

Matthew F. Baretich

Curriculum Vitae

Contact Information

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Education

- Ph.D., Hospital and Health Administration.
The University of Iowa, Iowa City IA, 1986.
Dissertation: *Managing Technology: An Empirical Investigation of Clinical Engineering Effectiveness*.
Award: First Annual Richard Covert Scholarship, Hospital Information and Management Systems Society.
- M.S., Biomedical Engineering.
Iowa State University, Ames IA, 1977.
Thesis: *Projects in Clinical Engineering*.
- B.S., Electrical Engineering.
Iowa State University, Ames IA, 1975.
Award: Graduation with Distinction.

Credentials

- Professional Engineer, Colorado (PE).
State Board of Registration for Professional Engineers and Professional Land Surveyors, Denver CO, 1987.
- Certified Clinical Engineer (CCE).
Healthcare Technology Certification Commission, ACCE Healthcare Technology Foundation, 2004.
- Certified Clinical Engineer (CCE).
International Certification Commission, Arlington VA, 1980.
- Certified Healthcare Facility Manager (CHFM).
American Hospital Association Certification Center, Chicago IL, 2000.
- Certified Professional in Healthcare Risk Management (CPHRM).
American Hospital Association Certification Center, Chicago IL, 2009.

Employment

- 1997 – Baretich Engineering, Inc., Fort Collins CO (incorporated 1998): President.
- 1992 – 1997 University of Colorado Hospital, Denver CO: Manager (1992-1995), Director (1995-1997).
- 1987 – 1992 University of Colorado Health Sciences Center, Denver CO: Director, Bioengineering.
- 1986 - 1987 Center for Health Services Research, University of Iowa, Iowa City IA: Research Associate.
- 1982 – 1986 Graduate Program in Hospital and Health Administration, University of Iowa, Iowa City IA: Research Assistant (1982-1985), Faculty Associate (1985-1986).
- 1979 – 1982 Children's Hospital of the King's Daughters, Norfolk VA. Director, Clinical Engineering.
- 1977 – 1979 Eastern Virginia Medical Authority, Norfolk VA. Director, Bioengineering Laboratory.

Recognition

- Fellow of the American College of Clinical Engineering (FACCE).
American College of Clinical Engineering, Plymouth Meeting PA, 2003.
- Fellow of the American Society for Healthcare Engineering (FASHE).
American Society for Healthcare Engineering, Chicago IL, 2007.
- Recipient of the 2008 ACCE/AHTF Shepherd Patient Safety Award.
American College of Clinical Engineering, Plymouth Meeting PA, 2008.
- Recipient of the 2006 ACCE Professional Development Award.
American College of Clinical Engineering, Plymouth Meeting PA, 2006.
- Recipient of the 2006 ASHE Regional Leader Award.
American Society for Healthcare Engineering, Chicago IL, 2006.

Current Professional Activities

- Technical Advisory Group on Health Technology, World Health Organization (WHO).
Member.
- Healthcare Certification Commission, ACCE Healthcare Technology Foundation (AHTF).
Vice Chairman and member of the Board of Directors.
- Association for the Advancement of Medical Instrumentation (AAMI).
Member of the Subcommittee on Clinical Engineering Productivity and Cost-effectiveness.
- Association for the Advancement of Medical Instrumentation (AAMI).
Leader of the Subject Matter Expert team for *AAMI's Benchmarking Solution*.
- American Society for Healthcare Engineering (ASHE).
Member of the faculty for the Healthcare Construction Certificate program.
- Colorado Association of Biomedical Equipment Technicians (CABMET).
Member of the faculty for the Certified Biomedical Equipment Technician Exam Review.
- *Journal of Clinical Engineering*.
Member of the Editorial Review Board.
- *Biomedical Instrumentation & Technology*.
Member of the Editorial Review Board.
- *24x7*.
Member of the Editorial Review Board.
- Rocky Mountain Bioengineering Symposium.
Member-at-Large of the Board of Directors.

International Workshops

- 2009 2nd Technical Advisory Group Meeting on Health Technology, Rio de Janeiro, Brazil.
Member of the Technical Advisory Group on Health Technology, World Health Organization.
- 2009 II Curso de Trabalho sobre Segurança e Gerenciamento de Risco em Tecnologia Médica (2nd Workshop on Safety and Risk Management for Medical Technology), São Paulo, Brazil. Faculty member.

- 2007 Symposium on Healthcare Technology Management and Workshop on Clinical Engineering, Medellín, Colombia. Faculty member. Consultant to the Pan American Health Organization.
- 2004 Advanced Clinical Engineering Workshop, Managua, Nicaragua. Faculty leader. Consultant to the Pan American Health Organization.
- 2002 Advanced Clinical Engineering Workshop, San José, Costa Rica. Faculty member. Consultant to the Pan American Health Organization.

Publications (Books and Book Sections)

- 2010 *Medical Device Incident Investigation & Reporting*.
Book (with Shepherd) published since 2003 by Baretich Engineering, Inc.
- 2008 *Electrical Safety Manual* (2008 edition).
Book (with Shepherd) published by the Association for the Advancement of Medical Instrumentation.
- 2008 Healthcare Facility Management.
Chapter in *A Practicum for Biomedical Technology Management* published by Kendall/Hunt.
- 2008 HIPAA Medical Device Security (with Grimes).
Chapter in *A Practicum for Biomedical Technology Management* published by Kendall/Hunt.
- 2004 Construction and Renovation.
Article in the *Clinical Engineering Handbook* published by Elsevier Academic Press.
- 2004 Electrical Power.
Article in the *Clinical Engineering Handbook* published by Elsevier Academic Press.
- 2004 *Electrical Safety Manual* (2004 edition).
Book (with Shepherd) published by the Association for the Advancement of Medical Instrumentation.
- 2004 Equipment Control and Asset Management.
Article in the *Clinical Engineering Handbook* published by Elsevier Academic Press.
- 2004 Hospital Safety Programs.
Article in *The Handbook of Clinical Engineering* published by Elsevier Academic Press.
- 1997 Hospital Information Systems.
Article in *The Electrical Engineering Handbook* (2nd edition) published by CRC Press.
- 1993 Hospital Information Systems.
Article in *The Electrical Engineering Handbook* (1st edition) published by CRC Press.
- 1992 Safety in the Clinical Environment.
Chapter (with Bronzino) in *Management of Medical Technology* published by Butterworth-Heinemann.

Publications (Journal Articles)

- 2009 Excellence in Clinical Engineering Leadership and the Inaugural AHTF ExCEL Award (with others).
Journal of Clinical Engineering 33(4):201-205.
- 2009 Focus On: The 2009 JC Standards.
24x7 14(4):36.
- 2008 Clinical Engineering Workshops in Latin America.
Biomedical Sciences Instrumentation 44:59-62.
- 2008 Healthcare facility management in the United States.
Revista Ingeniería Biomédica (Colombia) 2(4):84-91.

- 2008 The “Other” Environment of Care Management Plans.
Biomedical Instrumentation & Technology 42(3):222-224.
- 2007 Impact of Clinical Alarms on Patient Safety (with others).
Journal of Clinical Engineering 32(1):22-33.
- 2007 Medical Device Incident Investigation.
Biomedical Sciences Instrumentation 43:302-305.
- 2007 The Isolated Power Systems Debate.
24x7 12(12):29-30,35-38.
- 2005 Six Things We Can Do About Medical Device User Error.
24x7 10(6):27-30.
- 2005 Think Outside the Basement.
Biomedical Instrumentation & Technology 39(1):4.
- 2004 Identification of Human Errors During Device-Related Accident Investigations (with others).
IEEE Engineering in Medicine & Biology Magazine 23(3):66-72.
- 2004 Meeting the Challenge of Sentinel Events.
24x7 9(3):22-26.
- 2003 JCAHO and You: The Performance Improvement Cycle.
24x7 8(11):40.
- 2002 JCAHO Patient Safety Standards and the Environment of Care
New Perspectives on Healthcare Auditing 21(2):21.
- 2002 Medical Technology Management in U.S. Hospitals.
Biomedical Sciences Instrumentation 38:273-275.
- 1994 Equipment Organization in the Emergency Department Adult Resuscitation Area (with others).
The Journal of Emergency Medicine 12(6):845-848.
- 1988 Clinical Engineering Effectiveness.
Biomedical Technology Today 3(3):79-82.
- 1988 Health Leaders of Tomorrow: A Descriptive Analysis (with Levey, Lane, and Levey).
Journal of Health Administration Education 7(2):244-273.
- 1987 Factors Affecting the Incidence of Patient Falls in Hospitals (with Raz).
Medical Care 25(3):185-195.
- 1985 ARMIS: A Microcomputer-based Hospital Risk Management Information System (with Raz).
Journal of Medical Systems 9(5/6):315-324.
- 1985 On Adopting a Managerial Perspective in Clinical Engineering Practice.
IEEE Engineering in Medicine and Biology Magazine 4(2):27-28.
- 1979 A Simple Tester for Respiration Rate Meters.
Journal of Clinical Engineering 4(4):339-340.
- 1978 Sources of Clinical Engineering Employment Information (with Craft).
Journal of Clinical Engineering 3(2):183-185.
- 1967 Automatic Pickle-Picker-Outer.
Treasure Chest Magazine (January 12).

Publications (Monographs)

- 2004 Patient Safety and Facility Management: The Role of Healthcare Facility Engineers. ASHE Management Monograph.
- 2003 Advanced Clinical Engineering Workshop Syllabus. Manual (editor, with others) for the World Health Organization.
- 2001 Enhancing Patient Safety: The Role of Clinical Engineering. ACCE White Paper (editor, uncredited) published by the American College of Clinical Engineering.
- 2001 Revised JCAHO Environment of Care Standards for 2001. ASHE Healthcare Facilities Management Series (American Society for Healthcare Engineering).
- 1993 Guideline for Establishing and Administering Medical Instrumentation Maintenance Programs (editor, with Fennigkoh). Association for the Advancement of Medical Instrumentation.
- 1987 Clinical Engineering Effectiveness from the Hospital Administrator's Perspective. ASHE Technical Document Series (American Society for Healthcare Engineering).
- 1985 The Use of Clinical Engineers and Biomedical Equipment Technicians in Iowa Hospitals. IHERF Research Monograph Series (Iowa Hospital Education and Research Foundation).

Publications (Reviews)

- 2009 Review of: *Environment of Care Essentials Ninth Edition* (Joint Commission, 2009). *Biomedical Instrumentation & Technology* 43(6):444.
- 2005 Review (with Shepherd) of: *Using Human Factors to Improve Patient Safety* (JCAHO, 2005). *Biomedical Instrumentation & Technology* 39(6):439-440.
- 1991 Review of: *The Atheist and the Holy City: Encounters and Reflections* (MIT Press, 1990). *IEEE Engineering in Medicine and Biology Magazine* 10(2):65.
- 1989 Review of: *Unexplained Patient Burns: Investigating Iatrogenic Injuries* (Quest Publishing Company, 1988). *IEEE Engineering in Medicine and Biology Magazine* 8(3):54.
- 1987 Review (with Raz) of: *Hospital Information Systems for Case Mix Management* (John Wiley & Sons, 1986). *Journal of Health Administration Education* 5:647.
- 1984 Review (with Levey) of: *Health Care Policy in America* (Annals of the American Academy of Political and Social Science, Volume 468). *Journal of Health Administration Education* 2:248-249.
- 1983 Review (with Ludke) of: *Hospital Management Engineering* (Prentice Hall, 1982). *Inquiry* 20:94-95.
- 1983 Review of: *By Design: Why There Are No Locks on the Bathroom Doors in the Hotel Louis XIV and Other Object Lessons* (St. Martin's Press, 1982). *IEEE Spectrum* 20(10):14.

Presentations (Selected, since 2000)

- 2010 Benchmarking, Best Practices, and CE Performance Data (with Painter). ACCE Educational Teleconference Series (webinar).
- 2010 Safety & Security; Medical Technology. ASHE Healthcare Construction Certificate Program, Nashville TN.
- 2009 AAMI's Benchmarking Solution (with Painter and Bernat). Association for the Advancement of Medical Instrumentation (webinar series).

- 2009 Benchmarking.
CABMET October Meeting, Westminster CO.
- 2009 Benchmarking.
Clinical Engineering Association of Illinois (CEAI), Chicago IL.
- 2009 Benchmarking.
North Central Biomedical Association (NCBA) Annual Conference, Minneapolis MN.
- 2009 Benchmarking: The New Tool for Healthcare Facilities (with Painter).
AAMI 2009 Conference & Expo, Baltimore MD.
- 2009 How to Prepare for the CBET Exam (with others).
ACCE Educational Teleconference Series (audio teleconference).
- 2009 Incident Investigation.
North Central Biomedical Association (NCBA) Annual Conference, Minneapolis MN.
- 2009 Joint Commission 2009.
Clinical Engineering Association of Illinois (CEAI), Chicago IL.
- 2009 Joint Commission Environment of Care and CMS Update.
University of Vermont Technical Services Program Winter Seminar 2009, Burlington VT.
- 2009 Safety & Security; Medical Technology.
ASHE Healthcare Construction Certificate Program, Orlando FL.
- 2009 Safety & Security; Medical Technology.
ASHE Healthcare Construction Certificate Program, Saint Louis MO.
- 2009 Safety in the Healthcare Environment.
CABMET Certified Biomedical Equipment Technician Exam Review (2 video teleconferences).
- 2009 The Importance of Benchmarking.
24x7 Podcast Series (3 podcasts).
- 2008 Clinical Engineering in the Post-Modern Hospital.
RMBS 44th Annual Conference, Copper Mountain CO (keynote address).
- 2008 Clinical Engineering Workshops in Latin America.
RMBS 44th Annual Conference, Copper Mountain CO.
- 2008 Medical Device Incident Investigation.
CABMET Symposium 2008, Denver CO (short course).
- 2008 Medical Technology; Incident Investigation; Isolated Power Systems; Joint Commission Update.
CAHED Fall Conference, Steamboat Springs CO.
- 2008 Safety & Security; Medical Technology.
ASHE Healthcare Construction Certificate Program, Chicago IL.
- 2008 Safety & Security; Medical Technology.
ASHE Healthcare Construction Certificate Program, Cincinnati OH.
- 2008 Safety & Security; Medical Technology; Owner Expectations.
ASHE Healthcare Construction Certificate Program, Houston TX.
- 2008 Safety in the Healthcare Environment.
CABMET Certified Biomedical Equipment Technician Exam Review (video teleconference).
- 2008 Safety in the Healthcare Environment.
CABMET Certified Biomedical Equipment Technician Exam Review (audio teleconference).

- 2007 Isolated Power Systems: A Solution in Search of a Problem?
ACCE 2007-2008 Educational Teleconference Series (audio teleconference).
- 2007 Medical Device Incident Investigation.
CABMET Symposium 2008, Denver CO (short course).
- 2007 Medical Device Incident Investigation.
RMBS 43rd Annual Conference, Denver CO.
- 2007 Medical Device Incident Investigation.
University of Wyoming, Laramie WY (BE4810 Biomedical Instrumentation).
- 2007 Safety in the Healthcare Environment.
CABMET Certified Biomedical Equipment Technician Exam Review (audio teleconference).
- 2006 Application of Systems Engineering Tools in Healthcare: The Role of Clinical Engineering.
ACCE Clinical Engineering Symposium, Washington DC.
- 2006 Incident Investigation.
VA Certified Clinical Engineering Exam Review (audio teleconference).
- 2006 Isolated Power Systems: Do We Still Need Them?
AAMI 2006 Conference & Expo, Washington DC.
- 2006 Safety and Risk Management.
ACCE Certified Clinical Engineering Exam Review, Washington DC.
- 2006 Safety and Risk Management.
ACCE Certified Clinical Engineering Exam Review (audio teleconference).
- 2005 Clinical Engineering.
CSU Biomedical Engineering Seminar, Fort Collins CO.
- 2005 The Future of Clinical Engineering (keynote address).
Virginia Biomedical Association, Charlottesville VA.
- 2004 Bioengineering Entrepreneurs Panel Session.
Rocky Mountain Bioengineering Symposium, Fort Collins CO.
- 2004 Clinical Engineering and Healthcare Facilities Engineering: Engineering for Patient Care.
ACCE Educational Teleconference Series.
- 2004 Clinical Engineering.
CSU Biomedical Engineering Society, Fort Collins CO.
- 2004 Consulting Engineering Panel Session
IEEE Centennial Subsection, Fort Collins CO.
- 2004 JCAHO Survival Skills (short course) and The Future of Clinical Engineering (short course).
North Carolina Biomedical Association, Pinehurst NC.
- 2004 The Square Peg and the Round Hole: Murphy's Law and Medical Device Connections.
IEEE-EMBS 26th Annual International Conference, San Francisco CA.
- 2003 Adapting to Changing Times.
CABMET Educational Program, Denver CO.
- 2003 Clinical Equipment Models for Risk Assessment (with Ridgway).
ASHE 40th Annual Conference and Technical Exhibition, San Antonio TX.
- 2002 Advanced Clinical Engineering Workshop.
American College of Clinical Engineering / Pan American Health Organization, San José, Costa Rica.

- 2002 Bandwagons (keynote address) and JCAHO Forum (short course).
BAW-NCBA 19th Annual Educational Seminar and Vendor Show, Eau Claire WI.
- 2002 Medical Technology Management in U.S. Hospitals.
RMBS 38th Annual Conference, Copper Mountain CO.
- 2002 Medical Technology Management.
University of Connecticut, Clinical Engineering Internship Program, Hartford CT.
- 2002 Technical Iconoclasts: Hospitals Should be Run by Engineers.
AAMI 2002 Conference and Expo, Minneapolis MN.
- 2001 JCAHO Environment of Care: Surviving the Survey (short course).
University of Vermont Technical Services Program Seminar, Burlington VT.
- 2001 Medical Equipment Management Information: Who Needs It?
ASHE 38th Annual Conference & Technical Exhibition, Tampa FL.
- 2001 Technical Iconoclasts: The Internal Customer is an Oxymoron.
AAMI 2001 Conference and Expo. Baltimore MD.
- 2000 Clinical Engineering: Past, Present, and Future (If Any).
Colorado State University Biomedical Engineering Seminar Series, Fort Collins CO.
- 2000 EC Management Plans Without Major Brain Damage.
CAHED Winter 2000 Meeting, Denver CO.
- 2000 Firestopping for Hospitals.
Specified Technologies Incorporated, Las Vegas NV.
- 2000 Risk Management and the JCAHO Environment of Care Standards.
Farmers Insurance Group, Denver CO.