SENIOR PRODUCT DESIGNER

# ADRIANA ARRIAGA

T: 830736856 // in: linkedin.com/in/93adriana-arriaga // E: adrianaa.dca@gmail.com

## PROFESSIONAL SUMMARY

Senior Product Designer and Human Factors specialist with a proven track record of transforming complex clinical technologies into intuitive, safe, and regulatory-compliant medical devices. Armed with an MSc in Medical Device Design and international experience spanning the entire product lifecycle from hospital-floor surgical innovation and high-volume manufacturing to global risk management (IEC 62366, FDA, AAMI HE75). A strategic cross-functional collaborator skilled at bridging the gap between clinical users, engineering, and compliance to deliver user-centered solutions that improve patient outcomes from the very first use.

## SKILLS & COMPETENCES

- **Human Factors & Usability Engineering**
    - **Standards & Regulations:** IEC 62366, FDA Human Factors Guidance, AAMI HE75, ISO 14971
    - **Risk Management:** UFMEA (Use Failure Mode and Effects Analysis), URRA (Use Error Root Cause Analysis), PHA (Preliminary Hazards Analysis)
    - **User Research & Evaluation:** Contextual Inquiry, Stakeholder Interviews, Task Analysis, User Journey Mapping, User Profiles / Personas
    - **Usability Testing:** Formative & Summative Testing (Protocol Development, Moderation, Data Analysis, Usability Engineering Reporting)
- **Industrial Design and Engineering**
    - **CAD Modelling & Simulation:** CREO Parametric, SolidWorks, Rhinoceros, Finite Element Analysis (FEA) with Solid Works.
    - **Design for Manufacturing (DFM):** Component Specifications, Engineering Drawings, Design Transfer, Engineering Change Requests and Change Notices (ECRs and ECNs)
    - **Packaging Design:** Structural Dielines, Corrugated Development, PET bottles design, Labels design.
    - **Advanced Prototyping:** 3D Printing / Additive Manufacturing, Silicone Casting, PMMA Casting, TPU Heat Sealing, Sketch Modelling
- **Core & Soft Skills**
    - **Cross-Functional Collaboration:** Bridging communication between R&D, Mechanical Engineering, Quality Management (QMS), and Clinical Teams
    - **Workshop Facilitation:** Organizing and moderating collaborative brainstorming and ideation sessions
    - **Clinical Exposure:** Product Subject Matter Expert (SME) during Clinical Trial Site Initiation Visits (SIVs)
    - **Intellectual Property:** Technical documentation for patent and IP registration

## EXPERIENCE

2025 – present

### LUMINATE MEDICAL

Senior Product Designer

**User Research & Requirements:** Led initial contextual inquiries and stakeholder interviews to capture critical user needs, translating qualitative insights into robust, user-centered product requirements.

**Cross-Functional Ideation:** Organized, moderated, and processed outcomes from collaborative brainstorming sessions, driving early-stage concept generation across engineering and product teams.

**Iterative Design Collaboration:** Partnered closely with mechanical engineering teams to facilitate early formative testing; communicated UX findings to drive rapid prototyping and iterative design cycles.

**Risk Management & Compliance:** Authored and executed critical risk-assessment documentation, including Use Related Risk Analysis (URRA) and Use Failure Mode and Effects Analysis (UFMEA), ensuring strict alignment with FDA guidance, IEC 62366, and AAMI HE75 standards.

**Usability Testing Leadership:** Spearheaded the end-to-end usability testing process, including protocol development, facility coordination, and session moderation, for both formative and summative evaluation phases in compliance with international medical device regulations.

**Data Analysis & Reporting:** Synthesized complex data from usability testing sessions into comprehensive, audit-ready Usability Engineering Reports to support final product validation.

2023 – 2025

### Product Designer

**Concept & Technical Design:** Developed innovative product concepts from initial ideation through to detailed CAD modelling, technical drawings, and rigorous component specification.
**Human Factors:** Established foundational HFE frameworks by defining user profiles and use environments, creating detailed user journey maps, and conducting comprehensive task analyses.
**Formative Usability Evaluation:** Organized and executed formative usability testing sessions across diverse user groups to validate early concepts and mitigate use-related risks.
**Technical Documentation:** Authored and refined Instructions for Use (IFUs) and other critical accompanying documentation, ensuring clarity, safety, and regulatory compliance for end users.
**Clinical Trial Support:** Served as the product subject matter expert during clinical trials, providing on-site technical support during Site Initiation Visits (SIVs) and first-patient-in milestones.

*AWARD: Winner of the IDI award 2024 on the Product Design (Healthcare and Medical Products) with the "Lily Device" project.*

2022 – 2023

### Design Maker

**Advanced Prototyping & Fabrication:** Managed the end-to-end prototyping, fabricating high-fidelity sketch models and functional prototypes using 3D printing, foam carving, textiles, and TPU heat sealing.
**Technical Modelling & Drafting:** Developed 3D CAD models and detailed engineering drawings to establish clear component specifications for manufacturing.
**Design Transfer to Production:** Supported the smooth transition of products from design to manufacturing by participating in "first-off" pilot builds and resolving initial production challenges.
**Operations & Assembly Training:** Supported the creation of clear work instructions and trained production line builders on assembly techniques, ensuring quality standards and manufacturing consistency.

2022 – 2022

## XTREMEDY MEDICAL & NCAD

### Graduate Design Researcher

**Clinical Technology Translation:** Collaborated with XTremedy Medical during an MSc major project to translate complex electroporation technology into an ergonomic, handheld surgical tool tailored for treating diabetic foot ulcers.

**Ergonomic & Usability Engineering:** Conducted technical research to understand the clinical application of electroporation, designing a user-centered interface that bridged the gap between the technology and the clinician's physical needs.

**Iterative Concept Development:** Drove early-stage ideation through rapid sketching and low-fidelity sketch modeling to explore form factors, handling, and spatial constraints within a surgical environment.

**Advanced Prototyping & Fabrication:** Developed 3D CAD models and fabricated functional prototypes utilizing both advanced 3D printing and traditional manufacturing techniques like silicone casting to evaluate ergonomics and functionality.

2018 – 2021

### STERIS – INFECTION PREVENTION

Mechanical Designer

**Design for Manufacturing (DFM):** Developed 3D CAD models and detailed engineering drawings for medical sterilizer components, optimizing designs to align precisely with internal manufacturing capabilities and facility constraints.
**Engineering Change Management:** Executed and managed Engineering Change Requests (ECRs) and Change Notices (ECNs) to ensure product modifications were accurately implemented across the production line including internal QMS and ERP implementation.
**Quality System & Regulatory Compliance:** Maintained strict adherence to internal Quality Management System (QMS) requirements and international medical device regulatory standards throughout the design revision process.
**Cross-Functional Optimization:** Collaborated closely with production engineers, and floor technicians to troubleshoot manufacturing challenges, also collaborated with buyers and supply chain to ensuring changes won't impact manufacturing deadlines.

2017 – 2018

### ALEN GROUP

Packaging Designer

**Concept & Structural Design:** Developed innovative product concepts and structural designs for consumer goods packaging, balancing aesthetics, usability, and manufacturing viability.
**3D Modelling & Simulation:** Utilized SolidWorks (SW2017) to create complex 3D models and executed Finite Element Analysis (FEA) to simulate structural integrity, optimizing material usage and reducing failure rates.
**Corrugated & Label Development:** Engineered corrugated shipping boxes and structural dielines (*suajes*) for packaging and labeling, ensuring seamless assembly and product protection throughout the supply chain.
**Design for High-Volume Manufacturing:** Collaborated with production teams to deliver production-ready packaging specifications, ensuring designs aligned with high-speed automated filling and packaging lines.

2016 – 2017

### UNIVERSITY HOSPITAL UANL

Designer – Neurosurgery Devices

**Patient-Specific Implant Design:** Engineered and modeled preformed custom cranial prostheses for complex skull vault reconstruction, leveraging anatomical data to ensure precise patient fit and surgical efficacy.
**Neurosurgical Device Innovation:** Developed specialized medical devices and surgical instruments for neurosurgery applications, working directly with clinical stakeholders to identify unmet procedural needs.
**3D Printing & Additive Manufacturing:** Utilized Rhinoceros for advanced 3D CAD modeling and managed on-site 3D printing workflows to fabricate anatomical models and surgical prototypes.
**Intellectual Property (IP) Documentation:** Authored and compiled comprehensive technical documentation and design specifications for medical device patent and IP registrations with the Mexican Institute of Industrial Property (IMPI).

*AWARD: Winner of the Healthcare category during the Design Research International SeminarSID8 with the project "Personalized Implants for Cranial Reconstruction Using 3D Printing"*

## EDUCATION

2021 – 2022

### MSC MEDICAL DEVICE DESIGN

National College of Art and Design

Dublin, Ireland

2011 – 2016

### BACHELOR OF INDUSTRAL DESIGN

Facultad de Arquitectura – Universidad Autónoma de Nuevo León

Mexico