

Thesis Project Portfolio

ImmunoVida: A Recombinant Quadrivalent Influenza Vaccine for Latin America

(Technical Report)

Up by Their Bootstraps: The Fight for a Better Future in Appalachia

(STS Research Paper)

An Undergraduate Thesis

Presented to the Faculty of the School of Engineering and Applied Science

University of Virginia • Charlottesville, Virginia

In Fulfillment of the Requirements for the Degree

Bachelor of Science, School of Engineering

Michelle Harnisch

Spring, 2025

Department of Chemical Engineering

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Sociotechnical Synthesis

How can underserved populations best be served by external expert institutions? There are a variety of participant groups, especially expert institutions, eager to aid underserved populations in the United States and abroad. Disagreement exists on how these institutions' help is best given, or if it is welcome at all. This the dilemma unifying the following technical and sociotechnical reports.

How can the efficient design of a local vaccine manufacturing plant increase production of low-cost and effective vaccines in South America? Engineers seeking to manufacture influenza vaccines for this population must hold paramount reliability and cost efficiency to earn the trust of patients. A flexible baculovirus expression system (BEVS) platform technology was used to meet both of these goals, resulting in a conceptual vaccine manufacturing facility design that is simultaneously capable of meeting vaccine demand and of contributing to the local economy.

In Appalachia, how are public health proponents, environmental groups, and business groups competing to determine the relative priority of economic opportunity, public health and sustainability in public policy? Despite the United States having a long history of economic prosperity, Appalachians continue to face hardships at rates greater than their fellow countrymen. Appalachians' futures are quietly being decided by participant groups who, more often than not, only have their own monetary interests at heart. At the heart of this struggle, groups interested in securing a successful future for Appalachians are in direct conflict with opportunists related to the coal industry looking to profit from what is left of Appalachia's natural resources.

I extend my sincere gratitude to Mr. Peter Norton for his encouragement to think beyond topical boundaries, and to Dr. Blair Okita, for inspiring me to become a chemical engineer.