

SUMMARY

Mechanical design and development of medical devices, from product specification and concept through manufacturing. Interdisciplinary-interdepartmental communication. Vendor evaluation and complex component sourcing. Analysis of persisting or unprecedented problems. Technology and feasibility studies. SolidWorks 2010.

“The lowest cost product is that which starts down the right path. Technical feasibility is only part of choosing that path.”

EXPERIENCE

2009-2010	Consulting Engineer Dermal Injector System	Logic Product Development - Maynard, MA <ul style="list-style-type: none">○ Design and build fully functional prototype for an automated trans-dermal injection system.
2009	Consulting Engineer Extracorporeal Blood Handling	Bridgemedica - Walpole, MA <ul style="list-style-type: none">○ Product design and assembly concepts.○ Design/build test system for components in an extracorporeal blood handling device.○ Set up ultraclean assembly space.○ Evaluate silicon fab houses.
2007-2009	Consulting Engineer Molecular Bio-Detection System	BioScale, Inc - Cambridge, MA <ul style="list-style-type: none">○ System layout concepts.○ Design and pilot production of fluidic interface mechanisms to a MEMS detection cartridge.
2001-2007	Principal Engineer Colon Cancer Detection	EXACT Sciences Corp - Marlboro, MA <ul style="list-style-type: none">○ Molded microplate disposables, including bonded filter plate.○ Electrophoresis systems.○ Microfluidic sample divider with two axis robot.
1994-2001	Consulting Engineer Biosample Collection and Processing	Exact Laboratories Inc. - Maynard, MA <ul style="list-style-type: none">○ Microfluidic device and centrifuge.○ Sample collector. Patented.○ High amplitude shaker and cabinet for stool homogenization.

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| 1994-1996 | Consulting Engineer

Medical Device Development | P.D. Co-op, Inc. - Gorham, ME <ul style="list-style-type: none">○ Drug infusion pump system design.○ Coil winding tool for coil with concave surface. |
| 1990-1994 | Principal Mechanical Engineer

PAP Smear Preparation System
GMP manufacturing | Cytoc Corporation - Marlboro, MA <ul style="list-style-type: none">○ TransCyt® filter product with bonded polycarbonate membrane. Patents.○ Microscope slide handling system.○ Specified interactive testing of cervical cell pools, filters, and ThinPrep® unit.○ Robotic automation unit for cytological slides with unique safety features. |
| 1990 | Consulting Engineer

Laser drum plotters | Optronics Corporation - Chelmsford, MA <ul style="list-style-type: none">○ Eliminated redundant positioning components○ Solved recording drum mis-registration and drive train vibrations in four different laser drum plotter products. |
| 1984-1989 | Part Time Consulting Engineer

Blood Pressure Metrology Research | Seale Consulting Engineering - Gorham, ME <ul style="list-style-type: none">○ Designed, built two-axes sweeping, servo-aimed ultrasonic transducer and arterial vibrator for non-invasive real time blood pressure metrology, for Critikon/J&J.○ Radial artery external pulse-force transducer incorporating an EKG device to measure blood pressure pulse wave transit time from systole to arrival of the pulse wave at the radial artery.○ Intraocular pressure transducer design. |

1980-1989 **Wang Laboratories Incorporated - Lowell, MA**

1985-1989 **Section Manager**

- Evaluated 20 OEM magnetic and optical mass storage devices for incorporation into Wang product lines

1982-1984 **Principal Mechanical Engineer**

- Managed R&D program for dot matrix print heads.

1980-1981 **Senior Mechanical Engineer**

- Hired and managed mechanical design group for disk drives and components testing

1970-1980 **Digital Equipment Corporation - Maynard, MA**

1972-1980 **Mechanical Design Engineer**

- Designed disk drive products and servo writers, incorporating microinch accuracy transducers and actuation.

1970-1971 **Production Engineer**

- Transferred three disk drive products from design into manufacturing.

1969 **RCA Information Systems - Marlboro, MA**

Production Engineer

- Manufacturing methods, flow, and layout for disk magnetic recording heads.

PERSONAL PROJECTS

- Wind energy systems - bearings, blade construction.
- Underwater habitats - film bonding, marine engineering.

EDUCATION

1968 **MIT - Cambridge, MA**

- Bachelor of Science – Physics