

Rosa & Co.'s first webinar of 2020 to showcase the importance of mathematical models for vaccine R&D

A Senior Principal Scientist at Merck & Co. to demonstrate the power of Pharmacometrics in vaccine discovery and development in live webinar

SAN CARLOS, CA, USA, January 15, 2020 /EINPresswire.com/ -- Rosa & Co. LLC announced today that Jeffrey R. Sachs, Ph.D., a Senior Principal Scientist at Merck and Co., will present a webinar entitled MIDD: Vaccine R&D Gets a Shot in the Arm from Pharmacometrics on January 22nd.

Since its inception in 2011, Rosa & Co.'s [Worldwide Webinar Series](#) remains an invaluable educational resource of how modeling and simulation impact all phases of drug development – with relevant outcomes such as reduced risk, reduced costs, increased confidence, and time and money savings. Speakers are experts from academia, industry, and regulatory agencies.

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Jeffrey R. Sachs, Ph.D., Senior Principal Scientist at Merck & Co.

Rosa & Co.'s first webinar of 2020 will discuss the impact and future role of pharmacometrics on vaccine development. Pharmacometrics is the term used to describe mathematical models of biology, pharmacology, disease, and physiology utilized to portray and quantify interactions between xenobiotics and patients (human and non-human), including beneficial as well as adverse effects.

“Studies by the World Health Organization and others have concluded that prophylactic vaccines are safe and effective and have made an immense contribution to human and animal health,” stated Jeffrey R. Sachs, Ph.D., a Senior Principal Scientist at Merck & Co. “The introduction of pharmacometrics to vaccine discovery and development

has led to better scientific understanding, increased POS, substantial savings, and other benefits that have been seen in other therapeutic areas that have adopted mathematical models. This work has also resulted in innovative methods applicable to other areas and is providing an opportunity to impact human and animal health.”

Over the last eight years, the complimentary monthly webinars have catered to more than 5,000



WEBINAR:

MIDD: Vaccine R&D Gets a Shot in the Arm from Pharmacometrics

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attendees worldwide, from all drug development disciplines. On January 22nd, everyone is welcome to attend the 89th webinar in Rosa's series and hear about [how vaccine R&D gets a "shot in the arm" from pharmacometrics](#).

"We are thrilled that Dr. Sachs accepted our invitation to present a webinar showing the strategic impact modeling can have on vaccine research and development" said Ron Beaver, Founder, Chairman and CEO of Rosa & Co."



MIDD: Vaccine R&D Gets a Shot in the Arm from Pharmacometrics

Jeffrey R. Sachs, Ph.D. Senior Principal Scientist, Merck & Co., Inc. based in Kenilworth, NJ, USA, known as MSD outside Canada and USA

Objectives

The objective is to (1) inform the audience about pharmacometrics (PMX) opportunities in vaccine discovery and development (D&D), and (2) to motivate, by examples, PMX practitioners to impact vaccine D&D.

Overview/Description

Prophylactic vaccines are safe and effective and have made an immense contribution to human and animal health [1]. Pharmacometrics (PMX) has only recently been introduced to vaccine discovery and development, and is now becoming fully integrated into, and impactful on decision-making. This has resulted in better scientific understanding, increased POS, substantial savings, and other benefits that have been seen in the other therapeutic areas that have adopted PMX. The impact of this work has included go and no-go decisions, design of efficient pre-clinical and clinical trials, integration of preclinical and clinical data, quantitative prediction for go/no-go and dose-level decisions, and integration of data across multiple trials for more informed decision-making. The methods used include QSP modelling, trial simulation, Bayesian inference, and model-based meta-analyses ("comparator modelling").

The presentation will start with a background on vaccine discovery and development (contrasting with other therapeutic areas) including a brief overview of: the risk/benefit considerations in vaccines, the choices and uses of biomarkers to mitigate risk, vaccine terminology, the immune system, and vaccine platforms (DNA, protein, VLP, etc.). This will be followed by examples across the spectrum of applications from discovery through development and across the many kinds of decisions impacted and methods used. These will include

- An application of M&S that supported both Go and No-Go decisions
- An application of M&S that increased power in trial design while saving considerable cost by optimizing sampling of subjects' disease state.
- An application of M&S providing a novel phase 3 endpoint substantially increasing power of a proposed trial design

Conclusions/Take home message

Application of PMX to vaccine D&D has developed into an opportunity to impact human health and to develop innovative PMX methods applicable to other areas.

Reference: [1] Brian Greenwood, The contribution of vaccination to global health: past, present and future, *Philos Trans R Soc Lond B Biol Sci.* 369(1645), 2014. doi: 10.1098/rstb.2013.0433.

[Register to attend the free webinar](#)

About Rosa & Co.

Established in 2002, Rosa & Co. is known worldwide for elucidating the connection between disease mechanisms, therapeutic interventions, and clinical outcomes through its PhysioPD™ Research Platforms. The credible scientific insights and actionable program impact delivered by PhysioPD Research would be difficult or impossible to achieve with any other research approach.

Patrick van der Valk

Rosa & Co. LLC

+1 415-692-5258

[email us here](#)

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