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CLIA Laboratory Overview

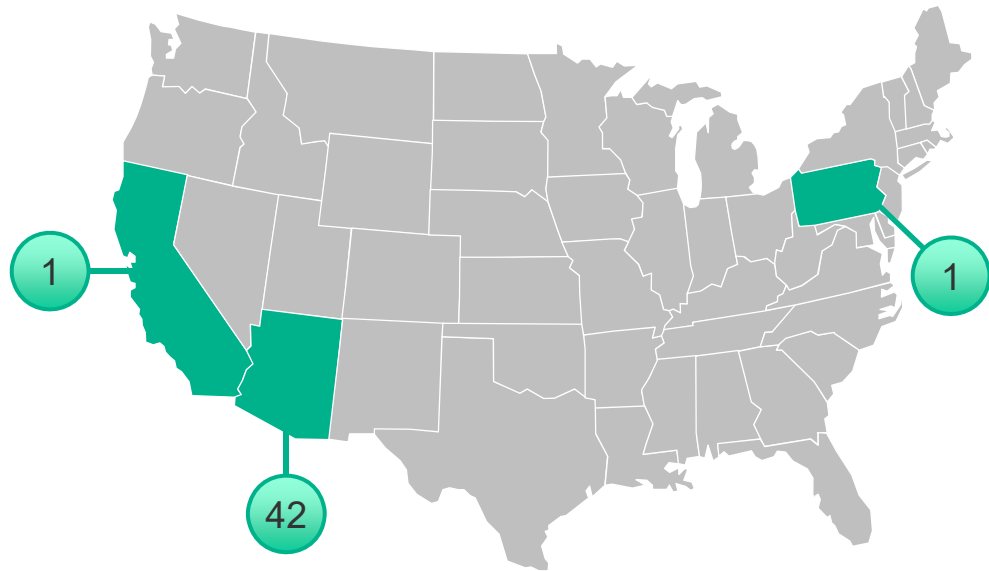
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Theranos Patient Service Centers

# Collection Sites

Theranos' Patient Service Centers are currently located in California, Arizona and Pennsylvania.



Theranos Patient Service Centers

# Patient Service Centers

All Patient Service Centers are staffed by trained Theranos phlebotomists.



# Newark, CA CLIA Laboratory

Theranos' Newark CLIA laboratory processes an average of **200 tests per day**

## Specialties and Subspecialties

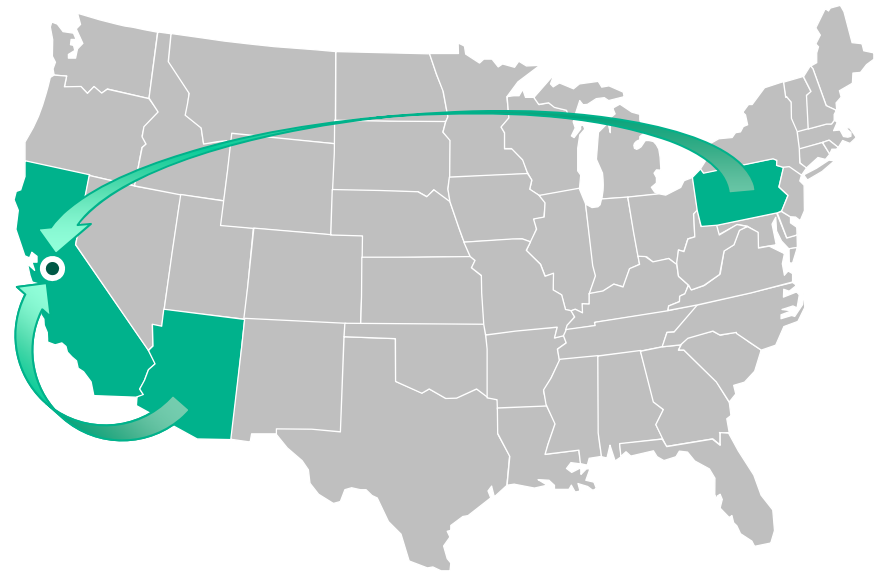
- Bacteriology
- Mycology
- Virology
- Diagnostic Immunology
- Syphilis Serology
- Chemistry
- Endocrinology
- Toxicology
- Hematology
- Urinalysis
- Immunohematology



CLIA Laboratories

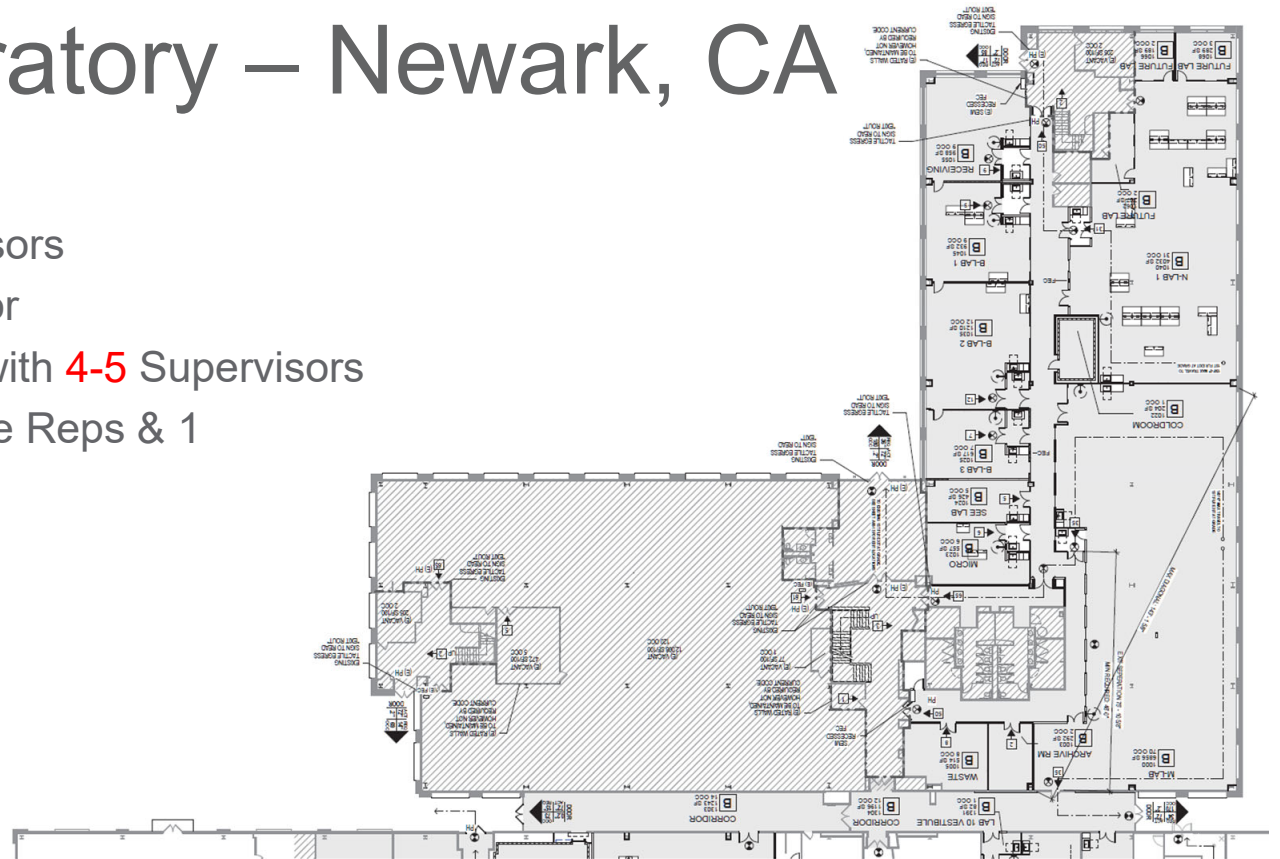
# CLIA laboratory

All high-complexity samples are shipped to the Newark laboratory

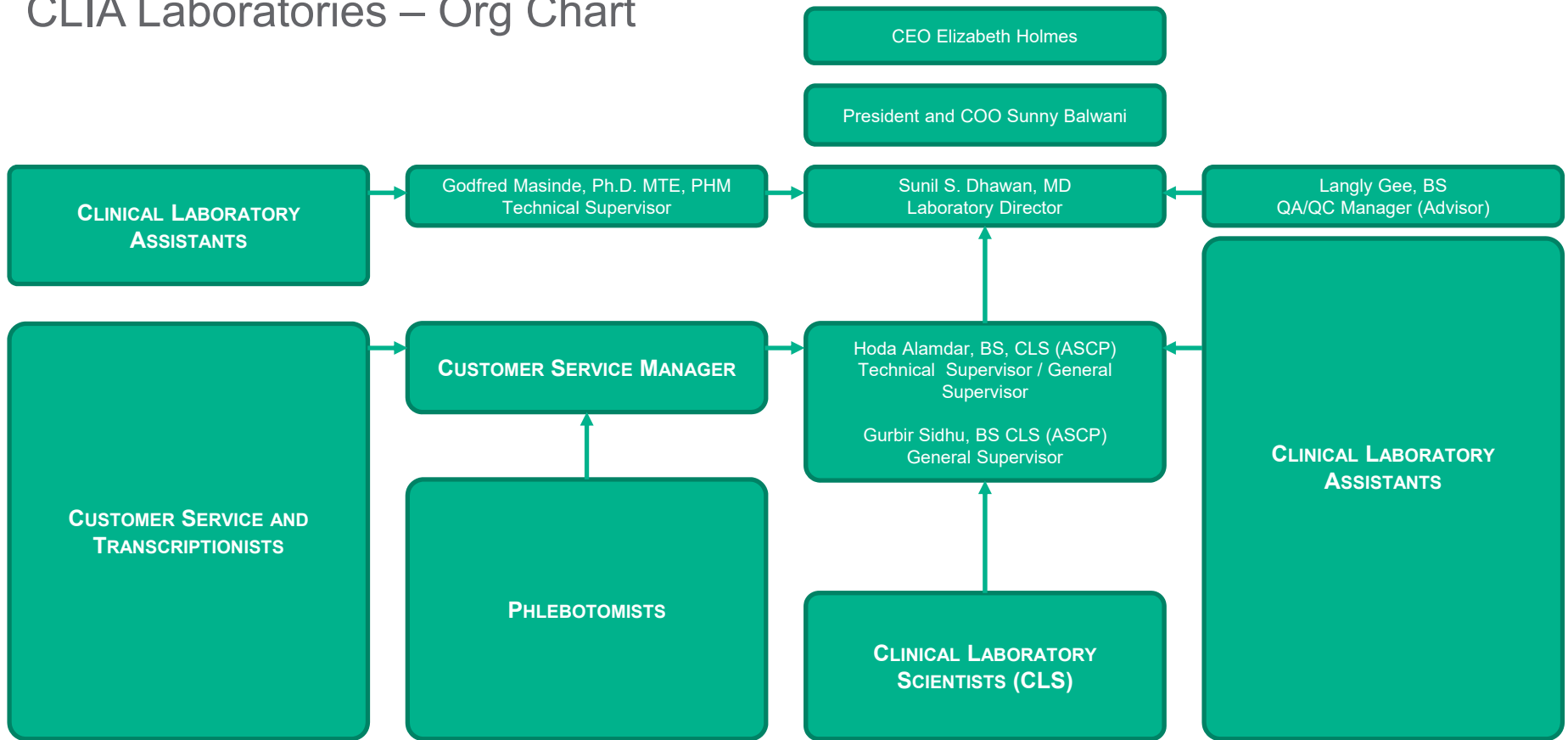


# CLIA laboratory – Newark, CA

- 1 Lab Director
- 2 Technical Supervisors
- 1 General Supervisor
- 150 Phlebotomists with 4-5 Supervisors
- 10 Customer Service Reps & 1 Manager

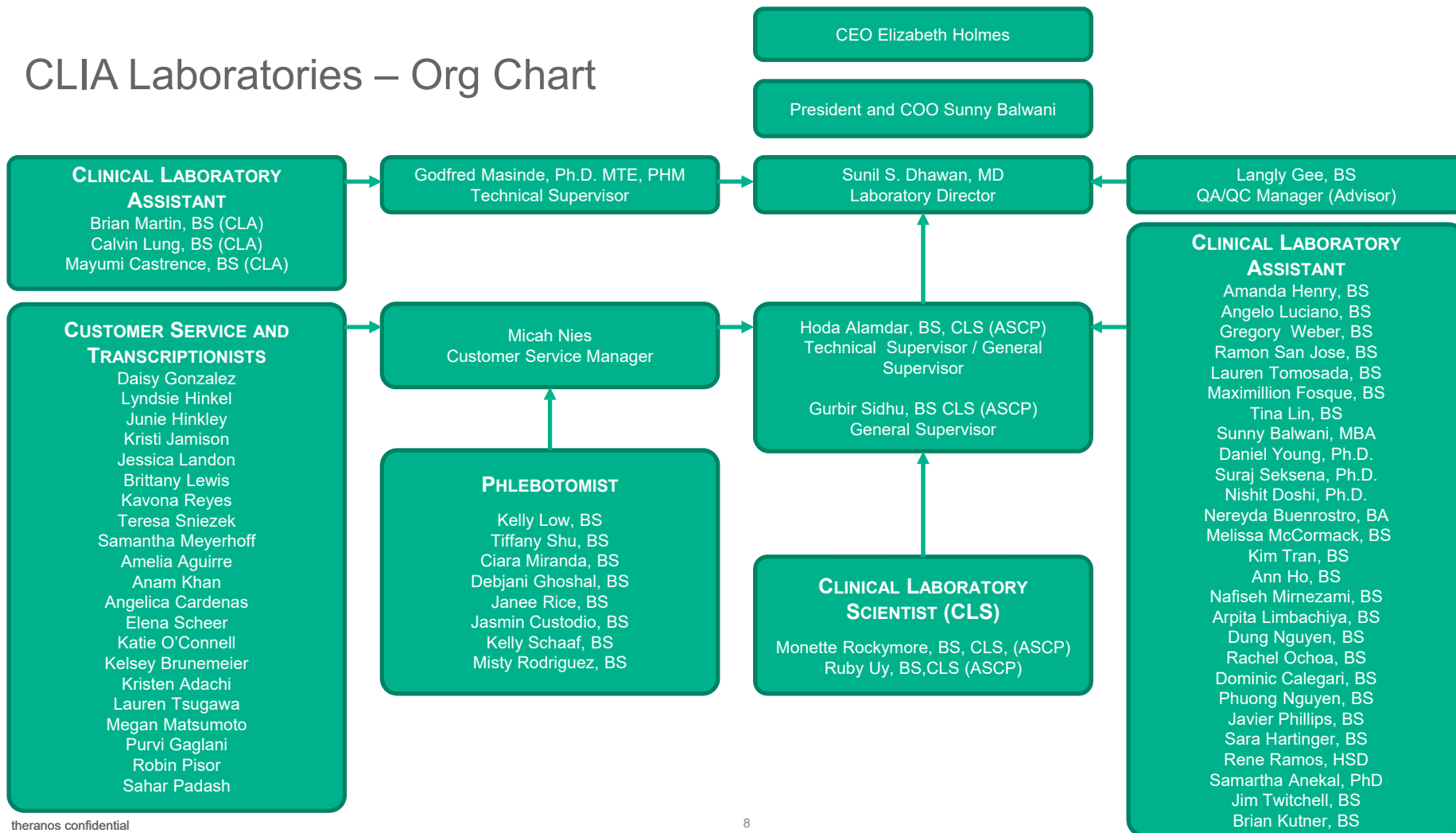


# CLIA Laboratories – Org Chart





# CLIA Laboratories – Org Chart



# CLIA laboratory – Newark, CA

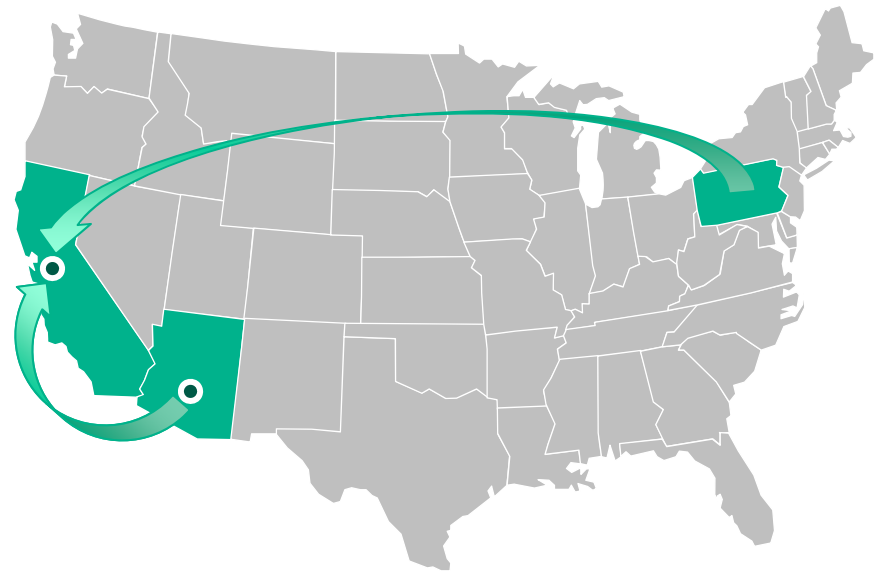
## Analyzers we use:

- Siemens Immulite 2000
- Siemens DCAvant 2000
- Diasorin Liaison
- Siemens Advia 2400 XPT
- Oraquick Rapid Antibody Test
- Diasorin Etimax
- Abbott M2000rt
- Iris
- Siemens BCSXP
- Eldoncard Blood Typing Kit
- Leadcare II Point of Care Kit
- BD Flow Cytometer
- Vitek MS
- BD Macrovue RPR Kit
- Biorad HIV 1+2 Multispot
- Siemens Centaur XP
- Drew Scientific Drew-3
- Siemens Advia 2120i
- Streck ESR-Auto Plus
- Biorad Evolis
- Siemens Advia 1800
- Siemens CellaVision

# CLIA laboratories – AZ

In February 2015, we opened a moderate complexity lab in Arizona.

All vacutainers that can be processed in Arizona in the moderate complexity lab, go to Arizona. Otherwise, everything else is shipped to Newark.



**Dr. Sunil Dhawan**

MD, BS

Lab Director  
Theranos' Newark, CA CLIA Lab

Dr. Dhawan is currently a Laboratory Director at Theranos. He completed his residency in Internal Medicine at U.C.S.F followed by a residency in dermatology at Mount Sinai Hospital in Miami, where he was also Chief Resident. Dr. Dhawan is Board Certified in Internal Medicine and Dermatology.

He is a Fellow of the American College of Physicians and the American Academy of Dermatology. He also is an Assistant Adjunct Professor at Stanford University, where he teaches dermatology residents and medical students.

## **Dr. Daniel Young**

PhD, MS

Lab Director

Theranos' Scottsdale, AZ CLIA Lab

Dr. Young is currently Laboratory Director and Senior Vice President of Theranos Systems. In the course of his employment, he has performed the responsibilities of Laboratory Director of our moderate-complexity CLIA laboratory in Arizona, as well as being involved as an executive and supervisor in the research and development of a wide variety of clinical assays, spanning multiple categories of testing.

Dr. Young has an engineering doctorate from MIT in the field of biomedical sciences. He has published over 20 scientific articles and book chapters, including editing a book focused on new approaches in drug discovery and development. His research has spanned several disease areas, including respiratory disorders, neuroscience, oncology, diabetes, infectious diseases, bone disorders, autoimmunity, renal disease, and anemia. Dr. Young has over two years of experience directing and/or supervising non-waived testing on human specimens. These duties have covered oversight of clinical laboratory testing, quality, and proficiency testing. He has also supervised validation of testing for assay methods in the categories of clinical chemistry, hematology, immunoassays, and molecular biology including the following activities: verification and validation study plans and reports, sample quality for human specimens, statistical methods for assay validation and assay QC, reference range study plans and reports.

**Dr. Daniel Young**

PhD, MS

Lab Director  
Theranos' Scottsdale, AZ CLIA Lab

In addition, Dr. Young has directed and supervised extensive testing on human specimens related to analytical studies and clinical trials for pre-market submissions to the U.S. Federal Food & Drug Administration in all of these categories.

Dr. Young began his biomedical research career at the Harvard Biomotion Laboratory, Massachusetts General Hospital where he designed novel devices to aid in the modeling of human motion and rehabilitation for patients. While a postdoctoral associate at Harvard-MIT Division of Health Sciences and Technology, Dr. Young investigated novel optimal control system strategies for biomedical applications inspired by his research of neuronal synaptic plasticity and autonomic physiologic regulation. Dr. Young helped pioneer predictive biosimulation at Entelos, Inc. where he led the development of novel animal and human disease platforms for the discovery and validation of drug targets, identification of biomarkers, and design of clinical trials, ultimately advancing the rate at which therapeutics reach the market. His work has been published in over twenty scientific articles and book chapters and he has several U.S. Patents. Daniel received his PhD, MS, and BS in Mechanical Engineering from MIT.

## **Dr. Suraj Saksena**

PhD, MS, BS

Director, Assay Systems  
Technical Consultant  
Theranos' Scottsdale, AZ CLIA Lab

Dr. Saksena is currently a Director of Assay Systems and Technical Consultant for Endocrinology at Theranos. He is a Board Certified Clinical Chemist, and contributes to the validation of testing for assay methods in the categories of clinical chemistry, immunoassays, hematology, and molecular biology. Prior to Theranos, Dr. Saksena worked at Amicus Therapeutics.

Dr. Saksena was an American Heart Association Post-Doctoral Fellow at Cornell University, holds his PhD in Biochemistry and Biophysics from Texas A&M University, and his MS/BS in Biochemistry from the University of Delhi.

## **Dr. Godfred Masinde**

PhD, MBA, M (ASCP), TS (ABB),  
MB (ASCP)

Technical Supervisor  
Theranos' Newark, CA CLIA Lab

Dr. Masinde is currently a Microbiology Technical Supervisor at Theranos. He has held positions as the Supervising Public Health Microbiologist at NAPA/Solano/Yolo/Marin and San Bernardino Public Health Laboratories, and previously held the position of Bioterrorism Coordinator and Principal Investigator in San Bernardino County.

Dr. Masinde has also held the following positions:

- Assistant Research Professor and Senior Scientist at the Veterans Hospital in Loma Linda and Loma Linda University
- Associate Director, Long Beach Genetics, Rancho Dominguez, CA
- Production Manager, Eurogentec Inc., North America, San Diego, CA
- Technical Support Scientist, Thermofischer Scientific, Carlsbad, CA



**Hoda Alamdar**

BS, ASCP, CLA

Technical Supervisor /  
General Supervisor  
Theranos' Newark, CA CLIA Lab

Hoda is currently a Technical Supervisor and General Supervisor at Theranos. Previously, Hoda worked at Veracyte, a molecular diagnostics company, as a generalist, and at Santa Clara Valley Medical Center. Hoda holds a BS in Microbiology and a minor in Chemistry.

**Gurbir Sidhu**

BS, ASCP, CLA

General Supervisor  
Theranos' Newark, CA CLIA Lab

Gurbir is currently a General Supervisor at Theranos. Previously, Gurbir worked at Sutter Health as a generalist, and at Palo Alto Medical Foundation as a CPT1. He holds a BS in Medicine and Surgery.

## **Langly Gee**

BA

Quality Control Manager  
Theranos' Newark, CA CLIA Lab

Langly is currently a Quality Control Manager at Theranos. He has also served as a CAP inspector since 1998. Prior to joining Theranos, Langly worked at Tethys BioSciences as a Quality Systems Manager, at Bio-Rad as a Quality Control Manager, and at PharmChem Laboratories as a Responsible Person.

# appendix

# Scottsdale, AZ CLIA Laboratory

## Specialties and Subspecialties

- Diagnostic Immunology
- Syphilis Serology
- Chemistry
- Endocrinology
- Toxicology
- Hematology
- Urinalysis
- Immunohematology



# CLIA laboratory – Scottsdale, AZ

## Analyzers we use:

- Siemens Immulite 2000
- Diasorin Liasion
- Siemens Advia 2400 XPT
- Oraquick Rapid Antibody Test
- Diasorin Etimax
- Iris
- Siemens BCSXP
- Leadcare II Point of Care Kit
- Biorad Tango
- Siemens Centaur XP
- Siemens Advia 2120i
- Streck ESR-Auto Plus

thank you!