Chad Butler

Process Engineer

CONTACT

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EDUCATION

Clarkson University
Master of Science, Engineering Management
2020

Hudson Valley Community College
Associate of Science, Engineering Science
2013

University at Albany
Bachelor of Arts, Music
2004

CAREER HIGHLIGHTS

Highlight: Led cross-functional collaboration for continuous improvement.

Highlight: Mentored and trained technicians to enhance quality metrics.

Highlight: Achieved on-time delivery and cycle time commitments through effective tool qualification.

PROFESSIONAL SUMMARY

Results-driven semiconductor process engineer with 10 years of manufacturing experience, seeking transition to research focused roles. Expertise in:

- Advanced data analysis and experimental design (SPC, DOE)
- Process optimization and quality control in semiconductor manufacturing
- Implementing innovative solutions, resulting in site recognition
- Collaborative research-oriented projects across multidisciplinary teams

Skilled in applying lean manufacturing principles to complex technical challenges. Proficient in data-driven decision making and problem-solving. Eager to leverage deep industry knowledge and analytical skills to drive cutting-edge research in materials science and semiconductor technology.

EXPERIENCE

Senior Process Engineer (Promoted from Process Engineer in 2024) | GlobalFoundries | October 2020 - Current

- **Lead Cross-Functional Teams:** Proactively collaborate with CFM, equipment, process integration, and operations engineering teams to achieve key milestones and objectives, enhancing project alignment and efficiency.
- **Mentorship and Training:** Mentor and train technicians on lithography process flow and operational systems, focusing on adherence to quality standards and improving delivery metrics.
- **Statistical Process Control:** Oversee ongoing qualification and monitoring of operations using statistical process control (SPC) charts to optimize process performance and address out-of-spec material effectively.
- **Continuous Improvement:** Utilize advanced statistical tools and Design of Experiments (DOE) techniques to drive process improvements in high volume manufacturing, boosting efficiency and yield.
- **Operational Protocols:** Develop and maintain Out of Control Action Plan (OCAP) procedures in SetupFC, integrating valuable technician feedback to enhance usability and operational response times.
- **Defect Analysis Expertise:** Work closely with the defect team to conduct comprehensive defect analyses during critical overnight shifts, employing advanced techniques to rapidly identify, isolate, and mitigate defects.

KEY SKILLS

JOB SPECIFIC

- ✓ Semiconductor process engineering
- ✓ Statistical process control (SPC)
- ✓ Data Analysis
- ✓ DOE techniques
- ✓ Problem-solving skills

INTERPERSONAL

- ✓ Teamwork
- ✓ Collaboration
- ✓ Mentoring and training
- ✓ Effective communication

ADMINISTRATIVE

- ✓ Project planning and execution
- ✓ Continuous improvement
- ✓ Documentation and procedures
- ✓ Time management

EXPERIENCE CONTINUED

- **Research and Development:** Lead and support Design of Experiments (DOE) initiatives focused on evaluating new photoresist batches and enhancing defect detection methods.
- **Leadership Role:** Assume the role of shift lead, managing crucial operations and tool uptime, addressing tool-related issues, and facilitating effective communication among process shifts and modules.

Key Process Enhancement Initiatives

- **Reticle Inhibit Conversion:** Developed and implemented a roadmap to transition tool inhibits from product/process-driven to reticle-based, incorporating an interlock to bypass Sivew system limitations. Collaborated with the CIM team to automate the transfer of over 86,000 product-defined inhibits, ensuring a systematic removal of outdated ones.
- **Signature Enhancement in AMI Scans:** Collaborated with CFM to refine wafer map scans and recipes, enhancing the visual detection of signatures and reducing post-maintenance tool failures. Additionally, conducted a comprehensive review of alternative scanning techniques.
- **Shot Size Reduction Initiative:** Played a pivotal role in addressing a critical shortage of resist material by implementing and coordinating SAHD lots, maintaining defect-free operations until new supplies were approved. This project received a nomination for the prestigious GLOBY award for its significant impact.

CFM Senior Process Technician | GlobalFoundries | June 2014 - October 2020.

- **Data-Driven Defect Resolution**: Leveraged inline data and engineering judgment to swiftly pinpoint and address sources of defects, contributing to immediate corrective actions and ensuring consistent product quality.
- **Quality Control Testing**: Regularly performed qualification tests on production equipment, promptly resolving any operational failures or deviations to sustain high manufacturing standards.
- **SEM Optimization**: Collaborated with application engineers to optimize SEM (Scanning Electron Microscope) detection capabilities, refining processes for enhanced defect identification.
- **Project Coordination**: Managed the timely execution of engineering requests, ensuring seamless integration into ongoing operations and adherence to project deadlines.
- **Defect Analysis**: Accurately classified wafer defects, providing critical insights that informed comprehensive defect analysis and drove continuous process improvements.
- **5S Implementation**: Acted as a 5S champion, promoting cleanliness, organization, and operational efficiency within the work environment.

Key Process Enhancement Initiatives

- **Greenbelt Study Leadership:** Spearheaded a greenbelt study to evaluate the impact of weather conditions on particle counts within cleanroom environments, identifying key variables affecting contamination.
- **Advocacy for Higher Standards:** Collaborated with management to establish higher training standards and create a new technical role (Level B) for more precise dispositioning of out-of-control (OOC) lots.
- **ECAP Process Innovation:** Led the development of a new ECAP (electronic corrective action plan) flow and piloted the Cockpit system to streamline processing of OOC lots, enhancing operational efficiency and response to emergencies.