

Curriculum Vitae of

ERIC MICHAEL SIMON

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**Career
Highlights**

- Nineteen years President / Design Engineer – Dexterity Design / Dexterity, Inc.; product design and engineering, prototyping, testing, pre-production services
- Founder and Principal – Acme Biosystems; R&D, production, and marketing of systems for 3-dimensional, high density, long-term culture of mammalian cells
- Inventor of the SwiftKey™ fastener – successfully conceived, prototyped, patented, marketed, and licensed product, currently licensed to MicroPlastics Inc.
- Co-Manager—Miniature Implantable Drug Delivery Systems Project (funded by subsidiary of Merck Sharp & Dohme): average annual budget of \$350,000; two patents issued; responsible for technical development, personnel management, budgeting, scheduling, reporting
- National Institute of Health SBIR Grant Principle Investigator—Fibrous Substrates for Cell Culture: budget of \$50,000; responsible for device design and implementation, management & outsourcing, budgeting, scheduling, reporting
- Twenty patents issued & pending; numerous products designed, produced, and marketed

Experience

DESIGN ENGINEER / CONSULTANT

1991 to Present

Dexterity Design, Salt Lake City, Utah

- Product design, engineering, prototyping, testing, and failure analysis
- Project management, market and patent research, expert witness
- Focus on medical device, biotechnical, consumer, and recreational product sectors
- Selected Projects: High sensitivity fluorescence immunoassay system—hardware and disposables; Forced-air headlice treatment system; Ruggedized portable timeclock; Front-end topographic measurement device for Lasic surgery; DNA hybridization automated wash station; LED- and laser-based phototherapy devices; Subclavian catheter pneumo-sealing system; Modular portable event tent; Biometric employee time clock; Bevel-tip cardiac catheter; Cardiac catheter incision closure system (resorbable sponge); Venous blood pressure transducer; Ergonomic analysis of ultrasonic probe; Ophthalmic iontophoretic drug delivery electrode; Sport bottle system; Modular crowd-control barrier system; Micro-dermabrasion system; Implantable drug-delivery catheter strain relief; Tool-less irrigation couplings; Aesthetic massage system; Modular climbing wall system; Eyeglass retainer nut; Pressure-formed dental laser enclosure; Various water-filled barrier devices; Materials selection for modular cellular telephone; Materials selection, production analysis, and failure analysis of sunglasses and ski goggles

FOUNDER / PRESIDENT

2003 to Present

Acme Biosystems, Salt Lake City, Utah

- Invention and development of advanced mammalian cell culture systems
- Project management, market research, patent preparation
- Corporate management and strategic planning

Experience (continued)	PROJECT ENGINEER / BIOMATERIALS SPECIALIST	1985 to 1991	
	Center for Engineering Design, Salt Lake City, Utah		
	<ul style="list-style-type: none"> • Development of implantable logic controlled drug-delivery devices • Design, development, and testing of fibrous membrane cell culture labware • Technical writing and proposal preparation--\$25,000 to \$1.5 million funded • Fabrication of electret materials for micro-mechanical sensors and actuators • Redesign of abdominal implant devices • Material and design consultation—robotics, biomedical, sensors 		
	BIOMATERIALS / DEVELOPMENT ENGINEER	1985	
	Symbion Inc., Salt Lake City, Utah		
<ul style="list-style-type: none"> • Contract engineer—development and manufacture of Jarvik-7 artificial heart • Analysis of materials and techniques used in artificial heart manufacture • Selected Projects: Surface and bulk analysis of urethane material (Biomer®) in explanted artificial hearts; Photographic documentation of explanted hearts; Scientific review of state-of-the-art in surface passivation of blood-contact materials; Quality control analysis of elastomeric valve seals 			
ZAMBONI DRIVER	1985		
Sun Valley Ice Center, Sun Valley, Idaho			
<ul style="list-style-type: none"> • Maintenance of ice sheet, maintenance of ammonia refrigeration system 			
GRADUATE STUDENT	1983 to 1985		
University of Utah, Salt Lake City, Utah			
<ul style="list-style-type: none"> • Thesis: Design, production and testing of electrostatically spun fibrous polymeric membranes for use in small diameter cardiovascular implants • Surgical implantation of artificial vascular devices • Supervisor of undergraduates in laboratory 			
MANUFACTURING ENGINEER	1983		
American Medical Optics, Irvine, California			
<ul style="list-style-type: none"> • Development of surfactinated polish and finishing methodology for use in intraocular lens (IOL) and contact lens production • Design of IOL haptic elements • Implementation of static control system, quality control, worker education 			
Education	Master of Engineering, Bioengineering, University of Utah	graduated 1985	
	Bachelor of Science, Materials Science & Engineering, University of Utah	graduated 1983	
	Materials Engineering/Premedicine, University of Michigan	1978 to 1980	
Professional Skills	Project Management	Product Design	Surface Characterization
	Proposal Preparation	Rapid Prototyping	Materials Selection
	Budgeting & Scheduling	3D Solids CAD/CAE - SolidWorks	Failure Analysis
	Patent Review	Design Review	Surface Modification
	Manufacturing Analysis	Market Review	Molding & Fabrication
Technical Scope	Drug Delivery Systems	Cardiovascular Devices	Ophthalmic Implants
	Cell Culture Hardware	Disposable Medical Products	Performance Apparel
	Percutaneous Access Devices	Dental Products	Micro Mechanisms/Sensors

Tech Scope (continued)	In Vitro Diagnostic Systems Consumer Healthcare Products Biomaterials Selection/Analysis	Soft Goods Sport Optics Recreational Products	Electronic Device Enclosures Catheter-Based Devices Barrier Systems
Awards & Affiliations	Intermountain Society of Inventors and Designers Intermountain Biomedical Association College of Engineering Scholarship, U of Utah Tau Beta Pi, Engineering Honor Society	Utah Soc for Biomaterials Research (President, 1985) Regent's Scholarship, U of Michigan Phi Kappa Phi, National Honor Society	Society of Plastics Engineers
Patents	Airflow Applicators and Related Treatment Methods (US and EU utility patents pending) Airflow Attachment (D62687) Cell Culture Apparatus and Associated Methods (US and EU patents pending) Container and Lid (US design patent pending) Interlocking Barriers (7,275,888) Interlocking Barrier (D552,250) Detachable Clasp Fastener (6,243,922; pro se execution) Control Barrier with Rotatable Legs (6,676,113) Reusable Fluid Pressure Transducer Monitoring Apparatus (6,635,020) Method and System for Performing Microdermabrasion and Suction Massage (6,926,681) Method and System for Performing Microdermabrasion (6,582,442) Dermabrasion Handpiece (D451,196) Dermabrasion System (D450,842) Lens and Associatable Flow Cell (RE39,772, 6,108,463 & 6,356,676 & 6,611,634) Interlocking Control Barrier Systems (6,086,285) Waveguide Lens (D426,783) Teeth Cleaning Implement with Integrated Fluid Dispenser (5,642,994) Implantable Drug Delivery System with Piston Actuation (5,196,002 & 5,059,175) Multiple Vesicle Implantable Drug Delivery System (5,167,625) Disposable Toothbrush Cover (5,139,142; pro se execution)		
Legal Experience	Plaintiff Expert Witness— Product Liability/ Personal Injury Failure of eyeglass frame resulting in permanent eye damage to consumer <ul style="list-style-type: none"> • Review of literature and pertinent manufacturing regulations • Examination of exemplar product and analysis of failure • Resolution: Settled out of court in favor of client (plaintiff), substantial settlement 		2010
	Plaintiff Expert Witness— Product Liability/ Personal Injury Failure of embolic microspheres resulting in patient blindness and brain damage <ul style="list-style-type: none"> • Review of extensive case documentation, FDA medical device reports, and clinical literature • Resolution: Settled out of court in favor of client (plaintiff) 		2008
	Plaintiff Expert Witness— Product Liability/ Personal Injury Failure of heparin infusion pump resulting in patient death <ul style="list-style-type: none"> • Review of case documentation and FDA medical device reports • Onsite examination of pump and function • Resolution: Settled out of court in favor of client (plaintiff) 		2008

Legal (continued)	Plaintiff Expert Witness— Product Liability/ Personal Injury Failure of penile prosthesis (unrelated to previous case, below)	2004
	<ul style="list-style-type: none"> • Review of extensive case documentation and FDA medical device reports • Examination of ex-planted device and report of findings • Resolution: Client decided not to pursue case 	
	Plaintiff Expert Witness—Medical Malpractice/Product Liability/Personal Injury Failure of hip implant (unrelated to previous case, below)	1997
	<ul style="list-style-type: none"> • Review of extensive case documentation • Review of FDA regulations and device failure reports • Resolution: Based upon client's (plaintiff's) history of falling and lack of applicable device failure reports, client was advised not to pursue case 	
	Plaintiff Expert Witness—Product Liability/ Personal Injury Failure of night light and subsequent hand injury	1995
	<ul style="list-style-type: none"> • Review of failed and new product and analysis of failure (see technical report, below: Analysis and Performance Testing of the Lens Snap Fit Assembly of a Night Light) • Resolution: Settled out of court in favor of client (plaintiff), substantial settlement 	
Defense Expert Witness/Expert Search—Medical Malpractice/Product Liability Failure of custom hip prosthesis	1994	
<ul style="list-style-type: none"> • Review of case documents, patents, interview with defendant • Review of FDA regulations of custom and experimental medical devices • Located two experts with design knowledge of esoteric hip implant • Resolution: Settled out of court with small liability to client (defense) 		
Defense Expert Witness—Product Liability/ Personal Injury Entanglement of hand in rotor assembly of vacuum blower	1993	
<ul style="list-style-type: none"> • Review of case documentation, site visit, photo-documentation • Review of current industry & government regulatory standards • Production and review of affidavit • Resolution: Co-authored interrogatory which led to successful summary judgment for client (defense) and release of liability 		
Defense Expert Witness—Medical Malpractice Failure of penile prosthesis	1992	
<ul style="list-style-type: none"> • Review of state-of-the-art penile implant design, manufacturing, surgical technique, failure, liability • Resolution: Settled out of court with minimal liability to client (defense) 		
Technical Reports	Site-Rite Clinical Evaluation Report (for Phil Triolo & Assoc), April 2010 Product Design Assessment: Defective Reading Glasses, March 2010 Findings: Pingle v. BioSphere Medical, Inc, November 2008 Effects of a Magnetic Fluid Mixture on Cells Cultured in ACCS, September 2005 Ergonomic Analysis of Site-Rite Ultrasound Probe, October 2004	

Tech Reports
(continued)

- Failure of Implantable Penile Prosthesis, December 2004
- Sealing System for a Long-Term Dialysis Catheter, September 2003
- Tipping Analysis of Water-Filled Barrier, April 2001
- Ophthalmic Electrode Materials Search, July 1999
- Search Report: Tube and Pipe Fittings, May 1999
- Manufacturing Feasibility for Production of Orlock™ Tubing, November 1998
- Design Specification: Passive Cartridge v1.1, August 1998
- Apollo™ Flashtube Chassis Design Verification, February 1998
- Prophyze™ DDPA Pros & Cons, November 1997
- Optimization of Waveguide Signal-To-Noise Ratio, February 1997
- Implant Testing of Butyrate Sheet Subjects to Static Cling Vinyl Labels, April 1996
- Incompatibility of Static Cling Vinyl Labels with Ski Goggle Lenses, December 1995
- Brittle Failure of Cellulose Propionate Sheet, October 1995
- Surgical Microscope Shield—Concept Design & Materials, October 1995
- Plastics Recommendations for Modular Cellular Telephone, June 1995
- Discussion of Goggle Spacer-Foam Adhesion Failure, March 1995
- L.L. Bean Lens Abrasion—Results of Optical and Physical Analysis, December 1994
- Sunglass Frame Materials—Comparison of Properties, September 1994
- Alternative Plastic Materials for High Performance Sunglass Frames, June 1994
- Analysis and Performance Testing of the Snap Fit Assembly of a Night Light, April 1995 (Product Liability/ Personal Injury Lawsuit)
- Materials Recommendations for Adjustable Ski Pole Clamp, March 1994
- Sunglass Browpiece Redesign—Fortified Lens Groove, February 1994
- Sunglass Lens Failure—Hardcoat Delamination, January 1994
- Goggle Face-Foam Adhesion—Interim Report, December 1993
- Coating Durability of Plastic Sunglass Lenses—QA Specification, November 1993
- Rutherford Backscattering Analysis of Mirror Lens Coatings, October 1993
- Summary of Findings—Baxter v. Cincinnati Fan, October 1993
- Injection Molding, Embrittlement, and ESC of Sunglass Frames, September 1993
- Materials for Encapsulation of Transcutaneous Energy Transmission System, August 1993
- Polycarbonate Thermal Lens Fogging, May 1993
- Process Control for Thermoformed Lens Production, August 1992
- Crazing of L.L. Bean Sunglass Lenses, July 1992
- Environmental Stress Crack Failure of Ventilator Cartridge Tubing Connector, May 1992
- Redesign of Ventilator Cartridge and Heather Unity, April 1992
- Miniature Implantable Drug Delivery System—Phase II Final Report, April 1990
- Historical and Technical Review of Drug Delivery Systems, July 1988
- NIH SBIR Phase I Final Report: Fibrous Substrates for Cell Culture, May 1988
- A Review of the FLEX Series Displacement Sensors, June 1987
- Electret Materials: Preparation By Corona Discharge and Electron Bombardment, May 1986
- Preparation of Teflon Fibers for Electret Materials, January 1986
- Electrostatic Spinning of Solution Polymers: Design and Surface Characterization, February 1985

Proposals

Medical Diagnosis Platform for Category A and B Toxins and Inhalation Bacteria, June 2008
Rapid Diagnostics Platform for Category A and B Toxins and Inhalation Bacteria, June 2007
Investigation of the Effects of a Magnetic Fluid Mixture on Mammalian Cells, August 2005
Advanced System for Routine Primary Hepatocyte Culture, SBIR, March 2005
Proposal for Design and Dev't of an Anesthesia Rebreathing Absorber Module, September 2004
Ophthalmic Electrode Materials, May 1999
Development and IP Review of a Micro-Dermabrasion System, May 1999
Intermediate Waveguide: Overview and Development Budget, September 1998
Design and Prototype of a Custom Photo Station for AMS, July 1998
Design and Prototype of an Aesthetic Massage System, March 1998
RFQ: Multibarrier 1B Finite Element Analysis, June 1997
Test Fixtures for Fluorescence Immuno-Diagnostic System, January 1996
Plastic Enclosure for the Genesis-2000 Dental Laser System, July 1995
Disposable Dental Articulator, May 1995
Electrical Connection System for pH Enteral Feeding Catheter, May 1995
Dental Implant Surgical Guide, April 1995
Double-Blade Biopsy Knife, February 1995
Thermoformed Enclosure for Vibrotactile Tester, January 1995
Plastic Enclosure for the AccuCure 3000 Dental Laser System, June 1994
Materials & Analysis of Overmolded Ski Pole Grip, March 1994
Determination of Lens Surface Temperature, February 1994
Medical Device Introducer—Materials & Fabrication, July 1993
Porcelain Dispensing System for Dental Fabrication, May 1993
Heated Matched-Mold for Thermal Lens Production, January 1993
A Pet Collar Drug Delivery System, January 1991
MIDDs—University of Utah Biomedical Research Support Grant, October 1989
Thermal Energy Generation from Palladium Hydrolytic Cells, September 1989
MIDDs: A Miniature Implantable Drug Delivery System, July 1988
Fibrous Substrates for Cell Culture (NSF SBIR Grant), July 1986
Fibrous Substrates for Cell Culture (NIH SBIR Grant), April 1986
Introduction to the Subcutaneous Peritoneal Access Device and Review of Potential Research and Development Projects, May 1986

Specifications

AcmeBio Test Plate: Rack + Lid Mold Specification, April 2010
Thermaflux Product Development Specification, October 2007
Design Specification: Site-Rite Ultrasound Probe Handle, August 2004
Head Lice Treatment Device, October 2003
Therapeutic Laser Handpiece Product Specification, July 2002
TIRF Diagnostic Device Cartridge and Instrument, August 1998
Aesthetic Massage Photo Booth Product Specification, August 1998
Vacuum Massage System Design Specification, March 1998

Publications Planar Waveguide Biosensors for Point-Of-Care Clinical and Molecular Diagnostics. In: Fluorescence Sensors and Biosensors (R. B. Thompson, Ed.). Herron, J. N., H.-K. Wang, L. Tan, S. Z. Brown, A. H. Terry, J. D. Durtschi, E. M. Simon, M. E. Astill, R. S. Smith and D. A. Christensen. Marcel Dekker, New York, 2006. pp. 283-332.

"Be Careful with the 'Custom' Device Exclusion," SCOPE, 2(1), February 1995, p. 6.

Presentations Rapid IVD testing using Planar Waveguide Biosensors. Presented at Biodot Inc. St. Paul Workshop "Emerging Technologies to Enable Quantitative Rapid Tests". 23-25 June 2008. St. Paul Hotel, St. Paul, Minnesota.

Growing Better Cells for Science. Presented at the Wayne Brown Institute Deal Forum. 15 November 2006. Salt Lake City, Utah.

ACCS – Advanced Cell Culture System. Presented at HyClone Laboratories Inc. 29 March 2005. Logan, Utah.

Fluoropolymer-based Electret Materials. Presented to DARPA. July 1988. Center for Engineering Design, Salt Lake City, Utah.

Business Documents Celluxe™ Advanced Cell Culture Products—Business Plan and Financial Analysis, in preparation
Calapso™ Drinkware Products—Business Plan and Financial Analysis, December 1994
SportStax™ Production Financial Analysis, September 1993
VersaGlove™ High-performance Gloves—Business Plan and Financial Analysis, July 1991

After Hours Inventing Road and Mountain Biking Telemark Skiing Whitewater Kayaking