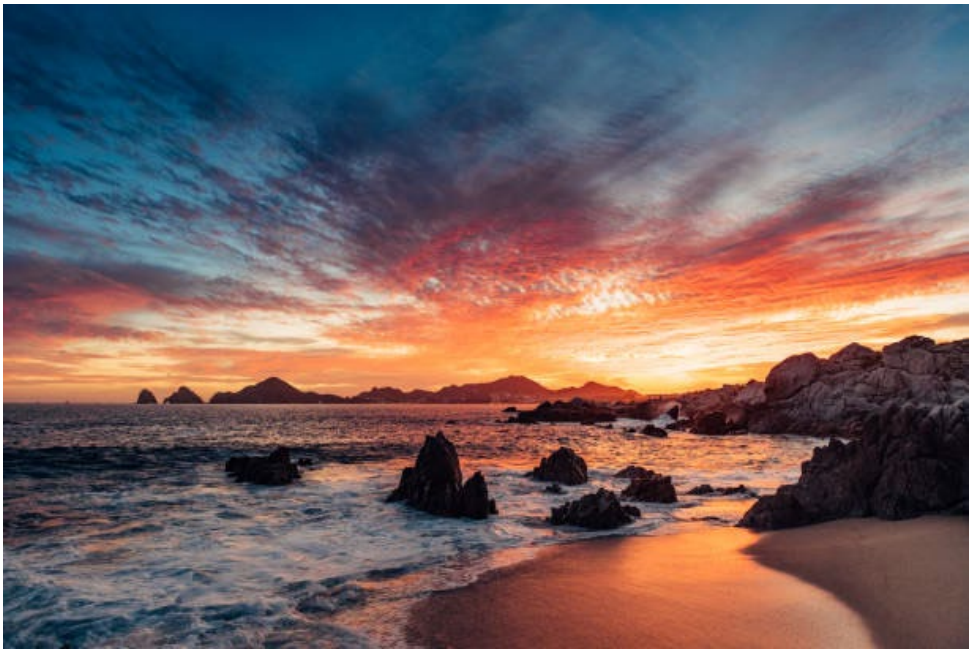
Conference Chairs:

Linda Lua
The University of Queensland, Australia

Charles Lutsch
Sanofi-Vaccines, France

Francesc Gòdia
Universitat Autònoma de Barcelona (UAB), Spain

Tara Tagmyer
PATH, USA



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Vaccine Technology© Conferences History

An ECI Conference Series

Vaccine Technology I (2006)
Barry C. Buckland, John G. Aunins, Emilio A. Emini, and Jerald C. Sadoff
Puerto Vallarta, Mexico

Vaccine Technology II (2008)
Barry C. Buckland, John G. Aunins, Paula Marques Alves, and Kathrin Jansen
Albufeira, Algarve, Portugal

Vaccine Technology III (2010)
Barry C. Buckland, John G. Aunins, Paula Marques Alves, and Kathrin Jansen
Nuevo Vallarta, Mexico

Vaccine Technology IV (2012)
Barry C. Buckland, John G. Aunins, Paula Marques Alves, and Kathrin Jansen
Albufeira, Algarve, Portugal

Vaccine Technology V (2014)
Laura Palomares, Manon Cox, John Aunins and Kathrin Jansen
Playa del Carmen, Mexico

Vaccine Technology VI (2016)
Laura Palomares, Tarit Mukhopadhyay, Manon Cox and Nathalie Garçon
Albufeira, Portugal

Vaccine Technology VII (2018)
Amine Kamen, Tarit Mukhopadhyay, Charles Lutsch, Nathalie Garçon
Mont Tremblant, Canada

Vaccine Technology VIII (2022)
Tarit Mukhopadhyay, Charles Lutsch, Linda Lua, Francesc Godia,
Sitges, Spain

Conference Sponsors

Bill & Melinda Gates Foundation

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Kuhner Shaker

LumaCyte, Inc.

NextWaveBio

NIIMBL

Oxford Expression Technologies Ltd

Sanofi

Univercells

Vaxxas

WuXi Vaccines

Sunday, May 19, 2024

15:00 – 17:30	Conference check-in (Portofino Foyer)
17:30 – 18:00	Opening remarks (Conference Chairs and ECI Liaison)
18:00 – 19:00	**KEYNOTE** **The need for manufacturability speed** Michael Anyadiegwu, CEPI, UK
19:00 – 21:30	Reception and Dinner (West Garden)

NOTES

- *Technical Sessions will be in Puerto 3 & 4.*
- *Poster sessions will be in the Ribera Ballroom.*
- *The ECI Office is in Marian 2.*
- *Breakfasts and lunches will be in the Market Café restaurant*
- *The banquet dinner is in Ribera 3 & 4.*
- *Audiotaping, videotaping and photography of presentations are prohibited.*
- *Speakers – Please have your presentation loaded onto the conference computer prior to the session start (preferably the day before).*
- *Speakers – Please leave at least 3 minutes for questions*
- *Please do not smoke at any conference functions.*
- *Turn your cellular telephones to vibrate or off during technical sessions.*

Monday, May 20, 2024

07:00 – 08:30 Breakfast Buffet

Session 1: Novel Expression Systems and Innovative Platforms
Sponsored by Univercells
Chairs: Florian Krammer, Icahn School of Medicine at Mount Sinai, USA
Tania Chilima, Pereira Chilima Biotech, Switzerland

08:30 – 08:55 **Lead Speaker**
A next generation of COVID-19 vaccine based on the Newcastle disease virus (NDV) vector
Weina Sun, Department of Microbiology at the Icahn School of Medicine, USA

08:55 – 09:15 **A comprehensive post-COVID-19 Look at different vaccine platforms: Characteristics, performance, and economic considerations**
Florian Krammer, Icahn School of Medicine at Mount Sinai, USA
Tania Chilima, Pereira Chilima Biotech, Switzerland

09:15 – 09:30 **C1 gene expression platform: Rapid, high yield and lower cost way to develop and manufacture biologics**
Mark Emalfarb, CEO of Dyadic International, Inc.

09:30 – 09:45 **Development of a nanoparticle-based nasal vaccine against SARS-CoV-2**
Jorge Kalil, Incor, HCFM -Universidade de São PauloSP, Brasil

09:45 – 10:00 **Rapid screening and scaled manufacture of immunogenic virus-like particles in a tobacco BY-2 cell-free protein synthesis system**
Jorge Armero Gimenez, LenioBio, Germany

10:00 – 11:00 Coffee Break (*Sponsored by LumaCyte, Inc.*)

11:00 – 12:00 **KEYNOTE**
Past, present, and future of vaccine technologies
David Kaslow, US FDA Office of Vaccines Research and Review

12:00 – 13:30 Lunch

13:30 – 15:00 **Workshop: A blueprint for accelerating vaccine development and deployment**
Chairs: Laura Palomares, UNAM, Mexico
Michael L. King, Scientific Advisory Committee of CEPI, USA

You are developing a new vaccine. Preclinical data looks promising, and a decision is needed to invest your limited resources best. Should you proceed to clinical trials as soon as possible? What are the requirements to proceed to the first-in-human trial? What are the minimum CMC, quality, and analytical requirements to proceed to the different phases of clinical evaluation? Which are the different scenarios determining the vaccine development blueprint? Is your vaccine for emergency/seasonal/routine application? What economic, regulatory, and public health aspects determine vaccine development and deployment? These and other topics related to creating a vaccine development and deployment blueprint will be discussed.

15:00 – 15:30 Coffee Break

Monday, May 20, 2024 (continued)

Session 2 – Vaccine Manufacturing
Chairs: Stefanie Frank, University College London, Department of Biochemical Engineering, UK
Jason He, WuXi Biologics, USA

15:30 – 16:00 **Lead Speaker**
Applying intensification and process integration to accelerate development and scale-up of vaccine production
Mathias Garny, Univercells Technology, Belgium

16:00 – 16:15 **Continuous production of influenza VLPs using IC-BEVS: A multi-stage bioreactor approach**
Ricardo Correia, iBET, Portugal

16:15 – 16:30 **Intensification of Adenovirus manufacturing by developing a high cell density perfusion process**
Alena Roßkamp, Sartorius Stedim Biotech GmbH, Germany

16:30 – 16:45 **Accelerating recombinant protein vaccine development and manufacturing preparation of Disease X**
Tshering Sherpa, WuXi Biologics, USA

16:45 – 17:00 **Optimization and scale up of suspension Vero cell culture technology towards industrial applications in cost-effective production of viral vaccines and therapeutic viruses**
Chun Fang Shen, National Research Council of Canada, Canada

17:00 – 18:30 Break / Networking

18:30 – 20:00 Dinner

20:00 – 22:00 **Poster session 1 (Odd numbers)**
Chairs:
Laura Cervera Gracia, Universitat Autònoma de Barcelonna, Spain
António Roldão, iBET, Portugal
Diego Fontana, Laboratorio de Desarrollo Biotecnológico, Facultad de Bioquimica y Ciencias Biologicas, Argentina

Tuesday, May 21, 2024

07:00 – 08:30 Breakfast Buffet

Session 3: Nucleic Acid-based Vaccines
Sponsored by Sanofi
Chairs: Shobha Vasudevan, Harvard University, USA
Sudha Chivukula, Sanofi, USA

08:30 – 09:00 **Lead Speaker**
Empowering vaccine efficacy and distribution: Harnessing Machine Learning for Structural Optimization and Advanced Formulations to Enhance Accessibility
Jason Zhang, Zipcode Bio, USA

09:00 – 09:20 **Tackling mRNA Vaccine Manufacturing Optimization From vaccine production to its purification**
Salome De Sa Magalhaes, Department of Biochemical Engineering, University College London, UK

09:20 – 09:40 **Genetic engineering of influenza A virus defective interfering particles towards improved antiviral efficacy and potential use as a live vaccine**
Tanya Dogra, Max Planck Institute for Dynamics of Complex Technical Systems, Germany

09:40 – 10:00 **Integrated platform for the rapid development of Thermostable VLP and CircRNA VLP vaccines**
Prabuddha Kundu, Premas Biotech, India

10:00 – 10:30 Coffee Break (*Sponsored by NextWaveBio*)

10:30 – 12:00 **Workshop: Advanced training of vaccine manufacturing workforce for sustainable pandemic preparedness**
Chair: Amine Kamen, McGill University, Canada

For better pandemic preparedness, governmental authorities and international organizations are heavily investing in building local capacities for vaccine and biomedicines manufacturing. Training of work force remains a key success factor for the sustainable operations of these capacities and their effectiveness for rapid response to emerging or re-emerging infectious diseases.

Highly qualified personnel in biomanufacturing are needed globally, therefore concerted efforts should be deployed to address these needs.

This workshop invites for discussions of recent training initiatives deployed by different organizations in US, Canada, and Europe through academic and not-for profit organizations, as well as WHO initiatives. Importantly, recent initiatives in Africa, exemplified by the human capital development strategy at “Institut Pasteur de Dakar” will be presented.

The goal of the workshop, beyond sharing good practices and supporting material, is to promote collaborative efforts in creating value for the effective training of a new generation of vaccine manufacturing workforce building on integration of all training models and platforms.

Tuesday, May 21, 2024 (continued)

- Introduction: Amine Kamen
- African Initiative: Senegal example of building capacity and developing human capital to meet the needs of African countries, Amadou Alpha Sall, General, Institut Pasteur of Dakar, SenegalUS perspective with the National Institute for Innovation in Manufacturing Biopharmaceuticals (NIIMBL), Kelvin Lee, NIIMBL, USA
- WHO academy and the NVI initiative in Asia, Alice (Eunju) Lee, IVI International, Korea
- Vaccine work force training in Mexico, Laura Palomares, UNAM, Mexico

Short presentations from each organization (10 min) followed by questions and an open floor for discussion (30 minutes)

12:00 – 13:30 Lunch

Session 4: One Health

Chairs: Diego Fontana, Laboratorio de Desarrollo Biotecnológico, Facultad de Bioquimica y Ciencias Biologicas, Universidad Nacional del Litoral; CONICET, Argentina
Abby Patterson, Boehringer-Ingelheim, USA

13:30 – 14:00 **Lead Speaker**
The role of vaccines in controlling emerging diseases
Abby Patterson, Boehringer-Ingelheim, USA

14:00 – 14:15 **Enhancing purification of Adenovirus-like particles (Addomer) for snakebite therapy**
Antonio Roldao, iBET and ITQB NOVA, Portugal

14:15 – 14:30 **Process optimization for recombinant Marburg Virus Glycoprotein production using Drosophila S2 Cells**
Sven Göbel, Max-Planck Institute; John A. Burns School of Medicine, University of Hawaii at Manoa, USA

14:30 – 14:45 **T-cell immunogenicity of an MVA-based vaccine candidate against Middle East Respiratory Syndrome in humans**
Leonie Mayer, University Medical Center Hamburg Eppendorf, Germany

14:45 – 15:00 **Development of a vaccine candidate against dengue and Zika viruses by presenting a mimotope on the capsid of adeno-associated virus serotype 8**
Arturo Liñan, Instituto de Biotecnología, UNAM, Mexico

15:00 – 22:00 **Activities**
Dinner at a hotel restaurant of your choice

Wednesday, May 22, 2024

07:00 – 08:30 Breakfast

Session 5: Analytical Technology and Vaccine analytics
Chairs: Isabelle Knott, GlaxoSmithKline, Belgium
Laura Cervera Gracia, Universitat Autònoma de Barcelonna, Spain

08:30 – 09:00 **Lead Speaker**
Analytical characterization in an era of precision vaccinology
Julia O'Neill, Direxa Consulting LLC, USA

09:00 – 09:15 **Cytokine secretion as fast in-process control for live virus potency**
Johanna Bacher, Acib, University of Natural Resources and Life Sciences, Austria

09:15 – 09:30 **More adenovirus, more quickly and better quality**
Shawkat Hussain, Jenner Institute, UK

09:30 – 09:45 **A rationale design of a pneumococcal multi-epitope vaccine: from immunobioinformatics to bench-scale**
Victor Alves, University of Sao Paulo, Butantan Institute, Brazil

09:45 – 10:00 **Strengthening product viral safety while streamlining the testing package: Sanofi vaccine development and implementation of high-throughput sequencing for adventitious virus detection**
Carine Logvinoff, Sanofi, France

10:00 – 11:00 Coffee Break (*Sponsored by NIIMBL*)

11:00 – 12:00 **KEYNOTE**
Animal, Human and Environmental Health, they are all connected
Albert Osterhaus, University of Veterinary Medicine Hannover, Germany

12:00 – 13:30 Lunch

13:30 – 15:00 **Workshop**
Bringing Vaccines to the Market – this is how we do it.
Chair: Manon Cox, NextWaveBio, USA

Taking a vaccine candidate from idea through to commercialization is quite a journey. This interactive workshop features five innovators involved in various stage of vaccine and related analytical tool 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!

Our innovators presenting in this session are:
Axel Lehrer – Professor Hawaii University with a dream to develop a vaccine. The vaccine candidate is at the preclinical stage.

- Peter Leonardi – CEO OmniCyte, a start-up with a technology platform also at the preclinical stage.
- Garry Morefield – President Vaxform, a start-up with an oral delivery platform and one human clinical study under its belt.

Wednesday, May 22, 2024 (continued)

- Sandra Depelsenaire – Preclinical Team Lead will speak about Vaxxas' journey.
- Erica Dawson – Chief R&D Officer on the path to success of InDevR, a Life Science tools company offering multiplexed, microarray-based analytical solutions.

Our 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)
- Laura Palomares (Director UNAM, former advisor to Cofepris, Flublok process development)
- Ab Osterhaus (Academic with successful track record in founding multiple companies).

15:00 – 15:30 Coffee Break

Session 6: Formulation and Stability
Chairs: Jeffrey Blue, MSD, USA
António Roldão, iBET, Portugal

15:30 – 16:00 **Lead Speaker**
Improving vaccine efficacy through rational formulation design
Dennis Christensen, CRODA Pharma, Denmark

16:00 – 16:15 **Tee mixing as an alternative method to form stable emulsion-based adjuvants**
Marissa Bradley, MSD, USA

16:15 – 16:30 **Formulation optimization focused on safety and thermostability of a single-vial bivalent Sudan Ebola virus and Marburgh Virus Vaccine**
Axel Lehrer, University of Hawaii, USA

16:30 – 16:45 **Multivalent MVA-vectored vaccine elicits EBV neutralizing antibodies in rhesus macaques that reduce EBV infection in humanized mice**
Ivana Reidel, Beckman Research Institute of City of Hope, USA

16:45 – 17:00 **Development of a broadly protective neuraminidase-based Influenza Virus vaccine**
Irene Hoxie, Icahn School of Medicine at Mount Sinai, USA

17:00 – 18:30 Break / Networking

18:30 – 20:00 Dinner

20:00 – 22:00 **Poster session 2 (Even numbers)**
Chairs:
Laura Cervera Gracia, Universitat Autònoma de Barcelonna, Spain
António Roldão, iBET, Portugal
Diego Fontana, Laboratorio de Desarrollo Biotecnológico, Facultad de Bioquimica y Ciencias Biologicas, Argentina

Thursday, May 23, 2024

07:00 – 08:30 Breakfast

Session 7: Regional development and manufacturing of vaccines
Chairs: Leda Castilho, Federal University of Rio de Janeiro (UFRJ), Brasil
Raman Rao, Hilleman Labs, Singapore

08:30 – 09:00 **Lead Speaker**
Accelerating access to sustainable vaccine adjuvant technology
Chris Fox, Access to Advanced Health Institute, USA

09:00 – 09:15 **The regional manufacturing of and open access to poly ICLC (Hiltonol®) for human and veterinary vaccines**
Andrew Simpson, Orygen Biotecnologia, Brazil

09:15 – 09:30 **A new academia-industry partnership enabling sustainable and responsive vaccine manufacture**
Martina Micheletti, University College of London, UK

09:30 – 09:45 **Avian Influenza H5n1 and H7n3 vaccine candidates, from design to evaluation**
Leandro Alberto Nuñez Muñoz, CINVESTAV, Mexico

09:45 – 10:00 **Anti Covid-19 Soberana vaccines: Two immunogens, one process**
Tammy Boggiano, Center of Molecular Immunology, Cuba

10:00 – 10:30 Coffee Break (*Sponsored by Oxford Expression Technologies Ltd*)

10:30 – 12:00 **Workshop: Global Health Strategies – engaging through meaningful partnerships**
Chairs: Rajeshwari Adhiseshan, Bill & Melinda Gates Foundation, India
Tarit Mukhopadhyay, MSD, USA

Vaccination is considered the most successful healthcare initiative in disease prevention, but achieving universal coverage is still beyond reach. Partly due to the disruptive nature of the Covid-19 pandemic, latest trends indicate a backsliding on childhood vaccinations. According to UNICEF 23 million children missed out on basic childhood vaccines through routine health services in 2020.

This workshop will provide a valuable forum for stakeholders in the vaccine technology field to share their experiences, learn from one another, and identify ways to work together more effectively.

This interactive workshop will cover four broad themes.

1. The importance of partnerships in global health: discussion on the role of partnerships in promoting health equity and improving health outcomes, particularly in low- and middle-income countries.
2. Successful partnership models: The workshop will showcase successful partnership models from past vaccine development and delivery initiatives. Participants to examine the factors that contributed to the success of these partnerships and identify ways to replicate them in future projects.

3. Challenges and opportunities in partnerships: Participants explore the challenges that arise in partnerships, such as conflicting priorities, and resource constraints and how best to address these challenges and capitalize on the opportunities that partnerships provide.
4. Best practices for engaging in meaningful partnerships: The workshop could provide participants with practical tips for engaging in partnerships and outline some of the funding opportunities and priorities for partnerships in global health.

Agenda:

1. Opening comments from co-chairs (10 minutes)

2. Importance of partnerships in Global Health – discussion with funders (5 minutes each)
   - CEPI – Michael Anyadiegwu
   - Gates Foundation – Max Silverman
   - Adjuvant Capital – Giulia Balconi

3. Advancing vaccine access and innovation through partnership funders (5 minutes each)
   - Hilleman Lab – Raman Rao (Next Generation Ebola vaccine)
   - Biofarma – Acep Riza (Tech transfer novel polio vaccine)
   - BioVac – Ebrahim Mohammed (Oral cholera vaccine)

4. Panel Discussion (40 minutes)

5. Closing Remarks (10 minutes)

12:00 – 13:30 Lunch

Session 8: Devices and Delivery
Chairs: Megan Polidano, Vaxxas, Australia
Martina Micheletti, University College London, UK

13:30 – 14:00 **Lead Speaker**
Advances in alternative routes of vaccine administration, and continued challenges
Tanima Sinha, Biomedical Advanced Research and Development Authority (BARDA), USA

14:00 – 14:20 **Injectable core-shell particles deliver prime-boost immunization in a single shot**
Romain Guyon, University of Oxford, UK

14:20 – 14:40 **Understanding the enhanced immune responses to High-Density Microarray Patch vaccination through spatial transcriptomics and antibody repertoire analysis**
David Muller, School of Chemistry and Molecular Biosciences, University of Queensland, Australia

14:40 – 15:00 **Microarray patch delivery of unadjuvanted recombinant spike protein vaccine induces potent and broad-spectrum immune responses in a phase I clinical study**
Alexandra Depelsenaire, Vaxxas, Australia

Thursday, May 23, 2024 (continued)

15:00 – 16:00	Coffee Break and networking
16:00 – 17:30	**Poster short talks** **3 minutes presentations by 15 selected poster presenters**
17:30 – 18:30	**KEYNOTE** **Enabling vaccine technologies to save more lives** Katey Owen, Bill & Melinda Gates Foundation, USA
18:30 – 19:00	Closing Conference Chairs
19:00 – 22:00	Banquet (Ribera 3 & 4)

Friday, May 24, 2024

07:00 – 10:00	Breakfast, checkout and departures

Poster Presentations

Novel expression systems and innovative platforms

1. **Tyrosinase-mediated bioconjugation of antigens to ferritin nanoparticles**
   Margarida Queluz Rodrigues, Instituto de Biologia Experimental e Tecnológica, Instituto de Tecnologia Química e Biológica, Portugal

2. **Multifactorial high-throughput process screening for a yellow fever virus-vectored Zika vaccine candidate**
   Sven Göbel, Max Planck Institute for Dynamics of Complex Technical Systems, Germany

3. **Chimeric hemagglutinin split vaccines elicit broadly cross-reactive antibodies and protection against group 2 influenza viruses in mice**
   Eduard Puente-Massaguer, Icahn School of Medicine at Mount Sinai, USA

4. **A scalable, serum-free cell culture platform for improved production of diverse live virus and viral vector vaccine candidates**
   James Wagner, MSD, USA

5. **Influenza A defective interfering particles as broad-spectrum antivirals**
   Sascha Young Kupke, Max Planck Institute for Dynamics of Complex Technical Systems, Germany

6. **C1 gene expression platform rapid, high yield and lower cost way to develop & manufacture biologics**
   Mark Emalfarb, Dyadic International Inc., USA

7. **Enabling commercial process oriented clone selection for a pipeline vaccine candidate through process scale down and analytical characterization**
   Matthew Woodling, Merck & Co, Inc USA, USA

8. **Developing vaccines for common respiratory viruses using a platform technology**
   Andrew Young, University of Queensland, Australia

9. **Enhancing NA immunogenicity through novel VLP designs**
   Leticia Guzmán-Ruiz, University of Natural Resources and Life Sciences, Vienna, Austria

10. **Development of a rapid, cost-effective bioprocess for the production of recombinant human serum albumin in Pichia Pastoris**
    Wanqin Soh, Hilleman Laboratories, Singapore

11. **Development of the Thermophilic Filamentous Fungus Thermothelomyces heterothallica C1 into a prominent human and animal vaccines production platform**
    Mark Emalfarb, Dyadic International Inc., USA

12. **Production of AAV virus-like particles in CHO cells for bioorthogonal chemistry applications**
    Daniel Barreto-Cabrera, Instituto de Biotecnología - Universidad Nacional Autónoma de México, Mexico

13. **Rapid screening and scaled manufacture of immunogenic virus-like particles in a tobacco BY-2 cell-free protein synthesis system**
    Jorge Armero Gimenez, Wageningen University, LenioBio, Germany

14. **Oral administration of a recombinant RBDw like from SARS-CoV-2, as immunostimulant for the care of COVID-19**
    Norma Adriana Valdez-Cruz, UNAM, Mexico

15. **FinaXpress, an E. Coli platform for the expression of disulfide-bonded proteins - production of low-cost carrier proteins, vaccine antigens, and biotherapeutics**
    Renaud Jacquemart, Fina Biosolutions, USA

16. **Pandemic Preparedness with ALiCE® - Scalable eukaryotic cell-free protein synthesis enables ultra-rapid threat response**
    Charles Williams, LenioBio, Germany

Nucleic acid-based vaccines

17. **Self-amplifying mRNAs encoding chimeric or mosaic influenza virus hemagglutinin antigens induce broadly protective antibody responses in mice**
    Juan Manuel Carreno Quiroz, Icahn School of Medicine at Mount Sinai, USA

18. **Engineering protein nanocompartments for a novel mRNA loading and delivery system**
    Ferdinando Sereno, University College London, United Kingdom

19. **Efficient supply of high quality lineralised pDNA for mRNA production**
    Salomé A. de Sá Magalhães, University College London, United Kingdom

20. **Optimizing in-vitro transcription parameters for production of messenger RNA (mRNA) vaccines**
    Julia Puppin Chaves Fulber, McGill University, Canada

21. **A Phase I, randomized, double-blind, placebo-controlled trial of a Reprna-based vaccine for Covid-19: A brief analysis of safety in adults**
    Bruna Machado, SENAI CIMATEC, Brazil

22. **Development of Rna Vaccines for leishmaniasis and comparison with vaccines based on recombinant antigens**
    Gabriela de Asis Burle-Caldas, UFMG/CTVacinas, Brazil

23. **Univercells develops breakthrough technologies and services that democratize the production of biologics: The potential of Drug Development collaboration**
    David Honba, Univercells, Belgium

24. **Development of a Marburg self-amplifying mRNA-lipid nanoparticle vaccine: Differential effects when co-formulated with Toll Receptor Agonists**
    Allan Watkinson, Labcorp, United Kingdom

25. **A novel genetic vaccine platform using tag/catcher conjugation for modular assembly and secretion of antigen-displaying capsid virus-like particles**
    Cyrielle Fougeroux, Adaptvac, Denmark

Regional development and manufacturing of vaccine

26. **Process development for high titer production of RCA free adenovirus in suspension complementing cell culture derived from A549 cell line**
    Chun Fang Shen, National Research Council of Canada, Canada

27. **Immunogenicity of a trivalent recombinant antigen based on SARS-CoV-2 receptor-binding domain and its variants of concern**
Berenice Calderón-Pérez, CINVESTAV-IPN, Mexico

28. **Development of a vaccine candidate against Clostridium botulinum in cattle**
Berenice Calderón-Pérez, CINVESTAV-IPN, Mexico

29. **Acheviements of a vaccine development unit within Lmics; Biotechnology development unit, Institut Pasteur de Tunis, Tunisia**
Samia Rourou, Institut Pasteur de Tunis, Tunisia

30. **Upstream development for a Zika Virus Chimeric vaccine**
Tiago Pereira dos Santos, Bio-Manguinhos/FIOCRUZ-RJ, Brazil

31. **Recombinant interleukins as vaccine adjuvants against livestock diseases**
Berenice Calderón-Pérez, CINVESTAV-IPN, Mexico

32. **Manufacture of a SARS-CoV2 vaccine in Mexico**
Néstor O. Pérez, Probiomed SA de CV, Mexico

33. **Validation of a serological ELISA method to detect anti-SarsCov2 IgG and IgM antibodies in Mexican population.**
Mabel Rodriguez, Instituto de Biotecnología, Mexico

Vaccine manufacturing

34. **Modeling the benefits of small molecule Viral Sensitizers (VSEsTM) to increase virus production**
Andrea Vervoort, Virica Biotech, Canada

35. **Disruptive Vibro® technology offering new opportunities in vaccine manufacturing processes**
Jarno Robin, SANI Membranes, Denmark

36. **Intensification of virus production in suspension cells: Comparison of perfusion and fed batch-based processes for different cell lines**
Cristina Silva, Polytechnique Montréal, Canada

37. **The production and purification of an intermediate product for large scale VLP production in insect cells - baculovirus working stock**
Lena Achleitner, acib - Austrian Centre of Industrial Biotechnology, University of Natural Resources and Life Sciences Vienna, Austria

38. **Fixed-bed bioreactor production of virus for vaccine manufacturing**
Renato Astray, Instituto Butantan, Brazil

39. **Sterile purification of large viruses using functionalized non-woven fibers**
Patricia Pereira Aguilar, acib - Austrian Centre of Industrial Biotechnology, University of Natural Resources and Life Sciences Vienna, Austria

40. **Influenza A virus production following quality by design principles**
Tilia Zinnecker, Max Planck Institute for Dynamics of Complex Technical Systems, Germany

41. **Development of next generation manufacturing platform technology for the production of viral vectored vaccines**
Wanqin Soh, Hilleman Laboratories Singapore Pte Ltd, Singapore

42. **Evaluation of a universal influenza B vaccine based on the mosaic hemagglutinin strategy using different vaccine platforms in mice**
Irene González-Domínguez, Icahn School of Medicine at Mount Sinai, USA

43. **Bioprocess improvement to increase manufacturing yield using a fixed-bed bioreactor**
Pei-Yin Lim, Hilleman Laboratories, Singapore

44. **Development of a trivalent adjuvanted sub-unit vaccine candidate for Covid-19: From antigen expression to Ind-enabling Cmc and preclinical studies**
Leda R. Castilho, UFRJ, Brazil

45. **Purification platform for poxviruses by filtration processes**
Michael Wolff, University of Applied Sciences Mittelhessen, Germany

46. **The development of a Hi5-Cas9 stable cell line for assessing the impact of AcMNPV essential gene disruption on baculovirus & recombinant protein production using CRISPR-Cas9 technology**
Jacqueline Powichrowski, University of Waterloo, Canada

47. **Impact of animal origin free peptones on HEK293 and vero based vaccine applications**
Ashwin Gurunathan, Thermo Fisher Scientific, USA

48. **Influenza virus capture using membrane chromatography: Improving selectivity by matrix design and pseudo-affinity ligand interactions**
David Dauer, Sartorius Stedim Biotech GmbH, Germany

Analytical technology

49. **Rapid multiplexed analytics for mRNA vaccines**
Erica Dawson, InDevR, Inc., USA

50. **Extraction of intact proteins from polyacrylamide gels for virus-like particle purity reversed-phase HPLC method development**
Jonathan Welsford, MSD, USA

51. **Asymmetric flow field flow fractionation as an analytical tool for virus-like particles**
Narges Lali, ACIB GmbH, BOKU, Austria

52. **Quality assessment of virus-like particle: A new transmission electron microscopy approach**
Salomé A. de Sá Magalhães, University College London, United Kingdom

53. **Application of multivariate data analysis on multi-sensor system for in-line process monitoring of adenovirus production in HEK293 cells**
Xingge Xu, McGill University, Canada

54. **Redox potential of intercapsomeric disulfides defines pathway of final VLP assembly for HPV**
Danielle Miller, Merck, USA

Formulation and stability

55. **Opportunities for process analytical technology integration in the QbD framework for vaccine formulation development and manufacturing**
Nausheen Rahman, sanofi, Canada

56. **Addressing vaccine stability and cold chain challenges with recombinant human serum albumin to enable global administration**
Mark Stathos, InVitria Inc, USA

57. **Bioprocess studies for the production of bacterial vesicles for the delivery of immunogens in epithelial cells**
Mauricio A. Trujillo-Roldán, UNAM, Mexico

58. **Formulation development and characterization of a Marburg self-amplifying mRNA-lipid nanoparticle vaccine with CpG oligonucleotide**
Allan Watkinson, Labcorp, United Kingdom

59. **Formulation development and characterization of a Marburg self-amplifying mRNA-lipid nanoparticle vaccine with a Toll-like receptor 7 agonist**
Allan Watkinson, Labcorp, United Kingdom

60. **Development of a spray dried respiratory tuberculosis vaccine candidate and dosing protocol for a non-human primate study**
John Chen, Access to Advanced Health Institute, USA

61. **Oral COVID-19 vaccination with QYNDR-RBD is safe and immunogenic**
Garry Morefield, VaxForm, USA

Devices and delivery

62. **Lateral flow devices: Applying antigen-antibody interaction for vaccine technology**
Mirna Gonzalez, Tecnologico de Monterrey, Mexico

One-health

63. **Designing and developing novel peptide inhibitors targeting SARS-CoV-2 entry into host cells using Moroccan scorpion venom molecule mimics**
Naoual OUKKACHE, Institut Pasteur of Morocco, Morocco

64. **High cell density semi-perfusion of CCX.E10 quail cells for production of vesicular stomatitis virus based oncolytic vaccine**
Lennart Jacobtorweihe, Max Planck Institute for Dynamics of Complex Technical Systems, Germany

65. **Bivalent virus-like particles for Circovirus protection and immunocastration**
Diego Fontana, Universidad Nacional Del Litoral, Argentina

66. **Developing anti-helminth vaccines for people and cattle (for)seeing the One Health approach in action**
Renaud Jacquemart, FABP Biotech, Brazil

67. **Click chemistry functionalization of HIV-1-based virus-like particles and extracellular vesicles**
Francesc Gòdia, Universitat Autònoma de Barcelona, Spain