

Curriculum Vitae – Frank R. Painter, M.S., CCE

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Educational Background:

M.S. Mechanical and Biomedical Engineering	State University of New York at Buffalo Buffalo, NY	1975
B.S. Mechanical Engineering	Clarkson College of Technology Potsdam, NY	1971

Licenses and Certification:

[Certified in Clinical Engineering](#) – Healthcare Technology Foundation, Certificate # 001 (June 2004)

Certified “Engineer in Training” for the professional license by the State of New York (January 1972)

Professional Services:

2012-present: [B. H. Barkalow & Associates, LLC](#), Newaygo, MI. **Senior Clinical Engineering Expert Consultant** for hospitals, medical device companies, legal firms, and insurance carriers. Responsibilities consist of providing biomedical, clinical, and forensic engineering support to clients, that can include incident investigations, reports of findings, as well as expert witness testimony. Medical technology experience includes familiarity with the design, use and malfunctions associated with dialysis equipment, defibrillators, electrosurgical units (ESU), infusion pumps, patient monitors and many other medical devices found in hospitals. Experience includes: working familiarity with standards related to medical devices, overall healthcare technology and patient safety; providing hospital biomedical and clinical engineering program quality assurance services; establishing hospital-based biomedical departments; medical equipment selection; provision or establishment of computerized medical device control programs for preventive maintenance and maintenance; [The Joint Commission](#) (TJC) compliance reviews and pre-inspection surveys; medical technology-related quality assurance procedures; and assistance in hospital risk management as related to applied medical technology including sentinel event investigations.

1999-present: [Technology Management Solutions, LLC](#), Trumbull, CT. President. Provides healthcare technology service management and medical device accident consulting services.

1987 to 1999: [NOVAMED](#) (A Bridgeport Hospital For-Profit Affiliate), Bridgeport, CT. Director/Executive Director, Biomedical Technology Services. Managed a clinical engineering service organization providing technical and engineering support services to hospitals and health care providers in the northeastern US.

1982 to 1992: [Bridgeport Hospital](#), Bridgeport, CT. Director of Biomedical Engineering. Directed

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an in-house department providing technical support and consulting services for all technologies.

1980 to 1982: [*Emergency Care Research Institute \(ECRI\)*](#), Plymouth Meeting, PA. Regional Manager of Western Pennsylvania. Managed all clinical engineering service activities in 30 hospitals.

1975 to 1980: [*Millard Fillmore Hospital*](#), Buffalo, NY. Director of Biomedical Engineering. Managed a department responsible for the medical equipment support for a 520-bed teaching hospital, a 200-bed suburban satellite hospital and four regional shared service client hospitals.

Academic Appointments:

2000 to Present: *University of Connecticut*, Storrs, CT

Clinical Engineering Internship Program Director & Adjunct Professor, Biomedical Engineering Graduate Program, Department of Electrical & Computer Engineering Instructor for graduate courses “Clinical Engineering Fundamentals,” “Human Error and Medical Device Accidents,” “Engineering Problems in Hospitals,” and “Medical Instrumentation in Hospitals.” Course work covers hospital safety, incident and accident investigation and medical device failure analysis. Direct graduate student internships in several central Connecticut area hospitals. Advisor to 14-16 engineering graduate students.

1996 to 2000: *University of Connecticut*, Storrs, CT

Adjunct Assistant Professor, Biomedical Engineering Graduate Program, Department of Electrical & Computer Engineering

Guest lecturer in the course Clinical Engineering Fundamentals. Supervise graduate students in a two-year clinical engineering internship at Bridgeport Hospital.

1990 to 1996: *Trinity College / Rensselaer Polytechnic Institute-Hartford Graduate Center*, Hartford, CT

Clinical Instructor / Lecturer, Department of Biomedical Engineering, Master’s Degree program in Clinical Engineering

Guest lecturer in the course Clinical Engineering Fundamentals. Supervise graduate students in a two-year clinical engineering internship at Bridgeport Hospital.

1977 to 1980: *State University of New York at Buffalo*, Buffalo, NY

Assistant Professor and Clinical Instructor - Department of Medical Technology

Clinical Instructor overseeing clinical internships of Medical Technology seniors. Lecturer - “Basic electronics and principles of laboratory instrumentation” for undergraduate and graduate Medical Technology students.

Publications and Presentations:

“Clinical Engineering Education at the Graduate Level,” Painter, F., Presenter, Mexican Society of Biomedical Engineering, International Clinical Engineering Forum, 38th National Congress on Biomedical engineering, Mazatlan, Mexico, October 29, 2015.

“Risk Management in Clinical Engineering,” Painter, F., Presenter, Mexican Society of Biomedical Engineering, International Clinical Engineering Forum, 38th National Congress on Biomedical engineering, Mazatlan, Mexico, October 28, 2015.

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Assessing Risk in the Kaiser Permanente Clinical Technology Program, Painter, F., Davis-Smith, C., Baretich, M. Association for the Advancement of Medical Instrumentation, Horizons Journal, Spring 2015, 60-64.

“AAMI’s HTM Benchmarking Program,” Painter, F., Baretich, M., Cohen, T., Presenters, AAMI Annual Meeting, Denver, CO, June 8, 2015.

“Risk Assessment of Kaiser Permanente’s Clinical Technology Program,” Painter, F., Davis-Smith, C., Baretich, M., Presenters, AAMI Annual Meeting, Denver, CO, June 7, 2015.

“Risk Assessment of Kaiser Permanente’s Clinical Technology Program,” Painter, F., Davis-Smith, C., Baretich, M., Presenters, 31st Annual Conference on Clinical Engineering Productivity and Cost Effectiveness, Denver, CO, June 6, 2015.

“Risk Management of Healthcare Technology,” Painter, F., Presenter, World Health Organization, Advanced Clinical Engineering Workshop, Denver CO, June 6, 2015.

“Developments in Medical Equipment: Planning for the Future,” Painter, F., Presenter, 1st Annual Congress on Innovations in Healthcare, Lima, Peru, August 21, 2014

HTM Levels Guide: A Program-planning Tool for Healthcare Technology Management Departments, Painter, F. Baretich, M. Cohen, T., Association for the Advancement of Medical Instrumentation, May 2014.

“Best Practices in Clinical Engineering Staff Training and Staff Development,” Painter, F., Presenter, AAMI Annual Meeting, Philadelphia, PA, June 2, 2014.

“Benchmarking Healthcare Technology Management: Using Best Practices Data,” Painter, F., Presenter, AAMI Annual Meeting, Philadelphia, PA, May 31, 2014.

“Benchmarking Healthcare Technology Management: Determining Staffing Levels,” Painter, F., Presenter, AAMI Annual Meeting, Philadelphia, PA, May 31, 2014.

“Clinical Engineering Certification Review Course,” Painter, F., Presenter, Ministry of National Guard Health Affairs, King Abdulaziz Medical City, Riyadh, Saudi Arabia, May 20-24, 2014.

“Healthcare Technology Safety and Risk Management,” Painter, F. Presenter, IEEE-EMBS Annual Meeting, Lima, Peru, November 8, 2013.

“Implementing Clinical Engineering Infection Control Practices,” Painter, F., Teleconference Presentation to the Atlantic Canada Clinical Engineering Society, November 28, 2012.

“Human Factors, Risk Analysis, Failure Modes in Medical Equipment,” Painter, F., Presentation to Biomedical Engineering Dept., University of Monterrey, Mexico, November 13, 2012.

“Infection Control for Clinical Engineering,” Painter, F., Program Leader, Mexican Society for Biomedical Engineering (SOMIB), one day workshop, San Luis Potosi, Mexico, October 4, 2012.

“Technology Management,” “Service Delivery Management,” Painter, F. Presenter, ACCE Clinical Engineering Certification Review Teleconference Series, August 16 – September June 12, 2012.

“Healthcare Technology Benchmarking,” Painter, F., Presenter, AAMI Annual Meeting, Charlotte, NC, June 4, 2012.

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“Technology Management,” “Service Delivery Management,” “Medical Product Development,” “Risk Management and Safety,” Painter, F., Presenter, ACCE Clinical Engineering Certification Review Program, Charlotte, NC, May 31 – June 1, 2012.

“Infection Control for Clinical Engineering,” Painter, F. Presenter, Teleconference Presentation to the Atlantic Canada Clinical Engineering Society, April 24, 2012.

“Clinical Engineering Codes and Standards,” Painter, F., Presenter, Northeastern Healthcare Technology Symposium, Groton, CT, November 4, 2011.

“Benchmarking Clinical Engineering Department Performance,” Painter, F. Presenter, Northeastern Healthcare Technology Symposium, Groton, CT, November 3, 2011.

“Benchmarking Clinical Engineering Performance,” “Risk Management, Root Cause Analysis, and Failure Modes and Effects Analysis,” “Clinical Alarms Management and Patient Safety,” “Top Ten Healthcare Technology Hazards,” “Disaster Planning – The Emergency Operations Plan,” Painter, F., Presenter, Advanced Course in Clinical Engineering, Mexican Society of Medical and Biological Engineering Annual Meeting, Sponsored by CENETEC-SALUD, Ixtapa, Mexico, October 5-7, 2011.

“Technology Management,” “Service Delivery Management,” “Medical Product Development,” “Risk Management and Safety,” Painter, F., Presenter, ACCE Weekly Teleconference Series on Clinical Engineering Certification, August 10 – October 5, 2011.

“Technology Management,” “Service Delivery Management,” “Medical Product Development,” “Risk Management and Safety,” Painter, F., Presenter, Clinical Engineering Certification Review Program for the Veterans Healthcare Administration, Minneapolis, MN, July 24-28, 2011.

“How to Use Financial Benchmarks in Healthcare Technology Management,” Painter, F. Presenter, AAMI Annual Meeting, San Antonio, TX, June 25, 2011.

“Using Benchmarks to Design and Develop a Clinical Engineering Program,” Painter, F. Presenter, AAMI Annual Meeting, San Antonio, TX, June 25, 2011.

“Improving Clinical Engineering Performance Through Benchmarking,” Painter, F. Presenter, Biomedical Associations of Wisconsin Annual Meeting, LaCrosse, WI, October 19, 2011.

“Human Factors – Making Medical Equipment Safer,” Painter, F. Keynote Speaker, Biomedical Associations of Wisconsin Annual Meeting, LaCrosse, WI, October 19, 2011.

“Designing and Developing a Clinical Engineering Department,” Painter, F. (2011) Association for the Advancement of Medical Instrumentation, *Biomedical Instrumentation and Technology*, Nov/Dec 2011/Vol. 45/No. 6.

Medical Equipment Maintenance Programme Overview, Painter, F. (2011) World Health Organization, WHO Medical Device Technical Series, ISBN 978 92 4 150153 8, ©WHO 2011.

“Management and Risk Assessment of Wireless Medical Devices in the Hospital,” Paquette, A., Painter, F., Jackson, J., Association for the Advancement of Medical Instrumentation, *Biomedical Instrumentation and Technology*, May/June 2011/Vol 45/No. 3 p 243-248.

“Incorporating Standards into Your Clinical Engineering Practice,” Painter, F., ACCE

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Teleconference Series Presentation, January 19, 2011.

“Using Benchmarking and Clinical Engineering Best Practices to Improve Healthcare Technology Management Performance,” Painter, F. Presenter, AAMI Annual Meeting, Tampa, FL, June 27, 2010.

“Introducing New Technology Safely,” Mutton, O., Painter, F., et al. (2010) *Quality and Safety in Healthcare Journal*, Aug 2010; 19: 19-14.

“Connectors and Connections,” Painter, F., chapter in ANSI/AAMI Standard HE75:2009 - *Human Factors Engineering – Design of Medical Devices*, American National Standard, © 2010 by AAMI.

“Preserving the Evidence – Medical Device Accident Investigation,” Painter, F. Presenter, North Carolina Biomedical Association Annual Meeting, Concord, NC, December 7, 2009.

“Preventative Maintenance of Medical Equipment,” Painter, F. Presenter, World Health Organization Technical Advisory Group Meeting on Healthcare Technology, Rio de Janeiro, Brazil, November 9, 2009.

“Managing the Risks in Acquiring Healthcare Technology,” “Managing the Risks of Surgical Technologies,” “Managing the Risks of Hospital Power Quality,” Painter, F., Presenter, ACCE/PAHO Clinical Engineering Workshop, Sao Paulo, Brazil, November 5, 2009.

AAMI Benchmarking Solution (ABS), Painter, F, Baretich, M, Cohen, T, Furst, E, Subject matter experts and authors for web-based healthcare technology management performance improvement software tool, www.neurotool.com, AAMI, June 2009.

“Succeeding in Today’s Workplace: CE and IT Toolkit for Human Skills and Competencies” Painter, F. Presenter, HIMSS Annual Meeting, April 4, 2009.

“The Role of Training in Improving Medical Device Performance,” Painter, F.R., Presenter, Priority Medical Devices Project, World Health Organization, Geneva, Switzerland, November 21, 2008.

“Medical Device Errors: The Role of Human Factors,” Painter, F.R., Presenter, Patient Safety Symposium, University of Vermont, Technical Services Program, Burlington, VT, October 28, 2008.

“Investigating Medical Device Accidents,” Painter, F.R., Presenter, New England Society of Clinical Engineering - Northeastern Healthcare Technology Symposium, Sturbridge, MA, October 8, 2008.

“Human Factors in Incident Investigation,” Painter, F.R., Presenter, Capturing the Heart and Mind of the Clinician – The Art and Science of Human Factors for Medical Systems Symposium, AAMI 43rd Annual Meeting, San Jose, CA, May 31, 2008.

“Medical Device Accidents,” Painter, F., Presenter, ACCE/PAHO Clinical Engineering Workshop, Sao Paulo, Brazil, November 5, 2007.

“Risk Management in Healthcare,” Painter, F., Presenter, ACCE/PAHO Clinical Engineering Workshop, Sao Paulo, Brazil, November 5, 2007.

“Quality Management in Healthcare,” Painter, F., Presenter, ACCE/PAHO Clinical Engineering Workshop, Sao Paulo, Brazil, November 5, 2007.

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“Results of the IFMBE Worldwide Survey on Clinical Engineering,” Painter, F.R., Calil, S., Nascimento, L., Presenters, Medicon 2007, 11th Mediterranean Conference on Medical and Biological Engineering and Computing, Ljubljana, Slovenia, June 26, 2007.

“How to Avoid Anesthesia Machine Incidents and Failures – A Human Factors Perspective,” Painter, F. Presenter, AAMI 42nd Annual Meeting, Boston, MA, June 16, 2007.

“Connectors and Connections,” Painter, F.R., Chapter in AAMI Standard HE75 *Human Factors Engineering – Design of Medical Devices*, draft standard submitted for committee comment on April 13, 2007.

“Managing External Services,” Painter, F.R., Presenter, WHO/PAHO/ACCE Advanced Healthcare Technology Management/Clinical Engineering Workshop, Florianopolis, Brazil, November 27 – December 1, 2006.

“Financial Management of Healthcare Technology,” Painter, F.R., Presenter, WHO/PAHO/ACCE Advanced Healthcare Technology Management/Clinical Engineering Workshop, Florianopolis, Brazil, November 27-December 1, 2006.

“Case Study of Regional Blood Banks: Technology Management Issues,” Painter, F.R., Presenter, WHO/PAHO/ACCE Advanced Healthcare Technology Management/Clinical Engineering Workshop, Florianopolis, Brazil, November 27-December 1, 2006.

“Identification of Human Errors during Device-Related Accident Investigations,” Painter, F.R., Shepherd, M., Dyro, J., Baretich, M. (2004), *IEEE Engineering in Medicine and Biology Magazine*, 23(3): 66-72.

“Healthcare Technology Codes and Standards,” Painter, F.R., Presenter, New England Society of Clinical Engineering Northeastern Healthcare Technology Management Symposium, Southbridge, MA, October 12, 2005.

“An Integrated Healthcare Safety Program,” Painter, F.R., Presenter, WHO/PAHO/ACCE Advanced Healthcare Technology Management/Clinical Engineering Workshop, Cartagena, Columbia, July 11-15, 2005.

“Human Factors, Use Errors and Incident Investigations,” Painter, F.R., Presenter, WHO/PAHO/ACCE Advanced Healthcare Technology Management/Clinical Engineering Workshop, Cartagena, Columbia, July 11-15, 2005.

“Clinical Engineering Education,” presentations, Presenter, WHO/PAHO/ACCE Advanced Healthcare Technology Management/Clinical Engineering Workshop, Cartagena, Columbia, July 11-15, 2005.

“Human Error and Medical Device Accidents: The Role of Human Factors Engineering in Patient Safety,” Painter, F.R., Session Chair and Presenter, AAMI 40th Annual Meeting, Tampa, FL, May 14, 2005.

“Defibrillator Safety: A Summary of the FDA MAUDE Database,” Session Co-chair and Presenter, AAMI 40th Annual Meeting, Tampa, FL, May 16, 2005.

“Human Factors Engineering and Medical Device Accidents,” Painter, F.R., Presenter, BIOMEDEA III, International Symposium on Patient Safety, University of Stuttgart, Stuttgart, Germany, September 23-25, 2005.

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“Clinical Engineering Certification,” Painter, F.R., Presenter, BIOMEDEA III, International Symposium on Patient Safety, University of Stuttgart, Stuttgart, Germany, September 23-25, 2005.

“Healthcare Technology Management,” Painter, F.R., Presenter, PAHO/ACCE Advanced Clinical Engineering Workshop, Santiago, Chile, August 25, 2003.

“Postgraduate Clinical Engineering Education,” Painter, F.R., Presenter, PAHO/ACCE Advanced Clinical Engineering Workshop, Santiago, Chile, August 25, 2003.

“Codes and Standards: Safety in the Healthcare Facility,” Painter, F.R., Presenter, Northeastern Biomedical Symposium, Sturbridge, MA, November, 2001.

“User Error – What’s the Problem?,” Painter, F.R., Presenter, New England Society of Clinical Engineering membership meeting, October 15, 2001.

“Human Error and Medical Device Accidents,” Painter, F.R., A graduate level semester course presented to students in the Biomedical Engineering Division, Department of Computer and Electrical Engineering, University of Connecticut, September – December 2001, September – December, 2003.

“Healthcare Technology Management,” Painter, F.R., Workshop Coordinator, Technical Presenter and Lecturer, Pan American Health Organization Advanced Clinical Engineering and Healthcare Technology Management Workshop, Guayaquil, Ecuador, March, 2001.

“Elements of an Equipment Control Program,” Painter, F.R., Workshop Coordinator, Technical Presenter and Lecturer, Pan American Health Organization Advanced Clinical Engineering and Healthcare Technology Management Workshop, Guayaquil, Ecuador, March, 2001.

“Risk Based Approach to Equipment Management,” Painter, F.R., Workshop Coordinator, Technical Presenter and Lecturer, Pan American Health Organization Advanced Clinical Engineering and Healthcare Technology Management Workshop, Guayaquil, Ecuador, March, 2001.

“Medical Gas and Vacuum Systems,” Painter, F.R., Workshop Coordinator, Technical Presenter and Lecturer, Pan American Health Organization Advanced Clinical Engineering and Healthcare Technology Management Workshop, Guayaquil, Ecuador, March, 2001.

“Acquisition of Medical Equipment: a two-day workshop on assessment, acquisition, installation and management of medical equipment,” Painter, F.R., Workshop Leader, World Congress on Medical Physics and Biomedical Engineering, Chicago, IL, July 2000.

“Quality Management in Healthcare,” Painter, F.R., Judd, T.M., HealthTech 2000, Annual Conference for the Management, Service, Support and Integration of Healthcare Technology, Dallas, Texas, May, 2000.

“Reducing Medical Equipment Risk,” Painter, F.R., Workshop Coordinator, Technical Presenter and Lecturer, Pan American Health Organization Advanced Healthcare Technology Management Workshop, Santo Domingo, Dominican Republic, March, 2000.

“Technology Management,” Painter, F.R., Workshop Coordinator, Technical Presenter and Lecturer, Pan American Health Organization Advanced Healthcare Technology Management Workshop, Santo Domingo, Dominican Republic, March, 2000.

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“Managing Outside Service Providers,” Painter, F.R., Workshop Coordinator, Technical Presenter and Lecturer, Pan American Health Organization Advanced Healthcare Technology Management Workshop, Santo Domingo, Dominican Republic, March, 2000.

“Medical Error and Medical Equipment,” Painter, F.R., Workshop Coordinator, Technical Presenter and Lecturer, Pan American Health Organization Advanced Healthcare Technology Management Workshop, Santo Domingo, Dominican Republic, March, 2000.

“Medical Gas Distribution Systems,” Painter, F.R., Workshop Coordinator, Technical Presenter and Lecturer, Pan American Health Organization Advanced Healthcare Technology Management Workshop, Santo Domingo, Dominican Republic, March, 2000.

“Preventing Device Related Incidents and Conducting Device Related Investigations,” Painter, F.R., Presenter, Safe Medical Device Seminar, Connecticut Hospital Association, Wallingford, CT, January, 1992.

Design of Clinical Engineering Quality Assurance and Risk Management Programs, Hertz, E., Keil, O., Painter, F.R. et al., Arlington, VA: Association for the Advancement of Medical Instrumentation, 1990.

“Technology Trends,” F.R. Painter, Technical Presenter, 9th Advanced Clinical Engineering Workshop, Cape Town, South Africa, November, 1999.

“Managing a Y2K assessment Program,” F.R. Painter, Technical Presenter, 9th Advanced Clinical Engineering Workshop, Cape Town, South Africa, November, 1999.

“Utility Systems Maintenance,” F.R. Painter, Technical Presenter, 9th Advanced Clinical Engineering Workshop, Cape Town, South Africa, November, 1999.

“Quality Improvement Programs, JCAHO Approach,” Painter, F.R., Technical Presenter, 8th Advanced Clinical Engineering Workshop, Moscow, Russia, September, 1999.

“Laboratory Equipment Maintenance,” Painter, F.R., Presenter of Two-day Course, AAMI 34th Annual Meeting, Boston, MA, June, 1999.

“JCAHO Environment of Care Compliance in Technology Management,” Painter, F.R., Presenter, 16th Northeastern Biomedical Symposium, Waltham, MA, October, 1996.

“Medical Technology Maintenance and Service Management,” Painter, F.R., Dyro, J.F., Wang, B., Presenters of One-week Workshop, 3rd Advanced Clinical Engineering Workshop, Beijing, China, November, 1995.

“The Role of Clinical Engineering in Healthcare,” Painter, F.R., Presenter, 2nd Annual Brazilian Symposium in Clinical Engineering, Sao Paulo, Brazil, August, 1995.

“Introduction to Clinical Laboratory Instrumentation,” Morris, R.L., Painter, F.R. Presenter of Two-day Course, AAMI 30th Annual Meeting, Anaheim, CA, May, 1995.

“Clinical Engineering and Technology Management,” Painter, F.R., Hernandez, A., Velasquez, A., Presenters, Annual Meeting, Ministers of Health and Chief Engineers of the Health Ministries of the Seven Central American Countries on Strengthening Engineering and Maintenance in Healthcare, Guatemala City, Guatemala, May, 1995.

“JCAHO Environment of Care Standards for Medical Equipment,” Painter, F.R., Presenter, 14th Annual Northeast Symposium on Health Care Technology, Albany, NY, November, 1994.

Curriculum Vitae – Frank R. Painter, M.S., CCE

“Technology Management: Assessment, Planning, Procurement and Replacement,” Painter, F.R., Presenter of Tutorial, World Congress on Medical Physics and Biomedical Engineering, Rio de Janeiro, Brazil, August, 1994.

“Maintenance Management: A Practical, Risk-Based Approach,” Painter, F.R., Presenter, 2nd Advanced Clinical Engineering Workshop, Sponsored by the World Health Organization, Pan American Health Organization and the American College of Clinical Engineering, Boston, MA, May, 1993.

“Equipment Replacement Planning,” Painter, F.R., Presenter, First Middle East Symposium in Management of Hospital Technology, Riyadh, Saudi Arabia, March, 1992.

“Technology Quality Assurance, the JACHO Approach,” Keil, O., Painter, F.R., Steifel, R., Presenters, First Middle East Symposium in Management of Hospital Technology, Riyadh, Saudi Arabia, March, 1992.

“Risk Management, Quality Assurance and Personnel Management in Clinical Engineering: A U.S. Model,” Painter, F.R., Presenter, Advanced Clinical Engineering Workshop, Sponsored by Pan-American Health Organization, World Health Organization and American College of Clinical Engineering, Washington, D.C., May, 1991.

“Towards Excellence: Critical Information for Hospital Clinical Engineering Managers,” Painter, F.R., David, Y., Presenters of One-day Short Course, Canadian Medical and Biological Engineering Society, 17th Annual Meeting, Banff, Alberta, May, 1991.

“A Risk Based Clinical Equipment Management Program,” Painter, F.R., Presenter, 10th Annual Northeastern Symposium on Health Care Technology, Albany, NY, November, 1990.

“JCAHO Standards Revisited,” Painter, F.R. (Contributing Author), *Second Source Magazine*, December 1989/January 1990.

“Quality Assurance in Clinical Engineering: The JCAHO’s Approach in 1989/90 Plant Technology and Safety Management Standard,” Painter, F.R., Presenter, New England Society of Clinical Engineering, 9th Annual Symposium on Health Care Technology, Springfield, MA, November 27-29, 1989.

“Quality Assurance and Risk Management in JCAH Standards,” Painter, F.R., Keil, O., Presenters, AAMI 12th Annual Meeting, Los Angeles, CA, May, 1987.

“Computerized Tomography in Dementia,” Jacobs, L., Painter, F.R., et al., in *Alzheimer’s Disease: Senile Dementia and Related Disorders*, edited by Katzman, R., Terry, R.D., and Bick, K.L., New York: Raven Press, 1978.

“Basics of a Computerized Tomography Laboratory,” Painter, F.R., Presenter, American Academy of Neurology; Subcommittee for Computerized Tomography Meeting, Las Vegas, February, 1977.

“Design of a Hydraulically Controlled EMG Actuated Prosthetic Controller for Above-Knee Amputees,” Painter, F.R., Master’s Thesis, State University of New York at Buffalo, January, 1975.

Professional Affiliations:

[American College of Clinical Engineering](#) (since 1991), Founding Member, President (1996-1998)

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[American Society of Hospital Engineers](#) (since 1978)

[American Society of Mechanical Engineers](#) (since 1972), Senior Member

[Association for the Advancement of Medical Instrumentation](#) (AAMI, since 1978)

[American Society for Healthcare Risk Management](#) (since 2001)

[American Society for Materials](#) (since 2000)

[International Certification Commission for Clinical Engineering and Biomedical Equipment Technology](#), Board of Directors (since 1996), Vice-chair (since 2003)

[International Federation of Medical and Biological Engineering](#), Clinical Engineering Division Board of Directors, Member (since 2001)

[Healthcare Technology Certification Commission](#), Chairman (2002-2008)

[New England Society of Clinical Engineering](#) (since 1982), Secretary (84-88), Treasurer (98-00, 01-08)

[American Association of University Professors](#) (since 1999)

Professional Activities:

Editorial Advisory Board of the *Journal of Clinical Engineering*, published by LWW-Wolters Kluwer (since 2012)

Editorial Advisory Board of *Healthcare Technology Management* magazine, Trimed Media Group (since 2012)

2011 Association for the Advancement of Medical Instrumentation, Clinical/Biomedical Engineering Achievement Award (June 2011)

Marvin D. Shepherd Patient Safety Award (for contributions to the advancement of patient safety), Healthcare Technology Foundation & American College of Clinical Engineering (June 2011)

Member of the Technical Advisory Group on Health Technology for the World Health Organization (since 2009)

Adjunct Professor, Clinical Engineering Internship Program Director, University of Connecticut, Department of Electrical & Systems Engineering, Biomedical Engineering Graduate Program, Storrs, CT.

Member of the Healthcare Technology and Training Task Group of the International Union for Physical and Engineering Sciences in Medicine (since 2006).

AAMI Human Factors Engineering Standards Committee, Member (since 2003), developing updated standard AAMI HE48, “Human factors engineering guidelines and preferred practices for the design of medical devices,” authored standards chapter on medical connectors.

ACCE Healthcare Technology Foundation, Board of Directors (2001-2008).

Institute of Electrical and Electronics Engineers – Engineering in Medicine and Biology Society 42nd Annual Meeting, Technical Program Committee and Track Chair, Telemedicine, Clinical Engineering and Healthcare Systems Track, 2002, 2003, 2006.

World Congress on Medical Physics and Biomedical Engineering, Clinical Engineering Track

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Chairman, Chicago, IL, July 2000.

Pan American Health Organization, Project Advisor, Clinical Engineering Development in Latin America (since 1994).

Journal of Clinical Engineering Editorial Review Board (since 1991).

ECRI Health Devices Magazine Technical Reviewer (1998-2001).

AAMI Healthcare Technology Management Committee (1984-present).

Lecturer and instructor in Clinical Engineering Management and Healthcare Management at multiple national association conferences in the United States. Also taught clinical engineering workshops in Santiago, Chile; Mexico City, Mexico; Moscow, Russia; Cape Town, South Africa; Beijing, China; Lima, Peru, Dubai, UAE; Guatemala City, Guatemala; Sao Paulo, Brazil and Riyadh, Saudi Arabia.

Advisor and technology management instructor for Carelift International, Bala Cynwyd, PA, an international medical relief organization providing medical equipment to hospitals in third world countries.

Attained Clinical Engineering Certification (1979), elected to the Clinical Engineering Certification Board of Examiners (1985), chaired the Board of Examiners (89-91), Member of International Certification Commission for Clinical Engineering Certification (since 1995), Vice Chair of International Certification Commission (1999-2008).

Professional and Character References:

Available upon request.