

**JOHN R. RAFUSE AIA**

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**QUALIFICATIONS**

John Rafuse has a 30 year career specializing in the design demands of architecturally significant buildings and corporate and technology facilities. His work includes office buildings, R&D labs and production facilities. His clients include many well-known corporations and bio-pharmaceutical companies.

He is a proactive and creative architect that is totally comfortable in the engineering and building world and scientific environment. These communities appreciate his ability to innovate and to implement practical, safe and usable designs.

His career has lead him into all aspects of the design, engineering and construction fields. From an early career in architecture as a project manager, he quickly moved to a position of leadership a director of a division and member of the executive committee at a Rhode Island A/E firm. Later, as a principal in two Boston design firms, he attained an understanding of maintaining a successful, organized business, while recognizing and appreciating its most important asset, the team.

His forthright, proactive style and his ability to listen and respond quickly have enabled him to win the trust and confidence of his fellow team members and clients.

John places most emphasis on fully understanding his client's activities. He is thoroughly versed in building and office technology, laboratory operations and production processes. He believes intelligent, novel design comes from a fundamental understanding of the client's daily activities in today's environment, while anticipating the environment of the future.

He is especially well versed in the master planning of construction management techniques and facilities design for biopharmaceutical laboratories.

John has been working actively in the Northeast Biotechnology community for the last 28 years and has designed well over 2 million square feet of life science related space.

For the last 11 years, he has served as a dedicated guide to important biopharmaceutical companies in New England, Montreal and Halifax, helping them assemble the right team, find the right design solution and implementing the built environment to best advance their scientific and business plans.

His single most valued directive is that of "signature" work – rising to challenges with persistence and focus until the project goals are realized for the whole team.

**EMPLOYMENT HISTORY**

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Apr 1998 **John R. Rafuse AIA - Biotecture**  
Present Meredith, NH  
Principal

Consultant for all aspects of CAD, design, engineering and construction team management and assembly, programming, planning and project management, document and specification coordination, equipment coordination, construction observation and project closeout. Clients are located primarily in the greater Boston and Cambridge area and Montreal, Canada.

Nov 1993 **Dean Packard Rafuse Inc. & Dean Tucker Shaw Inc.**  
Mar 1998 Boston, MA  
Vice President & Principal

Principal-in-Charge for Science and Research Facilities Sector; involved in all aspects of company planning and implementation, staffing, business plans and financial management, business development, as well as project planning and design.

Aug 1983 **Keyes Associates - Architects/Engineers**  
Nov 1993 Waltham, MA  
Director of Buildings Division, Member of Executive Committee  
Senior Associate/Project Architect/Project Manager

Director responsibilities for overseeing, staffing and budgeting of the Building Division. Individually responsible for marketing, project planning, design and management, project design and coordination of all phases and disciplines. Executive responsibilities for generation and implementation of firm management, strategic business plans and staffing. Solely responsible for development of biotechnology projects. Continuation of experience in project coordination involving all engineering disciplines due to "in-house" capabilities.

Dec 1982 **New England Design Associates**  
Aug 1983 Holden, MA  
Chief Architect

Architect-in-charge for department start-up; business development and marketing; client interview and programming, project design, planning and administration. Office set-up and management; integration of department into existing company structure.

Mar 1982 **Page/Michaelis/Associates - Architects/Planners**  
Sep 1982 Nashua, NH  
Project Architect

Responsible for total project programming and design; site planning and design development; engineering and production drawings; construction coordination.

Aug 1977 **Aldrich Co. A/E, Div. Carlson Corp. International Design/Build**  
Feb 1982 Cochituate, MA  
A/E Manager

Responsible for design development; specifications; working drawings; code compliance; building systems integration; construction administration. Extensive experience in project coordination of interdisciplinary engineering concerns due to "in-house" location of all groups.

Designer/Project Captain  
Involved in client programming; master planning; schematics and proposals; design development; working drawing supervision.

Sep 1976 **Bayard Underwood Associates - Architects**  
Mar 1977 Concord, MA  
Architectural Draftsman

Residential and commercial building types; responsibilities included drafting; detailing; model making and fieldwork.

**EDUCATION**

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Bachelor of Architecture	Rensselaer Polytechnic Institute	1975
B.S. - Building Science	Rensselaer Polytechnic Institute	1974
Certificate for Design and Validation of Biotechnical Facilities		
Center for Professional Advancement		1988
Seminars for Design in Biotechnology		1990
Build Boston		1991
Biotechnology Plant Design Seminar		
Rhode Island College		1991
Massachusetts Biotechnology Council		1991
Biotech Breakfast Series		1992
		1993
Coopers & Lybrand		1992
Biotech Seminar Series		1993
Biotechnology for the Non-Scientist		1994
Boston University		
Laboratory Fundamentals of Biotechnology		1994
Boston University		
AALAS Conference & Seminars		2004
Tampa, FL		
Turnkey Conference Certificate on Animal Facility Design		2006
Baltimore, Maryland		

**PROFESSIONAL ASSOCIATIONS AND REGISTRATIONS**

American Institute of Architects	AIA
Boston Society of Architects	BSA
National Council of Architectural Registration Boards	NCARB
Commonwealth of Massachusetts Architectural Registration	No. 5415
State of Vermont Architectural Registration	No. 1865
State of New Hampshire Architectural Registration	No. 2480

International Society for the Advancement of Biotechnology and Genetic Engineering

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Science/Research/Biotech Design Projects

**A123 Systems**

Watertown, MA

- 15,000 sf R & D Lab and Office Facility
- 2,000 sf Pilot Production Suite
- 2,000 sf Battery Test Area

**Alpha-Beta Technologies**

Worcester, MA

- cGMP Pilot Plant Design  
Two Biotech
- R & D Laboratories  
One Biotech
- R & D Laboratories  
Two Biotech
- R & D Laboratories  
Four Biotech

**Massachusetts Biotechnology Research Park**

Worcester, MA

- Complete Laboratory/Office Fit-out  
One Biotech 75,000 sf
- Complete Laboratory/Office Fit-out  
Two Biotech 85,000 sf
- Complete Laboratory/Office Fit-out  
Four Biotech 95,000 sf

**Applied BioTechnology**

Cambridge, MA

- R & D Laboratory Design
- BL3 Laboratory

**Aquila Biopharmaceuticals**

Framingham, MA

- 35,000 sf R & D Lab and Office Facility
- 2,000 sf cGMP Pilot Production Suite
- 2,000 sf Animal Care Facility

**AutoImmune**

Lexington, MA

- Laboratory Renovations

**Betagen**

Framingham, MA

- cGMP Pilot Instrumentation Production Suite
- R & D Facility
- 3,000 sf Clean Room

**Biohybrid**

Worcester, MA

- R & D Laboratory Planning

**BioScience Enterprise Incubator Facility**

Halifax, Nova Scotia

- 27,000 sf Lab and Office Facility

**BioVentures Technology**

Worcester, MA

- Complete Laboratory Design

**CelMed**

Montreal, Quebec, Canada

St. Laurent TechnoParc

- 5,000 sf Laboratory 2002

**Charles River Labs**

Wilmington, MA

- Lab Renovations 6,000 sf 2002

**Creagen**

Lexington, MA

- Laboratory Renovation

**Cystar**

Montreal, Quebec, Canada

- 9,000 sf Laboratory and Office Facility

**CytoTherapeutics Inc.**

Lincoln, RI

- Aseptic Pilot Process Plant (8,000 sf)
- R & D Facility 24, 000 sf
- Animal Care Facility 6,000 sf

**Dartmouth College**

Lebanon, NH

- 62,000 sf Lab Building Safety Study

**DuPont Merck**

Billerica, MA

- 9,000 sf QC Lab Renovations

**EcoScience Laboratories**

Worcester, MA

- R & D Laboratories and Offices
- Process Development & Production Facility  
40,000 sf

**Fort Washington Research Center**

Cambridge, MA

- Building Renovations for Biotechnology  
Occupancy 100,000 sf

Science/Research/Biotech Design Projects (Continued)

**Geltex**

Lexington, MA  
- 12,000 sf R & D Laboratory Planning

**Genica Pharmaceutical Corporation**

Worcester, MA (two projects)  
- R & D Laboratory & Office Designs  
Two Biotech and Four Biotech

**GenPath**

Cambridge, MA  
- 65,000 sf Interior Building Renovations  
- R & D Laboratories  
- Animal Care Facility 10,000 sf

**GlycoFi Subsidiary of Merck**

Lebanon, New Hampshire  
- 11,000 sf Laboratory and Office Facility 2008

**Hybridon**

Cambridge, MA  
- 95,000 sf Complete Building Renovations  
- Executive Headquarters Offices  
- R & D Laboratories

**Hypertherm**

Hanover, NH  
- Master Planning for 140,000 sf Mfg Facility

**Hyundai**

(Formerly IXIA)  
Concord, MA  
- 20,000 sf Corporate Headquarters Renovation

**IDEXX Laboratories**

Westbrook, ME  
- 175,000 sf Laboratory & Office Facility 2008  
- 250,000 sf Lab and Office Renovations 2009  
- 12,000 sf GMP Pilot Cell Production 2008  
- 10,000 sf GMP Water Mfg Production 2008/9

**Leukosite [JRR & Cubellis JV]**

Cambridge, MA  
Lab Expansion - 3 Projects  
30,000 sf Laboratory and Office

**Mascoma**

Lebanon, NH  
- 45,000 sf Laboratory and Office Facility 2008  
- Programming & Schematic Design

**MethylGene**

Montreal, Quebec, Canada  
St. Laurent TechnoParc  
- 9,000 sf Laboratory and Office Facility 1997  
- 9,000 sf Lab and Office Expansion 2000  
- 2,000 sf Lab and Office Expansion 2002  
- Animal Care Facility 2,000 sf 2006

**Millipore Waters Chromatography**

Chemical Products Division  
Milford, MA  
- Laboratory Programming/Planning

**Millipore, Inc.**

**Microelectronics Division**

Lexington, MA  
- 45,000 sf Laboratory and Office Facility

**MIT Building 500**

- 11,000 sf R & D Laboratories 2005

**Northeast Biomanufacturing Center & Collaborative NBC2**

Portsmouth, NH  
- Pilot Cell Production 3D Facility Design  
6,000 sf

**Neptune Pharmaceuticals**

Worcester, MA  
- Laboratories and Executive Offices  
6,000 sf

**Neurochem**

Montreal, Quebec, Canada  
St. Laurent TechnoParc  
- 20,000 sf Lab and Office Optimization

**Omnigene**

Cambridge, MA  
- Study for Laboratory Retrofit

**Origenix**

Montreal, Quebec, Canada  
St. Laurent TechnoParc  
- 20,000 sf Laboratory and Office Facility

**Oravax**

Cambridge, MA  
- Animal Care Facilities (2)  
- Special Formulations Laboratory Design  
- cGMP Pilot Room Study for Laboratory Retrofit  
- Lab/Office Planning - 40,000 sf

**Pharm-Eco**

Lexington, MA

- 8,000 sf R & D Laboratory Planning

**Phytera**

Worcester, MA

- Executive Offices
- R & D Laboratories  
2,000 sf

**Polaroid**

New Bedford, MA

- 11X Coating Facility and Manufacturing Plant  
250,000 sf
- Class 100k Clean Room  
40,000 sf

**Quantum Biotechnology**

Montreal, Canada

10,000 sf Laboratory and Office Facility

**Springbank Technologies**

- R & D Laboratories 2008 - 6,000 sf

**TolerRx**

Cambridge, MA

- Executive Offices
- R & D Laboratories 2000 - 3,000 sf
- R & D Laboratories 2001 - 15,000 sf
- R & D Laboratories 2003 - 10,000 sf
- Labs & Offices 2008 - 11,000 sf
- Animal Care Facility 3,000 sf 2004

**V.I. Technologies – [JRR & Cubellis JV]**

Watertown, MA

- Executive Offices
- 30,000 sf R & D Laboratories 2000
- R & D Laboratories Modifications 2001

**Zycos**

Lexington, MA

- Executive Offices
- 18,000 sf R & D Laboratories 2000
- 6,000 sf R & D Lab Expansion 2001

Production Facility Projects

**Unisyn Technologies**

Worcester, MA

- GMP Production Facility  
6,000 sf

**DuPont Merck**

Billerica, MA

- cGMP Production Facility  
5,000 sf

**Telor Ophthalmic Pharmaceutical**

Wilmington, MA

- cGMP Manufacturing Suite
- Laboratories and Executive Offices  
25,000 sf

**Biersdorf, Inc.**

Norwalk, CT

- Office/Manufacturing Facility Additions and  
Renovations  
208,000 sf

**Exxon Enterprises, QYX Division**

Lionville, PA

- Office/Manufacturing Facility  
100,000 sf

**IDEXX Laboratories**

Westbrook, ME

- 95,000 sf Laboratory & MFG Facility 2008
- 12,000 sf GMP Pilot Cell Production 2008
- 10,000 sf GMP Water Mfg Production 2008/9

**Jamesbury Corporation**

Shrewsbury, MA

- Office/Manufacturing Facility  
27,200 sf

**Kingston-Warren Corporation**

Newfields, NH

- Office/Manufacturing Addition  
-40,000 sf

**Nitinol Medical Technologies**

Boston, MA

- cGMP Manufacturing Facility, R & D  
Laboratories and Executive Offices  
25,000 sf

**Pellon Corporation**

Lowell, MA

- Manufacturing Facility 20,000 sf

**Polyvinyl Chemical Industries**

Wilmington, MA

- Office/Manufacturing Addition  
16,500 sf

**Revet Environmental and Analytical  
Laboratories**

Worcester, MA

- Specialized Laboratory Design

**Tonometrics**

Worcester, MA

- R & D Laboratories

**University of Massachusetts - Program for  
Molecular Medicine**

- Animal Care Facility and Microbiology, NMR,  
Optics, BSL-3 Labs  
45,000 sf

**University of Rhode Island Coastal Institute**

Kingston, RI

- Animal Care Facility and Multi-use Laboratory  
Design (AAALAC/USDA)
- Complete Laboratory Building Design  
80,000 sf

**Vertex Pharmaceuticals**

Cambridge, MA

- Animal Care Facility
- R & D Laboratories
- Executive Offices  
60,000 sf

**Viomedics**

Worcester, MA

- Specialized Laboratory Design

**W. R. Grace**

**Grace Construction Products**

Cambridge, MA

- Lab/Office Renovations  
30,000 sf

**Walchem Facility**

Holliston, MA

- Office/Manufacturing Facility  
30,000 sf
- Office/Manufacturing Addition  
20,000 sf



Office Building Design Projects

**Boxborough Town Hall**

Boxborough, MA  
- Addition and Renovations

**Codex Corporation**

Mansfield, MA  
- Executive Headquarters and  
Research/Development Facility  
90,000 sf

**Digital Equipment Corporation**

Boxborough, MA  
- Office/Research & Development Facility Project  
100,000 sf

**Gerald Hines Development Boston, LTD.**

Boxborough, MA  
- Office/Research Development Facility Project

**Hines Industrial**

Waltham, MA  
- Office/Research and Development Facility and  
Tenant Improvement

**Homedesign**

Allston, MA  
- Mill Building Renovation  
- 20,000 sf

**Hybridon**

Cambridge, MA  
- Complete Building Renovations  
95,000 sf  
- Executive Headquarters Offices

**Millipore, Inc.**

Bedford, MA  
- 300,000 sf Life Safety Study

**Moore First Reality Corporation**

Waltham, MA  
- Brookside Office Building  
83,000 sf

**New England Business Services**

Groton, MA  
- Executive Headquarters Office Facility  
62,000 sf

**NYNEX Information Resources Company**

Middleton, MA  
- Executive Headquarters Building Design  
250,000 sf

**Programmed Test Sources**

Boxborough, MA  
- Office/Research and Development Facility  
- 100,000 sf

**Ruland Properties, Inc.**

Boxborough, MA  
- Building Renovation  
15,000 sf  
- New Building Planning Project  
150,000 sf

**Walchem Facility**

Holliston, MA  
- Office/Manufacturing Facility  
30,000 sf  
- Office/Manufacturing Facility  
20,000 sf

**Westfield Executive Park**

Westfield, MA  
- New R & D Building Design  
60,000