

Results-driven biomaterials engineer with a strong research foundation in materials science and related applications. Demonstrated leadership skills in managing an interdisciplinary team across areas of new product and process design, development, validation, and launch. Well-versed in materials characterization and mechanical testing evaluation. Proven track record in medical device field, specializing in dental and orthopedic implants. Business proficiencies span to include strategic marketing and global sales. Innovative professional with a Master of Science focused in Materials Science & Engineering and Biomaterials concentration from The Johns Hopkins University.

ENGINEERING EXPERIENCE

Hitemco Medical Applications (Himed) Old Bethpage, NY

Engineering Manager, Manufacturing & Process Development (*via Promotion*).....June 2017 – Present

- Managed engineering efforts for the surface treatment and coating characterization of dental and orthopedic implants.
 - Designed and developed customizable dual RBM blast process for enhanced macro and micro surface morphology.
- Directed research and development efforts for the production of calcium phosphate-based biomaterials.
 - Led manufacturing capabilities study of MCD Apatitic Abrasive (core biomaterial), resulting in 78% sales increase.
 - Coordinated development of spherical hydroxyapatite powder via drop casting technique for plasma spray coating.
- Led engineering sales efforts and collaborated with domestic and international medical device manufacturers on the design of new implants compliant with industrial and international standards (i.e., ASTM, FDA, ISO requirements).
- Strategized marketing initiatives resulting in the enhancement of company branding and global product positioning.
- Recruited, thorough training, direct mentoring, and managing R&D team of engineers, lab technicians, and cell leads.

Manufacturing & Process Development Engineer.....March 2015 – June 2017

- Managed FDA 510(k) testing and submission for patented plasma spray titanium coatings in atmospheric conditions.
- Developed and executed verification/validation master plans (IQ, OQ, PQ), including protocols, reports, and FMEAs.
 - Discovered and validated an a new titanium raw material supplier, resulting in a 57% annual cost reduction with no loss to product performance or regulatory impact.
- Launched new engineering processes and process optimization studies, transitioning from concept to R&D to launch.
- Performed materials characterization and mechanical testing for new product and process developments.
- Designed custom machined implant masking and components using 3D CAD (SolidWorks).

The Johns Hopkins University, Department of Materials Science & Engineering Baltimore, MD

Research Engineer.....September 2008 – May 2011

- Explored variations in mechanical properties of dental enamel and correlated to trends in chemistry and microstructure.
 - Managed NSF funded research initiative to evaluate the *intratooth*, *intertooth*, and *interspecies* variations across enamel of humans, monkeys, and species of significance to the field of anthropology.
 - Collaborated with the Johns Hopkins School of Public Health and the Smithsonian Museum of Natural History.
- Performed bending flexural tests on Ni-Al reactive multilayer microtubes to characterize yield strength and modulus.
 - Collaborated with Lawrence Livermore National Laboratory.
- Trained and mentored undergraduate research students on materials characterization techniques and testing equipment.

BUSINESS & LEADERSHIP EXPERIENCE

Office of Residential Life, The Johns Hopkins University Baltimore, MD

Administrative Coordinator.....July 2012 – March 2015

- Monitored and managed financial operations, including payments, external vendor transactions, procurement card expenses, and employee payroll in excess of \$500,000. Prepared budget projections. Proficient in SAP data entry.
- Generated meticulous reports and examined data analytics to measure division performance and evaluate effectiveness.
- Led training sessions for over 70 student leaders focused on teamwork, leadership, event planning, and graphic design.

EDUCATION

The Johns Hopkins University, G.W.C. Whiting School of Engineering Baltimore, MD

Master of Science Materials Science and Engineering.....May 2010

Bachelor of Science Materials Science and Engineering, Concentration: Biomaterials.....May 2009

TECHNICAL SKILLS & PROFESSIONAL CERTIFICATIONS

Materials Characterization: Scanning Electron Microscopy (SEM) • Energy Dispersive X-Ray Spectroscopy (EDS) • X-Ray Diffraction (XRD) • Electron Microprobe • Surface Profilometry • Particle Size Analyzer

Mechanical Testing: Micro and Nanoindentation • Taber Abrasion • Tensile, Shear, and Fatigue Strength

Processing Expertise: Plasma Spray Coatings • RBM Grit-Blasting • Color Anodizing • Powder & Abrasive Manufacture

Professional Certifications: Internal Quality Auditor Training for ISO 13485, Oriel Stat A Matrix – Credential ID # 117646