

BENJAMIN WIEGANDT

Mechanical Engineer | Product Development & Manufacturing

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SUMMARY

Mechanical/product development engineer with hands-on hardware design, prototyping, testing, and DFM/assembly experience, backed by strong mechanical fundamentals and startup execution exposure. Interested in applying these capabilities to marine hardware and field-deployable systems for exploration, testing, and ocean operations.

EXPERIENCE

Senior Product Development Engineer — Integra LifeSciences (Codman) Mansfield, MA · Aug 2024–Present

- Mechanical SME for cranial perforators (high-volume; ~250k units/year), leading design remediation (CTQs, test methods, V&V, DHF) and providing support for sustaining and design changes driven by regulatory/field needs.
- Mechanical PD owner for introducing CereLink ICP sensors into a new China manufacturing facility, establishing mechanical design requirements, CTQs, and test methods supporting NMPA approval and pilot builds.
- Mechanical design owner for legacy neurosurgical ICP sensors and accessories, supporting sustaining engineering, regulatory remediation (EU MDR & NMPA), and field issue investigations.

Manufacturing Engineer II — Integra LifeSciences (Codman) Mansfield, MA · Jan 2021–Aug 2024

Manufacturing Engineer I — Johnson & Johnson (DePuy Synthes / Codman) Raynham, MA · May 2019–Jan 2021

- Perforator manufacturing SME across assembly, test, inspection, and machining/finishing workflows.
- Co-led a perforator lean/multi-lot flow redesign (\uparrow throughput 75%, \downarrow cycle 10%, \downarrow labor 30%), achieving safety stock for the first time.
- Designed ultrasonic cleaning fixtures for perforators to eliminate staining/nicking defects (scrap \downarrow >85%, yield \uparrow >5%) and a repair pathway recapturing >\$750k/year.
- Led sustaining engineering & manufacturing across multiple neurosurgical products (assembly, cleaning, ultrasonic welding, molding troubleshooting, in-process functional testing, and materials/Surgical Patties), executing IQ/OQ/PQ validations & doc updates and acting as de-facto SME for additional product lines.
- Key technical role in a ~275 neurosurgical SKU transfer (J&J \rightarrow Integra) and the greenfield startup of Mansfield plant, driving IQ/OQ/PQ, equipment qual, pilot builds, test methods, docs, and operator training.

CO-OP EXPERIENCE

Manufacturing Engineering Co-Op — Alta Motors Brisbane, CA · Jul 2018–Oct 2018

- Designed SolidWorks fixtures for battery/electronics assembly and test of electric motorcycles and ran 3D-printing supporting rapid iteration across hardware and R&D teams.

Engineering Co-Op — Johnson & Johnson (DePuy Synthes / Codman) Raynham, MA · Jun 2017–Jan 2018

- Supported fixture design and validation work; later rehired into Manufacturing Engineering roles.

SKILLS

Skills: SolidWorks (CSWA), additive/3DP, fixture design, GD&T (DFM-level), DFM/DFA, integration (mech/elec/controls), machining familiarity (manual/CNC), DC power familiarity, PLC troubleshooting & ladder logic familiarity, build-test-iterate workflows; validation & root-cause analysis; basic field/bench testing

Technical Literacy: comfortable reading/modifying Python/C++ code; MATLAB exposure for data analysis

EDUCATION

B.S. Mechanical Engineering — Northeastern University Boston, MA · 2019

Minor: Environmental Science; Study abroad: Thessaloniki, Greece (NU-in)

ADDITIONAL / ACTIVITIES

Volunteer Aquarist/Educator (Save the Bay Aquarium); German (bilingual), US/EU citizen; marine/environmental interests; boating/fishing; surfing