

**Joseph G. Liscouski**  
**Institute for Laboratory Automation**  
Groton, MA 01450  
Telephone: (978) 448-2836  
Email: j.liscouski@InstituteLabAuto.org  
web: <http://www.InstituteLabAuto.org>

## Experience Summary

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INSTITUTE FOR LABORATORY AUTOMATION Director - Nov. 2008 to Present, – the ILA focuses on the development of the field of **Laboratory Automation Engineering** in addition to the work begun under its previous name (LASF), LABORATORY AUTOMATION STANDARDS FOUNDATION (LASF) – Founder. 1991-Nov. 2008 - The LASF was a non-profit 501c3 organization created to address the development of data interchange standards in laboratory automation and computing.

DELPHINUS, INC. - Part owner 1988 - present

DIGITAL EQUIPMENT CORPORATION, Marlboro MA, 1974-1991 - Responsibilities centered on the development and support of DEC's products for laboratory and scientific computing: initially system design, development, installation, and support in NY/NJ, then wider support and consulting work in the US, then worldwide, and finally doing market development and support for scientific applications of computers in Chemistry. Positions held include:

Marketing Consultant 1986-1991

Principal Marketing Specialist 1984-1986

Product Manager 1982-1984

Software Engineering Supervisor/Project Leader 1980-1982

Regional Consultant, Mid-Atlantic Region 1977-1980

Senior Software Consultant, NY/NJ District 1974-1977

DART INDUSTRIES, Paramus NJ, 1966-1974

Senior Development Chemist. 1971-1974 (development of polymers for wire coating, foam, and film)

Analytical Chemist. 1966-1971 (chromatography [GC, GPC], spectrophotometry, thermal analysis, Atomic Absorption)

## Selected Accomplishments

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### *Scientific Computing & Automation*

- March 2009
  - presented a two-day course titled "Managers Guide to Laboratory Automation" at 2009 PITTCON
  - presented a workshop on "Managements Role in Lab Automation" at the PITTCON ALMA workshop
  - presented a workshop on "Managements Role in Lab Automation" and "Scientific Manufacturing" at IQPC Lab Informatics 2009 (Boston)
- April 1999 - Participated in a peer review panel formed by the American Society of Mechanical Engineers to review DOE project in Laboratory Automation. The team evaluated the project and made recommendations as to future funding and direction. Details are in the November 1999 report from the Institute for Regulatory Science.
- Developed/delivered a course on Laboratory Automation for Worcester Polytechnic Institute, offered during Spring 1996 semester as part of undergrad/grad program
- Developed and delivered courses at SC&A and PITTCON on a *Strategic Approach to Laboratory Automation* - continued requests for return visits (most recent given during *PITTCON 95* - March 1995)
- Organized and conducted LASF first Symposium on the Validation of Laboratory Instruments & Data Systems - September 1993, 2nd Symposium held Oct. 6/7 1994, 3rd in October 1995
- Performed consulting projects on the evaluation and application of LIMS systems including training lab personnel, determining requirements, recommending systems design and implementation program
- Developed and delivered course on the application of information & automation technologies to laboratory problems (some given with Worcester Polytechnic Institute Continuing Education Department)

### *Market Development*

- Created demonstration laboratory at trade shows to show how computing and automation technologies could be implemented, this brought Digital's role as an integrator into clear focus and highlighted benefits of marketing partnerships - received awards for work.
- Evaluated market needs in High Energy Physics and Computational Chemistry which resulted in programs for Digital Equipment's participation in those markets. Efforts involved meeting with customers in the US, Canada, and Europe, assessing needs, and evaluating products and product requirement in light of those needs.

## **Selected Accomplishments, cont.**

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- Collaborated as part of a joint US/European team to evaluate business potential in what was the USSR. This group developed market strategy for Digital's entry into the USSR. My role was to visit advance computing facilities and scientific groups to evaluate the state of their capabilities.
- Created the Computer Integrated Research Program as a means of strategic planning in scientific applications, which resulted in customers having a better understanding of Digital's capabilities and it's ability to solve problems.
- Conceived and implemented the Integrated Laboratory Automation program to provide a base for effective laboratory automation - built a demonstration lab to show concepts.
- Initiated the formation of the lab automation sub-division of the Computers in Chemistry Division (COMP) of the American Chemical Society, to address problems in laboratory automation. Chaired the Laboratory Automation Sub-Division for two years, completing its formation.
- Developed the Computers in Chemistry ACS award to recognize achievement in the discipline and bring attention to its importance.

### *Problem Solving & Communications*

- Designed and conducted a successful course on *Strategic Approaches to Laboratory Automation* at the 1992 Scientific Computing & Automation Conference, and at the 1993, 1994, and 1995 PITTCON.
- Design and development of VAX-11 RGL & RGL/11 graphics software for scientific applications enabling Digital to extend it's graphics software. Was instrumental in the development of compatible peripherals for hardcopy output.
- Solved customer problems in the application of computers to laboratory problems (LIMS, systems design, implementation, and support) in the US and Europe.
- Taught courses in computer graphics and data acquisition/analysis in Europe, Japan, and Australia.
- Conducted an annual course (ran for 6 years) at the CENTER FOR PROFESSIONAL ADVANCEMENT entitled "MINICOMPUTERS IN THE LABORATORY - SELECTION AND UTILIZATION", which was directed to scientists not familiar with computers or data acquisition.

### *Research & Development*

- Applied mathematical modeling and simulation techniques to better understand polymerization process resulting in faster product development, and a better understanding of additive systems.
- Researched and developed new copolymer formulations for foam, wire coating, and bottle applications, resulting in the penetration of new markets.
- Developed analytical techniques for materials characterization which improved quality control and enabled R&D to develop new products.

### *Software/Systems Design & Development*

- Designed and implemented systems for data acquisition and control of:
  - multiple chromatographs (multiple installations with customizations)
  - infrared spectrophotometers
  - turbidity measurements
  - autoanalyzers
  - physiological measurements of small mammals
- Designed and implemented systems for:
  - small systems communications
  - clinical patient tracking system
  - laboratory graphics
  - graphics table interfaces
  - graphics/plotting packages for a variety of pen plotters (Tektronix, HP, Houston Instruments, etc.) – in some cases character sets and a character set editor had to be created to supply capabilities missing in the device

### *Other*

- Project/Product Manager for the following Digital Equipment Products:
  - PDP-11 RGL, VAX-11 RGL (Graphics software)
  - Laboratory Information Management Systems
  - MINC-11 (Modular Instrument Computer)

## Technical Publications

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- *Integrating Laboratory Automation*, J. Liscouski, **Lab Manager Magazine**, April 2009, Vol 4 #3, pgs 42-44.
- *Discussion of Open-Source Methodologies in Laboratory Automation*, N. Benn & J. Liscouski, Journal of the Association for Laboratory Automation, Vol 14 #2, Pages 82-89, April 2009
- *Where Technology Management Meets Laboratory Management*, J. Liscouski, **Lab Manager Magazine E-Newsletter**, <http://www.labmanager.com/articles.asp?ID=113>
- *Technology Management: Product Life Cycle*, J. Liscouski, **Lab Manager Magazine**, July/August 2008, Vol 3 No 2, pgs 20-23
- *Outsourcing Laboratory Work—Establishing the Necessary Policies and Practices*, J. Liscouski, **BioPharm International - Outsourcing Supplement**, April 2008
- *Managements Role in Laboratory Automation*, J. Liscouski, Laboratory Manager Magazine, January 2008
- Authored **Manager's Survival Guide to Engineering Laboratory Automation**, published by Delphinus, Inc. 2007
- *Lab automation engineering: The next, necessary field of study*, Joe Liscouski, **Mass High Tech**, Dec. 22-28, 2006, Vol 24 issue 52, page 11
- *Are You a Laboratory Automation Engineer?*, Guest Editorial, Journal of the Association of Laboratory Automation, June 2006, Vol. 11, No. 3, pg 157
- *Data Librarian, parts I & II - requirements for a large-scale data storage system for chemistry applications*, Journal of Automatic Chemistry, Vol. 19, No. 6
- Contributed a chapter by invitation on laboratory automation to Prentice-Hall's **Handbook of Instrumental Methods**, edited by Dr. F. Settle, published 1997
- Contributed a chapter - by invitation - on the validation of laboratory computer systems to a book edited by Riley & Rosanske, **(Development and Validation of Analytical Methods**, Pergamon, 1996
- Authored **Laboratory and Scientific Computing: A Strategic Approach** - published by John-Wiley & Sons, 1995
- *Inter-Connectivity II: Serial Interfacing*, Spring 1992 in **Laboratory Robotics & Automation**
- *Inter-Connectivity*, Jan. 1992 Vol. 3, pgs 145-149 **Laboratory Robotics & Automation**
- *Information Management in Education*, Nov. 1991 issue of **T•H•E Journal**
- *Issues and Directions in Laboratory Automation*, **Analytical Chemistry**, Jan. 15th, 1988
- *Computers And Robotics: A Synergistic System*, co-authored with Dr. J. Brosemer, **American Laboratory**, Sept. 1986
- "Laboratory Automation", an invited article published in the 25th anniversary issue of the **Journal of Chemical Information and Computer Science**, Aug. 1985
- *Integrated Laboratory Automation*, **American Laboratory**, Jan. 1985. This was the first in a series of four articles which included: *Integrated Laboratory Automation: Networks*, Feb. 1986, *Integrating Laboratory Automation*, Mar. 1987, and, *Integrated Laboratory Automation: a Progress Report*
- *Distributed Laboratory Data Collection and Management*, **American Laboratory**, Sept. 1983
- A series of articles on *instrument interfacing* in **Computer Applications in the Laboratory**
- *Use of the PC350/VAX Combination in Laboratory Data Acquisition*, **Perspectives**, Vol. 1, (a Digital publication)
- *Selecting Instrument Interfaces for Real-Time Data Acquisition*, **Analytical Chemistry**, June 1982
- *Planning for Lab Automation & Computer Graphics* in **Computers in the Laboratory**, ACS Symposium Series #265 (also edited book)

## Recognition

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- Award for excellence in managing and communicating scientific computing concepts to a non-technical audience - Digital Equipment Corporation 1990
- Award for leadership in organizing and managing a multi-vendor demonstration of technical concepts in laboratory automation

## Education

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**M.S.** Computer Science, Fairleigh Dickinson Univ., Teaneck NJ 1974

**B.A.** Chemistry, Montclair State College, Upper Montclair NJ 1966

Professional training and development have continued through courses in computer graphics at George Washington Univ., laboratory robotics (Zymark), Effective Presentations (Executive Techniques), TOP Mapping & management courses at Digital Equipment Corporation.

Member of the Association for Laboratory Automation, and, Association of Laboratory Managers (ALMA)