



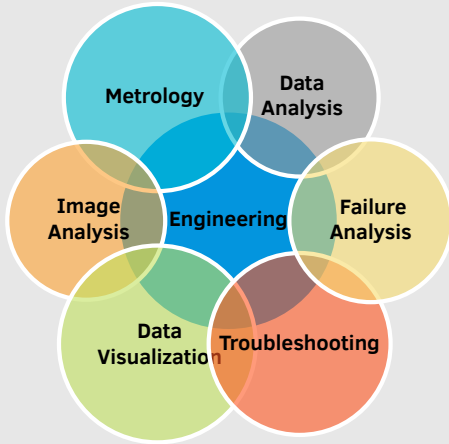
Sara G. Bodde

Data-driven Scientist
Multidisciplinary Engineer

 <https://sgbodde.github.io/>
 </in/sgbodde>

Skill Overview

Technical Competency



Characterization

XRF XRD SEM EDX TEM
AFM Mechanical Testing GC-MS
Ion Chromatography Profilometry
Spectrophotometry FTIR XPS

Data/Analytics

SQL Grafana ImageJ Statistics
JMP Python Matlab LabVIEW

Process

Plasma Etching Photolithography
Materials Selection ISO 5 AMC

Transferable

Presentation Project Management
FMEA 8D Lecturing/Teaching
Technical Writing (English)

Education

M.S., Materials Science & Engineering

University of California, San Diego
Specialization: Semiconductor Superlattices & Organometallics

B.S., Chemical Engineering

University of California, San Diego
Specialization: Electronic Materials

Scholarly Research:

Publications are listed at [ResearchGate](#) or [Google Scholar](#)

Industry Experience: from Lightsource to Reticle Inspection!

Aug 2021 - **Photo-Contamination Control Engineer, NPI**

[KLA Corporation](#)

Feb 2024

- Administered photo-contamination controls for imaging and illumination optics and opto-mechanical architecture for manufacture of a competitive actinic EUV patterned mask inspection system
- Introduced and validated new instrumentation for quantitative measurement of particle fallout and surface contamination during assembly and integration
- Drove technical supplier engagement in cleanrooms in U.S.A. and Europe to new standards in low AMC cleanliness grades to improve and implement best known methods for optics handling in ultra clean vacuum
- Conducted rigorous inspections and audits of supplier cleanrooms and machine shops, e.g. by catching a purge line purification non-compliance that would have compromised an >120k€ coated optic

Sept 2019 - **Lead EUV Coating Engineer**

[Zygo Extreme Precision Optics](#)

Aug 2021

- With collaborative customer engagement, developed low AMC, ISO 5 cleanroom control measures for quality, metrology, packaging, storage, and shipping of EUV grade optics and mirrors
- Overhauled manufacturing and inspection operations for on-time delivery of substrata that met surface roughness and figure error and unprecedented contamination control specifications
- Led cross-functional teams including consultants and suppliers in materials selection, polish and process auditing, optical coating multi-layer downselections, and asphere metrology system design

Apr 2017 - **Sr. Data Analyst, DUV Lightsource Operations**

[Cymer, LLC.](#)

Nov 2018

- Developed a novel metric for forecasting optics lifetime and created a visualization tool to serve engineering, marketing, and finance stakeholders
- Deployed an analytical tool to quantify gas and time savings during beta-testing of a gas refill control algorithm
- Empowered customer site field engineers with training on use and interpretation of system reliability metrics dashboards

Jan 2013 - **Sr. Scientist, EUV Source Debris and Vessel Metrology**

[ASML U.S.](#)

Apr 2017

- Established a new process for recovering optics and EUV sensors from customer tools, devised a characterization protocol, and set up a spectrophotometry lab for failure analysis of laser-ablated and contaminated laser pellicles
- Identified and resolved optics and sensor mirror lifetime issues and designed and tested contamination mitigation strategies, including H*-cleaning
- Trained local teams at customer sites in Asia on how to rectify manufacturing defects in DOA optics and vacuum port assemblies
- Successfully presented a solution proposal on-the-spot to customer executives during a major field-site escalation
- Authored SOPs for source control and made metrology module re-design recommendations to facilitate in-fab troubleshooting and serviceability for field engineers resulting in reduced downtime during escalations
- Created and deployed an interactive dashboard for monitoring field-performance of sensor and image-triggered control subsystems

Oct 2012 - **Sr. Scientist, Excimer Laser Chambers**

[Cymer, Inc.](#)

Jan 2013

- Directed optics and ceramics lifetime studies to optimize UV XeF excimer laser chamber performance
- Contributed immediately with chemistry and mechanical characterization expertise: implemented alternative chamber bearing ceramics based on experimental validation of corrosion and abrasion resistance of candidate and incumbent materials

Citizenship: U.S.A **Current Residency:** California, U.S.A.

Languages: English (fluent), Dutch (conversational), Spanish (conversational)