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# CURRICULUM VITAE - JASON P. EATON - P.E.

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**EDUCATION:**

Bachelor of Science in Mechanical Engineering (December 2000) Summa Cum Laude  
West Virginia University, Morgantown, WV G.P.A. 4.0 / 4.0

**PROFESSIONAL LICENSURE:**

Registered Professional Engineer in the state of Pennsylvania PE#073173

**ENGINEERING, DESIGN, AND BUSINESS SKILLS:**

Medical / Consumer product design	GD&T training and experience
Thermoplastic and LIM Part Design	Pro-E Wildfire, concept-level modeling skills
Textile product design and manufacturing	ANSYS Finite Element Analysis
Medical adhesives, plastic joining	CFDesign Computational Fluid Dynamics
Automation experience	Programming: LabVIEW – basic skill
Prototyping methods and technologies	Manufacturing process development
Custom cable design and manufacturing	Interpretation of Standards and Regulations
Electromechanical component selection	Intellectual Property protection
Electromechanical packaging, shielding, etc.	Hands-on mechanical prototyping and testing
Respiratory physiology, modeling, and testing	Design for human factors, comfort, ergonomics
Ultrasonic and laser welding experience	Design for Six Sigma – Level 2
Design of sealed and ruggedized electronics	Acoustic design and measurement expertise

**PROFESSIONAL EXPERIENCE:**

July 2012 - present

**Principal Mechanical Engineer** – New Product Development – Supplied Air Respirators  
MSA Safety, Cranberry Township, PA

- Project sub-team lead for design of Electronics Module and Battery Modules for G1 Self-Contained Breathing Apparatus for firefighting applications
- Designed ruggedized and sealed electronics enclosures to exceed IP67, as well as rigorous thermal and mechanical shocks and loads
- Designed intrinsically safe and impact-resistant alkaline battery enclosure with triplicated electrical contacts – continuity maintained in 2m drop testing
- Designed custom intrinsically-safe high-reliability sealed connector for blind and rotational mating.
- Responsible for coordinating system-level integration of designs with other product subsystems
- Responsible for acoustic design and testing of piezoelectric alarm device and acoustic resonator
- Led electromechanical integration of PCBA and auxiliary components to mechanical system
- Responsible for design for manufacturability, coordinated tooling, fixturing, and test equipment for production
- Completed design verification and validation, including support for testing at independent laboratories
- Oversaw mold tool qualifications, including first shots, texture qualifications, PPAP, etc
- Interact with fire service professionals, sales, distributors, to create, improve, and modify products
- Support product quality improvements, resolve manufacturing issues

## **PROFESSIONAL EXPERIENCE (CONTINUED):**

September 2004 – July 2012

**Senior Mechanical Engineer** – New Product Development – Mother and Child Care  
Philips Healthcare (formerly Respironics), Monroeville, PA

- Lead project engineer on Neonatal CPAP Interface project
- Provided engineering support, product conceptualization, and independent design review to Philips/Respironics Patient Interface New Product Development group through 2010
- Mechanical Design of SmartMonitor3 Infant Apnea Monitor
  - Responsible for mechanical engineering of enclosures, integrated user interface, alarm system, custom cables and connections, carry case, thermal design, design for manufacturability and service, EMI shielding, standards interpretation, verification and validation.
  - Acting project manager for major subsystems of the product design
- Coordinated design work, documentation, testing, manufacturing across four global locations.
- Thermal and mechanical design of LED phototherapy device, including CFD thermal and airflow analysis
- Lead project engineer on multiple concurrent projects: endotracheal tube support, phototherapy eye shade, positioning products, enteral feeding tube, etc.
- Develop new product concepts to improve clinical outcomes of premature babies.
- Interact with clinical professionals to create, improve, and modify products
- Complete technical reviews of business development opportunities
- Support product quality improvements, resolve manufacturing issues, for a broad product portfolio

January 2001 – September 2004

**Mechanical Engineer** – New Product Development – Patient Interface  
Respironics, Inc. Murrysville, PA

- Lead design engineer for the highly successful ComfortGel nasal mask.
- Responsible for creation of product from concept to production (design, prototyping, documentation, manufacturing, testing, quality, etc)
- Developed and implemented challenging and innovative manufacturing processes
- Led team meetings, design reviews, etc.
- Developed and maintained positive relationships with team members from across disciplines and responsibilities, both within and without Respironics
- Researched and developed new materials, concepts, and technologies for application in Patient Interface projects
- Completed special design analysis projects for products within Patient Interface.
- Contributed to Respironics Intellectual Property through innovation and patent submission.

May – August 2000

**Engineering Intern** – New Product Development – Patient Interface  
Respironics, Inc. Murrysville, PA

- Automated a test procedure for benchmarking CO2 rebreathing performance of Respironics Patient Interface devices against competitive products utilizing LabVIEW programming and pressure/flow instrumentation
- Specified and assembled equipment to accurately simulate carbon dioxide in human breath.
- Developed full documentation of test process for both programmers and users, developed automated database to archive test results.

## **INTELLECTUAL PROPERTY:**

### Issued Patents:

8,028,699; 7,448,386; 8,347,886; 8,807,134 Full face respiratory mask with integrated nasal interface  
7,931,025, 7,931,025 Patient interface and headgear connector  
7,900,628; 7,370,652; 7,856,982 8,596,271 Patient interface device  
7,721,350 Molded phototherapy goggles  
7,178,525 8,118,027 Patient interface assembly supported under the mandible  
7,069,932 8,210,179 8,485,191 Patient interface with forehead support system  
7,066,179 Patient interface and headgear connector  
8,607,386 Infant positioning system and prone positioning apparatus therefor  
8,245,711; 8,596,275 Patient interface with an adjustable cushion

### Published Applications (as Primary or Co-Inventor)

20090032018 System Adapted to Provide a Flow of Gas to an Airway of a Patient  
20120220990 Disposable Tip With Sheath  
20120198715 Apparatus and method for measuring a body part

### Design patents

D547,789 Phototherapy goggles  
D489,817; D489,817 Patient interface device

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