

BIOENGINEERING

SEMINAR SERIES

Marco Pravetoni, Ph.D.

Professor, University of Washington
Department of Psychiatry and Behavioral Sciences
& Department of Pharmacology

January 11th, 2024



12:30 – 1:00 PM Coffee/Pastry Mixer

1:00 – 1:50 PM, Foege N130

live stream: <https://washington.zoom.us/j/94375637567>

“Development of vaccines and antibody-based interventions to treat opioid use disorders and overdose... and beyond”

ABSTRACT: The incidence of drug overdoses has increased dramatically in the United States, Canada, and Europe due to the widespread access to heroin, prescription opioids, fentanyl, fentanyl analogs, and their combination in street mixtures or counterfeit pills. Our team is addressing this unmet public health challenge by leading a research program focused on the development and translation of vaccines, antibody-based treatments, and pharmacotherapies, and devices for addressing Opioid Use Disorders (OUD), Overdose, and Poly-Drug Use. Dr. Pravetoni will discuss background and data highlights focusing on: 1) Vaccine discovery and development, 2) Antibody discovery and development, 3) State-of-the art adjuvants and other innovative solutions for effective delivery and enhanced immunogenicity (e.g., nanoparticle based formulations), 4) Animal models of OUD and Overdose, and 5) Leads at IND stage and in ongoing Phase I clinical trials.

BIO: Dr. Marco Pravetoni holds the Rick L. Seaver Endowed Professorship in Brain Health, and is a Professor of Psychiatry and Behavioral Sciences, Professor of Pharmacology, and Director of the Center for Medication Development for Substance Use Disorders and Overdose at the University of Washington School of Medicine. In 2008, Dr. Pravetoni earned a PhD in Pharmacology at the University of Minnesota Medical School in Minneapolis, MN, where he also completed his post-doctoral training in the Department of Medicine (2008-2011), and then held Assistant and Associate Professor (with Tenure) appointments in the Department of Pharmacology at the University of Minnesota (2011-2022). Since 2022, he moved to the University of Washington. Since 2011, Dr. Pravetoni received NIH-sponsored R21, R01, U01, UG3/UH3 awards and research contracts to develop novel medical interventions for substance use disorders (SUD) and overdose. His multi-site research program focuses on the advancement of vaccines, monoclonal antibodies, and pharmacotherapies to treat opioid use disorders and reduce fatal overdoses; mechanisms and biomarkers of treatment efficacy; new strategies or technologies to enhance treatment efficacy against SUD; and application of these concepts to other biological or chemical threats. His team is leading IND-enabling studies and clinical trials of vaccines and monoclonal antibodies against a variety of opioids. He is an *ad hoc* reviewer for NIH and other funding agencies in the USA, Canada, and Europe, and he is an advisor for Congress and the National Academy of Sciences in matters related to drug use and regulation of controlled substances. Dr. Pravetoni currently sits on the Board of Directors for the College on Problems on Drug Dependence.